User Guide

AWS Tools for PowerShell

AWS Tools for PowerShell: User Guide

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What are the AWS Tools for PowerShell?

The AWS Tools for PowerShell are a set of PowerShell modules that are built on the functionality exposed by the AWS SDK for .NET. The AWS Tools for PowerShell enable you to script operations on your AWS resources from the PowerShell command line.

The cmdlets provide an idiomatic PowerShell experience for specifying parameters and handling results even though they are implemented using the various AWS service HTTP query APIs. For example, the cmdlets for the AWS Tools for PowerShell support PowerShell pipelining—that is, you can pipe PowerShell objects in and out of the cmdlets.

The AWS Tools for PowerShell are flexible in how they enable you to handle credentials, including support for the AWS Identity and Access Management (IAM) infrastructure. You can use the tools with IAM user credentials, temporary security tokens, and IAM roles.

The AWS Tools for PowerShell support the same set of services and AWS Regions that are supported by the SDK. You can install the AWS Tools for PowerShell on computers running Windows, Linux, or macOS operating systems.

> **Note**
>
> AWS Tools for PowerShell version 4 is the latest major release, and is a backward-compatible update to AWS Tools for PowerShell version 3.3. It adds significant improvements while maintaining existing cmdlet behavior. Your existing scripts should continue to work after upgrading to the new version, but we do recommend that you test them thoroughly before upgrading. For more information about the changes in version 4, see Migrating from AWS Tools for PowerShell Version 3.3 to Version 4.

The AWS Tools for PowerShell are available as the following three distinct packages:

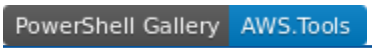
- `AWS.Tools`
- AWSPowerShell.NetCore
- AWSPowerShell

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

`AWS.Tools` - A modularized version of the AWS Tools for PowerShell



This version of AWS Tools for PowerShell is the recommended version for any computer running PowerShell in a production environment. Because it's modularized, you need to download and load only the modules for the services you want to use. This reduces download times, memory usage, and, in most cases, enables auto-importing of `AWS.Tools` cmdlets without the need to manually call `Import-Module` first.

This is the latest version of AWS Tools for PowerShell and runs on all supported operating systems, including Windows, Linux, and macOS. This package provides one installation module, `AWS.Tools.Installer`, one common module, `AWS.Tools.Common`, and one module for each AWS service, for example, `AWS.Tools.EC2`, `AWS.Tools.IdentityManagement`, `AWS.Tools.S3`, and so on.

The `AWS.Tools.Installer` module provides cmdlets that enable you to install, update, and remove the modules for each of the AWS services. The cmdlets in this module automatically ensure that you have all the dependent modules required to support the modules you want to use.

The `AWS.Tools.Common` module provides cmdlets for configuration and authentication that are not service specific. To use the cmdlets for an AWS service, you just run the command. PowerShell automatically imports the `AWS.Tools.Common` module and the module for the AWS service whose cmdlet you want to run. This module is automatically installed if you use the `AWS.Tools.Installer` module to install the service modules.

You can install this version of AWS Tools for PowerShell on computers that are running:

- PowerShell Core 6.0 or later on Windows, Linux, or macOS.
- Windows PowerShell 5.1 or later on Windows with the .NET Framework 4.7.2 or later.

Throughout this guide, when we need to specify this version only, we refer to it by its module name: *`AWS.Tools`*.

AWSPowerShell.NetCore - A single-module version of the AWS Tools for PowerShell

This version consists of a single, large module that contains support for all AWS services. Before you can use this module, you must manually import it.

You can install this version of AWS Tools for PowerShell on computers that are running:

- PowerShell Core 6.0 or later on Windows, Linux, or macOS.
- Windows PowerShell 3.0 or later on Windows with the .NET Framework 4.7.2 or later.

Throughout this guide, when we need to specify this version only, we refer to it by its module name: *AWSPowerShell.NetCore*.

AWSPowerShell - A single-module version for Windows PowerShell

This version of AWS Tools for PowerShell is compatible with and installable on only Windows computers that are running Windows PowerShell versions 2.0 through 5.1. It is not compatible with PowerShell Core 6.0 or later, or any other operating system (Linux or macOS). This version consists of a single, large module that contains support for all AWS services.

Throughout this guide, when we need to specify this version only, we refer to it by its module name: *AWSPowerShell*.

How to use this guide

The guide is divided into the following major sections.

Installing the AWS Tools for PowerShell

This section explains how to install the AWS Tools for PowerShell. It includes how to sign up for AWS if you don't already have an account, and how to create an IAM user that you can use to run the cmdlets.

Get started with the AWS Tools for Windows PowerShell

This section describes the fundamentals of using the AWS Tools for PowerShell, such as specifying credentials and AWS Regions, finding cmdlets for a particular service, and using aliases for cmdlets.

Work with AWS services in the AWS Tools for PowerShell

This section includes information about using the AWS Tools for PowerShell to perform some of the most common AWS tasks.

Installing the AWS Tools for PowerShell

To successfully install and use the AWS Tools for PowerShell cmdlets, see the steps in the following topics.

Topics

Installing the AWS Tools for PowerShell on Windows

A Windows-based computer can run any of the AWS Tools for PowerShell package options:

- **`AWS.Tools`** - The modularized version of AWS Tools for PowerShell. Each AWS service is supported by its own individual, small module, with shared support modules `AWS.Tools.Common` and `AWS.Tools.Installer`.
- **AWSPowerShell.NetCore** - The single, large-module version of AWS Tools for PowerShell. All AWS services are supported by this single, large module.

  > **Note**
  >
  > Be aware that the single module might be too large to use with AWS Lambda functions. Instead, use the modularized version shown above.

- **AWSPowerShell** - The legacy Windows-specific, single, large-module version of AWS Tools for PowerShell. All AWS services are supported by this single, large module.

The package you choose depends on the release and edition of Windows that you're running.

> **Note**
>
> The Tools for Windows PowerShell (AWSPowerShell module) are installed by default on all Windows-based Amazon Machine Images (AMIs).

Setting up the AWS Tools for PowerShell involves the following high-level tasks, described in detail in this topic.

1. Install the AWS Tools for PowerShell package option that's appropriate for your environment.
2. Verify that script execution is enabled by running the `Get-ExecutionPolicy` cmdlet.
3. Import the AWS Tools for PowerShell module into your PowerShell session.

Prerequisites

Newer versions of PowerShell, including PowerShell Core, are available as downloads from Microsoft at Installing various versions of PowerShell on Microsoft's Web site.

Install `AWS.Tools` on Windows

You can install the modularized version of AWS Tools for PowerShell on computers that are running Windows with Windows PowerShell 5.1, or PowerShell Core 6.0 or later. For information about how to install PowerShell Core, see Installing various versions of PowerShell on Microsoft's Web site.

You can install `AWS.Tools` in one of three ways:

- Using the cmdlets in the `AWS.Tools.Installer` module. This module simplifies the installation and update of other `AWS.Tools` modules. `AWS.Tools.Installer` requires `PowerShellGet`, and automatically downloads and installs an updated version of it. `AWS.Tools.Installer` automatically keeps your module versions in sync. When you install or update to a newer version of one module, the cmdlets in `AWS.Tools.Installer` automatically update all of your other `AWS.Tools` modules to the same version.

  This method is described in the procedure that follows.
- Downloading the modules from `AWS.Tools.zip` and extracting them in one of the module folders. You can discover your module folders by displaying the value of the `PSModulePath` environment variable.
- Installing each service module from the PowerShell Gallery using the `Install-Module` cmdlet.

To install `AWS.Tools` on Windows using the `AWS.Tools.Installer` module

1. Start a PowerShell session.

> **Note**
>
> We recommend that you *don't* run PowerShell as an administrator with elevated permissions except when required by the task at hand. This is because of the potential security risk and is inconsistent with the principle of least privilege.

2. To install the modularized `AWS.Tools` package, run the following command.

```
PS > Install-Module -Name AWS.Tools.Installer

Untrusted repository
You are installing the modules from an untrusted repository. If you trust this
 repository, change its InstallationPolicy value by running the Set-PSRepository
 cmdlet. Are you sure
 you want to install the modules from 'PSGallery'?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "N"): y
```

If you are notified that the repository is "untrusted", it asks you if you want to install anyway. Enter **y** to allow PowerShell to install the module. To avoid the prompt and install the module without trusting the repository, you can run the command with the `-Force` parameter.

```
PS > Install-Module -Name AWS.Tools.Installer -Force
```

3. You can now install the module for each AWS service that you want to use by using the `Install-AWSToolsModule` cmdlet. For example, the following command installs the Amazon EC2 and Amazon S3 modules. This command also installs any dependent modules that are required for the specified module to work. For example, when you install your first `AWS.Tools` service module, it also installs `AWS.Tools.Common`. This is a shared module required by all AWS service modules. It also removes older versions of the modules, and updates other modules to the same newer version.

```
PS > Install-AWSToolsModule AWS.Tools.EC2,AWS.Tools.S3 -CleanUp
  Confirm
  Are you sure you want to perform this action?
  Performing the operation "Install-AWSToolsModule" on target "AWS Tools version
 4.0.0.0".
  [Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

```
Installing module AWS.Tools.Common version 4.0.0.0
Installing module AWS.Tools.EC2 version 4.0.0.0
Installing module AWS.Tools.Glacier version 4.0.0.0
Installing module AWS.Tools.S3 version 4.0.0.0

Uninstalling AWS.Tools version 3.3.618.0
Uninstalling module AWS.Tools.Glacier
Uninstalling module AWS.Tools.S3
Uninstalling module AWS.Tools.SimpleNotificationService
Uninstalling module AWS.Tools.SQS
Uninstalling module AWS.Tools.Common
```

Note

The `Install-AWSToolsModule` cmdlet downloads all requested modules from the `PSRepository` named `PSGallery` (https://www.powershellgallery.com/) and considers it a trusted source. Use the command `Get-PSRepository -Name PSGallery` for more information about this `PSRepository`.

By default, the previous command installs modules into the `%USERPROFILE%\Documents\WindowsPowerShell\Modules` folder. To install the AWS Tools for PowerShell for all users of a computer, you must run the following command in a PowerShell session that you started as an administrator. For example, the following command installs the IAM module to the `%ProgramFiles%\WindowsPowerShell\Modules` folder that is accessible by all users.

```
PS > Install-AWSToolsModule AWS.Tools.IdentityManagement -Scope AllUsers
```

To install other modules, run similar commands with the appropriate module names, as found in the PowerShell Gallery.

Install AWSPowerShell.NetCore on Windows

You can install the AWSPowerShell.NetCore on computers that are running Windows with PowerShell version 3 through 5.1, or PowerShell Core 6.0 or later. For information about how to install PowerShell Core, see Installing various versions of PowerShell on the Microsoft PowerShell website.

You can install AWSPowerShell.NetCore in one of two ways

- Downloading the module from AWSPowerShell.NetCore.zip and extracting it in one of the module directories. You can discover your module directories by displaying the value of the `PSModulePath` environment variable.
- Installing from the PowerShell Gallery using the `Install-Module` cmdlet, as described in the following procedure.

To install AWSPowerShell.NetCore from the PowerShell Gallery using the Install-Module cmdlet

To install the AWSPowerShell.NetCore from the PowerShell Gallery, your computer must be running PowerShell 5.0 or later, or running PowerShellGet on PowerShell 3 or later. Run the following command.

```
PS > Install-Module -name AWSPowerShell.NetCore
```

If you're running PowerShell as administrator, the previous command installs AWS Tools for PowerShell for all users on the computer. If you're running PowerShell as a standard user without administrator permissions, that same command installs AWS Tools for PowerShell for only the current user.

To install for only the current user when that user has administrator permissions, run the command with the `-Scope CurrentUser` parameter set, as follows.

```
PS > Install-Module -name AWSPowerShell.NetCore -Scope CurrentUser
```

Although PowerShell 3.0 and later releases typically load modules into your PowerShell session the first time you run a cmdlet in the module, the AWSPowerShell.NetCore module is too large to support this functionality. You must instead explicitly load the AWSPowerShell.NetCore Core module into your PowerShell session by running the following command.

```
PS > Import-Module AWSPowerShell.NetCore
```

To load the AWSPowerShell.NetCore module into a PowerShell session automatically, add that command to your PowerShell profile. For more information about editing your PowerShell profile, see About Profiles in the PowerShell documentation.

Install AWSPowerShell on Windows PowerShell

You can install the AWS Tools for Windows PowerShell in one of two ways:

- Downloading the module from AWSPowerShell.zip and extracting it in one of the module directories. You can discover your module directories by displaying the value of the `PSModulePath` environment variable.
- Installing from the PowerShell Gallery using the `Install-Module` cmdlet as described in the following procedure.

To install AWSPowerShell from the PowerShell Gallery using the Install-Module cmdlet

You can install the AWSPowerShell from the PowerShell Gallery if you're running PowerShell 5.0 or later, or have installed PowerShellGet on PowerShell 3 or later. You can install and update AWSPowerShell from Microsoft's PowerShell Gallery by running the following command.

```
PS > Install-Module -Name AWSPowerShell
```

To load the AWSPowerShell module into a PowerShell session automatically, add the previous `import-module` cmdlet to your PowerShell profile. For more information about editing your PowerShell profile, see About Profiles in the PowerShell documentation.

> **Note**
>
> The Tools for Windows PowerShell are installed by default on all Windows-based Amazon Machine Images (AMIs).

Enable Script Execution

To load the AWS Tools for PowerShell modules, you must enable PowerShell script execution. To enable script execution, run the `Set-ExecutionPolicy` cmdlet to set a policy of `RemoteSigned`. For more information, see About Execution Policies on the Microsoft Technet website.

> **Note**
>
> This is a requirement only for computers that are running Windows. The `ExecutionPolicy` security restriction is not present on other operating systems.

To enable script execution

1. Administrator rights are required to set the execution policy. If you are not logged in as a user with administrator rights, open a PowerShell session as Administrator. Choose **Start**, and then choose **All Programs**. Choose **Accessories**, and then choose **Windows PowerShell**. Right-click **Windows PowerShell**, and on the context menu, choose **Run as administrator**.
2. At the command prompt, enter the following.

```
PS > Set-ExecutionPolicy RemoteSigned
```

> **Note**
>
> On a 64-bit system, you must do this separately for the 32-bit version of PowerShell, **Windows PowerShell (x86)**.

If you don't have the execution policy set correctly, PowerShell shows the following error whenever you try to run a script, such as your profile.

```
File C:\Users\username\Documents\WindowsPowerShell\Microsoft.PowerShell_profile.ps1
 cannot be loaded because the execution
 of scripts is disabled on this system. Please see "get-help about_signing" for more
 details.
At line:1 char:2
+ . <<<<  'C:\Users\username\Documents\WindowsPowerShell
\Microsoft.PowerShell_profile.ps1'
    + CategoryInfo          : NotSpecified: (:) [], PSSecurityException
    + FullyQualifiedErrorId : RuntimeException
```

The Tools for Windows PowerShell installer automatically updates the PSModulePath to include the location of the directory that contains the `AWSPowerShell` module.

Because the `PSModulePath` includes the location of the AWS module's directory, the `Get-Module -ListAvailable` cmdlet shows the module.

```
PS > Get-Module -ListAvailable

ModuleType Name                      ExportedCommands
```

```
---------- ----                    ----------------
Manifest   AppLocker               {}
Manifest   BitsTransfer            {}
Manifest   PSDiagnostics           {}
Manifest   TroubleshootingPack     {}
Manifest   AWSPowerShell           {Update-EBApplicationVersion, Set-DPStatus,
 Remove-IAMGroupPol...
```

Versioning

AWS releases new versions of the AWS Tools for PowerShell periodically to support new AWS services and features. To determine the version of the Tools that you have installed, run the Get-AWSPowerShellVersion cmdlet.

```
PS > Get-AWSPowerShellVersion

Tools for PowerShell
Version 4.1.11.0
Copyright 2012-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.

Amazon Web Services SDK for .NET
Core Runtime Version 3.7.0.12
Copyright Amazon.com, Inc. or its affiliates. All Rights Reserved.

Release notes: https://github.com/aws/aws-tools-for-powershell/blob/master/CHANGELOG.md

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- Logging from log4net, Apache License
[http://logging.apache.org/log4net/license.html]
```

You can also add the `-ListServiceVersionInfo` parameter to a Get-AWSPowerShellVersion command to see a list of the AWS services that are supported in the current version of the tools. If you use the modularized `AWS.Tools.*` option, only the modules that you currently have imported are displayed.

```
PS > Get-AWSPowerShellVersion -ListServiceVersionInfo
...

Service                          Noun Prefix Module Name                      SDK

 Assembly
```

```
 Version
-------                             ----------- -----------
 -----------
Alexa For Business                  ALXB        AWS.Tools.AlexaForBusiness
 3.7.0.11
Amplify Backend                     AMPB        AWS.Tools.AmplifyBackend
 3.7.0.11
Amazon API Gateway                  AG          AWS.Tools.APIGateway
 3.7.0.11
Amazon API Gateway Management API   AGM         AWS.Tools.ApiGatewayManagementApi
 3.7.0.11
Amazon API Gateway V2               AG2         AWS.Tools.ApiGatewayV2
 3.7.0.11
Amazon Appflow                      AF          AWS.Tools.Appflow
 3.7.1.4
Amazon Route 53                     R53         AWS.Tools.Route53
 3.7.0.12
Amazon Route 53 Domains             R53D        AWS.Tools.Route53Domains
 3.7.0.11
Amazon Route 53 Resolver            R53R        AWS.Tools.Route53Resolver
 3.7.1.5
Amazon Simple Storage Service (S3) S3           AWS.Tools.S3
 3.7.0.13
...
```

To determine the version of PowerShell that you are running, enter `$PSVersionTable` to view the contents of the $PSVersionTable automatic variable.

```
PS > $PSVersionTable

Name                           Value
----                           -----
PSVersion                      6.2.2
PSEdition                      Core
GitCommitId                    6.2.2
OS                             Darwin 18.7.0 Darwin Kernel Version 18.7.0: Tue Aug 20
 16:57:14 PDT 2019; root:xnu-4903.271.2~2/RELEASE_X86_64
Platform                       Unix
PSCompatibleVersions           {1.0, 2.0, 3.0, 4.0…}
PSRemotingProtocolVersion      2.3
SerializationVersion           1.1.0.1
WSManStackVersion              3.0
```

Updating the AWS Tools for PowerShell on Windows

Periodically, as updated versions of the AWS Tools for PowerShell are released, you should update the version that you are running locally.

Update the modularized `AWS.Tools` modules

To update your `AWS.Tools` modules to the latest version, run the following command:

```
PS > Update-AWSToolsModule -CleanUp
```

This command updates all of the currently installed `AWS.Tools` modules and, after a successful update, removes other installed versions.

> **Note**
>
> The `Update-AWSToolsModule` cmdlet downloads all modules from the `PSRepository` named `PSGallery` (https://www.powershellgallery.com/) and considers it a trusted source. Use the command: `Get-PSRepository -Name PSGallery` for more information on this `PSRepository`.

Update the Tools for PowerShell Core

Run the `Get-AWSPowerShellVersion` cmdlet to determine the version that you are running, and compare that with the version of Tools for Windows PowerShell that is available on the PowerShell Gallery website. We suggest you check every two to three weeks. Support for new commands and AWS services is available only after you update to a version with that support.

Before you install a newer release of AWSPowerShell.NetCore, uninstall the existing module. Close any open PowerShell sessions before you uninstall the existing package. Run the following command to uninstall the package.

```
PS > Uninstall-Module -Name AWSPowerShell.NetCore -AllVersions
```

After the package is uninstalled, install the updated module by running the following command.

```
PS > Install-Module -Name AWSPowerShell.NetCore
```

After installation, run the command `Import-Module AWSPowerShell.NetCore` to load the updated cmdlets into your PowerShell session.

Update the Tools for Windows PowerShell

Run the `Get-AWSPowerShellVersion` cmdlet to determine the version that you are running, and compare that with the version of Tools for Windows PowerShell that is available on the PowerShell Gallery website. We suggest you check every two to three weeks. Support for new commands and AWS services is available only after you update to a version with that support.

- If you installed by using the `Install-Module` cmdlet, run the following commands.

```
PS > Uninstall-Module -Name AWSPowerShell -AllVersions
PS > Install-Module -Name AWSPowerShell
```

- If you installed by using a downloaded ZIP file:
  1. Download the most recent version from the Tools for PowerShell web site. Compare the package version number in the downloaded file name with the version number you get when you run the `Get-AWSPowerShellVersion` cmdlet.
  2. If the download version is a higher number than the version you have installed, close all Tools for Windows PowerShell consoles.
  3. Install the newer version of the Tools for Windows PowerShell.

After installation, run `Import-Module AWSPowerShell` to load the updated cmdlets into your PowerShell session. Or run the custom AWS Tools for PowerShell console from your **Start** menu.

Installing AWS Tools for PowerShell on Linux or macOS

This topic provides instructions on how to install the AWS Tools for PowerShell on Linux or macOS.

Overview of Setup

To install AWS Tools for PowerShell on a Linux or macOS computer, you can choose from two package options:

- **`AWS.Tools`** – The modularized version of AWS Tools for PowerShell. Each AWS service is supported by its own individual, small module, with shared support modules `AWS.Tools.Common`.

- **AWSPowerShell.NetCore** – The single, large-module version of AWS Tools for PowerShell. All AWS services are supported by this single, large module.

> **Note**
>
> Be aware that the single module might be too large to use with AWS Lambda functions. Instead, use the modularized version shown above.

Setting either of these up on a computer running Linux or macOS involves the following tasks, described in detail later in this topic:

1. Install PowerShell Core 6.0 or later on a supported system.
2. After installing PowerShell Core, start PowerShell by running `pwsh` in your system shell.
3. Install either `AWS.Tools` or AWSPowerShell.NetCore.
4. Run the appropriate `Import-Module` cmdlet to import the module into your PowerShell session.
5. Run the Initialize-AWSDefaultConfiguration cmdlet to provide your AWS credentials.

Prerequisites

To run the AWS Tools for PowerShell Core, your computer must be running PowerShell Core 6.0 or later.

- For a list of supported Linux platform releases and for information about how to install the latest version of PowerShell on a Linux-based computer, see Installing PowerShell on Linux on Microsoft's website. Some Linux-based operating systems, such as Arch, Kali, and Raspbian, are not officially supported, but have varying levels of community support.
- For information about supported macOS versions and about how to install the latest version of PowerShell on macOS, see Installing PowerShell on macOS on Microsoft's website.

Install `AWS.Tools` on Linux or macOS

You can install the modularized version of AWS Tools for PowerShell on computers that are running PowerShell Core 6.0 or later. For information about how to install PowerShell Core, see Installing various versions of PowerShell on the Microsoft PowerShell website.

You can install `AWS.Tools` in one of three ways:

- Using the cmdlets in the `AWS.Tools.Installer` module. This module simplifies the installation and update of other `AWS.Tools` modules. `AWS.Tools.Installer` requires `PowerShellGet`, and automatically downloads and installs an updated version of it. `AWS.Tools.Installer` automatically keeps your module versions in sync. When you install or update to a newer version of one module, the cmdlets in `AWS.Tools.Installer` automatically update all of your other `AWS.Tools` modules to the same version.

  This method is described in the procedure that follows.
- Downloading the modules from `AWS.Tools.zip` and extracting them in one of the module directories. You can discover your module directories by printing the value of the `$Env:PSModulePath` variable.
- Installing each service module from the PowerShell Gallery using the `Install-Module` cmdlet.

To install `AWS.Tools` on Linux or macOS using the `AWS.Tools.Installer` module

1. Start a PowerShell Core session by running the following command.

   ```
   $ pwsh
   ```

   > **Note**
   >
   > We recommend that you *don't* run PowerShell as an administrator with elevated permissions except when required by the task at hand. This is because of the potential security risk and is inconsistent with the principle of least privilege.

2. To install the modularized `AWS.Tools` package using the `AWS.Tools.Installer` module, run the following command.

   ```
   PS > Install-Module -Name AWS.Tools.Installer

   Untrusted repository
   You are installing the modules from an untrusted repository. If you trust this
    repository, change its InstallationPolicy value by running the Set-PSRepository
    cmdlet. Are you sure
    you want to install the modules from 'PSGallery'?
   ```

```
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "N"): y
```

If you are notified that the repository is "untrusted", you're asked if you want to install anyway. Enter **y** to allow PowerShell to install the module. To avoid the prompt and install the module without trusting the repository, you can run the following command.

```
PS > Install-Module -Name AWS.Tools.Installer -Force
```

3. You can now install the module for each service that you want to use. For example, the following command installs the Amazon EC2 and Amazon S3 modules. This command also installs any dependent modules that are required for the specified module to work. For example, when you install your first `AWS.Tools` service module, it also installs `AWS.Tools.Common`. This is a shared module required by all AWS service modules. It also removes older versions of the modules, and updates other modules to the same newer version.

```
PS > Install-AWSToolsModule AWS.Tools.EC2,AWS.Tools.S3 -CleanUp
Confirm
Are you sure you want to perform this action?
  Performing the operation "Install-AWSToolsModule" on target "AWS Tools version
 4.0.0.0".
  [Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):

  Installing module AWS.Tools.Common version 4.0.0.0
  Installing module AWS.Tools.EC2 version 4.0.0.0
  Installing module AWS.Tools.Glacier version 4.0.0.0
  Installing module AWS.Tools.S3 version 4.0.0.0

  Uninstalling AWS.Tools version 3.3.618.0
  Uninstalling module AWS.Tools.Glacier
  Uninstalling module AWS.Tools.S3
  Uninstalling module AWS.Tools.SimpleNotificationService
  Uninstalling module AWS.Tools.SQS
  Uninstalling module AWS.Tools.Common
```

> **Note**
>
> The `Install-AWSToolsModule` cmdlet downloads all requested modules from the `PSRepository` named `PSGallery` (https://www.powershellgallery.com/) and

considers the repository as a trusted source. Use the command `Get-PSRepository -Name PSGallery` for more information about this `PSRepository`.

The previous command installs modules into the default directories on your system. The actual directories depend on your operating system distribution and version and on the version of PowerShell you installed. For example, if you installed PowerShell 7 on a RHEL-like system, the default modules are most likely located in `/opt/microsoft/powershell/7/Modules` (or `$PSHOME/Modules`) and user modules are most likely located in `~/.local/share/powershell/Modules`. For more information, see Install PowerShell on Linux on the Microsoft PowerShell website. To see where modules are installed, run the following command:

```
PS > Get-Module -ListAvailable
```

To install other modules, run similar commands with the appropriate module names, as found in the PowerShell Gallery.

Install AWSPowerShell.NetCore on Linux or macOS

To upgrade to a newer release of AWSPowerShell.NetCore, follow the instructions in Updating the AWS Tools for PowerShell on Linux or macOS. Uninstall earlier versions of AWSPowerShell.NetCore first.

You can install AWSPowerShell.NetCore in one of two ways:

- Downloading the module from `AWSPowerShell.NetCore.zip` and extracting it in one of the module directories. You can discover your module directories by printing the value of the `$Env:PSModulePath` variable.
- Installing from the PowerShell Gallery using the `Install-Module` cmdlet as described in the following procedure.

To install AWSPowerShell.NetCore on Linux or macOS using the Install-Module cmdlet

Start a PowerShell Core session by running the following command.

```
$ pwsh
```

> **Note**
>
> We recommend that you *don't* start PowerShell by running `sudo pwsh` to run PowerShell with elevated, administrator rights. This is because of the potential security risk and is inconsistent with the principle of least privilege.

To install the AWSPowerShell.NetCore single-module package from the PowerShell Gallery, run the following command.

```
PS > Install-Module -Name AWSPowerShell.NetCore

Untrusted repository
You are installing the modules from an untrusted repository. If you trust this
 repository, change its InstallationPolicy value by running the Set-PSRepository
 cmdlet. Are you sure
 you want to install the modules from 'PSGallery'?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "N"): y
```

If you are notified that the repository is "untrusted", you're asked if you want to install anyway. Enter **y** to allow PowerShell to install the module. To avoid the prompt without trusting the repository, you can run the following command.

```
PS > Install-Module -Name AWSPowerShell.NetCore -Force
```

You don't have to run this command as root, unless you want to install the AWS Tools for PowerShell for all users of a computer. To do this, run the following command in a PowerShell session that you have started with `sudo pwsh`.

```
PS > Install-Module -Scope AllUsers -Name AWSPowerShell.NetCore -Force
```

Script Execution

The `Set-ExecutionPolicy` command isn't available on non-Windows systems. You can run `Get-ExecutionPolicy`, which shows that the default execution policy setting in PowerShell Core running on non-Windows systems is `Unrestricted`. For more information, see About Execution Policies on the Microsoft Technet website.

Because the PSModulePath includes the location of the AWS module's directory, the `Get-Module -ListAvailable` cmdlet shows the module that you installed.

`AWS.Tools`

```
PS > Get-Module -ListAvailable

    Directory: /Users/username/.local/share/powershell/Modules

ModuleType Version    Name                                PSEdition ExportedCommands
---------- -------    ----                                --------- ----------------
Binary     3.3.563.1  AWS.Tools.Common                    Desk      {Clear-
AWSHistory, Set-AWSHistoryConfiguration, Initialize-AWSDefaultConfiguration, Clear-
AWSDefaultConfigurat…
```

AWSPowerShell.NetCore

```
PS > Get-Module -ListAvailable

Directory: /Users/username/.local/share/powershell/Modules

ModuleType Version    Name                                ExportedCommands
---------- -------    ----                                ----------------
Binary     3.3.563.1  AWSPowerShell.NetCore
```

Configure a PowerShell Console to Use the AWS Tools for PowerShell Core (AWSPowerShell.NetCore Only)

PowerShell Core typically loads modules automatically whenever you run a cmdlet in the module. But this doesn't work for AWSPowerShell.NetCore because of its large size. To start running AWSPowerShell.NetCore cmdlets, you must first run the `Import-Module AWSPowerShell.NetCore` command. This isn't required for cmdlets in `AWS.Tools` modules.

Initialize Your PowerShell Session

When you start PowerShell on a Linux-based or macOS-based system after you have installed the AWS Tools for PowerShell, you must run Initialize-AWSDefaultConfiguration to specify which AWS access key to use. For more information about `Initialize-AWSDefaultConfiguration`, see Using AWS Credentials.

> **Note**
>
> In earlier (before 3.3.96.0) releases of the AWS Tools for PowerShell, this cmdlet was named `Initialize-AWSDefaults`.

Versioning

AWS releases new versions of the AWS Tools for PowerShell periodically to support new AWS services and features. To determine the version of the AWS Tools for PowerShell that you have installed, run the Get-AWSPowerShellVersion cmdlet.

```
PS > Get-AWSPowerShellVersion

Tools for PowerShell
Version 4.0.123.0
Copyright 2012-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.

Amazon Web Services SDK for .NET
Core Runtime Version 3.3.103.22
Copyright 2009-2015 Amazon.com, Inc. or its affiliates. All Rights Reserved.

Release notes: https://github.com/aws/aws-tools-for-powershell/blob/master/CHANGELOG.md

This software includes third party software subject to the following copyrights:
- Logging from log4net, Apache License
[http://logging.apache.org/log4net/license.html]
```

To see a list of the supported AWS services in the current version of the tools, add the `-ListServiceVersionInfo` parameter to a Get-AWSPowerShellVersion cmdlet.

To determine the version of PowerShell that you are running, enter `$PSVersionTable` to view the contents of the `$PSVersionTable` automatic variable.

```
PS > $PSVersionTable
Name                           Value
----                           -----
PSVersion                      6.2.2
PSEdition                      Core
GitCommitId                    6.2.2
```

```
OS                              Darwin 18.7.0 Darwin Kernel Version 18.7.0: Tue Aug 20
 16:57:14 PDT 2019; root:xnu-4903.271.2~2/RELEASE_X86_64
Platform                        Unix
PSCompatibleVersions            {1.0, 2.0, 3.0, 4.0…}
PSRemotingProtocolVersion       2.3
SerializationVersion            1.1.0.1
WSManStackVersion               3.0
```

Updating the AWS Tools for PowerShell on Linux or macOS

Periodically, as updated versions of the AWS Tools for PowerShell are released, you should update the version that you're running locally.

Update the modularized `AWS.Tools` modules

To update your `AWS.Tools` modules to the latest version, run the following command:

```
PS > Update-AWSToolsModule -CleanUp
```

This command updates all of the currently installed `AWS.Tools` modules and, for those modules that were successfully updated, removes the earlier versions.

> **Note**
>
> The `Update-AWSToolsModule` cmdlet downloads all modules from the `PSRepository` named `PSGallery` (https://www.powershellgallery.com/) and considers it a trusted source. Use the command `Get-PSRepository -Name PSGallery` for more information about this `PSRepository`.

Update the Tools for PowerShell Core

Run the `Get-AWSPowerShellVersion` cmdlet to determine the version that you are running, and compare that with the version of Tools for Windows PowerShell that is available on the PowerShell Gallery website. We suggest you check every two to three weeks. Support for new commands and AWS services is available only after you update to a version with that support.

Before you install a newer release of AWSPowerShell.NetCore, uninstall the existing module. Close any open PowerShell sessions before you uninstall the existing package. Run the following command to uninstall the package.

```
PS > Uninstall-Module -Name AWSPowerShell.NetCore -AllVersions
```

After the package is uninstalled, install the updated module by running the following command.

```
PS > Install-Module -Name AWSPowerShell.NetCore
```

After installation, run the command `Import-Module AWSPowerShell.NetCore` to load the updated cmdlets into your PowerShell session.

Related Information

- Get started with the AWS Tools for Windows PowerShell
- Work with AWS services in the AWS Tools for PowerShell

Migrating from AWS Tools for PowerShell Version 3.3 to Version 4

AWS Tools for PowerShell version 4 is a backward-compatible update to AWS Tools for PowerShell version 3.3. It adds significant improvements while maintaining existing cmdlet behavior.

Your existing scripts should continue to work after upgrading to the new version, but we do recommend that you test them thoroughly before upgrading your production environments.

This section describes the changes and explains how they might impact your scripts.

New Fully Modularized `AWS.Tools` Version

The AWSPowerShell.NetCore and AWSPowerShell packages were "monolithic". This meant that all of the AWS services were supported in the same module, making it very large, and growing larger as each new AWS service and feature was added. The new `AWS.Tools` package is broken up into smaller modules that give you the flexibility to download and install only those that you require for the AWS services that you use. The package includes a shared `AWS.Tools.Common` module that is required by all of the other modules, and an `AWS.Tools.Installer` module that simplifies installing, updating, and removing modules as needed.

This also enables auto-importing of cmdlets on first call, without having to first call `Import-module`. However, to interact with the associated .NET objects before calling a cmdlet, you must still call `Import-Module` to let PowerShell know about the relevant .NET types.

For example, the following command has a reference to `Amazon.EC2.Model.Filter`. This type of reference can't trigger auto-importing, so you must call `Import-Module` first or the command fails.

```
PS > $filter = [Amazon.EC2.Model.Filter]@{Name="vpc-id";Values="vpc-1234abcd"}
  InvalidOperation: Unable to find type [Amazon.EC2.Model.Filter].
```

```
PS > Import-Module AWS.Tools.EC2
PS > $filter = [Amazon.EC2.Model.Filter]@{Name="vpc-id";Values="vpc-1234abcd"}
PS > Get-EC2Instance -Filter $filter -Select Reservations.Instances.InstanceId
  i-0123456789abcdefg
  i-0123456789hijklmn
```

New `Get-AWSService` cmdlet

To help you discover the names of the modules for each AWS service in the `AWS.Tools` collection of modules, you can use the `Get-AWSService` cmdlet.

```
PS > Get-AWSService
  Service : ACMPCA
  CmdletNounPrefix : PCA
  ModuleName : AWS.Tools.ACMPCA
  SDKAssemblyVersion : 3.3.101.56
  ServiceName : Certificate Manager Private Certificate Authority

  Service : AlexaForBusiness
  CmdletNounPrefix : ALXB
  ModuleName : AWS.Tools.AlexaForBusiness
  SDKAssemblyVersion : 3.3.106.26
  ServiceName : Alexa For Business
  ...
```

New `-Select` Parameter to Control the Object Returned by a Cmdlet

Most cmdlets in version 4 support a new `-Select` parameter. Each cmdlet calls the AWS service APIs for you using the AWS SDK for .NET. Then the AWS Tools for PowerShell client converts the response into an object that you can use in your PowerShell scripts and pipe to other commands. Sometimes the final PowerShell object has more fields or properties in the original response than you need, and other times you might want the object to include fields or properties of the response

that are not there by default. The `-Select` parameter enables you to specify what is included in the .NET object returned by the cmdlet.

For example, the Get-S3Object cmdlet invokes the Amazon S3 SDK operation ListObjects. That operation returns a ListObjectsResponse object. However, by default, the `Get-S3Object` cmdlet returns only the `S3Objects` element of the SDK response to the PowerShell user. In the following example, that object is an array with two elements.

```
PS > Get-S3Object -BucketName mybucket

ETag : "01234567890123456789012345678901111"
BucketName : mybucket
Key : file1.txt
LastModified : 9/30/2019 1:31:40 PM
Owner : Amazon.S3.Model.Owner
Size : 568
StorageClass : STANDARD

ETag : "01234567890123456789012345678902222"
BucketName : mybucket
Key : file2.txt
LastModified : 7/15/2019 9:36:54 AM
Owner : Amazon.S3.Model.Owner
Size : 392
StorageClass : STANDARD
```

In AWS Tools for PowerShell version 4, you can specify `-Select *` to return the complete .NET response object returned by the SDK API call.

```
PS > Get-S3Object -BucketName mybucket -Select *
  IsTruncated    : False
  NextMarker     :
  S3Objects      : {file1.txt, file2.txt}
  Name           : mybucket
  Prefix         :
  MaxKeys        : 1000
  CommonPrefixes : {}
  Delimiter      :
```

You can also specify the path to the specific nested property you want. The following example returns only the `Key` property of each element in the `S3Objects` array.

```
PS > Get-S3Object -BucketName mybucket -Select S3Objects.Key
file1.txt
file2.txt
```

In certain situations it can be useful to return a cmdlet parameter. You can do this with `-Select ^ParameterName`. This feature supplants the `-PassThru` parameter, which is still available but deprecated.

```
PS > Get-S3Object -BucketName mybucket -Select S3Objects.Key |
>> Write-S3ObjectTagSet -Select ^Key -BucketName mybucket -Tagging_TagSet @{ Key='key';
 Value='value'}
  file1.txt
  file2.txt
```

The reference topic for each cmdlet identifies whether it supports the `-Select` parameter.

More Consistent Limiting of the Number of Items in the Output

Earlier versions of AWS Tools for PowerShell enabled you to use the `-MaxItems` parameter to specify the maximum number of objects returned in the final output.

This behavior is removed from `AWS.Tools`.

This behavior is deprecated in AWSPowerShell.NetCore and AWSPowerShell, and will be removed from those versions in a future release.

If the underlying service API supports a `MaxItems` parameter, it's still available and functions as the API specifies. But it no longer has the added behavior of limiting the number of items returned in the output of the cmdlet.

To limit the number of items returned in the final output, pipe the output to the `Select-Object` cmdlet and specify the `-First` *n* parameter, where *n* is the maximum number of items to include in the final output.

```
PS > Get-S3ObjectV2 -BucketName BUCKET_NAME -Select S3Objects.Key | select -first 2
file1.txt
file2.txt
```

Not all AWS services supported `-MaxItems` in the same way, so this removes that inconsistency and the unexpected results that sometimes occurred. Also, `-MaxItems` combined with the new `-Select` parameter could sometimes result in confusing results.

Easier to Use Stream Parameters

Parameters of type `Stream` or `byte[]` can now accept `string`, `string[]`, or `FileInfo` values.

For example, you can use any of the following examples.

```
PS > Invoke-LMFunction -FunctionName MyTestFunction -PayloadStream '{
>> "some": "json"
>> }'
```

```
PS > Invoke-LMFunction -FunctionName MyTestFunction -PayloadStream (ls .\some.json)
```

```
PS > Invoke-LMFunction -FunctionName MyTestFunction -PayloadStream @('{', '"some":
 "json"', '}')
```

AWS Tools for PowerShell converts all strings to `byte[]` using UTF-8 encoding.

Extending the Pipe by Property Name

To make the user experience more consistent, you can now pass pipeline input by specifying the property name for *any* parameter.

In the following example, we create a custom object with properties that have names that match the parameter names of the target cmdlet. When the cmdlet runs, it automatically consumes those properties as its parameters.

```
PS > [pscustomobject] @{ BucketName='myBucket'; Key='file1.txt'; PartNumber=1 } | Get-
S3ObjectMetadata
```

> **Note**
>
> Some properties supported this in earlier versions of AWS Tools for PowerShell. Version 4 makes this more consistent by enabling it for *all* parameters.

Static Common Parameters

To improve consistency in version 4.0 of AWS Tools for PowerShell, all parameters are static.

In earlier versions of AWS Tools for PowerShell, some common parameters such as `AccessKey`,`SecretKey`, `ProfileName`, or `Region`, were dynamic, while all other parameters were static. This could create problems because PowerShell binds static parameters before dynamic ones. For example, let's say you ran the following command.

```
PS > Get-EC2Region -Region us-west-2
```

Earlier versions of PowerShell bound the value `us-west-2` to the `-RegionName` static parameter instead of the `-Region` dynamic parameter. Likely, this could confuse users.

`AWS.Tools` Declares and Enforces Manadatory Parameters

The `AWS.Tools.*` modules now declare and enforce mandatory cmdlet parameters. When an AWS Service declares that a parameter of an API is required, PowerShell prompts you for the corresponding cmdlet parameter if you didn't specify it. This applies only to `AWS.Tools`. To ensure backward compatibility, this does not apply to AWSPowerShell.NetCore or AWSPowerShell.

All Parameters Are Nullable

You can now assign `$null` to value type parameters (numbers and dates). This change should not affect existing scripts. This enables you to bypass the prompt for a mandatory parameter. Mandatory parameters are enforced in `AWS.Tools` only.

If you run the following example using version 4, it effectively bypasses client-side validation because you provide a "value" for each mandatory parameter. However, the Amazon EC2 API service call fails because the AWS service still requires that information.

```
PS > Get-EC2InstanceAttribute -InstanceId $null -Attribute $null
WARNING: You are passing $null as a value for parameter Attribute which is marked as
 required.
In case you believe this parameter was incorrectly marked as required, report this by
 opening
an issue at https://github.com/aws/aws-tools-for-powershell/issues .
WARNING: You are passing $null as a value for parameter InstanceId which is marked as
 required.
```

```
In case you believe this parameter was incorrectly marked as required, report this by
 opening
an issue at https://github.com/aws/aws-tools-for-powershell/issues .

Get-EC2InstanceAttribute : The request must contain the parameter instanceId
```

Removing Previously Deprecated Features

The following features were deprecated in previous releases of AWS Tools for PowerShell and are removed in version 4:

- Removed the `-Terminate` parameter from the `Stop-EC2Instance` cmdlet. Use `Remove-EC2Instance` instead.
- Removed the `-ProfileName` parameter from the Clear-AWSCredential cmdlet. Use `Remove-AWSCredentialProfile` instead.
- Removed cmdlets `Import-EC2Instance` and `Import-EC2Volume`.

Get started with the AWS Tools for Windows PowerShell

Some of the topics in this section describe the fundamentals of using the Tools for Windows PowerShell after you have installed the tools. For example, they explain how to specify which credentials and AWS Region the Tools for Windows PowerShell should use when interacting with AWS.

Other topics in this section provide information about advanced ways that you can configure the tools, your environment, and your projects.

Topics

Configure tool authentication with AWS

You must establish how your code authenticates with AWS when developing with AWS services. There are different ways in which you can configure programmatic access to AWS resources, depending on the environment and the AWS access available to you.

To see various methods of authentication for the Tools for PowerShell, see Authentication and access in the *AWS SDKs and Tools Reference Guide*.

This topic assumes that a new user is developing locally, has not been given a method of authentication by their employer, and will be using AWS IAM Identity Center to obtain temporary credentials. If your environment doesn't fall under these assumptions, some of the information in this topic might not apply to you, or some of the information might have already been given to you.

Configuring this environment requires several steps, which are summarized as follows:

1. Enable and configure IAM Identity Center
2. Configure the Tools for PowerShell to use IAM Identity Center.
3. Start an AWS access portal session

Enable and configure IAM Identity Center

To use AWS IAM Identity Center, it must first be enabled and configured. To see details about how to do this for PowerShell, look at **Step 1** in the topic for IAM Identity Center authentication in the *AWS SDKs and Tools Reference Guide*. Specifically, follow any necessary instructions under **I do not have established access through IAM Identity Center**.

Configure the Tools for PowerShell to use IAM Identity Center.

> **Note**
>
> Starting with version 4.1.538 of the Tools for PowerShell, the recommended method to configure SSO credentials and start an AWS access portal session is to use the `Initialize-AWSSSOConfiguration` and `Invoke-AWSSSOLogin` cmdlets, as described in this topic. If you don't have access to that version of the Tools for PowerShell (or later) or can't use those cmdlets, you can still perform these tasks by using the AWS CLI. To find out how, see Use the AWS CLI for portal login.

The following procedure updates the shared AWS `config` file with SSO information that the Tools for PowerShell uses to obtain temporary credentials. As a consequence of this procedure, an AWS access portal session is also started. If the shared `config` file already has SSO information and you just want to know how to start an access portal session using the Tools for PowerShell, see the next section in this topic, Start an AWS access portal session.

1. If you haven't already done so, open PowerShell and install the AWS Tools for PowerShell as appropriate for your operating system and environment, including the common cmdlets. For information about how to do this, see Installing the AWS Tools for PowerShell.

   For example, if installing the modularized version of the Tools for PowerShell on Windows, you would most likely run commands similar to the following:

```
Install-Module -Name AWS.Tools.Installer
Install-AWSToolsModule AWS.Tools.Common
```

2. Run the following command. Replace the example property values with values from your IAM Identity Center configuration. For information about these properties and how to find them, see IAM Identity Center credential provider settings in the *AWS SDKs and Tools Reference Guide*.

```
$params = @{
  ProfileName = 'my-sso-profile'
  AccountId = '111122223333'
  RoleName = 'SamplePermissionSet'
  SessionName = 'my-sso-session'
  StartUrl = 'https://provided-domain.awsapps.com/start'
  SSORegion = 'us-west-2'
  RegistrationScopes = 'sso:account:access'
};
Initialize-AWSSSOConfiguration @params
```

   Alternatively, you can simply use the cmdlet by itself, `Initialize-AWSSSOConfiguration`, and the Tools for PowerShell prompts you for the property values.

   Considerations for certain property values:

   - If you simply followed the instructions to enable and configure IAM Identity Center, the value for `-RoleName` might be `PowerUserAccess`. But if you created an IAM Identity Center permission set specifically for PowerShell work, use that instead.
   - Be sure to use the AWS Region where you have configured IAM Identity Center.

3. At this point, the shared AWS `config` file contains a profile called `my-sso-profile` with a set of configuration values that can be referenced from the Tools for PowerShell. To find the location of this file, see Location of the shared files in the *AWS SDKs and Tools Reference Guide*.

   The Tools for PowerShell uses the profile's SSO token provider to acquire credentials before sending requests to AWS. The `sso_role_name` value, which is an IAM role connected to an IAM Identity Center permission set, should allow access to the AWS services used in your application.

   The following sample shows the profile that was created by using the command shown above. Some of the property values and their order might be different in your actual profile.

The profile's `sso-session` property refers to the section named `my-sso-session`, which contains settings to initiate an AWS access portal session.

```
[profile my-sso-profile]
sso_account_id=111122223333
sso_role_name=SamplePermissionSet
sso_session=my-sso-session

[sso-session my-sso-session]
sso_region=us-west-2
sso_registration_scopes=sso:account:access
sso_start_url=https://provided-domain.awsapps.com/start/
```

4. If you already have an active AWS access portal session, the Tools for PowerShell informs you that you are already logged in.

   If that's not the case, the Tools for PowerShell attempts to automatically open the SSO authorization page in your default web browser. Follow the prompts in your browser, which might include an SSO authorization code, username and password, and permission to access AWS IAM Identity Center accounts and permission sets.

   The Tools for PowerShell informs you that SSO login was successful.

Start an AWS access portal session

Before running commands that accesses AWS services, you need an active AWS access portal session so that the Tools for PowerShell can use IAM Identity Center authentication to resolve credentials. To sign in to the AWS access portal, run the following command in PowerShell, where `-ProfileName my-sso-profile` is the name of the profile that was created in the shared `config` file when you followed the procedure in the previous section of this topic.

```
Invoke-AWSSSOLogin -ProfileName my-sso-profile
```

If you already have an active AWS access portal session, the Tools for PowerShell informs you that you are already logged in.

If that's not the case, the Tools for PowerShell attempts to automatically open the SSO authorization page in your default web browser. Follow the prompts in your browser, which might

include an SSO authorization code, username and password, and permission to access AWS IAM Identity Center accounts and permission sets.

The Tools for PowerShell informs you that SSO login was successful.

To test if you already have an active session, run the following command after installing or importing the `AWS.Tools.SecurityToken` module as needed.

```
Get-STSCallerIdentity -ProfileName my-sso-profile
```

The response to the `Get-STSCallerIdentity` cmdlet reports the IAM Identity Center account and permission set configured in the shared `config` file.

Example

The following is an example of how to use IAM Identity Center with the Tools for PowerShell. It assumes the following:

- You have enabled IAM Identity Center and configured it as described previously in this topic. The SSO properties are in the `my-sso-profile` profile, which was configured earlier in this topic.
- When you log in through the `Initialize-AWSSSOConfiguration` or `Invoke-AWSSSOLogin` cmdlets, the user has at least read-only permissions for Amazon S3.
- Some S3 buckets are available for that user to view.

Install or import the `AWS.Tools.S3` module as needed and then use the following PowerShell command to display a list of the S3 buckets.

```
Get-S3Bucket -ProfileName my-sso-profile
```

Additional information

- For more options on authentication for the Tools for PowerShell, such as the use of profiles and environment variables, see the configuration chapter in the *AWS SDKs and Tools Reference Guide*.
- Some commands require an AWS Region to be specified. There are a number of ways to do so, including the `-Region` cmdlet option, the `[default]` profile, and the `AWS_REGION` environment variable. For more information, see Specify AWS Regions in this guide and AWS Region in the *AWS SDKs and Tools Reference Guide*.

- To learn more about best practices, see Security best practices in IAM in the *IAM User Guide*.
- To create short-term AWS credentials, see Temporary Security Credentials in the *IAM User Guide*.
- To learn about other credential providers, see Standardized credential providers in the *AWS SDKs and Tools Reference Guide*.

Topics

Use the AWS CLI for portal login

Starting with version 4.1.538 of the Tools for PowerShell, the recommended method to configure SSO credentials and start an AWS access portal session is to use the `Initialize-AWSSSOConfiguration` and `Invoke-AWSSSOLogin` cmdlets, as described in Configure tool authentication with AWS. If you don't have access to that version of the Tools for PowerShell (or later) or can't use those cmdlets, you can still perform these tasks by using the AWS CLI.

Configure the Tools for PowerShell to use IAM Identity Center through the AWS CLI.

If you haven't already done so, be sure to Enable and configure IAM Identity Center before you proceed.

Information about how to configure the Tools for PowerShell to use IAM Identity Center through the AWS CLI is in **Step 2** in the topic for IAM Identity Center authentication in the *AWS SDKs and Tools Reference Guide*. After you complete this configuration, your system should contain the following elements:

- The AWS CLI, which you use to start an AWS access portal session before you run your application.
- The shared AWS `config` file that contains a `[default]` profile with a set of configuration values that can be referenced from the Tools for PowerShell. To find the location of this file, see Location of the shared files in the *AWS SDKs and Tools Reference Guide*. The Tools for PowerShell uses the profile's SSO token provider to acquire credentials before sending requests to AWS. The `sso_role_name` value, which is an IAM role connected to an IAM Identity Center permission set, should allow access to the AWS services used in your application.

The following sample `config` file shows a `[default]` profile set up with an SSO token provider. The profile's `sso_session` setting refers to the named `sso-session` section. The `sso-session` section contains settings to initiate an AWS access portal session.

```
[default]
sso_session = my-sso
sso_account_id = 111122223333
sso_role_name = SampleRole
region = us-east-1
output = json

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

Important

Your PowerShell session must have the following modules installed and imported so that SSO resolution can work:

- `AWS.Tools.SSO`
- `AWS.Tools.SSOOIDC`

If you're using an older version of the Tools for PowerShell and you don't have these modules, you will get an error similar to the following: "Assembly AWSSDK.SSOOIDC could not be found...".

Start an AWS access portal session

Before running commands that accesses AWS services, you need an active AWS access portal session so that the Tools for Windows PowerShell can use IAM Identity Center authentication to resolve credentials. Depending on your configured session lengths, your access will eventually expire and the Tools for Windows PowerShell will encounter an authentication error. To sign in to the AWS access portal, run the following command in the AWS CLI.

```
aws sso login
```

Since you are using the `[default]` profile, you do not need to call the command with the `--profile` option. If your SSO token provider configuration is using a named profile, the command is `aws sso login --profile named-profile` instead. For more information about named profiles, see the Profiles section in the *AWS SDKs and Tools Reference Guide*.

To test if you already have an active session, run the following AWS CLI command (with the same consideration for named profile):

```
aws sts get-caller-identity
```

The response to this command should report the IAM Identity Center account and permission set configured in the shared `config` file.

> **Note**
>
> If you already have an active AWS access portal session and run `aws sso login`, you will not be required to provide credentials.
> The sign-in process might prompt you to allow the AWS CLI access to your data. Because the AWS CLI is built on top of the SDK for Python, permission messages may contain variations of the `botocore` name.

Example

The following is an example of how to use IAM Identity Center with the Tools for PowerShell. It assumes the following:

- You have enabled IAM Identity Center and configured it as described previously in this topic. The SSO properties are in the `[default]` profile.
- When you log in through the AWS CLI by using `aws sso login`, that user has at least read-only permissions for Amazon S3.
- Some S3 buckets are available for that user to view.

Use the following PowerShell commands to display a list of the S3 buckets:

```
Install-Module AWS.Tools.Installer
Install-AWSToolsModule S3
# And if using an older version of the AWS Tools for PowerShell:
Install-AWSToolsModule SSO, SSOOIDC

# In older versions of the AWS Tools for PowerShell, we're not invoking a cmdlet from
 these modules directly,
# so we must import them explicitly:
Import-Module AWS.Tools.SSO
Import-Module AWS.Tools.SSOOIDC

# Older versions of the AWS Tools for PowerShell don't support the SSO login flow, so
 login with the CLI
aws sso login

# Now we can invoke cmdlets using the SSO profile
Get-S3Bucket
```

As mentioned above, since you are using the `[default]` profile, you do not need to call the `Get-S3Bucket` cmdlet with the `-ProfileName` option. If your SSO token provider configuration is using a named profile, the command is `Get-S3Bucket -ProfileName` *`named-profile`*. For more information about named profiles, see the Profiles section in the *AWS SDKs and Tools Reference Guide*.

Additional information

- For more options on authentication for the Tools for PowerShell, such as the use of profiles and environment variables, see the configuration chapter in the *AWS SDKs and Tools Reference Guide*.
- Some commands require an AWS Region to be specified. There are a number of ways to do so, including the `-Region` cmdlet option, the `[default]` profile, and the `AWS_REGION` environment variable. For more information, see Specify AWS Regions in this guide and AWS Region in the *AWS SDKs and Tools Reference Guide*.
- To learn more about best practices, see Security best practices in IAM in the *IAM User Guide*.
- To create short-term AWS credentials, see Temporary Security Credentials in the *IAM User Guide*.
- To learn about other credential providers, see Standardized credential providers in the *AWS SDKs and Tools Reference Guide*.

Specify AWS Regions

There are two ways to specify the AWS Region to use when running AWS Tools for PowerShell commands:

- Use the `-Region` common parameter on individual commands.
- Use the `Set-DefaultAWSRegion` command to set a default Region for all commands.

Many AWS cmdlets fail if the Tools for Windows PowerShell can't figure out what Region to use. Exceptions include cmdlets for Amazon S3, Amazon SES, and AWS Identity and Access Management, which automatically default to a global endpoint.

To specify the region for a single AWS command

Add the `-Region` parameter to your command, such as the following.

```
PS > Get-EC2Image -Region us-west-2
```

To set a default region for all AWS CLI commands in the current session

From the PowerShell command prompt, type the following command.

```
PS > Set-DefaultAWSRegion -Region us-west-2
```

> **Note**
>
> This setting persists only for the current session. To apply the setting to all of your PowerShell sessions, add this command to your PowerShell profile as you did for the `Import-Module` command.

To view the current default region for all AWS CLI commands

From the PowerShell command prompt, type the following command.

```
PS > Get-DefaultAWSRegion

Region    Name            IsShellDefault
------    ----            --------------
```

```
us-west-2 US West (Oregon) True
```

To clear the current default Region for all AWS CLI commands

From the PowerShell command prompt, type the following command.

```
PS > Clear-DefaultAWSRegion
```

To view a list of all available AWS Regions

From the PowerShell command prompt, type the following command. The third column in the sample output identifies which Region is the default for your current session.

```
PS > Get-AWSRegion

Region         Name                      IsShellDefault
------         ----                      --------------
ap-east-1      Asia Pacific (Hong Kong)  False
ap-northeast-1 Asia Pacific (Tokyo)      False
...
us-east-2      US East (Ohio)            False
us-west-1      US West (N. California)   False
us-west-2      US West (Oregon)          True
...
```

> **Note**
>
> Some Regions might be supported but not included in the output of the `Get-AWSRegion` cmdlet. For example, this is sometimes true of Regions that are not yet global. If you're not able to specify a Region by adding the `-Region` parameter to a command, try specifying the Region in a custom endpoint instead, as shown in the following section.

Specifying a Custom or Nonstandard Endpoint

Specify a custom endpoint as a URL by adding the `-EndpointUrl` common parameter to your Tools for Windows PowerShell command, in the following sample format.

```
PS > Some-AWS-PowerShellCmdlet -EndpointUrl "custom endpoint URL" -Other -Parameters
```

The following is an example using the `Get-EC2Instance` cmdlet. The custom endpoint is in the `us-west-2`, or US West (Oregon) Region in this example, but you can use any other supported AWS Region, including regions that are not enumerated by `Get-AWSRegion`.

```
PS > Get-EC2Instance -EndpointUrl "https://service-custom-url.us-west-2.amazonaws.com"
 -InstanceID "i-0555a30a2000000e1"
```

Additional information

For additional information about AWS Regions, see AWS Region in the *AWS SDKs and Tools Reference Guide*.

Configure federated identity with the AWS Tools for PowerShell

To let users in your organization access AWS resources, you must configure a standard and repeatable authentication method for purposes of security, auditability, compliance, and the capability to support role and account separation. Although it's common to provide users with the ability to access AWS APIs, without federated API access, you would also have to create AWS Identity and Access Management (IAM) users, which defeats the purpose of using federation. This topic describes SAML (Security Assertion Markup Language) support in the AWS Tools for PowerShell that eases your federated access solution.

SAML support in the AWS Tools for PowerShell lets you provide your users federated access to AWS services. SAML is an XML-based, open-standard format for transmitting user authentication and authorization data between services; in particular, between an identity provider (such as Active Directory Federation Services), and a service provider (such as AWS). For more information about SAML and how it works, see SAML on Wikipedia, or SAML Technical Specifications at the Organization for the Advancement of Structured Information Standards (OASIS) website. SAML support in the AWS Tools for PowerShell is compatible with SAML 2.0.

Prerequisites

You must have the following in place before you try to use SAML support for the first time.

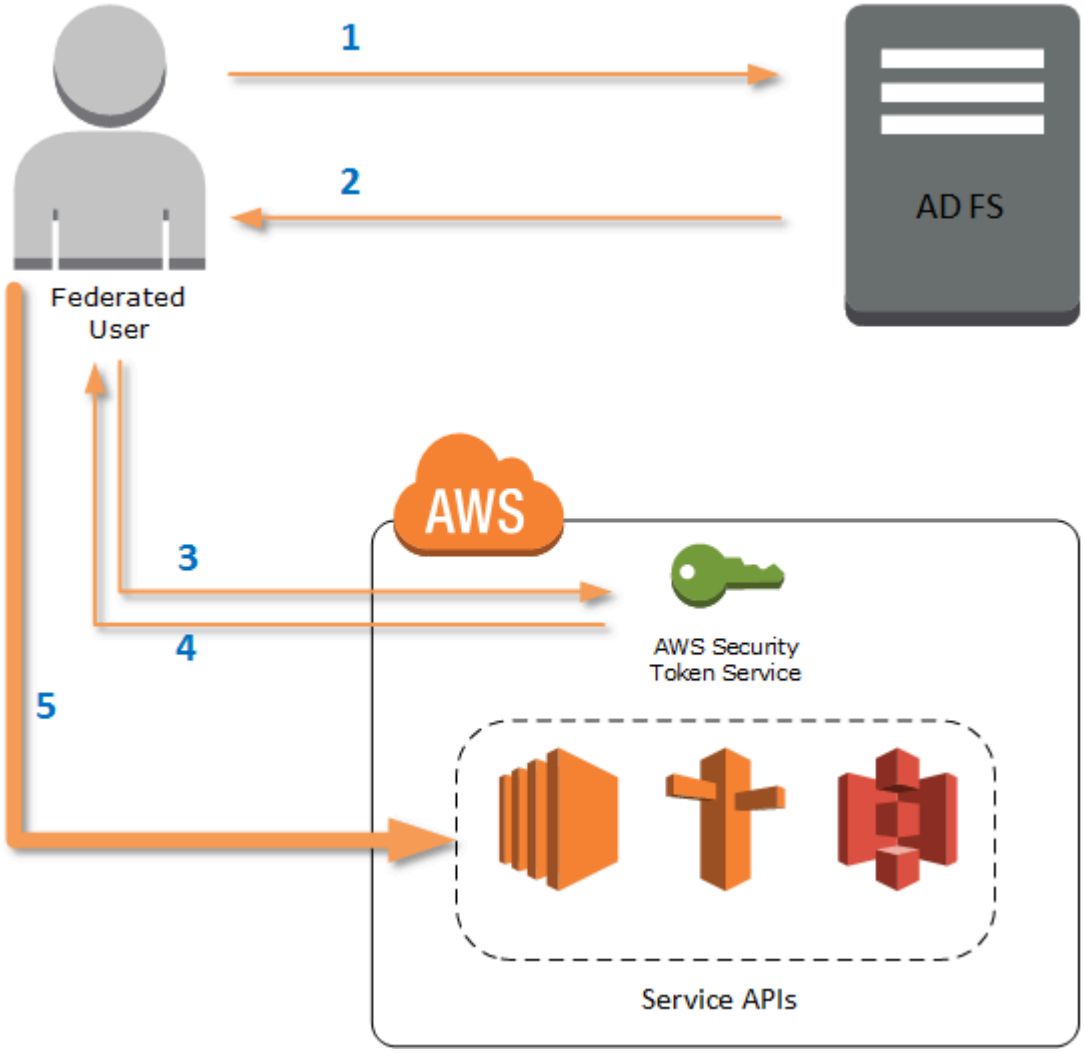
- A federated identity solution that is correctly integrated with your AWS account for console access by using only your organizational credentials. For more information about how to do this specifically for Active Directory Federation Services, see About SAML 2.0 Federation in the *IAM*

User Guide, and the blog post, [Enabling Federation to AWS Using Windows Active Directory, AD FS, and SAML 2.0]. Although the blog post covers AD FS 2.0, the steps are similar if you are running AD FS 3.0.

- Version 3.1.31.0 or newer of the AWS Tools for PowerShell installed on your local workstation.

How an Identity-Federated User Gets Federated Access to AWS Service APIs

The following process describes, at a high level, how an Active Directory (AD) user is federated by AD FS to gain access to AWS resources.

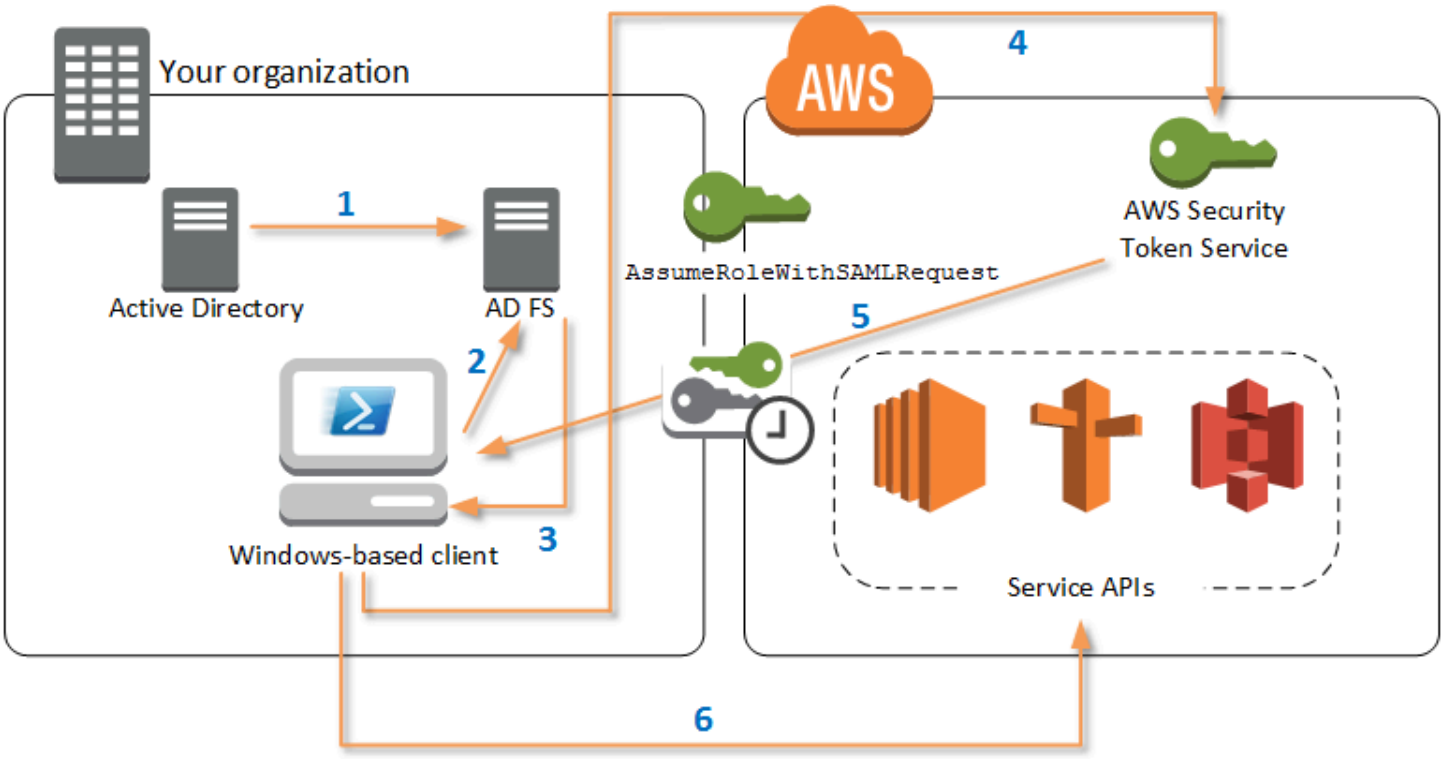


1. The client on federated user's computer authenticates against AD FS.
2. If authentication succeeds, AD FS sends the user a SAML assertion.

3. The user's client sends the SAML assertion to the AWS Security Token Service (STS) as part of a SAML federation request.
4. STS returns a SAML response that contains AWS temporary credentials for a role the user can assume.
5. The user accesses AWS service APIs by including those temporary credentials in request made by AWS Tools for PowerShell.

How SAML Support Works in the AWS Tools for PowerShell

This section describes how AWS Tools for PowerShell cmdlets enable configuration of SAML-based identity federation for users.



1. AWS Tools for PowerShell authenticates against AD FS by using the Windows user's current credentials, or interactively, when the user tries to run a cmdlet that requires credentials to call into AWS.
2. AD FS authenticates the user.
3. AD FS generates a SAML 2.0 authentication response that includes an assertion; the purpose of the assertion is to identify and provide information about the user. AWS Tools for PowerShell extracts the list of the user's authorized roles from the SAML assertion.

4. AWS Tools for PowerShell forwards the SAML request, including the requested role's Amazon Resource Names (ARN), to STS by making the `AssumeRoleWithSAMLRequest` API call.
5. If the SAML request is valid, STS returns a response that contains the AWS `AccessKeyId`, `SecretAccessKey`, and `SessionToken`. These credentials last for 3,600 seconds (1 hour).
6. The user now has valid credentials to work with any AWS service APIs that the user's role is authorized to access. AWS Tools for PowerShell automatically applies these credentials for any subsequent AWS API calls, and renews them automatically when they expire.

> **Note**
>
> When the credentials expire, and new credentials are required, AWS Tools for PowerShell automatically reauthenticates with AD FS, and obtains new credentials for a subsequent hour. For users of domain-joined accounts, this process occurs silently. For accounts that are not domain-joined, AWS Tools for PowerShell prompts users to enter their credentials before they can reauthenticate.

How to Use the PowerShell SAML Configuration Cmdlets

AWS Tools for PowerShell includes two new cmdlets that provide SAML support.

- `Set-AWSSamlEndpoint` configures your AD FS endpoint, assigns a friendly name to the endpoint, and optionally describes the authentication type of the endpoint.
- `Set-AWSSamlRoleProfile` creates or edits a user account profile that you want to associate with an AD FS endpoint, identified by specifying the friendly name you provided to the `Set-AWSSamlEndpoint` cmdlet. Each role profile maps to a single role that a user is authorized to perform.

  Just as with AWS credential profiles, you assign a friendly name to the role profile. You can use the same friendly name with the `Set-AWSCredential` cmdlet, or as the value of the `-ProfileName` parameter for any cmdlet that invokes AWS service APIs.

Open a new AWS Tools for PowerShell session. If you are running PowerShell 3.0 or newer, the AWS Tools for PowerShell module is automatically imported when you run any of its cmdlets. If you are running PowerShell 2.0, you must import the module manually by running the ``Import-Module`` cmdlet, as shown in the following example.

```
PS > Import-Module "C:\Program Files (x86)\AWS Tools\PowerShell\AWSPowerShell
\AWSPowerShell.psd1"
```

How to Run the Set-AWSSamlEndpoint and Set-AWSSamlRoleProfile Cmdlets

1. First, configure the endpoint settings for the AD FS system. The simplest way to do this is to store the endpoint in a variable, as shown in this step. Be sure to replace the placeholder account IDs and AD FS host name with your own account IDs and AD FS host name. Specify the AD FS host name in the Endpoint parameter.

   ```
   PS > $endpoint = "https://adfs.example.com/adfs/ls/IdpInitiatedSignOn.aspx?
   loginToRp=urn:amazon:webservices"
   ```

2. To create the endpoint settings, run the Set-AWSSamlEndpoint cmdlet, specifying the correct value for the AuthenticationType parameter. Valid values include Basic, Digest, Kerberos, Negotiate, and NTLM. If you do not specify this parameter, the default value is Kerberos.

   ```
   PS > $epName = Set-AWSSamlEndpoint -Endpoint $endpoint -StoreAs ADFS-Demo -
   AuthenticationType NTLM
   ```

   The cmdlet returns the friendly name you assigned by using the -StoreAs parameter, so you can use it when you run Set-AWSSamlRoleProfile in the next line.

3. Now, run the Set-AWSSamlRoleProfile cmdlet to authenticate with the AD FS identity provider and get the set of roles (in the SAML assertion) that the user is authorized to perform.

   The Set-AWSSamlRoleProfile cmdlet uses the returned set of roles to either prompt the user to select a role to associate with the specified profile, or validate that role data provided in parameters is present (if not, the user is prompted to choose). If the user is authorized for only one role, the cmdlet associates the role with the profile automatically, without prompting the user. There is no need to provide a credential to set up a profile for domain-joined usage.

   ```
   PS > Set-AWSSamlRoleProfile -StoreAs SAMLDemoProfile -EndpointName $epName
   ```

   Alternatively, for non-domain-joined accounts, you can provide Active Directory credentials, and then select an AWS role to which the user has access, as shown in the following line. This

is useful if you have different Active Directory user accounts to differentiate roles within your organization (for example, administration functions).

```
PS > $credential = Get-Credential -Message "Enter the domain credentials for the
 endpoint"
PS > Set-AWSSamlRoleProfile -EndpointName $epName -NetworkCredential $credential -
StoreAs SAMLDemoProfile
```

4. In either case, the `Set-AWSSamlRoleProfile` cmdlet prompts you to choose which role should be stored in the profile. The following example shows two available roles: `ADFS-Dev`, and `ADFS-Production`. The IAM roles are associated with your AD login credentials by the AD FS administrator.

   ```
   Select Role
   Select the role to be assumed when this profile is active
   [1] 1 - ADFS-Dev  [2] 2 - ADFS-Production  [?] Help (default is "1"):
   ```

   Alternatively, you can specify a role without the prompt, by entering the `RoleARN`, `PrincipalARN`, and optional `NetworkCredential` parameters. If the specified role is not listed in the assertion returned by authentication, the user is prompted to choose from available roles.

   ```
   PS > $params = @{ "NetworkCredential"=$credential,
    "PrincipalARN"="{arn:aws:iam::012345678912:saml-provider/ADFS}",
    "RoleARN"="{arn:aws:iam::012345678912:role/ADFS-Dev}"
   }
   PS > $epName | Set-AWSSamlRoleProfile @params -StoreAs SAMLDemoProfile1 -Verbose
   ```

5. You can create profiles for all roles in a single command by adding the `StoreAllRoles` parameter, as shown in the following code. Note that the role name is used as the profile name.

   ```
   PS > Set-AWSSamlRoleProfile -EndpointName $epName -StoreAllRoles
   ADFS-Dev
   ADFS-Production
   ```

How to Use Role Profiles to Run Cmdlets that Require AWS Credentials

To run cmdlets that require AWS credentials, you can use role profiles defined in the AWS shared credential file. Provide the name of a role profile to `Set-AWSCredential` (or as the value for

any `ProfileName` parameter in the AWS Tools for PowerShell) to get temporary AWS credentials automatically for the role that is described in the profile.

Although you use only one role profile at a time, you can switch between profiles within a shell session. The `Set-AWSCredential` cmdlet does not authenticate and get credentials when you run it by itself; the cmdlet records that you want to use a specified role profile. Until you run a cmdlet that requires AWS credentials, no authentication or request for credentials occurs.

You can now use the temporary AWS credentials that you obtained with the `SAMLDemoProfile` profile to work with AWS service APIs. The following sections show examples of how to use role profiles.

Example 1: Set a Default Role with `Set-AWSCredential`

This example sets a default role for a AWS Tools for PowerShell session by using `Set-AWSCredential`. Then, you can run cmdlets that require credentials, and are authorized by the specified role. This example lists all Amazon Elastic Compute Cloud instances in the US West (Oregon) Region that are associated with the profile you specified with the `Set-AWSCredential` cmdlet.

```
PS > Set-AWSCredential -ProfileName SAMLDemoProfile
PS > Get-EC2Instance -Region us-west-2 | Format-Table -Property Instances,GroupNames

Instances                                                       GroupNames
---------                                                       ----------
{TestInstance1}                                                 {default}
{TestInstance2}                                                 {}
{TestInstance3}                                                 {launch-wizard-6}
{TestInstance4}                                                 {default}
{TestInstance5}                                                 {}
{TestInstance6}                                                 {AWS-OpsWorks-Default-
Server}
```

Example 2: Change Role Profiles During a PowerShell Session

This example lists all available Amazon S3 buckets in the AWS account of the role associated with the `SAMLDemoProfile` profile. The example shows that although you might have been using another profile earlier in your AWS Tools for PowerShell session, you can change profiles by specifying a different value for the `-ProfileName` parameter with cmdlets that support it. This is a common task for administrators who manage Amazon S3 from the PowerShell command line.

```
PS > Get-S3Bucket -ProfileName SAMLDemoProfile

CreationDate                                                    BucketName
------------                                                    ----------
7/25/2013 3:16:56 AM                                            mybucket1
4/15/2015 12:46:50 AM                                           mybucket2
4/15/2015 6:15:53 AM                                            mybucket3
1/12/2015 11:20:16 PM                                           mybucket4
```

Note that the `Get-S3Bucket` cmdlet specifies the name of the profile created by running the `Set-AWSSamlRoleProfile` cmdlet. This command could be useful if you had set a role profile earlier in your session (for example, by running the `Set-AWSCredential` cmdlet) and wanted to use a different role profile for the `Get-S3Bucket` cmdlet. The profile manager makes temporary credentials available to the `Get-S3Bucket` cmdlet.

Although the credentials expire after 1 hour (a limit enforced by STS), AWS Tools for PowerShell automatically refreshes the credentials by requesting a new SAML assertion when the tool detects that the current credentials have expired.

For domain-joined users, this process occurs without interruption, because the current user's Windows identity is used during authentication. For non-domain-joined user accounts, AWS Tools for PowerShell shows a PowerShell credential prompt requesting the user password. The user provides credentials that are used to reauthenticate the user and get a new assertion.

Example 3: Get Instances in a Region

The following example lists all Amazon EC2 instances in the Asia Pacific (Sydney) Region that are associated with the account used by the `ADFS-Production` profile. This is a useful command for returning all Amazon EC2 instances in a region.

```
PS > (Get-Ec2Instance -ProfileName ADFS-Production -Region ap-southeast-2).Instances |
 Select InstanceType, @{Name="Servername";Expression={$_.tags | where key -eq "Name" |
 Select Value -Expand Value}}

 InstanceType                                                    Servername
 ------------                                                    ----------
 t2.small                                                        DC2
 t1.micro                                                        NAT1
 t1.micro                                                        RDGW1
 t1.micro                                                        RDGW2
 t1.micro                                                        NAT2
```

```
t2.small                                                    DC1
t2.micro                                                    BUILD
```

Additional Reading

For general information about how to implement federated API access, see How to Implement a General Solution for Federated API/CLI Access Using SAML 2.0.

For support questions or comments, visit the AWS Developer Forums for PowerShell Scripting or .NET Development.

Cmdlet discovery and aliases

This section shows you how to list services that are supported by the AWS Tools for PowerShell, how to show the set of cmdlets provided by the AWS Tools for PowerShell in support of those services, and how to find alternative cmdlet names (also called aliases) to access those services.

Cmdlet Discovery

All AWS service operations (or APIs) are documented in the API Reference Guide for each service. For example, see the IAM API Reference. There is, in most cases, a one-to-one correspondence between an AWS service API and an AWS PowerShell cmdlet. To get the cmdlet name that corresponds to an AWS service API name, run the AWS `Get-AWSCmdletName` cmdlet with the `-ApiOperation` parameter and the AWS service API name. For example, to get all possible cmdlet names that are based on any available `DescribeInstances` AWS service API, run the following command:

```
PS > Get-AWSCmdletName -ApiOperation DescribeInstances

CmdletName        ServiceOperation    ServiceName                    CmdletNounPrefix
----------        ----------------    -----------                    ----------------
Get-EC2Instance   DescribeInstances   Amazon Elastic Compute Cloud   EC2
Get-GMLInstance   DescribeInstances   Amazon GameLift Service        GML
```

The `-ApiOperation` parameter is the default parameter, so you can omit the parameter name. The following example is equivalent to the previous one:

```
PS > Get-AWSCmdletName DescribeInstances
```

If you know the names of both the API and the service, you can include the `-Service` parameter along with either the cmdlet noun prefix or part of the AWS service name. For example, the cmdlet noun prefix for Amazon EC2 is `EC2`. To get the cmdlet name that corresponds to the `DescribeInstances` API in the Amazon EC2 service, run one of the following commands. They are all result in the same output:

```
PS > Get-AWSCmdletName -ApiOperation DescribeInstances -Service EC2
PS > Get-AWSCmdletName -ApiOperation DescribeInstances -Service Compute
PS > Get-AWSCmdletName -ApiOperation DescribeInstances -Service "Compute Cloud"

CmdletName        ServiceOperation    ServiceName                    CmdletNounPrefix
----------        ----------------    -----------                    ----------------
Get-EC2Instance   DescribeInstances   Amazon Elastic Compute Cloud   EC2
```

Parameter values in these commands are case-insensitive.

If you do not know the name of either the desired AWS service API or the AWS service, you can use the `-ApiOperation` parameter, along with the pattern to match, and the `-MatchWithRegex` parameter. For example, to get all available cmdlet names that contain `SecurityGroup`, run the following command:

```
PS > Get-AWSCmdletName -ApiOperation SecurityGroup -MatchWithRegex

CmdletName                                  ServiceOperation
   ServiceName                         CmdletNounPrefix
----------                                  ----------------
   -----------                         ----------------
Approve-ECCacheSecurityGroupIngress         AuthorizeCacheSecurityGroupIngress
   Amazon ElastiCache                  EC
Get-ECCacheSecurityGroup                    DescribeCacheSecurityGroups
   Amazon ElastiCache                  EC
New-ECCacheSecurityGroup                    CreateCacheSecurityGroup
   Amazon ElastiCache                  EC
Remove-ECCacheSecurityGroup                 DeleteCacheSecurityGroup
   Amazon ElastiCache                  EC
Revoke-ECCacheSecurityGroupIngress          RevokeCacheSecurityGroupIngress
   Amazon ElastiCache                  EC
Add-EC2SecurityGroupToClientVpnTargetNetwrk
 ApplySecurityGroupsToClientVpnTargetNetwork Amazon Elastic Compute Cloud       EC2
Get-EC2SecurityGroup                        DescribeSecurityGroups
   Amazon Elastic Compute Cloud       EC2
```

```
Get-EC2SecurityGroupReference                   DescribeSecurityGroupReferences
   Amazon Elastic Compute Cloud       EC2
Get-EC2StaleSecurityGroup                       DescribeStaleSecurityGroups
   Amazon Elastic Compute Cloud       EC2
Grant-EC2SecurityGroupEgress                    AuthorizeSecurityGroupEgress
   Amazon Elastic Compute Cloud       EC2
Grant-EC2SecurityGroupIngress                   AuthorizeSecurityGroupIngress
   Amazon Elastic Compute Cloud       EC2
New-EC2SecurityGroup                            CreateSecurityGroup
   Amazon Elastic Compute Cloud       EC2
Remove-EC2SecurityGroup                         DeleteSecurityGroup
   Amazon Elastic Compute Cloud       EC2
Revoke-EC2SecurityGroupEgress                   RevokeSecurityGroupEgress
   Amazon Elastic Compute Cloud       EC2
Revoke-EC2SecurityGroupIngress                  RevokeSecurityGroupIngress
   Amazon Elastic Compute Cloud       EC2
Update-EC2SecurityGroupRuleEgressDescription  UpdateSecurityGroupRuleDescriptionsEgress
   Amazon Elastic Compute Cloud       EC2
Update-EC2SecurityGroupRuleIngressDescription
 UpdateSecurityGroupRuleDescriptionsIngress  Amazon Elastic Compute Cloud       EC2
Edit-EFSMountTargetSecurityGroup                ModifyMountTargetSecurityGroups
   Amazon Elastic File System         EFS
Get-EFSMountTargetSecurityGroup                 DescribeMountTargetSecurityGroups
   Amazon Elastic File System         EFS
Join-ELBSecurityGroupToLoadBalancer             ApplySecurityGroupsToLoadBalancer
   Elastic Load Balancing             ELB
Set-ELB2SecurityGroup                           SetSecurityGroups
   Elastic Load Balancing V2          ELB2
Enable-RDSDBSecurityGroupIngress                AuthorizeDBSecurityGroupIngress
   Amazon Relational Database Service RDS
Get-RDSDBSecurityGroup                          DescribeDBSecurityGroups
   Amazon Relational Database Service RDS
New-RDSDBSecurityGroup                          CreateDBSecurityGroup
   Amazon Relational Database Service RDS
Remove-RDSDBSecurityGroup                       DeleteDBSecurityGroup
   Amazon Relational Database Service RDS
Revoke-RDSDBSecurityGroupIngress                RevokeDBSecurityGroupIngress
   Amazon Relational Database Service RDS
Approve-RSClusterSecurityGroupIngress           AuthorizeClusterSecurityGroupIngress
   Amazon Redshift                    RS
Get-RSClusterSecurityGroup                      DescribeClusterSecurityGroups
   Amazon Redshift                    RS
New-RSClusterSecurityGroup                      CreateClusterSecurityGroup
   Amazon Redshift                    RS
```

```
Remove-RSClusterSecurityGroup                  DeleteClusterSecurityGroup
   Amazon Redshift                     RS
Revoke-RSClusterSecurityGroupIngress           RevokeClusterSecurityGroupIngress
   Amazon Redshift                     RS
```

If you know the name of the AWS service but not the AWS service API, include both the `-MatchWithRegex` parameter and the `-Service` parameter to scope the search down to a single service. For example, to get all cmdlet names that contain `SecurityGroup` in only the Amazon EC2 service, run the following command

```
PS > Get-AWSCmdletName -ApiOperation SecurityGroup -MatchWithRegex -Service EC2

CmdletName                                     ServiceOperation
   ServiceName                   CmdletNounPrefix
----------                                     ----------------
   -----------                   ----------------
Add-EC2SecurityGroupToClientVpnTargetNetwrk
 ApplySecurityGroupsToClientVpnTargetNetwork Amazon Elastic Compute Cloud EC2
Get-EC2SecurityGroup                           DescribeSecurityGroups
   Amazon Elastic Compute Cloud EC2
Get-EC2SecurityGroupReference                  DescribeSecurityGroupReferences
   Amazon Elastic Compute Cloud EC2
Get-EC2StaleSecurityGroup                      DescribeStaleSecurityGroups
   Amazon Elastic Compute Cloud EC2
Grant-EC2SecurityGroupEgress                   AuthorizeSecurityGroupEgress
   Amazon Elastic Compute Cloud EC2
Grant-EC2SecurityGroupIngress                  AuthorizeSecurityGroupIngress
   Amazon Elastic Compute Cloud EC2
New-EC2SecurityGroup                           CreateSecurityGroup
   Amazon Elastic Compute Cloud EC2
Remove-EC2SecurityGroup                        DeleteSecurityGroup
   Amazon Elastic Compute Cloud EC2
Revoke-EC2SecurityGroupEgress                  RevokeSecurityGroupEgress
   Amazon Elastic Compute Cloud EC2
Revoke-EC2SecurityGroupIngress                 RevokeSecurityGroupIngress
   Amazon Elastic Compute Cloud EC2
Update-EC2SecurityGroupRuleEgressDescription  UpdateSecurityGroupRuleDescriptionsEgress
   Amazon Elastic Compute Cloud EC2
Update-EC2SecurityGroupRuleIngressDescription
 UpdateSecurityGroupRuleDescriptionsIngress  Amazon Elastic Compute Cloud EC2
```

If you know the name of the AWS Command Line Interface (AWS CLI) command, you can use the `-AwsCliCommand` parameter and the desired AWS CLI command name to get the name of the cmdlet that's based on the same API. For example, to get the cmdlet name that corresponds to the `authorize-security-group-ingress` AWS CLI command call in the Amazon EC2 service, run the following command:

```
PS > Get-AWSCmdletName -AwsCliCommand "aws ec2 authorize-security-group-ingress"

CmdletName                    ServiceOperation              ServiceName
  CmdletNounPrefix
----------                    ----------------              -----------
  ----------------
Grant-EC2SecurityGroupIngress AuthorizeSecurityGroupIngress Amazon Elastic Compute
 Cloud EC2
```

The `Get-AWSCmdletName` cmdlet needs only enough of the AWS CLI command name to identify the service and the AWS API.

To get a list of all of the cmdlets in the Tools for PowerShell Core, run the PowerShell `Get-Command` cmdlet, as shown in the following example.

```
PS > Get-Command -Module AWSPowerShell.NetCore
```

You can run the same command with `-Module AWSPowerShell` to see the cmdlets in the AWS Tools for Windows PowerShell.

The `Get-Command` cmdlet generates the list of cmdlets in alphabetical order. Note that by default the list is sorted by PowerShell verb, rather than PowerShell noun.

To sort results by service instead, run the following command:

```
PS > Get-Command -Module AWSPowerShell.NetCore | Sort-Object Noun,Verb
```

To filter the cmdlets that are returned by the `Get-Command` cmdlet, pipe the output to the PowerShell `Select-String` cmdlet. For example, to view the set of cmdlets that work with AWS regions, run the following command:

```
PS > Get-Command -Module AWSPowerShell.NetCore | Select-String region

Clear-DefaultAWSRegion
```

```
Copy-HSM2BackupToRegion
Get-AWSRegion
Get-DefaultAWSRegion
Get-EC2Region
Get-LSRegionList
Get-RDSSourceRegion
Set-DefaultAWSRegion
```

You can also find cmdlets for a specific service by filtering for the service prefix of cmdlet nouns. To see the list of available service prefixes, run `Get-AWSPowerShellVersion -ListServiceVersionInfo`. The following example returns cmdlets that support the Amazon CloudWatch Events service.

```
PS > Get-Command -Module AWSPowerShell -Noun CWE*

CommandType     Name                                               Version    Source
-----------     ----                                               -------    ------
Cmdlet          Add-CWEResourceTag                                 3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Disable-CWEEventSource                             3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Disable-CWERule                                    3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Enable-CWEEventSource                              3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Enable-CWERule                                     3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWEEventBus                                    3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWEEventBusList                                3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWEEventSource                                 3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWEEventSourceList                             3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWEPartnerEventSource                          3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWEPartnerEventSourceAccountList               3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWEPartnerEventSourceList                      3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWEResourceTag                                 3.3.563.1
 AWSPowerShell.NetCore
```

```
Cmdlet          Get-CWERule                                     3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWERuleDetail                               3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWERuleNamesByTarget                        3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Get-CWETargetsByRule                            3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          New-CWEEventBus                                 3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          New-CWEPartnerEventSource                       3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Remove-CWEEventBus                              3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Remove-CWEPartnerEventSource                    3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Remove-CWEPermission                            3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Remove-CWEResourceTag                           3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Remove-CWERule                                  3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Remove-CWETarget                                3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Test-CWEEventPattern                            3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Write-CWEEvent                                  3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Write-CWEPartnerEvent                           3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Write-CWEPermission                             3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Write-CWERule                                   3.3.563.1
 AWSPowerShell.NetCore
Cmdlet          Write-CWETarget                                 3.3.563.1
 AWSPowerShell.NetCore
```

Cmdlet Naming and Aliases

The cmdlets in the AWS Tools for PowerShell for each service are based on the methods provided by the AWS SDK for the service. However, because of PowerShell's mandatory naming conventions, the name of a cmdlet might be different from the name of the API call or method

on which it is based. For example, the `Get-EC2Instance` cmdlet is based on the Amazon `EC2DescribeInstances` method.

In some cases, the cmdlet name may be similar to a method name, but it may actually perform a different function. For example, the Amazon `S3GetObject` method retrieves an Amazon S3 object. However, the `Get-S3Object` cmdlet returns *information* about an Amazon S3 object rather than the object itself.

```
PS > Get-S3Object -BucketName text-content -Key aws-tech-docs

ETag         : "df000002a0fe0000f3c000004EXAMPLE"
BucketName   : aws-tech-docs
Key          : javascript/frameset.js
LastModified : 6/13/2011 1:24:18 PM
Owner        : Amazon.S3.Model.Owner
Size         : 512
StorageClass : STANDARD
```

To get an S3 object with the AWS Tools for PowerShell, run the `Read-S3Object` cmdlet:

```
PS > Read-S3Object -BucketName text-content -Key text-object.txt -file c:\tmp\text-
object-download.text

Mode          LastWriteTime            Length Name
----          -------------            ------ ----
-a---         11/5/2012   7:29 PM      20622  text-object-download.text
```

Note

The cmdlet help for an AWS cmdlet provides the name of the AWS SDK API on which the cmdlet is based.
For more information about standard PowerShell verbs and their meanings, see Approved Verbs for PowerShell Commands.

All AWS cmdlets that use the `Remove` verb – and the `Stop-EC2Instance` cmdlet when you add the `-Terminate` parameter – prompt for confirmation before proceeding. To bypass confirmation, add the `-Force` parameter to your command.

> **Important**
>
> AWS cmdlets do not support the `-WhatIf` switch.

Aliases

Setup of the AWS Tools for PowerShell installs an aliases file that contains aliases for many of the AWS cmdlets. You might find these aliases to be more intuitive than the cmdlet names. For example, service names and AWS SDK method names replace PowerShell verbs and nouns in some aliases. An example is the `EC2-DescribeInstances` alias.

Other aliases use verbs that, though they do not follow standard PowerShell conventions, can be more descriptive of the actual operation. For example, the alias file maps the alias `Get-S3Content` to the cmdlet `Read-S3Object`.

```
PS > Set-Alias -Name Get-S3Content -Value Read-S3Object
```

The aliases file is located in the AWS Tools for PowerShell installation directory. To load the aliases into your environment, *dot-source* the file. The following is a Windows-based example.

```
PS > . "C:\Program Files (x86)\AWS Tools\PowerShell\AWSPowershell\AWSAliases.ps1"
```

For a Linux or macOS shell, it might look like this:

```
. ~/.local/share/powershell/Modules/AWSPowerShell.NetCore/3.3.563.1/AWSAliases.ps1
```

To show all AWS Tools for PowerShell aliases, run the following command. This command uses the ? alias for the PowerShell `Where-Object` cmdlet and the `Source` property to filter for only aliases that come from the `AWSPowerShell.NetCore` module.

```
PS > Get-Alias | ? Source -like "AWSPowerShell.NetCore"

CommandType     Name                                               Version    Source
-----------     ----                                               -------    ------
Alias           Add-ASInstances                                    3.3.343.0
 AWSPowerShell
Alias           Add-CTTag                                          3.3.343.0
 AWSPowerShell
```

```
Alias           Add-DPTags                                      3.3.343.0
 AWSPowerShell
Alias           Add-DSIpRoutes                                  3.3.343.0
 AWSPowerShell
Alias           Add-ELBTags                                     3.3.343.0
 AWSPowerShell
Alias           Add-EMRTag                                      3.3.343.0
 AWSPowerShell
Alias           Add-ESTag                                       3.3.343.0
 AWSPowerShell
Alias           Add-MLTag                                       3.3.343.0
 AWSPowerShell
Alias           Clear-AWSCredentials                            3.3.343.0
 AWSPowerShell
Alias           Clear-AWSDefaults                               3.3.343.0
 AWSPowerShell
Alias           Dismount-ASInstances                            3.3.343.0
 AWSPowerShell
Alias           Edit-EC2Hosts                                   3.3.343.0
 AWSPowerShell
Alias           Edit-RSClusterIamRoles                          3.3.343.0
 AWSPowerShell
Alias           Enable-ORGAllFeatures                           3.3.343.0
 AWSPowerShell
Alias           Find-CTEvents                                   3.3.343.0
 AWSPowerShell
Alias           Get-ASACases                                    3.3.343.0
 AWSPowerShell
Alias           Get-ASAccountLimits                             3.3.343.0
 AWSPowerShell
Alias           Get-ASACommunications                           3.3.343.0
 AWSPowerShell
Alias           Get-ASAServices                                 3.3.343.0
 AWSPowerShell
Alias           Get-ASASeverityLevels                           3.3.343.0
 AWSPowerShell
Alias           Get-ASATrustedAdvisorCheckRefreshStatuses       3.3.343.0
 AWSPowerShell
Alias           Get-ASATrustedAdvisorChecks                     3.3.343.0
 AWSPowerShell
Alias           Get-ASATrustedAdvisorCheckSummaries             3.3.343.0
 AWSPowerShell
Alias           Get-ASLifecycleHooks                            3.3.343.0
 AWSPowerShell
```

```
Alias           Get-ASLifecycleHookTypes                        3.3.343.0
 AWSPowerShell
Alias           Get-AWSCredentials                              3.3.343.0
 AWSPowerShell
Alias           Get-CDApplications                              3.3.343.0
 AWSPowerShell
Alias           Get-CDDeployments                               3.3.343.0
 AWSPowerShell
Alias           Get-CFCloudFrontOriginAccessIdentities          3.3.343.0
 AWSPowerShell
Alias           Get-CFDistributions                             3.3.343.0
 AWSPowerShell
Alias           Get-CFGConfigRules                              3.3.343.0
 AWSPowerShell
Alias           Get-CFGConfigurationRecorders                   3.3.343.0
 AWSPowerShell
Alias           Get-CFGDeliveryChannels                         3.3.343.0
 AWSPowerShell
Alias           Get-CFInvalidations                             3.3.343.0
 AWSPowerShell
Alias           Get-CFNAccountLimits                            3.3.343.0
 AWSPowerShell
Alias           Get-CFNStackEvents                              3.3.343.0
 AWSPowerShell

...
```

To add your own aliases to this file, you might need to raise the value of PowerShell's `$MaximumAliasCount` preference variable to a value greater than 5500. The default value is 4096; you can raise it to a maximum of 32768. To do this, run the following.

```
PS > $MaximumAliasCount = 32768
```

To verify that your change was successful, enter the variable name to show its current value.

```
PS > $MaximumAliasCount
32768
```

Pipelining and $AWSHistory

For AWS service calls that return collections, the objects within the collection are enumerated to the pipeline. Result objects that contain additional fields beyond the collection and which are not paging control fields have these fields added as Note properties for the calls. These Note properties are logged in the new `$AWSHistory` session variable, should you need to access this data. The `$AWSHistory` variable is described in the next section.

> **Note**
>
> In versions of the Tools for Windows PowerShell prior to v1.1, the collection object itself was emitted, which required the use of foreach {$_.getenumerator()} to continue pipelining.

Examples

The following example returns a list of AWS Regions and your Amazon EC2 machine images (AMIs) in each Region.

```
PS > Get-AWSRegion | % { Echo $_.Name; Get-EC2Image -Owner self -Region $_ }
```

The following example stops all Amazon EC2 instances in the current default region.

```
PS > Get-EC2Instance | Stop-EC2Instance
```

Because collections enumerate to the pipeline, the output from a given cmdlet might be `$null`, a single object, or a collection. If it is a collection, you can use the `.Count` property to determine the size of the collection. However, the `.Count` property is not present when only a single object is emitted. If your script needs to determine, in a consistent way, how many objects were emitted, you can check the `EmittedObjectsCount` property of the last command value in `$AWSHistory`.

$AWSHistory

To better support pipelining, output from AWS cmdlets is not reshaped to include the service response and result instances as Note properties on the emitted collection object. Instead, for those calls that emit a single collection as output, the collection is now enumerated to the

PowerShell pipeline. This means that the AWS SDK response and result data cannot exist in the pipe, because there is no containing collection object to which it can be attached.

Although most users probably won't need this data, it can be useful for diagnostic purposes, because you can see exactly what was sent to and received from the underlying AWS service calls made by the cmdlet.

Starting with version 1.1, this data and more is now available in a new shell variable named `$AWSHistory`. This variable maintains a record of AWS cmdlet invocations and the service responses that were received for each invocation. Optionally, this history can be configured to also record the service requests that each cmdlet made. Additional useful data, such as the overall execution time of the cmdlet, can also be obtained from each entry. For security reasons, requests and responses that contain sensitive data aren't recorded by default. However, the history can be configured to override this behavior if needed. For more information, see the `Set-AWSHistoryConfiguration` cmdlet shown below.

Each entry in the `$AWSHistory.Commands` list is of type `AWSCmdletHistory`. This type has the following useful members:

CmdletName

Name of the cmdlet.

CmdletStart

DateTime that the cmdlet was run.

CmdletEnd

DateTime that the cmdlet finished all processing.

Requests

If request recording is enabled, list of last service requests.

Responses

List of last service responses received.

LastServiceResponse

Helper to return the most recent service response.

LastServiceRequest

Helper to return the most recent service request, if available.

Note that the `$AWSHistory` variable is not created until an AWS cmdlet making a service call is used. It evaluates to $null until that time.

> **Note**
>
> Earlier versions of the Tools for Windows PowerShell emitted data related to service responses as `Note` properties on the returned object. These are now found on the response entries that are recorded for each invocation in the list.

Set-AWSHistoryConfiguration

A cmdlet invocation can hold zero or more service request and response entries. To limit memory impact, the `$AWSHistory` list keeps a record of only the last five cmdlet executions by default; and for each, the last five service responses (and if enabled, last five service requests). You can change these default limits by running the `Set-AWSHistoryConfiguration` cmdlet. It allows you to both control the size of the list, and whether service requests are also logged:

```
PS > Set-AWSHistoryConfiguration -MaxCmdletHistory <value> -MaxServiceCallHistory
 <value> -RecordServiceRequests -IncludeSensitiveData
```

All parameters are optional.

The `MaxCmdletHistory` parameter sets the maximum number of cmdlets that can be tracked at any time. A value of 0 turns off recording of AWS cmdlet activity. The `MaxServiceCallHistory` parameter sets the maximum number of service responses (and/or requests) that are tracked for each cmdlet. The `RecordServiceRequests` parameter, if specified, turns on tracking of service requests for each cmdlet. The `IncludeSensitiveData` parameter, if specified, turns on tracking of service responses and requests (if tracked) that contain sensitive data for each cmdlet.

If run with no parameters, `Set-AWSHistoryConfiguration` simply turns off any prior request recording, leaving the current list sizes unchanged.

To clear all entries in the current history list, run the `Clear-AWSHistory` cmdlet.

`$AWSHistory` Examples

Enumerate the details of the AWS cmdlets that are being held in the list to the pipeline.

```
PS > $AWSHistory.Commands
```

Access the details of the last AWS cmdlet that was run:

```
PS > $AWSHistory.LastCommand
```

Access the details of the last service response received by the last AWS cmdlet that was run. If an AWS cmdlet is paging output, it may make multiple service calls to obtain either all data or the maximum amount of data (determined by parameters on the cmdlet).

```
PS > $AWSHistory.LastServiceResponse
```

Access the details of the last request made (again, a cmdlet may make more than one request if it is paging on the user's behalf). Yields $null unless service request tracing is enabled.

```
PS > $AWSHistory.LastServiceRequest
```

Automatic Page-to-Completion for Operations that Return Multiple Pages

For service APIs that impose a default maximum object return count for a given call or that support pageable result sets, all cmdlets "page-to-completion" by default. Each cmdlet makes as many calls as necessary on your behalf to return the complete data set to the pipeline.

In the following example, which uses `Get-S3Object`, the `$c` variable contains `S3Object` instances for *every* key in the bucket `test`, potentially a very large data set.

```
PS > $c = Get-S3Object -BucketName test
```

If you want to retain control of the amount of data returned, you can use parameters on the individual cmdlets (for example, `MaxKey` on `Get-S3Object`) or you can explicitly handle paging yourself by using a combination of paging parameters on the cmdlets, and data placed in the `$AWSHistory` variable to get the service's next token data. The following example uses the MaxKeys parameter to limit the number of `S3Object` instances returned to no more than the first 500 found in the bucket.

```
PS > $c = Get-S3Object -BucketName test -MaxKey 500
```

To know if more data was available but not returned, use the `$AWSHistory` session variable entry that recorded the service calls made by the cmdlet.

If the following expression evaluates to $true, you can find the `next` marker for the next set of results using `$AWSHistory.LastServiceResponse.NextMarker`:

```
$AWSHistory.LastServiceResponse -ne $null &&
 $AWSHistory.LastServiceResponse.IsTruncated
```

To manually control paging with `Get-S3Object`, use a combination of the `MaxKey` and `Marker` parameters for the cmdlet and the `IsTruncated`/`NextMarker` notes on the last recorded response. In the following example, the variable `$c` contains up to a maximum of 500 `S3Object` instances for the next 500 objects that are found in the bucket after the start of the specified key prefix marker.

```
PS > $c = Get-S3Object -BucketName test -MaxKey 500 -Marker
 $AWSHistory.LastServiceResponse.NextMarker
```

Credential and profile resolution

Credentials Search Order

When you run a command, AWS Tools for PowerShell searches for credentials in the following order. It stops when it finds usable credentials.

1. Literal credentials that are embedded as parameters in the command line.

   We strongly recommend using profiles instead of putting literal credentials in your command lines.
2. A specified profile name or profile location.
   - If you specify only a profile name, the command looks for the specified profile in the AWS SDK store and, if that does not exist, the specified profile from the AWS shared credentials file in the default location.
   - If you specify only a profile location, the command looks for the `default` profile from that credentials file.
   - If you specify both a name and a location, the command looks for the specified profile in that credentials file.

   If the specified profile or location is not found, the command throws an exception. Search proceeds to the following steps only if you did not specify a profile or location.
3. Credentials specified by the `-Credential` parameter.
4. The session profile, if one exists.
5. The default profile, in the following order:
   a. The `default` profile in the AWS SDK store.
   b. The `default` profile in the AWS shared credentials file.
   c. The `AWS PS Default` profile in the AWS SDK store.
6. If the command is running on an Amazon EC2 instance that is configured to use an IAM role, the EC2 instance's temporary credentials accessed from the instance profile.

   For more information about using IAM roles for Amazon EC2 instances, see the AWS SDK for .NET.

If this search fails to locate the specified credentials, the command throws an exception.

Additional information about users and roles

In order to run Tools for PowerShell commands on AWS, you need to have some combination of users, permission sets, and service roles that are appropriate for your tasks.

The specific users, permission sets, and service roles that you create, and the way in which you use them, will depend on your requirements. The following is some additional information about why they might be used and how to create them.

Users and permission sets

Although it's possible to use an IAM user account with long-term credentials to access AWS services, this is no longer a best practice and should be avoided. Even during development, it is a best practice to create users and permission sets in AWS IAM Identity Center and use temporary credentials provided by an identity source.

For development, you can use the user that you created or were given in Configure tool authentication. If you have appropriate AWS Management Console permissions, you can also create different permission sets with least privilege for that user or create new users specifically

for development projects, providing permission sets with least privilege. The course of action you choose, if any, depends on your circumstances.

For more information about these users and permissions sets and how to create them, see Authentication and access in the *AWS SDKs and Tools Reference Guide* and Getting started in the *AWS IAM Identity Center User Guide*.

Service roles

You can set up an AWS service role to access AWS services on behalf of users. This type of access is appropriate if multiple people will be running your application remotely; for example, on an Amazon EC2 instance that you have created for this purpose.

The process for creating a service role varies depending on the situation, but is essentially the following.

1. Sign in to the AWS Management Console and open the IAM console at https://console.aws.amazon.com/iam/.
2. Choose **Roles**, and then choose **Create role**.
3. Choose **AWS service**, find and select **EC2** (for example), and then choose the **EC2** use case (for example).
4. Choose **Next** and select the appropriate policies for the AWS services that your application will use.

   > **Warning**
   >
   > Do ***NOT*** choose the **AdministratorAccess** policy because that policy enables read and write permissions to almost everything in your account.

5. Choose **Next**. Enter a **Role name**, **Description**, and any tags you want.

   You can find information about tags in Controlling access using AWS resource tags in the IAM User Guide.
6. Choose **Create role**.

You can find high-level information about IAM roles in IAM Identities (users, user groups, and roles) in the IAM User Guide. Find detailed information about roles in the IAM roles topic.

Using legacy credentials

The topics in this section provide information about using long-term or short-term credentials without using AWS IAM Identity Center.

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.

Note

The information in these topics is for circumstances where you need to obtain and manage short-term or long-term credentials manually. For additional information about short-term and long-term credentials, see Other ways to authenticate in the *AWS SDKs and Tools Reference Guide*.
For best security practices, use AWS IAM Identity Center, as described in Configure tool authentication.

Important warnings and guidance for credentials

Warnings for credentials

- ***Do NOT*** use your account's root credentials to access AWS resources. These credentials provide unrestricted account access and are difficult to revoke.
- ***Do NOT*** put literal access keys or credential information in your commands or scripts. If you do, you create a risk of accidentally exposing your credentials.
- Be aware that any credentials stored in the shared AWS `credentials` file, are stored in plaintext.

Additional guidance for securely managing credentials

For a general discussion of how to securely manage AWS credentials, see AWS security credentials in the AWS General Reference and Security best practices and use cases in the IAM User Guide. In addition to those discussions, consider the following:

- Create additional users, such as users in IAM Identity Center, and use their credentials instead of using your AWS root user credentials. Credentials for other users can be revoked if necessary or are temporary by nature. In addition, you can apply a policy to each user for access to only certain resources and actions and thereby take a stance of least-privilege permissions.
- Use IAM roles for tasks for Amazon Elastic Container Service (Amazon ECS) tasks.
- Use IAM roles for applications that are running on Amazon EC2 instances.

Topics

Using AWS Credentials

Each AWS Tools for PowerShell command must include a set of AWS credentials, which are used to cryptographically sign the corresponding web service request. You can specify credentials per command, per session, or for all sessions.

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.

Note

The information in this topic is for circumstances where you need to obtain and manage short-term or long-term credentials manually. For additional information about short-

term and long-term credentials, see Other ways to authenticate in the *AWS SDKs and Tools Reference Guide*.
For best security practices, use AWS IAM Identity Center, as described in Configure tool authentication.

As a best practice, to avoid exposing your credentials, do not put literal credentials in a command. Instead, create a profile for each set of credentials that you want to use, and store the profile in either of two credential stores. Specify the correct profile by name in your command, and the AWS Tools for PowerShell retrieves the associated credentials. For a general discussion of how to safely manage AWS credentials, see Best Practices for Managing AWS Access Keys in the *Amazon Web Services General Reference*.

Note

You need an AWS account to get credentials and use the AWS Tools for PowerShell. To create an AWS account, see Getting started: Are you a first-time AWS user? in the *AWS Account Management Reference Guide*.

Topics

Credentials Store Locations

The AWS Tools for PowerShell can use either of two credentials stores:

- The AWS SDK store, which encrypts your credentials and stores them in your home folder.
  In Windows, this store is located at: `C:\Users\`*`username`*`\AppData\Local\AWSToolkit\RegisteredAccounts.json`.

  The AWS SDK for .NET and Toolkit for Visual Studio can also use the AWS SDK store.

- The shared credentials file, which is also located in your home folder, but stores credentials as plain text.

  By default, the credentials file is stored here:

  - On Windows: `C:\Users\`*`username`*`\.aws\credentials`
  - On Mac/Linux: `~/.aws/credentials`

  The AWS SDKs and the AWS Command Line Interface can also use the credentials file. If you're running a script outside of your AWS user context, be sure that the file that contains your credentials is copied to a location where all user accounts (local system and user) can access your credentials.

Managing Profiles

Profiles enable you to reference different sets of credentials with AWS Tools for PowerShell. You can use AWS Tools for PowerShell cmdlets to manage your profiles in the AWS SDK store. You can also manage profiles in the AWS SDK store by using the Toolkit for Visual Studio or programmatically by using the AWS SDK for .NET. For directions about how to manage profiles in the credentials file, see Best Practices for Managing AWS Access Keys.

Add a New profile

To add a new profile to the AWS SDK store, run the command `Set-AWSCredential`. It stores your access key and secret key in your default credentials file under the profile name you specify.

```
PS > Set-AWSCredential `
                -AccessKey AKIA0123456787EXAMPLE `
                -SecretKey wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY `
                -StoreAs MyNewProfile
```

- `-AccessKey`– The access key ID.
- `-SecretKey`– The secret key.
- `-StoreAs`– The profile name, which must be unique. To specify the default profile, use the name `default`.

Update a Profile

The AWS SDK store must be maintained manually. If you later change credentials on the service—for example, by using the IAM console—running a command with the locally stored credentials fails with the following error message:

```
The Access Key Id you provided does not exist in our records.
```

You can update a profile by repeating the `Set-AWSCredential` command for the profile, and passing it the new access and secret keys.

List Profiles

You can check the current list of names with the following command. In this example, a user named Shirley has access to three profiles that are all stored in the shared credentials file (`~/.aws/credentials`).

```
PS > Get-AWSCredential -ListProfileDetail

ProfileName  StoreTypeName         ProfileLocation
-----------  -------------         ---------------
default      SharedCredentialsFile /Users/shirley/.aws/credentials
production   SharedCredentialsFile /Users/shirley/.aws/credentials
test         SharedCredentialsFile /Users/shirley/.aws/credentials
```

Remove a Profile

To remove a profile that you no longer require, use the following command.

```
PS > Remove-AWSCredentialProfile -ProfileName an-old-profile-I-do-not-need
```

The `-ProfileName` parameter specifies the profile that you want to delete.

The deprecated command Clear-AWSCredential is still available for backward compatibility, but `Remove-AWSCredentialProfile` is preferred.

Specifying Credentials

There are several ways to specify credentials. The preferred way is to identify a profile instead of incorporating literal credentials into your command line. AWS Tools for PowerShell locates the profile using a search order that is described in Credentials Search Order.

On Windows, AWS credentials stored in the AWS SDK store are encrypted with the logged-in Windows user identity. They cannot be decrypted by using another account, or used on a device that's different from the one on which they were originally created. To perform tasks that require the credentials of another user, such as a user account under which a scheduled task will run, set up a credential profile, as described in the preceding section, that you can use when you log in to the computer as that user. Log in as the task-performing user to complete the credential setup steps, and create a profile that works for that user. Then log out and log in again with your own credentials to set up the scheduled task.

> **Note**
>
> Use the `-ProfileName` common parameter to specify a profile. This parameter is equivalent to the `-StoredCredentials` parameter in earlier AWS Tools for PowerShell releases. For backward compatibility, `-StoredCredentials` is still supported.

Default Profile (Recommended)

All AWS SDKs and management tools can find your credentials automatically on your local computer if the credentials are stored in a profile named `default`. For example, if you have a profile named `default` on the local computer, you don't have to run either the `Initialize-AWSDefaultConfiguration` cmdlet or the `Set-AWSCredential` cmdlet. The tools automatically use the access and secret key data stored in that profile. To use an AWS Region other than your default Region (the results of `Get-DefaultAWSRegion`), you can run `Set-DefaultAWSRegion` and specify a Region.

If your profile is not named `default`, but you want to use it as the default profile for the current session, run `Set-AWSCredential` to set it as the default profile.

Although running `Initialize-AWSDefaultConfiguration` lets you specify a default profile for every PowerShell session, the cmdlet loads credentials from your custom-named profile, but overwrites the `default` profile with the named profile.

We recommend that you do not run `Initialize-AWSDefaultConfiguration` unless you are running a PowerShell session on an Amazon EC2 instance that was not launched with an instance profile, and you want to set up the credential profile manually. Note that the credential profile in this scenario would not contain credentials. The credential profile that results from running `Initialize-AWSDefaultConfiguration` on an EC2 instance doesn't directly store credentials,

but instead points to instance metadata (that provides temporary credentials that automatically rotate). However, it does store the instance's Region. Another scenario that might require running `Initialize-AWSDefaultConfiguration` occurs if you want to run a call against a Region other than the Region in which the instance is running. Running that command permanently overrides the Region stored in the instance metadata.

```
PS > Initialize-AWSDefaultConfiguration -ProfileName MyProfileName -Region us-west-2
```

> **Note**
>
> The default credentials are included in the AWS SDK store under the `default` profile name. The command overwrites any existing profile with that name.

If your EC2 instance was launched with an instance profile, PowerShell automatically gets the AWS credentials and Region information from the instance profile. You don't need to run `Initialize-AWSDefaultConfiguration`. Running the `Initialize-AWSDefaultConfiguration` cmdlet on an EC2 instance launched with an instance profile isn't necessary, because it uses the same instance profile data that PowerShell already uses by default.

Session Profile

Use `Set-AWSCredential` to specify a default profile for a particular session. This profile overrides any default profile for the duration of the session. We recommend this if you want to use a custom-named profile in your session instead of the current `default` profile.

```
PS > Set-AWSCredential -ProfileName MyProfileName
```

> **Note**
>
> In versions of the Tools for Windows PowerShell that are earlier than 1.1, the `Set-AWSCredential` cmdlet did not work correctly, and would overwrite the profile specified by "MyProfileName". We recommend using a more recent version of the Tools for Windows PowerShell.

Command Profile

On individual commands, you can add the `-ProfileName` parameter to specify a profile that applies to only that one command. This profile overrides any default or session profiles, as shown in the following example.

```
PS > Get-EC2Instance -ProfileName MyProfileName
```

Note

When you specify a default or session profile, you can also add a `-Region` parameter to override a default or session Region. For more information, see Specify AWS Regions. The following example specifies a default profile and Region.

```
PS > Initialize-AWSDefaultConfiguration -ProfileName MyProfileName -Region us-
west-2
```

By default, the AWS shared credentials file is assumed to be in the user's home folder (`C:\Users\username\.aws` on Windows, or `~/.aws` on Linux). To specify a credentials file in a different location, include the `-ProfileLocation` parameter and specify the credentials file path. The following example specifies a non-default credentials file for a specific command.

```
PS > Get-EC2Instance -ProfileName MyProfileName -ProfileLocation C:
\aws_service_credentials\credentials
```

Note

If you are running a PowerShell script during a time that you are not normally signed in to AWS—for example, you are running a PowerShell script as a scheduled task outside of your normal work hours—add the `-ProfileLocation` parameter when you specify the profile that you want to use, and set the value to the path of the file that stores your credentials. To be certain that your AWS Tools for PowerShell script runs with the correct account credentials, you should add the `-ProfileLocation` parameter whenever your script runs in a context or process that does not use an AWS account. You can also copy your credentials file to a location that is accessible to the local system or other account that your scripts use to perform tasks.

Credentials Search Order

When you run a command, AWS Tools for PowerShell searches for credentials in the following order. It stops when it finds usable credentials.

1. Literal credentials that are embedded as parameters in the command line.

   We strongly recommend using profiles instead of putting literal credentials in your command lines.

2. A specified profile name or profile location.

   - If you specify only a profile name, the command looks for the specified profile in the AWS SDK store and, if that does not exist, the specified profile from the AWS shared credentials file in the default location.
   - If you specify only a profile location, the command looks for the `default` profile from that credentials file.
   - If you specify both a name and a location, the command looks for the specified profile in that credentials file.

   If the specified profile or location is not found, the command throws an exception. Search proceeds to the following steps only if you did not specify a profile or location.

3. Credentials specified by the `-Credential` parameter.
4. The session profile, if one exists.
5. The default profile, in the following order:

   a. The `default` profile in the AWS SDK store.

   b. The `default` profile in the AWS shared credentials file.

   c. The `AWS PS Default` profile in the AWS SDK store.

6. If the command is running on an Amazon EC2 instance that is configured to use an IAM role, the EC2 instance's temporary credentials accessed from the instance profile.

   For more information about using IAM roles for Amazon EC2 instances, see the AWS SDK for .NET.

If this search fails to locate the specified credentials, the command throws an exception.

Credential Handling in AWS Tools for PowerShell Core

Cmdlets in AWS Tools for PowerShell Core accept AWS access and secret keys or the names of credential profiles when they run, similarly to the AWS Tools for Windows PowerShell. When they run on Windows, both modules have access to the AWS SDK for .NET credential store file (stored in the per-user `AppData\Local\AWSToolkit\RegisteredAccounts.json` file).

This file stores your keys in encrypted format, and cannot be used on a different computer. It is the first file that the AWS Tools for PowerShell searches for a credential profile, and is also the file where the AWS Tools for PowerShell stores credential profiles. For more information about the AWS SDK for .NET credential store file, see Configuring AWS Credentials. The Tools for Windows PowerShell module does not currently support writing credentials to other files or locations.

Both modules can read profiles from the AWS shared credentials file that is used by other AWS SDKs and the AWS CLI. On Windows, the default location for this file is `C:\Users\<userid>\.aws\credentials`. On non-Windows platforms, this file is stored at `~/.aws/credentials`. The `-ProfileLocation` parameter can be used to point to a non-default file name or file location.

The SDK credential store holds your credentials in encrypted form by using Windows cryptographic APIs. These APIs are not available on other platforms, so the AWS Tools for PowerShell Core module uses the AWS shared credentials file exclusively, and supports writing new credential profiles to the shared credential file.

The following example scripts that use the `Set-AWSCredential` cmdlet show the options for handling credential profiles on Windows with either the **AWSPowerShell** or **AWSPowerShell.NetCore** modules.

```
# Writes a new (or updates existing) profile with name "myProfileName"
# in the encrypted SDK store file

Set-AWSCredential -AccessKey akey -SecretKey skey -StoreAs myProfileName

# Checks the encrypted SDK credential store for the profile and then
# falls back to the shared credentials file in the default location

Set-AWSCredential -ProfileName myProfileName

# Bypasses the encrypted SDK credential store and attempts to load the
# profile from the ini-format credentials file "mycredentials" in the
# folder C:\MyCustomPath
```

```
Set-AWSCredential -ProfileName myProfileName -ProfileLocation C:\MyCustomPath
\mycredentials
```

The following examples show the behavior of the **AWSPowerShell.NetCore** module on the Linux or macOS operating systems.

```
# Writes a new (or updates existing) profile with name "myProfileName"
# in the default shared credentials file ~/.aws/credentials

Set-AWSCredential -AccessKey akey -SecretKey skey -StoreAs myProfileName

# Writes a new (or updates existing) profile with name "myProfileName"
# into an ini-format credentials file "~/mycustompath/mycredentials"

Set-AWSCredential -AccessKey akey -SecretKey skey -StoreAs myProfileName -
ProfileLocation ~/mycustompath/mycredentials

# Reads the default shared credential file looking for the profile "myProfileName"

Set-AWSCredential -ProfileName myProfileName

# Reads the specified credential file looking for the profile "myProfileName"

Set-AWSCredential -ProfileName myProfileName -ProfileLocation ~/mycustompath/
mycredentials
```

Shared Credentials in AWS Tools for PowerShell

The Tools for Windows PowerShell support the use of the AWS shared credentials file, similarly to the AWS CLI and other AWS SDKs. The Tools for Windows PowerShell now support reading and writing of `basic`, `session`, and `assume role` credential profiles to both the .NET credentials file and the AWS shared credential file. This functionality is enabled by a new `Amazon.Runtime.CredentialManagement` namespace.

> **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.

> **Note**
>
> The information in this topic is for circumstances where you need to obtain and manage short-term or long-term credentials manually. For additional information about short-term and long-term credentials, see Other ways to authenticate in the *AWS SDKs and Tools Reference Guide*.
> For best security practices, use AWS IAM Identity Center, as described in Configure tool authentication.

The new profile types and access to the AWS shared credential file are supported by the following parameters that have been added to the credentials-related cmdlets, Initialize-AWSDefaultConfiguration, New-AWSCredential, and Set-AWSCredential. In service cmdlets, you can refer to your profiles by adding the common parameter, `-ProfileName`.

Using an IAM Role with AWS Tools for PowerShell

The AWS shared credential file enables additional types of access. For example, you can access your AWS resources by using an IAM role instead of the long term credentials of an IAM user. To do this, you must have a standard profile that has permissions to assume the role. When you tell the AWS Tools for PowerShell to use a profile that specified a role, the AWS Tools for PowerShell looks up the profile identified by the `SourceProfile` parameter. Those credentials are used to request temporary credentials for the role specified by the `RoleArn` parameter. You can optionally require the use of an multi-factor authentication (MFA) device or an `ExternalId` code when the role is assumed by a third party.

Parameter Name	Description
ExternalId	The user-defined external ID to be used when assuming a role, if required by the role. This is typically only required when you delegate access to your account to a third party. The third party must include the ExternalId as a parameter when assuming the assigned role. For more information, see How to Use an External ID When Granting Access to Your

Parameter Name	Description
	AWS Resources to a Third Party in the *IAM User Guide*.
MfaSerial	The MFA serial number to be used when assuming a role, if required by the role. For more information, see Using Multi-Factor Authentication (MFA) in AWS in the *IAM User Guide*.
RoleArn	The ARN of the role to assume for assume role credentials. For more information about creating and using roles, see IAM Roles in the *IAM User Guide*.
SourceProfile	The name of the source profile to be used by assume role credentials. The credentials found in this profile are used to assume the role specified by the `RoleArn` parameter.

Setup of profiles for assuming a role

The following is an example showing how to set up a source profile that enables directly assuming an IAM role.

The first command creates a source profile that is referenced by the role profile. The second command creates the role profile that which role to assume. The third command shows the credentials for the role profile.

```
PS > Set-AWSCredential -StoreAs my_source_profile -AccessKey access_key_id -
SecretKey secret_key
PS > Set-AWSCredential -StoreAs my_role_profile -SourceProfile my_source_profile -
RoleArn arn:aws:iam::123456789012:role/role-i-want-to-assume
PS > Get-AWSCredential -ProfileName my_role_profile

SourceCredentials                 RoleArn
 RoleSessionName                         Options
-----------------                 -------
 ---------------                         -------
```

```
Amazon.Runtime.BasicAWSCredentials arn:aws:iam::123456789012:role/
role-i-want-to-assume aws-dotnet-sdk-session-636238288466144357
 Amazon.Runtime.AssumeRoleAWSCredentialsOptions
```

To use this role profile with the Tools for Windows PowerShell service cmdlets, add the `-ProfileName` common parameter to the command to reference the role profile. The following example uses the role profile defined in the previous example to access the Get-S3Bucket cmdlet. AWS Tools for PowerShell looks up the credentials in `my_source_profile`, uses those credentials to call `AssumeRole` on behalf of the user, and then uses those temporary role credentials to call `Get-S3Bucket`.

```
PS > Get-S3Bucket -ProfileName my_role_profile

CreationDate           BucketName
------------           ----------
2/27/2017 8:57:53 AM   4ba3578c-f88f-4d8b-b95f-92a8858dac58-bucket1
2/27/2017 10:44:37 AM  2091a504-66a9-4d69-8981-aaef812a02c3-bucket2
```

Using the Credential Profile Types

To set a credential profile type, understand which parameters provide the information required by the profile type.

Credentials Type	Parameters you must use

Basic
 	
These are the long term credentials for an IAM user
	`-AccessKey`
	
	`-SecretKey`

Session:
 	
These are the short term credentials for an IAM role that you retrieve manually, such as by directly calling the Use-STSRole cmdlet.
	`-AccessKey`
	
	`-SecretKey`
	
	`-SessionToken`

Role:	`-SourceProfile`
	
	`-RoleArn`

Credentials Type	Parameters you must use
These are are short term credentials for an IAM role that AWS Tools for PowerShell retrieve for you.	optional: `-ExternalId` optional: `-MfaSerial`

The `ProfilesLocation` Common Parameter

You can use `-ProfileLocation` to write to the shared credential file as well as instruct a cmdlet to read from the credential file. Adding the `-ProfileLocation` parameter controls whether Tools for Windows PowerShell uses the shared credential file or the .NET credential file. The following table describes how the parameter works in Tools for Windows PowerShell.

Profile Location Value	Profile Resolution Behavior
null (not set) or empty	First, search the .NET credential file for a profile with the specified name. If the profile isn't found, search the AWS shared credentials file at *(user's home directory)* `\.aws \credentials .`
The path to a file in the AWS shared credentia l file format	Search only the specified file for a profile with the given name.

Save Credentials to a Credentials File

To write and save credentials to one of the two credential files, run the `Set-AWSCredential` cmdlet. The following example shows how to do this. The first command uses `Set-AWSCredential` with `-ProfileLocation` to add access and secret keys to a profile specified by the `-ProfileName` parameter. In the second line, run the Get-Content cmdlet to display the contents of the credentials file.

```
PS > Set-AWSCredential -ProfileLocation C:\Users\auser\.aws\credentials -ProfileName
 basic_profile -AccessKey access_key2 -SecretKey secret_key2
PS > Get-Content C:\Users\auser\.aws\credentials

aws_access_key_id=access_key2
```

```
aws_secret_access_key=secret_key2
```

Displaying Your Credential Profiles

Run the Get-AWSCredential cmdlet and add the `-ListProfileDetail` parameter to return credential file types and locations, and a list of profile names.

```
PS > Get-AWSCredential -ListProfileDetail

ProfileName                    StoreTypeName         ProfileLocation
-----------                    -------------         ---------------
source_profile                 NetSDKCredentialsFile
assume_role_profile            NetSDKCredentialsFile
basic_profile                  SharedCredentialsFile C:\Users\auser\.aws\credentials
```

Removing Credential Profiles

To remove credential profiles, run the new Remove-AWSCredentialProfile cmdlet. Clear-AWSCredential is deprecated, but still available for backward compatibility.

Important Notes

Only Initialize-AWSDefaultConfiguration, New-AWSCredential, and Set-AWSCredential support the parameters for role profiles. You cannot specify the role parameters directly on a command such as `Get-S3Bucket -SourceProfile source_profile_name -RoleArn arn:aws:iam::999999999999:role/role_name`. That does not work because service cmdlets do not directly support the `SourceProfile` or `RoleArn` parameters. Instead, you must store those parameters in a profile, then call the command with the `-ProfileName` parameter.

Work with AWS services in the AWS Tools for PowerShell

This section provides examples of using the AWS Tools for PowerShell to access AWS services. These examples help demonstrate how to use the cmdlets to perform actual AWS tasks. These examples rely on cmdlets that the Tools for PowerShell provides. To see what cmdlets are available, see the AWS Tools for PowerShell Cmdlet Reference.

PowerShell File Concatenation Encoding

Some cmdlets in the AWS Tools for PowerShell edit existing files or records that you have in AWS. An example is `Edit-R53ResourceRecordSet`, which calls the ChangeResourceRecordSets API for Amazon Route 53.

When you edit or concatenate files in PowerShell 5.1 or older releases, PowerShell encodes the output in UTF-16, not UTF-8. This can add unwanted characters and create results that are not valid. A hexadecimal editor can reveal the unwanted characters.

To avoid converting file output to UTF-16, you can pipe your command into PowerShell's `Out-File` cmdlet and specify UTF-8 encoding, as shown in the following example:

```
PS > *some file concatenation command* | Out-File filename.txt -Encoding utf8
```

If you are running AWS CLI commands from within the PowerShell console, the same behavior applies. You can pipe the output of an AWS CLI command into `Out-File` in the PowerShell console. Other cmdlets, such as `Export-Csv` or `Export-Clixml`, also have an `Encoding` parameter. For a complete list of cmdlets that have an `Encoding` parameter, and that allow you to correct the encoding of the output of a concatenated file, run the following command:

```
PS > Get-Command -ParameterName "Encoding"
```

> **Note**
>
> PowerShell 6.0 and newer, including PowerShell Core, automatically retains UTF-8 encoding for concatenated file output.

Returned Objects for the PowerShell Tools

To make AWS Tools for PowerShell more useful in a native PowerShell environment, the object returned by a AWS Tools for PowerShell cmdlet is a .NET object, not the JSON text object that is typically returned from the corresponding API in the AWS SDK. For example, `Get-S3Bucket` emits a `Buckets` collection, not an Amazon S3 JSON response object. The `Buckets` collection can be placed in the PowerShell pipeline and interacted with in appropriate ways. Similarly, `Get-EC2Instance` emits a `Reservation` .NET object collection, not a `DescribeEC2Instances` JSON result object. This behavior is by design and enables the AWS Tools for PowerShell experience to be more consistent with idiomatic PowerShell.

The actual service responses are available for you if you need them. They are stored as `note` properties on the returned objects. For API actions that support paging by using `NextToken` fields, these are also attached as `note` properties.

Amazon EC2

This section walks through the steps required to launch an Amazon EC2 instance including how to:

- Retrieve a list of Amazon Machine Images (AMIs).
- Create a key pair for SSH authentication.
- Create and configure an Amazon EC2 security group.
- Launch the instance and retrieve information about it.

Amazon S3

The section walks through the steps required to create a static website hosted in Amazon S3. It demonstrates how to:

- Create and delete Amazon S3 buckets.
- Upload files to an Amazon S3 bucket as objects.
- Delete objects from an Amazon S3 bucket.
- Designate an Amazon S3 bucket as a website.

AWS Lambda and AWS Tools for PowerShell

This section provides a brief overview of the AWS Lambda Tools for PowerShell module and describes the required steps for setting up the module.

Amazon SNS and Amazon SQS

This section walks through the steps required to subscribe an Amazon SQS queue to an Amazon SNS topic. It demonstrates how to:

- Create an Amazon SNS topic.
- Create an Amazon SQS queue.
- Subscribe the queue to the topic.
- Send a message to the topic.
- Receive the message from the queue.

CloudWatch

This section provides an example of how to publish custom data to CloudWatch.

- Publish a Custom Metric to Your CloudWatch Dashboard.

See Also

- Get started with the AWS Tools for Windows PowerShell

Topics

- Amazon S3 and Tools for Windows PowerShell
- Amazon EC2 and Tools for Windows PowerShell
- AWS Lambda and AWS Tools for PowerShell
- Amazon SQS, Amazon SNS and Tools for Windows PowerShell
- CloudWatch from the AWS Tools for Windows PowerShell

- Using the ClientConfig parameter in cmdlets

Amazon S3 and Tools for Windows PowerShell

In this section, we create a static website using the AWS Tools for Windows PowerShell using Amazon S3 and CloudFront. In the process, we demonstrate a number of common tasks with these services. This walkthrough is modeled after the Getting Started Guide for Host a Static Website, which describes a similar process using the AWS Management Console.

The commands shown here assume that you have set default credentials and a default region for your PowerShell session. Therefore, credentials and regions are not included in the invocation of the cmdlets.

> **Note**
>
> There is currently no Amazon S3 API for renaming a bucket or object, and therefore, no single Tools for Windows PowerShell cmdlet for performing this task. To rename an object in S3, we recommend that you copy the object to one with a new name, by running the Copy-S3Object cmdlet, and then delete the original object by running the Remove-S3Object cmdlet.

See also

- Work with AWS services in the AWS Tools for PowerShell
- Hosting a Static Website on Amazon S3
- Amazon S3 Console

Topics

- Create an Amazon S3 Bucket, Verify Its Region, and Optionally Remove It
- Configure an Amazon S3 Bucket as a Website and Enable Logging
- Upload Objects to an Amazon S3 Bucket
- Delete Amazon S3 Objects and Buckets
- Upload In-Line Text Content to Amazon S3

Create an Amazon S3 Bucket, Verify Its Region, and Optionally Remove It

Use the `New-S3Bucket` cmdlet to create a new Amazon S3 bucket. The following examples creates a bucket named `website-example`. The name of the bucket must be unique across all regions. The example creates the bucket in the `us-west-1` region.

```
PS > New-S3Bucket -BucketName website-example -Region us-west-2

CreationDate         BucketName
------------         ----------
8/16/19 8:45:38 PM   website-example
```

You can verify the region in which the bucket is located using the `Get-S3BucketLocation` cmdlet.

```
PS > Get-S3BucketLocation -BucketName website-example

Value
-----
us-west-2
```

When you're done with this tutorial, you can use the following line to remove this bucket. We suggest that you leave this bucket in place as we use it in subsequent examples.

```
PS > Remove-S3Bucket -BucketName website-example
```

Note that the bucket removal process can take some time to finish. If you try to re-create a same-named bucket immediately, the `New-S3Bucket` cmdlet can fail until the old one is completely gone.

See Also

- Work with AWS services in the AWS Tools for PowerShell
- Put Bucket (Amazon S3 Service Reference)
- AWS PowerShell Regions for Amazon S3

Configure an Amazon S3 Bucket as a Website and Enable Logging

Use the `Write-S3BucketWebsite` cmdlet to configure an Amazon S3 bucket as a static website. The following example specifies a name of `index.html` for the default content web page and a name of `error.html` for the default error web page. Note that this cmdlet does not create those pages. They need to be uploaded as Amazon S3 objects.

```
PS > Write-S3BucketWebsite -BucketName website-example -
WebsiteConfiguration_IndexDocumentSuffix index.html -WebsiteConfiguration_ErrorDocument
 error.html
RequestId      : A1813E27995FFDDD
AmazonId2      : T7hlDOeLqA5Q2XfTe8j2q3SLoP3/5XwhUU3RyJBGHU/LnC+CIWLeGgP0MY24xAlI
ResponseStream :
Headers        : {x-amz-id-2, x-amz-request-id, Content-Length, Date...}
Metadata       : {}
ResponseXml    :
```

See Also

- Work with AWS services in the AWS Tools for PowerShell
- Put Bucket Website (Amazon S3 API Reference)
- Put Bucket ACL (Amazon S3 API Reference)

Upload Objects to an Amazon S3 Bucket

Use the `Write-S3Object` cmdlet to upload files from your local file system to an Amazon S3 bucket as objects. The example below creates and uploads two simple HTML files to an Amazon S3 bucket, and verifies the existence of the uploaded objects. The `-File` parameter to `Write-S3Object` specifies the name of the file in the local file system. The `-Key` parameter specifies the name that the corresponding object will have in Amazon S3.

Amazon infers the content-type of the objects from the file extensions, in this case, ".html".

```
PS > # Create the two files using here-strings and the Set-Content cmdlet
PS > $index_html = @"
>> <html>
>>   <body>
>>     <p>
```

```
>>       Hello, World!
>>     </p>
>>   </body>
>> </html>
>> "@
>>
PS > $index_html | Set-Content index.html
PS > $error_html = @"
>> <html>
>>   <body>
>>     <p>
>>       This is an error page.
>>     </p>
>>   </body>
>> </html>
>> "@
>>
>>$error_html | Set-Content error.html
>># Upload the files to Amazon S3 using a foreach loop
>>foreach ($f in "index.html", "error.html") {
>> Write-S3Object -BucketName website-example -File $f -Key $f -CannedACLName public-
read
>> }
>>
PS > # Verify that the files were uploaded
PS > Get-S3BucketWebsite -BucketName website-example

IndexDocumentSuffix                                          ErrorDocument
-------------------                                          -------------
index.html                                                   error.html
```

Canned ACL Options

The values for specifying canned ACLs with the Tools for Windows PowerShell are the same as those used by the AWS SDK for .NET. Note, however, that these are different from the values used by the Amazon S3`Put Object` action. The Tools for Windows PowerShell support the following canned ACLs:

- NoACL
- private
- public-read
- public-read-write

- aws-exec-read
- authenticated-read
- bucket-owner-read
- bucket-owner-full-control
- log-delivery-write

For more information about these canned ACL settings, see Access Control List Overview.

Note Regarding Multipart Upload

If you use the Amazon S3 API to upload a file that is larger than 5 GB in size, you need to use multipart upload. However, the `Write-S3Object` cmdlet provided by the Tools for Windows PowerShell can transparently handle file uploads that are greater than 5 GB.

Test the Website

At this point, you can test the website by navigating to it using a browser. URLs for static websites hosted in Amazon S3 follow a standard format.

```
http://<bucket-name>.s3-website-<region>.amazonaws.com
```

For example:

```
http://website-example.s3-website-us-west-1.amazonaws.com
```

See Also

- Work with AWS services in the AWS Tools for PowerShell
- Put Object (Amazon S3 API Reference)
- Canned ACLs (Amazon S3 API Reference)

Delete Amazon S3 Objects and Buckets

This section describes how to delete the website that you created in preceding sections. You can simply delete the objects for the HTML files, and then delete the Amazon S3 bucket for the site.

First, run the `Remove-S3Object` cmdlet to delete the objects for the HTML files from the Amazon S3 bucket.

```
PS > foreach ( $obj in "index.html", "error.html" ) {
>> Remove-S3Object -BucketName website-example -Key $obj
>> }
>>
IsDeleteMarker
--------------
False
```

The `False` response is an expected artifact of the way that Amazon S3 processes the request. In this context, it does not indicate an issue.

Now you can run the `Remove-S3Bucket` cmdlet to delete the now-empty Amazon S3 bucket for the site.

```
PS > Remove-S3Bucket -BucketName website-example

RequestId      : E480ED92A2EC703D
AmazonId2      : k6tqaqC1nMkoeYwbuJXUx1/UDa49BJd6dfLN0Ls1mWYNPHjbc8/Nyvm6AGbWcc2P
ResponseStream :
Headers        : {x-amz-id-2, x-amz-request-id, Date, Server}
Metadata       : {}
ResponseXml    :
```

In 1.1 and newer versions of the AWS Tools for PowerShell, you can add the `-DeleteBucketContent` parameter to `Remove-S3Bucket`, which first deletes all objects and object versions in the specified bucket before trying to remove the bucket itself. Depending on the number of objects or object versions in the bucket, this operation can take a substantial amount of time. In versions of the Tools for Windows PowerShell older than 1.1, the bucket had to be empty before `Remove-S3Bucket` could delete it.

> **Note**
>
> Unless you add the `-Force` parameter, AWS Tools for PowerShell prompts you for confirmation before the cmdlet runs.

See Also

- Work with AWS services in the AWS Tools for PowerShell
- Delete Object (Amazon S3 API Reference)

- DeleteBucket (Amazon S3 API Reference)

Upload In-Line Text Content to Amazon S3

The `Write-S3Object` cmdlet supports the ability to upload in-line text content to Amazon S3. Using the `-Content` parameter (alias `-Text`), you can specify text-based content that should be uploaded to Amazon S3 without needing to place it into a file first. The parameter accepts simple one-line strings as well as here strings that contain multiple lines.

```
PS > # Specifying content in-line, single line text:
PS > write-s3object mybucket -key myobject.txt -content "file content"

PS > # Specifying content in-line, multi-line text: (note final newline needed to end
 in-line here-string)
PS > write-s3object mybucket -key myobject.txt -content @"
>> line 1
>> line 2
>> line 3
>> "@
>>
PS > # Specifying content from a variable: (note final newline needed to end in-line
 here-string)
PS > $x = @"
>> line 1
>> line 2
>> line 3
>> "@
>>
PS > write-s3object mybucket -key myobject.txt -content $x
```

Amazon EC2 and Tools for Windows PowerShell

You can perform common tasks related to Amazon EC2 using the AWS Tools for PowerShell.

The example commands shown here assume that you have set default credentials and a default region for your PowerShell session. Therefore, we don't include credentials or region when we invoke the cmdlets. For more information, see Get started with the AWS Tools for Windows PowerShell.

Topics

- Creating a Key Pair
- Create a Security Group Using Windows PowerShell
- Find an Amazon Machine Image Using Windows PowerShell
- Launch an Amazon EC2 Instance Using Windows PowerShell

Creating a Key Pair

The following `New-EC2KeyPair` example creates a key pair and stores in the PowerShell variable `$myPSKeyPair`

```
PS > $myPSKeyPair = New-EC2KeyPair -KeyName myPSKeyPair
```

Pipe the key pair object into the `Get-Member` cmdlet to see the object's structure.

```
PS > $myPSKeyPair | Get-Member

     TypeName: Amazon.EC2.Model.KeyPair

  Name                MemberType   Definition
  ----                ----------   ----------
  Equals              Method       bool Equals(System.Object obj)
  GetHashCode         Method       int GetHashCode()
  GetType             Method       type GetType()
  ToString            Method       string ToString()
  KeyFingerprint      Property     System.String KeyFingerprint {get;set;}
  KeyMaterial         Property     System.String KeyMaterial {get;set;}
  KeyName             Property     System.String KeyName {get;set;}
```

Pipe the key pair object into the `Format-List` cmdlet to view values of the `KeyName`, `KeyFingerprint`, and `KeyMaterial` members. (The output has been truncated for readability.)

```
PS > $myPSKeyPair | Format-List KeyName, KeyFingerprint, KeyMaterial

  KeyName        : myPSKeyPair
  KeyFingerprint : 09:06:70:8e:26:b6:e7:ef:8f:fe:4a:1d:bc:9c:6a:63:11:ac:ad:3c
  KeyMaterial    : ----BEGIN RSA PRIVATE KEY----
                   MIIEogIBAAKCAQEAkK+ANYUS9c7niNjYfaCn6KYj/D0I6djnFoQE...
                   Mz6btoxPcE7EMeH1wySUp8nouAS9xbl9l7+VkD74bN9KmNcPa/Mu...
                   Zyn4vVe0Q5il/MpkrRogHqOB0rigeTeV5Yc3lvO0RFFPu0Kz4kcm...
                   w3Jg8dKsWn0plOpX7V3sRC02KgJIbejQUvBFGi5OQK9bm4tXBIeC...
```

```
                    daxKIAQMtDUdmBDrhR1/YMv8itFe5DiLLbq7Ga+FDcS85NstBa3h...
                    iuskGkcvgWkcFQkLmRHRoDpPb+OdFsZtjHZDpMVFmA9tT8EdbkEF...
                    3SrNeqZPsxJJIxOodb3CxLJpg75JU5kyWnb0+sDNVHoJiZCULCr0...
                    GGlLfEgB95KjGIk7zEv2Q7K6s+DHclrDeMZWa7KFNRZuCuX7jssC...
                    xO98abxMr3o3TNU6p1ZYRJEQ0oJr0W+kc+/8SWb8NIwfLtwhmJEy...
                    1BX9X8WFX/A8VLHrT1elrKmLkNECgYEAwltkV1pOJAFhz9p7ZFEv...
                    vvVsPaF0Ev9bk9pqhx269PB5Ox2KokwCagDMMaYvasWobuLmNu/1...
                    lmwRx7KTeQ7W1J3OLgxHA1QNMkip9c4Tb3q9vVc3t/fPf8vwfJ8C...
                    63g6N6rk2FkHZX1E62BgbewUd3eZOS05Ip4VUdvtGcuc8/qa+e5C...
                    KXgyt9nl64pMv+VaXfXkZhdLAdY0Khc9TGB9++VMSG5TrD15YJId...
                    gYALEI7m1jJKpHWAEs0hiemw5VmKyIZpzGstSJsFStERlAjiETDH...
                    YAtnI4J8dRyP9I7BOVOn3wNfIjk85gi1/0Oc+j8S65giLAfndWGR...
                    9R9wIkm5BMUcSRRcDy0yuwKBgEbkOnGGSD0ah4HkvrUkepIbUDTD...
                    AnEBM1cXI5UT7BfKInpUihZi59QhgdK/hkOSmWhlZGWikJ5VizBf...
                    drkBr/vTKVRMTi3lVFB7KkIV1xJxC5E/BZ+YdZEpWoCZAoGAC/Cd...
                    TTld5N6opgOXAcQJwzqoGa9ZMwc5Q9f4bfRc67emkw0ZAAwSsvWR...
                    x3O2duuy7/smTwWwskEWRK5IrUxoMv/VVYaqdzcOajwieNrblr7c...
                    -----END RSA PRIVATE KEY-----
```

The `KeyMaterial` member stores the private key for the key pair. The public key is stored in AWS. You can't retrieve the public key from AWS, but you can verify the public key by comparing the `KeyFingerprint` for the private key to that returned from AWS for the public key.

Viewing the Fingerprint of Your Key Pair

You can use the `Get-EC2KeyPair` cmdlet to view the fingerprint for your key pair.

```
PS > Get-EC2KeyPair -KeyName myPSKeyPair | format-list KeyName, KeyFingerprint

  KeyName        : myPSKeyPair
  KeyFingerprint : 09:06:70:8e:26:b6:e7:ef:8f:fe:4a:1d:bc:9c:6a:63:11:ac:ad:3c
```

Storing Your Private Key

To store the private key to a file, pipe the `KeyFingerMaterial` member to the `Out-File` cmdlet.

```
PS > $myPSKeyPair.KeyMaterial | Out-File -Encoding ascii myPSKeyPair.pem
```

You must specify `-Encoding ascii` when writing the private key to a file. Otherwise, tools such as `openssl` might not be able to read the file correctly. You can verify that the format of the resulting file is correct by using a command such as the following:

```
PS > openssl rsa -check < myPSKeyPair.pem
```

(The `openssl` tool is not included with the AWS Tools for PowerShell or the AWS SDK for .NET.)

Removing Your Key Pair

You need your key pair to launch and connect to an instance. When you are done using a key pair, you can remove it. To remove the public key from AWS, use the `Remove-EC2KeyPair` cmdlet. When prompted, press `Enter` to remove the key pair.

```
PS > Remove-EC2KeyPair -KeyName myPSKeyPair

Confirm
Performing the operation "Remove-EC2KeyPair (DeleteKeyPair)" on target "myPSKeyPair".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "Y"):
```

The variable, `$myPSKeyPair`, still exists in the current PowerShell session and still contains the key pair information. The `myPSKeyPair.pem` file also exists. However, the private key is no longer valid because the public key for the key pair is no longer stored in AWS.

Create a Security Group Using Windows PowerShell

You can use the AWS Tools for PowerShell to create and configure a security group. When you create a security group, you specify whether it is for EC2-Classic or EC2-VPC. The response is the ID of the security group.

If you need to connect to your instance, you must configure the security group to allow SSH traffic (Linux) or RDP traffic (Windows).

Topics

Prerequisites

You need the public IP address of your computer, in CIDR notation. You can get the public IP address of your local computer using a service. For example, Amazon provides the following

service: http://checkip.amazonaws.com/ or https://checkip.amazonaws.com/. To locate another service that provides your IP address, use the search phrase "what is my IP address". If you are connecting through an ISP or from behind your firewall without a static IP address, you need to find the range of IP addresses that can be used by your client computers.

> **Warning**
>
> If you specify `0.0.0.0/0`, you are enabling traffic from any IP addresses in the world. For the SSH and RDP protocols, you might consider this acceptable for a short time in a test environment, but it's unsafe for production environments. In production, be sure to authorize access only from the appropriate individual IP address or range of addresses.

Creating a Security Group for EC2-Classic

> **Warning**
>
> We are retiring EC2-Classic on August 15, 2022. We recommend that you migrate from EC2-Classic to a VPC. For more information, see **Migrate from EC2-Classic to a VPC** in the Amazon EC2 User Guide for Linux Instances or the Amazon EC2 User Guide for Windows Instances. Also see the blog post EC2-Classic Networking is Retiring – Here's How to Prepare.

The following example uses the `New-EC2SecurityGroup` cmdlet to create a security group for `EC2-Classic`.

```
PS > New-EC2SecurityGroup -GroupName myPSSecurityGroup -GroupDescription "EC2-Classic
 from PowerShell"

sg-0a346530123456789
```

To view the initial configuration of the security group, use the `Get-EC2SecurityGroup` cmdlet.

```
PS > Get-EC2SecurityGroup -GroupNames myPSSecurityGroup

Description         : EC2-Classic from PowerShell
GroupId             : sg-0a346530123456789
```

```
GroupName           : myPSSecurityGroup
IpPermissions       : {}
IpPermissionsEgress : {Amazon.EC2.Model.IpPermission}
OwnerId             : 123456789012
Tags                : {}
VpcId               : vpc-9668ddef
```

To configure the security group to allow inbound traffic on TCP port 22 (SSH) and TCP port 3389, use the `Grant-EC2SecurityGroupIngress` cmdlet. For example, the following example script shows how you could enable SSH traffic from a single IP address, `203.0.113.25/32`.

```
$cidrBlocks = New-Object 'collections.generic.list[string]'
$cidrBlocks.add("203.0.113.25/32")
$ipPermissions = New-Object Amazon.EC2.Model.IpPermission
$ipPermissions.IpProtocol = "tcp"
$ipPermissions.FromPort = 22
$ipPermissions.ToPort = 22
ipPermissions.IpRanges = $cidrBlocks
Grant-EC2SecurityGroupIngress -GroupName myPSSecurityGroup -IpPermissions
 $ipPermissions
```

To verify the security group was updated, run the `Get-EC2SecurityGroup` cmdlet again. Note that you can't specify an outbound rule for `EC2-Classic`.

```
PS > Get-EC2SecurityGroup -GroupNames myPSSecurityGroup

OwnerId             : 123456789012
GroupName           : myPSSecurityGroup
GroupId             : sg-0a346530123456789
Description         : EC2-Classic from PowerShell
IpPermissions       : {Amazon.EC2.Model.IpPermission}
IpPermissionsEgress : {}
VpcId               :
Tags                : {}
```

To view the security group rule, use the `IpPermissions` property.

```
PS > (Get-EC2SecurityGroup -GroupNames myPSSecurityGroup).IpPermissions

IpProtocol       : tcp
FromPort         : 22
```

```
ToPort           : 22
UserIdGroupPairs : {}
IpRanges         : {203.0.113.25/32}
```

Creating a Security Group for EC2-VPC

The following `New-EC2SecurityGroup` example adds the `-VpcId` parameter to create a security group for the specified VPC.

```
PS > $groupid = New-EC2SecurityGroup `
    -VpcId "vpc-da0013b3" `
    -GroupName "myPSSecurityGroup" `
    -GroupDescription "EC2-VPC from PowerShell"
```

To view the initial configuration of the security group, use the `Get-EC2SecurityGroup` cmdlet. By default, the security group for a VPC contains a rule that allows all outbound traffic. Notice that you can't reference a security group for EC2-VPC by name.

```
PS > Get-EC2SecurityGroup -GroupId sg-5d293231

OwnerId             : 123456789012
GroupName           : myPSSecurityGroup
GroupId             : sg-5d293231
Description         : EC2-VPC from PowerShell
IpPermissions       : {}
IpPermissionsEgress : {Amazon.EC2.Model.IpPermission}
VpcId               : vpc-da0013b3
Tags                : {}
```

To define the permissions for inbound traffic on TCP port 22 (SSH) and TCP port 3389, use the `New-Object` cmdlet. The following example script defines permissions for TCP ports 22 and 3389 from a single IP address, `203.0.113.25/32`.

```
$ip1 = new-object Amazon.EC2.Model.IpPermission
$ip1.IpProtocol = "tcp"
$ip1.FromPort = 22
$ip1.ToPort = 22
$ip1.IpRanges.Add("203.0.113.25/32")
$ip2 = new-object Amazon.EC2.Model.IpPermission
$ip2.IpProtocol = "tcp"
$ip2.FromPort = 3389
```

```
$ip2.ToPort = 3389
$ip2.IpRanges.Add("203.0.113.25/32")
Grant-EC2SecurityGroupIngress -GroupId $groupid -IpPermissions @( $ip1, $ip2 )
```

To verify the security group has been updated, use the `Get-EC2SecurityGroup` cmdlet again.

```
PS > Get-EC2SecurityGroup -GroupIds sg-5d293231

OwnerId             : 123456789012
GroupName           : myPSSecurityGroup
GroupId             : sg-5d293231
Description         : EC2-VPC from PowerShell
IpPermissions       : {Amazon.EC2.Model.IpPermission}
IpPermissionsEgress : {Amazon.EC2.Model.IpPermission}
VpcId               : vpc-da0013b3
Tags                : {}
```

To view the inbound rules, you can retrieve the `IpPermissions` property from the collection object returned by the previous command.

```
PS > (Get-EC2SecurityGroup -GroupIds sg-5d293231).IpPermissions

IpProtocol       : tcp
FromPort         : 22
ToPort           : 22
UserIdGroupPairs : {}
IpRanges         : {203.0.113.25/32}

IpProtocol       : tcp
FromPort         : 3389
ToPort           : 3389
UserIdGroupPairs : {}
IpRanges         : {203.0.113.25/32}
```

Find an Amazon Machine Image Using Windows PowerShell

When you launch an Amazon EC2 instance, you specify an Amazon Machine Image (AMI) to serve as a template for the instance. However, the IDs for the AWS Windows AMIs change frequently because AWS provides new AMIs with the latest updates and security enhancements. You can use the Get-EC2Image and Get-EC2ImageByName cmdlets to find the current Windows AMIs and get their IDs.

Topics

Get-EC2Image

The `Get-EC2Image` cmdlet retrieves a list of AMIs that you can use.

Use the `-Owner` parameter with the array value `amazon, self` so that `Get-EC2Image` retrieves only AMIs that belong to Amazon or to you. In this context, *you* refers to the user whose credentials you used to invoke the cmdlet.

```
PS > Get-EC2Image -Owner amazon, self
```

You can scope the results using the `-Filter` parameter. To specify the filter, create an object of type `Amazon.EC2.Model.Filter`. For example, use the following filter to display only Windows AMIs.

```
$platform_values = New-Object 'collections.generic.list[string]'
$platform_values.add("windows")
$filter_platform = New-Object Amazon.EC2.Model.Filter -Property @{Name = "platform";
 Values = $platform_values}
Get-EC2Image -Owner amazon, self -Filter $filter_platform
```

The following is an example of one of the AMIs returned by the cmdlet; the actual output of the previous command provides information for many AMIs.

```
Architecture        : x86_64
BlockDeviceMappings : {/dev/sda1, xvdca, xvdcb, xvdcc…}
CreationDate        : 2019-06-12T10:41:31.000Z
Description         : Microsoft Windows Server 2019 Full Locale English with SQL Web
 2017 AMI provided by Amazon
EnaSupport          : True
Hypervisor          : xen
ImageId             : ami-000226b77608d973b
ImageLocation       : amazon/Windows_Server-2019-English-Full-SQL_2017_Web-2019.06.12
ImageOwnerAlias     : amazon
ImageType           : machine
KernelId            :
```

```
Name                : Windows_Server-2019-English-Full-SQL_2017_Web-2019.06.12
OwnerId             : 801119661308
Platform            : Windows
ProductCodes        : {}
Public              : True
RamdiskId           :
RootDeviceName      : /dev/sda1
RootDeviceType      : ebs
SriovNetSupport     : simple
State               : available
StateReason         :
Tags                : {}
VirtualizationType  : hvm
```

Get-EC2ImageByName

The `Get-EC2ImageByName` cmdlet enables you to filter the list of AWS Windows AMIs based on the type of server configuration you are interested in.

When run with no parameters, as follows, the cmdlet emits the complete set of current filter names:

```
PS > Get-EC2ImageByName

WINDOWS_2016_BASE
WINDOWS_2016_NANO
WINDOWS_2016_CORE
WINDOWS_2016_CONTAINER
WINDOWS_2016_SQL_SERVER_ENTERPRISE_2016
WINDOWS_2016_SQL_SERVER_STANDARD_2016
WINDOWS_2016_SQL_SERVER_WEB_2016
WINDOWS_2016_SQL_SERVER_EXPRESS_2016
WINDOWS_2012R2_BASE
WINDOWS_2012R2_CORE
WINDOWS_2012R2_SQL_SERVER_EXPRESS_2016
WINDOWS_2012R2_SQL_SERVER_STANDARD_2016
WINDOWS_2012R2_SQL_SERVER_WEB_2016
WINDOWS_2012R2_SQL_SERVER_EXPRESS_2014
WINDOWS_2012R2_SQL_SERVER_STANDARD_2014
WINDOWS_2012R2_SQL_SERVER_WEB_2014
WINDOWS_2012_BASE
WINDOWS_2012_SQL_SERVER_EXPRESS_2014
WINDOWS_2012_SQL_SERVER_STANDARD_2014
```

```
WINDOWS_2012_SQL_SERVER_WEB_2014
WINDOWS_2012_SQL_SERVER_EXPRESS_2012
WINDOWS_2012_SQL_SERVER_STANDARD_2012
WINDOWS_2012_SQL_SERVER_WEB_2012
WINDOWS_2012_SQL_SERVER_EXPRESS_2008
WINDOWS_2012_SQL_SERVER_STANDARD_2008
WINDOWS_2012_SQL_SERVER_WEB_2008
WINDOWS_2008R2_BASE
WINDOWS_2008R2_SQL_SERVER_EXPRESS_2012
WINDOWS_2008R2_SQL_SERVER_STANDARD_2012
WINDOWS_2008R2_SQL_SERVER_WEB_2012
WINDOWS_2008R2_SQL_SERVER_EXPRESS_2008
WINDOWS_2008R2_SQL_SERVER_STANDARD_2008
WINDOWS_2008R2_SQL_SERVER_WEB_2008
WINDOWS_2008RTM_BASE
WINDOWS_2008RTM_SQL_SERVER_EXPRESS_2008
WINDOWS_2008RTM_SQL_SERVER_STANDARD_2008
WINDOWS_2008_BEANSTALK_IIS75
WINDOWS_2012_BEANSTALK_IIS8
VPC_NAT
```

To narrow the set of images returned, specify one or more filter names using the `Names` parameter.

```
PS > Get-EC2ImageByName -Names WINDOWS_2016_CORE

Architecture        : x86_64
BlockDeviceMappings : {/dev/sda1, xvdca, xvdcb, xvdcc…}
CreationDate        : 2019-08-16T09:36:09.000Z
Description         : Microsoft Windows Server 2016 Core Locale English AMI provided by
 Amazon
EnaSupport          : True
Hypervisor          : xen
ImageId             : ami-06f2a2afca06f15fc
ImageLocation       : amazon/Windows_Server-2016-English-Core-Base-2019.08.16
ImageOwnerAlias     : amazon
ImageType           : machine
KernelId            :
Name                : Windows_Server-2016-English-Core-Base-2019.08.16
OwnerId             : 801119661308
Platform            : Windows
ProductCodes        : {}
Public              : True
RamdiskId           :
```

```
RootDeviceName      : /dev/sda1
RootDeviceType      : ebs
SriovNetSupport     : simple
State               : available
StateReason         :
Tags                : {}
VirtualizationType  : hvm
```

Launch an Amazon EC2 Instance Using Windows PowerShell

To launch an Amazon EC2 instance, you need the key pair and security group that you created in the previous sections. You also need the ID of an Amazon Machine Image (AMI). For more information, see the following documentation:

- Creating a Key Pair
- Create a Security Group Using Windows PowerShell
- Find an Amazon Machine Image Using Windows PowerShell

> **Important**
>
> If you launch an instance that is not within the 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.

Topics

- Launching an Instance in EC2-Classic
- Launching an Instance in a VPC
- Launching a Spot Instance in a VPC

Launching an Instance in EC2-Classic

> **Warning**
>
> We are retiring EC2-Classic on August 15, 2022. We recommend that you migrate from EC2-Classic to a VPC. For more information, see **Migrate from EC2-Classic to a VPC** in the Amazon EC2 User Guide for Linux Instances or the Amazon EC2 User Guide for Windows

Instances. Also see the blog post EC2-Classic Networking is Retiring – Here's How to Prepare.

The following command creates and launches a single `t1.micro` instance.

```
PS > New-EC2Instance -ImageId ami-c49c0dac `
    -MinCount 1 `
    -MaxCount 1 `
    -KeyName myPSKeyPair `
    -SecurityGroups myPSSecurityGroup `
    -InstanceType t1.micro

ReservationId   : r-b70a0ef1
OwnerId         : 123456789012
RequesterId     :
Groups          : {myPSSecurityGroup}
GroupName       : {myPSSecurityGroup}
Instances       : {}
```

Your instance is in the `pending` state initially, but is in the `running` state after a few minutes. To view information about your instance, use the `Get-EC2Instance` cmdlet. If you have more than one instance, you can filter the results on the reservation ID using the `Filter` parameter. First, create an object of type `Amazon.EC2.Model.Filter`. Next, call `Get-EC2Instance` that uses the filter, and then displays the `Instances` property.

```
PS > $reservation = New-Object 'collections.generic.list[string]'
PS > $reservation.add("r-5caa4371")
PS > $filter_reservation = New-Object Amazon.EC2.Model.Filter -Property @{Name =
 "reservation-id"; Values = $reservation}
PS > (Get-EC2Instance -Filter $filter_reservation).Instances

AmiLaunchIndex        : 0
Architecture          : x86_64
BlockDeviceMappings   : {/dev/sda1}
ClientToken           :
EbsOptimized          : False
Hypervisor            : xen
IamInstanceProfile    :
ImageId               : ami-c49c0dac
InstanceId            : i-5203422c
```

```
InstanceLifecycle     :
InstanceType          : t1.micro
KernelId              :
KeyName               : myPSKeyPair
LaunchTime            : 12/2/2018 3:38:52 PM
Monitoring            : Amazon.EC2.Model.Monitoring
NetworkInterfaces     : {}
Placement             : Amazon.EC2.Model.Placement
Platform              : Windows
PrivateDnsName        :
PrivateIpAddress      : 10.25.1.11
ProductCodes          : {}
PublicDnsName         :
PublicIpAddress       : 198.51.100.245
RamdiskId             :
RootDeviceName        : /dev/sda1
RootDeviceType        : ebs
SecurityGroups        : {myPSSecurityGroup}
SourceDestCheck       : True
SpotInstanceRequestId :
SriovNetSupport       :
State                 : Amazon.EC2.Model.InstanceState
StateReason           :
StateTransitionReason :
SubnetId              :
Tags                  : {}
VirtualizationType    : hvm
VpcId                 :
```

Launching an Instance in a VPC

The following command creates a single `m1.small` instance in the specified private subnet. The security group must be valid for the specified subnet.

```
PS > New-EC2Instance `
    -ImageId ami-c49c0dac `
    -MinCount 1 -MaxCount 1 `
    -KeyName myPSKeyPair `
    -SecurityGroupId sg-5d293231 `
    -InstanceType m1.small `
    -SubnetId subnet-d60013bf

ReservationId   : r-b70a0ef1
```

```
OwnerId         : 123456789012
RequesterId     :
Groups          : {}
GroupName       : {}
Instances       : {}
```

Your instance is in the `pending` state initially, but is in the `running` state after a few minutes. To view information about your instance, use the `Get-EC2Instance` cmdlet. If you have more than one instance, you can filter the results on the reservation ID using the `Filter` parameter. First, create an object of type `Amazon.EC2.Model.Filter`. Next, call `Get-EC2Instance` that uses the filter, and then displays the `Instances` property.

```
PS > $reservation = New-Object 'collections.generic.list[string]'
PS > $reservation.add("r-b70a0ef1")
PS > $filter_reservation = New-Object Amazon.EC2.Model.Filter -Property @{Name =
 "reservation-id"; Values = $reservation}
PS > (Get-EC2Instance -Filter $filter_reservation).Instances

AmiLaunchIndex        : 0
Architecture          : x86_64
BlockDeviceMappings   : {/dev/sda1}
ClientToken           :
EbsOptimized          : False
Hypervisor            : xen
IamInstanceProfile    :
ImageId               : ami-c49c0dac
InstanceId            : i-5203422c
InstanceLifecycle     :
InstanceType          : m1.small
KernelId              :
KeyName               : myPSKeyPair
LaunchTime            : 12/2/2018 3:38:52 PM
Monitoring            : Amazon.EC2.Model.Monitoring
NetworkInterfaces     : {}
Placement             : Amazon.EC2.Model.Placement
Platform              : Windows
PrivateDnsName        :
PrivateIpAddress      : 10.25.1.11
ProductCodes          : {}
PublicDnsName         :
PublicIpAddress       : 198.51.100.245
RamdiskId             :
RootDeviceName        : /dev/sda1
```

```
RootDeviceType        : ebs
SecurityGroups        : {myPSSecurityGroup}
SourceDestCheck       : True
SpotInstanceRequestId :
SriovNetSupport       :
State                 : Amazon.EC2.Model.InstanceState
StateReason           :
StateTransitionReason :
SubnetId              : subnet-d60013bf
Tags                  : {}
VirtualizationType    : hvm
VpcId                 : vpc-a01106c2
```

Launching a Spot Instance in a VPC

The following example script requests a Spot Instance in the specified subnet. The security group must be one you created for the VPC that contains the specified subnet.

```
$interface1 = New-Object Amazon.EC2.Model.InstanceNetworkInterfaceSpecification
$interface1.DeviceIndex = 0
$interface1.SubnetId = "subnet-b61f49f0"
$interface1.PrivateIpAddress = "10.0.1.5"
$interface1.Groups.Add("sg-5d293231")
Request-EC2SpotInstance `
    -SpotPrice 0.007 `
    -InstanceCount 1 `
    -Type one-time `
    -LaunchSpecification_ImageId ami-7527031c `
    -LaunchSpecification_InstanceType m1.small `
    -Region us-west-2 `
    -LaunchSpecification_NetworkInterfaces $interface1
```

AWS Lambda and AWS Tools for PowerShell

By using the AWSLambdaPSCore module, you can develop AWS Lambda functions in PowerShell Core 6.0 using the .NET Core 2.1 runtime. PowerShell developers can manage AWS resources and write automation scripts in the PowerShell environment by using Lambda. PowerShell support in Lambda lets you run PowerShell scripts or functions in response to any Lambda event, such as an Amazon S3 event or Amazon CloudWatch scheduled event. The AWSLambdaPSCore module is a separate AWS module for PowerShell; it is not part of the AWS Tools for PowerShell, nor does installing the AWSLambdaPSCore module install the AWS Tools for PowerShell.

After you install the AWSLambdaPSCore module, you can use any available PowerShell cmdlets —or develop your own—to author serverless functions. The AWS Lambda Tools for PowerShell module includes project templates for PowerShell-based serverless applications, and tools to publish projects to AWS.

AWSLambdaPSCore module support is available in all regions that support Lambda. For more information about supported regions, see the AWS region table.

Prerequisites

The following steps are required before you can install and use the AWSLambdaPSCore module. For more detail about these steps, see Setting Up a PowerShell Development Environment in the AWS Lambda Developer Guide.

- **Install the correct release of PowerShell** – Lambda's support for PowerShell is based on the cross-platform PowerShell Core 6.0 release. You can develop PowerShell Lambda functions on Windows, Linux, or Mac. If you don't have at least this release of PowerShell installed, instructions are available on the Microsoft PowerShell documentation website.
- **Install the .NET Core 2.1 SDK** – Because PowerShell Core is based on .NET Core, the Lambda support for PowerShell uses the same .NET Core 2.1 Lambda runtime for both .NET Core and PowerShell Lambda functions. The Lambda PowerShell publishing cmdlets use the .NET Core 2.1 SDK to create the Lambda deployment package. The .NET Core 2.1 SDK is available from the Microsoft Download Center. Be sure to install the SDK, not the Runtime.

Install the AWSLambdaPSCore Module

After completing the prerequisites, you are ready to install the AWSLambdaPSCore module. Run the following command in a PowerShell Core session.

```
PS> Install-Module AWSLambdaPSCore -Scope CurrentUser
```

You are ready to start developing Lambda functions in PowerShell. For more information about how to get started, see Programming Model for Authoring Lambda Functions in PowerShell in the AWS Lambda Developer Guide.

See Also

- Announcing Lambda Support for PowerShell Core on the AWS Developer Blog

- AWSLambdaPSCore module on the PowerShell Gallery website
- Setting Up a PowerShell Development Environment
- AWS Lambda Tools for Powershell on GitHub
- AWS Lambda Console

Amazon SQS, Amazon SNS and Tools for Windows PowerShell

This section provides examples that show how to:

- Create an Amazon SQS queue and get queue ARN (Amazon Resource Name).
- Create an Amazon SNS topic.
- Give permissions to the SNS topic so that it can send messages to the queue.
- Subscribe the queue to the SNS topic
- Give IAM users or AWS accounts permissions to publish to the SNS topic and read messages from the SQS queue.
- Verify results by publishing a message to the topic and reading the message from the queue.

Create an Amazon SQS queue and get queue ARN

The following command creates an SQS queue in your default region. The output shows the URL of the new queue.

```
PS > New-SQSQueue -QueueName myQueue
https://sqs.us-west-2.amazonaws.com/123456789012/myQueue
```

The following command retrieves the ARN of the queue.

```
PS > Get-SQSQueueAttribute -QueueUrl https://sqs.us-west-2.amazonaws.com/123456789012/
myQueue -AttributeName QueueArn
...
QueueARN              : arn:aws:sqs:us-west-2:123456789012:myQueue
...
```

Create an Amazon SNS topic

The following command creates an SNS topic in your default region, and returns the ARN of the new topic.

```
PS > New-SNSTopic -Name myTopic
arn:aws:sns:us-west-2:123456789012:myTopic
```

Give permissions to the SNS topic

The following example script creates both an SQS queue and an SNS topic, and grants permissions to the SNS topic so that it can send messages to the SQS queue:

```
# create the queue and topic to be associated
$qurl = New-SQSQueue -QueueName "myQueue"
$topicarn = New-SNSTopic -Name "myTopic"

# get the queue ARN to inject into the policy; it will be returned
# in the output's QueueARN member but we need to put it into a variable
# so text expansion in the policy string takes effect
$qarn = (Get-SQSQueueAttribute -QueueUrl $qurl -AttributeNames "QueueArn").QueueARN

# construct the policy and inject arns
$policy = @"
{
    "Version": "2012-10-17",
    "Statement": {
        "Effect": "Allow",
        "Principal": "*",
        "Action": "SQS:SendMessage",
        "Resource": "$qarn",
        "Condition": { "ArnEquals": { "aws:SourceArn": "$topicarn" } }
    }
}
"@

# set the policy
Set-SQSQueueAttribute -QueueUrl $qurl -Attribute @{ Policy=$policy }
```

Subscribe the queue to the SNS topic

The following command subscribes the queue `myQueue` to the SNS topic `myTopic`, and returns the Subscription ID:

```
PS > Connect-SNSNotification `
    -TopicARN arn:aws:sns:us-west-2:123456789012:myTopic `
    -Protocol SQS `
    -Endpoint arn:aws:sqs:us-west-2:123456789012:myQueue
arn:aws:sns:us-west-2:123456789012:myTopic:f8ff77c6-e719-4d70-8e5c-a54d41feb754
```

Give permissions

The following command grants permission to perform the `sns:Publish` action on the topic `myTopic`

```
PS > Add-SNSPermission `
    -TopicArn arn:aws:sns:us-west-2:123456789012:myTopic `
    -Label ps-cmdlet-topic `
    -AWSAccountIds 123456789012 `
    -ActionNames publish
```

The following command grants permission to perform the `sqs:ReceiveMessage` and `sqs:DeleteMessage` actions on the queue `myQueue`.

```
PS > Add-SQSPermission `
    -QueueUrl https://sqs.us-west-2.amazonaws.com/123456789012/myQueue `
    -AWSAccountId "123456789012" `
    -Label queue-permission `
    -ActionName SendMessage, ReceiveMessage
```

Verify results

The following command tests your new queue and topic by publishing a message to the SNS topic `myTopic` and returns the `MessageId`.

```
PS > Publish-SNSMessage `
    -TopicArn arn:aws:sns:us-west-2:123456789012:myTopic `
    -Message "Have A Nice Day!"
```

```
728180b6-f62b-49d5-b4d3-3824bb2e77f4
```

The following command retrieves the message from the SQS queue myQueue and displays it.

```
PS > Receive-SQSMessage -QueueUrl https://sqs.us-west-2.amazonaws.com/123456789012/
myQueue

Attributes             : {}
Body                   : {
                           "Type" : "Notification",
                           "MessageId" : "491c687d-b78d-5c48-b7a0-3d8d769ee91b",
                           "TopicArn" : "arn:aws:sns:us-west-2:123456789012:myTopic",
                           "Message" : "Have A Nice Day!",
                           "Timestamp" : "2019-09-09T21:06:27.201Z",
                           "SignatureVersion" : "1",
                           "Signature" :
 "llE17A2+XOuJZnw3TlgcXz4C4KPLXZxbxoEMIirelhl3u/oxkWmz5+9tJKFMns1ZOqQvKxk
+ExfEZcD5yWt6biVuBb8pyRmZ1bO3hUENl3ayv2WQiQT1vpLpM7VEQN5m+hLIiPFcs
                         vyuGkJReV7lOJWPHnCN
+qTE2lId2RPkFOeGtLGawTsSPTWEvJdDbLlf7E0zZ0q1niXTUtpsZ8Swx01X3QO6u9i9qBFt0ekJFZNJp6Avu05hIklb4yo
y0a8Yl9lWp7a7EoWaBn0zhCESe7o
                         kZC6ncBJWphX7KCGVYD0qhVf/5VDgBuv9w8T+higJyvr3WbaSvg==",
                           "SigningCertURL" : "https://sns.us-west-2.amazonaws.com/
SimpleNotificationService-6aad65c2f9911b05cd53efda11f913f9.pem",
                           "UnsubscribeURL" :
                         "https://sns.us-west-2.amazonaws.com/?
Action=Unsubscribe&SubscriptionArn=arn:aws:sns:us-west-2:123456789012:myTopic:22b77de7-
a216-4000-9a23-bf465744ca84"
                         }
MD5OfBody              : 5b5ee4f073e9c618eda3718b594fa257
MD5OfMessageAttributes :
MessageAttributes      : {}
MessageId              : 728180b6-f62b-49d5-b4d3-3824bb2e77f4
ReceiptHandle          :
 AQEB2vvk1e5cOKFjeIWJticabkc664yuDEjhucnIOqdVUmie7bX7GiJbl7F0enABUgaI2XjEcNPxixhVc/
wfsAJZLNHnl8SlbQa0R/kD+Saqa4OIvfj8x3M4Oh1yM1cVKpYmhAzsYrAwAD5g5FvxNBD6zs
                         +HmXdkax2Wd+9AxrHlQZV5ur1MoByKWWbDbsqoYJTJquCclOgWIak/sBx/
daBRMTiVQ4GHsrQWMVHtNC14q7Jy/0L2dkmb4dzJfJq0VbFSX1G+u/lrSLpgae+Dfux646y8yFiPFzY4ua4mCF/
SVUn63Spy
                         sHN12776axknhg3j9K/Xwj54DixdsegnrKoLx+ctI
+0jzAetBR66Q1VhIoJAq7s0a2MseyOeM/Jjucg6Sr9VUnTWVhV8ErXmotoiEg==
```

CloudWatch from the AWS Tools for Windows PowerShell

This section shows an example of how to use the Tools for Windows PowerShell to publish custom metric data to CloudWatch.

This example assumes that you have set default credentials and a default region for your PowerShell session.

Publish a Custom Metric to Your CloudWatch Dashboard

The following PowerShell code initializes an CloudWatch `MetricDatum` object and posts it to the service. You can see the result of this operation by navigating to the CloudWatch console.

```
$dat = New-Object Amazon.CloudWatch.Model.MetricDatum
$dat.Timestamp = (Get-Date).ToUniversalTime()
$dat.MetricName = "New Posts"
$dat.Unit = "Count"
$dat.Value = ".50"
Write-CWMetricData -Namespace "Usage Metrics" -MetricData $dat
```

Note the following:

- The date-time information that you use to initialize `$dat.Timestamp` must be in Universal Time (UTC).
- The value that you use to initialize `$dat.Value` can be either a string value enclosed in quotes, or a numeric value (no quotes). The example shows a string value.

See Also

- Work with AWS services in the AWS Tools for PowerShell
- AmazonCloudWatchClient.PutMetricData (.NET SDK Reference)
- MetricDatum (Service API Reference)
- Amazon CloudWatch Console

Using the ClientConfig parameter in cmdlets

The `ClientConfig` parameter can be used to specify certain configuration settings when you connect to a service. Most of the possible properties of this parameter are defined in the `Amazon.Runtime.ClientConfig` class, which is inherited into the APIs for AWS services. For an example of simple inheritance, see the `Amazon.Keyspaces.AmazonKeyspacesConfig` class. In addition, some services define additional properties that are appropriate only for that service. For an example of additional properties that have been defined, see the `Amazon.S3.AmazonS3Config` class, specifically the `ForcePathStyle` property.

Using the `ClientConfig` parameter

To use the `ClientConfig` parameter, you can specify it on the command line as a `ClientConfig` object or use PowerShell splatting to pass a collection of parameter values to a command as a unit. These methods are shown in the following examples. The examples assume that the `AWS.Tools.S3` module has been installed and imported, and that you have a `[default]` credentials profile with appropriate permissions.

Defining a `ClientConfig` object

```
$s3Config = New-Object -TypeName Amazon.S3.AmazonS3Config
$s3Config.ForcePathStyle = $true
$s3Config.Timeout = [TimeSpan]::FromMilliseconds(150000)
Get-S3Object -BucketName <BUCKET_NAME> -ClientConfig $s3Config
```

Adding `ClientConfig` properties by using PowerShell splatting

```
$params=@{
    ClientConfig=@{
        ForcePathStyle=$true
        Timeout=[TimeSpan]::FromMilliseconds(150000)
    }
    BucketName="<BUCKET_NAME>"
}

Get-S3Object @params
```

Using an undefined property

When using PowerShell splatting, if you specify a `ClientConfig` property that doesn't exist, the AWS Tools for PowerShell doesn't detect the error until runtime, at which time it returns an exception. Modifying the example from above:

```
$params=@{
    ClientConfig=@{
        ForcePathStyle=$true
        UndefinedProperty="Value"
        Timeout=[TimeSpan]::FromMilliseconds(150000)
    }
    BucketName="<BUCKET_NAME>"
}

Get-S3Object @params
```

This example produces an exception similar to the following:

```
Cannot bind parameter 'ClientConfig'. Cannot create object of type
 "Amazon.S3.AmazonS3Config". The UndefinedProperty property was not found for the
 Amazon.S3.AmazonS3Config object.
```

Specifying the AWS Region

You can use the `ClientConfig` parameter to set the AWS Region for the command. The Region is set through the `RegionEndpoint` property. The AWS Tools for PowerShell calculates the Region to use according to the following precedence:

1. The `-Region` parameter
2. The Region passed in the `ClientConfig` parameter
3. The PowerShell session state
4. The shared AWS `config` file
5. The environment variables
6. The Amazon EC2 instance metadata, if enabled.

Tools for PowerShell code examples

The code examples in this topic show you how to use the AWS Tools for PowerShell 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 Tools for PowerShell

Actions and scenarios using Tools for PowerShell

The following code examples show how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

- ACM examples using Tools for PowerShell
- AppStream 2.0 examples using Tools for PowerShell
- Aurora examples using Tools for PowerShell
- Auto Scaling examples using Tools for PowerShell
- AWS Budgets examples using Tools for PowerShell
- AWS Cloud9 examples using Tools for PowerShell
- AWS CloudFormation examples using Tools for PowerShell
- CloudFront examples using Tools for PowerShell

- CloudTrail examples using Tools for PowerShell
- CloudWatch examples using Tools for PowerShell
- CodeCommit examples using Tools for PowerShell
- CodeDeploy examples using Tools for PowerShell
- CodePipeline examples using Tools for PowerShell
- Amazon Cognito Identity examples using Tools for PowerShell
- AWS Config examples using Tools for PowerShell
- Device Farm examples using Tools for PowerShell
- AWS Directory Service examples using Tools for PowerShell
- AWS DMS examples using Tools for PowerShell
- DynamoDB examples using Tools for PowerShell
- Amazon EC2 examples using Tools for PowerShell
- Amazon ECR examples using Tools for PowerShell
- Amazon ECS examples using Tools for PowerShell
- Amazon EFS examples using Tools for PowerShell
- Amazon EKS examples using Tools for PowerShell
- Elastic Load Balancing - Version 1 examples using Tools for PowerShell
- Elastic Load Balancing - Version 2 examples using Tools for PowerShell
- Amazon FSx examples using Tools for PowerShell
- AWS Glue examples using Tools for PowerShell
- AWS Health examples using Tools for PowerShell
- IAM examples using Tools for PowerShell
- Kinesis examples using Tools for PowerShell
- Lambda examples using Tools for PowerShell
- Amazon ML examples using Tools for PowerShell
- Macie examples using Tools for PowerShell
- AWS OpsWorks examples using Tools for PowerShell
- AWS Price List examples using Tools for PowerShell
- Resource Groups examples using Tools for PowerShell
- Resource Groups Tagging API examples using Tools for PowerShell

- Route 53 examples using Tools for PowerShell
- Amazon S3 examples using Tools for PowerShell
- S3 Glacier examples using Tools for PowerShell
- Amazon SES examples using Tools for PowerShell
- Amazon SNS examples using Tools for PowerShell
- Amazon SQS examples using Tools for PowerShell
- AWS STS examples using Tools for PowerShell
- AWS Support examples using Tools for PowerShell
- Systems Manager examples using Tools for PowerShell
- Amazon Translate examples using Tools for PowerShell
- AWS WAFV2 examples using Tools for PowerShell
- WorkSpaces examples using Tools for PowerShell

ACM examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-ACMCertificate`

The following code example shows how to use `Get-ACMCertificate`.

Tools for PowerShell

Example 1: This example shows how to return a certificate and its chain using the ARN of the certificate.

```
Get-ACMCertificate -CertificateArn "arn:aws:acm:us-
east-1:123456789012:certificate/12345678-1234-1234-1234-123456789012"
```

- For API details, see GetCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ACMCertificateDetail`

The following code example shows how to use `Get-ACMCertificateDetail`.

Tools for PowerShell

Example 1: Returns details of the specified certificate.

```
Get-ACMCertificateDetail -CertificateArn "arn:aws:acm:us-
east-1:123456789012:certificate/12345678-1234-1234-1234-123456789012"
```

Output:

```
CertificateArn          : arn:aws:acm:us-
east-1:123456789012:certificate/12345678-1234-1234-1234-123456789012
CreatedAt               : 1/21/2016 5:55:59 PM
DomainName              : www.example.com
DomainValidationOptions : {www.example.com}
InUseBy                 : {}
IssuedAt                : 1/1/0001 12:00:00 AM
Issuer                  :
KeyAlgorithm            : RSA-2048
NotAfter                : 1/1/0001 12:00:00 AM
NotBefore               : 1/1/0001 12:00:00 AM
RevocationReason        :
RevokedAt               : 1/1/0001 12:00:00 AM
Serial                  :
SignatureAlgorithm      : SHA256WITHRSA
Status                  : PENDING_VALIDATION
Subject                 : CN=www.example.com
SubjectAlternativeNames : {www.example.net}
```

- For API details, see DescribeCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ACMCertificateList`

The following code example shows how to use `Get-ACMCertificateList`.

Tools for PowerShell

Example 1: Retrieves a list of all your certificate ARNs and the domain name for each. The cmdlet will automatically paginate to retrieve all the ARNs. To manually control pagination, use the -MaxItem parameter to control how many certificate ARNs are returned for each service call and the -NextToken parameter to indicate the starting point for each call.

```
Get-ACMCertificateList
```

Output:

```
CertificateArn
 DomainName
--------------
 ----------
arn:aws:acm:us-east-1:123456789012:certificate/12345678-1234-1234-1234-123456789012
 www.example.com
```

Example 2: Retrieves a list of all your certificate ARNs where the certificate status matches on the supplied states.

```
Get-ACMCertificateList -CertificateStatus "VALIDATION_TIMED_OUT","FAILED"
```

Example 3: This example returns a list of all certificates in the us-east-1 region that have a key type of RSA_2048, and an extended key usage, or purpose, of CODE_SIGNING. You can find the values for these filtering parameters in the ListCertificates Filters API reference topic: https://docs.aws.amazon.com/acm/latest/APIReference/API_Filters.html.

```
Get-ACMCertificateList -Region us-east-1 -Includes_KeyType RSA_2048 -
Includes_ExtendedKeyUsage CODE_SIGNING
```

Output:

```
CertificateArn
 DomainName
--------------
 ----------
arn:aws:acm:us-east-1:8xxxxxxxxxxx:certificate/xxxxxxxx-d7c0-48c1-af8d-2133d8f30zzz
 *.route53docs.com
arn:aws:acm:us-east-1:8xxxxxxxxxxx:certificate/xxxxxxxx-98a5-443d-a734-800430c80zzz
 nerdzizm.net
arn:aws:acm:us-east-1:8xxxxxxxxxxx:certificate/xxxxxxxx-2be6-4376-8fa7-bad559525zzz

arn:aws:acm:us-east-1:8xxxxxxxxxxx:certificate/xxxxxxxx-e7ca-44c5-803e-24d9f2f36zzz

arn:aws:acm:us-east-1:8xxxxxxxxxxx:certificate/xxxxxxxx-1241-4b71-80b1-090305a62zzz

arn:aws:acm:us-east-1:8xxxxxxxxxxx:certificate/xxxxxxxx-8709-4568-8c64-f94617c99zzz

arn:aws:acm:us-east-1:8xxxxxxxxxxx:certificate/xxxxxxxx-a8fa-4a61-98cf-e08ccc0eezzz

arn:aws:acm:us-east-1:8xxxxxxxxxxx:certificate/xxxxxxxx-fa47-40fe-a714-2d277d3eezzz
 *.route53docs.com
```

- For API details, see ListCertificates in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ACMCertificate`

The following code example shows how to use `New-ACMCertificate`.

Tools for PowerShell

Example 1: Creates a new certificate. The service returns the ARN of the new certificate.

```
New-ACMCertificate -DomainName "www.example.com"
```

Output:

```
arn:aws:acm:us-east-1:123456789012:certificate/12345678-1234-1234-1234-123456789012
```

Example 2: Creates a new certificate. The service returns the ARN of the new certificate.

```
New-ACMCertificate -DomainName "www.example.com" -SubjectAlternativeName
 "example.com","www.example.net"
```

Output:

```
arn:aws:acm:us-east-1:123456789012:certificate/12345678-1234-1234-1234-123456789012
```

- For API details, see RequestCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ACMCertificate`

The following code example shows how to use `Remove-ACMCertificate`.

Tools for PowerShell

Example 1: Deletes the certificate identified by the supplied ARN and the associated private key. The cmdlet will prompt for confirmation before proceeding; add the -Force switch to suppress confirmation.

```
Remove-ACMCertificate -CertificateArn "arn:aws:acm:us-
east-1:123456789012:certificate/12345678-1234-1234-1234-123456789012"
```

- For API details, see DeleteCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Send-ACMValidationEmail`

The following code example shows how to use `Send-ACMValidationEmail`.

Tools for PowerShell

Example 1: Requests that the email to validate domain ownership for 'www.example.com' be sent. If your shell's $ConfirmPreference is set to 'Medium' or lower, the cmdlet will prompt for confirmation before proceeeding. Add the -Force switch to suppress confirmation prompts.

```
$params = @{
    CertificateArn="arn:aws:acm:us-
east-1:123456789012:certificate/12345678-1234-1234-1234-123456789012"
    Domain="www.example.com"
    ValidationDomain="example.com"
}
Send-ACMValidationEmail @params
```

- For API details, see ResendValidationEmail in *AWS Tools for PowerShell Cmdlet Reference*.

AppStream 2.0 examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell with AppStream 2.0.

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-APSResourceTag`

The following code example shows how to use `Add-APSResourceTag`.

Tools for PowerShell

Example 1: This sample adds a resource Tag to AppStream resource

```
Add-APSResourceTag -ResourceArn arn:aws:appstream:us-east-1:123456789012:stack/
SessionScriptTest -Tag @{StackState='Test'} -Select ^Tag
```

Output:

```
Name                           Value
----                           -----
StackState                     Test
```

- For API details, see TagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Copy-APSImage`

The following code example shows how to use `Copy-APSImage`.

Tools for PowerShell

Example 1: This sample copies an image to other region

```
Copy-APSImage -DestinationImageName TestImageCopy -DestinationRegion us-west-2 -
SourceImageName Powershell
```

Output:

```
TestImageCopy
```

- For API details, see CopyImage in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-APSUSer`

The following code example shows how to use `Disable-APSUSer`.

Tools for PowerShell

Example 1: This sample disables an user in USERPOOL

```
Disable-APSUser -AuthenticationType USERPOOL -UserName TestUser@lab.com
```

- For API details, see DisableUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-APSUser`

The following code example shows how to use `Enable-APSUser`.

Tools for PowerShell

Example 1: This sample enables a disabled user in USERPOOL

```
Enable-APSUser -AuthenticationType USERPOOL -UserName TestUser@lab.com
```

- For API details, see EnableUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSAssociatedFleetList`

The following code example shows how to use `Get-APSAssociatedFleetList`.

Tools for PowerShell

Example 1: This sample displays fleet associated with a stack

```
Get-APSAssociatedFleetList -StackName PowershellStack
```

Output:

```
PowershellFleet
```

- For API details, see ListAssociatedFleets in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSAssociatedStackList`

The following code example shows how to use `Get-APSAssociatedStackList`.

Tools for PowerShell

Example 1: This sample displays stack associated with a fleet

```
Get-APSAssociatedStackList -FleetName PowershellFleet
```

Output:

```
PowershellStack
```

- For API details, see ListAssociatedStacks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSDirectoryConfigList`

The following code example shows how to use `Get-APSDirectoryConfigList`.

Tools for PowerShell

Example 1: This sample displays Directory Configurations created in AppStream

```
Get-APSDirectoryConfigList | Select DirectoryName,
 OrganizationalUnitDistinguishedNames, CreatedTime
```

Output:

```
DirectoryName OrganizationalUnitDistinguishedNames CreatedTime
------------- ------------------------------------ -----------
Test.com      {OU=AppStream,DC=Test,DC=com}    9/6/2019 10:56:40 AM
contoso.com   {OU=AppStream,OU=contoso,DC=contoso,DC=com}  8/9/2019 9:08:50 AM
```

- For API details, see DescribeDirectoryConfigs in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSFleetList`

The following code example shows how to use `Get-APSFleetList`.

Tools for PowerShell

Example 1: This Sample displays details of a fleet

```
Get-APSFleetList -Name Test
```

Output:

```
Arn                           : arn:aws:appstream:us-east-1:1234567890:fleet/Test
ComputeCapacityStatus         : Amazon.AppStream.Model.ComputeCapacityStatus
CreatedTime                   : 9/12/2019 5:00:45 PM
Description                   : Test
DisconnectTimeoutInSeconds    : 900
DisplayName                   : Test
DomainJoinInfo                :
EnableDefaultInternetAccess   : False
FleetErrors                   : {}
FleetType                     : ON_DEMAND
IamRoleArn                    :
IdleDisconnectTimeoutInSeconds : 900
ImageArn                      : arn:aws:appstream:us-east-1:1234567890:image/Test
ImageName                     : Test
```

```
InstanceType                    : stream.standard.medium
MaxUserDurationInSeconds        : 57600
Name                            : Test
State                           : STOPPED
VpcConfig                       : Amazon.AppStream.Model.VpcConfig
```

- For API details, see DescribeFleets in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSImageBuilderList`

The following code example shows how to use `Get-APSImageBuilderList`.

Tools for PowerShell

Example 1: This Sample displays details of an ImageBuilder

```
Get-APSImageBuilderList -Name TestImage
```

Output:

```
AccessEndpoints             : {}
AppstreamAgentVersion       : 06-19-2019
Arn                         : arn:aws:appstream:us-east-1:1234567890:image-builder/
TestImage
CreatedTime                 : 1/14/2019 4:33:05 AM
Description                 :
DisplayName                 : TestImage
DomainJoinInfo              :
EnableDefaultInternetAccess : False
IamRoleArn                  :
ImageArn                    : arn:aws:appstream:us-east-1::image/Base-Image-
Builder-05-02-2018
ImageBuilderErrors          : {}
InstanceType                : stream.standard.large
Name                        : TestImage
NetworkAccessConfiguration  : Amazon.AppStream.Model.NetworkAccessConfiguration
Platform                    : WINDOWS
State                       : STOPPED
StateChangeReason           :
VpcConfig                   : Amazon.AppStream.Model.VpcConfig
```

- For API details, see DescribeImageBuilders in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSImageList`

The following code example shows how to use `Get-APSImageList`.

Tools for PowerShell

Example 1: This sample displays private AppStream Images

```
Get-APSImageList -Type PRIVATE | select DisplayName, ImageBuilderName, Visibility,
 arn
```

Output:

```
DisplayName          ImageBuilderName      Visibility Arn
-----------          ----------------      ---------- ---
OfficeApps           OfficeApps            PRIVATE    arn:aws:appstream:us-
east-1:123456789012:image/OfficeApps
SessionScriptV2      SessionScriptTest     PRIVATE    arn:aws:appstream:us-
east-1:123456789012:image/SessionScriptV2
```

- For API details, see DescribeImages in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSImagePermission`

The following code example shows how to use `Get-APSImagePermission`.

Tools for PowerShell

Example 1: This sample displays Image permissions on a shared AppStream Image

```
Get-APSImagePermission -Name Powershell  | select SharedAccountId,
 @{n="AllowFleet";e={$_.ImagePermissions.AllowFleet}},
 @{n="AllowImageBuilder";e={$_.ImagePermissions.AllowImageBuilder}}
```

Output:

```
SharedAccountId AllowFleet AllowImageBuilder
--------------- ---------- -----------------
123456789012          True              True
```

- For API details, see DescribeImagePermissions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSSessionList`

The following code example shows how to use `Get-APSSessionList`.

Tools for PowerShell

Example 1: This sample displays list of sessions to a fleet

```
Get-APSSessionList -FleetName PowershellFleet -StackName PowershellStack
```

Output:

```
AuthenticationType         : API
ConnectionState            : CONNECTED
FleetName                  : PowershellFleet
Id                         : d8987c70-4394-4324-a396-2d485c26f2a2
MaxExpirationTime          : 12/27/2019 4:54:07 AM
NetworkAccessConfiguration : Amazon.AppStream.Model.NetworkAccessConfiguration
StackName                  : PowershellStack
StartTime                  : 12/26/2019 12:54:12 PM
State                      : ACTIVE
UserId                     : Test
```

- For API details, see DescribeSessions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSStackList`

The following code example shows how to use `Get-APSStackList`.

Tools for PowerShell

Example 1: This sample displays list of AppStream Stack

```
Get-APSStackList | Select DisplayName, Arn, CreatedTime
```

Output:

```
DisplayName                  Arn
                        CreatedTime
-----------                  ---
                        -----------
```

```
PowershellStack              arn:aws:appstream:us-east-1:123456789012:stack/
PowershellStack              4/24/2019 8:49:29 AM
SessionScriptTest            arn:aws:appstream:us-east-1:123456789012:stack/
SessionScriptTest            9/12/2019 3:23:12 PM
```

- For API details, see DescribeStacks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSTagsForResourceList`

The following code example shows how to use `Get-APSTagsForResourceList`.

Tools for PowerShell

Example 1: This sample displays tags on an AppStream resource

```
Get-APSTagsForResourceList -ResourceArn arn:aws:appstream:us-
east-1:123456789012:stack/SessionScriptTest
```

Output:

```
Key        Value
---        -----
StackState Test
```

- For API details, see ListTagsForResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSUsageReportSubscription`

The following code example shows how to use `Get-APSUsageReportSubscription`.

Tools for PowerShell

Example 1: This sample displays AppStreamUsageReport configuration details

```
Get-APSUsageReportSubscription
```

Output:

```
LastGeneratedReportDate S3BucketName                                  Schedule
 SubscriptionErrors
```

```
---------------------- ------------                                  --------
 ------------------
1/1/0001 12:00:00 AM    appstream-logs-us-east-1-123456789012-sik1hnxe DAILY    {}
```

- For API details, see DescribeUsageReportSubscriptions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSUser`

The following code example shows how to use `Get-APSUser`.

Tools for PowerShell

Example 1: This Sample displays list of users with enabled status

```
Get-APSUser -AuthenticationType USERPOOL | Select-Object UserName,
 AuthenticationType, Enabled
```

Output:

```
UserName                  AuthenticationType Enabled
--------                  ------------------ -------
foo1@contoso.com USERPOOL              True
foo2@contoso.com        USERPOOL              True
foo3@contoso.com    USERPOOL             True
foo4@contoso.com   USERPOOL             True
foo5@contoso.com         USERPOOL              True
```

- For API details, see DescribeUsers in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-APSUserStackAssociation`

The following code example shows how to use `Get-APSUserStackAssociation`.

Tools for PowerShell

Example 1: This sample displays list of users assigned to a stack

```
Get-APSUserStackAssociation -StackName PowershellStack
```

Output:

```
AuthenticationType SendEmailNotification StackName       UserName
------------------ --------------------- ---------       --------
USERPOOL           False                 PowershellStack TestUser1@lab.com
USERPOOL           False                 PowershellStack TestUser2@lab.com
```

- For API details, see DescribeUserStackAssociations in *AWS Tools for PowerShell Cmdlet Reference*.

`New-APSDirectoryConfig`

The following code example shows how to use `New-APSDirectoryConfig`.

Tools for PowerShell

Example 1: This sample creates a directory configuration in AppStream

```
New-APSDirectoryConfig -ServiceAccountCredentials_AccountName contoso\ServiceAccount
 -ServiceAccountCredentials_AccountPassword MyPass -DirectoryName contoso.com -
OrganizationalUnitDistinguishedName "OU=AppStream,OU=Contoso,DC=Contoso,DC=com"
```

Output:

```
CreatedTime            DirectoryName OrganizationalUnitDistinguishedNames
 ServiceAccountCredentials
-----------            ------------- ------------------------------------
 -------------------------
12/27/2019 11:00:30 AM contoso.com   {OU=AppStream,OU=Contoso,DC=Contoso,DC=com}
 Amazon.AppStream.Model.ServiceAccountCredentials
```

- For API details, see CreateDirectoryConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`New-APSFleet`

The following code example shows how to use `New-APSFleet`.

Tools for PowerShell

Example 1: This sample creates a new AppStream fleet

```
New-APSFleet -ComputeCapacity_DesiredInstance 1 -InstanceType stream.standard.medium
 -Name TestFleet -DisplayName TestFleet -FleetType ON_DEMAND -
```

```
EnableDefaultInternetAccess $True -VpcConfig_SubnetIds "subnet-123ce32","subnet-
a1234cfd" -VpcConfig_SecurityGroupIds sg-4d012a34 -ImageName SessionScriptTest -
Region us-west-2
```

Output:

```
Arn                           : arn:aws:appstream:us-west-2:123456789012:fleet/
TestFleet
ComputeCapacityStatus         : Amazon.AppStream.Model.ComputeCapacityStatus
CreatedTime                   : 12/27/2019 11:24:42 AM
Description                   :
DisconnectTimeoutInSeconds    : 900
DisplayName                   : TestFleet
DomainJoinInfo                :
EnableDefaultInternetAccess   : True
FleetErrors                   : {}
FleetType                     : ON_DEMAND
IamRoleArn                    :
IdleDisconnectTimeoutInSeconds : 0
ImageArn                      : arn:aws:appstream:us-west-2:123456789012:image/
SessionScriptTest
ImageName                     : SessionScriptTest
InstanceType                  : stream.standard.medium
MaxUserDurationInSeconds      : 57600
Name                          : TestFleet
State                         : STOPPED
VpcConfig                     : Amazon.AppStream.Model.VpcConfig
```

- For API details, see CreateFleet in *AWS Tools for PowerShell Cmdlet Reference*.

`New-APSImageBuilder`

The following code example shows how to use `New-APSImageBuilder`.

Tools for PowerShell

Example 1: This sample creates an Image Builder in AppStream

```
New-APSImageBuilder -InstanceType stream.standard.medium -Name TestIB -DisplayName
 TestIB -ImageName AppStream-WinServer2012R2-12-12-2019 -EnableDefaultInternetAccess
 $True -VpcConfig_SubnetId subnet-a1234cfd -VpcConfig_SecurityGroupIds sg-2d012a34 -
Region us-west-2
```

Output:

```
AccessEndpoints             : {}
AppstreamAgentVersion       : 12-16-2019
Arn                         : arn:aws:appstream:us-west-2:123456789012:image-
builder/TestIB
CreatedTime                 : 12/27/2019 11:39:24 AM
Description                 :
DisplayName                 : TestIB
DomainJoinInfo              :
EnableDefaultInternetAccess : True
IamRoleArn                  :
ImageArn                    : arn:aws:appstream:us-west-2::image/AppStream-
WinServer2012R2-12-12-2019
ImageBuilderErrors          : {}
InstanceType                : stream.standard.medium
Name                        : TestIB
NetworkAccessConfiguration  :
Platform                    : WINDOWS
State                       : PENDING
StateChangeReason           :
VpcConfig                   : Amazon.AppStream.Model.VpcConfig
```

- For API details, see CreateImageBuilder in *AWS Tools for PowerShell Cmdlet Reference*.

`New-APSImageBuilderStreamingURL`

The following code example shows how to use `New-APSImageBuilderStreamingURL`.

Tools for PowerShell

Example 1: This sample creates an ImageBuilder streaming URL with validity of 2 hours

```
New-APSImageBuilderStreamingURL -Name TestIB -Validity 7200 -Region us-west-2
```

Output:

```
Expires              StreamingURL
-------              ------------
12/27/2019 1:49:13 PM https://appstream2.us-west-2.aws.amazon.com/authenticate?
parameters=eyJ0eXBlIjoiQURNSU4iLCJleHBpcmVzIjoiMTU3NzQ1NDU1MyIsImF3c0FjY291bnRJZCI6IjM5MzQwM
```

- For API details, see CreateImageBuilderStreamingURL in *AWS Tools for PowerShell Cmdlet Reference*.

`New-APSStack`

The following code example shows how to use `New-APSStack`.

Tools for PowerShell

Example 1: This sample creates a new AppStream Stack

```
New-APSStack -Name TestStack -DisplayName TestStack -ApplicationSettings_Enabled
 $True -ApplicationSettings_SettingsGroup TestStack -Region us-west-2
```

Output:

```
AccessEndpoints     : {}
ApplicationSettings : Amazon.AppStream.Model.ApplicationSettingsResponse
Arn                 : arn:aws:appstream:us-west-2:123456789012:stack/TestStack
CreatedTime         : 12/27/2019 12:34:19 PM
Description         :
DisplayName         : TestStack
EmbedHostDomains    : {}
FeedbackURL         :
Name                : TestStack
RedirectURL         :
StackErrors         : {}
StorageConnectors   : {}
UserSettings        : {Amazon.AppStream.Model.UserSetting,
 Amazon.AppStream.Model.UserSetting, Amazon.AppStream.Model.UserSetting,
 Amazon.AppStream.Model.UserSetting}
```

- For API details, see CreateStack in *AWS Tools for PowerShell Cmdlet Reference*.

`New-APSStreamingURL`

The following code example shows how to use `New-APSStreamingURL`.

Tools for PowerShell

Example 1: This sample creates a streaming URL of Stack

```
New-APSStreamingURL -StackName SessionScriptTest -FleetName SessionScriptNew -UserId
 TestUser
```

Output:

```
Expires                StreamingURL
-------                ------------
12/27/2019 12:43:37 PM https://appstream2.us-east-1.aws.amazon.com/authenticate?
parameters=eyJ0eXBlIjoiRU5EX1VTRVIiLCJleHBpcmVzIjoiMTU3NzQ1MDYxNyIsImF3c0FjY291bnRJZCI6IjM5M
```

- For API details, see CreateStreamingURL in *AWS Tools for PowerShell Cmdlet Reference*.

`New-APSUsageReportSubscription`

The following code example shows how to use `New-APSUsageReportSubscription`.

Tools for PowerShell

Example 1: This sample enables AppStream Usage Reports

```
New-APSUsageReportSubscription
```

Output:

```
S3BucketName                                    Schedule
------------                                    --------
appstream-logs-us-east-1-123456789012-sik2hnxe DAILY
```

- For API details, see CreateUsageReportSubscription in *AWS Tools for PowerShell Cmdlet Reference*.

`New-APSUser`

The following code example shows how to use `New-APSUser`.

Tools for PowerShell

Example 1: This sample creates a user in USERPOOL

```
New-APSUser -UserName Test@lab.com -AuthenticationType USERPOOL -FirstName 'kt' -
LastName 'aws' -Select ^UserName
```

Output:

```
Test@lab.com
```

- For API details, see CreateUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-APSFleet`

The following code example shows how to use `Register-APSFleet`.

Tools for PowerShell

Example 1: This sample registers fleet with a stack

```
Register-APSFleet -StackName TestStack -FleetName TestFleet -Region us-west-2
```

- For API details, see AssociateFleet in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-APSUserStackBatch`

The following code example shows how to use `Register-APSUserStackBatch`.

Tools for PowerShell

Example 1: This sample assigns stack to a user in USERPOOL

```
Register-APSUserStackBatch -UserStackAssociation
 @{AuthenticationType="USERPOOL";SendEmailNotification=
$False;StackName="PowershellStack";UserName="TestUser1@lab.com"}
```

- For API details, see BatchAssociateUserStack in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSDirectoryConfig`

The following code example shows how to use `Remove-APSDirectoryConfig`.

Tools for PowerShell

Example 1: This sample removes AppStream Directory configuration

```
Remove-APSDirectoryConfig -DirectoryName contoso.com
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSDirectoryConfig (DeleteDirectoryConfig)" on
 target "contoso.com".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A
```

- For API details, see DeleteDirectoryConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSFleet`

The following code example shows how to use `Remove-APSFleet`.

Tools for PowerShell

Example 1: This sample removes deletes an AppStream fleet

```
Remove-APSFleet -Name TestFleet -Region us-west-2
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSFleet (DeleteFleet)" on target "TestFleet".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A
```

- For API details, see DeleteFleet in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSImage`

The following code example shows how to use `Remove-APSImage`.

Tools for PowerShell

Example 1: This sample deletes an Image

```
Remove-APSImage -Name TestImage -Region us-west-2
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSImage (DeleteImage)" on target "TestImage".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A

Applications                : {}
AppstreamAgentVersion       : LATEST
Arn                         : arn:aws:appstream:us-west-2:123456789012:image/
TestImage
BaseImageArn                :
CreatedTime                 : 12/27/2019 1:34:10 PM
Description                 :
DisplayName                 : TestImage
ImageBuilderName            :
ImageBuilderSupported       : True
ImagePermissions            :
Name                        : TestImage
Platform                    : WINDOWS
PublicBaseImageReleasedDate : 6/12/2018 12:00:00 AM
State                       : AVAILABLE
StateChangeReason           :
Visibility                  : PRIVATE
```

- For API details, see DeleteImage in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSImageBuilder`

The following code example shows how to use `Remove-APSImageBuilder`.

Tools for PowerShell

Example 1: This sample deletes an ImageBuilder

```
Remove-APSImageBuilder -Name TestIB -Region us-west-2
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSImageBuilder (DeleteImageBuilder)" on target
 "TestIB".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A

AccessEndpoints             : {}
AppstreamAgentVersion       : 12-16-2019
Arn                         : arn:aws:appstream:us-west-2:123456789012:image-
builder/TestIB
CreatedTime                 : 12/27/2019 11:39:24 AM
Description                 :
DisplayName                 : TestIB
DomainJoinInfo              :
EnableDefaultInternetAccess : True
IamRoleArn                  :
ImageArn                    : arn:aws:appstream:us-west-2::image/AppStream-
WinServer2012R2-12-12-2019
ImageBuilderErrors          : {}
InstanceType                : stream.standard.medium
Name                        : TestIB
NetworkAccessConfiguration  : Amazon.AppStream.Model.NetworkAccessConfiguration
Platform                    : WINDOWS
State                       : DELETING
StateChangeReason           :
VpcConfig                   : Amazon.AppStream.Model.VpcConfig
```

- For API details, see DeleteImageBuilder in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSImagePermission`

The following code example shows how to use `Remove-APSImagePermission`.

Tools for PowerShell

Example 1: This sample removes permissions of an Image

```
Remove-APSImagePermission -Name Powershell -SharedAccountId 123456789012
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSImagePermission (DeleteImagePermissions)" on
 target "Powershell".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A
```

- For API details, see DeleteImagePermissions in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSResourceTag`

The following code example shows how to use `Remove-APSResourceTag`.

Tools for PowerShell

Example 1: This sample removes a resource tag from AppStream resource

```
Remove-APSResourceTag -ResourceArn arn:aws:appstream:us-east-1:123456789012:stack/
SessionScriptTest -TagKey StackState
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSResourceTag (UntagResource)" on target
 "arn:aws:appstream:us-east-1:123456789012:stack/SessionScriptTest".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A
```

- For API details, see UntagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSStack`

The following code example shows how to use `Remove-APSStack`.

Tools for PowerShell

Example 1: This sample deletes a Stack

```
Remove-APSStack -Name TestStack -Region us-west-2
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSStack (DeleteStack)" on target "TestStack".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A
```

- For API details, see DeleteStack in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSUsageReportSubscription`

The following code example shows how to use `Remove-APSUsageReportSubscription`.

Tools for PowerShell

Example 1: This sample disables AppStream Usage Report subscription

```
Remove-APSUsageReportSubscription
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSUsageReportSubscription
 (DeleteUsageReportSubscription)" on target "".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A
```

- For API details, see DeleteUsageReportSubscription in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-APSUser`

The following code example shows how to use `Remove-APSUser`.

Tools for PowerShell

Example 1: This sample deletes a user from USERPOOL

```
Remove-APSUser -UserName TestUser@lab.com -AuthenticationType USERPOOL
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-APSUser (DeleteUser)" on target "TestUser@lab.com".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): A
```

- For API details, see DeleteUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Revoke-APSSession`

The following code example shows how to use `Revoke-APSSession`.

Tools for PowerShell

Example 1: This sample revokes a session to AppStream fleet

```
Revoke-APSSession -SessionId 6cd2f9a3-f948-4aa1-8014-8a7dcde14877
```

- For API details, see ExpireSession in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-APSFleet`

The following code example shows how to use `Start-APSFleet`.

Tools for PowerShell

Example 1: This sample starts a fleet

```
Start-APSFleet -Name PowershellFleet
```

- For API details, see StartFleet in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-APSImageBuilder`

The following code example shows how to use `Start-APSImageBuilder`.

Tools for PowerShell

Example 1: This sample starts an ImageBuilder

```
Start-APSImageBuilder -Name TestImage
```

Output:

```
AccessEndpoints             : {}
AppstreamAgentVersion       : 06-19-2019
Arn                         : arn:aws:appstream:us-east-1:123456789012:image-
builder/TestImage
CreatedTime                 : 1/14/2019 4:33:05 AM
Description                 :
DisplayName                 : TestImage
DomainJoinInfo              :
EnableDefaultInternetAccess : False
IamRoleArn                  :
ImageArn                    : arn:aws:appstream:us-east-1::image/Base-Image-
Builder-05-02-2018
ImageBuilderErrors          : {}
InstanceType                : stream.standard.large
Name                        : TestImage
NetworkAccessConfiguration  : Amazon.AppStream.Model.NetworkAccessConfiguration
Platform                    : WINDOWS
State                       : PENDING
StateChangeReason           :
VpcConfig                   : Amazon.AppStream.Model.VpcConfig
```

- For API details, see StartImageBuilder in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-APSFleet`

The following code example shows how to use `Stop-APSFleet`.

Tools for PowerShell

Example 1: This sample stops a fleet

```
Stop-APSFleet -Name PowershellFleet
```

- For API details, see StopFleet in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-APSImageBuilder`

The following code example shows how to use `Stop-APSImageBuilder`.

Tools for PowerShell

Example 1: This sample stops an ImageBuilder

```
Stop-APSImageBuilder -Name TestImage
```

Output:

```
AccessEndpoints             : {}
AppstreamAgentVersion       : 06-19-2019
Arn                         : arn:aws:appstream:us-east-1:123456789012:image-
builder/TestImage
CreatedTime                 : 1/14/2019 4:33:05 AM
Description                 :
DisplayName                 : TestImage
DomainJoinInfo              :
EnableDefaultInternetAccess : False
IamRoleArn                  :
ImageArn                    : arn:aws:appstream:us-east-1::image/Base-Image-
Builder-05-02-2018
ImageBuilderErrors          : {}
InstanceType                : stream.standard.large
Name                        : TestImage
NetworkAccessConfiguration  : Amazon.AppStream.Model.NetworkAccessConfiguration
Platform                    : WINDOWS
State                       : STOPPING
StateChangeReason           :
VpcConfig                   : Amazon.AppStream.Model.VpcConfig
```

- For API details, see StopImageBuilder in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-APSFleet`

The following code example shows how to use `Unregister-APSFleet`.

Tools for PowerShell

Example 1: This sample unregisters a fleet from stack

```
Unregister-APSFleet -StackName TestStack -FleetName TestFleet -Region us-west-2
```

- For API details, see DisassociateFleet in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-APSUserStackBatch`

The following code example shows how to use `Unregister-APSUserStackBatch`.

Tools for PowerShell

Example 1: This sample removes an user from an assigned Stack

```
Unregister-APSUserStackBatch -UserStackAssociation
 @{AuthenticationType="USERPOOL";SendEmailNotification=
$False;StackName="PowershellStack";UserName="TestUser1@lab.com"}
```

- For API details, see BatchDisassociateUserStack in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-APSDirectoryConfig`

The following code example shows how to use `Update-APSDirectoryConfig`.

Tools for PowerShell

Example 1: This sample updates the Directory configuration created in AppStream

```
Update-APSDirectoryConfig -ServiceAccountCredentials_AccountName contoso
\ServiceAccount -ServiceAccountCredentials_AccountPassword MyPass@1$@#
 -DirectoryName contoso.com -OrganizationalUnitDistinguishedName
 "OU=AppStreamNew,OU=Contoso,DC=Contoso,DC=com"
```

Output:

```
CreatedTime           DirectoryName OrganizationalUnitDistinguishedNames
 ServiceAccountCredentials
-----------           ------------- ------------------------------------
 -------------------------
12/27/2019 3:50:02 PM contoso.com   {OU=AppStreamNew,OU=Contoso,DC=Contoso,DC=com}
 Amazon.AppStream.Model.ServiceAccountCredentials
```

- For API details, see UpdateDirectoryConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-APSFleet`

The following code example shows how to use `Update-APSFleet`.

Tools for PowerShell

Example 1: This sample updates properties of a fleet

```
Update-APSFleet -Name PowershellFleet -EnableDefaultInternetAccess $True -
DisconnectTimeoutInSecond 950
```

Output:

```
Arn                           : arn:aws:appstream:us-east-1:123456789012:fleet/
PowershellFleet
ComputeCapacityStatus         : Amazon.AppStream.Model.ComputeCapacityStatus
CreatedTime                   : 4/24/2019 8:39:41 AM
Description                   : PowershellFleet
DisconnectTimeoutInSeconds    : 950
DisplayName                   : PowershellFleet
DomainJoinInfo                :
EnableDefaultInternetAccess   : True
FleetErrors                   : {}
FleetType                     : ON_DEMAND
IamRoleArn                    :
IdleDisconnectTimeoutInSeconds : 900
ImageArn                      : arn:aws:appstream:us-east-1:123456789012:image/
Powershell
ImageName                     : Powershell
InstanceType                  : stream.standard.medium
MaxUserDurationInSeconds      : 57600
Name                          : PowershellFleet
```

```
State                          : STOPPED
VpcConfig                      : Amazon.AppStream.Model.VpcConfig
```

- For API details, see UpdateFleet in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-APSImagePermission`

The following code example shows how to use `Update-APSImagePermission`.

Tools for PowerShell

Example 1: This sample shares an AppStream Image with other account

```
Update-APSImagePermission -Name Powershell -SharedAccountId 123456789012 -
ImagePermissions_AllowFleet $True -ImagePermissions_AllowImageBuilder $True
```

- For API details, see UpdateImagePermissions in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-APSStack`

The following code example shows how to use `Update-APSStack`.

Tools for PowerShell

Example 1: This sample updates(enables) Application settings persistence and Home Folders on a Stack

```
Update-APSStack -Name PowershellStack -ApplicationSettings_Enabled $True
 -ApplicationSettings_SettingsGroup PowershellStack -StorageConnector
 @{ConnectorType="HOMEFOLDERS"}
```

Output:

```
AccessEndpoints     : {}
ApplicationSettings : Amazon.AppStream.Model.ApplicationSettingsResponse
Arn                 : arn:aws:appstream:us-east-1:123456789012:stack/PowershellStack
CreatedTime         : 4/24/2019 8:49:29 AM
Description         : PowershellStack
DisplayName         : PowershellStack
EmbedHostDomains    : {}
```

```
FeedbackURL         :
Name                : PowershellStack
RedirectURL         :
StackErrors         : {}
StorageConnectors   : {Amazon.AppStream.Model.StorageConnector,
 Amazon.AppStream.Model.StorageConnector}
UserSettings        : {Amazon.AppStream.Model.UserSetting,
 Amazon.AppStream.Model.UserSetting, Amazon.AppStream.Model.UserSetting,
 Amazon.AppStream.Model.UserSetting}
```

- For API details, see UpdateStack in *AWS Tools for PowerShell Cmdlet Reference*.

Aurora examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell with Aurora.

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-RDSOrderableDBInstanceOption`

The following code example shows how to use `Get-RDSOrderableDBInstanceOption`.

Tools for PowerShell

Example 1: This example lists the DB engine versions that support a specific DB instance class in an AWS Region.

```
$params = @{
  Engine = 'aurora-postgresql'
  DBInstanceClass = 'db.r5.large'
  Region = 'us-east-1'
}
Get-RDSOrderableDBInstanceOption @params
```

Example 2: This example lists the DB instance classes that are supported for a specific DB engine version in an AWS Region.

```
$params = @{
  Engine = 'aurora-postgresql'
  EngineVersion = '13.6'
  Region = 'us-east-1'
}
Get-RDSOrderableDBInstanceOption @params
```

- For API details, see DescribeOrderableDBInstanceOptions in *AWS Tools for PowerShell Cmdlet Reference*.

Auto Scaling examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-ASLoadBalancer`

The following code example shows how to use `Add-ASLoadBalancer`.

Tools for PowerShell

Example 1: This example attaches the specified load balancer to the specified Auto Scaling group.

```
Add-ASLoadBalancer -LoadBalancerName my-lb -AutoScalingGroupName my-asg
```

- For API details, see AttachLoadBalancers in *AWS Tools for PowerShell Cmdlet Reference*.

`Complete-ASLifecycleAction`

The following code example shows how to use `Complete-ASLifecycleAction`.

Tools for PowerShell

Example 1: This example completes the specified lifecycle action.

```
Complete-ASLifecycleAction -LifecycleHookName myLifecycleHook -
AutoScalingGroupName my-asg -LifecycleActionResult CONTINUE -LifecycleActionToken
 bcd2f1b8-9a78-44d3-8a7a-4dd07d7cf635
```

- For API details, see CompleteLifecycleAction in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-ASMetricsCollection`

The following code example shows how to use `Disable-ASMetricsCollection`.

Tools for PowerShell

Example 1: This example disables monitoring of the specified metrics for the specified Auto Scaling group.

```
Disable-ASMetricsCollection -AutoScalingGroupName my-asg -Metric @("GroupMinSize",
 "GroupMaxSize")
```

Example 2: This example disables monitoring of all metrics for the specified Auto Scaling group.

```
Disable-ASMetricsCollection -AutoScalingGroupName my-asg
```

- For API details, see DisableMetricsCollection in *AWS Tools for PowerShell Cmdlet Reference*.

`Dismount-ASInstance`

The following code example shows how to use `Dismount-ASInstance`.

Tools for PowerShell

Example 1: This example detaches the specified instance from the specified Auto Scaling group and decreases the desired capacity so that Auto Scaling does not launch a replacement instance.

```
Dismount-ASInstance -InstanceId i-93633f9b -AutoScalingGroupName my-asg -
ShouldDecrementDesiredCapacity $true
```

Output:

```
ActivityId           : 06733445-ce94-4039-be1b-b9f1866e276e
AutoScalingGroupName : my-asg
Cause                : At 2015-11-20T22:34:59Z instance i-93633f9b was detached in
 response to a user request, shrinking
                       the capacity from 2 to 1.
Description          : Detaching EC2 instance: i-93633f9b
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              :
Progress             : 50
StartTime            : 11/20/2015 2:34:59 PM
StatusCode           : InProgress
StatusMessage        :
```

Example 2: This example detaches the specified instance from the specified Auto Scaling group without decreasing the desired capacity. Auto Scaling launches a replacement instance.

```
Dismount-ASInstance -InstanceId i-7bf746a2 -AutoScalingGroupName my-asg -
ShouldDecrementDesiredCapacity $false
```

Output:

```
ActivityId           : f43a3cd4-d38c-4af7-9fe0-d76ec2307b6d
AutoScalingGroupName : my-asg
Cause                : At 2015-11-20T22:34:59Z instance i-7bf746a2 was detached in
 response to a user request.
Description          : Detaching EC2 instance: i-7bf746a2
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              :
Progress             : 50
StartTime            : 11/20/2015 2:34:59 PM
StatusCode           : InProgress
StatusMessage        :
```

- For API details, see DetachInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Dismount-ASLoadBalancer`

The following code example shows how to use `Dismount-ASLoadBalancer`.

Tools for PowerShell

Example 1: This example detaches the specified load balancer from the specified Auto Scaling group.

```
Dismount-ASLoadBalancer -LoadBalancerName my-lb -AutoScalingGroupName my-asg
```

- For API details, see DetachLoadBalancers in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-ASMetricsCollection`

The following code example shows how to use `Enable-ASMetricsCollection`.

Tools for PowerShell

Example 1: This example enables monitoring of the specified metrics for the specified Auto Scaling group.

```
Enable-ASMetricsCollection  -Metric @("GroupMinSize", "GroupMaxSize") -
AutoScalingGroupName my-asg -Granularity 1Minute
```

Example 2: This example enables monitoring of all metrics for the specified Auto Scaling group.

```
Enable-ASMetricsCollection -AutoScalingGroupName my-asg -Granularity 1Minute
```

- For API details, see EnableMetricsCollection in *AWS Tools for PowerShell Cmdlet Reference*.

`Enter-ASStandby`

The following code example shows how to use `Enter-ASStandby`.

Tools for PowerShell

Example 1: This example puts the specified instance into standby mode and decreases the desired capacity so that Auto Scaling does not launch a replacement instance.

```
Enter-ASStandby -InstanceId i-93633f9b -AutoScalingGroupName my-asg -
ShouldDecrementDesiredCapacity $true
```

Output:

```
ActivityId           : e36a5a54-ced6-4df8-bd19-708e2a59a649
AutoScalingGroupName : my-asg
Cause                : At 2015-11-22T15:48:06Z instance i-95b8484f was moved to
 standby in response to a user request,
                       shrinking the capacity from 2 to 1.
Description          : Moving EC2 instance to Standby: i-95b8484f
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              :
Progress             : 50
StartTime            : 11/22/2015 7:48:06 AM
StatusCode           : InProgress
StatusMessage        :
```

Example 2: This example puts the specified instance into standby mode without decreasing the desired capacity. Auto Scaling launches a replacement instance.

```
Enter-ASStandby -InstanceId i-93633f9b -AutoScalingGroupName my-asg -
ShouldDecrementDesiredCapacity $false
```

Output:

```
ActivityId           : e36a5a54-ced6-4df8-bd19-708e2a59a649
AutoScalingGroupName : my-asg
Cause                : At 2015-11-22T15:48:06Z instance i-95b8484f was moved to
 standby in response to a user request.
Description          : Moving EC2 instance to Standby: i-95b8484f
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              :
Progress             : 50
StartTime            : 11/22/2015 7:48:06 AM
StatusCode           : InProgress
StatusMessage        :
```

- For API details, see EnterStandby in *AWS Tools for PowerShell Cmdlet Reference*.

`Exit-ASStandby`

The following code example shows how to use `Exit-ASStandby`.

Tools for PowerShell

Example 1: This example moves the specified instance out of standby mode.

```
Exit-ASStandby -InstanceId i-93633f9b -AutoScalingGroupName my-asg
```

Output:

```
ActivityId           : 1833d3e8-e32f-454e-b731-0670ad4c6934
AutoScalingGroupName : my-asg
Cause                : At 2015-11-22T15:51:21Z instance i-95b8484f was moved out of
 standby in response to a user
                       request, increasing the capacity from 1 to 2.
Description          : Moving EC2 instance out of Standby: i-95b8484f
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              :
```

```
Progress              : 30
StartTime             : 11/22/2015 7:51:21 AM
StatusCode            : PreInService
StatusMessage         :
```

- For API details, see ExitStandby in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASAccountLimit`

The following code example shows how to use `Get-ASAccountLimit`.

Tools for PowerShell

Example 1: This example describes the Auto Scaling resource limits for your AWS account.

```
Get-ASAccountLimit
```

Output:

```
MaxNumberOfAutoScalingGroups    : 20
MaxNumberOfLaunchConfigurations : 100
```

- For API details, see DescribeAccountLimits in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASAdjustmentType`

The following code example shows how to use `Get-ASAdjustmentType`.

Tools for PowerShell

Example 1: This example describes the adjustment types that are supported by Auto Scaling.

```
Get-ASAdjustmentType
```

Output:

```
Type
----
ChangeInCapacity
```

```
ExactCapacity
PercentChangeInCapacity
```

- For API details, see DescribeAdjustmentTypes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASAutoScalingGroup`

The following code example shows how to use `Get-ASAutoScalingGroup`.

Tools for PowerShell

Example 1: This example lists the names of your Auto Scaling groups.

```
Get-ASAutoScalingGroup | format-table -property AutoScalingGroupName
```

Output:

```
AutoScalingGroupName
--------------------
my-asg-1
my-asg-2
my-asg-3
my-asg-4
my-asg-5
my-asg-6
```

Example 2: This example describes the specified Auto Scaling group.

```
Get-ASAutoScalingGroup -AutoScalingGroupName my-asg-1
```

Output:

```
AutoScalingGroupARN     : arn:aws:autoscaling:us-
west-2:123456789012:autoScalingGroup:930d940e-891e-4781-a11a-7b0acd480
                          f03:autoScalingGroupName/my-asg-1
AutoScalingGroupName    : my-asg-1
AvailabilityZones       : {us-west-2b, us-west-2a}
CreatedTime             : 3/1/2015 9:05:31 AM
DefaultCooldown         : 300
DesiredCapacity         : 2
```

```
EnabledMetrics          : {}
HealthCheckGracePeriod  : 300
HealthCheckType         : EC2
Instances               : {my-lc}
LaunchConfigurationName : my-lc
LoadBalancerNames       : {}
MaxSize                 : 0
MinSize                 : 0
PlacementGroup          :
Status                  :
SuspendedProcesses      : {}
Tags                    : {}
TerminationPolicies     : {Default}
VPCZoneIdentifier       : subnet-e4f33493,subnet-5264e837
```

Example 3: This example describes the specified two Auto Scaling groups.

```
Get-ASAutoScalingGroup -AutoScalingGroupName @("my-asg-1", "my-asg-2")
```

Example 4: This example describes the Auto Scaling instances for the specified Auto Scaling group.

```
(Get-ASAutoScalingGroup -AutoScalingGroupName my-asg-1).Instances
```

Example 5: This example describes all your Auto Scaling groups.

```
Get-ASAutoScalingGroup
```

Example 6: This example describes all your Auto Scaling groups, in batches of 10.

```
$nextToken = $null
do {
  Get-ASAutoScalingGroup -NextToken $nextToken -MaxRecord 10
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

Example 7: This example describes LaunchTemplate for the specified Auto Scaling group. This example assumes that the "Instance purchase options" is set to "Adhere to launch template". In case this option is set to "Combine purchase options and instance types", LaunchTemplate could be accessed using "MixedInstancesPolicy.LaunchTemplate" property.

```
(Get-ASAutoScalingGroup -AutoScalingGroupName my-ag-1).LaunchTemplate
```

Output:

```
LaunchTemplateId     LaunchTemplateName   Version
----------------     ------------------   -------
lt-06095fd619cb40371 test-launch-template $Default
```

- For API details, see DescribeAutoScalingGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASAutoScalingInstance`

The following code example shows how to use `Get-ASAutoScalingInstance`.

Tools for PowerShell

Example 1: This example lists the IDs of your Auto Scaling instances.

```
Get-ASAutoScalingInstance | format-table -property InstanceId
```

Output:

```
InstanceId
----------
i-12345678
i-87654321
i-abcd1234
```

Example 2: This example describes the specified Auto Scaling instance.

```
Get-ASAutoScalingInstance -InstanceId i-12345678
```

Output:

```
AutoScalingGroupName    : my-asg
AvailabilityZone        : us-west-2b
HealthStatus            : HEALTHY
InstanceId              : i-12345678
LaunchConfigurationName : my-lc
```

```
LifecycleState          : InService
```

Example 3: This example describes the specified two Auto Scaling instances.

```
Get-ASAutoScalingInstance -InstanceId @("i-12345678", "i-87654321")
```

Example 4: This example describes the Auto Scaling instances for the specified Auto Scaling group.

```
(Get-ASAutoScalingGroup -AutoScalingGroupName my-asg).Instances | Get-
ASAutoScalingInstance
```

Example 5: This example describes all your Auto Scaling instances.

```
Get-ASAutoScalingInstance
```

Example 6: This example describes all your Auto Scaling instances, in batches of 10.

```
$nextToken = $null
do {
  Get-ASAutoScalingInstance -NextToken $nextToken -MaxRecord 10
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see DescribeAutoScalingInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASAutoScalingNotificationType`

The following code example shows how to use `Get-ASAutoScalingNotificationType`.

Tools for PowerShell

Example 1: This example lists the notification types that are supported by Auto Scaling.

```
Get-ASAutoScalingNotificationType
```

Output:

```
autoscaling:EC2_INSTANCE_LAUNCH
autoscaling:EC2_INSTANCE_LAUNCH_ERROR
autoscaling:EC2_INSTANCE_TERMINATE
autoscaling:EC2_INSTANCE_TERMINATE_ERROR
autoscaling:TEST_NOTIFICATION
```

- For API details, see DescribeAutoScalingNotificationTypes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASLaunchConfiguration`

The following code example shows how to use `Get-ASLaunchConfiguration`.

Tools for PowerShell

Example 1: This example lists the names of your launch configurations.

```
Get-ASLaunchConfiguration | format-table -property LaunchConfigurationName
```

Output:

```
LaunchConfigurationName
-----------------------
my-lc-1
my-lc-2
my-lc-3
my-lc-4
my-lc-5
```

Example 2: This example describes the specified launch configuration.

```
Get-ASLaunchConfiguration -LaunchConfigurationName my-lc-1
```

Output:

```
AssociatePublicIpAddress     : True
BlockDeviceMappings          : {/dev/xvda}
ClassicLinkVPCId             :
ClassicLinkVPCSecurityGroups : {}
```

```
CreatedTime                 : 12/12/2014 3:22:08 PM
EbsOptimized                : False
IamInstanceProfile          :
ImageId                     : ami-043a5034
InstanceMonitoring          : Amazon.AutoScaling.Model.InstanceMonitoring
InstanceType                : t2.micro
KernelId                    :
KeyName                     :
LaunchConfigurationARN      : arn:aws:autoscaling:us-
west-2:123456789012:launchConfiguration:7e5f31e4-693b-4604-9322-
                              e6f68d7fafad:launchConfigurationName/my-lc-1
LaunchConfigurationName     : my-lc-1
PlacementTenancy            :
RamdiskId                   :
SecurityGroups              : {sg-67ef0308}
SpotPrice                   :
UserData                    :
```

Example 3: This example describes the specified two launch configurations.

```
Get-ASLaunchConfiguration -LaunchConfigurationName @("my-lc-1", "my-lc-2")
```

Example 4: This example describes all your launch configurations.

```
Get-ASLaunchConfiguration
```

Example 5: This example describes all your launch configurations, in batches of 10.

```
$nextToken = $null
do {
  Get-ASLaunchConfiguration -NextToken $nextToken -MaxRecord 10
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see DescribeLaunchConfigurations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASLifecycleHook`

The following code example shows how to use `Get-ASLifecycleHook`.

Tools for PowerShell

Example 1: This example describes the specified lifecycle hook.

```
Get-ASLifecycleHook -AutoScalingGroupName my-asg -LifecycleHookName myLifecycleHook
```

Output:

```
AutoScalingGroupName  : my-asg
DefaultResult         : ABANDON
GlobalTimeout         : 172800
HeartbeatTimeout      : 3600
LifecycleHookName     : myLifecycleHook
LifecycleTransition   : auto-scaling:EC2_INSTANCE_LAUNCHING
NotificationMetadata  :
NotificationTargetARN : arn:aws:sns:us-west-2:123456789012:my-topic
RoleARN               : arn:aws:iam::123456789012:role/my-iam-role
```

Example 2: This example describes all lifecycle hooks for the specified Auto Scaling group.

```
Get-ASLifecycleHook -AutoScalingGroupName my-asg
```

Example 3: This example describes all lifecycle hooks for all your Auto Scaling groups.

```
Get-ASLifecycleHook
```

- For API details, see DescribeLifecycleHooks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASLifecycleHookType`

The following code example shows how to use `Get-ASLifecycleHookType`.

Tools for PowerShell

Example 1: This example lists the lifecycle hook types supported by Auto Scaling.

```
Get-ASLifecycleHookType
```

Output:

```
autoscaling:EC2_INSTANCE_LAUNCHING
auto-scaling:EC2_INSTANCE_TERMINATING
```

- For API details, see DescribeLifecycleHookTypes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASLoadBalancer`

The following code example shows how to use `Get-ASLoadBalancer`.

Tools for PowerShell

Example 1: This example describes the load balancers for the specified Auto Scaling group.

```
Get-ASLoadBalancer -AutoScalingGroupName my-asg
```

Output:

```
LoadBalancerName    State
----------------    -----
my-lb               Added
```

- For API details, see DescribeLoadBalancers in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASMetricCollectionType`

The following code example shows how to use `Get-ASMetricCollectionType`.

Tools for PowerShell

Example 1: This example lists the metric collection types that are supported by Auto Scaling.

```
(Get-ASMetricCollectionType).Metrics
```

Output:

```
Metric
------
GroupMinSize
```

```
GroupMaxSize
GroupDesiredCapacity
GroupInServiceInstances
GroupPendingInstances
GroupTerminatingInstances
GroupStandbyInstances
GroupTotalInstances
```

Example 2: This example lists the corresponding granularities.

```
(Get-ASMetricCollectionType).Granularities
```

Output:

```
Granularity
-----------
1Minute
```

- For API details, see DescribeMetricCollectionTypes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASNotificationConfiguration`

The following code example shows how to use `Get-ASNotificationConfiguration`.

Tools for PowerShell

Example 1: This example describes the notification actions associated with the specified Auto Scaling group.

```
Get-ASNotificationConfiguration -AutoScalingGroupName my-asg | format-list
```

Output:

```
AutoScalingGroupName : my-asg
NotificationType     : auto-scaling:EC2_INSTANCE_LAUNCH
TopicARN             : arn:aws:sns:us-west-2:123456789012:my-topic

AutoScalingGroupName : my-asg
NotificationType     : auto-scaling:EC2_INSTANCE_TERMINATE
```

```
TopicARN             : arn:aws:sns:us-west-2:123456789012:my-topic
```

Example 2: This example describes the notification actions associated with all your Auto Scaling groups.

```
Get-ASNotificationConfiguration
```

- For API details, see DescribeNotificationConfigurations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASPolicy`

The following code example shows how to use `Get-ASPolicy`.

Tools for PowerShell

Example 1: This example describes all policies for the specified Auto Scaling group.

```
Get-ASPolicy -AutoScalingGroupName my-asg
```

Output:

```
AdjustmentType          : ChangeInCapacity
Alarms                  : {}
AutoScalingGroupName    : my-asg
Cooldown                : 0
EstimatedInstanceWarmup : 0
MetricAggregationType   :
MinAdjustmentMagnitude  : 0
MinAdjustmentStep       : 0
PolicyARN               : arn:aws:auto-scaling:us-
west-2:123456789012:scalingPolicy:aa3836ab-5462-42c7-adab-e1d769fc24ef
                          :autoScalingGroupName/my-asg:policyName/myScaleInPolicy
PolicyName              : myScaleInPolicy
PolicyType              : SimpleScaling
ScalingAdjustment       : -1
StepAdjustments         : {}
```

Example 2: This example describes the specified policies for the specified Auto Scaling group.

```
Get-ASPolicy -AutoScalingGroupName my-asg -PolicyName @("myScaleOutPolicy",
 "myScaleInPolicy")
```

Example 3: This example describes all policies for all your Auto Scaling groups.

```
Get-ASPolicy
```

- For API details, see DescribePolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASScalingActivity`

The following code example shows how to use `Get-ASScalingActivity`.

Tools for PowerShell

Example 1: This example describes the scaling activities for the last six weeks for the specified Auto Scaling group.

```
Get-ASScalingActivity -AutoScalingGroupName my-asg
```

Output:

```
ActivityId           : 063308ae-aa22-4a9b-94f4-9fae4EXAMPLE
AutoScalingGroupName : my-asg
Cause                : At 2015-11-22T15:45:16Z a user request explicitly set group
 desired capacity changing the desired
                       capacity from 1 to 2.  At 2015-11-22T15:45:34Z an instance
 was started in response to a difference
                       between desired and actual capacity, increasing the capacity
 from 1 to 2.
Description          : Launching a new EC2 instance: i-26e715fc
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              : 11/22/2015 7:46:09 AM
Progress             : 100
StartTime            : 11/22/2015 7:45:35 AM
StatusCode           : Successful
StatusMessage        :

ActivityId           : ce719997-086d-4c73-a2f1-ab703EXAMPLE
```

```
AutoScalingGroupName : my-asg
Cause                : At 2015-11-20T22:57:53Z a user request created an
 AutoScalingGroup changing the desired capacity
                        from 0 to 1.  At 2015-11-20T22:57:58Z an instance was
 started in response to a difference betwe
                       en desired and actual capacity, increasing the capacity from
 0 to 1.
Description          : Launching a new EC2 instance: i-93633f9b
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              : 11/20/2015 2:58:32 PM
Progress             : 100
StartTime            : 11/20/2015 2:57:59 PM
StatusCode           : Successful
StatusMessage        :
```

Example 2: This example describes the specified scaling activity.

```
Get-ASScalingActivity -ActivityId "063308ae-aa22-4a9b-94f4-9fae4EXAMPLE"
```

Example 3: This example describes the scaling activities for the last six weeks for all your Auto Scaling groups.

```
Get-ASScalingActivity
```

- For API details, see DescribeScalingActivities in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASScalingProcessType`

The following code example shows how to use `Get-ASScalingProcessType`.

Tools for PowerShell

Example 1: This example lists the process types that are supported by Auto Scaling.

```
Get-ASScalingProcessType
```

Output:

```
ProcessName
```

```
-----------
AZRebalance
AddToLoadBalancer
AlarmNotification
HealthCheck
Launch
ReplaceUnhealthy
ScheduledActions
Terminate
```

- For API details, see DescribeScalingProcessTypes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASScheduledAction`

The following code example shows how to use `Get-ASScheduledAction`.

Tools for PowerShell

Example 1: This example describes the scheduled scaling actions for the specified Auto Scaling group.

```
Get-ASScheduledAction -AutoScalingGroupName my-asg
```

Output:

```
AutoScalingGroupName : my-asg
DesiredCapacity      : 10
EndTime              :
MaxSize              :
MinSize              :
Recurrence           :
ScheduledActionARN   : arn:aws:autoscaling:us-
west-2:123456789012:scheduledUpdateGroupAction:8a4c5f24-6ec6-4306-a2dd-f7
                       2c3af3a4d6:autoScalingGroupName/my-asg:scheduledActionName/
myScheduledAction
ScheduledActionName  : myScheduledAction
StartTime            : 11/30/2015 8:00:00 AM
Time                 : 11/30/2015 8:00:00 AM
```

Example 2: This example describes the specified scheduled scaling actions.

```
Get-ASScheduledAction -ScheduledActionName @("myScheduledScaleOut",
 "myScheduledScaleIn")
```

Example 3: This example describes the scheduled scaling actions that start by the specified time.

```
Get-ASScheduledAction -StartTime "2015-12-01T08:00:00Z"
```

Example 4: This example describes the scheduled scaling actions that end by the specified time.

```
Get-ASScheduledAction -EndTime "2015-12-30T08:00:00Z"
```

Example 5: This example describes the scheduled scaling actions for all your Auto Scaling groups.

```
Get-ASScheduledAction
```

- For API details, see DescribeScheduledActions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASTag`

The following code example shows how to use `Get-ASTag`.

Tools for PowerShell

Example 1: This example describes the tags with a key value of either 'myTag' or 'myTag2'. The possible values for the filter name are 'auto-scaling-group', 'key', 'value', and 'propagate-at-launch'. The syntax used by this example requires PowerShell version 3 or later.

```
Get-ASTag -Filter @( @{ Name="key"; Values=@("myTag", "myTag2") } )
```

Output:

```
Key               : myTag2
PropagateAtLaunch : True
```

```
ResourceId        : my-asg
ResourceType      : auto-scaling-group
Value             : myTagValue2

Key               : myTag
PropagateAtLaunch : True
ResourceId        : my-asg
ResourceType      : auto-scaling-group
Value             : myTagValue
```

Example 2: With PowerShell version 2, you must use New-Object to create the filter for the Filter parameter.

```
$keys = New-Object string[] 2
$keys[0] = "myTag"
$keys[1] = "myTag2"
$filter = New-Object Amazon.AutoScaling.Model.Filter
$filter.Name = "key"
$filter.Values = $keys
Get-ASTag -Filter @( $filter )
```

Example 3: This example describes all tags for all your Auto Scaling groups.

```
Get-ASTag
```

- For API details, see DescribeTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASTerminationPolicyType`

The following code example shows how to use `Get-ASTerminationPolicyType`.

Tools for PowerShell

Example 1: This example lists the termination policies that are supported by Auto Scaling.

```
Get-ASTerminationPolicyType
```

Output:

```
ClosestToNextInstanceHour
```

```
Default
NewestInstance
OldestInstance
OldestLaunchConfiguration
```

- For API details, see DescribeTerminationPolicyTypes in *AWS Tools for PowerShell Cmdlet Reference*.

`Mount-ASInstance`

The following code example shows how to use `Mount-ASInstance`.

Tools for PowerShell

Example 1: This example attaches the specified instance to the specified Auto Scaling group. Auto Scaling automatically increases the desired capacity of the Auto Scaling group.

```
Mount-ASInstance -InstanceId i-93633f9b -AutoScalingGroupName my-asg
```

- For API details, see AttachInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ASAutoScalingGroup`

The following code example shows how to use `New-ASAutoScalingGroup`.

Tools for PowerShell

Example 1: This example creates an Auto Scaling group with the specified name and attributes. The default desired capacity is the minimum size. Therefore, this Auto Scaling group launches two instances, one in each of the specified two Availability Zones.

```
New-ASAutoScalingGroup -AutoScalingGroupName my-asg -LaunchConfigurationName my-lc -
MinSize 2 -MaxSize 6 -AvailabilityZone @("us-west-2a", "us-west-2b")
```

- For API details, see CreateAutoScalingGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ASLaunchConfiguration`

The following code example shows how to use `New-ASLaunchConfiguration`.

Tools for PowerShell

Example 1: This example creates a launch configuration named 'my-lc'. The EC2 instances launched by Auto Scaling groups that use this launch configuration use specified instance type, AMI, security group, and IAM role.

```
New-ASLaunchConfiguration -LaunchConfigurationName my-lc -InstanceType "m3.medium" -
ImageId "ami-12345678" -SecurityGroup "sg-12345678" -IamInstanceProfile "myIamRole"
```

- For API details, see CreateLaunchConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ASAutoScalingGroup`

The following code example shows how to use `Remove-ASAutoScalingGroup`.

Tools for PowerShell

Example 1: This example deletes the specified Auto Scaling group if it has no running instances. You are prompted for confirmation before the operation proceeds.

```
Remove-ASAutoScalingGroup -AutoScalingGroupName my-asg
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ASAutoScalingGroup (DeleteAutoScalingGroup)" on Target
 "my-asg".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: If you specify the Force parameter, you are not prompted for confirmation before the operation proceeds.

```
Remove-ASAutoScalingGroup -AutoScalingGroupName my-asg -Force
```

Example 3: This example deletes the specified Auto Scaling group and terminates any running instances that it contains.

```
Remove-ASAutoScalingGroup -AutoScalingGroupName my-asg -ForceDelete $true -Force
```

- For API details, see DeleteAutoScalingGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ASLaunchConfiguration`

The following code example shows how to use `Remove-ASLaunchConfiguration`.

Tools for PowerShell

Example 1: This example deletes the specified launch configuration if it is not attached to an Auto Scaling group. You are prompted for confirmation before the operation proceeds.

```
Remove-ASLaunchConfiguration -LaunchConfigurationName my-lc
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ASLaunchConfiguration (DeleteLaunchConfiguration)" on
 Target "my-lc".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: If you specify the Force parameter, you are not prompted for confirmation before the operation proceeds.

```
Remove-ASLaunchConfiguration -LaunchConfigurationName my-lc -Force
```

- For API details, see DeleteLaunchConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ASLifecycleHook`

The following code example shows how to use `Remove-ASLifecycleHook`.

Tools for PowerShell

Example 1: This example deletes the specified lifecycle hook for the specified Auto Scaling group. You are prompted for confirmation before the operation proceeds.

```
Remove-ASLifecycleHook -AutoScalingGroupName my-asg -LifecycleHookName
 myLifecycleHook
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ASLifecycleHook (DeleteLifecycleHook)" on Target
 "myLifecycleHook".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: If you specify the Force parameter, you are not prompted for confirmation before the operation proceeds.

```
Remove-ASLifecycleHook -AutoScalingGroupName my-asg -LifecycleHookName
 myLifecycleHook -Force
```

- For API details, see DeleteLifecycleHook in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ASNotificationConfiguration`

The following code example shows how to use `Remove-ASNotificationConfiguration`.

Tools for PowerShell

Example 1: This example deletes the specified notification action. You are prompted for confirmation before the operation proceeds.

```
Remove-ASNotificationConfiguration -AutoScalingGroupName my-asg -TopicARN
 "arn:aws:sns:us-west-2:123456789012:my-topic"
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ASNotificationConfiguration
 (DeleteNotificationConfiguration)" on Target
"arn:aws:sns:us-west-2:123456789012:my-topic".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: If you specify the Force parameter, you are not prompted for confirmation before the operation proceeds.

```
Remove-ASNotificationConfiguration -AutoScalingGroupName my-asg -TopicARN
 "arn:aws:sns:us-west-2:123456789012:my-topic" -Force
```

- For API details, see DeleteNotificationConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ASPolicy`

The following code example shows how to use `Remove-ASPolicy`.

Tools for PowerShell

Example 1: This example deletes the specified policy for the specified Auto Scaling group. You are prompted for confirmation before the operation proceeds.

```
Remove-ASPolicy -AutoScalingGroupName my-asg -PolicyName myScaleInPolicy
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ASPolicy (DeletePolicy)" on Target "myScaleInPolicy".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: If you specify the Force parameter, you are not prompted for confirmation before the operation proceeds.

```
Remove-ASPolicy -AutoScalingGroupName my-asg -PolicyName myScaleInPolicy -Force
```

- For API details, see DeletePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ASScheduledAction`

The following code example shows how to use `Remove-ASScheduledAction`.

Tools for PowerShell

Example 1: This example deletes the specified scheduled action for the specified Auto Scaling group. You are prompted for confirmation before the operation proceeds.

```
Remove-ASScheduledAction -AutoScalingGroupName my-asg -ScheduledAction
 "myScheduledAction"
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ASScheduledAction (DeleteScheduledAction)" on Target
 "myScheduledAction".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: If you specify the Force parameter, you are not prompted for confirmation before the operation proceeds.

```
Remove-ASScheduledAction -AutoScalingGroupName my-asg -ScheduledAction
 "myScheduledAction" -Force
```

- For API details, see DeleteScheduledAction in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ASTag`

The following code example shows how to use `Remove-ASTag`.

Tools for PowerShell

Example 1: This example removes the specified tag from the specified Auto Scaling group. You are prompted for confirmation before the operation proceeds. The syntax used by this example requires PowerShell version 3 or later.

```
Remove-ASTag -Tag @( @{ResourceType="auto-scaling-group"; ResourceId="my-asg";
 Key="myTag" } )
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-ASTag (DeleteTags)" on target
 "Amazon.AutoScaling.Model.Tag".
```

```
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: If you specify the Force parameter, you are not prompted for confirmation before the operation proceeds.

```
Remove-ASTag -Tag @( @{ResourceType="auto-scaling-group"; ResourceId="my-asg";
 Key="myTag" } ) -Force
```

Example 3: With Powershell version 2, you must use New-Object to create the tag for the Tag parameter.

```
$tag = New-Object Amazon.AutoScaling.Model.Tag
$tag.ResourceType = "auto-scaling-group"
$tag.ResourceId = "my-asg"
$tag.Key = "myTag"
Remove-ASTag -Tag $tag -Force
```

- For API details, see DeleteTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Resume-ASProcess`

The following code example shows how to use `Resume-ASProcess`.

Tools for PowerShell

Example 1: This example resumes the specified Auto Scaling process for the specified Auto Scaling group.

```
Resume-ASProcess -AutoScalingGroupName my-asg -ScalingProcess "AlarmNotification"
```

Example 2: This example resumes all suspended Auto Scaling processes for the specified Auto Scaling group.

```
Resume-ASProcess -AutoScalingGroupName my-asg
```

- For API details, see ResumeProcesses in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ASDesiredCapacity`

The following code example shows how to use `Set-ASDesiredCapacity`.

Tools for PowerShell

Example 1: This example sets the size of the specified Auto Scaling group.

```
Set-ASDesiredCapacity -AutoScalingGroupName my-asg -DesiredCapacity 2
```

Example 2: This example sets the size of the specified Auto Scaling group and waits for the cooldown period to complete before scaling to the new size.

```
Set-ASDesiredCapacity -AutoScalingGroupName my-asg -DesiredCapacity 2 -HonorCooldown
 $true
```

- For API details, see SetDesiredCapacity in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ASInstanceHealth`

The following code example shows how to use `Set-ASInstanceHealth`.

Tools for PowerShell

Example 1: This example sets the status of the specified instance to 'Unhealthy', taking it out of service. Auto Scaling terminates and replaces the instance.

```
Set-ASInstanceHealth -HealthStatus Unhealthy -InstanceId i-93633f9b
```

Example 2: This example sets the status of the specified instance to 'Healthy', keeping it in service. Any health check grace period for the Auto Scaling group is not honored.

```
Set-ASInstanceHealth -HealthStatus Healthy -InstanceId i-93633f9b -
ShouldRespectGracePeriod $false
```

- For API details, see SetInstanceHealth in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ASInstanceProtection`

The following code example shows how to use `Set-ASInstanceProtection`.

Tools for PowerShell

Example 1: This example enables instance protection for the specified instance.

```
Set-ASInstanceProtection -AutoScalingGroupName my-asg -InstanceId i-12345678 -
ProtectedFromScaleIn $true
```

Example 2: This example disables instance protection for the specified instance.

```
Set-ASInstanceProtection -AutoScalingGroupName my-asg -InstanceId i-12345678 -
ProtectedFromScaleIn $false
```

- For API details, see SetInstanceProtection in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ASTag`

The following code example shows how to use `Set-ASTag`.

Tools for PowerShell

Example 1: This example adds a single tag to the specified Auto Scaling group. The tag key is 'myTag' and the tag value is 'myTagValue'. Auto Scaling propagates this tag to the subsequent EC2 instances launched by the Auto Scaling group. The syntax used by this example requires PowerShell version 3 or later.

```
Set-ASTag -Tag @( @{ResourceType="auto-scaling-group"; ResourceId="my-asg";
 Key="myTag"; Value="myTagValue"; PropagateAtLaunch=$true} )
```

Example 2: With PowerShell version 2, you must use New-Object to create the tag for the Tag parameter.

```
$tag = New-Object Amazon.AutoScaling.Model.Tag
$tag.ResourceType = "auto-scaling-group"
$tag.ResourceId = "my-asg"
$tag.Key = "myTag"
$tag.Value = "myTagValue"
$tag.PropagateAtLaunch = $true
Set-ASTag -Tag $tag
```

- For API details, see CreateOrUpdateTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-ASPolicy`

The following code example shows how to use `Start-ASPolicy`.

Tools for PowerShell

Example 1: This example executes the specified policy for the specified Auto Scaling group.

```
Start-ASPolicy -AutoScalingGroupName my-asg -PolicyName "myScaleInPolicy"
```

Example 2: This example executes the specified policy for the specified Auto Scaling group, after waiting for the cooldown period to complete.

```
Start-ASPolicy -AutoScalingGroupName my-asg -PolicyName "myScaleInPolicy" -
HonorCooldown $true
```

- For API details, see ExecutePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-ASInstanceInAutoScalingGroup`

The following code example shows how to use `Stop-ASInstanceInAutoScalingGroup`.

Tools for PowerShell

Example 1: This example terminates the specified instance and decreases the desired capacity of its Auto Scaling group so that Auto Scaling does not launch a replacement instance.

```
Stop-ASInstanceInAutoScalingGroup -InstanceId i-93633f9b -
ShouldDecrementDesiredCapacity $true
```

Output:

```
ActivityId           : 2e40d9bd-1902-444c-abf3-6ea0002efdc5
AutoScalingGroupName :
Cause                : At 2015-11-22T16:09:03Z instance i-93633f9b was taken out of
 service in response to a user
                       request, shrinking the capacity from 2 to 1.
Description          : Terminating EC2 instance: i-93633f9b
```

```
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              :
Progress             : 0
StartTime            : 11/22/2015 8:09:03 AM
StatusCode           : InProgress
StatusMessage        :
```

Example 2: This example terminates the specified instance without decreasing the desired capacity of its Auto Scaling group. Auto Scaling launches a replacement instance.

```
Stop-ASInstanceInAutoScalingGroup -InstanceId i-93633f9b -
ShouldDecrementDesiredCapacity $false
```

Output:

```
ActivityId           : 2e40d9bd-1902-444c-abf3-6ea0002efdc5
AutoScalingGroupName :
Cause                : At 2015-11-22T16:09:03Z instance i-93633f9b was taken out of
 service in response to a user
                       request.
Description          : Terminating EC2 instance: i-93633f9b
Details              : {"Availability Zone":"us-west-2b","Subnet
 ID":"subnet-5264e837"}
EndTime              :
Progress             : 0
StartTime            : 11/22/2015 8:09:03 AM
StatusCode           : InProgress
StatusMessage        :
```

- For API details, see TerminateInstanceInAutoScalingGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Suspend-ASProcess`

The following code example shows how to use `Suspend-ASProcess`.

Tools for PowerShell

Example 1: This example suspends the specified Auto Scaling process for the specified Auto Scaling group.

```
Suspend-ASProcess -AutoScalingGroupName my-asg -ScalingProcess "AlarmNotification"
```

Example 2: This example suspends all Auto Scaling processes for the specified Auto Scaling group.

```
Suspend-ASProcess -AutoScalingGroupName my-asg
```

- For API details, see SuspendProcesses in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-ASAutoScalingGroup`

The following code example shows how to use `Update-ASAutoScalingGroup`.

Tools for PowerShell

Example 1: This example updates the minimum and maximum size of the specified Auto Scaling group.

```
Update-ASAutoScalingGroup -AutoScalingGroupName my-asg -MaxSize 5 -MinSize 1
```

Example 2: This example updates the default cooldown period of the specified Auto Scaling group.

```
Update-ASAutoScalingGroup -AutoScalingGroupName my-asg -DefaultCooldown 10
```

Example 3: This example updates the Availability Zones of the specified Auto Scaling group.

```
Update-ASAutoScalingGroup -AutoScalingGroupName my-asg -AvailabilityZone @("us-
west-2a", "us-west-2b")
```

Example 4: This example updates the specified Auto Scaling group to use Elastic Load Balancing health checks.

```
Update-ASAutoScalingGroup -AutoScalingGroupName my-asg -HealthCheckType ELB -
HealthCheckGracePeriod 60
```

- For API details, see UpdateAutoScalingGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-ASLifecycleActionHeartbeat`

The following code example shows how to use `Write-ASLifecycleActionHeartbeat`.

Tools for PowerShell

Example 1: This example records a heartbeat for the specified lifecycle action. This keeps the instance in a pending state until you complete the custom action.

```
Write-ASLifecycleActionHeartbeat -AutoScalingGroupName my-asg -LifecycleHookName
 myLifecycleHook -LifecycleActionToken bcd2f1b8-9a78-44d3-8a7a-4dd07d7cf635
```

- For API details, see RecordLifecycleActionHeartbeat in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-ASLifecycleHook`

The following code example shows how to use `Write-ASLifecycleHook`.

Tools for PowerShell

Example 1: This example adds the specified lifecycle hook to the specified Auto Scaling group.

```
Write-ASLifecycleHook -AutoScalingGroupName my-asg -LifecycleHookName
 "myLifecycleHook" -LifecycleTransition "autoscaling:EC2_INSTANCE_LAUNCHING" -
NotificationTargetARN "arn:aws:sns:us-west-2:123456789012:my-sns-topic" -RoleARN
 "arn:aws:iam::123456789012:role/my-iam-role"
```

- For API details, see PutLifecycleHook in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-ASNotificationConfiguration`

The following code example shows how to use `Write-ASNotificationConfiguration`.

Tools for PowerShell

Example 1: This example configures the specified Auto Scaling group to send a notification to the specified SNS topic when it launches EC2 instances.

```
Write-ASNotificationConfiguration -AutoScalingGroupName my-asg -NotificationType
 "autoscaling:EC2_INSTANCE_LAUNCH" -TopicARN "arn:aws:sns:us-west-2:123456789012:my-
topic"
```

Example 2: This example configures the specified Auto Scaling group to send a notification to the specified SNS topic when it launches or terminates EC2 instances.

```
Write-ASNotificationConfiguration -AutoScalingGroupName my-asg -NotificationType
 @("autoscaling:EC2_INSTANCE_LAUNCH", "autoscaling:EC2_INSTANCE_TERMINATE") -
TopicARN "arn:aws:sns:us-west-2:123456789012:my-topic"
```

- For API details, see PutNotificationConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-ASScalingPolicy`

The following code example shows how to use `Write-ASScalingPolicy`.

Tools for PowerShell

Example 1: This example adds the specified policy to the specified Auto Scaling group. The specified adjustment type determines how to interpret the ScalingAdjustment parameter. With 'ChangeInCapacity', a positive value increases the capacity by the specified number of instances and a negative value decreases the capacity by the specified number of instances.

```
Write-ASScalingPolicy -AutoScalingGroupName my-asg -AdjustmentType
 "ChangeInCapacity" -PolicyName "myScaleInPolicy" -ScalingAdjustment -1
```

Output:

```
arn:aws:autoscaling:us-west-2:123456789012:scalingPolicy:aa3836ab-5462-42c7-adab-
e1d769fc24ef:autoScalingGroupName/my-asg
:policyName/myScaleInPolicy
```

- For API details, see PutScalingPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-ASScheduledUpdateGroupAction`

The following code example shows how to use `Write-ASScheduledUpdateGroupAction`.

Tools for PowerShell

Example 1: This example creates or updates a one-time scheduled action to change the desired capacity at the specified start time.

```
Write-ASScheduledUpdateGroupAction -AutoScalingGroupName my-asg -ScheduledActionName
 "myScheduledAction" -StartTime "2015-12-01T00:00:00Z" -DesiredCapacity 10
```

- For API details, see PutScheduledUpdateGroupAction in *AWS Tools for PowerShell Cmdlet Reference*.

AWS Budgets examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`New-BGTBudget`

The following code example shows how to use `New-BGTBudget`.

Tools for PowerShell

Example 1: Creates a new budget with the specified budgetary and time constraints with email notifications.

```
$notification = @{
    NotificationType = "ACTUAL"
    ComparisonOperator = "GREATER_THAN"
    Threshold = 80
}

$addressObject = @{
    Address = @("user@domain.com")
    SubscriptionType = "EMAIL"
}

$subscriber = New-Object Amazon.Budgets.Model.NotificationWithSubscribers
$subscriber.Notification = $notification
$subscriber.Subscribers.Add($addressObject)

$startDate = [datetime]::new(2017,09,25)
$endDate = [datetime]::new(2017,10,25)

New-BGTBudget -Budget_BudgetName "Tester" -Budget_BudgetType COST -
CostTypes_IncludeTax $true -Budget_TimeUnit MONTHLY -BudgetLimit_Unit USD -
TimePeriod_Start $startDate -TimePeriod_End $endDate -AccountId 123456789012 -
BudgetLimit_Amount 200 -NotificationsWithSubscriber $subscriber
```

- For API details, see CreateBudget in *AWS Tools for PowerShell Cmdlet Reference*.

AWS Cloud9 examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-C9EnvironmentData`

The following code example shows how to use `Get-C9EnvironmentData`.

Tools for PowerShell

Example 1: This example gets information about the specified AWS Cloud9 development environments.

```
Get-C9EnvironmentData -EnvironmentId
 685f892f431b45c2b28cb69eadcdb0EX,1980b80e5f584920801c09086667f0EX
```

Output:

```
Arn         : arn:aws:cloud9:us-
east-1:123456789012:environment:685f892f431b45c2b28cb69eadcdb0EX
Description : Created from CodeStar.
Id          : 685f892f431b45c2b28cb69eadcdb0EX
Lifecycle   : Amazon.Cloud9.Model.EnvironmentLifecycle
Name        : my-demo-ec2-env
OwnerArn    : arn:aws:iam::123456789012:user/MyDemoUser
Type        : ec2

Arn         : arn:aws:cloud9:us-
east-1:123456789012:environment:1980b80e5f584920801c09086667f0EX
Description :
Id          : 1980b80e5f584920801c09086667f0EX
Lifecycle   : Amazon.Cloud9.Model.EnvironmentLifecycle
Name        : my-demo-ssh-env
OwnerArn    : arn:aws:iam::123456789012:user/MyDemoUser
Type        : ssh
```

Example 2: This example gets information about the lifecycle status of the specified AWS Cloud9 development environment.

```
(Get-C9EnvironmentData -EnvironmentId 685f892f431b45c2b28cb69eadcdb0EX).Lifecycle
```

Output:

```
FailureResource Reason Status
--------------- ------ ------
                       CREATED
```

- For API details, see DescribeEnvironments in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-C9EnvironmentList`

The following code example shows how to use `Get-C9EnvironmentList`.

Tools for PowerShell

Example 1: This example gets a list of available AWS Cloud9 development environment identifiers.

```
Get-C9EnvironmentList
```

Output:

```
685f892f431b45c2b28cb69eadcdb0EX
1980b80e5f584920801c09086667f0EX
```

- For API details, see ListEnvironments in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-C9EnvironmentMembershipList`

The following code example shows how to use `Get-C9EnvironmentMembershipList`.

Tools for PowerShell

Example 1: This example gets information about environment members for the specified AWS Cloud9 development environment.

```
Get-C9EnvironmentMembershipList -EnvironmentId ffd88420d4824eeeaeaa8a04bfde8cEX
```

Output:

```
EnvironmentId : ffd88420d4824eeeaeaa8a04bfde8cEX
LastAccess    : 1/1/0001 12:00:00 AM
Permissions   : read-write
UserArn       : arn:aws:iam::123456789012:user/AnotherDemoUser
UserId        : AIDAJ3BA6O2FMJWCWXHEX

EnvironmentId : ffd88420d4824eeeaeaa8a04bfde8cEX
LastAccess    : 1/1/0001 12:00:00 AM
Permissions   : owner
UserArn       : arn:aws:iam::123456789012:user/MyDemoUser
UserId        : AIDAJ3LOROMOUXTBSU6EX
```

Example 2: This example gets information about the owner of the specified AWS Cloud9 development environment.

```
Get-C9EnvironmentMembershipList -EnvironmentId ffd88420d4824eeeaeaa8a04bfde8cEX -
Permission owner
```

Output:

```
EnvironmentId : ffd88420d4824eeeaeaa8a04bfde8cEX
LastAccess    : 1/1/0001 12:00:00 AM
Permissions   : owner
UserArn       : arn:aws:iam::123456789012:user/MyDemoUser
UserId        : AIDAJ3LOROMOUXTBSU6EX
```

Example 3: This example gets information about the specified environment member for multiple AWS Cloud9 development environments.

```
Get-C9EnvironmentMembershipList -UserArn arn:aws:iam::123456789012:user/MyDemoUser
```

Output:

```
EnvironmentId : ffd88420d4824eeeaeaa8a04bfde8cEX
LastAccess    : 1/17/2018 7:48:14 PM
Permissions   : owner
UserArn       : arn:aws:iam::123456789012:user/MyDemoUser
UserId        : AIDAJ3LOROMOUXTBSU6EX

EnvironmentId : 1980b80e5f584920801c09086667f0EX
```

```
LastAccess     : 1/16/2018 11:21:24 PM
Permissions    : owner
UserArn        : arn:aws:iam::123456789012:user/MyDemoUser
UserId         : AIDAJ3LOROMOUXTBSU6EX
```

- For API details, see DescribeEnvironmentMemberships in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-C9EnvironmentStatus`

The following code example shows how to use `Get-C9EnvironmentStatus`.

Tools for PowerShell

Example 1: This example gets status information for the specified AWS Cloud9 development environment.

```
Get-C9EnvironmentStatus -EnvironmentId 349c86d4579e4e7298d500ff57a6b2EX
```

Output:

```
Message                    Status
-------                    ------
Environment is ready to use ready
```

- For API details, see DescribeEnvironmentStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`New-C9EnvironmentEC2`

The following code example shows how to use `New-C9EnvironmentEC2`.

Tools for PowerShell

Example 1: 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.

```
New-C9EnvironmentEC2 -Name my-demo-env -AutomaticStopTimeMinutes 60 -Description
 "My demonstration development environment." -InstanceType t2.micro -OwnerArn
 arn:aws:iam::123456789012:user/MyDemoUser -SubnetId subnet-d43a46EX
```

Output:

```
ffd88420d4824eeeaeaa8a04bfde8cEX
```

- For API details, see CreateEnvironmentEc2 in *AWS Tools for PowerShell Cmdlet Reference*.

`New-C9EnvironmentMembership`

The following code example shows how to use `New-C9EnvironmentMembership`.

Tools for PowerShell

Example 1: This example adds the specified environment member to the specified AWS Cloud9 development environment.

```
New-C9EnvironmentMembership -UserArn arn:aws:iam::123456789012:user/AnotherDemoUser
 -EnvironmentId ffd88420d4824eeeaeaa8a04bfde8cEX -Permission read-write
```

Output:

```
EnvironmentId : ffd88420d4824eeeaeaa8a04bfde8cEX
LastAccess    : 1/1/0001 12:00:00 AM
Permissions   : read-write
UserArn       : arn:aws:iam::123456789012:user/AnotherDemoUser
UserId        : AIDAJ3BA6O2FMJWCWXHEX
```

- For API details, see CreateEnvironmentMembership in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-C9Environment`

The following code example shows how to use `Remove-C9Environment`.

Tools for PowerShell

Example 1: This example deletes the specified AWS Cloud9 development environment. If an Amazon EC2 instance is connected to the environment, also terminates the instance.

```
Remove-C9Environment -EnvironmentId ffd88420d4824eeeaeaa8a04bfde8cEX
```

- For API details, see DeleteEnvironment in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-C9EnvironmentMembership`

The following code example shows how to use `Remove-C9EnvironmentMembership`.

Tools for PowerShell

Example 1: This example deletes the specified environment member from the specified AWS Cloud9 development environment.

```
Remove-C9EnvironmentMembership -UserArn arn:aws:iam::123456789012:user/
AnotherDemoUser -EnvironmentId ffd88420d4824eeeaeaa8a04bfde8cEX
```

- For API details, see DeleteEnvironmentMembership in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-C9Environment`

The following code example shows how to use `Update-C9Environment`.

Tools for PowerShell

Example 1: This example changes the specified settings of the specified existing AWS Cloud9 development environment.

```
Update-C9Environment -EnvironmentId ffd88420d4824eeeaeaa8a04bfde8cEX -Description
 "My changed demonstration development environment." -Name my-changed-demo-env
```

- For API details, see UpdateEnvironment in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-C9EnvironmentMembership`

The following code example shows how to use `Update-C9EnvironmentMembership`.

Tools for PowerShell

Example 1: This example changes the settings of the specified existing environment member for the specified AWS Cloud9 development environment.

```
Update-C9EnvironmentMembership -UserArn arn:aws:iam::123456789012:user/
AnotherDemoUser -EnvironmentId ffd88420d4824eeeaeaa8a04bfde8cEX -Permission read-
only
```

Output:

```
EnvironmentId : ffd88420d4824eeeaeaa8a04bfde8cEX
LastAccess    : 1/1/0001 12:00:00 AM
Permissions   : read-only
UserArn       : arn:aws:iam::123456789012:user/AnotherDemoUser
UserId        : AIDAJ3BA6O2FMJWCWXHEX
```

- For API details, see UpdateEnvironmentMembership in *AWS Tools for PowerShell Cmdlet Reference*.

AWS CloudFormation examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-CFNStack`

The following code example shows how to use `Get-CFNStack`.

Tools for PowerShell

Example 1: Returns a collection of Stack instances describing all of the user's stacks.

```
Get-CFNStack
```

Example 2: Returns a Stack instance describing the specified stack

```
Get-CFNStack -StackName "myStack"
```

Example 3: Returns a collection of Stack instances describing all of the user's stacks using manual paging. The starting token for the next page is retrieved after every call with $null indicating no more details remain to be retrieved.

```
$nextToken = $null
do {
    Get-CFNStack -NextToken $nextToken
    $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see DescribeStacks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFNStackEvent`

The following code example shows how to use `Get-CFNStackEvent`.

Tools for PowerShell

Example 1: Returns all stack related events for the specified stack.

```
Get-CFNStackEvent -StackName "myStack"
```

Example 2: Returns all stack related events for the specified stack using manual paging starting at the specified token. The starting token for the next page is retrieved after every call with $null indicating no more events remain to be retrieved.

```
$nextToken = $null
do {
    Get-CFNStack -StackName "myStack" -NextToken $nextToken
```

```
    $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see DescribeStackEvents in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFNStackResource`

The following code example shows how to use `Get-CFNStackResource`.

Tools for PowerShell

Example 1: Returns the description of a resource identified in the template associated with the specified stack by the logical ID "MyDBInstance".

```
Get-CFNStackResource -StackName "myStack" -LogicalResourceId "MyDBInstance"
```

- For API details, see DescribeStackResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFNStackResourceList`

The following code example shows how to use `Get-CFNStackResourceList`.

Tools for PowerShell

Example 1: Returns the AWS resource descriptions for up to 100 resources associated with the specified stack. To obtain details of all resources associated with a stack use the Get-CFNStackResourceSummary, which also supports manual paging of the results.

```
Get-CFNStackResourceList -StackName "myStack"
```

Example 2: Returns the description of the Amazon EC2 instance identified in the template associated with the specified stack by the logical ID "Ec2Instance".

```
Get-CFNStackResourceList -StackName "myStack" -LogicalResourceId "Ec2Instance"
```

Example 3: Returns the description of up to 100 resources associated with the stack containing an Amazon EC2 instance identified by instance ID "i-123456". To obtain details of all resources associated with a stack use the Get-CFNStackResourceSummary, which also supports manual paging of the results.

```
Get-CFNStackResourceList -PhysicalResourceId "i-123456"
```

Example 4: Returns the description of the Amazon EC2 instance identified by the logical ID "Ec2Instance" in the template for a stack. The stack is identified using the physical resource ID of a resource it contains, in this case also an Amazon EC2 instance with instance ID "i-123456". A different physical resource could also be used to identify the stack depending on the template content, for example an Amazon S3 bucket.

```
Get-CFNStackResourceList -PhysicalResourceId "i-123456" -LogicalResourceId
 "Ec2Instance"
```

- For API details, see DescribeStackResources in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFNStackResourceSummary`

The following code example shows how to use `Get-CFNStackResourceSummary`.

Tools for PowerShell

Example 1: Returns descriptions of all the resources associated with the specified stack.

```
Get-CFNStackResourceSummary -StackName "myStack"
```

Example 2: Returns descriptions of all the resources associated with the specified stack using manual paging of the results. The starting token for the next page is retrieved after every call with $null indicating no more details remain to be retrieved.

```
$nextToken = $null
do {
  Get-CFNStackResourceSummary -StackName "myStack" -NextToken $nextToken
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see ListStackResources in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFNStackSummary`

The following code example shows how to use `Get-CFNStackSummary`.

Tools for PowerShell

Example 1: Returns summary information for all stacks.

```
Get-CFNStackSummary
```

Example 2: Returns summary information for all stacks that are currently being created.

```
Get-CFNStackSummary -StackStatusFilter "CREATE_IN_PROGRESS"
```

Example 3: Returns summary information for all stacks that are currently being created or updated.

```
Get-CFNStackSummary -StackStatusFilter @("CREATE_IN_PROGRESS", "UPDATE_IN_PROGRESS")
```

Example 4: Returns summary information for all stacks that are currently being created or updated using manual paging of the results. The starting token for the next page is retrieved after every call with $null indicating no more details remain to be retrieved.

```
$nextToken = $null
do {
  Get-CFNStackSummary -StackStatusFilter @("CREATE_IN_PROGRESS",
 "UPDATE_IN_PROGRESS") -NextToken $nextToken
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see ListStacks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFNTemplate`

The following code example shows how to use `Get-CFNTemplate`.

Tools for PowerShell

Example 1: Returns the template associated with the specified stack.

```
Get-CFNTemplate -StackName "myStack"
```

- For API details, see GetTemplate in *AWS Tools for PowerShell Cmdlet Reference*.

`Measure-CFNTemplateCost`

The following code example shows how to use `Measure-CFNTemplateCost`.

Tools for PowerShell

Example 1: Returns an AWS Simple Monthly Calculator URL with a query string that describes the resources required to run the template. The template is obtained from the specified Amazon S3 URL and the single customization parameter applied. The parameter can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'.

```
Measure-CFNTemplateCost -TemplateURL https://s3.amazonaws.com/mytemplates/
templatefile.template `
                        -Region us-west-1 `
                        -Parameter @{ ParameterKey="KeyName";
 ParameterValue="myKeyPairName" }
```

Example 2: Returns an AWS Simple Monthly Calculator URL with a query string that describes the resources required to run the template. The template is parsed from the supplied content and the customization parameters applied (this example assumes the template content would have declared two parameters, 'KeyName' and 'InstanceType'). The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'.

```
Measure-CFNTemplateCost -TemplateBody "{TEMPLATE CONTENT HERE}" `
                        -Parameter @( @{ ParameterKey="KeyName";
 ParameterValue="myKeyPairName" },`
                                      @{ ParameterKey="InstanceType";
 ParameterValue="m1.large" })
```

Example 3: Uses New-Object to build the set of template parameters and returns an AWS Simple Monthly Calculator URL with a query string that describes the resources required to run the template. The template is parsed from the supplied content, with customization parameters (this example assumes the template content would have declared two parameters, 'KeyName' and 'InstanceType').

```
$p1 = New-Object -Type Amazon.CloudFormation.Model.Parameter
$p1.ParameterKey = "KeyName"
$p1.ParameterValue = "myKeyPairName"
```

```
$p2 = New-Object -Type Amazon.CloudFormation.Model.Parameter
$p2.ParameterKey = "InstanceType"
$p2.ParameterValue = "m1.large"

Measure-CFNTemplateCost -TemplateBody "{TEMPLATE CONTENT HERE}" -Parameter @( $p1,
 $p2 )
```

- For API details, see EstimateTemplateCost in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CFNStack`

The following code example shows how to use `New-CFNStack`.

Tools for PowerShell

Example 1: Creates a new stack with the specified name. The template is parsed from the supplied content with customization parameters ('PK1' and 'PK2' represent the names of parameters declared in the template content, 'PV1' and 'PV2' represent the values for those parameters. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'. If creation of the stack fails, it will not be rolled back.

```
New-CFNStack -StackName "myStack" `
             -TemplateBody "{TEMPLATE CONTENT HERE}" `
             -Parameter @( @{ ParameterKey="PK1"; ParameterValue="PV1" },
 @{ ParameterKey="PK2"; ParameterValue="PV2" }) `
             -DisableRollback $true
```

Example 2: Creates a new stack with the specified name. The template is parsed from the supplied content with customization parameters ('PK1' and 'PK2' represent the names of parameters declared in the template content, 'PV1' and 'PV2' represent the values for those parameters. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'. If creation of the stack fails, it will be rolled back.

```
$p1 = New-Object -Type Amazon.CloudFormation.Model.Parameter
$p1.ParameterKey = "PK1"
$p1.ParameterValue = "PV1"

$p2 = New-Object -Type Amazon.CloudFormation.Model.Parameter
```

```
$p2.ParameterKey = "PK2"
$p2.ParameterValue = "PV2"

New-CFNStack -StackName "myStack" `
             -TemplateBody "{TEMPLATE CONTENT HERE}" `
             -Parameter @( $p1, $p2 ) `
             -OnFailure "ROLLBACK"
```

Example 3: Creates a new stack with the specified name. The template is obtained from the Amazon S3 URL with customization parameters ('PK1' represents the name of a parameter declared in the template content, 'PV1' represents the value for the parameter. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'. If creation of the stack fails, it will be rolled back (same as specifying -DisableRollback $false).

```
New-CFNStack -StackName "myStack" `
             -TemplateURL https://s3.amazonaws.com/mytemplates/templatefile.template
 `
             -Parameter @{ ParameterKey="PK1"; ParameterValue="PV1" }
```

Example 4: Creates a new stack with the specified name. The template is obtained from the Amazon S3 URL with customization parameters ('PK1' represents the name of a parameter declared in the template content, 'PV1' represents the value for the parameter. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'. If creation of the stack fails, it will be rolled back (same as specifying -DisableRollback $false). The specified notification AENs will receive published stack-related events.

```
New-CFNStack -StackName "myStack" `
             -TemplateURL https://s3.amazonaws.com/mytemplates/templatefile.template
 `
             -Parameter @{ ParameterKey="PK1"; ParameterValue="PV1" } `
             -NotificationARN @( "arn1", "arn2" )
```

- For API details, see CreateStack in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CFNStack`

The following code example shows how to use `Remove-CFNStack`.

Tools for PowerShell

Example 1: Deletes the specified stack.

```
Remove-CFNStack -StackName "myStack"
```

- For API details, see DeleteStack in *AWS Tools for PowerShell Cmdlet Reference*.

`Resume-CFNUpdateRollback`

The following code example shows how to use `Resume-CFNUpdateRollback`.

Tools for PowerShell

Example 1: Continues rollback of the named stack, which should be in the state 'UPDATE_ROLLBACK_FAILED'. If the continued rollback is successful, the stack will enter state 'UPDATE_ROLLBACK_COMPLETE'.

```
Resume-CFNUpdateRollback -StackName "myStack"
```

- For API details, see ContinueUpdateRollback in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-CFNUpdateStack`

The following code example shows how to use `Stop-CFNUpdateStack`.

Tools for PowerShell

Example 1: Cancels an update on the specified stack.

```
Stop-CFNUpdateStack -StackName "myStack"
```

- For API details, see CancelUpdateStack in *AWS Tools for PowerShell Cmdlet Reference*.

`Test-CFNTemplate`

The following code example shows how to use `Test-CFNTemplate`.

Tools for PowerShell

Example 1: Validates the specified template content. The output details the capabilities, description and parameters of the template.

```
Test-CFNTemplate -TemplateBody "{TEMPLATE CONTENT HERE}"
```

Example 2: Validates the specified template accessed via an Amazon S3 URL. The output details the capabilities, description and parameters of the template.

```
Test-CFNTemplate -TemplateURL https://s3.amazonaws.com/mytemplates/
templatefile.template
```

- For API details, see ValidateTemplate in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CFNStack`

The following code example shows how to use `Update-CFNStack`.

Tools for PowerShell

Example 1: Updates the stack 'myStack' with the specified template and customization parameters. 'PK1' represents the name of a parameter declared in the template and 'PV1' represents its value. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'.

```
Update-CFNStack -StackName "myStack" `
                -TemplateBody "{Template Content Here}" `
                -Parameter @{ ParameterKey="PK1"; ParameterValue="PV1" }
```

Example 2: Updates the stack 'myStack' with the specified template and customization parameters. 'PK1' and 'PK2' represent the names of parameters declared in the template, 'PV1' and 'PV2' represents their requested values. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'.

```
Update-CFNStack -StackName "myStack" `
                -TemplateBody "{Template Content Here}" `
                -Parameter @( @{ ParameterKey="PK1"; ParameterValue="PV1" },
 @{ ParameterKey="PK2"; ParameterValue="PV2" } )
```

Example 3: Updates the stack 'myStack' with the specified template and customization parameters. 'PK1' represents the name of a parameter declared in the template and 'PV2' represents its value. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'.

```
Update-CFNStack -StackName "myStack" -TemplateBody "{Template Content Here}" -
Parameters @{ ParameterKey="PK1"; ParameterValue="PV1" }
```

Example 4: Updates the stack 'myStack' with the specified template, obtained from Amazon S3, and customization parameters. 'PK1' and 'PK2' represent the names of parameters declared in the template, 'PV1' and 'PV2' represents their requested values. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'.

```
Update-CFNStack -StackName "myStack" `
                -TemplateURL https://s3.amazonaws.com/mytemplates/
templatefile.template `
                -Parameter @( @{ ParameterKey="PK1"; ParameterValue="PV1" },
 @{ ParameterKey="PK2"; ParameterValue="PV2" } )
```

Example 5: Updates the stack 'myStack', which is assumed in this example to contain IAM resources, with the specified template, obtained from Amazon S3, and customization parameters. 'PK1' and 'PK2' represent the names of parameters declared in the template, 'PV1' and 'PV2' represents their requested values. The customization parameters can also be specified using 'Key' and 'Value' instead of 'ParameterKey' and 'ParameterValue'. Stacks containing IAM resources require you to specify the -Capabilities "CAPABILITY_IAM" parameter otherwise the update will fail with an 'InsufficientCapabilities' error.

```
Update-CFNStack -StackName "myStack" `
                -TemplateURL https://s3.amazonaws.com/mytemplates/
templatefile.template `
                -Parameter @( @{ ParameterKey="PK1"; ParameterValue="PV1" },
 @{ ParameterKey="PK2"; ParameterValue="PV2" } ) `
                -Capabilities "CAPABILITY_IAM"
```

- For API details, see UpdateStack in *AWS Tools for PowerShell Cmdlet Reference*.

CloudFront examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-CFCloudFrontOriginAccessIdentity`

The following code example shows how to use `Get-CFCloudFrontOriginAccessIdentity`.

Tools for PowerShell

Example 1: This example returns a specific Amazon CloudFront origin access identity, specified by the -Id parameter. Although the -Id parameter is not required, if you do not specify it, no results are returned.

```
Get-CFCloudFrontOriginAccessIdentity -Id E3XXXXXXXXXXRT
```

Output:

```
    CloudFrontOriginAccessIdentityConfig    Id
S3CanonicalUserId
    ------------------------------------    --
----------------
    Amazon.CloudFront.Model.CloudFrontOr... E3XXXXXXXXXXRT
4b6e...
```

- For API details, see GetCloudFrontOriginAccessIdentity in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFCloudFrontOriginAccessIdentityConfig`

The following code example shows how to use `Get-CFCloudFrontOriginAccessIdentityConfig`.

Tools for PowerShell

Example 1: This example returns configuration information about a single Amazon CloudFront origin access identity, specified by the -Id parameter. Errors occur if no -Id parameter is specified..

```
Get-CFCloudFrontOriginAccessIdentityConfig -Id E3XXXXXXXXXXRT
```

Output:

```
     CallerReference                                                 Comment
     ---------------                                                 -------
     mycallerreference: 2/1/2011 1:16:32 PM                          Caller reference:
2/1/2011 1:16:32 PM
```

- For API details, see GetCloudFrontOriginAccessIdentityConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFCloudFrontOriginAccessIdentityList`

The following code example shows how to use `Get-CFCloudFrontOriginAccessIdentityList`.

Tools for PowerShell

Example 1: This example returns a list of Amazon CloudFront origin access identities. Because the -MaxItem parameter specifies a value of 2, the results include two identities.

```
Get-CFCloudFrontOriginAccessIdentityList -MaxItem 2
```

Output:

```
IsTruncated : True
Items       : {E326XXXXXXXXXT, E1YWXXXXXXX9B}
Marker      :
MaxItems    : 2
NextMarker  : E1YXXXXXXXXX9B
Quantity    : 2
```

- For API details, see ListCloudFrontOriginAccessIdentities in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFDistribution`

The following code example shows how to use `Get-CFDistribution`.

Tools for PowerShell

Example 1: Retrieves the information for a specific distribution.

```
Get-CFDistribution -Id EXAMPLE0000ID
```

- For API details, see GetDistribution in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFDistributionConfig`

The following code example shows how to use `Get-CFDistributionConfig`.

Tools for PowerShell

Example 1: Retrieves the configuration for a specific distribution.

```
Get-CFDistributionConfig -Id EXAMPLE0000ID
```

- For API details, see GetDistributionConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFDistributionList`

The following code example shows how to use `Get-CFDistributionList`.

Tools for PowerShell

Example 1: Returns distributions.

```
Get-CFDistributionList
```

- For API details, see ListDistributions in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CFDistribution`

The following code example shows how to use `New-CFDistribution`.

Tools for PowerShell

Example 1: Creates a basic CloudFront distribution, configured with logging and caching.

```
$origin = New-Object Amazon.CloudFront.Model.Origin
$origin.DomainName = "ps-cmdlet-sample.s3.amazonaws.com"
$origin.Id = "UniqueOrigin1"
$origin.S3OriginConfig = New-Object Amazon.CloudFront.Model.S3OriginConfig
$origin.S3OriginConfig.OriginAccessIdentity = ""
New-CFDistribution `
      -DistributionConfig_Enabled $true `
      -DistributionConfig_Comment "Test distribution" `
      -Origins_Item $origin `
      -Origins_Quantity 1 `
      -Logging_Enabled $true `
      -Logging_IncludeCookie $true `
      -Logging_Bucket ps-cmdlet-sample-logging.s3.amazonaws.com `
      -Logging_Prefix "help/" `
      -DistributionConfig_CallerReference Client1 `
      -DistributionConfig_DefaultRootObject index.html `
      -DefaultCacheBehavior_TargetOriginId $origin.Id `
      -ForwardedValues_QueryString $true `
      -Cookies_Forward all `
      -WhitelistedNames_Quantity 0 `
      -TrustedSigners_Enabled $false `
      -TrustedSigners_Quantity 0 `
      -DefaultCacheBehavior_ViewerProtocolPolicy allow-all `
      -DefaultCacheBehavior_MinTTL 1000 `
      -DistributionConfig_PriceClass "PriceClass_All" `
      -CacheBehaviors_Quantity 0 `
      -Aliases_Quantity 0
```

- For API details, see CreateDistribution in *AWS Tools for PowerShell Cmdlet Reference*.

New-CFInvalidation

The following code example shows how to use New-CFInvalidation.

Tools for PowerShell

Example 1: This example creates a new invalidation on a distribution with an ID of EXAMPLENSTXAXE. The CallerReference is a unique ID chosen by the user; in this case, a time stamp representing May 15, 2019 at 9:00 a.m. is used. The $Paths variable stores three paths to image and media files that the user does not want as part of the distribution's cache. The -Paths_Quantity parameter value is the total number of paths specified in the -Paths_Item parameter.

```
$Paths = "/images/*.gif", "/images/image1.jpg", "/videos/*.mp4"
New-CFInvalidation -DistributionId "EXAMPLENSTXAXE" -
InvalidationBatch_CallerReference 20190515090000 -Paths_Item $Paths -Paths_Quantity
 3
```

Output:

```
Invalidation                          Location

------------                          --------

Amazon.CloudFront.Model.Invalidation https://cloudfront.amazonaws.com/2018-11-05/
distribution/EXAMPLENSTXAXE/invalidation/EXAMPLE8NOK9H
```

- For API details, see CreateInvalidation in *AWS Tools for PowerShell Cmdlet Reference*.

New-CFSignedCookie

The following code example shows how to use New-CFSignedCookie.

Tools for PowerShell

Example 1: Creates a signed cookie to the specified resource using a canned policy. The cookie will be valid for one year.

```
$params = @{
 "ResourceUri"="http://xyz.cloudfront.net/image1.jpeg"
```

```
 "KeyPairId"="AKIAIOSFODNN7EXAMPLE"
 "PrivateKeyFile"="C:\pk-AKIAIOSFODNN7EXAMPLE.pem"
 "ExpiresOn"=(Get-Date).AddYears(1)
}
New-CFSignedCookie @params
```

Output:

```
Expires
-------
[CloudFront-Expires, 1472227284]
```

Example 2: Creates a signed cookie to the specified resources using a custom policy. The cookie will be valid in 24 hours and will expire one week afterward.

```
$start = (Get-Date).AddHours(24)
$params = @{
 "ResourceUri"="http://xyz.cloudfront.net/content/*.jpeg"
 "KeyPairId"="AKIAIOSFODNN7EXAMPLE"
 "PrivateKeyFile"="C:\pk-AKIAIOSFODNN7EXAMPLE.pem"
 "ExpiresOn"=$start.AddDays(7)
    "ActiveFrom"=$start
}

New-CFSignedCookie @params
```

Output:

```
Policy
------
[CloudFront-Policy, eyJTd...wIjo...
```

Example 3: Creates a signed cookie to the specified resources using a custom policy. The cookie will be valid in 24 hours and will expire one week afterward. Access to the resources is restricted to the specified ip range.

```
$start = (Get-Date).AddHours(24)
$params = @{
 "ResourceUri"="http://xyz.cloudfront.net/content/*.jpeg"
 "KeyPairId"="AKIAIOSFODNN7EXAMPLE"
```

```
 "PrivateKeyFile"="C:\pk-AKIAIOSFODNN7EXAMPLE.pem"
 "ExpiresOn"=$start.AddDays(7)
    "ActiveFrom"=$start
 "IpRange"="192.0.2.0/24"
}

New-CFSignedCookie @params
```

Output:

```
Policy
                                                                  ------

                                    [CloudFront-Policy, eyJTd...wIjo...
```

- For API details, see New-CFSignedCookie in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CFSignedUrl`

The following code example shows how to use `New-CFSignedUrl`.

Tools for PowerShell

Example 1: Creates a signed url to the specified resource using a canned policy. The url will be valid for one hour. A System.Uri object containing the signed url is emitted to the pipeline.

```
$params = @{
 "ResourceUri"="https://cdn.example.com/index.html"
 "KeyPairId"="AKIAIOSFODNN7EXAMPLE"
 "PrivateKeyFile"="C:\pk-AKIAIOSFODNN7EXAMPLE.pem"
 "ExpiresOn"=(Get-Date).AddHours(1)
}
New-CFSignedUrl @params
```

Example 2: Creates a signed url to the specified resource using a custom policy. The url will be valid starting in 24 hours and will expire one week later.

```
$start = (Get-Date).AddHours(24)
$params = @{
 "ResourceUri"="https://cdn.example.com/index.html"
```

```
 "KeyPairId"="AKIAIOSFODNN7EXAMPLE"
 "PrivateKeyFile"="C:\pk-AKIAIOSFODNN7EXAMPLE.pem"
 "ExpiresOn"=(Get-Date).AddDays(7)
    "ActiveFrom"=$start
}
New-CFSignedUrl @params
```

Example 3: Creates a signed url to the specified resource using a custom policy. The url will be valid starting in 24 hours and will expire one week later. Access to the resource is restricted to the specified ip range.

```
$start = (Get-Date).AddHours(24)
$params = @{
 "ResourceUri"="https://cdn.example.com/index.html"
 "KeyPairId"="AKIAIOSFODNN7EXAMPLE"
 "PrivateKeyFile"="C:\pk-AKIAIOSFODNN7EXAMPLE.pem"
 "ExpiresOn"=(Get-Date).AddDays(7)
    "ActiveFrom"=$start
    "IpRange"="192.0.2.0/24"
}
New-CFSignedUrl @params
```

- For API details, see New-CFSignedUrl in *AWS Tools for PowerShell Cmdlet Reference*.

CloudTrail examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Find-CTEvent`

The following code example shows how to use `Find-CTEvent`.

Tools for PowerShell

Example 1: Returns all events that have occurred over the last seven days. The cmdlet by default automatically makes multiple calls to deliver all events, exiting when the service indicates no further data is available.

```
Find-CTEvent
```

Example 2: Returns all events that have occurred over the last seven days specifying a region that is not the current shell default.

```
Find-CTEvent -Region eu-central-1
```

Example 3: Returns all events that are associated with the RunInstances API call.

```
Find-CTEvent -LookupAttribute @{ AttributeKey="EventName";
 AttributeValue="RunInstances" }
```

Example 4: Returns the first 5 available events. The token to use to retrieve further events is attached as a note property named 'NextToken' to the `$AWSHistory.LastServiceResponse` member.

```
Find-CTEvent -MaxResult 5
```

Example 5: Returns the next 10 events using the 'next page' token from a previous call to indicate where to start returning events from in the sequence.

```
Find-CTEvent -MaxResult 10 -NextToken $AWSHistory.LastServiceResponse.NextToken
```

Example 6: This example shows how to loop through the available events using manual paging, fetching a maximum of 5 events per call.

```
$nextToken = $null
do
{
    Find-CTEvent -MaxResult 5 -NextToken $nextToken
    $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see LookupEvents in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CTTrail`

The following code example shows how to use `Get-CTTrail`.

Tools for PowerShell

Example 1: Returns the settings of all trails associated with the current region for your account.

```
Get-CTTrail
```

Example 2: Returns the settings for the specified trails.

```
Get-CTTrail -TrailNameList trail1,trail2
```

Example 3: Returns the settings for the specified trails that were created in a region other than the current shell default (in this case the Frankfurt (eu-central-1) region).

```
Get-CTTrail -TrailNameList trailABC,trailDEF -Region eu-central-1
```

- For API details, see DescribeTrails in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CTTrailStatus`

The following code example shows how to use `Get-CTTrailStatus`.

Tools for PowerShell

Example 1: Returns status information for the trail with name 'myExampleTrail'. Returned data includes information on delivery errors, Amazon SNS and Amazon S3 errors, and start

and stop logging times for the trail. This example assumes the trail was created in the same region as the current shell default.

```
Get-CTTrailStatus -Name myExampleTrail
```

Example 2: Returns status information for a trail that was created in a region other than the current shell default (in this case, the Frankfurt (eu-central-1) region).

```
Get-CTTrailStatus -Name myExampleTrail -Region eu-central-1
```

- For API details, see GetTrailStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CTTrail`

The following code example shows how to use `New-CTTrail`.

Tools for PowerShell

Example 1: Creates a trail that will use the bucket 'mycloudtrailbucket' for log file storage.

```
New-CTTrail -Name="awscloudtrail-example" -S3BucketName="mycloudtrailbucket"
```

Example 2: Creates a trail that will use the bucket 'mycloudtrailbucket' for log file storage. The S3 objects representing the logs will have a common key prefix of 'mylogs'. When new logs are delivered to the bucket a notification will be sent to the SNS topic 'mlog-deliverytopic'. This example using splatting to supply the parameter values to the cmdlet.

```
$params = @{
    Name="awscloudtrail-example"
    S3BucketName="mycloudtrailbucket"
    S3KeyPrefix="mylogs"
    SnsTopicName="mlog-deliverytopic"
}
New-CTTrail @params
```

- For API details, see CreateTrail in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CTTrail`

The following code example shows how to use `Remove-CTTrail`.

Tools for PowerShell

Example 1: Deletes the specified trail. You will be prompted for confirmation before the command is run. To suppress confirmation, add the -Force switch parameter.

```
Remove-CTTrail -Name "awscloudtrail-example"
```

- For API details, see DeleteTrail in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-CTLogging`

The following code example shows how to use `Start-CTLogging`.

Tools for PowerShell

Example 1: Starts the recording of AWS API calls and log file delivery for the trail named 'myExampleTrail'. This example assumes the trail was created in the same region as the current shell default.

```
Start-CTLogging -Name myExampleTrail
```

Example 2: Starts the recording of AWS API calls and log file delivery for a trail that was created in a region other than the current shell default (in this case, the Frankfurt (eu-central-1) region).

```
Start-CTLogging -Name myExampleTrail -Region eu-central-1
```

- For API details, see StartLogging in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-CTLogging`

The following code example shows how to use `Stop-CTLogging`.

Tools for PowerShell

Example 1: Suspends the recording of AWS API calls and log file delivery for the trail named 'myExampleTrail'. This example assumes the trail was created in the same region as the current shell default.

```
Stop-CTLogging -Name myExampleTrail
```

Example 2: Suspends the recording of AWS API calls and log file delivery for a trail that was created in a region other than the current shell default (in this case, the Frankfurt (eu-central-1) region).

```
Stop-CTLogging -Name myExampleTrail -Region eu-central-1
```

- For API details, see StopLogging in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CTTrail`

The following code example shows how to use `Update-CTTrail`.

Tools for PowerShell

Example 1: Updates the specified trail so that global service events (such as those from IAM) are recorded and changes the common key prefix of the log files going forwards to be 'globallogs'.

```
Update-CTTrail -Name "awscloudtrail-example" -IncludeGlobalServiceEvents $true -
S3KeyPrefix "globallogs"
```

Example 2: Updates the specified trail so notifications about new log deliveries are sent to the specified SNS topic.

```
Update-CTTrail -Name "awscloudtrail-example" -SnsTopicName "mlog-deliverytopic2"
```

Example 3: Updates the specified trail so logs are delivered to a different bucket.

```
Update-CTTrail -Name "awscloudtrail-example" -S3BucketName "otherlogs"
```

- For API details, see UpdateTrail in *AWS Tools for PowerShell Cmdlet Reference*.

CloudWatch examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-CWDashboard`

The following code example shows how to use `Get-CWDashboard`.

Tools for PowerShell

Example 1: Returns the arn the body of the specified dashboard.

```
Get-CWDashboard -DashboardName Dashboard1
```

Output:

```
DashboardArn                                            DashboardBody
------------                                            -------------
arn:aws:cloudwatch::123456789012:dashboard/Dashboard1 {...
```

- For API details, see GetDashboard in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CWDashboardList`

The following code example shows how to use `Get-CWDashboardList`.

Tools for PowerShell

Example 1: Returns the collection of dashboards for your account.

```
Get-CWDashboardList
```

Output:

```
DashboardArn DashboardName LastModified        Size
------------ ------------- ------------        ----
arn:...      Dashboard1    7/6/2017 8:14:15 PM 252
```

Example 2: Returns the collection of dashboards for your account whose names start with the prefix 'dev'.

```
Get-CWDashboardList -DashboardNamePrefix dev
```

- For API details, see ListDashboards in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CWDashboard`

The following code example shows how to use `Remove-CWDashboard`.

Tools for PowerShell

Example 1: Deletes the specified dashboard, promoting for confirmation before proceeding. To bypass confirmation add the -Force switch to the command.

```
Remove-CWDashboard -DashboardName Dashboard1
```

- For API details, see DeleteDashboards in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-CWDashboard`

The following code example shows how to use `Write-CWDashboard`.

Tools for PowerShell

Example 1: Creates or updates the dashboard named 'Dashboard1' to include two metric widgets side by side.

```
$dashBody = @"
{
    "widgets":[
```

```
        {
             "type":"metric",
             "x":0,
             "y":0,
             "width":12,
             "height":6,
             "properties":{
                "metrics":[
                   [
                      "AWS/EC2",
                      "CPUUtilization",
                      "InstanceId",
                      "i-012345"
                   ]
                ],
                "period":300,
                "stat":"Average",
                "region":"us-east-1",
                "title":"EC2 Instance CPU"
             }
        },
        {
             "type":"metric",
             "x":12,
             "y":0,
             "width":12,
             "height":6,
             "properties":{
                "metrics":[
                   [
                      "AWS/S3",
                      "BucketSizeBytes",
                      "BucketName",
                      "MyBucketName"
                   ]
                ],
                "period":86400,
                "stat":"Maximum",
                "region":"us-east-1",
                "title":"MyBucketName bytes"
            }
        }
    ]
}
```

```
"@

Write-CWDashboard -DashboardName Dashboard1 -DashboardBody $dashBody
```

Example 2: Creates or updates the dashboard, piping the content describing the dashboard into the cmdlet.

```
$dashBody = @"
{
...
}
"@

$dashBody | Write-CWDashboard -DashboardName Dashboard1
```

- For API details, see PutDashboard in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-CWMetricData`

The following code example shows how to use `Write-CWMetricData`.

Tools for PowerShell

Example 1: Creates a new MetricDatum object, and writes it to Amazon Web Services CloudWatch Metrics.

```
### Create a MetricDatum .NET object
$Metric = New-Object -TypeName Amazon.CloudWatch.Model.MetricDatum
$Metric.Timestamp = [DateTime]::UtcNow
$Metric.MetricName = 'CPU'
$Metric.Value = 50

### Write the metric data to the CloudWatch service
Write-CWMetricData -Namespace instance1 -MetricData $Metric
```

- For API details, see PutMetricData in *AWS Tools for PowerShell Cmdlet Reference*.

CodeCommit examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-CCBranch`

The following code example shows how to use `Get-CCBranch`.

Tools for PowerShell

Example 1: This example gets information about the specified branch for the specified repository.

```
Get-CCBranch -RepositoryName MyDemoRepo -BranchName MyNewBranch
```

Output:

```
BranchName                              CommitId
----------                              --------
MyNewBranch                             7763222d...561fc9c9
```

- For API details, see GetBranch in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CCBranchList`

The following code example shows how to use `Get-CCBranchList`.

Tools for PowerShell

Example 1: This example gets a list of branch names for the specified repository.

```
Get-CCBranchList -RepositoryName MyDemoRepo
```

Output:

```
master
MyNewBranch
```

- For API details, see ListBranches in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CCRepository`

The following code example shows how to use `Get-CCRepository`.

Tools for PowerShell

Example 1: This example gets information for the specified repository.

```
Get-CCRepository -RepositoryName MyDemoRepo
```

Output:

```
AccountId             : 80398EXAMPLE
Arn                   : arn:aws:codecommit:us-east-1:80398EXAMPLE:MyDemoRepo
CloneUrlHttp          : https://git-codecommit.us-east-1.amazonaws.com/v1/repos/
MyDemoRepo
CloneUrlSsh           : ssh://git-codecommit.us-east-1.amazonaws.com/v1/repos/
MyDemoRepo
CreationDate          : 9/8/2015 3:21:33 PM
DefaultBranch         :
LastModifiedDate      : 9/8/2015 3:21:33 PM
RepositoryDescription : This is a repository for demonstration purposes.
RepositoryId          : c7d0d2b0-ce40-4303-b4c3-38529EXAMPLE
RepositoryName        : MyDemoRepo
```

- For API details, see GetRepository in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CCRepositoryBatch`

The following code example shows how to use `Get-CCRepositoryBatch`.

Tools for PowerShell

Example 1: This example confirms which of the specified repositories are found and not found.

```
Get-CCRepositoryBatch -RepositoryName MyDemoRepo, MyNewRepo, AMissingRepo
```

Output:

```
Repositories                            RepositoriesNotFound
------------                            --------------------
{MyDemoRepo, MyNewRepo}                 {AMissingRepo}
```

- For API details, see BatchGetRepositories in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CCRepositoryList`

The following code example shows how to use `Get-CCRepositoryList`.

Tools for PowerShell

Example 1: This example lists all repositories in ascending order by repository name.

```
Get-CCRepositoryList -Order Ascending -SortBy RepositoryName
```

Output:

```
RepositoryId                            RepositoryName
------------                            --------------
c7d0d2b0-ce40-4303-b4c3-38529EXAMPLE    MyDemoRepo
05f30c66-e3e3-4f91-a0cd-1c84aEXAMPLE    MyNewRepo
```

- For API details, see ListRepositories in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CCBranch`

The following code example shows how to use `New-CCBranch`.

Tools for PowerShell

Example 1: This example creates a new branch with the specified name for the specified repository and the specified commit ID.

```
New-CCBranch -RepositoryName MyDemoRepo -BranchName MyNewBranch -CommitId
 7763222d...561fc9c9
```

- For API details, see CreateBranch in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CCRepository`

The following code example shows how to use `New-CCRepository`.

Tools for PowerShell

Example 1: This example creates a new repository with the specified name and the specified description.

```
New-CCRepository -RepositoryName MyDemoRepo -RepositoryDescription "This is a
 repository for demonstration purposes."
```

Output:

```
AccountId             : 80398EXAMPLE
Arn                   : arn:aws:codecommit:us-east-1:80398EXAMPLE:MyDemoRepo
CloneUrlHttp          : https://git-codecommit.us-east-1.amazonaws.com/v1/repos/
MyDemoRepo
CloneUrlSsh           : ssh://git-codecommit.us-east-1.amazonaws.com/v1/repos/
MyDemoRepo
CreationDate          : 9/18/2015 4:13:25 PM
DefaultBranch         :
LastModifiedDate      : 9/18/2015 4:13:25 PM
RepositoryDescription : This is a repository for demonstration purposes.
RepositoryId          : 43ef2443-3372-4b12-9e78-65c27EXAMPLE
RepositoryName        : MyDemoRepo
```

- For API details, see CreateRepository in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CCRepository`

The following code example shows how to use `Remove-CCRepository`.

Tools for PowerShell

Example 1: This example forcibly deletes the specified repository. The command will prompt for confirmation before proceeding. Add the -Force parameter to delete the repository without a prompt.

```
Remove-CCRepository -RepositoryName MyDemoRepo
```

Output:

```
43ef2443-3372-4b12-9e78-65c27EXAMPLE
```

- For API details, see DeleteRepository in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CCDefaultBranch`

The following code example shows how to use `Update-CCDefaultBranch`.

Tools for PowerShell

Example 1: This example changes the default branch for the specified repository to the specified branch.

```
Update-CCDefaultBranch -RepositoryName MyDemoRepo -DefaultBranchName MyNewBranch
```

- For API details, see UpdateDefaultBranch in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CCRepositoryDescription`

The following code example shows how to use `Update-CCRepositoryDescription`.

Tools for PowerShell

Example 1: This example changes the description for the specified repository.

```
Update-CCRepositoryDescription -RepositoryName MyDemoRepo -RepositoryDescription
 "This is an updated description."
```

- For API details, see UpdateRepositoryDescription in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CCRepositoryName`

The following code example shows how to use `Update-CCRepositoryName`.

Tools for PowerShell

Example 1: This example changes the name of the specified repository.

```
Update-CCRepositoryName -NewName MyDemoRepo2 -OldName MyDemoRepo
```

- For API details, see UpdateRepositoryName in *AWS Tools for PowerShell Cmdlet Reference*.

CodeDeploy examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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-CDOnPremiseInstanceTag`

The following code example shows how to use `Add-CDOnPremiseInstanceTag`.

Tools for PowerShell

Example 1: This example adds an on-premises instance tag with the specified key and value for the specified on-premises instance.

```
Add-CDOnPremiseInstanceTag -InstanceName AssetTag12010298EX -Tag @{"Key" = "Name";
 "Value" = "CodeDeployDemo-OnPrem"}
```

- For API details, see AddTagsToOnPremisesInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDApplication`

The following code example shows how to use `Get-CDApplication`.

Tools for PowerShell

Example 1: This example gets information about the specified application.

```
Get-CDApplication -ApplicationName CodeDeployDemoApplication
```

Output:

```
ApplicationId                           ApplicationName             CreateTime
         LinkedToGitHub
-------------                           ---------------             ----------
         --------------
e07fb938-091e-4f2f-8963-4d3e8EXAMPLE    CodeDeployDemoApplication   7/20/2015
 9:49:48 PM    False
```

- For API details, see GetApplication in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDApplicationBatch`

The following code example shows how to use `Get-CDApplicationBatch`.

Tools for PowerShell

Example 1: This example gets information about the specified applications.

```
Get-CDApplicationBatch -ApplicationName CodeDeployDemoApplication,
 CodePipelineDemoApplication
```

Output:

```
ApplicationId                           ApplicationName             CreateTime
         LinkedToGitHub
-------------                           ---------------             ----------
         --------------
e07fb938-091e-4f2f-8963-4d3e8EXAMPLE    CodeDeployDemoApplication    7/20/2015
 9:49:48 PM    False
1ecfd602-62f1-4038-8f0d-06688EXAMPLE    CodePipelineDemoApplication  8/13/2015
 5:53:26 PM    False
```

- For API details, see BatchGetApplications in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDApplicationList`

The following code example shows how to use `Get-CDApplicationList`.

Tools for PowerShell

Example 1: This example gets a list of available applications.

```
Get-CDApplicationList
```

Output:

```
CodeDeployDemoApplication
CodePipelineDemoApplication
```

- For API details, see ListApplications in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDApplicationRevision`

The following code example shows how to use `Get-CDApplicationRevision`.

Tools for PowerShell

Example 1: This example gets information about the specified application revision.

```
$revision = Get-CDApplicationRevision -ApplicationName CodeDeployDemoApplication -
S3Location_Bucket MyBucket -Revision_RevisionType S3 -S3Location_Key 5xd27EX.zip -
S3Location_BundleType zip -S3Location_ETag 4565c1ac97187f190c1a90265EXAMPLE
Write-Output ("Description = " + $revision.RevisionInfo.Description + ",
 RegisterTime = " + $revision.RevisionInfo.RegisterTime)
```

Output:

```
Description = Application revision registered by Deployment ID: d-CX9CHN3EX,
 RegisterTime = 07/20/2015 23:46:42
```

- For API details, see GetApplicationRevision in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDApplicationRevisionList`

The following code example shows how to use `Get-CDApplicationRevisionList`.

Tools for PowerShell

Example 1: This example gets information about available revisions for the specified application.

```
ForEach ($revision in (Get-CDApplicationRevisionList -ApplicationName
 CodeDeployDemoApplication -Deployed Ignore)) {
>>   If ($revision.RevisionType -Eq "S3") {
>>     Write-Output ("Type = S3, Bucket = " + $revision.S3Location.Bucket
 + ", BundleType = " + $revision.S3Location.BundleType + ", ETag = " +
 $revision.S3Location.ETag + ", Key = " + $revision.S3Location.Key)
>>   }
>>   If ($revision.RevisionType -Eq "GitHub") {
>>     Write-Output ("Type = GitHub, CommitId = " +
 $revision.GitHubLocation.CommitId + ", Repository = " +
 $revision.GitHubLocation.Repository)
>>   }
>> }
>>
```

Output:

```
Type = S3, Bucket = MyBucket, BundleType = zip, ETag =
 4565c1ac97187f190c1a90265EXAMPLE, Key = 5xd27EX.zip
Type = GitHub, CommitId = f48933c3...76405362, Repository = MyGitHubUser/
CodeDeployDemoRepo
```

- For API details, see ListApplicationRevisions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeployment`

The following code example shows how to use `Get-CDDeployment`.

Tools for PowerShell

Example 1: This example gets summary information about the specified deployment.

```
Get-CDDeployment -DeploymentId d-QZMRGSTEX
```

Output:

```
ApplicationName               : CodeDeployDemoApplication
CompleteTime                  : 7/23/2015 11:26:04 PM
CreateTime                    : 7/23/2015 11:24:43 PM
Creator                       : user
DeploymentConfigName          : CodeDeployDefault.OneAtATime
DeploymentGroupName           : CodeDeployDemoFleet
DeploymentId                  : d-QZMRGSTEX
DeploymentOverview            : Amazon.CodeDeploy.Model.DeploymentOverview
Description                   :
ErrorInformation              :
IgnoreApplicationStopFailures : False
Revision                      : Amazon.CodeDeploy.Model.RevisionLocation
StartTime                     : 1/1/0001 12:00:00 AM
Status                        : Succeeded
```

Example 2: This example gets information about the status of instances that are participating in the specified deployment.

```
(Get-CDDeployment -DeploymentId d-QZMRGSTEX).DeploymentOverview
```

Output:

```
Failed     : 0
InProgress : 0
Pending    : 0
Skipped    : 0
Succeeded  : 3
```

Example 3: This example gets information about the application revision for the specified deployment.

```
(Get-CDDeployment -DeploymentId d-QZMRGSTEX).Revision.S3Location
```

Output:

```
Bucket     : MyBucket
BundleType : zip
ETag       : cfbb81b304ee5e27efc21adaed3EXAMPLE
Key        : clzfqEX
Version    :
```

- For API details, see GetDeployment in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeploymentBatch`

The following code example shows how to use `Get-CDDeploymentBatch`.

Tools for PowerShell

Example 1: This example gets information about the specified deployments.

```
Get-CDDeploymentBatch -DeploymentId d-QZMRGSTEX, d-RR0T5KTEX
```

Output:

```
ApplicationName               : CodeDeployDemoApplication
CompleteTime                  : 7/23/2015 11:26:04 PM
CreateTime                    : 7/23/2015 11:24:43 PM
Creator                       : user
DeploymentConfigName          : CodeDeployDefault.OneAtATime
DeploymentGroupName           : CodeDeployDemoFleet
DeploymentId                  : d-QZMRGSTEX
```

```
DeploymentOverview            : Amazon.CodeDeploy.Model.DeploymentOverview
Description                   :
ErrorInformation              :
IgnoreApplicationStopFailures : False
Revision                      : Amazon.CodeDeploy.Model.RevisionLocation
StartTime                     : 1/1/0001 12:00:00 AM
Status                        : Succeeded

ApplicationName               : CodePipelineDemoApplication
CompleteTime                  : 7/23/2015 6:07:30 PM
CreateTime                    : 7/23/2015 6:06:29 PM
Creator                       : user
DeploymentConfigName          : CodeDeployDefault.OneAtATime
DeploymentGroupName           : CodePipelineDemoFleet
DeploymentId                  : d-RR0T5KTEX
DeploymentOverview            : Amazon.CodeDeploy.Model.DeploymentOverview
Description                   :
ErrorInformation              :
IgnoreApplicationStopFailures : False
Revision                      : Amazon.CodeDeploy.Model.RevisionLocation
StartTime                     : 1/1/0001 12:00:00 AM
Status                        : Succeeded
```

- For API details, see BatchGetDeployments in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeploymentConfig`

The following code example shows how to use `Get-CDDeploymentConfig`.

Tools for PowerShell

Example 1: This example gets summary information about the specified deployment configuration.

```
Get-CDDeploymentConfig -DeploymentConfigName ThreeQuartersHealthy
```

Output:

```
CreateTime              DeploymentConfigId                    DeploymentConfigName
    MinimumHealthyHosts
----------              ------------------                    --------------------
    -------------------
```

```
10/3/2014 4:32:30 PM    518a3950-d034-46a1-9d2c-3c949EXAMPLE    ThreeQuartersHealthy
    Amazon.CodeDeploy.Model.MinimumHealthyHosts
```

Example 2: This example gets information about the definition of the specified deployment configuration.

```
Write-Output ((Get-CDDeploymentConfig -DeploymentConfigName
 ThreeQuartersHealthy).MinimumHealthyHosts)
```

Output:

```
Type             Value
----             -----
FLEET_PERCENT    75
```

- For API details, see GetDeploymentConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeploymentConfigList`

The following code example shows how to use `Get-CDDeploymentConfigList`.

Tools for PowerShell

Example 1: This example gets a list of available deployment configurations.

```
Get-CDDeploymentConfigList
```

Output:

```
ThreeQuartersHealthy
CodeDeployDefault.OneAtATime
CodeDeployDefault.AllAtOnce
CodeDeployDefault.HalfAtATime
```

- For API details, see ListDeploymentConfigs in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeploymentGroup`

The following code example shows how to use `Get-CDDeploymentGroup`.

Tools for PowerShell

Example 1: This example gets information about the specified deployment group.

```
Get-CDDeploymentGroup -ApplicationName CodeDeployDemoApplication -
DeploymentGroupName CodeDeployDemoFleet
```

Output:

```
ApplicationName              : CodeDeployDemoApplication
AutoScalingGroups            : {}
DeploymentConfigName         : CodeDeployDefault.OneAtATime
DeploymentGroupId            : 7d7c098a-b444-4b27-96ef-22791EXAMPLE
DeploymentGroupName          : CodeDeployDemoFleet
Ec2TagFilters                : {Name}
OnPremisesInstanceTagFilters : {}
ServiceRoleArn               : arn:aws:iam::80398EXAMPLE:role/
CodeDeploySampleStack-4ph6EX-CodeDeployTrustRole-O9MWP7XTL8EX
TargetRevision               : Amazon.CodeDeploy.Model.RevisionLocation
```

- For API details, see GetDeploymentGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeploymentGroupList`

The following code example shows how to use `Get-CDDeploymentGroupList`.

Tools for PowerShell

Example 1: This example gets a list of deployment groups for the specified application.

```
Get-CDDeploymentGroupList -ApplicationName CodeDeployDemoApplication
```

Output:

```
ApplicationName             DeploymentGroups
 NextToken
---------------             ----------------
 ---------
CodeDeployDemoApplication   {CodeDeployDemoFleet, CodeDeployProductionFleet}
```

- For API details, see ListDeploymentGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeploymentInstance`

The following code example shows how to use `Get-CDDeploymentInstance`.

Tools for PowerShell

Example 1: This example gets information about the specified instance for the specified deployment.

```
Get-CDDeploymentInstance -DeploymentId d-QZMRGSTEX -InstanceId i-254e22EX
```

Output:

```
DeploymentId    : d-QZMRGSTEX
InstanceId      : arn:aws:ec2:us-east-1:80398EXAMPLE:instance/i-254e22EX
LastUpdatedAt   : 7/23/2015 11:25:24 PM
LifecycleEvents : {ApplicationStop, DownloadBundle, BeforeInstall, Install...}
Status          : Succeeded
```

- For API details, see GetDeploymentInstance in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeploymentInstanceList`

The following code example shows how to use `Get-CDDeploymentInstanceList`.

Tools for PowerShell

Example 1: This example gets a list of instance IDs for the specified deployment.

```
Get-CDDeploymentInstanceList -DeploymentId d-QZMRGSTEX
```

Output:

```
i-254e22EX
i-274e22EX
i-3b4e22EX
```

- For API details, see ListDeploymentInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDDeploymentList`

The following code example shows how to use `Get-CDDeploymentList`.

Tools for PowerShell

Example 1: This example gets a list of deployment IDs for the specified application and deployment group.

```
Get-CDDeploymentList -ApplicationName CodeDeployDemoApplication -DeploymentGroupName
 CodeDeployDemoFleet
```

Output:

```
d-QZMRGSTEX
d-RR0T5KTEX
```

- For API details, see ListDeployments in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDOnPremiseInstance`

The following code example shows how to use `Get-CDOnPremiseInstance`.

Tools for PowerShell

Example 1: This example gets information about the specified on-premises instance.

```
Get-CDOnPremiseInstance -InstanceName AssetTag12010298EX
```

Output:

```
DeregisterTime : 1/1/0001 12:00:00 AM
IamUserArn     : arn:aws:iam::80398EXAMPLE:user/CodeDeployDemoUser
InstanceArn    : arn:aws:codedeploy:us-east-1:80398EXAMPLE:instance/
AssetTag12010298EX_rDH556dxEX
InstanceName   : AssetTag12010298EX
RegisterTime   : 4/3/2015 6:36:24 PM
Tags           : {Name}
```

- For API details, see GetOnPremisesInstance in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDOnPremiseInstanceBatch`

The following code example shows how to use `Get-CDOnPremiseInstanceBatch`.

Tools for PowerShell

Example 1: This example gets information about the specified on-premises instances.

```
Get-CDOnPremiseInstanceBatch -InstanceName AssetTag12010298EX, AssetTag12010298EX-2
```

Output:

```
DeregisterTime : 1/1/0001 12:00:00 AM
IamUserArn     : arn:aws:iam::80398EXAMPLE:user/CodeDeployFRWUser
InstanceArn    : arn:aws:codedeploy:us-east-1:80398EXAMPLE:instance/
AssetTag12010298EX-2_XmeSz18rEX
InstanceName   : AssetTag12010298EX-2
RegisterTime   : 4/3/2015 6:38:52 PM
Tags           : {Name}

DeregisterTime : 1/1/0001 12:00:00 AM
IamUserArn     : arn:aws:iam::80398EXAMPLE:user/CodeDeployDemoUser
InstanceArn    : arn:aws:codedeploy:us-east-1:80398EXAMPLE:instance/
AssetTag12010298EX_rDH556dxEX
InstanceName   : AssetTag12010298EX
RegisterTime   : 4/3/2015 6:36:24 PM
Tags           : {Name}
```

- For API details, see BatchGetOnPremisesInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CDOnPremiseInstanceList`

The following code example shows how to use `Get-CDOnPremiseInstanceList`.

Tools for PowerShell

Example 1: This example gets a list of available on-premises instance names.

```
Get-CDOnPremiseInstanceList
```

Output:

```
AssetTag12010298EX
AssetTag12010298EX-2
```

- For API details, see ListOnPremisesInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CDApplication`

The following code example shows how to use `New-CDApplication`.

Tools for PowerShell

Example 1: This example creates a new application with the specified name.

```
New-CDApplication -ApplicationName MyNewApplication
```

Output:

```
f19e4b61-2231-4328-b0fd-e57f5EXAMPLE
```

- For API details, see CreateApplication in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CDDeployment`

The following code example shows how to use `New-CDDeployment`.

Tools for PowerShell

Example 1: This example creates a new deployment for the specified application and deployment group with the specified deployment configuration and application revision.

```
New-CDDeployment -ApplicationName MyNewApplication -S3Location_Bucket MyBucket
 -S3Location_BundleType zip -DeploymentConfigName CodeDeployDefault.OneAtATime -
DeploymentGroupName MyNewDeploymentGroup -IgnoreApplicationStopFailures $True -
S3Location_Key aws-codedeploy_linux-master.zip -RevisionType S3
```

Output:

```
d-ZHROG7UEX
```

Example 2: This example shows how to specify groups of EC2 instance tags that an instance must be identified by in order for it to be included in the replacement environment for a blue/green deployment.

```
New-CDDeployment -ApplicationName MyNewApplication -S3Location_Bucket MyBucket
 -S3Location_BundleType zip -DeploymentConfigName CodeDeployDefault.OneAtATime
 -DeploymentGroupName MyNewDeploymentGroup -IgnoreApplicationStopFailures $True
 -S3Location_Key aws-codedeploy_linux-master.zip -RevisionType S3 -Ec2TagSetList
 @(@{Key="key1";Type="KEY_ONLY"},@{Key="Key2";Type="KEY_AND_VALUE";Value="Value2"}),@(@{Key=
```

Output:

```
d-ZHROG7UEX
```

- For API details, see CreateDeployment in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CDDeploymentConfig`

The following code example shows how to use `New-CDDeploymentConfig`.

Tools for PowerShell

Example 1: This example creates a new deployment configuration with the specified name and behavior.

```
New-CDDeploymentConfig -DeploymentConfigName AtLeastTwoHealthyHosts -
MinimumHealthyHosts_Type HOST_COUNT -MinimumHealthyHosts_Value 2
```

Output:

```
0f3e8187-44ef-42da-aeed-b6823EXAMPLE
```

- For API details, see CreateDeploymentConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CDDeploymentGroup`

The following code example shows how to use `New-CDDeploymentGroup`.

Tools for PowerShell

Example 1: This example creates a deployment group with the specified name, Auto Scaling group, deployment configuration, tag, and service role, for the specified application.

```
New-CDDeploymentGroup -ApplicationName MyNewApplication -AutoScalingGroup
 CodeDeployDemo-ASG -DeploymentConfigName CodeDeployDefault.OneAtATime
 -DeploymentGroupName MyNewDeploymentGroup -Ec2TagFilter @{Key="Name";
 Type="KEY_AND_VALUE"; Value="CodeDeployDemo"} -ServiceRoleArn
 arn:aws:iam::80398EXAMPLE:role/CodeDeployDemo
```

Output:

```
16bbf199-95fd-40fc-a909-0bbcfEXAMPLE
```

Example 2: This example shows how to specify groups of EC2 instance tags that an instance must be identified by in order for it to be included in the replacement environment for a blue/green deployment.

```
New-CDDeploymentGroup -ApplicationName MyNewApplication -AutoScalingGroup
 CodeDeployDemo-ASG -DeploymentConfigName CodeDeployDefault.OneAtATime
 -DeploymentGroupName MyNewDeploymentGroup -Ec2TagFilter @{Key="Name";
 Type="KEY_AND_VALUE"; Value="CodeDeployDemo"} -ServiceRoleArn
 arn:aws:iam::80398EXAMPLE:role/CodeDeployDemo -Ec2TagSetList
 @(@{Key="key1";Type="KEY_ONLY"},@{Key="Key2";Type="KEY_AND_VALUE";Value="Value2"}),@(@{Key=
```

Output:

```
16bbf199-95fd-40fc-a909-0bbcfEXAMPLE
```

- For API details, see CreateDeploymentGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-CDApplicationRevision`

The following code example shows how to use `Register-CDApplicationRevision`.

Tools for PowerShell

Example 1: This example registers an application revision with the specified Amazon S3 location, for the specified application.

```
Register-CDApplicationRevision -ApplicationName MyNewApplication -S3Location_Bucket
 MyBucket -S3Location_BundleType zip -S3Location_Key aws-codedeploy_linux-master.zip
 -Revision_RevisionType S3
```

- For API details, see RegisterApplicationRevision in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-CDOnPremiseInstance`

The following code example shows how to use `Register-CDOnPremiseInstance`.

Tools for PowerShell

Example 1: This example registers an on-premises instance with the specified name and IAM user.

```
Register-CDOnPremiseInstance -IamUserArn arn:aws:iam::80398EXAMPLE:user/
CodeDeployDemoUser -InstanceName AssetTag12010298EX
```

- For API details, see RegisterOnPremisesInstance in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CDApplication`

The following code example shows how to use `Remove-CDApplication`.

Tools for PowerShell

Example 1: This example deletes the application with the specified name. The command will prompt for confirmation before proceeding. Add the -Force parameter to delete the application without a prompt.

```
Remove-CDApplication -ApplicationName MyNewApplication
```

- For API details, see DeleteApplication in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CDDeploymentConfig`

The following code example shows how to use `Remove-CDDeploymentConfig`.

Tools for PowerShell

Example 1: This example deletes the deployment configuration with the specified name. The command will prompt for confirmation before proceeding. Add the -Force parameter to delete the deployment configuration without a prompt.

```
Remove-CDDeploymentConfig -DeploymentConfigName AtLeastTwoHealthyHosts
```

- For API details, see DeleteDeploymentConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CDDeploymentGroup`

The following code example shows how to use `Remove-CDDeploymentGroup`.

Tools for PowerShell

Example 1: This example deletes the deployment group with the specified name for the specified application. The command will prompt for confirmation before proceeding. Add the -Force parameter to delete the deployment group without a prompt.

```
Remove-CDDeploymentGroup -ApplicationName MyNewApplication -DeploymentGroupName
 MyNewDeploymentGroup
```

- For API details, see DeleteDeploymentGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CDOnPremiseInstanceTag`

The following code example shows how to use `Remove-CDOnPremiseInstanceTag`.

Tools for PowerShell

Example 1: This example deletes the specified tag for the on-premises instance with the specified name. The command will prompt for confirmation before proceeding. Add the -Force parameter to delete the tag without a prompt.

```
Remove-CDOnPremiseInstanceTag -InstanceName AssetTag12010298EX -Tag @{"Key" =
 "Name"; "Value" = "CodeDeployDemo-OnPrem"}
```

- For API details, see RemoveTagsFromOnPremisesInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-CDDeployment`

The following code example shows how to use `Stop-CDDeployment`.

Tools for PowerShell

Example 1: This example attempts to stop the deployment with the specified deployment ID.

```
Stop-CDDeployment -DeploymentId d-LJQNREYEX
```

Output:

```
Status     StatusMessage
------     -------------
Pending    Stopping Pending. Stopping to schedule commands in the deployment
 instances
```

- For API details, see StopDeployment in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-CDOnPremiseInstance`

The following code example shows how to use `Unregister-CDOnPremiseInstance`.

Tools for PowerShell

Example 1: This example deregisters the on-premises instance with the specified name.

```
Unregister-CDOnPremiseInstance -InstanceName AssetTag12010298EX
```

- For API details, see DeregisterOnPremisesInstance in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CDApplication`

The following code example shows how to use `Update-CDApplication`.

Tools for PowerShell

Example 1: This example changes the name of the specified application.

```
Update-CDApplication -ApplicationName MyNewApplication -NewApplicationName
 MyNewApplication-2
```

- For API details, see UpdateApplication in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CDDeploymentGroup`

The following code example shows how to use `Update-CDDeploymentGroup`.

Tools for PowerShell

Example 1: This example changes the name of the specified deployment group for the specified application.

```
Update-CDDeploymentGroup -ApplicationName MyNewApplication -
CurrentDeploymentGroupName MyNewDeploymentGroup -NewDeploymentGroupName
 MyNewDeploymentGroup-2
```

Example 2: This example shows how to specify groups of EC2 instance tags that an instance must be identified by in order for it to be included in the replacement environment for a blue/green deployment.

```
Update-CDDeploymentGroup -ApplicationName MyNewApplication -
CurrentDeploymentGroupName MyNewDeploymentGroup -NewDeploymentGroupName
 MyNewDeploymentGroup-2 -Ec2TagSetList
 @(@{Key="key1";Type="KEY_ONLY"},@{Key="Key2";Type="KEY_AND_VALUE";Value="Value2"}),@(@{Key=
```

- For API details, see UpdateDeploymentGroup in *AWS Tools for PowerShell Cmdlet Reference*.

CodePipeline examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Confirm-CPJob`

The following code example shows how to use `Confirm-CPJob`.

Tools for PowerShell

Example 1: This example gets the status of the specified job.

```
Confirm-CPJob -JobId f570dc12-5ef3-44bc-945a-6e133EXAMPLE -Nonce 3
```

Output:

```
Value
-----
InProgress
```

- For API details, see AcknowledgeJob in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-CPStageTransition`

The following code example shows how to use `Disable-CPStageTransition`.

Tools for PowerShell

Example 1: This example disables the inbound transition for the specified stage in the specified pipeline.

```
Disable-CPStageTransition -PipelineName CodePipelineDemo -Reason "Disabling
 temporarily." -StageName Beta -TransitionType Inbound
```

- For API details, see DisableStageTransition in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-CPStageTransition`

The following code example shows how to use `Enable-CPStageTransition`.

Tools for PowerShell

Example 1: This example enables the inbound transition for the specified stage in the specified pipeline.

```
Enable-CPStageTransition -PipelineName CodePipelineDemo -StageName Beta -
TransitionType Inbound
```

- For API details, see EnableStageTransition in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CPActionType`

The following code example shows how to use `Get-CPActionType`.

Tools for PowerShell

Example 1: This example gets information about all available actions for the specified owner.

```
ForEach ($actionType in (Get-CPActionType -ActionOwnerFilter AWS)) {
  Write-Output ("For Category = " + $actionType.Id.Category + ", Owner = " +
 $actionType.Id.Owner + ", Provider = " + $actionType.Id.Provider + ", Version = " +
 $actionType.Id.Version + ":")
  Write-Output ("  ActionConfigurationProperties:")
  ForEach ($acp in $actionType.ActionConfigurationProperties) {
    Write-Output ("    For " + $acp.Name + ":")
    Write-Output ("      Description = " + $acp.Description)
    Write-Output ("      Key = " + $acp.Key)
    Write-Output ("      Queryable = " + $acp.Queryable)
    Write-Output ("      Required = " + $acp.Required)
    Write-Output ("      Secret = " + $acp.Secret)
  }
  Write-Output ("  InputArtifactDetails:")
  Write-Output ("    MaximumCount = " +
 $actionType.InputArtifactDetails.MaximumCount)
  Write-Output ("    MinimumCount = " +
 $actionType.InputArtifactDetails.MinimumCount)
  Write-Output ("  OutputArtifactDetails:")
```

```
  Write-Output ("    MaximumCount = " +
 $actionType.OutputArtifactDetails.MaximumCount)
  Write-Output ("    MinimumCount = " +
 $actionType.OutputArtifactDetails.MinimumCount)
  Write-Output ("  Settings:")
  Write-Output ("    EntityUrlTemplate = " + $actionType.Settings.EntityUrlTemplate)
  Write-Output ("    ExecutionUrlTemplate = " +
 $actionType.Settings.ExecutionUrlTemplate)
}
```

Output:

```
For Category = Deploy, Owner = AWS, Provider = ElasticBeanstalk, Version = 1:
  ActionConfigurationProperties:
    For ApplicationName:
      Description = The AWS Elastic Beanstalk Application name
      Key = True
      Queryable = False
      Required = True
      Secret = False
    For EnvironmentName:
      Description = The AWS Elastic Beanstalk Environment name
      Key = True
      Queryable = False
      Required = True
      Secret = False
  InputArtifactDetails:
    MaximumCount = 1
    MinimumCount = 1
  OutputArtifactDetails:
    MaximumCount = 0
    MinimumCount = 0
  Settings:
    EntityUrlTemplate = https://console.aws.amazon.com/elasticbeanstalk/r/
application/{Config:ApplicationName}
    ExecutionUrlTemplate = https://console.aws.amazon.com/elasticbeanstalk/r/
application/{Config:ApplicationName}
For Category = Deploy, Owner = AWS, Provider = CodeDeploy, Version = 1:
  ActionConfigurationProperties:
    For ApplicationName:
      Description = The AWS CodeDeploy Application name
      Key = True
      Queryable = False
```

```
      Required = True
      Secret = False
    For DeploymentGroupName:
      Description = The AWS CodeDeploy Deployment Group name
      Key = True
      Queryable = False
      Required = True
      Secret = False
  InputArtifactDetails:
    MaximumCount = 1
    MinimumCount = 1
  OutputArtifactDetails:
    MaximumCount = 0
    MinimumCount = 0
  Settings:
    EntityUrlTemplate = https://console.aws.amazon.com/codedeploy/home?#/
applications/{Config:ApplicationName}/deployment-groups/{Config:DeploymentGroupName}
    ExecutionUrlTemplate = https://console.aws.amazon.com/codedeploy/home?#/
deployments/{ExternalExecutionId}
```

- For API details, see ListActionTypes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CPActionableJobList`

The following code example shows how to use `Get-CPActionableJobList`.

Tools for PowerShell

Example 1: This example gets information about all actionable jobs for the specified action category, owner, provider, version, and query parameters.

```
Get-CPActionableJobList -ActionTypeId_Category Build -ActionTypeId_Owner Custom
 -ActionTypeId_Provider MyCustomProviderName -ActionTypeId_Version 1 -QueryParam
 @{"ProjectName" = "MyProjectName"}
```

Output:

```
AccountId       Data                                Id
          Nonce
---------       ----                                --
          -----
```

```
80398EXAMPLE    Amazon.CodePipeline.Model.JobData    0de392f5-712d-4f41-ace3-
f57a0EXAMPLE    3
```

- For API details, see PollForJobs in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CPJobDetail`

The following code example shows how to use `Get-CPJobDetail`.

Tools for PowerShell

Example 1: This example gets general information about the specified job.

```
Get-CPJobDetail -JobId f570dc12-5ef3-44bc-945a-6e133EXAMPLE
```

Output:

```
AccountId       Data                                Id
---------       ----                                --
80398EXAMPLE    Amazon.CodePipeline.Model.JobData
 f570dc12-5ef3-44bc-945a-6e133EXAMPLE
```

Example 2: This example gets detailed information about the specified job.

```
$jobDetails = Get-CPJobDetail -JobId f570dc12-5ef3-44bc-945a-6e133EXAMPLE
Write-Output ("For Job " + $jobDetails.Id + ":")
Write-Output ("  AccountId = " + $jobDetails.AccountId)
$jobData = $jobDetails.Data
Write-Output ("  Configuration:")
ForEach ($key in $jobData.ActionConfiguration.Keys) {
  $value = $jobData.ActionConfiguration.$key
  Write-Output ("    " + $key + " = " + $value)
}
Write-Output ("  ActionTypeId:")
Write-Output ("    Category = " + $jobData.ActionTypeId.Category)
Write-Output ("    Owner = " + $jobData.ActionTypeId.Owner)
Write-Output ("    Provider = " + $jobData.ActionTypeId.Provider)
Write-Output ("    Version = " + $jobData.ActionTypeId.Version)
Write-Output ("  ArtifactCredentials:")
Write-Output ("    AccessKeyId = " + $jobData.ArtifactCredentials.AccessKeyId)
Write-Output ("    SecretAccessKey = " +
 $jobData.ArtifactCredentials.SecretAccessKey)
```

```
Write-Output ("    SessionToken = " + $jobData.ArtifactCredentials.SessionToken)
Write-Output ("  InputArtifacts:")
ForEach ($ia in $jobData.InputArtifacts) {
  Write-Output ("    " + $ia.Name)
}
Write-Output ("  OutputArtifacts:")
ForEach ($oa in $jobData.OutputArtifacts) {
  Write-Output ("    " + $oa.Name)
}
Write-Output ("  PipelineContext:")
$context = $jobData.PipelineContext
Write-Output ("    Name = " + $context.Action.Name)
Write-Output ("    PipelineName = " + $context.PipelineName)
Write-Output ("    Stage = " + $context.Stage.Name)
```

Output:

```
For Job f570dc12-5ef3-44bc-945a-6e133EXAMPLE:
  AccountId = 80398EXAMPLE
  Configuration:
  ActionTypeId:
    Category = Build
    Owner = Custom
    Provider = MyCustomProviderName
    Version = 1
  ArtifactCredentials:
    AccessKeyId = ASIAIEI3...IXI6YREX
    SecretAccessKey = cqAFDhEi...RdQyfa2u
    SessionToken = AQoDYXdz...5u+lsAU=
  InputArtifacts:
    MyApp
  OutputArtifacts:
    MyAppBuild
  PipelineContext:
    Name = Build
    PipelineName = CodePipelineDemo
    Stage = Build
```

- For API details, see GetJobDetails in *AWS Tools for PowerShell Cmdlet Reference*.

Get-CPPipeline

The following code example shows how to use Get-CPPipeline.

Tools for PowerShell

Example 1: This example gets general information about the specified pipeline.

```
Get-CPPipeline -Name CodePipelineDemo -Version 1
```

Output:

```
ArtifactStore : Amazon.CodePipeline.Model.ArtifactStore
Name          : CodePipelineDemo
RoleArn       : arn:aws:iam::80398EXAMPLE:role/CodePipelineServiceRole
Stages        : {Source, Build, Beta, TestStage}
Version       : 1
```

Example 2: This example gets detailed information about the specified pipeline.

```
$pipeline = Get-CPPipeline -Name CodePipelineDemo
Write-Output ("Name = " + $pipeline.Name)
Write-Output ("RoleArn = " + $pipeline.RoleArn)
Write-Output ("Version = " + $pipeline.Version)
Write-Output ("ArtifactStore:")
Write-Output ("  Location = " + $pipeline.ArtifactStore.Location)
Write-Output ("  Type = " + $pipeline.ArtifactStore.Type.Value)
Write-Output ("Stages:")
ForEach ($stage in $pipeline.Stages) {
  Write-Output ("  Name = " + $stage.Name)
  Write-Output ("    Actions:")
  ForEach ($action in $stage.Actions) {
    Write-Output ("      Name = " + $action.Name)
 Write-Output ("        Category = " + $action.ActionTypeId.Category)
 Write-Output ("        Owner = " + $action.ActionTypeId.Owner)
 Write-Output ("        Provider = " + $action.ActionTypeId.Provider)
 Write-Output ("        Version = " + $action.ActionTypeId.Version)
 Write-Output ("        Configuration:")
 ForEach ($key in $action.Configuration.Keys) {
   $value = $action.Configuration.$key
   Write-Output ("          " + $key + " = " + $value)
 }
```

```
 Write-Output ("        InputArtifacts:")
 ForEach ($ia in $action.InputArtifacts) {
   Write-Output ("          " + $ia.Name)
 }
 ForEach ($oa in $action.OutputArtifacts) {
   Write-Output ("          " + $oa.Name)
 }
 Write-Output ("        RunOrder = " + $action.RunOrder)
  }
}
```

Output:

```
Name = CodePipelineDemo
RoleArn = arn:aws:iam::80398EXAMPLE:role/CodePipelineServiceRole
Version = 3
ArtifactStore:
  Location = MyBucketName
  Type = S3
Stages:
  Name = Source
    Actions:
      Name = Source
        Category = Source
        Owner = ThirdParty
        Provider = GitHub
        Version = 1
        Configuration:
          Branch = master
          OAuthToken = ****
          Owner = my-user-name
          Repo = MyRepoName
        InputArtifacts:
          MyApp
        RunOrder = 1
  Name = Build
    Actions:
      Name = Build
        Category = Build
        Owner = Custom
        Provider = MyCustomProviderName
        Version = 1
        Configuration:
```

```
          ProjectName = MyProjectName
        InputArtifacts:
          MyApp
          MyAppBuild
        RunOrder = 1
  Name = Beta
    Actions:
      Name = CodePipelineDemoFleet
        Category = Deploy
        Owner = AWS
        Provider = CodeDeploy
        Version = 1
        Configuration:
          ApplicationName = CodePipelineDemoApplication
          DeploymentGroupName = CodePipelineDemoFleet
        InputArtifacts:
          MyAppBuild
        RunOrder = 1
  Name = TestStage
    Actions:
      Name = MyJenkinsTestAction
        Category = Test
        Owner = Custom
        Provider = MyCustomTestProvider
        Version = 1
        Configuration:
          ProjectName = MyJenkinsProjectName
        InputArtifacts:
          MyAppBuild
        RunOrder = 1
```

- For API details, see GetPipeline in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CPPipelineList`

The following code example shows how to use `Get-CPPipelineList`.

Tools for PowerShell

Example 1: This example gets a list of available pipelines.

```
Get-CPPipelineList
```

Output:

```
Created                 Name                Updated                 Version
-------                 ----                -------                 -------
8/13/2015 10:17:54 PM   CodePipelineDemo    8/13/2015 10:17:54 PM   3
7/8/2015 2:41:53 AM     MyFirstPipeline     7/22/2015 9:06:37 PM    7
```

- For API details, see ListPipelines in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CPPipelineState`

The following code example shows how to use `Get-CPPipelineState`.

Tools for PowerShell

Example 1: This example gets general information about the stages for the specified pipeline.

```
Get-CPPipelineState -Name CodePipelineDemo
```

Output:

```
Created         : 8/13/2015 10:17:54 PM
PipelineName    : CodePipelineDemo
PipelineVersion : 1
StageStates     : {Source, Build, Beta, TestStage}
Updated         : 8/13/2015 10:17:54 PM
```

Example 2: This example gets detailed information about the state of the specified pipeline.

```
ForEach ($stageState in (Get-CPPipelineState -Name $arg).StageStates) {
  Write-Output ("For " + $stageState.StageName + ":")
  Write-Output ("  InboundTransitionState:")
  Write-Output ("    DisabledReason = " +
 $stageState.InboundTransitionState.DisabledReason)
  Write-Output ("    Enabled = " + $stageState.InboundTransitionState.Enabled)
  Write-Output ("    LastChangedAt = " +
 $stageState.InboundTransitionState.LastChangedAt)
  Write-Output ("    LastChangedBy = " +
 $stageState.InboundTransitionState.LastChangedBy)
  Write-Output ("  ActionStates:")
```

```
  ForEach ($actionState in $stageState.ActionStates) {
    Write-Output ("    For " + $actionState.ActionName + ":")
 Write-Output ("      CurrentRevision:")
    Write-Output ("        Created = " + $actionState.CurrentRevision.Created)
 Write-Output ("        RevisionChangeId = " +
 $actionState.CurrentRevision.RevisionChangeId)
 Write-Output ("        RevisionId = " + $actionState.CurrentRevision.RevisionId)
 Write-Output ("      EntityUrl = " + $actionState.EntityUrl)
 Write-Output ("      LatestExecution:")
    Write-Output ("        ErrorDetails:")
    Write-Output ("          Code = " +
 $actionState.LatestExecution.ErrorDetails.Code)
 Write-Output ("          Message = " +
 $actionState.LatestExecution.ErrorDetails.Message)
 Write-Output ("        ExternalExecutionId = " +
 $actionState.LatestExecution.ExternalExecutionId)
 Write-Output ("        ExternalExecutionUrl = " +
 $actionState.LatestExecution.ExternalExecutionUrl)
 Write-Output ("        LastStatusChange = " +
 $actionState.LatestExecution.LastStatusChange)
 Write-Output ("        PercentComplete = " +
 $actionState.LatestExecution.PercentComplete)
 Write-Output ("        Status = " + $actionState.LatestExecution.Status)
 Write-Output ("        Summary = " + $actionState.LatestExecution.Summary)
 Write-Output ("      RevisionUrl = " + $actionState.RevisionUrl)
  }
}
```

Output:

```
For Source:
  InboundTransitionState:
    DisabledReason =
    Enabled =
    LastChangedAt =
    LastChangedBy =
  ActionStates:
    For Source:
      CurrentRevision:
        Created =
        RevisionChangeId =
        RevisionId =
      EntityUrl = https://github.com/my-user-name/MyRepoName/tree/master
```

```
      LatestExecution:
        ErrorDetails:
          Code =
          Message =
        ExternalExecutionId =
        ExternalExecutionUrl =
        LastStatusChange = 07/20/2015 23:28:45
        PercentComplete = 0
        Status = Succeeded
        Summary =
      RevisionUrl =
For Build:
  InboundTransitionState:
    DisabledReason =
    Enabled = True
    LastChangedAt = 01/01/0001 00:00:00
    LastChangedBy =
  ActionStates:
    For Build:
      CurrentRevision:
        Created =
        RevisionChangeId =
        RevisionId =
      EntityUrl = http://54.174.131.1EX/job/MyJenkinsDemo
      LatestExecution:
        ErrorDetails:
          Code = TimeoutError
          Message = The action failed because a job worker exceeded its time limit.
 If this is a custom action, make sure that the job worker is configured correctly.
        ExternalExecutionId =
        ExternalExecutionUrl =
        LastStatusChange = 07/21/2015 00:29:29
        PercentComplete = 0
        Status = Failed
        Summary =
      RevisionUrl =
For Beta:
  InboundTransitionState:
    DisabledReason =
    Enabled = True
    LastChangedAt = 01/01/0001 00:00:00
    LastChangedBy =
  ActionStates:
    For CodePipelineDemoFleet:
```

```
      CurrentRevision:
        Created =
        RevisionChangeId =
        RevisionId =
      EntityUrl = https://console.aws.amazon.com/codedeploy/home?#/applications/
CodePipelineDemoApplication/deployment-groups/CodePipelineDemoFleet
      LatestExecution:
        ErrorDetails:
          Code =
          Message =
        ExternalExecutionId = d-D5LTCZXEX
        ExternalExecutionUrl = https://console.aws.amazon.com/codedeploy/home?#/
deployments/d-D5LTCZXEX
        LastStatusChange = 07/08/2015 22:07:42
        PercentComplete = 0
        Status = Succeeded
        Summary = Deployment Succeeded
      RevisionUrl =
For TestStage:
  InboundTransitionState:
    DisabledReason =
    Enabled = True
    LastChangedAt = 01/01/0001 00:00:00
    LastChangedBy =
  ActionStates:
    For MyJenkinsTestAction25:
      CurrentRevision:
        Created =
        RevisionChangeId =
        RevisionId =
      EntityUrl = http://54.174.131.1EX/job/MyJenkinsDemo
      LatestExecution:
        ErrorDetails:
          Code =
          Message =
        ExternalExecutionId = 5
        ExternalExecutionUrl = http://54.174.131.1EX/job/MyJenkinsDemo/5
        LastStatusChange = 07/08/2015 22:09:03
        PercentComplete = 0
        Status = Succeeded
        Summary = Finished
      RevisionUrl =
```

- For API details, see GetPipelineState in *AWS Tools for PowerShell Cmdlet Reference*.

New-CPCustomActionType

The following code example shows how to use New-CPCustomActionType.

Tools for PowerShell

Example 1: This example creates a new custom action with the specified properties.

```
New-CPCustomActionType -Category Build -ConfigurationProperty @{"Description"
 = "The name of the build project must be provided when this action is added
 to the pipeline."; "Key" = $True; "Name" = "ProjectName"; "Queryable"
 = $False; "Required" = $True; "Secret" = $False; "Type" = "String"} -
Settings_EntityUrlTemplate "https://my-build-instance/job/{Config:ProjectName}/"
 -Settings_ExecutionUrlTemplate "https://my-build-instance/job/mybuildjob/
lastSuccessfulBuild{ExternalExecutionId}/" -InputArtifactDetails_MaximumCount
 1 -OutputArtifactDetails_MaximumCount 1 -InputArtifactDetails_MinimumCount 0 -
OutputArtifactDetails_MinimumCount 0 -Provider "MyBuildProviderName" -Version 1
```

Output:

```
ActionConfigurationProperties : {ProjectName}
Id                            : Amazon.CodePipeline.Model.ActionTypeId
InputArtifactDetails          : Amazon.CodePipeline.Model.ArtifactDetails
OutputArtifactDetails         : Amazon.CodePipeline.Model.ArtifactDetails
Settings                      : Amazon.CodePipeline.Model.ActionTypeSettings
```

- For API details, see CreateCustomActionType in *AWS Tools for PowerShell Cmdlet Reference*.

New-CPPipeline

The following code example shows how to use New-CPPipeline.

Tools for PowerShell

Example 1: This examples creates a new pipeline with the specified settings.

```
$pipeline = New-Object Amazon.CodePipeline.Model.PipelineDeclaration

$sourceStageAction = New-Object Amazon.CodePipeline.Model.ActionDeclaration
$deployStageAction = New-Object Amazon.CodePipeline.Model.ActionDeclaration
```

```
$sourceStageActionOutputArtifact = New-Object
 Amazon.CodePipeline.Model.OutputArtifact
$sourceStageActionOutputArtifact.Name = "MyApp"

$sourceStageAction.ActionTypeId = @{"Category" = "Source"; "Owner" = "AWS";
 "Provider" = "S3"; "Version" = 1}
$sourceStageAction.Configuration.Add("S3Bucket", "MyBucketName")
$sourceStageAction.Configuration.Add("S3ObjectKey", "my-object-key-name.zip")
$sourceStageAction.OutputArtifacts.Add($sourceStageActionOutputArtifact)
$sourceStageAction.Name = "Source"

$deployStageActionInputArtifact = New-Object Amazon.CodePipeline.Model.InputArtifact
$deployStageActionInputArtifact.Name = "MyApp"

$deployStageAction.ActionTypeId = @{"Category" = "Deploy"; "Owner" = "AWS";
 "Provider" = "CodeDeploy"; "Version" = 1}
$deployStageAction.Configuration.Add("ApplicationName",
 "CodePipelineDemoApplication")
$deployStageAction.Configuration.Add("DeploymentGroupName", "CodePipelineDemoFleet")
$deployStageAction.InputArtifacts.Add($deployStageActionInputArtifact)
$deployStageAction.Name = "CodePipelineDemoFleet"

$sourceStage = New-Object Amazon.CodePipeline.Model.StageDeclaration
$deployStage = New-Object Amazon.CodePipeline.Model.StageDeclaration

$sourceStage.Name = "Source"
$deployStage.Name = "Beta"

$sourceStage.Actions.Add($sourceStageAction)
$deployStage.Actions.Add($deployStageAction)

$pipeline.ArtifactStore = @{"Location" = "MyBucketName"; "Type" = "S3"}
$pipeline.Name = "CodePipelineDemo"
$pipeline.RoleArn = "arn:aws:iam::80398EXAMPLE:role/CodePipelineServiceRole"
$pipeline.Stages.Add($sourceStage)
$pipeline.Stages.Add($deployStage)
$pipeline.Version = 1

New-CPPipeline -Pipeline $pipeline
```

Output:

```
ArtifactStore : Amazon.CodePipeline.Model.ArtifactStore
```

```
Name           : CodePipelineDemo
RoleArn        : arn:aws:iam::80398EXAMPLE:role/CodePipelineServiceRole
Stages         : {Source, Beta}
Version        : 1
```

- For API details, see CreatePipeline in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CPCustomActionType`

The following code example shows how to use `Remove-CPCustomActionType`.

Tools for PowerShell

Example 1: This example deletes the specified custom action. The command will prompt for confirmation before proceeding. Add the -Force parameter to delete the custom action without a prompt.

```
Remove-CPCustomActionType -Category Build -Provider MyBuildProviderName -Version 1
```

- For API details, see DeleteCustomActionType in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CPPipeline`

The following code example shows how to use `Remove-CPPipeline`.

Tools for PowerShell

Example 1: This example deletes the specified pipeline. The command will prompt for confirmation before proceeding. Add the -Force parameter to delete the pipeline without a prompt.

```
Remove-CPPipeline -Name CodePipelineDemo
```

- For API details, see DeletePipeline in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-CPPipelineExecution`

The following code example shows how to use `Start-CPPipelineExecution`.

Tools for PowerShell

Example 1: This example starts running the specified pipeline.

```
Start-CPPipelineExecution -Name CodePipelineDemo
```

- For API details, see StartPipelineExecution in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CPPipeline`

The following code example shows how to use `Update-CPPipeline`.

Tools for PowerShell

Example 1: This example updates the specified existing pipeline with the specified settings.

```
$pipeline = New-Object Amazon.CodePipeline.Model.PipelineDeclaration

$sourceStageAction = New-Object Amazon.CodePipeline.Model.ActionDeclaration
$deployStageAction = New-Object Amazon.CodePipeline.Model.ActionDeclaration

$sourceStageActionOutputArtifact = New-Object
 Amazon.CodePipeline.Model.OutputArtifact
$sourceStageActionOutputArtifact.Name = "MyApp"

$sourceStageAction.ActionTypeId = @{"Category" = "Source"; "Owner" = "AWS";
 "Provider" = "S3"; "Version" = 1}
$sourceStageAction.Configuration.Add("S3Bucket", "MyBucketName")
$sourceStageAction.Configuration.Add("S3ObjectKey", "my-object-key-name.zip")
$sourceStageAction.OutputArtifacts.Add($sourceStageActionOutputArtifact)
$sourceStageAction.Name = "Source"

$deployStageActionInputArtifact = New-Object Amazon.CodePipeline.Model.InputArtifact
$deployStageActionInputArtifact.Name = "MyApp"

$deployStageAction.ActionTypeId = @{"Category" = "Deploy"; "Owner" = "AWS";
 "Provider" = "CodeDeploy"; "Version" = 1}
$deployStageAction.Configuration.Add("ApplicationName",
 "CodePipelineDemoApplication")
$deployStageAction.Configuration.Add("DeploymentGroupName", "CodePipelineDemoFleet")
$deployStageAction.InputArtifacts.Add($deployStageActionInputArtifact)
$deployStageAction.Name = "CodePipelineDemoFleet"
```

```
$sourceStage = New-Object Amazon.CodePipeline.Model.StageDeclaration
$deployStage = New-Object Amazon.CodePipeline.Model.StageDeclaration

$sourceStage.Name = "MyInputFiles"
$deployStage.Name = "MyTestDeployment"

$sourceStage.Actions.Add($sourceStageAction)
$deployStage.Actions.Add($deployStageAction)

$pipeline.ArtifactStore = @{"Location" = "MyBucketName"; "Type" = "S3"}
$pipeline.Name = "CodePipelineDemo"
$pipeline.RoleArn = "arn:aws:iam::80398EXAMPLE:role/CodePipelineServiceRole"
$pipeline.Stages.Add($sourceStage)
$pipeline.Stages.Add($deployStage)
$pipeline.Version = 1

Update-CPPipeline -Pipeline $pipeline
```

Output:

```
ArtifactStore : Amazon.CodePipeline.Model.ArtifactStore
Name          : CodePipelineDemo
RoleArn       : arn:aws:iam::80398EXAMPLE:role/CodePipelineServiceRole
Stages        : {InputFiles, TestDeployment}
Version       : 2
```

- For API details, see UpdatePipeline in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon Cognito Identity examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-CGIIdentityPool`

The following code example shows how to use `Get-CGIIdentityPool`.

Tools for PowerShell

Example 1: Retrieves information about a specific Identity Pool by its id.

```
Get-CGIIdentityPool -IdentityPoolId us-east-1:0de2af35-2988-4d0b-b22d-EXAMPLEGUID1
```

Output:

```
LoggedAt                       : 8/12/2015 4:29:40 PM
AllowUnauthenticatedIdentities : True
DeveloperProviderName          :
IdentityPoolId                 : us-east-1:0de2af35-2988-4d0b-b22d-EXAMPLEGUID1
IdentityPoolName               : CommonTests1
OpenIdConnectProviderARNs      : {}
SupportedLoginProviders        : {}
ResponseMetadata               : Amazon.Runtime.ResponseMetadata
ContentLength                  : 142
HttpStatusCode                 : OK
```

- For API details, see DescribeIdentityPool in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CGIIdentityPoolList`

The following code example shows how to use `Get-CGIIdentityPoolList`.

Tools for PowerShell

Example 1: Retrieves a list of existing Identity Pools.

```
Get-CGIIdentityPoolList
```

Output:

```
IdentityPoolId                                                  IdentityPoolName
--------------                                                  ----------------
us-east-1:0de2af35-2988-4d0b-b22d-EXAMPLEGUID1                  CommonTests1
us-east-1:118d242d-204e-4b88-b803-EXAMPLEGUID2                  Tests2
us-east-1:15d49393-ab16-431a-b26e-EXAMPLEGUID3                  CommonTests13
```

- For API details, see ListIdentityPools in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CGIIdentityPoolRole`

The following code example shows how to use `Get-CGIIdentityPoolRole`.

Tools for PowerShell

Example 1: Gets the information about roles for a specific Identity Pool.

```
Get-CGIIdentityPoolRole -IdentityPoolId us-east-1:0de2af35-2988-4d0b-b22d-
EXAMPLEGUID1
```

Output:

```
LoggedAt         : 8/12/2015 4:33:51 PM
IdentityPoolId   : us-east-1:0de2af35-2988-4d0b-b22d-EXAMPLEGUID1
Roles            : {[unauthenticated, arn:aws:iam::123456789012:role/
CommonTests1Role]}
ResponseMetadata : Amazon.Runtime.ResponseMetadata
ContentLength    : 165
HttpStatusCode   : OK
```

- For API details, see GetIdentityPoolRoles in *AWS Tools for PowerShell Cmdlet Reference*.

`New-CGIIdentityPool`

The following code example shows how to use `New-CGIIdentityPool`.

Tools for PowerShell

Example 1: Creates a new Identity Pool which allows unauthenticated identities.

```
New-CGIIdentityPool -AllowUnauthenticatedIdentities $true -IdentityPoolName
 CommonTests13
```

Output:

```
LoggedAt                        : 8/12/2015 4:56:07 PM
AllowUnauthenticatedIdentities  : True
DeveloperProviderName           :
IdentityPoolId                  : us-east-1:15d49393-ab16-431a-b26e-EXAMPLEGUID3
IdentityPoolName                : CommonTests13
OpenIdConnectProviderARNs       : {}
SupportedLoginProviders         : {}
ResponseMetadata                : Amazon.Runtime.ResponseMetadata
ContentLength                   : 136
HttpStatusCode                  : OK
```

- For API details, see CreateIdentityPool in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CGIIdentityPool`

The following code example shows how to use `Remove-CGIIdentityPool`.

Tools for PowerShell

Example 1: Deletes a specific Identity Pool.

```
Remove-CGIIdentityPool -IdentityPoolId us-east-1:0de2af35-2988-4d0b-b22d-
EXAMPLEGUID1
```

- For API details, see DeleteIdentityPool in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-CGIIdentityPoolRole`

The following code example shows how to use `Set-CGIIdentityPoolRole`.

Tools for PowerShell

Example 1: Configures the specific Identity Pool to have an unauthenticated IAM role.

```
Set-CGIIdentityPoolRole -IdentityPoolId us-east-1:0de2af35-2988-4d0b-b22d-
EXAMPLEGUID1 -Role @{ "unauthenticated" = "arn:aws:iam::123456789012:role/
CommonTests1Role" }
```

- For API details, see SetIdentityPoolRoles in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-CGIIdentityPool`

The following code example shows how to use `Update-CGIIdentityPool`.

Tools for PowerShell

Example 1: Updates some of the Identity Pool properties, in this case the name of the Identity Pool.

```
Update-CGIIdentityPool -IdentityPoolId us-east-1:0de2af35-2988-4d0b-b22d-
EXAMPLEGUID1 -IdentityPoolName NewPoolName
```

Output:

```
LoggedAt                        : 8/12/2015 4:53:33 PM
AllowUnauthenticatedIdentities  : False
DeveloperProviderName           :
IdentityPoolId                  : us-east-1:0de2af35-2988-4d0b-b22d-EXAMPLEGUID1
IdentityPoolName                : NewPoolName
OpenIdConnectProviderARNs       : {}
SupportedLoginProviders         : {}
ResponseMetadata                : Amazon.Runtime.ResponseMetadata
ContentLength                   : 135
HttpStatusCode                  : OK
```

- For API details, see UpdateIdentityPool in *AWS Tools for PowerShell Cmdlet Reference*.

AWS Config examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-CFGResourceTag`

The following code example shows how to use `Add-CFGResourceTag`.

Tools for PowerShell

Example 1: This example associates specified tag to the resource ARN, which is config-rule/config-rule-16iyn0 in this case.

```
Add-CFGResourceTag -ResourceArn arn:aws:config:eu-west-1:123456789012:config-rule/
config-rule-16iyn0 -Tag @{Key="Release";Value="Beta"}
```

- For API details, see TagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGAggregateComplianceByConfigRuleList`

The following code example shows how to use `Get-CFGAggregateComplianceByConfigRuleList`.

Tools for PowerShell

Example 1: This example fetches the details from ConfigurationAggregator 'kaju' filtering for the given config rule and expands/returns the 'Compliance' of the rule.

```
Get-CFGAggregateComplianceByConfigRuleList -ConfigurationAggregatorName kaju
 -Filters_ConfigRuleName ALB_HTTP_TO_HTTPS_REDIRECTION_CHECK | Select-Object -
ExpandProperty Compliance
```

Output:

```
ComplianceContributorCount                              ComplianceType
--------------------------                              --------------
Amazon.ConfigService.Model.ComplianceContributorCount NON_COMPLIANT
```

Example 2: This example fetches details from the given ConfigurationAggregator, filters it for the given account for all regions covered in the aggregator and further retuns the compliance for all the rules.

```
Get-CFGAggregateComplianceByConfigRuleList -ConfigurationAggregatorName
 kaju -Filters_AccountId 123456789012 | Select-Object ConfigRuleName,
 @{N="Compliance";E={$_.Compliance.ComplianceType}}
```

Output:

```
ConfigRuleName                      Compliance
--------------                      ----------
ALB_HTTP_TO_HTTPS_REDIRECTION_CHECK NON_COMPLIANT
ec2-instance-no-public-ip           NON_COMPLIANT
desired-instance-type               NON_COMPLIANT
```

- For API details, see DescribeAggregateComplianceByConfigRules in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGAggregateComplianceDetailsByConfigRule`

The following code example shows how to use `Get-CFGAggregateComplianceDetailsByConfigRule`.

Tools for PowerShell

Example 1: This example returns the evaluation results selecting the output with resource-id and resource-type for the AWS Config rule 'desired-instance-type' which are in 'COMPLIANT' state for the given account, aggregator, region and config rule

```
Get-CFGAggregateComplianceDetailsByConfigRule -AccountId 123456789012 -
AwsRegion eu-west-1 -ComplianceType COMPLIANT -ConfigRuleName desired-
instance-type -ConfigurationAggregatorName raju | Select-Object -
ExpandProperty EvaluationResultIdentifier | Select-Object -ExpandProperty
 EvaluationResultQualifier
```

Output:

```
ConfigRuleName        ResourceId          ResourceType
--------------        ----------          ------------
```

```
desired-instance-type i-0f1bf2f34c5678d12 AWS::EC2::Instance
desired-instance-type i-0fd12dd3456789123 AWS::EC2::Instance
```

- For API details, see GetAggregateComplianceDetailsByConfigRule in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGAggregateConfigRuleComplianceSummary`

The following code example shows how to use `Get-CFGAggregateConfigRuleComplianceSummary`.

Tools for PowerShell

Example 1: This example returns the number of noncompliant rules for the given aggregator.

```
(Get-CFGAggregateConfigRuleComplianceSummary -ConfigurationAggregatorName
 raju).AggregateComplianceCounts.ComplianceSummary.NonCompliantResourceCount
```

Output:

```
CapExceeded CappedCount
----------- -----------
False       5
```

- For API details, see GetAggregateConfigRuleComplianceSummary in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGAggregateDiscoveredResourceCount`

The following code example shows how to use `Get-CFGAggregateDiscoveredResourceCount`.

Tools for PowerShell

Example 1: This example returns the resource count for the given aggregator filtered for region us-east-1.

```
Get-CFGAggregateDiscoveredResourceCount -ConfigurationAggregatorName Master -
Filters_Region us-east-1
```

Output:

```
GroupByKey GroupedResourceCounts NextToken TotalDiscoveredResources
---------- -------------------- --------- -----------------------
           {}                              455
```

Example 2: This example returns the resource count grouped by RESOURCE_TYPE for the filtered region for the given aggregator.

```
Get-CFGAggregateDiscoveredResourceCount -ConfigurationAggregatorName Master -
Filters_Region us-east-1 -GroupByKey RESOURCE_TYPE |
   Select-Object -ExpandProperty GroupedResourceCounts
```

Output:

```
GroupName                          ResourceCount
---------                          -------------
AWS::CloudFormation::Stack         12
AWS::CloudFront::Distribution      1
AWS::CloudTrail::Trail             1
AWS::DynamoDB::Table               1
AWS::EC2::EIP                      2
AWS::EC2::FlowLog                  2
AWS::EC2::InternetGateway          4
AWS::EC2::NatGateway               2
AWS::EC2::NetworkAcl               4
AWS::EC2::NetworkInterface         12
AWS::EC2::RouteTable               13
AWS::EC2::SecurityGroup            18
AWS::EC2::Subnet                   16
AWS::EC2::VPC                      4
AWS::EC2::VPCEndpoint              2
AWS::EC2::VPCPeeringConnection     1
AWS::IAM::Group                    2
AWS::IAM::Policy                   51
AWS::IAM::Role                     78
AWS::IAM::User                     7
AWS::Lambda::Function              3
AWS::RDS::DBSecurityGroup          1
AWS::S3::Bucket                    3
AWS::SSM::AssociationCompliance    107
AWS::SSM::ManagedInstanceInventory 108
```

- For API details, see GetAggregateDiscoveredResourceCounts in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGAggregateDiscoveredResourceList`

The following code example shows how to use `Get-CFGAggregateDiscoveredResourceList`.

Tools for PowerShell

Example 1: This example returns the resource identifiers for the given resource type aggregated in 'Ireland' aggregator. For the list of resource types, please check https://docs.aws.amazon.com/sdkfornet/v3/apidocs/index.html?page=ConfigService/TConfigServiceResourceType.html&tocid=Amazon_ConfigService_ResourceType.

```
Get-CFGAggregateDiscoveredResourceList -ConfigurationAggregatorName Ireland -
ResourceType ([Amazon.ConfigService.ResourceType]::AWSAutoScalingAutoScalingGroup)
```

Output:

```
ResourceId      : arn:aws:autoscaling:eu-
west-1:123456789012:autoScalingGroup:12e3b4fc-1234-1234-
a123-1d2ba3c45678:autoScalingGroupName/asg-1
ResourceName    : asg-1
ResourceType    : AWS::AutoScaling::AutoScalingGroup
SourceAccountId : 123456789012
SourceRegion    : eu-west-1
```

Example 2: This example returns the resource type `AwsEC2SecurityGroup` named 'default' for the given aggregator filtered with region us-east-1.

```
Get-CFGAggregateDiscoveredResourceList -ConfigurationAggregatorName raju -
ResourceType ([Amazon.ConfigService.ResourceType]::AWSEC2SecurityGroup) -
Filters_Region us-east-1 -Filters_ResourceName default
```

Output:

```
ResourceId      : sg-01234bd5dbfa67c89
ResourceName    : default
ResourceType    : AWS::EC2::SecurityGroup
SourceAccountId : 123456789102
```

```
SourceRegion    : us-east-1

ResourceId      : sg-0123a4ebbf56789be
ResourceName    : default
ResourceType    : AWS::EC2::SecurityGroup
SourceAccountId : 123456789102
SourceRegion    : us-east-1

ResourceId      : sg-4fc1d234
ResourceName    : default
ResourceType    : AWS::EC2::SecurityGroup
SourceAccountId : 123456789102
SourceRegion    : us-east-1
```

- For API details, see ListAggregateDiscoveredResources in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGAggregateResourceConfig`

The following code example shows how to use `Get-CFGAggregateResourceConfig`.

Tools for PowerShell

Example 1: This example returns the Configuration Item for the given resource aggregated and expands Configuration.

```
(Get-CFGAggregateResourceConfig -ResourceIdentifier_SourceRegion
 us-east-1 -ResourceIdentifier_SourceAccountId 123456789012 -
ResourceIdentifier_ResourceId sg-4fc1d234 -ResourceIdentifier_ResourceType
 ([Amazon.ConfigService.ResourceType]::AWSEC2SecurityGroup) -
ConfigurationAggregatorName raju).Configuration | ConvertFrom-Json
```

Output:

```
{"description":"default VPC security group","groupName":"default","ipPermissions":
[{"ipProtocol":"-1","ipv6Ranges":[],"prefixListIds":[],"userIdGroupPairs":
[{"groupId":"sg-4fc1d234","userId":"123456789012"}],"ipv4Ranges":
[],"ipRanges":[]},{"fromPort":3389,"ipProtocol":"tcp","ipv6Ranges":
[],"prefixListIds":[],"toPort":3389,"userIdGroupPairs":[],"ipv4Ranges":
[{"cidrIp":"54.240.197.224/29","description":"office subnet"},
{"cidrIp":"72.21.198.65/32","description":"home pc"}],"ipRanges":
["54.240.197.224/29","72.21.198.65/32"]}],"ownerId":"123456789012","groupId":"sg-4fc1d234","
```

```
[{"ipProtocol":"-1","ipv6Ranges":[],"prefixListIds":[],"userIdGroupPairs":
[],"ipv4Ranges":[{"cidrIp":"0.0.0.0/0"}],"ipRanges":["0.0.0.0/0"]}],"tags":
[],"vpcId":"vpc-2d1c2e34"}
```

- For API details, see GetAggregateResourceconfig-service in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGAggregateResourceConfigBatch`

The following code example shows how to use `Get-CFGAggregateResourceConfigBatch`.

Tools for PowerShell

Example 1: This example fetches current configuration item for resource (identified) present in the given aggregator.

```
$resIdentifier=[Amazon.ConfigService.Model.AggregateResourceIdentifier]@{
  ResourceId= "i-012e3cb4df567e8aa"
  ResourceName = "arn:aws:ec2:eu-west-1:123456789012:instance/i-012e3cb4df567e8aa"
  ResourceType = [Amazon.ConfigService.ResourceType]::AWSEC2Instance
  SourceAccountId = "123456789012"
  SourceRegion = "eu-west-1"
 }

 Get-CFGAggregateResourceConfigBatch -ResourceIdentifier $resIdentifier -
ConfigurationAggregatorName raju
```

Output:

```
BaseConfigurationItems UnprocessedResourceIdentifiers
---------------------- ------------------------------
{}                     {arn:aws:ec2:eu-west-1:123456789012:instance/
i-012e3cb4df567e8aa}
```

- For API details, see BatchGetAggregateResourceconfig-service in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGAggregationAuthorizationList`

The following code example shows how to use `Get-CFGAggregationAuthorizationList`.

Tools for PowerShell

Example 1: This example retrieves authorizations granted to aggregators.

```
Get-CFGAggregationAuthorizationList
```

Output:

```
AggregationAuthorizationArn
   AuthorizedAccountId AuthorizedAwsRegion CreationTime
--------------------------
   ------------------- ------------------- ------------
arn:aws:config-service:eu-west-1:123456789012:aggregation-
authorization/123456789012/eu-west-1 123456789012        eu-west-1
 8/26/2019 12:55:27 AM
```

- For API details, see DescribeAggregationAuthorizations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGComplianceByConfigRule`

The following code example shows how to use `Get-CFGComplianceByConfigRule`.

Tools for PowerShell

Example 1: This example retrieves compliances details for the rule ebs-optimized-instance, for which there is no current evaluation results for the rule, hence it returns INSUFFICIENT_DATA

```
(Get-CFGComplianceByConfigRule -ConfigRuleName ebs-optimized-instance).Compliance
```

Output:

```
ComplianceContributorCount ComplianceType
-------------------------- --------------
                           INSUFFICIENT_DATA
```

Example 2: This example returns the number of non-compliant resources for the rule ALB_HTTP_TO_HTTPS_REDIRECTION_CHECK.

```
(Get-CFGComplianceByConfigRule -ConfigRuleName ALB_HTTP_TO_HTTPS_REDIRECTION_CHECK -
ComplianceType NON_COMPLIANT).Compliance.ComplianceContributorCount
```

Output:

```
CapExceeded CappedCount
----------- -----------
False       2
```

- For API details, see DescribeComplianceByConfigRule in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGComplianceByResource`

The following code example shows how to use `Get-CFGComplianceByResource`.

Tools for PowerShell

Example 1: This example checks the `AWS::SSM::ManagedInstanceInventory` resource type for 'COMPLIANT' compliance type.

```
Get-CFGComplianceByResource -ComplianceType COMPLIANT -ResourceType
 AWS::SSM::ManagedInstanceInventory
```

Output:

```
Compliance                          ResourceId          ResourceType
----------                          ----------          ------------
Amazon.ConfigService.Model.Compliance i-0123bcf4b567890e3
 AWS::SSM::ManagedInstanceInventory
Amazon.ConfigService.Model.Compliance i-0a1234f6f5d6b78f7
 AWS::SSM::ManagedInstanceInventory
```

- For API details, see DescribeComplianceByResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGComplianceDetailsByConfigRule`

The following code example shows how to use `Get-CFGComplianceDetailsByConfigRule`.

Tools for PowerShell

Example 1: This example obtains the evaluation results for the rule access-keys-rotated and returns the output grouped by compliance-type

```
Get-CFGComplianceDetailsByConfigRule -ConfigRuleName access-keys-rotated | Group-
Object ComplianceType
```

Output:

```
Count Name                      Group
----- ----                      -----
    2 COMPLIANT                 {Amazon.ConfigService.Model.EvaluationResult,
 Amazon.ConfigService.Model.EvaluationResult}
    5 NON_COMPLIANT             {Amazon.ConfigService.Model.EvaluationResult,
 Amazon.ConfigService.Model.EvaluationResult,
 Amazon.ConfigService.Model.EvaluationRes...
```

Example 2: This example queries compliance details for the rule access-keys-rotated for COMPLIANT resources.

```
Get-CFGComplianceDetailsByConfigRule -ConfigRuleName access-
keys-rotated -ComplianceType COMPLIANT | ForEach-Object
 {$_.EvaluationResultIdentifier.EvaluationResultQualifier}
```

Output:

```
ConfigRuleName      ResourceId            ResourceType
--------------      ----------            ------------
access-keys-rotated BCAB1CDJ2LITAPVEW3JAH AWS::IAM::User
access-keys-rotated BCAB1CDJ2LITL3EHREM4Q AWS::IAM::User
```

- For API details, see GetComplianceDetailsByConfigRule in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGComplianceDetailsByResource`

The following code example shows how to use `Get-CFGComplianceDetailsByResource`.

Tools for PowerShell

Example 1: This example evaulation results for the given resource.

```
Get-CFGComplianceDetailsByResource -ResourceId ABCD5STJ4EFGHIVEW6JAH -ResourceType
 'AWS::IAM::User'
```

Output:

```
Annotation                :
ComplianceType            : COMPLIANT
ConfigRuleInvokedTime     : 8/25/2019 11:34:56 PM
EvaluationResultIdentifier : Amazon.ConfigService.Model.EvaluationResultIdentifier
ResultRecordedTime        : 8/25/2019 11:34:56 PM
ResultToken               :
```

- For API details, see GetComplianceDetailsByResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGComplianceSummaryByConfigRule`

The following code example shows how to use `Get-CFGComplianceSummaryByConfigRule`.

Tools for PowerShell

Example 1: This sample returns the number of Config rules that are non-compliant.

```
Get-CFGComplianceSummaryByConfigRule -Select
 ComplianceSummary.NonCompliantResourceCount
```

Output:

```
CapExceeded CappedCount
----------- -----------
False       9
```

- For API details, see GetComplianceSummaryByConfigRule in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGComplianceSummaryByResourceType`

The following code example shows how to use `Get-CFGComplianceSummaryByResourceType`.

Tools for PowerShell

Example 1: This sample returns the number of resources that are compliant or noncompliant and converts the output to json.

```
Get-CFGComplianceSummaryByResourceType -Select
 ComplianceSummariesByResourceType.ComplianceSummary | ConvertTo-Json
{
  "ComplianceSummaryTimestamp": "2019-12-14T06:14:49.778Z",
  "CompliantResourceCount": {
    "CapExceeded": false,
    "CappedCount": 2
  },
  "NonCompliantResourceCount": {
    "CapExceeded": true,
    "CappedCount": 100
  }
}
```

- For API details, see GetComplianceSummaryByResourceType in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGConfigRule`

The following code example shows how to use `Get-CFGConfigRule`.

Tools for PowerShell

Example 1: This sample lists config rules for the account, with selected properties.

```
Get-CFGConfigRule | Select-Object ConfigRuleName, ConfigRuleId, ConfigRuleArn,
 ConfigRuleState
```

Output:

```
ConfigRuleName                                  ConfigRuleId       ConfigRuleArn
                                                    ConfigRuleState
```

```
--------------                                          ------------       -------------
                                                            ---------------
ALB_REDIRECTION_CHECK                                   config-rule-12iyn3 arn:aws:config-
service:eu-west-1:123456789012:config-rule/config-rule-12iyn3 ACTIVE
access-keys-rotated                                     config-rule-aospfr arn:aws:config-
service:eu-west-1:123456789012:config-rule/config-rule-aospfr ACTIVE
autoscaling-group-elb-healthcheck-required              config-rule-cn1f2x arn:aws:config-
service:eu-west-1:123456789012:config-rule/config-rule-cn1f2x ACTIVE
```

- For API details, see DescribeConfigRules in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGConfigRuleEvaluationStatus`

The following code example shows how to use `Get-CFGConfigRuleEvaluationStatus`.

Tools for PowerShell

Example 1: This sample returns the status information for the given config rules.

```
Get-CFGConfigRuleEvaluationStatus -ConfigRuleName root-account-mfa-enabled, vpc-
flow-logs-enabled
```

Output:

```
ConfigRuleArn                : arn:aws:config:eu-west-1:123456789012:config-rule/
config-rule-kvq1wk
ConfigRuleId                 : config-rule-kvq1wk
ConfigRuleName               : root-account-mfa-enabled
FirstActivatedTime           : 8/27/2019 8:05:17 AM
FirstEvaluationStarted       : True
LastErrorCode                :
LastErrorMessage             :
LastFailedEvaluationTime     : 1/1/0001 12:00:00 AM
LastFailedInvocationTime     : 1/1/0001 12:00:00 AM
LastSuccessfulEvaluationTime : 12/13/2019 8:12:03 AM
LastSuccessfulInvocationTime : 12/13/2019 8:12:03 AM

ConfigRuleArn                : arn:aws:config:eu-west-1:123456789012:config-rule/
config-rule-z1s23b
ConfigRuleId                 : config-rule-z1s23b
ConfigRuleName               : vpc-flow-logs-enabled
FirstActivatedTime           : 8/14/2019 6:23:44 AM
FirstEvaluationStarted       : True
```

```
LastErrorCode                :
LastErrorMessage             :
LastFailedEvaluationTime     : 1/1/0001 12:00:00 AM
LastFailedInvocationTime     : 1/1/0001 12:00:00 AM
LastSuccessfulEvaluationTime : 12/13/2019 7:12:01 AM
LastSuccessfulInvocationTime : 12/13/2019 7:12:01 AM
```

- For API details, see DescribeConfigRuleEvaluationStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGConfigurationAggregatorList`

The following code example shows how to use `Get-CFGConfigurationAggregatorList`.

Tools for PowerShell

Example 1: This sample returns all the aggregators for the region/account.

```
Get-CFGConfigurationAggregatorList
```

Output:

```
AccountAggregationSources     :
 {Amazon.ConfigService.Model.AccountAggregationSource}
ConfigurationAggregatorArn    : arn:aws:config-service:eu-
west-1:123456789012:config-aggregator/config-aggregator-xabca1me
ConfigurationAggregatorName   : IrelandMaster
CreationTime                  : 8/25/2019 11:42:39 PM
LastUpdatedTime               : 8/25/2019 11:42:39 PM
OrganizationAggregationSource :

AccountAggregationSources     : {}
ConfigurationAggregatorArn    : arn:aws:config-service:eu-
west-1:123456789012:config-aggregator/config-aggregator-qubqabcd
ConfigurationAggregatorName   : raju
CreationTime                  : 8/11/2019 8:39:25 AM
LastUpdatedTime               : 8/11/2019 8:39:25 AM
OrganizationAggregationSource :
 Amazon.ConfigService.Model.OrganizationAggregationSource
```

- For API details, see DescribeConfigurationAggregators in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGConfigurationAggregatorSourcesStatus`

The following code example shows how to use `Get-CFGConfigurationAggregatorSourcesStatus`.

Tools for PowerShell

Example 1: This sample displays requested fields for the sources in the given aggregator.

```
Get-CFGConfigurationAggregatorSourcesStatus -ConfigurationAggregatorName raju |
 select SourceType, LastUpdateStatus, LastUpdateTime, SourceId
```

Output:

```
SourceType   LastUpdateStatus LastUpdateTime        SourceId
----------   ---------------- --------------        --------
ORGANIZATION SUCCEEDED        12/31/2019 7:45:06 AM Organization
ACCOUNT      SUCCEEDED        12/31/2019 7:09:38 AM 612641234567
ACCOUNT      SUCCEEDED        12/31/2019 7:12:53 AM 933301234567
ACCOUNT      SUCCEEDED        12/31/2019 7:18:10 AM 933301234567
ACCOUNT      SUCCEEDED        12/31/2019 7:25:17 AM 933301234567
ACCOUNT      SUCCEEDED        12/31/2019 7:25:49 AM 612641234567
ACCOUNT      SUCCEEDED        12/31/2019 7:26:11 AM 612641234567
```

- For API details, see DescribeConfigurationAggregatorSourcesStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGConfigurationRecorder`

The following code example shows how to use `Get-CFGConfigurationRecorder`.

Tools for PowerShell

Example 1: This example returns the details of configuration recorders.

```
Get-CFGConfigurationRecorder | Format-List
```

Output:

```
Name           : default
```

```
RecordingGroup : Amazon.ConfigService.Model.RecordingGroup
RoleARN        : arn:aws:iam::123456789012:role/aws-service-role/
config.amazonaws.com/AWSServiceRoleForConfig
```

- For API details, see DescribeConfigurationRecorders in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGConfigurationRecorderStatus`

The following code example shows how to use `Get-CFGConfigurationRecorderStatus`.

Tools for PowerShell

Example 1: This sample returns status of the configuration recorders.

```
Get-CFGConfigurationRecorderStatus
```

Output:

```
LastErrorCode        :
LastErrorMessage     :
LastStartTime        : 10/11/2019 10:13:51 AM
LastStatus           : Success
LastStatusChangeTime : 12/31/2019 6:14:12 AM
LastStopTime         : 10/11/2019 10:13:46 AM
Name                 : default
Recording            : True
```

- For API details, see DescribeConfigurationRecorderStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGConformancePack`

The following code example shows how to use `Get-CFGConformancePack`.

Tools for PowerShell

Example 1: This sample lists all conformance packs.

```
Get-CFGConformancePack
```

Output:

```
ConformancePackArn             : arn:aws:config:eu-west-1:123456789012:conformance-
pack/dono/conformance-pack-p0acq8bpz
ConformancePackId              : conformance-pack-p0acabcde
ConformancePackInputParameters : {}
ConformancePackName            : dono
CreatedBy                      :
DeliveryS3Bucket               : kt-ps-examples
DeliveryS3KeyPrefix            :
LastUpdateRequestedTime        : 12/31/2019 8:45:31 AM
```

- For API details, see DescribeConformancePacks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGDeliveryChannel`

The following code example shows how to use `Get-CFGDeliveryChannel`.

Tools for PowerShell

Example 1: This example retrieves the delivery channel for the region and displays details.

```
Get-CFGDeliveryChannel -Region eu-west-1 | Select-Object Name, S3BucketName,
 S3KeyPrefix,
 @{N="DeliveryFrequency";E={$_.ConfigSnapshotDeliveryProperties.DeliveryFrequency}}
```

Output:

```
Name    S3BucketName              S3KeyPrefix DeliveryFrequency
----    ------------              ----------- -----------------
default config-bucket-NA my         TwentyFour_Hours
```

- For API details, see DescribeDeliveryChannels in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-CFGResourceTag`

The following code example shows how to use `Get-CFGResourceTag`.

Tools for PowerShell

Example 1: This example lists associated tags for the given resource

```
Get-CFGResourceTag -ResourceArn $rules[0].ConfigRuleArn
```

Output:

```
Key     Value
---     -----
Version 1.3
```

- For API details, see ListTagsForResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-CFGConformancePack`

The following code example shows how to use `Remove-CFGConformancePack`.

Tools for PowerShell

Example 1: This sample removes the given conformance pack, along with all the rules, remediation actions and evaluation results for the pack.

```
Remove-CFGConformancePack -ConformancePackName dono
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-CFGConformancePack (DeleteConformancePack)" on
 target "dono".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteConformancePack in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-CFGConformancePack`

The following code example shows how to use `Write-CFGConformancePack`.

Tools for PowerShell

Example 1: This sample creates conformance pack, fetching template from the given yaml file.

```
Write-CFGConformancePack -ConformancePackName dono -DeliveryS3Bucket kt-ps-examples
 -TemplateBody (Get-Content C:\windows\temp\template.yaml -Raw)
```

- For API details, see PutConformancePack in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-CFGDeliveryChannel`

The following code example shows how to use `Write-CFGDeliveryChannel`.

Tools for PowerShell

Example 1: This example changes the deliveryFrequency property of an existing delivery channel.

```
Write-CFGDeliveryChannel -ConfigSnapshotDeliveryProperties_DeliveryFrequency
 TwentyFour_Hours -DeliveryChannelName default -DeliveryChannel_S3BucketName config-
bucket-NA -DeliveryChannel_S3KeyPrefix my
```

- For API details, see PutDeliveryChannel in *AWS Tools for PowerShell Cmdlet Reference*.

Device Farm examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`New-DFUpload`

The following code example shows how to use `New-DFUpload`.

Tools for PowerShell

Example 1: This example creates an AWS Device Farm upload for an Android app. You can get the project ARN from the output of New-DFProject or Get-DFProjectList. Use the signed URL in the New-DFUpload output to upload a file to Device Farm.

```
New-DFUpload -ContentType "application/octet-stream" -ProjectArn
 "arn:aws:devicefarm:us-west-2:123456789012:project:EXAMPLEa-7ec1-4741-9c1f-
d3e04EXAMPLE" -Name "app.apk" -Type ANDROID_APP
```

- For API details, see CreateUpload in *AWS Tools for PowerShell Cmdlet Reference*.

AWS Directory Service examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-DSIpRoute`

The following code example shows how to use `Add-DSIpRoute`.

Tools for PowerShell

Example 1: This command removes the Resource Tag assigned to the specified Directory-id

```
Add-DSIpRoute -DirectoryId d-123456ijkl -IpRoute @{CidrIp ="203.0.113.5/32"} -
UpdateSecurityGroupForDirectoryController $true
```

- For API details, see AddIpRoutes in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-DSResourceTag`

The following code example shows how to use `Add-DSResourceTag`.

Tools for PowerShell

Example 1: This command adds the Resource Tag to the specified Directory-id

```
Add-DSResourceTag -ResourceId d-123456ijkl -Tag @{Key="myTag"; Value="mytgValue"}
```

- For API details, see AddTagsToResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Approve-DSTrust`

The following code example shows how to use `Approve-DSTrust`.

Tools for PowerShell

Example 1: This example calls the AWS Directory Service VerifyTrust API operation for specified Trustid.

```
Approve-DSTrust -TrustId t-9067157123
```

- For API details, see VerifyTrust in *AWS Tools for PowerShell Cmdlet Reference*.

`Confirm-DSSharedDirectory`

The following code example shows how to use `Confirm-DSSharedDirectory`.

Tools for PowerShell

Example 1: This example accepts a directory sharing request sent from the directory owner AWS account.

```
Confirm-DSSharedDirectory -SharedDirectoryId d-9067012345
```

Output:

```
CreatedDateTime     : 12/30/2019 4:20:27 AM
LastUpdatedDateTime : 12/30/2019 4:21:40 AM
OwnerAccountId      : 123456781234
OwnerDirectoryId    : d-123456ijkl
SharedAccountId     : 123456784321
SharedDirectoryId   : d-9067012345
ShareMethod         :
ShareNotes          : This is test sharing
ShareStatus         : Sharing
```

- For API details, see AcceptSharedDirectory in *AWS Tools for PowerShell Cmdlet Reference*.

`Connect-DSDirectory`

The following code example shows how to use `Connect-DSDirectory`.

Tools for PowerShell

Example 1: This example creates an AD Connector to connect to an on-premises directory.

```
Connect-DSDirectory -Name contoso.com -ConnectSettings_CustomerUserName
 Administrator -Password $Password -ConnectSettings_CustomerDnsIp 172.31.36.96
 -ShortName CONTOSO -Size Small -ConnectSettings_VpcId vpc-123459da -
ConnectSettings_SubnetId subnet-1234ccaa, subnet-5678ffbb
```

- For API details, see ConnectDirectory in *AWS Tools for PowerShell Cmdlet Reference*.

`Deny-DSSharedDirectory`

The following code example shows how to use `Deny-DSSharedDirectory`.

Tools for PowerShell

Example 1: This example rejects a directory sharing request that was sent from the directory owner account.

```
Deny-DSSharedDirectory -SharedDirectoryId d-9067012345
```

Output:

```
d-9067012345
```

- For API details, see RejectSharedDirectory in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-DSDirectoryShare`

The following code example shows how to use `Disable-DSDirectoryShare`.

Tools for PowerShell

Example 1: This example stops the directory sharing between the directory owner and consumer account.

```
Disable-DSDirectoryShare -DirectoryId d-123456ijkl -UnshareTarget_Id 123456784321 -
UnshareTarget_Type ACCOUNT
```

Output:

```
d-9067012345
```

- For API details, see UnshareDirectory in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-DSLDAPS`

The following code example shows how to use `Disable-DSLDAPS`.

Tools for PowerShell

Example 1: This example deactivates LDAP secure calls for the specified directory.

```
Disable-DSLDAPS -DirectoryId d-123456ijkl -Type Client
```

- For API details, see DisableLDAPS in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-DSRadius`

The following code example shows how to use `Disable-DSRadius`.

Tools for PowerShell

Example 1: This example disables RADIUS server configured for an AD Connector or Microsoft AD directory.

```
Disable-DSRadius -DirectoryId d-123456ijkl
```

- For API details, see DisableRadius in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-DSSso`

The following code example shows how to use `Disable-DSSso`.

Tools for PowerShell

Example 1: This example disables single sign-on for a directory.

```
Disable-DSSso -DirectoryId d-123456ijkl
```

- For API details, see DisableSso in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-DSDirectoryShare`

The following code example shows how to use `Enable-DSDirectoryShare`.

Tools for PowerShell

Example 1: This example shares a specified directory in your AWS account with another AWS Account using Handshake method.

```
Enable-DSDirectoryShare -DirectoryId d-123456ijkl -ShareTarget_Id 123456784321 -
ShareMethod HANDSHAKE -ShareTarget_Type ACCOUNT
```

Output:

```
d-9067012345
```

- For API details, see ShareDirectory in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-DSLDAPS`

The following code example shows how to use `Enable-DSLDAPS`.

Tools for PowerShell

Example 1: This example activates the switch for the specific directory to always use LDAP secure calls.

```
Enable-DSLDAPS -DirectoryId d-123456ijkl -Type Client
```

- For API details, see EnableLDAPS in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-DSRadius`

The following code example shows how to use `Enable-DSRadius`.

Tools for PowerShell

Example 1: This example enables multi-factor authentication (MFA) with the provided RADIUS server configuration for an AD Connector or Microsoft AD directory.

```
Enable-DSRadius -DirectoryId d-123456ijkl
-RadiusSettings_AuthenticationProtocol PAP
-RadiusSettings_DisplayLabel Radius
-RadiusSettings_RadiusPort 1812
-RadiusSettings_RadiusRetry 4
-RadiusSettings_RadiusServer 10.4.185.113
-RadiusSettings_RadiusTimeout 50
-RadiusSettings_SharedSecret wJalrXUtnFEMI
```

- For API details, see EnableRadius in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-DSSso`

The following code example shows how to use `Enable-DSSso`.

Tools for PowerShell

Example 1: This example enables single sign-on for a directory.

```
Enable-DSSso -DirectoryId d-123456ijkl
```

- For API details, see EnableSso in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSCertificate`

The following code example shows how to use `Get-DSCertificate`.

Tools for PowerShell

Example 1: This example displays information about the certificate registered for a secured LDAP connection.

```
Get-DSCertificate -DirectoryId d-123456ijkl -CertificateId c-906731e34f
```

Output:

```
CertificateId      : c-906731e34f
CommonName         : contoso-EC2AMAZ-CTGG2NM-CA
ExpiryDateTime     : 4/15/2025 6:34:15 PM
RegisteredDateTime : 4/15/2020 6:38:56 PM
State              : Registered
StateReason        : Certificate registered successfully.
```

- For API details, see DescribeCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSCertificateList`

The following code example shows how to use `Get-DSCertificateList`.

Tools for PowerShell

Example 1: This example lists all the certificates registered for a secured LDAP connection for specified directory.

```
Get-DSCertificateList -DirectoryId d-123456ijkl
```

Output:

```
CertificateId CommonName                 ExpiryDateTime       State
------------- ----------                 --------------       -----
c-906731e34f  contoso-EC2AMAZ-CTGG2NM-CA 4/15/2025 6:34:15 PM Registered
```

- For API details, see ListCertificates in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSConditionalForwarder`

The following code example shows how to use `Get-DSConditionalForwarder`.

Tools for PowerShell

Example 1: This command gets all configured Conditional Forwarders of given Directory-id.

```
Get-DSConditionalForwarder -DirectoryId d-123456ijkl
```

Output:

```
DnsIpAddrs      RemoteDomainName ReplicationScope
----------      ---------------- ----------------
{172.31.77.239} contoso.com      Domain
```

- For API details, see DescribeConditionalForwarders in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSDirectory`

The following code example shows how to use `Get-DSDirectory`.

Tools for PowerShell

Example 1: This command Obtains information about the directories that belong to this account.

```
Get-DSDirectory | Select-Object DirectoryId, Name, DnsIpAddrs, Type
```

Output:

```
DirectoryId  Name           DnsIpAddrs                     Type
-----------  ----           ----------                     ----
d-123456abcd abcd.example.com {172.31.74.189, 172.31.13.145} SimpleAD
d-123456efgh wifi.example.com {172.31.16.108, 172.31.10.56}  ADConnector
d-123456ijkl lan2.example.com {172.31.10.56, 172.31.16.108}  MicrosoftAD
```

- For API details, see DescribeDirectories in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSDirectoryLimit`

The following code example shows how to use `Get-DSDirectoryLimit`.

Tools for PowerShell

Example 1: This example dislpays the directory limit information for the us-east-1 region.

```
Get-DSDirectoryLimit -Region us-east-1
```

Output:

```
CloudOnlyDirectoriesCurrentCount : 1
CloudOnlyDirectoriesLimit        : 10
CloudOnlyDirectoriesLimitReached : False
CloudOnlyMicrosoftADCurrentCount : 1
CloudOnlyMicrosoftADLimit        : 20
CloudOnlyMicrosoftADLimitReached : False
ConnectedDirectoriesCurrentCount : 1
ConnectedDirectoriesLimit        : 10
```

- For API details, see GetDirectoryLimits in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSDomainControllerList`

The following code example shows how to use `Get-DSDomainControllerList`.

Tools for PowerShell

Example 1: This command gets the detailed list of Domain Controllers launched for mentioned directory-id

```
Get-DSDomainControllerList -DirectoryId d-123456ijkl
```

Output:

```
AvailabilityZone          : us-east-1b
DirectoryId               : d-123456ijkl
DnsIpAddr                 : 172.31.16.108
DomainControllerId        : dc-1234567aa6
LaunchTime                : 4/4/2019 4:53:43 AM
Status                    : Active
StatusLastUpdatedDateTime : 4/24/2019 1:37:54 PM
StatusReason              :
SubnetId                  : subnet-1234kkaa
VpcId                     : vpc-123459d

AvailabilityZone          : us-east-1d
DirectoryId               : d-123456ijkl
DnsIpAddr                 : 172.31.10.56
DomainControllerId        : dc-1234567aa7
LaunchTime                : 4/4/2019 4:53:43 AM
Status                    : Active
StatusLastUpdatedDateTime : 4/4/2019 5:14:31 AM
StatusReason              :
SubnetId                  : subnet-5678ffbb
VpcId                     : vpc-123459d
```

- For API details, see DescribeDomainControllers in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSEventTopic`

The following code example shows how to use `Get-DSEventTopic`.

Tools for PowerShell

Example 1: This command shows information of configured SNS Topic for notification while directory status changes.

```
Get-DSEventTopic -DirectoryId d-123456ijkl
```

Output:

```
CreatedDateTime : 12/13/2019 11:15:32 AM
DirectoryId     : d-123456ijkl
Status          : Registered
TopicArn        : arn:aws:sns:us-east-1:123456781234:snstopicname
TopicName       : snstopicname
```

- For API details, see DescribeEventTopics in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSIpRouteList`

The following code example shows how to use `Get-DSIpRouteList`.

Tools for PowerShell

Example 1: This command gets the public IP address blocks configured in Directory IP Routing

```
Get-DSIpRouteList -DirectoryId d-123456ijkl
```

Output:

```
AddedDateTime       : 12/13/2019 12:27:22 PM
CidrIp              : 203.0.113.5/32
Description         : Public IP of On-Prem DNS Server
DirectoryId         : d-123456ijkl
IpRouteStatusMsg    : Added
IpRouteStatusReason :
```

- For API details, see ListIpRoutes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSLDAPSSetting`

The following code example shows how to use `Get-DSLDAPSSetting`.

Tools for PowerShell

Example 1: This example describes the status of LDAP security for the specified directory.

```
Get-DSLDAPSSetting -DirectoryId d-123456ijkl
```

Output:

```
LastUpdatedDateTime  LDAPSStatus LDAPSStatusReason
-------------------  ----------- -----------------
4/15/2020 6:51:03 PM Enabled     LDAPS is enabled successfully.
```

- For API details, see DescribeLDAPSSettings in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSLogSubscriptionList`

The following code example shows how to use `Get-DSLogSubscriptionList`.

Tools for PowerShell

Example 1: This command gets the log subscriptions information of specified directory-id

```
Get-DSLogSubscriptionList -DirectoryId d-123456ijkl
```

Output:

```
DirectoryId  LogGroupName
 SubscriptionCreatedDateTime
-----------  ------------
 --------------------------
d-123456ijkl /aws/directoryservice/d-123456ijkl-lan2.example.com 12/14/2019 9:05:23
 AM
```

- For API details, see ListLogSubscriptions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSResourceTag`

The following code example shows how to use `Get-DSResourceTag`.

Tools for PowerShell

Example 1: This command gets all the Tags of specified Directory.

```
Get-DSResourceTag -ResourceId d-123456ijkl
```

Output:

```
Key   Value
---   -----
myTag myTagValue
```

- For API details, see ListTagsForResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSSchemaExtension`

The following code example shows how to use `Get-DSSchemaExtension`.

Tools for PowerShell

Example 1: This example lists all schema extensions applied to a Microsoft AD Directory.

```
Get-DSSchemaExtension -DirectoryId d-123456ijkl
```

Output:

```
Description                : ManagedADSchemaExtension
DirectoryId                : d-123456ijkl
EndDateTime                : 4/12/2020 10:30:49 AM
SchemaExtensionId          : e-9067306643
SchemaExtensionStatus      : Completed
SchemaExtensionStatusReason : Schema updates are complete.
StartDateTime              : 4/12/2020 10:28:42 AM
```

- For API details, see ListSchemaExtensions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSSharedDirectory`

The following code example shows how to use `Get-DSSharedDirectory`.

Tools for PowerShell

Example 1: This example gets the shared directories of your AWS Account

```
Get-DSSharedDirectory -OwnerDirectoryId d-123456ijkl -SharedDirectoryId d-9067012345
```

Output:

```
CreatedDateTime     : 12/30/2019 4:34:37 AM
LastUpdatedDateTime : 12/30/2019 4:35:22 AM
OwnerAccountId      : 123456781234
OwnerDirectoryId    : d-123456ijkl
SharedAccountId     : 123456784321
SharedDirectoryId   : d-9067012345
ShareMethod         : HANDSHAKE
ShareNotes          : This is a test Sharing
ShareStatus         : Shared
```

- For API details, see DescribeSharedDirectories in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSSnapshot`

The following code example shows how to use `Get-DSSnapshot`.

Tools for PowerShell

Example 1: This command gets information about the specified directory snapshots that belong to this account.

```
Get-DSSnapshot -DirectoryId d-123456ijkl
```

Output:

```
DirectoryId : d-123456ijkl
Name        :
SnapshotId  : s-9064bd1234
StartTime   : 12/13/2019 6:33:01 PM
Status      : Completed
```

```
Type        : Auto

DirectoryId : d-123456ijkl
Name        :
SnapshotId  : s-9064bb4321
StartTime   : 12/9/2019 9:48:11 PM
Status      : Completed
Type        : Auto
```

- For API details, see DescribeSnapshots in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSSnapshotLimit`

The following code example shows how to use `Get-DSSnapshotLimit`.

Tools for PowerShell

Example 1: This command gets the manual snapshot limits for a specified directory.

```
Get-DSSnapshotLimit -DirectoryId d-123456ijkl
```

Output:

```
ManualSnapshotsCurrentCount ManualSnapshotsLimit ManualSnapshotsLimitReached
--------------------------- -------------------- --------------------------
0                           5                    False
```

- For API details, see GetSnapshotLimits in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DSTrust`

The following code example shows how to use `Get-DSTrust`.

Tools for PowerShell

Example 1: This command gets the information of trust relationships created for specified directory-id.

```
Get-DSTrust -DirectoryId d-123456abcd
```

Output:

```
CreatedDateTime          : 7/5/2019 4:55:42 AM
DirectoryId              : d-123456abcd
LastUpdatedDateTime      : 7/5/2019 4:56:04 AM
RemoteDomainName         : contoso.com
SelectiveAuth            : Disabled
StateLastUpdatedDateTime : 7/5/2019 4:56:04 AM
TrustDirection           : One-Way: Incoming
TrustId                  : t-9067157123
TrustState               : Created
TrustStateReason         :
TrustType                : Forest
```

- For API details, see DescribeTrusts in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DSAlias`

The following code example shows how to use `New-DSAlias`.

Tools for PowerShell

Example 1: This command creates an alias for a directory and assigns the alias to the specified directory-id.

```
New-DSAlias -DirectoryId d-123456ijkl -Alias MyOrgName
```

Output:

```
Alias     DirectoryId
-----     -----------
myorgname d-123456ijkl
```

- For API details, see CreateAlias in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DSComputer`

The following code example shows how to use `New-DSComputer`.

Tools for PowerShell

Example 1: This example creates a new Active Directory computer object.

```
New-DSComputer -DirectoryId d-123456ijkl -ComputerName ADMemberServer -Password
 $Password
```

Output:

```
ComputerAttributes                 ComputerId
 ComputerName
------------------                 ----------
 ------------
{WindowsSamName, DistinguishedName} S-1-5-21-1191241402-978882507-2717148213-1662
 ADMemberServer
```

- For API details, see CreateComputer in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DSConditionalForwarder`

The following code example shows how to use `New-DSConditionalForwarder`.

Tools for PowerShell

Example 1: This example creates a Conditional forwarder in specified AWS Directory-id.

```
New-DSConditionalForwarder -DirectoryId d-123456ijkl -DnsIpAddr
 172.31.36.96,172.31.10.56 -RemoteDomainName contoso.com
```

- For API details, see CreateConditionalForwarder in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DSDirectory`

The following code example shows how to use `New-DSDirectory`.

Tools for PowerShell

Example 1: This example create a new Simple AD directory.

```
New-DSDirectory -Name corp.example.com -Password $Password -Size Small -
VpcSettings_VpcId vpc-123459d -VpcSettings_SubnetIds subnet-1234kkaa,subnet-5678ffbb
```

- For API details, see CreateDirectory in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DSLogSubscription`

The following code example shows how to use `New-DSLogSubscription`.

Tools for PowerShell

Example 1: This example creates a subscription to forward real-time Directory Service domain controller security logs to the specified Amazon CloudWatch log group in your AWS account.

```
New-DSLogSubscription -DirectoryId d-123456ijkl -LogGroupName /aws/directoryservice/
d-123456ijkl-lan2.example.com
```

- For API details, see CreateLogSubscription in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DSMicrosoftAD`

The following code example shows how to use `New-DSMicrosoftAD`.

Tools for PowerShell

Example 1: This example creates new Microsoft AD Directory in AWS Cloud.

```
New-DSMicrosoftAD -Name corp.example.com -Password $Password -edition Standard -
VpcSettings_VpcId vpc-123459d -VpcSettings_SubnetIds subnet-1234kkaa,subnet-5678ffbb
```

- For API details, see CreateMicrosoftAD in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DSSnapshot`

The following code example shows how to use `New-DSSnapshot`.

Tools for PowerShell

Example 1: This example creates a directory snapshot

```
New-DSSnapshot -DirectoryId d-123456ijkl
```

- For API details, see CreateSnapshot in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DSTrust`

The following code example shows how to use `New-DSTrust`.

Tools for PowerShell

Example 1: This example creates Two-Way Forestwide trust between your AWS Managed Microsoft AD directory, and existing on-premises Microsoft Active Directory.

```
New-DSTrust -DirectoryId d-123456ijkl -RemoteDomainName contoso.com -TrustDirection
 Two-Way -TrustType Forest -TrustPassword $Password -ConditionalForwarderIpAddr
 172.31.36.96
```

Output:

```
t-9067157123
```

- For API details, see CreateTrust in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-DSCertificate`

The following code example shows how to use `Register-DSCertificate`.

Tools for PowerShell

Example 1: This example registers a certificate for secured LDAP connection.

```
$Certificate = Get-Content contoso.cer -Raw
Register-DSCertificate -DirectoryId d-123456ijkl -CertificateData $Certificate
```

Output:

```
c-906731e350
```

- For API details, see RegisterCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-DSEventTopic`

The following code example shows how to use `Register-DSEventTopic`.

Tools for PowerShell

Example 1: This example associate a directory as a publisher with an SNS topic.

```
Register-DSEventTopic -DirectoryId d-123456ijkl -TopicName snstopicname
```

- For API details, see RegisterEventTopic in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DSConditionalForwarder`

The following code example shows how to use `Remove-DSConditionalForwarder`.

Tools for PowerShell

Example 1: This example removes the conditional forwarder that has been set up for your AWS Direcotry.

```
Remove-DSConditionalForwarder -DirectoryId d-123456ijkl -RemoteDomainName
 contoso.com
```

- For API details, see DeleteConditionalForwarder in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DSDirectory`

The following code example shows how to use `Remove-DSDirectory`.

Tools for PowerShell

Example 1: This example deletes an AWS Directory service directory (Simple AD/Microsoft AD/AD Connector)

```
Remove-DSDirectory -DirectoryId d-123456ijkl
```

- For API details, see DeleteDirectory in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DSIpRoute`

The following code example shows how to use `Remove-DSIpRoute`.

Tools for PowerShell

Example 1: This command removes the specified IP from Configured IP routes of Directory-id.

```
Remove-DSIpRoute -DirectoryId d-123456ijkl -CidrIp 203.0.113.5/32
```

- For API details, see RemoveIpRoutes in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DSLogSubscription`

The following code example shows how to use `Remove-DSLogSubscription`.

Tools for PowerShell

Example 1: This command removes the Log Subscription of specified Directory-id

```
Remove-DSLogSubscription -DirectoryId d-123456ijkl
```

- For API details, see DeleteLogSubscription in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DSResourceTag`

The following code example shows how to use `Remove-DSResourceTag`.

Tools for PowerShell

Example 1: This command removes the Resource Tag assigned to the specified Directory-id

```
Remove-DSResourceTag -ResourceId d-123456ijkl -TagKey myTag
```

- For API details, see RemoveTagsFromResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DSSnapshot`

The following code example shows how to use `Remove-DSSnapshot`.

Tools for PowerShell

Example 1: This example removes the manually created snapshot.

```
Remove-DSSnapshot -SnapshotId s-9068b488kc
```

- For API details, see DeleteSnapshot in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DSTrust`

The following code example shows how to use `Remove-DSTrust`.

Tools for PowerShell

Example 1: This example removes the exsisting trust relationhip between your AWS Managed AD Directory and an external domain.

```
Get-DSTrust -DirectoryId d-123456ijkl -Select Trusts.TrustId | Remove-DSTrust
```

Output:

```
t-9067157123
```

- For API details, see DeleteTrust in *AWS Tools for PowerShell Cmdlet Reference*.

`Reset-DSUserPassword`

The following code example shows how to use `Reset-DSUserPassword`.

Tools for PowerShell

Example 1: This example resets the password of Active Direcotry user named ADUser in AWS Managed microsoft AD or Simple AD Directory

```
Reset-DSUserPassword -UserName ADuser -DirectoryId d-123456ijkl -NewPassword
 $Password
```

- For API details, see ResetUserPassword in *AWS Tools for PowerShell Cmdlet Reference*.

`Restore-DSFromSnapshot`

The following code example shows how to use `Restore-DSFromSnapshot`.

Tools for PowerShell

Example 1: This example restores a directory using an exsisting directory snapshot.

```
Restore-DSFromSnapshot -SnapshotId s-9068b488kc
```

- For API details, see RestoreFromSnapshot in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-DSDomainControllerCount`

The following code example shows how to use `Set-DSDomainControllerCount`.

Tools for PowerShell

Example 1: This example sets the number of domain controller to 3 for specified directory-id.

```
Set-DSDomainControllerCount -DirectoryId d-123456ijkl -DesiredNumber 3
```

- For API details, see UpdateNumberOfDomainControllers in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-DSSchemaExtension`

The following code example shows how to use `Start-DSSchemaExtension`.

Tools for PowerShell

Example 1: This Example Applies a schema extension to a Microsoft AD directory.

```
$ldif = Get-Content D:\Users\Username\Downloads\ExtendedSchema.ldf -Raw
Start-DSSchemaExtension -DirectoryId d-123456ijkl -
CreateSnapshotBeforeSchemaExtension $true -Description ManagedADSchemaExtension -
LdifContent $ldif
```

Output:

```
e-9067306643
```

- For API details, see StartSchemaExtension in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-DSSchemaExtension`

The following code example shows how to use `Stop-DSSchemaExtension`.

Tools for PowerShell

Example 1: This example cancels an in-progress schema extension to a Microsoft AD directory.

```
Stop-DSSchemaExtension -DirectoryId d-123456ijkl -SchemaExtensionId e-9067306643
```

- For API details, see CancelSchemaExtension in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-DSCertificate`

The following code example shows how to use `Unregister-DSCertificate`.

Tools for PowerShell

Example 1: This example deletes from the system the certificate that was registered for a secured LDAP connection..

```
Unregister-DSCertificate -DirectoryId d-123456ijkl -CertificateId c-906731e34f
```

- For API details, see DeregisterCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-DSEventTopic`

The following code example shows how to use `Unregister-DSEventTopic`.

Tools for PowerShell

Example 1: This example removes the specefied directory as a publisher to the specified SNS topic.

```
Unregister-DSEventTopic -DirectoryId d-123456ijkl -TopicName snstopicname
```

- For API details, see DeregisterEventTopic in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-DSConditionalForwarder`

The following code example shows how to use `Update-DSConditionalForwarder`.

Tools for PowerShell

Example 1: This example updates a conditional forwarder that has been set up for your AWS directory.

```
Update-DSConditionalForwarder -DirectoryId d-123456ijkl -DnsIpAddr
 172.31.36.96,172.31.16.108 -RemoteDomainName contoso.com
```

- For API details, see UpdateConditionalForwarder in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-DSRadius`

The following code example shows how to use `Update-DSRadius`.

Tools for PowerShell

Example 1: This example updates RADIUS server information for an AD Connector or Microsoft AD directory.

```
Update-DSRadius -DirectoryId d-123456ijkl -RadiusSettings_RadiusRetry 3
```

- For API details, see UpdateRadius in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-DSTrust`

The following code example shows how to use `Update-DSTrust`.

Tools for PowerShell

Example 1: This example updates the SelectiveAuth parameter of specified trust-id from Disabled to Enabled.

```
Update-DSTrust -TrustId t-9067157123 -SelectiveAuth Enabled
```

Output:

```
RequestId                            TrustId
---------                            -------
138864a7-c9a8-4ad1-a828-eae479e85b45 t-9067157123
```

- For API details, see UpdateTrust in *AWS Tools for PowerShell Cmdlet Reference*.

AWS DMS examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`New-DMSReplicationTask`

The following code example shows how to use `New-DMSReplicationTask`.

Tools for PowerShell

Example 1: This example creates a new AWS Database Migration Service replication task that uses CdcStartTime instead of CdcStartPosition. The MigrationType is set to "full-load-and-cdc", meaning the target table must be empty. The new task is tagged with a tag that has a key of Stage and a key value of Test. For more information about the values used by this cmdlet, see Creating a Task (https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Tasks.Creating.html) in the AWS Database Migration Service User Guide.

```
New-DMSReplicationTask -ReplicationInstanceArn "arn:aws:dms:us-
east-1:123456789012:rep:EXAMPLE66XFJUWATDJGBEXAMPLE"`
  -CdcStartTime "2019-08-08T12:12:12"`
  -CdcStopPosition "server_time:2019-08-09T12:12:12"`
  -MigrationType "full-load-and-cdc"`
  -ReplicationTaskIdentifier "task1"`
  -ReplicationTaskSetting ""`
  -SourceEndpointArn "arn:aws:dms:us-
east-1:123456789012:endpoint:EXAMPLEW5UANC7Y3P4EEXAMPLE"`
  -TableMapping "file:////home/testuser/table-mappings.json"`
  -Tag @{"Key"="Stage";"Value"="Test"}`
  -TargetEndpointArn "arn:aws:dms:us-
east-1:123456789012:endpoint:EXAMPLEJZASXWHTWCLNEXAMPLE"
```

- For API details, see CreateReplicationTask in *AWS Tools for PowerShell Cmdlet Reference*.

DynamoDB examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-DDBIndexSchema`

The following code example shows how to use `Add-DDBIndexSchema`.

Tools for PowerShell

Example 1: Creates an empty TableSchema object and adds a new local secondary index definition to it before writing the TableSchema object to the pipeline.

```
$schema | Add-DDBIndexSchema -IndexName "LastPostIndex" -RangeKeyName
 "LastPostDateTime" -RangeKeyDataType "S" -ProjectionType "keys_only"
$schema = New-DDBTableSchema
```

Output:

```
AttributeSchema                             KeySchema
    LocalSecondaryIndexSchema
---------------                             ---------
    -------------------------
{LastPostDateTime}                          {}
    {LastPostIndex}
```

Example 2: Adds a new local secondary index definition to the supplied TableSchema object before writing the TableSchema object back to the pipeline. The TableSchema object can also be supplied using the -Schema parameter.

```
New-DDBTableSchema | Add-DDBIndexSchema -IndexName "LastPostIndex" -RangeKeyName
 "LastPostDateTime" -RangeKeyDataType "S" -ProjectionType "keys_only"
```

Output:

```
AttributeSchema                             KeySchema
    LocalSecondaryIndexSchema
---------------                             ---------
    -------------------------
{LastPostDateTime}                          {}
    {LastPostIndex}
```

- For API details, see Add-DDBIndexSchema in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-DDBKeySchema`

The following code example shows how to use `Add-DDBKeySchema`.

Tools for PowerShell

Example 1: Creates an empty TableSchema object and adds key and attribute definition entries to it using the specified key data before writing the TableSchema object to the pipeline. The key type is declared to be 'HASH' by default; use the -KeyType paameter with a value of 'RANGE' to declare a range key.

```
$schema = New-DDBTableSchema
$schema | Add-DDBKeySchema -KeyName "ForumName" -KeyDataType "S"
```

Output:

```
AttributeSchema                             KeySchema
    LocalSecondaryIndexSchema
---------------                             ---------
    -------------------------
{ForumName}                                 {ForumName}
    {}
```

Example 2: Adds new key and attribute definition entries to the supplied TableSchema object before writing the TableSchema object to the pipeline. The key type is declared to be 'HASH' by default; use the -KeyType paameter with a value of 'RANGE' to declare a range key. The TableSchema object can also be supplied using the -Schema parameter.

```
New-DDBTableSchema | Add-DDBKeySchema -KeyName "ForumName" -KeyDataType "S"
```

Output:

```
AttributeSchema                             KeySchema
    LocalSecondaryIndexSchema
---------------                             ---------
    -------------------------
{ForumName}                                 {ForumName}
    {}
```

- For API details, see Add-DDBKeySchema in *AWS Tools for PowerShell Cmdlet Reference*.

`ConvertFrom-DDBItem`

The following code example shows how to use `ConvertFrom-DDBItem`.

Tools for PowerShell

Example 1: ConvertFrom-DDBItem is used to convert the result of Get-DDBItem from a hashtable of DynamoDB AttributeValues to a hashtable of common types like string and double.

```
@{
    SongTitle = 'Somewhere Down The Road'
    Artist    = 'No One You Know'
} | ConvertTo-DDBItem

Get-DDBItem -TableName 'Music' -Key $key | ConvertFrom-DDBItem
```

Output:

```
Name                           Value
----                           -----
Genre                          Country
Artist                         No One You Know
Price                          1.94
CriticRating                   9
SongTitle                      Somewhere Down The Road
AlbumTitle                     Somewhat Famous
```

- For API details, see ConvertFrom-DDBItem in *AWS Tools for PowerShell Cmdlet Reference*.

`ConvertTo-DDBItem`

The following code example shows how to use `ConvertTo-DDBItem`.

Tools for PowerShell

Example 1: An example for converting a hashtable into a dictionary of DynamoDB attribute values.

```
@{
    SongTitle = 'Somewhere Down The Road'
    Artist    = 'No One You Know'
} | ConvertTo-DDBItem
```

```
Key       Value
---       -----
SongTitle Amazon.DynamoDBv2.Model.AttributeValue
Artist    Amazon.DynamoDBv2.Model.AttributeValue
```

Example 2: An example for converting a hashtable into a dictionary of DynamoDB attribute values.

```
@{
    MyMap        = @{
        MyString = 'my string'
    }
    MyStringSet  = [System.Collections.Generic.HashSet[String]]@('my', 'string')
    MyNumericSet = [System.Collections.Generic.HashSet[Int]]@(1, 2, 3)
    MyBinarySet  = [System.Collections.Generic.HashSet[System.IO.MemoryStream]]@(
        ([IO.MemoryStream]::new([Text.Encoding]::UTF8.GetBytes('my'))),
        ([IO.MemoryStream]::new([Text.Encoding]::UTF8.GetBytes('string')))
    )
    MyList1      = @('my', 'string')
    MyList2      = [System.Collections.Generic.List[Int]]@(1, 2)
    MyList3      = [System.Collections.ArrayList]@('one', 2, $true)
} | ConvertTo-DDBItem
```

Output:

```
Key          Value
---          -----
MyStringSet  Amazon.DynamoDBv2.Model.AttributeValue
MyList1      Amazon.DynamoDBv2.Model.AttributeValue
MyNumericSet Amazon.DynamoDBv2.Model.AttributeValue
MyList2      Amazon.DynamoDBv2.Model.AttributeValue
MyBinarySet  Amazon.DynamoDBv2.Model.AttributeValue
MyMap        Amazon.DynamoDBv2.Model.AttributeValue
MyList3      Amazon.DynamoDBv2.Model.AttributeValue
```

- For API details, see ConvertTo-DDBItem in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DDBBatchItem`

The following code example shows how to use `Get-DDBBatchItem`.

Tools for PowerShell

Example 1: Gets the item with the SongTitle "Somewhere Down The Road" from the DynamoDB tables 'Music' and 'Songs'.

```
$key = @{
    SongTitle = 'Somewhere Down The Road'
    Artist = 'No One You Know'
} | ConvertTo-DDBItem

$keysAndAttributes = New-Object Amazon.DynamoDBv2.Model.KeysAndAttributes
$list = New-Object
 'System.Collections.Generic.List[System.Collections.Generic.Dictionary[String,
 Amazon.DynamoDBv2.Model.AttributeValue]]'
$list.Add($key)
$keysAndAttributes.Keys = $list

$requestItem = @{
    'Music' = [Amazon.DynamoDBv2.Model.KeysAndAttributes]$keysAndAttributes
    'Songs' = [Amazon.DynamoDBv2.Model.KeysAndAttributes]$keysAndAttributes
}

$batchItems = Get-DDBBatchItem -RequestItem $requestItem
$batchItems.GetEnumerator() | ForEach-Object {$PSItem.Value} | ConvertFrom-DDBItem
```

Output:

```
Name                           Value
----                           -----
Artist                         No One You Know
SongTitle                      Somewhere Down The Road
AlbumTitle                     Somewhat Famous
CriticRating                   10
Genre                          Country
Price                          1.94
Artist                         No One You Know
SongTitle                      Somewhere Down The Road
AlbumTitle                     Somewhat Famous
CriticRating                   10
Genre                          Country
Price                          1.94
```

- For API details, see BatchGetItem in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DDBItem`

The following code example shows how to use `Get-DDBItem`.

Tools for PowerShell

Example 1: Returns the DynamoDB item with the partition key SongTitle and the sort key Artist.

```
$key = @{
  SongTitle = 'Somewhere Down The Road'
  Artist = 'No One You Know'
} | ConvertTo-DDBItem

Get-DDBItem -TableName 'Music' -Key $key | ConvertFrom-DDBItem
```

Output:

```
Name                           Value
----                           -----
Genre                          Country
SongTitle                      Somewhere Down The Road
Price                          1.94
Artist                         No One You Know
CriticRating                   9
AlbumTitle                     Somewhat Famous
```

- For API details, see GetItem in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DDBTable`

The following code example shows how to use `Get-DDBTable`.

Tools for PowerShell

Example 1: Returns details of the specified table.

```
Get-DDBTable -TableName "myTable"
```

- For API details, see DescribeTable in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-DDBTableList`

The following code example shows how to use `Get-DDBTableList`.

Tools for PowerShell

Example 1: Returns details of all tables, automatically iterating until the service indicates no further tables exist.

```
Get-DDBTableList
```

Example 2: Manually iterates for details of all tables, returning up to 10 tables per call until the service indicates no further tables exist.

```
$nextToken = $null
do {
  Get-DDBTableList -ExclusiveStartTableName $nextToken -Limit 10
  $nextToken = $AWSHistory.LastServiceResponse.LastEvaluatedTableName
} while ($nextToken -ne $null)
```

- For API details, see ListTables in *AWS Tools for PowerShell Cmdlet Reference*.

`Invoke-DDBQuery`

The following code example shows how to use `Invoke-DDBQuery`.

Tools for PowerShell

Example 1: Invokes a query that returns DynamoDB items with the specified SongTitle and Artist.

```
$invokeDDBQuery = @{
    TableName = 'Music'
    KeyConditionExpression = ' SongTitle = :SongTitle and Artist = :Artist'
    ExpressionAttributeValues = @{
        ':SongTitle' = 'Somewhere Down The Road'
        ':Artist' = 'No One You Know'
    } | ConvertTo-DDBItem
}
Invoke-DDBQuery @invokeDDBQuery | ConvertFrom-DDBItem
```

Output:

```
Name                           Value
----                           -----
Genre                          Country
Artist                         No One You Know
Price                          1.94
CriticRating                   9
SongTitle                      Somewhere Down The Road
AlbumTitle                     Somewhat Famous
```

- For API details, see Query in *AWS Tools for PowerShell Cmdlet Reference*.

`Invoke-DDBScan`

The following code example shows how to use `Invoke-DDBScan`.

Tools for PowerShell

Example 1: Returns all items in the Music table.

```
Invoke-DDBScan -TableName 'Music' | ConvertFrom-DDBItem
```

Output:

```
Name                           Value
----                           -----
Genre                          Country
Artist                         No One You Know
Price                          1.94
CriticRating                   9
SongTitle                      Somewhere Down The Road
AlbumTitle                     Somewhat Famous
Genre                          Country
Artist                         No One You Know
Price                          1.98
CriticRating                   8.4
SongTitle                      My Dog Spot
AlbumTitle                     Hey Now
```

Example 2: Returns items in the Music table with a CriticRating greater than or equal to nine.

```
$scanFilter = @{
        CriticRating = [Amazon.DynamoDBv2.Model.Condition]@{
            AttributeValueList = @(@{N = '9'})
            ComparisonOperator = 'GE'
        }
    }
    Invoke-DDBScan -TableName 'Music' -ScanFilter $scanFilter | ConvertFrom-DDBItem
```

Output:

```
Name                           Value
----                           -----
Genre                          Country
Artist                         No One You Know
Price                          1.94
CriticRating                   9
SongTitle                      Somewhere Down The Road
AlbumTitle                     Somewhat Famous
```

- For API details, see Scan in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DDBTable`

The following code example shows how to use `New-DDBTable`.

Tools for PowerShell

Example 1: This example creates a table named Thread that has a primary key consisting of 'ForumName' (key type hash) and 'Subject' (key type range). The schema used to construct the table can be piped into each cmdlet as shown or specified using the -Schema parameter.

```
$schema = New-DDBTableSchema
$schema | Add-DDBKeySchema -KeyName "ForumName" -KeyDataType "S"
$schema | Add-DDBKeySchema -KeyName "Subject" -KeyType RANGE -KeyDataType "S"
$schema | New-DDBTable -TableName "Thread" -ReadCapacity 10 -WriteCapacity 5
```

Output:

```
AttributeDefinitions   : {ForumName, Subject}
TableName              : Thread
KeySchema              : {ForumName, Subject}
```

```
TableStatus             : CREATING
CreationDateTime        : 10/28/2013 4:39:49 PM
ProvisionedThroughput   : Amazon.DynamoDBv2.Model.ProvisionedThroughputDescription
TableSizeBytes          : 0
ItemCount               : 0
LocalSecondaryIndexes   : {}
```

Example 2: This example creates a table named Thread that has a primary key consisting of 'ForumName' (key type hash) and 'Subject' (key type range). A local secondary index is also defined. The key of the local secondary index will be set automatically from the primary hash key on the table (ForumName). The schema used to construct the table can be piped into each cmdlet as shown or specified using the -Schema parameter.

```
$schema = New-DDBTableSchema
$schema | Add-DDBKeySchema -KeyName "ForumName" -KeyDataType "S"
$schema | Add-DDBKeySchema -KeyName "Subject" -KeyDataType "S"
$schema | Add-DDBIndexSchema -IndexName "LastPostIndex" -RangeKeyName
 "LastPostDateTime" -RangeKeyDataType "S" -ProjectionType "keys_only"
$schema | New-DDBTable -TableName "Thread" -ReadCapacity 10 -WriteCapacity 5
```

Output:

```
AttributeDefinitions    : {ForumName, LastPostDateTime, Subject}
TableName               : Thread
KeySchema               : {ForumName, Subject}
TableStatus             : CREATING
CreationDateTime        : 10/28/2013 4:39:49 PM
ProvisionedThroughput   : Amazon.DynamoDBv2.Model.ProvisionedThroughputDescription
TableSizeBytes          : 0
ItemCount               : 0
LocalSecondaryIndexes   : {LastPostIndex}
```

Example 3: This example shows how to use a single pipeline to create a table named Thread that has a primary key consisting of 'ForumName' (key type hash) and 'Subject' (key type range) and a local secondary index. The Add-DDBKeySchema and Add-DDBIndexSchema create a new TableSchema object for you if one is not supplied from the pipeline or the -Schema parameter.

```
New-DDBTableSchema |
  Add-DDBKeySchema -KeyName "ForumName" -KeyDataType "S" |
  Add-DDBKeySchema -KeyName "Subject" -KeyDataType "S" |
```

```
  Add-DDBIndexSchema -IndexName "LastPostIndex" `
                     -RangeKeyName "LastPostDateTime" `
                     -RangeKeyDataType "S" `
                     -ProjectionType "keys_only" |
  New-DDBTable -TableName "Thread" -ReadCapacity 10 -WriteCapacity 5
```

Output:

```
AttributeDefinitions   : {ForumName, LastPostDateTime, Subject}
TableName              : Thread
KeySchema              : {ForumName, Subject}
TableStatus            : CREATING
CreationDateTime       : 10/28/2013 4:39:49 PM
ProvisionedThroughput  : Amazon.DynamoDBv2.Model.ProvisionedThroughputDescription
TableSizeBytes         : 0
ItemCount              : 0
LocalSecondaryIndexes  : {LastPostIndex}
```

- For API details, see CreateTable in *AWS Tools for PowerShell Cmdlet Reference*.

`New-DDBTableSchema`

The following code example shows how to use `New-DDBTableSchema`.

Tools for PowerShell

Example 1: Creates an empty TableSchema object ready to accept key and index definitions for use in creating a new Amazon DynamoDB table. The returned object can be piped into the Add-DDBKeySchema, Add-DDBIndexSchema and New-DDBTable cmdlets or passed to them using the -Schema parameter on each cmdlet.

```
New-DDBTableSchema
```

Output:

```
AttributeSchema                             KeySchema
    LocalSecondaryIndexSchema
---------------                             ---------
    ------------------------
{}                                          {}
    {}
```

- For API details, see New-DDBTableSchema in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DDBItem`

The following code example shows how to use `Remove-DDBItem`.

Tools for PowerShell

Example 1: Removes the DynamoDB item that matches the provided key.

```
$key = @{
    SongTitle = 'Somewhere Down The Road'
    Artist = 'No One You Know'
} | ConvertTo-DDBItem
Remove-DDBItem -TableName 'Music' -Key $key -Confirm:$false
```

- For API details, see DeleteItem in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-DDBTable`

The following code example shows how to use `Remove-DDBTable`.

Tools for PowerShell

Example 1: Deletes the specified table. You are prompted for confirmation before the operation proceeds.

```
Remove-DDBTable -TableName "myTable"
```

Example 2: Deletes the specified table. You are not prompted for confirmation before the operation proceeds.

```
Remove-DDBTable -TableName "myTable" -Force
```

- For API details, see DeleteTable in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-DDBBatchItem`

The following code example shows how to use `Set-DDBBatchItem`.

Tools for PowerShell

Example 1: Creates a new item, or replaces an existing item with a new item in the DynamoDB tables Music and Songs.

```
$item = @{
    SongTitle = 'Somewhere Down The Road'
    Artist = 'No One You Know'
        AlbumTitle = 'Somewhat Famous'
        Price = 1.94
        Genre = 'Country'
        CriticRating = 10.0
} | ConvertTo-DDBItem

$writeRequest = New-Object Amazon.DynamoDBv2.Model.WriteRequest
$writeRequest.PutRequest = [Amazon.DynamoDBv2.Model.PutRequest]$item
```

Output:

```
$requestItem = @{
    'Music' = [Amazon.DynamoDBv2.Model.WriteRequest]($writeRequest)
    'Songs' = [Amazon.DynamoDBv2.Model.WriteRequest]($writeRequest)
}

Set-DDBBatchItem -RequestItem $requestItem
```

- For API details, see BatchWriteItem in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-DDBItem`

The following code example shows how to use `Set-DDBItem`.

Tools for PowerShell

Example 1: Creates a new item, or replaces an existing item with a new item.

```
$item = @{
  SongTitle = 'Somewhere Down The Road'
  Artist = 'No One You Know'
        AlbumTitle = 'Somewhat Famous'
        Price = 1.94
        Genre = 'Country'
```

```
        CriticRating = 9.0
} | ConvertTo-DDBItem
Set-DDBItem -TableName 'Music' -Item $item
```

- For API details, see PutItem in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-DDBItem`

The following code example shows how to use `Update-DDBItem`.

Tools for PowerShell

Example 1: Sets the genre attribute to 'Rap' on the DynamoDB item with the partition key SongTitle and the sort key Artist.

```
$key = @{
    SongTitle = 'Somewhere Down The Road'
    Artist = 'No One You Know'
} | ConvertTo-DDBItem

$updateDdbItem = @{
    TableName = 'Music'
    Key = $key
    UpdateExpression = 'set Genre = :val1'
    ExpressionAttributeValue = (@{
        ':val1' = ([Amazon.DynamoDBv2.Model.AttributeValue]'Rap')
    })
}
Update-DDBItem @updateDdbItem
```

Output:

```
Name                           Value
----                           -----
Genre                          Rap
```

- For API details, see UpdateItem in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-DDBTable`

The following code example shows how to use `Update-DDBTable`.

Tools for PowerShell

Example 1: Updates the provisioned throughput for the given table.

```
Update-DDBTable -TableName "myTable" -ReadCapacity 10 -WriteCapacity 5
```

- For API details, see UpdateTable in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon EC2 examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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-EC2CapacityReservation`

The following code example shows how to use `Add-EC2CapacityReservation`.

Tools for PowerShell

Example 1: This example creates a new Capacity Reservation with the specified attributes

```
Add-EC2CapacityReservation -InstanceType m4.xlarge -InstanceCount 2 -
AvailabilityZone eu-west-1b -EbsOptimized True -InstancePlatform Windows
```

Output:

```
AvailabilityZone       : eu-west-1b
AvailableInstanceCount : 2
CapacityReservationId  : cr-0c1f2345db6f7cdba
CreateDate             : 3/28/2019 9:29:41 AM
EbsOptimized           : True
EndDate                : 1/1/0001 12:00:00 AM
EndDateType            : unlimited
EphemeralStorage       : False
InstanceMatchCriteria  : open
InstancePlatform       : Windows
InstanceType           : m4.xlarge
State                  : active
Tags                   : {}
Tenancy                : default
TotalInstanceCount     : 2
```

- For API details, see CreateCapacityReservation in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-EC2InternetGateway`

The following code example shows how to use `Add-EC2InternetGateway`.

Tools for PowerShell

Example 1: This example attaches the specified Internet gateway to the specified VPC.

```
Add-EC2InternetGateway -InternetGatewayId igw-1a2b3c4d -VpcId vpc-12345678
```

Example 2: This example creates a VPC and an Internet gateway, and then attaches the Internet gateway to the VPC.

```
$vpc = New-EC2Vpc -CidrBlock 10.0.0.0/16
New-EC2InternetGateway | Add-EC2InternetGateway -VpcId $vpc.VpcId
```

- For API details, see AttachInternetGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-EC2NetworkInterface`

The following code example shows how to use `Add-EC2NetworkInterface`.

Tools for PowerShell

Example 1: This example attaches the specified network interface to the specified instance.

```
Add-EC2NetworkInterface -NetworkInterfaceId eni-12345678 -InstanceId i-1a2b3c4d -
DeviceIndex 1
```

Output:

```
eni-attach-1a2b3c4d
```

- For API details, see AttachNetworkInterface in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-EC2Volume`

The following code example shows how to use `Add-EC2Volume`.

Tools for PowerShell

Example 1: This example attaches the specified volume to the specified instance and exposes it with the specified device name.

```
Add-EC2Volume -VolumeId vol-12345678 -InstanceId i-1a2b3c4d -Device /dev/sdh
```

Output:

```
AttachTime          : 12/22/2015 1:53:58 AM
DeleteOnTermination : False
Device              : /dev/sdh
InstanceId          : i-1a2b3c4d
State               : attaching
VolumeId            : vol-12345678
```

- For API details, see AttachVolume in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-EC2VpnGateway`

The following code example shows how to use `Add-EC2VpnGateway`.

Tools for PowerShell

Example 1: This example attaches the specified virtual private gateway to the specified VPC.

```
Add-EC2VpnGateway -VpnGatewayId vgw-1a2b3c4d -VpcId vpc-12345678
```

Output:

```
State        VpcId
-----        -----
attaching    vpc-12345678
```

- For API details, see AttachVpnGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`Approve-EC2VpcPeeringConnection`

The following code example shows how to use `Approve-EC2VpcPeeringConnection`.

Tools for PowerShell

Example 1: This example approves the requested VpcPeeringConnectionId pcx-1dfad234b56ff78be

```
Approve-EC2VpcPeeringConnection -VpcPeeringConnectionId pcx-1dfad234b56ff78be
```

Output:

```
AccepterVpcInfo        : Amazon.EC2.Model.VpcPeeringConnectionVpcInfo
ExpirationTime         : 1/1/0001 12:00:00 AM
RequesterVpcInfo       : Amazon.EC2.Model.VpcPeeringConnectionVpcInfo
Status                 : Amazon.EC2.Model.VpcPeeringConnectionStateReason
Tags                   : {}
VpcPeeringConnectionId : pcx-1dfad234b56ff78be
```

- For API details, see AcceptVpcPeeringConnection in *AWS Tools for PowerShell Cmdlet Reference*.

`Confirm-EC2ProductInstance`

The following code example shows how to use `Confirm-EC2ProductInstance`.

Tools for PowerShell

Example 1: This example determines whether the specified product code is associated with the specified instance.

```
Confirm-EC2ProductInstance -ProductCode 774F4FF8 -InstanceId i-12345678
```

- For API details, see ConfirmProductInstance in *AWS Tools for PowerShell Cmdlet Reference*.

`Copy-EC2Image`

The following code example shows how to use `Copy-EC2Image`.

Tools for PowerShell

Example 1: This example copies the specified AMI in the 'EU (Ireland)' region to the 'US West (Oregon)' region. If -Region is not specified, the current default region is used as the destination region.

```
Copy-EC2Image -SourceRegion eu-west-1 -SourceImageId ami-12345678 -Region us-west-2
 -Name "Copy of ami-12345678"
```

Output:

```
ami-87654321
```

- For API details, see CopyImage in *AWS Tools for PowerShell Cmdlet Reference*.

`Copy-EC2Snapshot`

The following code example shows how to use `Copy-EC2Snapshot`.

Tools for PowerShell

Example 1: This example copies the specified snapshot from the EU (Ireland) region to the US West (Oregon) region.

```
Copy-EC2Snapshot -SourceRegion eu-west-1 -SourceSnapshotId snap-12345678 -Region us-
west-2
```

Example 2: If you set a default region and omit the Region parameter, the default destination region is the default region.

```
Set-DefaultAWSRegion us-west-2
Copy-EC2Snapshot -SourceRegion eu-west-1 -SourceSnapshotId snap-12345678
```

- For API details, see CopySnapshot in *AWS Tools for PowerShell Cmdlet Reference*.

`Deny-EC2VpcPeeringConnection`

The following code example shows how to use `Deny-EC2VpcPeeringConnection`.

Tools for PowerShell

Example 1: The above example denies the request for VpcPeering request id pcx-01a2b3ce45fe67eb8

```
Deny-EC2VpcPeeringConnection -VpcPeeringConnectionId pcx-01a2b3ce45fe67eb8
```

- For API details, see RejectVpcPeeringConnection in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-EC2VgwRoutePropagation`

The following code example shows how to use `Disable-EC2VgwRoutePropagation`.

Tools for PowerShell

Example 1: This example disables the VGW from automatically propagating routes to the specified routing table.

```
Disable-EC2VgwRoutePropagation -RouteTableId rtb-12345678 -GatewayId vgw-1a2b3c4d
```

- For API details, see DisableVgwRoutePropagation in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-EC2VpcClassicLink`

The following code example shows how to use `Disable-EC2VpcClassicLink`.

Tools for PowerShell

Example 1: This example disables EC2VpcClassicLink for the vpc-01e23c4a5d6db78e9. It returns either True or False

```
Disable-EC2VpcClassicLink -VpcId vpc-01e23c4a5d6db78e9
```

- For API details, see DisableVpcClassicLink in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-EC2VpcClassicLinkDnsSupport`

The following code example shows how to use `Disable-EC2VpcClassicLinkDnsSupport`.

Tools for PowerShell

Example 1: This example disables ClassicLink DNS support for the vpc-0b12d3456a7e8910d

```
Disable-EC2VpcClassicLinkDnsSupport -VpcId vpc-0b12d3456a7e8910d
```

- For API details, see DisableVpcClassicLinkDnsSupport in *AWS Tools for PowerShell Cmdlet Reference*.

`Dismount-EC2InternetGateway`

The following code example shows how to use `Dismount-EC2InternetGateway`.

Tools for PowerShell

Example 1: This example detaches the specified Internet gateway from the specified VPC.

```
Dismount-EC2InternetGateway -InternetGatewayId igw-1a2b3c4d -VpcId vpc-12345678
```

- For API details, see DetachInternetGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`Dismount-EC2NetworkInterface`

The following code example shows how to use `Dismount-EC2NetworkInterface`.

Tools for PowerShell

Example 1: This example removes the specified attachment between a network interface and an instance.

```
Dismount-EC2NetworkInterface -AttachmentId eni-attach-1a2b3c4d -Force
```

- For API details, see DetachNetworkInterface in *AWS Tools for PowerShell Cmdlet Reference*.

`Dismount-EC2Volume`

The following code example shows how to use `Dismount-EC2Volume`.

Tools for PowerShell

Example 1: This example detaches the specified volume.

```
Dismount-EC2Volume -VolumeId vol-12345678
```

Output:

```
AttachTime          : 12/22/2015 1:53:58 AM
DeleteOnTermination : False
Device              : /dev/sdh
InstanceId          : i-1a2b3c4d
State               : detaching
VolumeId            : vol-12345678
```

Example 2: You can also specify the instance ID and device name to ensure that you are detaching the correct volume.

```
Dismount-EC2Volume -VolumeId vol-12345678 -InstanceId i-1a2b3c4d -Device /dev/sdh
```

- For API details, see DetachVolume in *AWS Tools for PowerShell Cmdlet Reference*.

`Dismount-EC2VpnGateway`

The following code example shows how to use `Dismount-EC2VpnGateway`.

Tools for PowerShell

Example 1: This example detaches the specified virtual private gateway from the specified VPC.

```
Dismount-EC2VpnGateway -VpnGatewayId vgw-1a2b3c4d -VpcId vpc-12345678
```

- For API details, see DetachVpnGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2CapacityReservation`

The following code example shows how to use `Edit-EC2CapacityReservation`.

Tools for PowerShell

Example 1: This example modifies the CapacityReservationId cr-0c1f2345db6f7cdba by changing the instane count to 1

```
Edit-EC2CapacityReservation -CapacityReservationId cr-0c1f2345db6f7cdba -
InstanceCount 1
```

Output:

```
True
```

- For API details, see ModifyCapacityReservation in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2Host`

The following code example shows how to use `Edit-EC2Host`.

Tools for PowerShell

Example 1: This example modifies the AutoPlacement settings to off for the dedicated host h-01e23f4cd567890f3

```
Edit-EC2Host -HostId h-03e09f8cd681609f3 -AutoPlacement off
```

Output:

```
Successful           Unsuccessful
----------           ------------
{h-01e23f4cd567890f3} {}
```

- For API details, see ModifyHosts in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2IdFormat`

The following code example shows how to use `Edit-EC2IdFormat`.

Tools for PowerShell

Example 1: This example enables the longer ID format for the specified resource type.

```
Edit-EC2IdFormat -Resource instance -UseLongId $true
```

Example 2: This example disables the longer ID format for the specified resource type.

```
Edit-EC2IdFormat -Resource instance -UseLongId $false
```

- For API details, see ModifyIdFormat in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2ImageAttribute`

The following code example shows how to use `Edit-EC2ImageAttribute`.

Tools for PowerShell

Example 1: This example updates the description for the specified AMI.

```
Edit-EC2ImageAttribute -ImageId ami-12345678 -Description "New description"
```

Example 2: This example makes the AMI public (for example, so any AWS account can use it).

```
Edit-EC2ImageAttribute -ImageId ami-12345678 -Attribute launchPermission -
OperationType add -UserGroup all
```

Example 3: This example makes the AMI private (for example, so that only you as the owner can use it).

```
Edit-EC2ImageAttribute -ImageId ami-12345678 -Attribute launchPermission -
OperationType remove -UserGroup all
```

Example 4: This example grants launch permission to the specified AWS account.

```
Edit-EC2ImageAttribute -ImageId ami-12345678 -Attribute launchPermission -
OperationType add -UserId 111122223333
```

Example 5: This example removes launch permission from the specified AWS account.

```
Edit-EC2ImageAttribute -ImageId ami-12345678 -Attribute launchPermission -
OperationType remove -UserId 111122223333
```

- For API details, see ModifyImageAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2InstanceAttribute`

The following code example shows how to use `Edit-EC2InstanceAttribute`.

Tools for PowerShell

Example 1: This example modifies the instance type of the specified instance.

```
Edit-EC2InstanceAttribute -InstanceId i-12345678 -InstanceType m3.medium
```

Example 2: This example enables enhanced networking for the specified instance, by specifying "simple" as the value of the single root I/O virtualization (SR-IOV) network support parameter, -SriovNetSupport..

```
Edit-EC2InstanceAttribute -InstanceId i-12345678 -SriovNetSupport "simple"
```

Example 3: This example modifies the security groups for the specified instance. The instance must be in a VPC. You must specify the ID of each security group, not the name.

```
Edit-EC2InstanceAttribute -InstanceId i-12345678 -Group @( "sg-12345678",
 "sg-45678901" )
```

Example 4: This example enables EBS I/O optimization for the specified instance. This feature isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.

```
Edit-EC2InstanceAttribute -InstanceId i-12345678 -EbsOptimized $true
```

Example 5: This example enables source/destination checking for the specified instance. For a NAT instance to perform NAT, the value must be 'false'.

```
Edit-EC2InstanceAttribute -InstanceId i-12345678 -SourceDestCheck $true
```

Example 6: This example disables termination for the specified instance.

```
Edit-EC2InstanceAttribute -InstanceId i-12345678 -DisableApiTermination $true
```

Example 7: This example changes the specified instance so that it terminates when shutdown is initiated from the instance.

```
Edit-EC2InstanceAttribute -InstanceId i-12345678 -InstanceInitiatedShutdownBehavior
 terminate
```

- For API details, see ModifyInstanceAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2InstanceCreditSpecification`

The following code example shows how to use `Edit-EC2InstanceCreditSpecification`.

Tools for PowerShell

Example 1: This enables T2 unlimited credits for instance i-01234567890abcdef.

```
$Credit = New-Object -TypeName Amazon.EC2.Model.InstanceCreditSpecificationRequest
$Credit.InstanceId = "i-01234567890abcdef"
$Credit.CpuCredits = "unlimited"
Edit-EC2InstanceCreditSpecification -InstanceCreditSpecification $Credit
```

- For API details, see ModifyInstanceCreditSpecification in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2NetworkInterfaceAttribute`

The following code example shows how to use `Edit-EC2NetworkInterfaceAttribute`.

Tools for PowerShell

Example 1: This example modifies the specified network interface so that the specified attachment is deleted on termination.

```
Edit-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-1a2b3c4d -
Attachment_AttachmentId eni-attach-1a2b3c4d -Attachment_DeleteOnTermination $true
```

Example 2: This example modifies the description of the specified network interface.

```
Edit-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-1a2b3c4d -Description "my
 description"
```

Example 3: This example modifies the security group for the specified network interface.

```
Edit-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-1a2b3c4d -Groups
 sg-1a2b3c4d
```

Example 4: This example disables source/destination checking for the specified network interface.

```
Edit-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-1a2b3c4d -SourceDestCheck
 $false
```

- For API details, see ModifyNetworkInterfaceAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2ReservedInstance`

The following code example shows how to use `Edit-EC2ReservedInstance`.

Tools for PowerShell

Example 1: This example modifies the Availability Zone, instance count, and platform for the specified Reserved instances.

```
$config = New-Object Amazon.EC2.Model.ReservedInstancesConfiguration
```

```
$config.AvailabilityZone = "us-west-2a"
$config.InstanceCount = 1
$config.Platform = "EC2-VPC"

Edit-EC2ReservedInstance `
-ReservedInstancesId @("FE32132D-70D5-4795-B400-AE435EXAMPLE", "0CC556F3-7AB8-4C00-
B0E5-98666EXAMPLE") `
-TargetConfiguration $config
```

- For API details, see ModifyReservedInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2SnapshotAttribute`

The following code example shows how to use `Edit-EC2SnapshotAttribute`.

Tools for PowerShell

Example 1: This example makes the specified snapshot public by setting its CreateVolumePermission attribute.

```
Edit-EC2SnapshotAttribute -SnapshotId snap-12345678 -Attribute
 CreateVolumePermission -OperationType Add -GroupName all
```

- For API details, see ModifySnapshotAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2SpotFleetRequest`

The following code example shows how to use `Edit-EC2SpotFleetRequest`.

Tools for PowerShell

Example 1: This example updates the target capacity of the specified Spot fleet request.

```
Edit-EC2SpotFleetRequest -SpotFleetRequestId sfr-73fbd2ce-
aa30-494c-8788-1cee4EXAMPLE -TargetCapacity 10
```

Output:

```
True
```

- For API details, see ModifySpotFleetRequest in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2SubnetAttribute`

The following code example shows how to use `Edit-EC2SubnetAttribute`.

Tools for PowerShell

Example 1: This example enables public IP addressing for the specified subnet.

```
Edit-EC2SubnetAttribute -SubnetId subnet-1a2b3c4d -MapPublicIpOnLaunch $true
```

Example 2: This example disables public IP addressing for the specified subnet.

```
Edit-EC2SubnetAttribute -SubnetId subnet-1a2b3c4d -MapPublicIpOnLaunch $false
```

- For API details, see ModifySubnetAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2VolumeAttribute`

The following code example shows how to use `Edit-EC2VolumeAttribute`.

Tools for PowerShell

Example 1: This example modifies the specified attribute of the specified volume. I/O operations for the volume are automatically resumed after being suspended due to potentially inconsistent data.

```
Edit-EC2VolumeAttribute -VolumeId vol-12345678 -AutoEnableIO $true
```

- For API details, see ModifyVolumeAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-EC2VpcAttribute`

The following code example shows how to use `Edit-EC2VpcAttribute`.

Tools for PowerShell

Example 1: This example enables support for DNS hostnames for the specified VPC.

```
Edit-EC2VpcAttribute -VpcId vpc-12345678 -EnableDnsHostnames $true
```

Example 2: This example disables support for DNS hostnames for the specified VPC.

```
Edit-EC2VpcAttribute -VpcId vpc-12345678 -EnableDnsHostnames $false
```

Example 3: This example enables support for DNS resolution for the specified VPC.

```
Edit-EC2VpcAttribute -VpcId vpc-12345678 -EnableDnsSupport $true
```

Example 4: This example disables support for DNS resolution for the specified VPC.

```
Edit-EC2VpcAttribute -VpcId vpc-12345678 -EnableDnsSupport $false
```

- For API details, see ModifyVpcAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-EC2VgwRoutePropagation`

The following code example shows how to use `Enable-EC2VgwRoutePropagation`.

Tools for PowerShell

Example 1: This example enables the specified VGW to propagate routes automatically to the specified routing table.

```
Enable-EC2VgwRoutePropagation -RouteTableId rtb-12345678 -GatewayId vgw-1a2b3c4d
```

- For API details, see EnableVgwRoutePropagation in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-EC2VolumeIO`

The following code example shows how to use `Enable-EC2VolumeIO`.

Tools for PowerShell

Example 1: This example enables I/O operations for the specified volume, if I/O operations were disabled.

```
Enable-EC2VolumeIO -VolumeId vol-12345678
```

- For API details, see EnableVolumeIo in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-EC2VpcClassicLink`

The following code example shows how to use `Enable-EC2VpcClassicLink`.

Tools for PowerShell

Example 1: This example enables VPC vpc-0123456b789b0d12f for ClassicLink

```
Enable-EC2VpcClassicLink -VpcId vpc-0123456b789b0d12f
```

Output:

```
True
```

- For API details, see EnableVpcClassicLink in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-EC2VpcClassicLinkDnsSupport`

The following code example shows how to use `Enable-EC2VpcClassicLinkDnsSupport`.

Tools for PowerShell

Example 1: This example enables vpc-0b12d3456a7e8910d to support DNS hostname resolution for ClassicLink

```
Enable-EC2VpcClassicLinkDnsSupport -VpcId vpc-0b12d3456a7e8910d -Region eu-west-1
```

- For API details, see EnableVpcClassicLinkDnsSupport in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2AccountAttribute`

The following code example shows how to use `Get-EC2AccountAttribute`.

Tools for PowerShell

Example 1: This example describes whether you can launch instances into EC2-Classic and EC2-VPC in the region, or only into EC2-VPC.

```
(Get-EC2AccountAttribute -AttributeName supported-platforms).AttributeValues
```

Output:

```
AttributeValue
--------------
EC2
VPC
```

Example 2: This example describes your default VPC, or is 'none' if you do not have a default VPC in the region.

```
(Get-EC2AccountAttribute -AttributeName default-vpc).AttributeValues
```

Output:

```
AttributeValue
--------------
vpc-12345678
```

Example 3: This example describes the maximum number of On-Demand instances that you can run.

```
(Get-EC2AccountAttribute -AttributeName max-instances).AttributeValues
```

Output:

```
AttributeValue
--------------
20
```

- For API details, see DescribeAccountAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Address`

The following code example shows how to use `Get-EC2Address`.

Tools for PowerShell

Example 1: This example describes the specified Elastic IP address for instances in EC2-Classic.

```
Get-EC2Address -AllocationId eipalloc-12345678
```

Output:

```
AllocationId            : eipalloc-12345678
AssociationId           : eipassoc-12345678
Domain                  : vpc
InstanceId              : i-87654321
NetworkInterfaceId      : eni-12345678
NetworkInterfaceOwnerId : 12345678
PrivateIpAddress        : 10.0.2.172
PublicIp                : 198.51.100.2
```

Example 2: This example describes your Elastic IP addresses for instances in a VPC. This syntax requires PowerShell version 3 or later.

```
Get-EC2Address -Filter @{ Name="domain";Values="vpc" }
```

Example 3: This example describes the specified Elastic IP address for instances in EC2-Classic.

```
Get-EC2Address -PublicIp 203.0.113.17
```

Output:

```
AllocationId            :
AssociationId           :
Domain                  : standard
InstanceId              : i-12345678
NetworkInterfaceId      :
NetworkInterfaceOwnerId :
PrivateIpAddress        :
PublicIp                : 203.0.113.17
```

Example 4: This example describes your Elastic IP addresses for instances in EC2-Classic. This syntax requires PowerShell version 3 or later.

```
Get-EC2Address -Filter @{ Name="domain";Values="standard" }
```

Example 5: This example describes all your Elastic IP addresses.

```
Get-EC2Address
```

Example 6: This example returns the public and private IP for the instance id provided in filter

```
Get-EC2Address -Region eu-west-1 -Filter @{Name="instance-
id";Values="i-0c12d3f4f567ffb89"} | Select-Object PrivateIpAddress, PublicIp
```

Output:

```
PrivateIpAddress PublicIp
---------------- --------
10.0.0.99        63.36.5.227
```

Example 7: This example retrieves all the Elastic IPs with its allocation id, association id and instance ids

```
Get-EC2Address -Region eu-west-1 | Select-Object InstanceId, AssociationId,
 AllocationId, PublicIp
```

Output:

```
InstanceId          AssociationId              AllocationId               PublicIp
----------          -------------              ------------               --------
                                               eipalloc-012e3b456789e1fad
 17.212.120.178
i-0c123dfd3415bac67 eipassoc-0e123456bb7890bdb eipalloc-01cd23ebf45f7890c
 17.212.124.77
                                               eipalloc-012345678eeabcfad
 17.212.225.7
i-0123d405c67e89a0c eipassoc-0c123b456783966ba eipalloc-0123cdd456a8f7892
 37.216.52.173
i-0f1bf2f34c5678d09 eipassoc-0e12934568a952d96 eipalloc-0e1c23e4d5e6789e4
 37.218.222.278
i-012e3cb4df567e8aa eipassoc-0d1b2fa4d67d03810 eipalloc-0123f456f78a01b58
 37.210.82.27
i-0123bcf4b567890e1 eipassoc-01d2345f678903fb1 eipalloc-0e1db23cfef5c45c7
 37.215.222.270
```

Example 8: This example fetches list of EC2 IP addresses matching tag key 'Category' with value 'Prod'

```
Get-EC2Address -Filter @{Name="tag:Category";Values="Prod"}
```

Output:

```
AllocationId            : eipalloc-0123f456f81a01b58
AssociationId           : eipassoc-0d1b23a456d103810
CustomerOwnedIp         :
CustomerOwnedIpv4Pool   :
Domain                  : vpc
InstanceId              : i-012e3cb4df567e1aa
NetworkBorderGroup      : eu-west-1
NetworkInterfaceId      : eni-0123f41d5a60d5f40
NetworkInterfaceOwnerId : 123456789012
PrivateIpAddress        : 192.168.1.84
PublicIp                : 34.250.81.29
PublicIpv4Pool          : amazon
Tags                    : {Category, Name}
```

- For API details, see DescribeAddresses in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2AvailabilityZone`

The following code example shows how to use `Get-EC2AvailabilityZone`.

Tools for PowerShell

Example 1: This example describes the Availability Zones for the current region that are available to you.

```
Get-EC2AvailabilityZone
```

Output:

```
Messages    RegionName    State        ZoneName
--------    ----------    -----        --------
{}          us-west-2     available    us-west-2a
{}          us-west-2     available    us-west-2b
{}          us-west-2     available    us-west-2c
```

Example 2: This example describes any Availability Zones that are in an impaired state. The syntax used by this example requires PowerShell version 3 or higher.

```
Get-EC2AvailabilityZone -Filter @{ Name="state";Values="impaired" }
```

Example 3: With PowerShell version 2, you must use New-Object to create the filter.

```
$filter = New-Object Amazon.EC2.Model.Filter
$filter.Name = "state"
$filter.Values = "impaired"

Get-EC2AvailabilityZone -Filter $filter
```

- For API details, see DescribeAvailabilityZones in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2BundleTask`

The following code example shows how to use `Get-EC2BundleTask`.

Tools for PowerShell

Example 1: This example describes the specified bundle task.

```
Get-EC2BundleTask -BundleId bun-12345678
```

Example 2: This example describes the bundle tasks whose state is either 'complete' or 'failed'.

```
$filter = New-Object Amazon.EC2.Model.Filter
$filter.Name = "state"
$filter.Values = @( "complete", "failed" )

Get-EC2BundleTask -Filter $filter
```

- For API details, see DescribeBundleTasks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2CapacityReservation`

The following code example shows how to use `Get-EC2CapacityReservation`.

Tools for PowerShell

Example 1: This example describes one or more of your Capacity Reservations for the region

```
Get-EC2CapacityReservation -Region eu-west-1
```

Output:

```
AvailabilityZone       : eu-west-1b
AvailableInstanceCount : 2
CapacityReservationId  : cr-0c1f2345db6f7cdba
CreateDate             : 3/28/2019 9:29:41 AM
EbsOptimized           : True
EndDate                : 1/1/0001 12:00:00 AM
EndDateType            : unlimited
EphemeralStorage       : False
InstanceMatchCriteria  : open
InstancePlatform       : Windows
InstanceType           : m4.xlarge
State                  : active
Tags                   : {}
Tenancy                : default
TotalInstanceCount     : 2
```

- For API details, see DescribeCapacityReservations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2ConsoleOutput`

The following code example shows how to use `Get-EC2ConsoleOutput`.

Tools for PowerShell

Example 1: This example gets the console output for the specified Linux instance. The console output is encoded.

```
Get-EC2ConsoleOutput -InstanceId i-0e19abcd47c123456
```

Output:

```
InstanceId          Output
```

```
----------          ------
i-0e194d3c47c123637 WyAgICAwLjAwMDAwMF0gQ29tbW...bGU9dHR5UzAgc2Vs
```

Example 2: This example stores the encoded console output in a variable and then decodes it.

```
$Output_encoded = (Get-EC2ConsoleOutput -InstanceId i-0e19abcd47c123456).Output
[System.Text.Encoding]::UTF8.GetString([System.Convert]::FromBase64String($Output_encoded))
```

- For API details, see GetConsoleOutput in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2CustomerGateway`

The following code example shows how to use `Get-EC2CustomerGateway`.

Tools for PowerShell

Example 1: This example describes the specified customer gateway.

```
Get-EC2CustomerGateway -CustomerGatewayId cgw-1a2b3c4d
```

Output:

```
BgpAsn            : 65534
CustomerGatewayId : cgw-1a2b3c4d
IpAddress         : 203.0.113.12
State             : available
Tags              : {}
Type              : ipsec.1
```

Example 2: This example describes any customer gateway whose state is either pending or available.

```
$filter = New-Object Amazon.EC2.Model.Filter
$filter.Name = "state"
$filter.Values = @( "pending", "available" )

Get-EC2CustomerGateway -Filter $filter
```

Example 3: This example describes all your customer gateways.

```
Get-EC2CustomerGateway
```

- For API details, see DescribeCustomerGateways in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2DhcpOption`

The following code example shows how to use `Get-EC2DhcpOption`.

Tools for PowerShell

Example 1: This example lists your DHCP options sets.

```
Get-EC2DhcpOption
```

Output:

```
DhcpConfigurations                    DhcpOptionsId    Tag
------------------                    -------------    ---
{domain-name, domain-name-servers}    dopt-1a2b3c4d    {}
{domain-name, domain-name-servers}    dopt-2a3b4c5d    {}
{domain-name-servers}                 dopt-3a4b5c6d    {}
```

Example 2: This example gets configuration details for the specified DHCP options set.

```
(Get-EC2DhcpOption -DhcpOptionsId dopt-1a2b3c4d).DhcpConfigurations
```

Output:

```
Key                  Values
---                  ------
domain-name          {abc.local}
domain-name-servers  {10.0.0.101, 10.0.0.102}
```

- For API details, see DescribeDhcpOptions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2FlowLog`

The following code example shows how to use `Get-EC2FlowLog`.

Tools for PowerShell

Example 1: This example describes one or more flow logs with log destination type 's3'

```
Get-EC2FlowLog -Filter @{Name="log-destination-type";Values="s3"}
```

Output:

```
CreationTime             : 2/25/2019 9:07:36 PM
DeliverLogsErrorMessage  :
DeliverLogsPermissionArn :
DeliverLogsStatus        : SUCCESS
FlowLogId                : fl-01b2e3d45f67f8901
FlowLogStatus            : ACTIVE
LogDestination           : arn:aws:s3:::my-bucket-dd-tata
LogDestinationType       : s3
LogGroupName             :
ResourceId               : eni-01d2dda3456b7e890
TrafficType              : ALL
```

- For API details, see DescribeFlowLogs in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Host`

The following code example shows how to use `Get-EC2Host`.

Tools for PowerShell

Example 1: This example returns the EC2 host details

```
Get-EC2Host
```

Output:

```
AllocationTime    : 3/23/2019 4:55:22 PM
AutoPlacement     : off
AvailabilityZone  : eu-west-1b
AvailableCapacity : Amazon.EC2.Model.AvailableCapacity
ClientToken       :
HostId            : h-01e23f4cd567890f1
HostProperties    : Amazon.EC2.Model.HostProperties
```

```
HostReservationId :
Instances         : {}
ReleaseTime       : 1/1/0001 12:00:00 AM
State             : available
Tags              : {}
```

Example 2: This example queries the AvailableInstanceCapacity for the host h-01e23f4cd567899f1

```
Get-EC2Host -HostId h-01e23f4cd567899f1 | Select-Object -ExpandProperty
 AvailableCapacity | Select-Object -expand AvailableInstanceCapacity
```

Output:

```
AvailableCapacity InstanceType TotalCapacity
----------------- ------------ -------------
11                m4.xlarge    11
```

- For API details, see DescribeHosts in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2HostReservationOffering`

The following code example shows how to use `Get-EC2HostReservationOffering`.

Tools for PowerShell

Example 1: This example describes the Dedicated Host reservations that are available to purchase for the given filter 'instance-family' where PaymentOption is 'NoUpfront'

```
Get-EC2HostReservationOffering -Filter @{Name="instance-family";Values="m4"} |
 Where-Object PaymentOption -eq NoUpfront
```

Output:

```
CurrencyCode   :
Duration       : 94608000
HourlyPrice    : 1.307
InstanceFamily : m4
OfferingId     : hro-0c1f234567890d9ab
PaymentOption  : NoUpfront
```

```
UpfrontPrice   : 0.000

CurrencyCode   :
Duration       : 31536000
HourlyPrice    : 1.830
InstanceFamily : m4
OfferingId     : hro-04ad12aaaf34b5a67
PaymentOption  : NoUpfront
UpfrontPrice   : 0.000
```

- For API details, see DescribeHostReservationOfferings in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2HostReservationPurchasePreview`

The following code example shows how to use `Get-EC2HostReservationPurchasePreview`.

Tools for PowerShell

Example 1: This example previews a reservation purchase with configurations that match those of your Dedicated Host h-01e23f4cd567890f1

```
Get-EC2HostReservationPurchasePreview -OfferingId hro-0c1f23456789d0ab -HostIdSet
 h-01e23f4cd567890f1
```

Output:

```
CurrencyCode Purchase TotalHourlyPrice TotalUpfrontPrice
------------ -------- ---------------- -----------------
             {}       1.307            0.000
```

- For API details, see GetHostReservationPurchasePreview in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2IdFormat`

The following code example shows how to use `Get-EC2IdFormat`.

Tools for PowerShell

Example 1: This example describes the ID format for the specified resource type.

```
Get-EC2IdFormat -Resource instance
```

Output:

```
Resource       UseLongIds
--------       ----------
instance       False
```

Example 2: This example describes the ID formats for all resource types that support longer IDs.

```
Get-EC2IdFormat
```

Output:

```
Resource       UseLongIds
--------       ----------
reservation    False
instance       False
```

- For API details, see DescribeIdFormat in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2IdentityIdFormat`

The following code example shows how to use `Get-EC2IdentityIdFormat`.

Tools for PowerShell

Example 1: This example returns the ID format for the resouce 'image' for the role given

```
Get-EC2IdentityIdFormat -PrincipalArn arn:aws:iam::123456789511:role/JDBC -Resource
 image
```

Output:

```
Deadline             Resource UseLongIds
--------             -------- ----------
8/2/2018 11:30:00 PM image    True
```

- For API details, see DescribeIdentityIdFormat in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Image`

The following code example shows how to use `Get-EC2Image`.

Tools for PowerShell

Example 1: This example describes the specified AMI.

```
Get-EC2Image -ImageId ami-12345678
```

Output:

```
Architecture        : x86_64
BlockDeviceMappings : {/dev/xvda}
CreationDate        : 2014-10-20T00:56:28.000Z
Description         : My image
Hypervisor          : xen
ImageId             : ami-12345678
ImageLocation       : 123456789012/my-image
ImageOwnerAlias     :
ImageType           : machine
KernelId            :
Name                : my-image
OwnerId             : 123456789012
Platform            :
ProductCodes        : {}
Public              : False
RamdiskId           :
RootDeviceName      : /dev/xvda
RootDeviceType      : ebs
SriovNetSupport     : simple
State               : available
StateReason         :
Tags                : {Name}
VirtualizationType  : hvm
```

Example 2: This example describes the AMIs that you own.

```
Get-EC2Image -owner self
```

Example 3: This example describes the public AMIs that run Microsoft Windows Server.

```
Get-EC2Image -Filter @{ Name="platform"; Values="windows" }
```

Example 4: This example describes all public AMIs in the 'us-west-2' region.

```
Get-EC2Image -Region us-west-2
```

- For API details, see DescribeImages in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2ImageAttribute`

The following code example shows how to use `Get-EC2ImageAttribute`.

Tools for PowerShell

Example 1: This example gets the description for the specified AMI.

```
Get-EC2ImageAttribute -ImageId ami-12345678 -Attribute description
```

Output:

```
BlockDeviceMappings : {}
Description         : My image description
ImageId             : ami-12345678
KernelId            :
LaunchPermissions   : {}
ProductCodes        : {}
RamdiskId           :
SriovNetSupport     :
```

Example 2: This example gets the launch permissions for the specified AMI.

```
Get-EC2ImageAttribute -ImageId ami-12345678 -Attribute launchPermission
```

Output:

```
BlockDeviceMappings : {}
Description         :
ImageId             : ami-12345678
KernelId            :
LaunchPermissions   : {all}
ProductCodes        : {}
```

```
RamdiskId           :
SriovNetSupport     :
```

Example 3: This example test whether enhanced networking is enabled.

```
Get-EC2ImageAttribute -ImageId ami-12345678 -Attribute sriovNetSupport
```

Output:

```
BlockDeviceMappings : {}
Description         :
ImageId             : ami-12345678
KernelId            :
LaunchPermissions   : {}
ProductCodes        : {}
RamdiskId           :
SriovNetSupport     : simple
```

- For API details, see DescribeImageAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2ImageByName`

The following code example shows how to use `Get-EC2ImageByName`.

Tools for PowerShell

Example 1: This example describes the complete set of filter names that are currently supported.

```
Get-EC2ImageByName
```

Output:

```
WINDOWS_2016_BASE
WINDOWS_2016_NANO
WINDOWS_2016_CORE
WINDOWS_2016_CONTAINER
WINDOWS_2016_SQL_SERVER_ENTERPRISE_2016
WINDOWS_2016_SQL_SERVER_STANDARD_2016
WINDOWS_2016_SQL_SERVER_WEB_2016
WINDOWS_2016_SQL_SERVER_EXPRESS_2016
```

```
WINDOWS_2012R2_BASE
WINDOWS_2012R2_CORE
WINDOWS_2012R2_SQL_SERVER_EXPRESS_2016
WINDOWS_2012R2_SQL_SERVER_STANDARD_2016
WINDOWS_2012R2_SQL_SERVER_WEB_2016
WINDOWS_2012R2_SQL_SERVER_EXPRESS_2014
WINDOWS_2012R2_SQL_SERVER_STANDARD_2014
WINDOWS_2012R2_SQL_SERVER_WEB_2014
WINDOWS_2012_BASE
WINDOWS_2012_SQL_SERVER_EXPRESS_2014
WINDOWS_2012_SQL_SERVER_STANDARD_2014
WINDOWS_2012_SQL_SERVER_WEB_2014
WINDOWS_2012_SQL_SERVER_EXPRESS_2012
WINDOWS_2012_SQL_SERVER_STANDARD_2012
WINDOWS_2012_SQL_SERVER_WEB_2012
WINDOWS_2012_SQL_SERVER_EXPRESS_2008
WINDOWS_2012_SQL_SERVER_STANDARD_2008
WINDOWS_2012_SQL_SERVER_WEB_2008
WINDOWS_2008R2_BASE
WINDOWS_2008R2_SQL_SERVER_EXPRESS_2012
WINDOWS_2008R2_SQL_SERVER_STANDARD_2012
WINDOWS_2008R2_SQL_SERVER_WEB_2012
WINDOWS_2008R2_SQL_SERVER_EXPRESS_2008
WINDOWS_2008R2_SQL_SERVER_STANDARD_2008
WINDOWS_2008R2_SQL_SERVER_WEB_2008
WINDOWS_2008RTM_BASE
WINDOWS_2008RTM_SQL_SERVER_EXPRESS_2008
WINDOWS_2008RTM_SQL_SERVER_STANDARD_2008
WINDOWS_2008_BEANSTALK_IIS75
WINDOWS_2012_BEANSTALK_IIS8
VPC_NAT
```

Example 2: This example describes the specified AMI. Using this command to locate an AMI is helpful because AWS releases new Windows AMIs with the latest updates each month. You can specify the 'ImageId' to New-EC2Instance to launch an instance using the current AMI for the specified filter.

```
Get-EC2ImageByName -Names WINDOWS_2016_BASE
```

Output:

```
Architecture        : x86_64
```

```
BlockDeviceMappings : {/dev/sda1, xvdca, xvdcb, xvdcc...}
CreationDate        : yyyy.mm.ddThh:mm:ss.000Z
Description         : Microsoft Windows Server 2016 with Desktop Experience Locale
 English AMI provided by Amazon
Hypervisor          : xen
ImageId             : ami-xxxxxxxx
ImageLocation       : amazon/Windows_Server-2016-English-Full-Base-yyyy.mm.dd
ImageOwnerAlias     : amazon
ImageType           : machine
KernelId            :
Name                : Windows_Server-2016-English-Full-Base-yyyy.mm.dd
OwnerId             : 801119661308
Platform            : Windows
ProductCodes        : {}
Public              : True
RamdiskId           :
RootDeviceName      : /dev/sda1
RootDeviceType      : ebs
SriovNetSupport     : simple
State               : available
StateReason         :
Tags                : {}
VirtualizationType  : hvm
```

- For API details, see Get-EC2ImageByName in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2ImportImageTask`

The following code example shows how to use `Get-EC2ImportImageTask`.

Tools for PowerShell

Example 1: This example describes the specified image import task.

```
Get-EC2ImportImageTask -ImportTaskId import-ami-hgfedcba
```

Output:

```
Architecture    : x86_64
Description     : Windows Image 2
Hypervisor      :
ImageId         : ami-1a2b3c4d
ImportTaskId    : import-ami-hgfedcba
```

```
LicenseType     : AWS
Platform        : Windows
Progress        :
SnapshotDetails : {/dev/sda1}
Status          : completed
StatusMessage   :
```

Example 2: This example describes all your image import tasks.

```
Get-EC2ImportImageTask
```

Output:

```
Architecture    :
Description     : Windows Image 1
Hypervisor      :
ImageId         :
ImportTaskId    : import-ami-abcdefgh
LicenseType     : AWS
Platform        : Windows
Progress        :
SnapshotDetails : {}
Status          : deleted
StatusMessage   : User initiated task cancelation

Architecture    : x86_64
Description     : Windows Image 2
Hypervisor      :
ImageId         : ami-1a2b3c4d
ImportTaskId    : import-ami-hgfedcba
LicenseType     : AWS
Platform        : Windows
Progress        :
SnapshotDetails : {/dev/sda1}
Status          : completed
StatusMessage   :
```

- For API details, see DescribeImportImageTasks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2ImportSnapshotTask`

The following code example shows how to use `Get-EC2ImportSnapshotTask`.

Tools for PowerShell

Example 1: This example describes the specified snapshot import task.

```
Get-EC2ImportSnapshotTask -ImportTaskId import-snap-abcdefgh
```

Output:

```
Description             ImportTaskId               SnapshotTaskDetail

-----------------       --------------------       ------------------

Disk Image Import 1     import-snap-abcdefgh
 Amazon.EC2.Model.SnapshotTaskDetail
```

Example 2: This example describes all your snapshot import tasks.

```
Get-EC2ImportSnapshotTask
```

Output:

```
Description             ImportTaskId               SnapshotTaskDetail

-----------------       --------------------       ------------------

Disk Image Import 1     import-snap-abcdefgh
 Amazon.EC2.Model.SnapshotTaskDetail
Disk Image Import 2     import-snap-hgfedcba
 Amazon.EC2.Model.SnapshotTaskDetail
```

- For API details, see DescribeImportSnapshotTasks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Instance`

The following code example shows how to use `Get-EC2Instance`.

Tools for PowerShell

Example 1: This example describes the specified instance.

```
(Get-EC2Instance -InstanceId i-12345678).Instances
```

Output:

```
AmiLaunchIndex        : 0
Architecture          : x86_64
BlockDeviceMappings   : {/dev/sda1}
ClientToken           : TleEy1448154045270
EbsOptimized          : False
Hypervisor            : xen
IamInstanceProfile    : Amazon.EC2.Model.IamInstanceProfile
ImageId               : ami-12345678
InstanceId            : i-12345678
InstanceLifecycle     :
InstanceType          : t2.micro
KernelId              :
KeyName               : my-key-pair
LaunchTime            : 12/4/2015 4:44:40 PM
Monitoring            : Amazon.EC2.Model.Monitoring
NetworkInterfaces     : {ip-10-0-2-172.us-west-2.compute.internal}
Placement             : Amazon.EC2.Model.Placement
Platform              : Windows
PrivateDnsName        : ip-10-0-2-172.us-west-2.compute.internal
PrivateIpAddress      : 10.0.2.172
ProductCodes          : {}
PublicDnsName         :
PublicIpAddress       :
RamdiskId             :
RootDeviceName        : /dev/sda1
RootDeviceType        : ebs
SecurityGroups        : {default}
SourceDestCheck       : True
SpotInstanceRequestId :
SriovNetSupport       :
State                 : Amazon.EC2.Model.InstanceState
StateReason           :
StateTransitionReason :
SubnetId              : subnet-12345678
Tags                  : {Name}
VirtualizationType    : hvm
VpcId                 : vpc-12345678
```

Example 2: This example describes all your instances in the current region, grouped by reservation. To see the instance details expand the Instances collection within each reservation object.

```
Get-EC2Instance
```

Output:

```
GroupNames    : {}
Groups        : {}
Instances     : {}
OwnerId       : 123456789012
RequesterId   : 226008221399
ReservationId : r-c5df370c

GroupNames    : {}
Groups        : {}
Instances     : {}
OwnerId       : 123456789012
RequesterId   : 854251627541
ReservationId : r-63e65bab
...
```

Example 3: This example illustrates using a filter to query for EC2 instances in a specific subnet of a VPC.

```
(Get-EC2Instance -Filter @{Name="vpc-id";Values="vpc-1a2bc34d"},@{Name="subnet-
id";Values="subnet-1a2b3c4d"}).Instances
```

Output:

```
InstanceId          InstanceType Platform PrivateIpAddress PublicIpAddress
 SecurityGroups SubnetId        VpcId
----------          ------------ -------- ---------------- --------------
 -------------- --------        -----
i-01af...82cf180e19 t2.medium    Windows  10.0.0.98                      ...
      subnet-1a2b3c4d vpc-1a2b3c4d
i-0374...7e9d5b0c45 t2.xlarge    Windows  10.0.0.53                      ...
      subnet-1a2b3c4d vpc-1a2b3c4d
```

- For API details, see DescribeInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2InstanceAttribute`

The following code example shows how to use `Get-EC2InstanceAttribute`.

Tools for PowerShell

Example 1: This example describes the instance type of the specified instance.

```
Get-EC2InstanceAttribute -InstanceId i-12345678 -Attribute instanceType
```

Output:

```
InstanceType                     : t2.micro
```

Example 2: This example describes whether enhanced networking is enabled for the specified instance.

```
Get-EC2InstanceAttribute -InstanceId i-12345678 -Attribute sriovNetSupport
```

Output:

```
SriovNetSupport                  : simple
```

Example 3: This example describes the security groups for the specified instance.

```
(Get-EC2InstanceAttribute -InstanceId i-12345678 -Attribute groupSet).Groups
```

Output:

```
GroupId
-------
sg-12345678
sg-45678901
```

Example 4: This example describes whether EBS optimization is enabled for the specified instance.

```
Get-EC2InstanceAttribute -InstanceId i-12345678 -Attribute ebsOptimized
```

Output:

```
EbsOptimized                     : False
```

Example 5: This example describes the 'disableApiTermination' attribute of the specified instance.

```
Get-EC2InstanceAttribute -InstanceId i-12345678 -Attribute disableApiTermination
```

Output:

```
DisableApiTermination            : False
```

Example 6: This example describes the 'instanceInitiatedShutdownBehavior' attribute of the specified instance.

```
Get-EC2InstanceAttribute -InstanceId i-12345678 -Attribute
 instanceInitiatedShutdownBehavior
```

Output:

```
InstanceInitiatedShutdownBehavior : stop
```

- For API details, see DescribeInstanceAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2InstanceMetadata`

The following code example shows how to use `Get-EC2InstanceMetadata`.

Tools for PowerShell

Example 1: Lists the available categories of instance metadata that can be queried.

```
Get-EC2InstanceMetadata -ListCategory
```

Output:

```
AmiId
LaunchIndex
ManifestPath
```

```
AncestorAmiId
BlockDeviceMapping
InstanceId
InstanceType
LocalHostname
LocalIpv4
KernelId
AvailabilityZone
ProductCode
PublicHostname
PublicIpv4
PublicKey
RamdiskId
Region
ReservationId
SecurityGroup
UserData
InstanceMonitoring
IdentityDocument
IdentitySignature
IdentityPkcs7
```

Example 2: Returns the id of the Amazon Machine Image (AMI) that was used to launch the instance.

```
Get-EC2InstanceMetadata -Category AmiId
```

Output:

```
ami-b2e756ca
```

Example 3: This example queries the JSON-formatted identity document for the instance.

```
Get-EC2InstanceMetadata -Category IdentityDocument
{
  "availabilityZone" : "us-west-2a",
  "devpayProductCodes" : null,
  "marketplaceProductCodes" : null,
  "version" : "2017-09-30",
  "instanceId" : "i-01ed50f7e2607f09e",
  "billingProducts" : [ "bp-6ba54002" ],
  "instanceType" : "t2.small",
```

```
  "pendingTime" : "2018-03-07T16:26:04Z",
  "imageId" : "ami-b2e756ca",
  "privateIp" : "10.0.0.171",
  "accountId" : "111122223333",
  "architecture" : "x86_64",
  "kernelId" : null,
  "ramdiskId" : null,
  "region" : "us-west-2"
}
```

Example 4: This example uses a path query to obtain the network interface macs for the instance.

```
Get-EC2InstanceMetadata -Path "/network/interfaces/macs"
```

Output:

```
02:80:7f:ef:4c:e0/
```

Example 5: If there is an IAM role associated with the instance, returns information about the last time the instance profile was updated, including the instance's LastUpdated date, InstanceProfileArn, and InstanceProfileId.

```
Get-EC2InstanceMetadata -Path "/iam/info"
```

Output:

```
{
  "Code" : "Success",
  "LastUpdated" : "2018-03-08T03:38:40Z",
  "InstanceProfileArn" : "arn:aws:iam::111122223333:instance-profile/
MyLaunchRole_Profile",
  "InstanceProfileId" : "AIPAI4...WVK2RW"
}
```

- For API details, see Get-EC2InstanceMetadata in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2InstanceStatus`

The following code example shows how to use `Get-EC2InstanceStatus`.

Tools for PowerShell

Example 1: This example describes the status of the specified instance.

```
Get-EC2InstanceStatus -InstanceId i-12345678
```

Output:

```
AvailabilityZone : us-west-2a
Events           : {}
InstanceId       : i-12345678
InstanceState    : Amazon.EC2.Model.InstanceState
Status           : Amazon.EC2.Model.InstanceStatusSummary
SystemStatus     : Amazon.EC2.Model.InstanceStatusSummary
```

```
$status = Get-EC2InstanceStatus -InstanceId i-12345678
$status.InstanceState
```

Output:

```
Code    Name
----    ----
16      running
```

```
$status.Status
```

Output:

```
Details           Status
-------           ------
{reachability}    ok
```

```
$status.SystemStatus
```

Output:

```
Details           Status
-------           ------
```

```
{reachability}    ok
```

- For API details, see DescribeInstanceStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2InternetGateway`

The following code example shows how to use `Get-EC2InternetGateway`.

Tools for PowerShell

Example 1: This example describes the specified Internet gateway.

```
Get-EC2InternetGateway -InternetGatewayId igw-1a2b3c4d
```

Output:

```
Attachments       InternetGatewayId     Tags
-----------       -----------------     ----
{vpc-1a2b3c4d}    igw-1a2b3c4d          {}
```

Example 2: This example describes all your Internet gateways.

```
Get-EC2InternetGateway
```

Output:

```
Attachments       InternetGatewayId     Tags
-----------       -----------------     ----
{vpc-1a2b3c4d}    igw-1a2b3c4d          {}
{}                igw-2a3b4c5d          {}
```

- For API details, see DescribeInternetGateways in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2KeyPair`

The following code example shows how to use `Get-EC2KeyPair`.

Tools for PowerShell

Example 1: This example describes the specified key pair.

```
Get-EC2KeyPair -KeyName my-key-pair
```

Output:

```
KeyFingerprint                                                  KeyName
--------------                                                  -------
1f:51:ae:28:bf:89:e9:d8:1f:25:5d:37:2d:7d:b8:ca:9f:f5:f1:6f my-key-pair
```

Example 2: This example describes all your key pairs.

```
Get-EC2KeyPair
```

- For API details, see DescribeKeyPairs in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2NetworkAcl`

The following code example shows how to use `Get-EC2NetworkAcl`.

Tools for PowerShell

Example 1: This example describes the specified network ACL.

```
Get-EC2NetworkAcl -NetworkAclId acl-12345678
```

Output:

```
Associations : {aclassoc-1a2b3c4d}
Entries      : {Amazon.EC2.Model.NetworkAclEntry, Amazon.EC2.Model.NetworkAclEntry}
IsDefault    : False
NetworkAclId : acl-12345678
Tags         : {Name}
VpcId        : vpc-12345678
```

Example 2: This example describes the rules for the specified network ACL.

```
(Get-EC2NetworkAcl -NetworkAclId acl-12345678).Entries
```

Output:

```
CidrBlock    : 0.0.0.0/0
Egress       : True
IcmpTypeCode :
PortRange    :
Protocol     : -1
RuleAction   : deny
RuleNumber   : 32767

CidrBlock    : 0.0.0.0/0
Egress       : False
IcmpTypeCode :
PortRange    :
Protocol     : -1
RuleAction   : deny
RuleNumber   : 32767
```

Example 3: This example describes all your network ACLs.

```
Get-EC2NetworkAcl
```

- For API details, see DescribeNetworkAcls in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2NetworkInterface`

The following code example shows how to use `Get-EC2NetworkInterface`.

Tools for PowerShell

Example 1: This example describes the specified network interface.

```
Get-EC2NetworkInterface -NetworkInterfaceId eni-12345678
```

Output:

```
Association        :
Attachment         : Amazon.EC2.Model.NetworkInterfaceAttachment
AvailabilityZone   : us-west-2c
Description        :
Groups             : {my-security-group}
MacAddress         : 0a:e9:a6:19:4c:7f
NetworkInterfaceId : eni-12345678
```

```
OwnerId            : 123456789012
PrivateDnsName     : ip-10-0-0-107.us-west-2.compute.internal
PrivateIpAddress   : 10.0.0.107
PrivateIpAddresses : {ip-10-0-0-107.us-west-2.compute.internal}
RequesterId        :
RequesterManaged   : False
SourceDestCheck    : True
Status             : in-use
SubnetId           : subnet-1a2b3c4d
TagSet             : {}
VpcId              : vpc-12345678
```

Example 2: This example describes all your network interfaces.

```
Get-EC2NetworkInterface
```

- For API details, see DescribeNetworkInterfaces in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2NetworkInterfaceAttribute`

The following code example shows how to use `Get-EC2NetworkInterfaceAttribute`.

Tools for PowerShell

Example 1: This example describes the specified network interface.

```
Get-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-12345678 -Attribute
 Attachment
```

Output:

```
Attachment         : Amazon.EC2.Model.NetworkInterfaceAttachment
```

Example 2: This example describes the specified network interface.

```
Get-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-12345678 -Attribute
 Description
```

Output:

```
Description        : My description
```

Example 3: This example describes the specified network interface.

```
Get-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-12345678 -Attribute
 GroupSet
```

Output:

```
Groups             : {my-security-group}
```

Example 4: This example describes the specified network interface.

```
Get-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-12345678 -Attribute
 SourceDestCheck
```

Output:

```
SourceDestCheck    : True
```

- For API details, see DescribeNetworkInterfaceAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2PasswordData`

The following code example shows how to use `Get-EC2PasswordData`.

Tools for PowerShell

Example 1: This example decrypts the password that Amazon EC2 assigned to the Administrator account for the specified Windows instance. As a pem file was specified, the setting of the -Decrypt switch is automatically assumed.

```
Get-EC2PasswordData -InstanceId i-12345678 -PemFile C:\path\my-key-pair.pem
```

Output:

```
mYZ(PA9?C)Q
```

Example 2: (Windows PowerShell only) Inspects the instance to determine the name of the keypair used to launch the instance and then attempts to find the corresponding keypair data in the configuration store of the AWS Toolkit for Visual Studio. If the keypair data is found the password is decrypted.

```
Get-EC2PasswordData -InstanceId i-12345678 -Decrypt
```

Output:

```
mYZ(PA9?C)Q
```

Example 3: Returns the encrypted password data for the instance.

```
Get-EC2PasswordData -InstanceId i-12345678
```

Output:

```
iVz3BAK/WAXV.....dqt8WeMA==
```

- For API details, see GetPasswordData in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2PlacementGroup`

The following code example shows how to use `Get-EC2PlacementGroup`.

Tools for PowerShell

Example 1: This example describes the specified placement group.

```
Get-EC2PlacementGroup -GroupName my-placement-group
```

Output:

```
GroupName             State        Strategy
---------             -----        --------
my-placement-group    available    cluster
```

- For API details, see DescribePlacementGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2PrefixList`

The following code example shows how to use `Get-EC2PrefixList`.

Tools for PowerShell

Example 1: This example fetches the available AWS services in a prefix list format for the region

```
Get-EC2PrefixList
```

Output:

```
Cidrs                                          PrefixListId PrefixListName
-----                                          ------------ --------------
{52.94.5.0/24, 52.119.240.0/21, 52.94.24.0/23} pl-6fa54006  com.amazonaws.eu-
west-1.dynamodb
{52.218.0.0/17, 54.231.128.0/19}               pl-6da54004  com.amazonaws.eu-
west-1.s3
```

- For API details, see DescribePrefixLists in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Region`

The following code example shows how to use `Get-EC2Region`.

Tools for PowerShell

Example 1: This example describes the regions that are available to you.

```
Get-EC2Region
```

Output:

```
Endpoint                         RegionName
--------                         ----------
ec2.eu-west-1.amazonaws.com      eu-west-1
ec2.ap-southeast-1.amazonaws.com ap-southeast-1
ec2.ap-southeast-2.amazonaws.com ap-southeast-2
ec2.eu-central-1.amazonaws.com   eu-central-1
```

```
ec2.ap-northeast-1.amazonaws.com    ap-northeast-1
ec2.us-east-1.amazonaws.com         us-east-1
ec2.sa-east-1.amazonaws.com         sa-east-1
ec2.us-west-1.amazonaws.com         us-west-1
ec2.us-west-2.amazonaws.com         us-west-2
```

- For API details, see DescribeRegions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2RouteTable`

The following code example shows how to use `Get-EC2RouteTable`.

Tools for PowerShell

Example 1: This example describes all your route tables.

```
Get-EC2RouteTable
```

Output:

```
DestinationCidrBlock    : 10.0.0.0/16
DestinationPrefixListId :
GatewayId               : local
InstanceId              :
InstanceOwnerId         :
NetworkInterfaceId      :
Origin                  : CreateRouteTable
State                   : active
VpcPeeringConnectionId  :

DestinationCidrBlock    : 0.0.0.0/0
DestinationPrefixListId :
GatewayId               : igw-1a2b3c4d
InstanceId              :
InstanceOwnerId         :
NetworkInterfaceId      :
Origin                  : CreateRoute
State                   : active
VpcPeeringConnectionId  :
```

Example 2: This example returns details for the specified route table.

```
Get-EC2RouteTable -RouteTableId rtb-1a2b3c4d
```

Example 3: This example describes the route tables for the specified VPC.

```
Get-EC2RouteTable -Filter @{ Name="vpc-id"; Values="vpc-1a2b3c4d" }
```

Output:

```
Associations    : {rtbassoc-12345678}
PropagatingVgws : {}
Routes          : {, }
RouteTableId    : rtb-1a2b3c4d
Tags            : {}
VpcId           : vpc-1a2b3c4d
```

- For API details, see DescribeRouteTables in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2ScheduledInstance`

The following code example shows how to use `Get-EC2ScheduledInstance`.

Tools for PowerShell

Example 1: This example describes the specified Scheduled Instance.

```
Get-EC2ScheduledInstance -ScheduledInstanceId sci-1234-1234-1234-1234-123456789012
```

Output:

```
AvailabilityZone           : us-west-2b
CreateDate                 : 1/25/2016 1:43:38 PM
HourlyPrice                : 0.095
InstanceCount              : 1
InstanceType               : c4.large
NetworkPlatform            : EC2-VPC
NextSlotStartTime          : 1/31/2016 1:00:00 AM
Platform                   : Linux/UNIX
PreviousSlotEndTime        :
Recurrence                 : Amazon.EC2.Model.ScheduledInstanceRecurrence
```

```
ScheduledInstanceId         : sci-1234-1234-1234-1234-123456789012
SlotDurationInHours         : 32
TermEndDate                 : 1/31/2017 1:00:00 AM
TermStartDate               : 1/31/2016 1:00:00 AM
TotalScheduledInstanceHours : 1696
```

Example 2: This example describes all your Scheduled Instances.

```
Get-EC2ScheduledInstance
```

- For API details, see DescribeScheduledInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2ScheduledInstanceAvailability`

The following code example shows how to use `Get-EC2ScheduledInstanceAvailability`.

Tools for PowerShell

Example 1: This example describes a schedule that occurs every week on Sunday, starting on the specified date.

```
Get-EC2ScheduledInstanceAvailability -Recurrence_Frequency
 Weekly -Recurrence_Interval 1 -Recurrence_OccurrenceDay 1 -
FirstSlotStartTimeRange_EarliestTime 2016-01-31T00:00:00Z -
FirstSlotStartTimeRange_LatestTime 2016-01-31T04:00:00Z
```

Output:

```
AvailabilityZone            : us-west-2b
AvailableInstanceCount      : 20
FirstSlotStartTime          : 1/31/2016 8:00:00 AM
HourlyPrice                 : 0.095
InstanceType                : c4.large
MaxTermDurationInDays       : 366
MinTermDurationInDays       : 366
NetworkPlatform             : EC2-VPC
Platform                    : Linux/UNIX
PurchaseToken               : eyJ2IjoiMSIsInMiOjEsImMiOi...
Recurrence                  : Amazon.EC2.Model.ScheduledInstanceRecurrence
SlotDurationInHours         : 23
```

```
TotalScheduledInstanceHours : 1219

...
```

Example 2: To narrow the results, you can add filters for criteria such as operating system, network, and instance type.

```
-Filter @{ Name="platform";Values="Linux/UNIX" },@{ Name="network-
platform";Values="EC2-VPC" },@{ Name="instance-type";Values="c4.large" }
```

- For API details, see DescribeScheduledInstanceAvailability in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2SecurityGroup`

The following code example shows how to use `Get-EC2SecurityGroup`.

Tools for PowerShell

Example 1: This example describes the specified security group for a VPC. When working with security groups belonging to a VPC you must use the security group ID (-GroupId parameter), not name (-GroupName parameter), to reference the group.

```
Get-EC2SecurityGroup -GroupId sg-12345678
```

Output:

```
Description         : default VPC security group
GroupId             : sg-12345678
GroupName           : default
IpPermissions       : {Amazon.EC2.Model.IpPermission}
IpPermissionsEgress : {Amazon.EC2.Model.IpPermission}
OwnerId             : 123456789012
Tags                : {}
VpcId               : vpc-12345678
```

Example 2: This example describes the specified security group for EC2-Classic. When working with security groups for EC2-Classic you may use either the group name (-GroupName parameter) or group ID (-GroupId parameter) to reference the security group.

```
Get-EC2SecurityGroup -GroupName my-security-group
```

Output:

```
Description         : my security group
GroupId             : sg-45678901
GroupName           : my-security-group
IpPermissions       : {Amazon.EC2.Model.IpPermission, Amazon.EC2.Model.IpPermission}
IpPermissionsEgress : {}
OwnerId             : 123456789012
Tags                : {}
VpcId               :
```

Example 3: This example retrieves all the security groups for the vpc-0fc1ff23456b789eb

```
Get-EC2SecurityGroup -Filter @{Name="vpc-id";Values="vpc-0fc1ff23456b789eb"}
```

- For API details, see DescribeSecurityGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Snapshot`

The following code example shows how to use `Get-EC2Snapshot`.

Tools for PowerShell

Example 1: This example describes the specified snapshot.

```
Get-EC2Snapshot -SnapshotId snap-12345678
```

Output:

```
DataEncryptionKeyId :
Description         : Created by CreateImage(i-1a2b3c4d) for ami-12345678 from
 vol-12345678
Encrypted           : False
KmsKeyId            :
OwnerAlias          :
OwnerId             : 123456789012
Progress            : 100%
```

```
SnapshotId          : snap-12345678
StartTime           : 10/23/2014 6:01:28 AM
State               : completed
StateMessage        :
Tags                : {}
VolumeId            : vol-12345678
VolumeSize          : 8
```

Example 2: This example describes the snapshots that have a 'Name' tag.

```
Get-EC2Snapshot | ? { $_.Tags.Count -gt 0 -and $_.Tags.Key -eq "Name" }
```

Example 3: This example describes the snapshots that have a 'Name' tag with the value 'TestValue'.

```
Get-EC2Snapshot | ? { $_.Tags.Count -gt 0 -and $_.Tags.Key -eq "Name" -and
 $_.Tags.Value -eq "TestValue" }
```

Example 4: This example describes all your snapshots.

```
Get-EC2Snapshot -Owner self
```

- For API details, see DescribeSnapshots in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2SnapshotAttribute`

The following code example shows how to use `Get-EC2SnapshotAttribute`.

Tools for PowerShell

Example 1: This example describes the specified attribute of the specified snapshot.

```
Get-EC2SnapshotAttribute -SnapshotId snap-12345678 -Attribute ProductCodes
```

Output:

```
CreateVolumePermissions    ProductCodes    SnapshotId
-----------------------    ------------    ----------
```

```
{}                          {}              snap-12345678
```

Example 2: This example describes the specified attribute of the specified snapshot.

```
(Get-EC2SnapshotAttribute -SnapshotId snap-12345678 -Attribute
 CreateVolumePermission).CreateVolumePermissions
```

Output:

```
Group    UserId
-----    ------
all
```

- For API details, see DescribeSnapshotAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2SpotDatafeedSubscription`

The following code example shows how to use `Get-EC2SpotDatafeedSubscription`.

Tools for PowerShell

Example 1: This example describes your Spot instance data feed.

```
Get-EC2SpotDatafeedSubscription
```

Output:

```
Bucket  : my-s3-bucket
Fault   :
OwnerId : 123456789012
Prefix  : spotdata
State   : Active
```

- For API details, see DescribeSpotDatafeedSubscription in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2SpotFleetInstance`

The following code example shows how to use `Get-EC2SpotFleetInstance`.

Tools for PowerShell

Example 1: This example describes the instances associated with the specified Spot fleet request.

```
Get-EC2SpotFleetInstance -SpotFleetRequestId sfr-73fbd2ce-
aa30-494c-8788-1cee4EXAMPLE
```

Output:

```
InstanceId    InstanceType    SpotInstanceRequestId
----------    ------------    ---------------------
i-f089262a    c3.large        sir-12345678
i-7e8b24a4    c3.large        sir-87654321
```

- For API details, see DescribeSpotFleetInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2SpotFleetRequest`

The following code example shows how to use `Get-EC2SpotFleetRequest`.

Tools for PowerShell

Example 1: This example describes the specified Spot fleet request.

```
Get-EC2SpotFleetRequest -SpotFleetRequestId sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE
 | format-list
```

Output:

```
ConfigData           : Amazon.EC2.Model.SpotFleetRequestConfigData
CreateTime           : 12/26/2015 8:23:33 AM
SpotFleetRequestId   : sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE
SpotFleetRequestState : active
```

Example 2: This example describes all your Spot fleet requests.

```
Get-EC2SpotFleetRequest
```

- For API details, see DescribeSpotFleetRequests in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2SpotFleetRequestHistory`

The following code example shows how to use `Get-EC2SpotFleetRequestHistory`.

Tools for PowerShell

Example 1: This example describes the history of the specified Spot fleet request.

```
Get-EC2SpotFleetRequestHistory -SpotFleetRequestId sfr-73fbd2ce-
aa30-494c-8788-1cee4EXAMPLE -StartTime 2015-12-26T00:00:00Z
```

Output:

```
HistoryRecords     : {Amazon.EC2.Model.HistoryRecord,
 Amazon.EC2.Model.HistoryRecord...}
LastEvaluatedTime  : 12/26/2015 8:29:11 AM
NextToken          :
SpotFleetRequestId : sfr-088bc5f1-7e7b-451a-bd13-757f10672b93
StartTime          : 12/25/2015 8:00:00 AM
```

```
(Get-EC2SpotFleetRequestHistory -SpotFleetRequestId sfr-73fbd2ce-
aa30-494c-8788-1cee4EXAMPLE -StartTime 2015-12-26T00:00:00Z).HistoryRecords
```

Output:

```
EventInformation                    EventType            Timestamp
----------------                    ---------            ---------
Amazon.EC2.Model.EventInformation   fleetRequestChange   12/26/2015 8:23:33 AM
Amazon.EC2.Model.EventInformation   fleetRequestChange   12/26/2015 8:23:33 AM
Amazon.EC2.Model.EventInformation   fleetRequestChange   12/26/2015 8:23:33 AM
Amazon.EC2.Model.EventInformation   launched             12/26/2015 8:25:34 AM
Amazon.EC2.Model.EventInformation   launched             12/26/2015 8:25:05 AM
```

- For API details, see DescribeSpotFleetRequestHistory in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2SpotInstanceRequest`

The following code example shows how to use `Get-EC2SpotInstanceRequest`.

Tools for PowerShell

Example 1: This example describes the specified Spot instance request.

```
Get-EC2SpotInstanceRequest -SpotInstanceRequestId sir-12345678
```

Output:

```
ActualBlockHourlyPrice   :
AvailabilityZoneGroup    :
BlockDurationMinutes     : 0
CreateTime               : 4/8/2015 2:51:33 PM
Fault                    :
InstanceId               : i-12345678
LaunchedAvailabilityZone : us-west-2b
LaunchGroup              :
LaunchSpecification      : Amazon.EC2.Model.LaunchSpecification
ProductDescription       : Linux/UNIX
SpotInstanceRequestId    : sir-12345678
SpotPrice                : 0.020000
State                    : active
Status                   : Amazon.EC2.Model.SpotInstanceStatus
Tags                     : {Name}
Type                     : one-time
```

Example 2: This example describes all your Spot instance requests.

```
Get-EC2SpotInstanceRequest
```

- For API details, see DescribeSpotInstanceRequests in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2SpotPriceHistory`

The following code example shows how to use `Get-EC2SpotPriceHistory`.

Tools for PowerShell

Example 1: This example gets the last 10 entries in the Spot price history for the specified instance type and Availability Zone. Note that the value specified for the -AvailabilityZone

parameter must be valid for the region value supplied to either the cmdlet's -Region parameter (not shown in the example) or set as default in the shell. This example command assumes a default region of 'us-west-2' has been set in the environment.

```
Get-EC2SpotPriceHistory -InstanceType c3.large -AvailabilityZone us-west-2a -
MaxResult 10
```

Output:

```
AvailabilityZone   : us-west-2a
InstanceType       : c3.large
Price              : 0.017300
ProductDescription : Linux/UNIX (Amazon VPC)
Timestamp          : 12/25/2015 7:39:49 AM

AvailabilityZone   : us-west-2a
InstanceType       : c3.large
Price              : 0.017200
ProductDescription : Linux/UNIX (Amazon VPC)
Timestamp          : 12/25/2015 7:38:29 AM

AvailabilityZone   : us-west-2a
InstanceType       : c3.large
Price              : 0.017300
ProductDescription : Linux/UNIX (Amazon VPC)
Timestamp          : 12/25/2015 6:57:13 AM
...
```

- For API details, see DescribeSpotPriceHistory in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Subnet`

The following code example shows how to use `Get-EC2Subnet`.

Tools for PowerShell

Example 1: This example describes the specified subnet.

```
Get-EC2Subnet -SubnetId subnet-1a2b3c4d
```

Output:

```
AvailabilityZone        : us-west-2c
AvailableIpAddressCount : 251
CidrBlock               : 10.0.0.0/24
DefaultForAz            : False
MapPublicIpOnLaunch     : False
State                   : available
SubnetId                : subnet-1a2b3c4d
Tags                    : {}
VpcId                   : vpc-12345678
```

Example 2: This example describes all your subnets.

```
Get-EC2Subnet
```

- For API details, see DescribeSubnets in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Tag`

The following code example shows how to use `Get-EC2Tag`.

Tools for PowerShell

Example 1: This example fetches the tags for resource-type 'image'

```
Get-EC2Tag -Filter @{Name="resource-type";Values="image"}
```

Output:

```
Key         ResourceId            ResourceType Value
---         ----------            ------------ -----
Name        ami-0a123b4ccb567a8ea image        Win7-Imported
auto-delete ami-0a123b4ccb567a8ea image        never
```

Example 2: This example fetches all the tags for all the resources and groups them by resource type

```
Get-EC2Tag | Group-Object resourcetype
```

Output:

```
Count Name                      Group
----- ----                      -----
    9 subnet                    {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription, Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription...}
   53 instance                  {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription, Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription...}
    3 route-table               {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription, Amazon.EC2.Model.TagDescription}
    5 security-group            {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription, Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription...}
   30 volume                    {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription, Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription...}
    1 internet-gateway          {Amazon.EC2.Model.TagDescription}
    3 network-interface         {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription, Amazon.EC2.Model.TagDescription}
    4 elastic-ip                {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription, Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription}
    1 dhcp-options              {Amazon.EC2.Model.TagDescription}
    2 image                     {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription}
    3 vpc                       {Amazon.EC2.Model.TagDescription,
 Amazon.EC2.Model.TagDescription, Amazon.EC2.Model.TagDescription}
```

Example 3: This example displays all the resources with tag 'auto-delete' with value 'no' for the given region

```
Get-EC2Tag -Region eu-west-1 -Filter @{Name="tag:auto-delete";Values="no"}
```

Output:

```
Key         ResourceId            ResourceType Value
---         ----------            ------------ -----
auto-delete i-0f1bce234d5dd678b   instance     no
auto-delete vol-01d234aa5678901a2 volume       no
auto-delete vol-01234bfb5def6f7b8 volume       no
auto-delete vol-01ccb23f4c5e67890 volume       no
```

Example 4: This example obtains all the resources with tag 'auto-delete' with 'no' value and further filters in the next pipe to parse only 'instance' resource types and eventually creates 'ThisInstance' tag for each instance resources with value being the instance id itself

```
Get-EC2Tag -Region eu-west-1 -Filter @{Name="tag:auto-delete";Values="no"} |
 Where-Object ResourceType -eq "instance" | ForEach-Object {New-EC2Tag -ResourceId
 $_.ResourceId -Tag @{Key="ThisInstance";Value=$_.ResourceId}}
```

Example 5: This example fetches tags for all the instance resources as well as 'Name' keys and displays them in a table format

```
Get-EC2Tag -Filter @{Name="resource-
type";Values="instance"},@{Name="key";Values="Name"} | Select-Object ResourceId,
 @{Name="Name-Tag";Expression={$PSItem.Value}} | Format-Table -AutoSize
```

Output:

```
ResourceId          Name-Tag
----------          --------
i-012e3cb4df567e1aa jump1
i-01c23a45d6fc7a89f repro-3
```

- For API details, see DescribeTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Volume`

The following code example shows how to use `Get-EC2Volume`.

Tools for PowerShell

Example 1: This example describes the specified EBS volume.

```
Get-EC2Volume -VolumeId vol-12345678
```

Output:

```
Attachments      : {}
AvailabilityZone : us-west-2c
CreateTime       : 7/17/2015 4:35:19 PM
Encrypted        : False
Iops             : 90
```

```
KmsKeyId         :
Size             : 30
SnapshotId       : snap-12345678
State            : in-use
Tags             : {}
VolumeId         : vol-12345678
VolumeType       : standard
```

Example 2: This example describes your EBS volumes that have the status 'available'.

```
Get-EC2Volume -Filter @{ Name="status"; Values="available" }
```

Output:

```
Attachments      : {}
AvailabilityZone : us-west-2c
CreateTime       : 12/21/2015 2:31:29 PM
Encrypted        : False
Iops             : 60
KmsKeyId         :
Size             : 20
SnapshotId       : snap-12345678
State            : available
Tags             : {}
VolumeId         : vol-12345678
VolumeType       : gp2
...
```

Example 3: This example describes all your EBS volumes.

```
Get-EC2Volume
```

- For API details, see DescribeVolumes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VolumeAttribute`

The following code example shows how to use `Get-EC2VolumeAttribute`.

Tools for PowerShell

Example 1: This example describes the specified attribute of the specified volume.

```
Get-EC2VolumeAttribute -VolumeId vol-12345678 -Attribute AutoEnableIO
```

Output:

```
AutoEnableIO    ProductCodes    VolumeId
------------    ------------    --------
False           {}              vol-12345678
```

- For API details, see DescribeVolumeAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VolumeStatus`

The following code example shows how to use `Get-EC2VolumeStatus`.

Tools for PowerShell

Example 1: This example describes the status of the specified volume.

```
Get-EC2VolumeStatus -VolumeId vol-12345678
```

Output:

```
Actions          : {}
AvailabilityZone : us-west-2a
Events           : {}
VolumeId         : vol-12345678
VolumeStatus     : Amazon.EC2.Model.VolumeStatusInfo
```

```
(Get-EC2VolumeStatus -VolumeId vol-12345678).VolumeStatus
```

Output:

```
Details                         Status
-------                         ------
{io-enabled, io-performance}    ok
```

```
(Get-EC2VolumeStatus -VolumeId vol-12345678).VolumeStatus.Details
```

Output:

```
Name                           Status
----                           ------
io-enabled                     passed
io-performance                 not-applicable
```

- For API details, see DescribeVolumeStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2Vpc`

The following code example shows how to use `Get-EC2Vpc`.

Tools for PowerShell

Example 1: This example describes the specified VPC.

```
Get-EC2Vpc -VpcId vpc-12345678
```

Output:

```
CidrBlock       : 10.0.0.0/16
DhcpOptionsId   : dopt-1a2b3c4d
InstanceTenancy : default
IsDefault       : False
State           : available
Tags            : {Name}
VpcId           : vpc-12345678
```

Example 2: This example describes the default VPC (there can be only one per region). If your account supports EC2-Classic in this region, there is no default VPC.

```
Get-EC2Vpc -Filter @{Name="isDefault"; Values="true"}
```

Output:

```
CidrBlock       : 172.31.0.0/16
DhcpOptionsId   : dopt-12345678
InstanceTenancy : default
IsDefault       : True
State           : available
Tags            : {}
```

```
VpcId           : vpc-45678901
```

Example 3: This example describes the VPCs that match the specified filter (that is, have a CIDR that matches the value '10.0.0.0/16' and are in the state 'available').

```
Get-EC2Vpc -Filter @{Name="cidr";
 Values="10.0.0.0/16"},@{Name="state";Values="available"}
```

Example 4: This example describes all your VPCs.

```
Get-EC2Vpc
```

- For API details, see DescribeVpcs in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VpcAttribute`

The following code example shows how to use `Get-EC2VpcAttribute`.

Tools for PowerShell

Example 1: This example describes the 'enableDnsSupport' attribute.

```
Get-EC2VpcAttribute -VpcId vpc-12345678 -Attribute enableDnsSupport
```

Output:

```
EnableDnsSupport
----------------
True
```

Example 2: This example describes the 'enableDnsHostnames' attribute.

```
Get-EC2VpcAttribute -VpcId vpc-12345678 -Attribute enableDnsHostnames
```

Output:

```
EnableDnsHostnames
------------------
True
```

- For API details, see DescribeVpcAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VpcClassicLink`

The following code example shows how to use `Get-EC2VpcClassicLink`.

Tools for PowerShell

Example 1: Above example returns all the VPCs with their ClassicLinkEnabled state for the region

```
Get-EC2VpcClassicLink -Region eu-west-1
```

Output:

```
ClassicLinkEnabled Tags   VpcId
------------------ ----   -----
False              {Name} vpc-0fc1ff23f45b678eb
False              {}     vpc-01e23c4a5d6db78e9
False              {Name} vpc-0123456b078b9d01f
False              {}     vpc-12cf3b4f
False              {Name} vpc-0b12d3456a7e8901d
```

- For API details, see DescribeVpcClassicLink in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VpcClassicLinkDnsSupport`

The following code example shows how to use `Get-EC2VpcClassicLinkDnsSupport`.

Tools for PowerShell

Example 1: This example describes the ClassicLink DNS support status of VPCs for the region eu-west-1

```
Get-EC2VpcClassicLinkDnsSupport -VpcId vpc-0b12d3456a7e8910d -Region eu-west-1
```

Output:

```
ClassicLinkDnsSupported VpcId
```

```
---------------------- -----
False                  vpc-0b12d3456a7e8910d
False                  vpc-12cf3b4f
```

- For API details, see DescribeVpcClassicLinkDnsSupport in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VpcEndpoint`

The following code example shows how to use `Get-EC2VpcEndpoint`.

Tools for PowerShell

Example 1: This example describes one or more of your VPC endpoints for the region eu-west-1. It then pipes the output to the next command, which select the VpcEndpointId property and returns array VPC ID as string array

```
Get-EC2VpcEndpoint -Region eu-west-1 | Select-Object -ExpandProperty VpcEndpointId
```

Output:

```
vpce-01a2ab3f4f5cc6f7d
vpce-01d2b345a6787890b
vpce-0012e34d567890e12
vpce-0c123db4567890123
```

Example 2: This example describes all the vpc endpoints for the region eu-west-1 and selects VpcEndpointId, VpcId, ServiceName and PrivateDnsEnabled properties to present it in a tabular format

```
Get-EC2VpcEndpoint -Region eu-west-1 | Select-Object VpcEndpointId, VpcId,
 ServiceName, PrivateDnsEnabled | Format-Table -AutoSize
```

Output:

```
VpcEndpointId          VpcId                ServiceName
 PrivateDnsEnabled
-------------          -----                -----------
 -----------------
```

```
vpce-02a2ab2f2f2cc2f2d vpc-0fc6ff46f65b039eb com.amazonaws.eu-west-1.ssm
          True
vpce-01d1b111a1114561b vpc-0fc6ff46f65b039eb com.amazonaws.eu-west-1.ec2
          True
vpce-0011e23d45167e838 vpc-0fc6ff46f65b039eb com.amazonaws.eu-west-1.ec2messages
          True
vpce-0c123db4567890123 vpc-0fc6ff46f65b039eb com.amazonaws.eu-west-1.ssmmessages
          True
```

Example 3: This example exports the policy document for the VPC Endpoint vpce-01a2ab3f4f5cc6f7d into a json file

```
Get-EC2VpcEndpoint -Region eu-west-1 -VpcEndpointId vpce-01a2ab3f4f5cc6f7d | Select-
Object -expand PolicyDocument | Out-File vpce_policyDocument.json
```

- For API details, see DescribeVpcEndpoints in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VpcEndpointService`

The following code example shows how to use `Get-EC2VpcEndpointService`.

Tools for PowerShell

Example 1: This example describes EC2 VPC endpoint service with the given filter, in this case com.amazonaws.eu-west-1.ecs. Further, it also expands the ServiceDetails property and displays the details

```
Get-EC2VpcEndpointService -Region eu-west-1 -MaxResult 5 -Filter @{Name="service-
name";Values="com.amazonaws.eu-west-1.ecs"} | Select-Object -ExpandProperty
 ServiceDetails
```

Output:

```
AcceptanceRequired         : False
AvailabilityZones          : {eu-west-1a, eu-west-1b, eu-west-1c}
BaseEndpointDnsNames       : {ecs.eu-west-1.vpce.amazonaws.com}
Owner                      : amazon
PrivateDnsName             : ecs.eu-west-1.amazonaws.com
ServiceName                : com.amazonaws.eu-west-1.ecs
ServiceType                : {Amazon.EC2.Model.ServiceTypeDetail}
VpcEndpointPolicySupported : False
```

Example 2: This example retrieves all the EC2 VPC Endpoint services and returns the ServiceNames matching "ssm"

```
Get-EC2VpcEndpointService -Region eu-west-1 | Select-Object -ExpandProperty
 Servicenames | Where-Object { -match "ssm"}
```

Output:

```
com.amazonaws.eu-west-1.ssm
com.amazonaws.eu-west-1.ssmmessages
```

- For API details, see DescribeVpcEndpointServices in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VpnConnection`

The following code example shows how to use `Get-EC2VpnConnection`.

Tools for PowerShell

Example 1: This example describes the specified VPN connection.

```
Get-EC2VpnConnection -VpnConnectionId vpn-12345678
```

Output:

```
CustomerGatewayConfiguration : [XML document]
CustomerGatewayId            : cgw-1a2b3c4d
Options                      : Amazon.EC2.Model.VpnConnectionOptions
Routes                       : {Amazon.EC2.Model.VpnStaticRoute}
State                        : available
Tags                         : {}
Type                         : ipsec.1
VgwTelemetry                 : {Amazon.EC2.Model.VgwTelemetry,
 Amazon.EC2.Model.VgwTelemetry}
VpnConnectionId              : vpn-12345678
VpnGatewayId                 : vgw-1a2b3c4d
```

Example 2: This example describes any VPN connection whose state is either pending or available.

```
$filter = New-Object Amazon.EC2.Model.Filter
$filter.Name = "state"
$filter.Values = @( "pending", "available" )

Get-EC2VpnConnection -Filter $filter
```

Example 3: This example describes all your VPN connections.

```
Get-EC2VpnConnection
```

- For API details, see DescribeVpnConnections in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EC2VpnGateway`

The following code example shows how to use `Get-EC2VpnGateway`.

Tools for PowerShell

Example 1: This example describes the specified virtual private gateway.

```
Get-EC2VpnGateway -VpnGatewayId vgw-1a2b3c4d
```

Output:

```
AvailabilityZone :
State            : available
Tags             : {}
Type             : ipsec.1
VpcAttachments   : {vpc-12345678}
VpnGatewayId     : vgw-1a2b3c4d
```

Example 2: This example describes any virtual private gateway whose state is either pending or available.

```
$filter = New-Object Amazon.EC2.Model.Filter
$filter.Name = "state"
$filter.Values = @( "pending", "available" )

Get-EC2VpnGateway -Filter $filter
```

Example 3: This example describes all your virtual private gateways.

```
Get-EC2VpnGateway
```

- For API details, see DescribeVpnGateways in *AWS Tools for PowerShell Cmdlet Reference*.

`Grant-EC2SecurityGroupEgress`

The following code example shows how to use `Grant-EC2SecurityGroupEgress`.

Tools for PowerShell

Example 1: This example defines an egress rule for the specified security group for EC2-VPC. The rule grants access to the specified IP address range on TCP port 80. The syntax used by this example requires PowerShell version 3 or higher.

```
$ip = @{ IpProtocol="tcp"; FromPort="80"; ToPort="80"; IpRanges="203.0.113.0/24" }
Grant-EC2SecurityGroupEgress -GroupId sg-12345678 -IpPermission $ip
```

Example 2: With PowerShell version 2, you must use New-Object to create the IpPermission object.

```
$ip = New-Object Amazon.EC2.Model.IpPermission
$ip.IpProtocol = "tcp"
$ip.FromPort = 80
$ip.ToPort = 80
$ip.IpRanges.Add("203.0.113.0/24")

Grant-EC2SecurityGroupEgress -GroupId sg-12345678 -IpPermission $ip
```

Example 3: This example grants access to the specified source security group on TCP port 80.

```
$ug = New-Object Amazon.EC2.Model.UserIdGroupPair
$ug.GroupId = "sg-1a2b3c4d"
$ug.UserId = "123456789012"

Grant-EC2SecurityGroupEgress -GroupId sg-12345678 -IpPermission
 @( @{ IpProtocol="tcp"; FromPort="80"; ToPort="80"; UserIdGroupPairs=$ug } )
```

- For API details, see AuthorizeSecurityGroupEgress in *AWS Tools for PowerShell Cmdlet Reference*.

`Grant-EC2SecurityGroupIngress`

The following code example shows how to use `Grant-EC2SecurityGroupIngress`.

Tools for PowerShell

Example 1: This example defines ingress rules for a security group for EC2-VPC. These rules grant access to a specific IP address for SSH (port 22) and RDC (port 3389). Note that you must identify security groups for EC2-VPC using the security group ID not the security group name. The syntax used by this example requires PowerShell version 3 or higher.

```
$ip1 = @{ IpProtocol="tcp"; FromPort="22"; ToPort="22"; IpRanges="203.0.113.25/32" }
$ip2 = @{ IpProtocol="tcp"; FromPort="3389"; ToPort="3389";
 IpRanges="203.0.113.25/32" }

Grant-EC2SecurityGroupIngress -GroupId sg-12345678 -IpPermission @( $ip1, $ip2 )
```

Example 2: With PowerShell version 2, you must use New-Object to create the IpPermission objects.

```
$ip1 = New-Object Amazon.EC2.Model.IpPermission
$ip1.IpProtocol = "tcp"
$ip1.FromPort = 22
$ip1.ToPort = 22
$ip1.IpRanges.Add("203.0.113.25/32")

$ip2 = new-object Amazon.EC2.Model.IpPermission
$ip2.IpProtocol = "tcp"
$ip2.FromPort = 3389
$ip2.ToPort = 3389
$ip2.IpRanges.Add("203.0.113.25/32")

Grant-EC2SecurityGroupIngress -GroupId sg-12345678 -IpPermission @( $ip1, $ip2 )
```

Example 3: This example defines ingress rules for a security group for EC2-Classic. These rules grant access to a specific IP address for SSH (port 22) and RDC (port 3389). The syntax used by this example requires PowerShell version 3 or higher.

```
$ip1 = @{ IpProtocol="tcp"; FromPort="22"; ToPort="22"; IpRanges="203.0.113.25/32" }
$ip2 = @{ IpProtocol="tcp"; FromPort="3389"; ToPort="3389";
 IpRanges="203.0.113.25/32" }
```

```
Grant-EC2SecurityGroupIngress -GroupName "my-security-group" -IpPermission @( $ip1,
 $ip2 )
```

Example 4: With PowerShell version 2, you must use New-Object to create the IpPermission objects.

```
$ip1 = New-Object Amazon.EC2.Model.IpPermission
$ip1.IpProtocol = "tcp"
$ip1.FromPort = 22
$ip1.ToPort = 22
$ip1.IpRanges.Add("203.0.113.25/32")

$ip2 = new-object Amazon.EC2.Model.IpPermission
$ip2.IpProtocol = "tcp"
$ip2.FromPort = 3389
$ip2.ToPort = 3389
$ip2.IpRanges.Add("203.0.113.25/32")

Grant-EC2SecurityGroupIngress -GroupName "my-security-group" -IpPermission @( $ip1,
 $ip2 )
```

Example 5: This example grants TCP port 8081 access from the specified source security group (sg-1a2b3c4d) to the specified security group (sg-12345678).

```
$ug = New-Object Amazon.EC2.Model.UserIdGroupPair
$ug.GroupId = "sg-1a2b3c4d"
$ug.UserId = "123456789012"

Grant-EC2SecurityGroupIngress -GroupId sg-12345678 -IpPermission
 @( @{ IpProtocol="tcp"; FromPort="8081"; ToPort="8081"; UserIdGroupPairs=$ug } )
```

Example 6: This example adds the CIDR 5.5.5.5/32 to the Ingress rules of security Group sg-1234abcd for TCP port 22 traffic with a description.

```
$IpRange = New-Object -TypeName Amazon.EC2.Model.IpRange
$IpRange.CidrIp = "5.5.5.5/32"
$IpRange.Description = "SSH from Office"
$IpPermission = New-Object Amazon.EC2.Model.IpPermission
$IpPermission.IpProtocol = "tcp"
$IpPermission.ToPort = 22
$IpPermission.FromPort = 22
$IpPermission.Ipv4Ranges = $IpRange
```

```
Grant-EC2SecurityGroupIngress -GroupId sg-1234abcd -IpPermission $IpPermission
```

- For API details, see AuthorizeSecurityGroupIngress in *AWS Tools for PowerShell Cmdlet Reference*.

`Import-EC2Image`

The following code example shows how to use `Import-EC2Image`.

Tools for PowerShell

Example 1: This example imports a single-disk virtual machine image from the specified Amazon S3 bucket to Amazon EC2 with an idempotency token. The example requires that a VM Import Service Role with the default name 'vmimport' exists, with a policy allowing Amazon EC2 access to the specified bucket, as explained in the VM Import Prequisites topic. To use a custom role, specify the role name using the `-RoleName` parameter.

```
$container = New-Object Amazon.EC2.Model.ImageDiskContainer
$container.Format="VMDK"
$container.UserBucket = New-Object Amazon.EC2.Model.UserBucket
$container.UserBucket.S3Bucket = "myVirtualMachineImages"
$container.UserBucket.S3Key = "Win_2008_Server_Standard_SP2_64-bit-disk1.vmdk"

$parms = @{
    "ClientToken"="idempotencyToken"
    "Description"="Windows 2008 Standard Image Import"
    "Platform"="Windows"
    "LicenseType"="AWS"
}

Import-EC2Image -DiskContainer $container @parms
```

Output:

```
Architecture    :
Description     : Windows 2008 Standard Image
Hypervisor      :
ImageId         :
ImportTaskId    : import-ami-abcdefgh
LicenseType     : AWS
Platform        : Windows
```

```
Progress        : 2
SnapshotDetails : {}
Status          : active
StatusMessage   : pending
```

- For API details, see ImportImage in *AWS Tools for PowerShell Cmdlet Reference*.

`Import-EC2KeyPair`

The following code example shows how to use `Import-EC2KeyPair`.

Tools for PowerShell

Example 1: This example imports a public key to EC2. The first line stores the contents of the public key file (*.pub) in the variable $publickey. Next, the example converts the UTF8 format of the public key file to a Base64-encoded string, and stores the converted string in the variable $pkbase64. In the last line, the converted public key is imported to EC2. The cmdlet returns the key fingerprint and name as results.

```
$publickey=[Io.File]::ReadAllText("C:\Users\TestUser\.ssh\id_rsa.pub")
$pkbase64 =
 [System.Convert]::ToBase64String([System.Text.Encoding]::UTF8.GetBytes($publickey))
Import-EC2KeyPair -KeyName Example-user-key -PublicKey $pkbase64
```

Output:

```
KeyFingerprint                                  KeyName
--------------                                  -------
do:d0:15:8f:79:97:12:be:00:fd:df:31:z3:b1:42:z1 Example-user-key
```

- For API details, see ImportKeyPair in *AWS Tools for PowerShell Cmdlet Reference*.

`Import-EC2Snapshot`

The following code example shows how to use `Import-EC2Snapshot`.

Tools for PowerShell

Example 1: This example imports a VM disk image of format 'VMDK' to an Amazon EBS snapshot. The example requires a VM Import Service Role with the default name

'vmimport', with a policy allowing Amazon EC2 access to the specified bucket, as explained in the `VM Import Prequisites` topic in http://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/VMImportPrerequisites.html. To use a custom role, specify the role name using the `-RoleName` parameter.

```
$parms = @{
    "ClientToken"="idempotencyToken"
    "Description"="Disk Image Import"
    "DiskContainer_Description" = "Data disk"
    "DiskContainer_Format" = "VMDK"
    "DiskContainer_S3Bucket" = "myVirtualMachineImages"
    "DiskContainer_S3Key" = "datadiskimage.vmdk"
}

Import-EC2Snapshot @parms
```

Output:

```
Description            ImportTaskId               SnapshotTaskDetail

-----------------      --------------------       ------------------

Disk Image Import      import-snap-abcdefgh
 Amazon.EC2.Model.SnapshotTaskDetail
```

- For API details, see ImportSnapshot in *AWS Tools for PowerShell Cmdlet Reference*.

`Move-EC2AddressToVpc`

The following code example shows how to use `Move-EC2AddressToVpc`.

Tools for PowerShell

Example 1: This example moves an EC2 instance with a public IP address of 12.345.67.89 to the EC2-VPC platform in the US East (Northern Virginia) region.

```
Move-EC2AddressToVpc -PublicIp 12.345.67.89 -Region us-east-1
```

Example 2: This example pipes the results of a Get-EC2Instance command to the Move-EC2AddressToVpc cmdlet. The Get-EC2Instance command gets an instance that is specified by instance ID, then returns the public IP address property of the instance.

```
(Get-EC2Instance -Instance i-12345678).Instances.PublicIpAddress | Move-
EC2AddressToVpc
```

- For API details, see MoveAddressToVpc in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2Address`

The following code example shows how to use `New-EC2Address`.

Tools for PowerShell

Example 1: This example allocates an Elastic IP address to use with an instance in a VPC.

```
New-EC2Address -Domain Vpc
```

Output:

```
AllocationId         Domain      PublicIp
------------         ------      --------
eipalloc-12345678    vpc         198.51.100.2
```

Example 2: This example allocates an Elastic IP address to use with an instance in EC2-Classic.

```
New-EC2Address
```

Output:

```
AllocationId         Domain      PublicIp
------------         ------      --------
                     standard    203.0.113.17
```

- For API details, see AllocateAddress in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2CustomerGateway`

The following code example shows how to use `New-EC2CustomerGateway`.

Tools for PowerShell

Example 1: This example creates the specified customer gateway.

```
New-EC2CustomerGateway -Type ipsec.1 -PublicIp 203.0.113.12 -BgpAsn 65534
```

Output:

```
BgpAsn            : 65534
CustomerGatewayId : cgw-1a2b3c4d
IpAddress         : 203.0.113.12
State             : available
Tags              : {}
Type              : ipsec.1
```

- For API details, see CreateCustomerGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2DhcpOption`

The following code example shows how to use `New-EC2DhcpOption`.

Tools for PowerShell

Example 1: This example creates the specified set of DHCP options. The syntax used by this example requires PowerShell version 3 or later.

```
$options = @( @{Key="domain-name";Values=@("abc.local")}, @{Key="domain-name-
servers";Values=@("10.0.0.101","10.0.0.102")})
New-EC2DhcpOption -DhcpConfiguration $options
```

Output:

```
DhcpConfigurations                  DhcpOptionsId    Tags
------------------                  -------------    ----
{domain-name, domain-name-servers}  dopt-1a2b3c4d    {}
```

Example 2: With PowerShell version 2, you must use New-Object to create each DHCP option.

```
$option1 = New-Object Amazon.EC2.Model.DhcpConfiguration
$option1.Key = "domain-name"
```

```
$option1.Values = "abc.local"

$option2 = New-Object Amazon.EC2.Model.DhcpConfiguration
$option2.Key = "domain-name-servers"
$option2.Values = @("10.0.0.101","10.0.0.102")

New-EC2DhcpOption -DhcpConfiguration @($option1, $option2)
```

Output:

```
DhcpConfigurations                  DhcpOptionsId    Tags
------------------                  -------------    ----
{domain-name, domain-name-servers}  dopt-2a3b4c5d    {}
```

- For API details, see CreateDhcpOptions in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2FlowLog`

The following code example shows how to use `New-EC2FlowLog`.

Tools for PowerShell

Example 1: This example creates EC2 flowlog for the subnet subnet-1d234567 to the cloud-watch-log named 'subnet1-log' for all 'REJECT' traffic using the perimssions of the 'Admin' role

```
New-EC2FlowLog -ResourceId "subnet-1d234567" -LogDestinationType cloud-watch-
logs -LogGroupName subnet1-log -TrafficType "REJECT" -ResourceType Subnet -
DeliverLogsPermissionArn "arn:aws:iam::98765432109:role/Admin"
```

Output:

```
ClientToken                                  FlowLogIds             Unsuccessful
-----------                                  ----------             ------------
m1VN2cxP3iB4qo//VUKl5EU6cF7gQLOxcqNefvjeTGw= {fl-012fc34eed5678c9d} {}
```

- For API details, see CreateFlowLogs in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2Host`

The following code example shows how to use `New-EC2Host`.

Tools for PowerShell

Example 1: This example allocates a Dedicated Host to your account for the given instance type and availability zone

```
New-EC2Host -AutoPlacement on -AvailabilityZone eu-west-1b -InstanceType m4.xlarge -
Quantity 1
```

Output:

```
h-01e23f4cd567890f3
```

- For API details, see AllocateHosts in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2HostReservation`

The following code example shows how to use `New-EC2HostReservation`.

Tools for PowerShell

Example 1: This example purchases the reservation offering hro-0c1f23456789d0ab with configurations that match those of your Dedicated Host h-01e23f4cd567890f1

```
New-EC2HostReservation -OfferingId hro-0c1f23456789d0ab HostIdSet
 h-01e23f4cd567890f1
```

Output:

```
ClientToken       :
CurrencyCode      :
Purchase          : {hr-0123f4b5d67bedc89}
TotalHourlyPrice  : 1.307
TotalUpfrontPrice : 0.000
```

- For API details, see PurchaseHostReservation in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2Image`

The following code example shows how to use `New-EC2Image`.

Tools for PowerShell

Example 1: This example creates an AMI with the specified name and description, from the specified instance. Amazon EC2 attempts to cleanly shut down the instance before creating the image, and restarts the instance on completion.

```
New-EC2Image -InstanceId i-12345678 -Name "my-web-server" -Description "My web
 server AMI"
```

Example 2: This example creates an AMI with the specified name and description, from the specified instance. Amazon EC2 creates the image without shutting down and restarting the instance; therefore, file system integrity on the created image can't be guaranteed.

```
New-EC2Image -InstanceId i-12345678 -Name "my-web-server" -Description "My web
 server AMI" -NoReboot $true
```

Example 3: This example creates an AMI with three volumes. The first volume is based on an Amazon EBS snapshot. The second volume is an empty 100 GiB Amazon EBS volume. The third volume is an instance store volume. The syntax used by this example requires PowerShell version 3 or higher.

```
$ebsBlock1 = @{SnapshotId="snap-1a2b3c4d"}
$ebsBlock2 = @{VolumeSize=100}

New-EC2Image -InstanceId i-12345678 -Name "my-web-server" -Description
 "My web server AMI" -BlockDeviceMapping @( @{DeviceName="/dev/sdf";Ebs=
$ebsBlock1}, @{DeviceName="/dev/sdg";Ebs=$ebsBlock2}, @{DeviceName="/dev/
sdc";VirtualName="ephemeral0"})
```

- For API details, see CreateImage in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2Instance`

The following code example shows how to use `New-EC2Instance`.

Tools for PowerShell

Example 1: This example launches a single instance of the specified AMI in EC2-Classic or a default VPC.

```
New-EC2Instance -ImageId ami-12345678 -MinCount 1 -MaxCount 1 -InstanceType
 m3.medium -KeyName my-key-pair -SecurityGroup my-security-group
```

Example 2: This example launches a single instance of the specified AMI in a VPC.

```
New-EC2Instance -ImageId ami-12345678 -MinCount 1 -MaxCount 1 -SubnetId
 subnet-12345678 -InstanceType t2.micro -KeyName my-key-pair -SecurityGroupId
 sg-12345678
```

Example 3: To add an EBS volume or an instance store volume, define a block device mapping and add it to the command. This example adds an instance store volume.

```
$bdm = New-Object Amazon.EC2.Model.BlockDeviceMapping
$bdm.VirtualName = "ephemeral0"
$bdm.DeviceName = "/dev/sdf"

New-EC2Instance -ImageId ami-12345678 -BlockDeviceMapping $bdm ...
```

Example 4: To specify one of the current Windows AMIs, get its AMI ID using Get-EC2ImageByName. This example launches an instance from the current base AMI for Windows Server 2016.

```
$ami = Get-EC2ImageByName WINDOWS_2016_BASE

New-EC2Instance -ImageId $ami.ImageId ...
```

Example 5: Launches an instance into the specified dedicated host environment.

```
New-EC2Instance -ImageId ami-1a2b3c4d -InstanceType m4.large -KeyName my-key-pair
 -SecurityGroupId sg-1a2b3c4d  -AvailabilityZone us-west-1a -Tenancy host -HostID
 h-1a2b3c4d5e6f1a2b3
```

Example 6: This request launches two instances and applies a tag with a key of webserver and a value of production to the instances. The request also applies a tag with a key of cost-center and a value of cc123 to the volumes that are created (in this case, the root volume for each instance).

```
$tag1 = @{ Key="webserver"; Value="production" }
$tag2 = @{ Key="cost-center"; Value="cc123" }
```

```
$tagspec1 = new-object Amazon.EC2.Model.TagSpecification
$tagspec1.ResourceType = "instance"
$tagspec1.Tags.Add($tag1)

$tagspec2 = new-object Amazon.EC2.Model.TagSpecification
$tagspec2.ResourceType = "volume"
$tagspec2.Tags.Add($tag2)

New-EC2Instance -ImageId "ami-1a2b3c4d" -KeyName "my-key-pair" -MaxCount 2 -
InstanceType "t2.large" -SubnetId "subnet-1a2b3c4d" -TagSpecification $tagspec1,
$tagspec2
```

- For API details, see RunInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2InstanceExportTask`

The following code example shows how to use `New-EC2InstanceExportTask`.

Tools for PowerShell

Example 1: This example exports a stopped instance, `i-0800b00a00EXAMPLE`, as a virtual hard disk (VHD) to the S3 bucket `testbucket-export-instances-2019`. The target environment is `Microsoft`, and the region parameter is added because the instance is in the `us-east-1` region, while the user's default AWS Region is not us-east-1. To get the status of the export task, copy the `ExportTaskId` value from the results of this command, then run `Get-EC2ExportTask -ExportTaskId export_task_ID_from_results`.

```
New-EC2InstanceExportTask -InstanceId i-0800b00a00EXAMPLE -
ExportToS3Task_DiskImageFormat VHD -ExportToS3Task_S3Bucket "testbucket-export-
instances-2019" -TargetEnvironment Microsoft -Region us-east-1
```

Output:

```
Description           :
ExportTaskId          : export-i-077c73108aEXAMPLE
ExportToS3Task        : Amazon.EC2.Model.ExportToS3Task
InstanceExportDetails : Amazon.EC2.Model.InstanceExportDetails
State                 : active
StatusMessage         :
```

- For API details, see CreateInstanceExportTask in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2InternetGateway`

The following code example shows how to use `New-EC2InternetGateway`.

Tools for PowerShell

Example 1: This example creates an Internet gateway.

```
New-EC2InternetGateway
```

Output:

```
Attachments    InternetGatewayId    Tags
-----------    -----------------    ----
{}             igw-1a2b3c4d         {}
```

- For API details, see CreateInternetGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2KeyPair`

The following code example shows how to use `New-EC2KeyPair`.

Tools for PowerShell

Example 1: This example creates a key pair and captures the PEM-encoded RSA private key in a file with the specified name. When you are using PowerShell, the encoding must be set to ascii to generate a valid key. For more information, see Create, Display, and Delete Amazon EC2 Key Pairs (https://docs.aws.amazon.com/cli/latest/userguide/cli-services-ec2-keypairs.html) in the AWS Command Line Interface User Guide.

```
(New-EC2KeyPair -KeyName "my-key-pair").KeyMaterial | Out-File -Encoding ascii -
FilePath C:\path\my-key-pair.pem
```

- For API details, see CreateKeyPair in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2NetworkAcl`

The following code example shows how to use `New-EC2NetworkAcl`.

Tools for PowerShell

Example 1: This example creates a network ACL for the specified VPC.

```
New-EC2NetworkAcl -VpcId vpc-12345678
```

Output:

```
Associations : {}
Entries      : {Amazon.EC2.Model.NetworkAclEntry, Amazon.EC2.Model.NetworkAclEntry}
IsDefault    : False
NetworkAclId : acl-12345678
Tags         : {}
VpcId        : vpc-12345678
```

- For API details, see CreateNetworkAcl in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2NetworkAclEntry`

The following code example shows how to use `New-EC2NetworkAclEntry`.

Tools for PowerShell

Example 1: This example creates an entry for the specified network ACL. The rule allows inbound traffic from anywhere (0.0.0.0/0) on UDP port 53 (DNS) into any associated subnet.

```
New-EC2NetworkAclEntry -NetworkAclId acl-12345678 -Egress $false -RuleNumber 100
 -Protocol 17 -PortRange_From 53 -PortRange_To 53 -CidrBlock 0.0.0.0/0 -RuleAction
 allow
```

- For API details, see CreateNetworkAclEntry in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2NetworkInterface`

The following code example shows how to use `New-EC2NetworkInterface`.

Tools for PowerShell

Example 1: This example creates the specified network interface.

```
New-EC2NetworkInterface -SubnetId subnet-1a2b3c4d -Description "my network
 interface" -Group sg-12345678 -PrivateIpAddress 10.0.0.17
```

Output:

```
Association        :
Attachment         :
AvailabilityZone   : us-west-2c
Description        : my network interface
Groups             : {my-security-group}
MacAddress         : 0a:72:bc:1a:cd:7f
NetworkInterfaceId : eni-12345678
OwnerId            : 123456789012
PrivateDnsName     : ip-10-0-0-17.us-west-2.compute.internal
PrivateIpAddress   : 10.0.0.17
PrivateIpAddresses : {}
RequesterId        :
RequesterManaged   : False
SourceDestCheck    : True
Status             : pending
SubnetId           : subnet-1a2b3c4d
TagSet             : {}
VpcId              : vpc-12345678
```

- For API details, see CreateNetworkInterface in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2PlacementGroup`

The following code example shows how to use `New-EC2PlacementGroup`.

Tools for PowerShell

Example 1: This example creates a placement group with the specified name.

```
New-EC2PlacementGroup -GroupName my-placement-group -Strategy cluster
```

- For API details, see CreatePlacementGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2Route`

The following code example shows how to use `New-EC2Route`.

Tools for PowerShell

Example 1: This example creates the specified route for the specified route table. The route matches all traffic and sends it to the specified Internet gateway.

```
New-EC2Route -RouteTableId rtb-1a2b3c4d -DestinationCidrBlock 0.0.0.0/0 -GatewayId
 igw-1a2b3c4d
```

Output:

```
True
```

- For API details, see CreateRoute in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2RouteTable`

The following code example shows how to use `New-EC2RouteTable`.

Tools for PowerShell

Example 1: This example creates a route table for the specified VPC.

```
New-EC2RouteTable -VpcId vpc-12345678
```

Output:

```
Associations    : {}
PropagatingVgws : {}
Routes          : {}
RouteTableId    : rtb-1a2b3c4d
Tags            : {}
VpcId           : vpc-12345678
```

- For API details, see CreateRouteTable in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2ScheduledInstance`

The following code example shows how to use `New-EC2ScheduledInstance`.

Tools for PowerShell

Example 1: This example launches the specified Scheduled Instance.

```
New-EC2ScheduledInstance -ScheduledInstanceId sci-1234-1234-1234-1234-123456789012 -
InstanceCount 1 `
-IamInstanceProfile_Name my-iam-role `
-LaunchSpecification_ImageId ami-12345678 `
-LaunchSpecification_InstanceType c4.large `
-LaunchSpecification_SubnetId subnet-12345678`
-LaunchSpecification_SecurityGroupId sg-12345678
```

- For API details, see RunScheduledInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2ScheduledInstancePurchase`

The following code example shows how to use `New-EC2ScheduledInstancePurchase`.

Tools for PowerShell

Example 1: This example purchases a Scheduled Instance.

```
$request = New-Object Amazon.EC2.Model.PurchaseRequest
$request.InstanceCount = 1
$request.PurchaseToken = "eyJ2IjoiMSIsInMiOjEsImMiOi..."
New-EC2ScheduledInstancePurchase -PurchaseRequest $request
```

Output:

```
AvailabilityZone            : us-west-2b
CreateDate                  : 1/25/2016 1:43:38 PM
HourlyPrice                 : 0.095
InstanceCount               : 1
InstanceType                : c4.large
NetworkPlatform             : EC2-VPC
NextSlotStartTime           : 1/31/2016 1:00:00 AM
Platform                    : Linux/UNIX
PreviousSlotEndTime         :
Recurrence                  : Amazon.EC2.Model.ScheduledInstanceRecurrence
ScheduledInstanceId         : sci-1234-1234-1234-1234-123456789012
SlotDurationInHours         : 32
```

```
TermEndDate                 : 1/31/2017 1:00:00 AM
TermStartDate               : 1/31/2016 1:00:00 AM
TotalScheduledInstanceHours : 1696
```

- For API details, see PurchaseScheduledInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2SecurityGroup`

The following code example shows how to use `New-EC2SecurityGroup`.

Tools for PowerShell

Example 1: This example creates a security group for the specified VPC.

```
New-EC2SecurityGroup -GroupName my-security-group -Description "my security group" -
VpcId vpc-12345678
```

Output:

```
sg-12345678
```

Example 2: This example creates a security group for EC2-Classic.

```
New-EC2SecurityGroup -GroupName my-security-group -Description "my security group"
```

Output:

```
sg-45678901
```

- For API details, see CreateSecurityGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2Snapshot`

The following code example shows how to use `New-EC2Snapshot`.

Tools for PowerShell

Example 1: This example creates a snapshot of the specified volume.

```
New-EC2Snapshot -VolumeId vol-12345678 -Description "This is a test"
```

Output:

```
DataEncryptionKeyId :
Description         : This is a test
Encrypted           : False
KmsKeyId            :
OwnerAlias          :
OwnerId             : 123456789012
Progress            :
SnapshotId          : snap-12345678
StartTime           : 12/22/2015 1:28:42 AM
State               : pending
StateMessage        :
Tags                : {}
VolumeId            : vol-12345678
VolumeSize          : 20
```

- For API details, see CreateSnapshot in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2SpotDatafeedSubscription`

The following code example shows how to use `New-EC2SpotDatafeedSubscription`.

Tools for PowerShell

Example 1: This example creates a Spot instance data feed.

```
New-EC2SpotDatafeedSubscription -Bucket my-s3-bucket -Prefix spotdata
```

Output:

```
Bucket  : my-s3-bucket
Fault   :
OwnerId : 123456789012
Prefix  : spotdata
State   : Active
```

- For API details, see CreateSpotDatafeedSubscription in *AWS Tools for PowerShell Cmdlet Reference*.

New-EC2Subnet

The following code example shows how to use New-EC2Subnet.

Tools for PowerShell

Example 1: This example creates a subnet with the specified CIDR.

```
New-EC2Subnet -VpcId vpc-12345678 -CidrBlock 10.0.0.0/24
```

Output:

```
AvailabilityZone        : us-west-2c
AvailableIpAddressCount : 251
CidrBlock               : 10.0.0.0/24
DefaultForAz            : False
MapPublicIpOnLaunch     : False
State                   : pending
SubnetId                : subnet-1a2b3c4d
Tag                     : {}
VpcId                   : vpc-12345678
```

- For API details, see CreateSubnet in *AWS Tools for PowerShell Cmdlet Reference*.

New-EC2Tag

The following code example shows how to use New-EC2Tag.

Tools for PowerShell

Example 1: This example adds a single tag to the specified resource. The tag key is 'myTag' and the tag value is 'myTagValue'. The syntax used by this example requires PowerShell version 3 or higher.

```
New-EC2Tag -Resource i-12345678 -Tag @{ Key="myTag"; Value="myTagValue" }
```

Example 2: This example updates or adds the specified tags to the specified resource. The syntax used by this example requires PowerShell version 3 or higher.

```
New-EC2Tag -Resource i-12345678 -Tag @( @{ Key="myTag"; Value="newTagValue" },
 @{ Key="test"; Value="anotherTagValue" } )
```

Example 3: With PowerShell version 2, you must use New-Object to create the tag for the Tag parameter.

```
$tag = New-Object Amazon.EC2.Model.Tag
$tag.Key = "myTag"
$tag.Value = "myTagValue"

New-EC2Tag -Resource i-12345678 -Tag $tag
```

- For API details, see CreateTags in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2Volume`

The following code example shows how to use `New-EC2Volume`.

Tools for PowerShell

Example 1: This example creates the specified volume.

```
New-EC2Volume -Size 50 -AvailabilityZone us-west-2a -VolumeType gp2
```

Output:

```
Attachments      : {}
AvailabilityZone : us-west-2a
CreateTime       : 12/22/2015 1:42:07 AM
Encrypted        : False
Iops             : 150
KmsKeyId         :
Size             : 50
SnapshotId       :
State            : creating
Tags             : {}
VolumeId         : vol-12345678
VolumeType       : gp2
```

Example 2: This example request creates a volume and applies a tag with a key of stack and a value of production.

```
$tag = @{ Key="stack"; Value="production" }
```

```
$tagspec = new-object Amazon.EC2.Model.TagSpecification
$tagspec.ResourceType = "volume"
$tagspec.Tags.Add($tag)

New-EC2Volume -Size 80 -AvailabilityZone "us-west-2a" -TagSpecification $tagspec
```

- For API details, see CreateVolume in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2Vpc`

The following code example shows how to use `New-EC2Vpc`.

Tools for PowerShell

Example 1: This example creates a VPC with the specified CIDR. Amazon VPC also creates the following for the VPC: a default DHCP options set, a main route table, and a default network ACL.

```
New-EC2VPC -CidrBlock 10.0.0.0/16
```

Output:

```
CidrBlock       : 10.0.0.0/16
DhcpOptionsId   : dopt-1a2b3c4d
InstanceTenancy : default
IsDefault       : False
State           : pending
Tags            : {}
VpcId           : vpc-12345678
```

- For API details, see CreateVpc in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2VpcEndpoint`

The following code example shows how to use `New-EC2VpcEndpoint`.

Tools for PowerShell

Example 1: This example create a new VPC Endpoint for the service com.amazonaws.eu-west-1.s3 in the VPC vpc-0fc1ff23f45b678eb

```
New-EC2VpcEndpoint -ServiceName com.amazonaws.eu-west-1.s3 -VpcId
 vpc-0fc1ff23f45b678eb
```

Output:

```
ClientToken VpcEndpoint
----------- -----------
            Amazon.EC2.Model.VpcEndpoint
```

- For API details, see CreateVpcEndpoint in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2VpnConnection`

The following code example shows how to use `New-EC2VpnConnection`.

Tools for PowerShell

Example 1: This example creates a VPN connection between the specified virtual private gateway and the specified customer gateway. The output includes the configuration information that your network administrator needs, in XML format.

```
New-EC2VpnConnection -Type ipsec.1 -CustomerGatewayId cgw-1a2b3c4d -VpnGatewayId
 vgw-1a2b3c4d
```

Output:

```
CustomerGatewayConfiguration : [XML document]
CustomerGatewayId            : cgw-1a2b3c4d
Options                      :
Routes                       : {}
State                        : pending
Tags                         : {}
Type                         :
VgwTelemetry                 : {}
VpnConnectionId              : vpn-12345678
VpnGatewayId                 : vgw-1a2b3c4d
```

Example 2: This example creates the VPN connection and captures the configuration in a file with the specified name.

```
(New-EC2VpnConnection -CustomerGatewayId cgw-1a2b3c4d -VpnGatewayId
 vgw-1a2b3c4d).CustomerGatewayConfiguration | Out-File C:\path\vpn-configuration.xml
```

Example 3: This example creates a VPN connection, with static routing, between the specified virtual private gateway and the specified customer gateway.

```
New-EC2VpnConnection -Type ipsec.1 -CustomerGatewayId cgw-1a2b3c4d -VpnGatewayId
 vgw-1a2b3c4d -Options_StaticRoutesOnly $true
```

- For API details, see CreateVpnConnection in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2VpnConnectionRoute`

The following code example shows how to use `New-EC2VpnConnectionRoute`.

Tools for PowerShell

Example 1: This example creates the specified static route for the specified VPN connection.

```
New-EC2VpnConnectionRoute -VpnConnectionId vpn-12345678 -DestinationCidrBlock
 11.12.0.0/16
```

- For API details, see CreateVpnConnectionRoute in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EC2VpnGateway`

The following code example shows how to use `New-EC2VpnGateway`.

Tools for PowerShell

Example 1: This example creates the specified virtual private gateway.

```
New-EC2VpnGateway -Type ipsec.1
```

Output:

```
AvailabilityZone :
State            : available
Tags             : {}
```

```
Type             : ipsec.1
VpcAttachments   : {}
VpnGatewayId     : vgw-1a2b3c4d
```

- For API details, see CreateVpnGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-EC2Address`

The following code example shows how to use `Register-EC2Address`.

Tools for PowerShell

Example 1: This example associates the specified Elastic IP address with the specified instance in a VPC.

```
C:\> Register-EC2Address -InstanceId i-12345678 -AllocationId eipalloc-12345678
```

Output:

```
eipassoc-12345678
```

Example 2: This example associates the specified Elastic IP address with the specified instance in EC2-Classic.

```
C:\> Register-EC2Address -InstanceId i-12345678 -PublicIp 203.0.113.17
```

- For API details, see AssociateAddress in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-EC2DhcpOption`

The following code example shows how to use `Register-EC2DhcpOption`.

Tools for PowerShell

Example 1: This example associates the specified DHCP options set with the specified VPC.

```
Register-EC2DhcpOption -DhcpOptionsId dopt-1a2b3c4d -VpcId vpc-12345678
```

Example 2: This example associates the default DHCP options set with the specified VPC.

```
Register-EC2DhcpOption -DhcpOptionsId default -VpcId vpc-12345678
```

- For API details, see AssociateDhcpOptions in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-EC2Image`

The following code example shows how to use `Register-EC2Image`.

Tools for PowerShell

Example 1: This example registers an AMI using the specified manifest file in Amazon S3.

```
Register-EC2Image -ImageLocation my-s3-bucket/my-web-server-ami/image.manifest.xml -
Name my-web-server-ami
```

- For API details, see RegisterImage in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-EC2PrivateIpAddress`

The following code example shows how to use `Register-EC2PrivateIpAddress`.

Tools for PowerShell

Example 1: This example assigns the specified secondary private IP address to the specified network interface.

```
Register-EC2PrivateIpAddress -NetworkInterfaceId eni-1a2b3c4d -PrivateIpAddress
 10.0.0.82
```

Example 2: This example creates two secondary private IP addresses and assigns them to the specified network interface.

```
Register-EC2PrivateIpAddress -NetworkInterfaceId eni-1a2b3c4d -
SecondaryPrivateIpAddressCount 2
```

- For API details, see AssignPrivateIpAddresses in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-EC2RouteTable`

The following code example shows how to use `Register-EC2RouteTable`.

Tools for PowerShell

Example 1: This example associates the specified route table with the specified subnet.

```
Register-EC2RouteTable -RouteTableId rtb-1a2b3c4d -SubnetId subnet-1a2b3c4d
```

Output:

```
rtbassoc-12345678
```

- For API details, see AssociateRouteTable in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Address`

The following code example shows how to use `Remove-EC2Address`.

Tools for PowerShell

Example 1: This example releases the specified Elastic IP address for instances in a VPC.

```
Remove-EC2Address -AllocationId eipalloc-12345678 -Force
```

Example 2: This example releases the specified Elastic IP address for instances in EC2-Classic.

```
Remove-EC2Address -PublicIp 198.51.100.2 -Force
```

- For API details, see ReleaseAddress in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2CapacityReservation`

The following code example shows how to use `Remove-EC2CapacityReservation`.

Tools for PowerShell

Example 1: This example cancels the capacity reservation cr-0c1f2345db6f7cdba

```
Remove-EC2CapacityReservation -CapacityReservationId cr-0c1f2345db6f7cdba
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-EC2CapacityReservation (CancelCapacityReservation)"
 on target "cr-0c1f2345db6f7cdba".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): y
True
```

- For API details, see CancelCapacityReservation in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2CustomerGateway`

The following code example shows how to use `Remove-EC2CustomerGateway`.

Tools for PowerShell

Example 1: This example deletes the specified customer gateway. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2CustomerGateway -CustomerGatewayId cgw-1a2b3c4d
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2CustomerGateway (DeleteCustomerGateway)" on Target
 "cgw-1a2b3c4d".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteCustomerGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2DhcpOption`

The following code example shows how to use `Remove-EC2DhcpOption`.

Tools for PowerShell

Example 1: This example deletes the specified DHCP options set. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2DhcpOption -DhcpOptionsId dopt-1a2b3c4d
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2DhcpOption (DeleteDhcpOptions)" on Target
 "dopt-1a2b3c4d".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteDhcpOptions in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2FlowLog`

The following code example shows how to use `Remove-EC2FlowLog`.

Tools for PowerShell

Example 1: This example removes the given FlowLogId fl-01a2b3456a789c01

```
Remove-EC2FlowLog -FlowLogId fl-01a2b3456a789c01
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-EC2FlowLog (DeleteFlowLogs)" on target
 "fl-01a2b3456a789c01".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteFlowLogs in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Host`

The following code example shows how to use `Remove-EC2Host`.

Tools for PowerShell

Example 1: This example releases the given host ID h-0badafd1dcb2f3456

```
Remove-EC2Host -HostId h-0badafd1dcb2f3456
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-EC2Host (ReleaseHosts)" on target
 "h-0badafd1dcb2f3456".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y

Successful            Unsuccessful
----------            ------------
{h-0badafd1dcb2f3456} {}
```

- For API details, see ReleaseHosts in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Instance`

The following code example shows how to use `Remove-EC2Instance`.

Tools for PowerShell

Example 1: This example terminates the specified instance (the instance may be running or in 'stopped' state). The cmdlet will prompt for confirmation before proceeding; use the -Force switch to suppress the prompt.

```
Remove-EC2Instance -InstanceId i-12345678
```

Output:

```
CurrentState                     InstanceId    PreviousState
------------                     ----------    -------------
Amazon.EC2.Model.InstanceState    i-12345678    Amazon.EC2.Model.InstanceState
```

- For API details, see TerminateInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2InternetGateway`

The following code example shows how to use `Remove-EC2InternetGateway`.

Tools for PowerShell

Example 1: This example deletes the specified Internet gateway. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2InternetGateway -InternetGatewayId igw-1a2b3c4d
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2InternetGateway (DeleteInternetGateway)" on Target
 "igw-1a2b3c4d".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteInternetGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2KeyPair`

The following code example shows how to use `Remove-EC2KeyPair`.

Tools for PowerShell

Example 1: This example deletes the specified key pair. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2KeyPair -KeyName my-key-pair
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2KeyPair (DeleteKeyPair)" on Target "my-key-pair".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteKeyPair in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2NetworkAcl`

The following code example shows how to use `Remove-EC2NetworkAcl`.

Tools for PowerShell

Example 1: This example deletes the specified network ACL. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2NetworkAcl -NetworkAclId acl-12345678
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2NetworkAcl (DeleteNetworkAcl)" on Target
 "acl-12345678".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteNetworkAcl in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2NetworkAclEntry`

The following code example shows how to use `Remove-EC2NetworkAclEntry`.

Tools for PowerShell

Example 1: This example removes the specified rule from the specified network ACL. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2NetworkAclEntry -NetworkAclId acl-12345678 -Egress $false -RuleNumber 100
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2NetworkAclEntry (DeleteNetworkAclEntry)" on Target
 "acl-12345678".
```

```
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteNetworkAclEntry in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2NetworkInterface`

The following code example shows how to use `Remove-EC2NetworkInterface`.

Tools for PowerShell

Example 1: This example deletes the specified network interface. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2NetworkInterface -NetworkInterfaceId eni-12345678
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2NetworkInterface (DeleteNetworkInterface)" on Target
 "eni-12345678".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteNetworkInterface in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2PlacementGroup`

The following code example shows how to use `Remove-EC2PlacementGroup`.

Tools for PowerShell

Example 1: This example deletes the specified placement group. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2PlacementGroup -GroupName my-placement-group
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2PlacementGroup (DeletePlacementGroup)" on Target
 "my-placement-group".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeletePlacementGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Route`

The following code example shows how to use `Remove-EC2Route`.

Tools for PowerShell

Example 1: This example deletes the specified route from the specified route table. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2Route -RouteTableId rtb-1a2b3c4d -DestinationCidrBlock 0.0.0.0/0
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2Route (DeleteRoute)" on Target "rtb-1a2b3c4d".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteRoute in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2RouteTable`

The following code example shows how to use `Remove-EC2RouteTable`.

Tools for PowerShell

Example 1: This example deletes the specified route table. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2RouteTable -RouteTableId rtb-1a2b3c4d
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2RouteTable (DeleteRouteTable)" on Target
 "rtb-1a2b3c4d".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteRouteTable in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2SecurityGroup`

The following code example shows how to use `Remove-EC2SecurityGroup`.

Tools for PowerShell

Example 1: This example deletes the specified security group for EC2-VPC. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2SecurityGroup -GroupId sg-12345678
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2SecurityGroup (DeleteSecurityGroup)" on Target
 "sg-12345678".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: This example deletes the specified security group for EC2-Classic.

```
Remove-EC2SecurityGroup -GroupName my-security-group -Force
```

- For API details, see DeleteSecurityGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Snapshot`

The following code example shows how to use `Remove-EC2Snapshot`.

Tools for PowerShell

Example 1: This example deletes the specified snapshot. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2Snapshot -SnapshotId snap-12345678
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-EC2Snapshot (DeleteSnapshot)" on target
 "snap-12345678".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteSnapshot in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2SpotDatafeedSubscription`

The following code example shows how to use `Remove-EC2SpotDatafeedSubscription`.

Tools for PowerShell

Example 1: This example deletes your Spot instance data feed. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2SpotDatafeedSubscription
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2SpotDatafeedSubscription
 (DeleteSpotDatafeedSubscription)" on Target "".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteSpotDatafeedSubscription in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Subnet`

The following code example shows how to use `Remove-EC2Subnet`.

Tools for PowerShell

Example 1: This example deletes the specified subnet. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2Subnet -SubnetId subnet-1a2b3c4d
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2Subnet (DeleteSubnet)" on Target "subnet-1a2b3c4d".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteSubnet in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Tag`

The following code example shows how to use `Remove-EC2Tag`.

Tools for PowerShell

Example 1: This example deletes the specified tag from the specified resource, regardless of the tag value. The syntax used by this example requires PowerShell version 3 or later.

```
Remove-EC2Tag -Resource i-12345678 -Tag @{ Key="myTag" } -Force
```

Example 2: This example deletes the specified tag from the specified resource, but only if the tag value matches. The syntax used by this example requires PowerShell version 3 or later.

```
Remove-EC2Tag -Resource i-12345678 -Tag @{ Key="myTag";Value="myTagValue" } -Force
```

Example 3: This example deletes the specified tag from the specified resource, regardless of the tag value.

```
$tag = New-Object Amazon.EC2.Model.Tag
$tag.Key = "myTag"

Remove-EC2Tag -Resource i-12345678 -Tag $tag -Force
```

Example 4: This example deletes the specified tag from the specified resource, but only if the tag value matches.

```
$tag = New-Object Amazon.EC2.Model.Tag
$tag.Key = "myTag"
$tag.Value = "myTagValue"

Remove-EC2Tag -Resource i-12345678 -Tag $tag -Force
```

- For API details, see DeleteTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Volume`

The following code example shows how to use `Remove-EC2Volume`.

Tools for PowerShell

Example 1: This example detaches the specified volume. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2Volume -VolumeId vol-12345678
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-EC2Volume (DeleteVolume)" on target "vol-12345678".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteVolume in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2Vpc`

The following code example shows how to use `Remove-EC2Vpc`.

Tools for PowerShell

Example 1: This example deletes the specified VPC. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2Vpc -VpcId vpc-12345678
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2Vpc (DeleteVpc)" on Target "vpc-12345678".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteVpc in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2VpnConnection`

The following code example shows how to use `Remove-EC2VpnConnection`.

Tools for PowerShell

Example 1: This example deletes the specified VPN connection. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2VpnConnection -VpnConnectionId vpn-12345678
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2VpnConnection (DeleteVpnConnection)" on Target
 "vpn-12345678".
```

```
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteVpnConnection in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2VpnConnectionRoute`

The following code example shows how to use `Remove-EC2VpnConnectionRoute`.

Tools for PowerShell

Example 1: This example removes the specified static route from the specified VPN connection. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2VpnConnectionRoute -VpnConnectionId vpn-12345678 -DestinationCidrBlock
 11.12.0.0/16
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2VpnConnectionRoute (DeleteVpnConnectionRoute)" on
 Target "vpn-12345678".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteVpnConnectionRoute in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EC2VpnGateway`

The following code example shows how to use `Remove-EC2VpnGateway`.

Tools for PowerShell

Example 1: This example deletes the specified virtual private gateway. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-EC2VpnGateway -VpnGatewayId vgw-1a2b3c4d
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-EC2VpnGateway (DeleteVpnGateway)" on Target
 "vgw-1a2b3c4d".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteVpnGateway in *AWS Tools for PowerShell Cmdlet Reference*.

`Request-EC2SpotFleet`

The following code example shows how to use `Request-EC2SpotFleet`.

Tools for PowerShell

Example 1: This example creates a Spot fleet request in the Availability Zone with the lowest price for the specified instance type. If your account supports EC2-VPC only, the Spot fleet launches the instances in the lowest-priced Availability Zone that has a default subnet. If your account supports EC2-Classic, the Spot fleet launches the instances in EC2-Classic in the lowest-priced Availability Zone. Note that the price you pay will not exceed the specified Spot price for the request.

```
$sg = New-Object Amazon.EC2.Model.GroupIdentifier
$sg.GroupId = "sg-12345678"
$lc = New-Object Amazon.EC2.Model.SpotFleetLaunchSpecification
$lc.ImageId = "ami-12345678"
$lc.InstanceType = "m3.medium"
$lc.SecurityGroups.Add($sg)
Request-EC2SpotFleet -SpotFleetRequestConfig_SpotPrice 0.04 `
-SpotFleetRequestConfig_TargetCapacity 2 `
-SpotFleetRequestConfig_IamFleetRole arn:aws:iam::123456789012:role/my-spot-fleet-
role `
-SpotFleetRequestConfig_LaunchSpecification $lc
```

- For API details, see RequestSpotFleet in *AWS Tools for PowerShell Cmdlet Reference*.

`Request-EC2SpotInstance`

The following code example shows how to use `Request-EC2SpotInstance`.

Tools for PowerShell

Example 1: This example requests a one-time Spot instance in the specified subnet. Note that the security group must be created for the VPC that contains the specified subnet, and it must be specified by ID using the network interface. When you specify a network interface, you must include the subnet ID using the network interface.

```
$n = New-Object Amazon.EC2.Model.InstanceNetworkInterfaceSpecification
$n.DeviceIndex = 0
$n.SubnetId = "subnet-12345678"
$n.Groups.Add("sg-12345678")
Request-EC2SpotInstance -InstanceCount 1 -SpotPrice 0.050 -Type one-time `
-IamInstanceProfile_Arn arn:aws:iam::123456789012:instance-profile/my-iam-role `
-LaunchSpecification_ImageId ami-12345678 `
-LaunchSpecification_InstanceType m3.medium `
-LaunchSpecification_NetworkInterface $n
```

Output:

```
ActualBlockHourlyPrice   :
AvailabilityZoneGroup    :
BlockDurationMinutes     : 0
CreateTime               : 12/26/2015 7:44:10 AM
Fault                    :
InstanceId               :
LaunchedAvailabilityZone :
LaunchGroup              :
LaunchSpecification      : Amazon.EC2.Model.LaunchSpecification
ProductDescription       : Linux/UNIX
SpotInstanceRequestId    : sir-12345678
SpotPrice                : 0.050000
State                    : open
Status                   : Amazon.EC2.Model.SpotInstanceStatus
Tags                     : {}
Type                     : one-time
```

- For API details, see RequestSpotInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Reset-EC2ImageAttribute`

The following code example shows how to use `Reset-EC2ImageAttribute`.

Tools for PowerShell

Example 1: This example resets the 'launchPermission' attribute to its default value. By default, AMIs are private.

```
Reset-EC2ImageAttribute -ImageId ami-12345678 -Attribute launchPermission
```

- For API details, see ResetImageAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Reset-EC2InstanceAttribute`

The following code example shows how to use `Reset-EC2InstanceAttribute`.

Tools for PowerShell

Example 1: This example resets the 'sriovNetSupport' attribute for the specified instance.

```
Reset-EC2InstanceAttribute -InstanceId i-12345678 -Attribute sriovNetSupport
```

Example 2: This example resets the 'ebsOptimized' attribute for the specified instance.

```
Reset-EC2InstanceAttribute -InstanceId i-12345678 -Attribute ebsOptimized
```

Example 3: This example resets the 'sourceDestCheck' attribute for the specified instance.

```
Reset-EC2InstanceAttribute -InstanceId i-12345678 -Attribute sourceDestCheck
```

Example 4: This example resets the 'disableApiTermination' attribute for the specified instance.

```
Reset-EC2InstanceAttribute -InstanceId i-12345678 -Attribute disableApiTermination
```

Example 5: This example resets the 'instanceInitiatedShutdownBehavior' attribute for the specified instance.

```
Reset-EC2InstanceAttribute -InstanceId i-12345678 -Attribute
 instanceInitiatedShutdownBehavior
```

- For API details, see ResetInstanceAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Reset-EC2NetworkInterfaceAttribute`

The following code example shows how to use `Reset-EC2NetworkInterfaceAttribute`.

Tools for PowerShell

Example 1: This example resets source/destination checking for the specified network interface.

```
Reset-EC2NetworkInterfaceAttribute -NetworkInterfaceId eni-1a2b3c4d -SourceDestCheck
```

- For API details, see ResetNetworkInterfaceAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Reset-EC2SnapshotAttribute`

The following code example shows how to use `Reset-EC2SnapshotAttribute`.

Tools for PowerShell

Example 1: This example resets the specified attribute of the specified snapshot.

```
Reset-EC2SnapshotAttribute -SnapshotId snap-12345678 -Attribute
 CreateVolumePermission
```

- For API details, see ResetSnapshotAttribute in *AWS Tools for PowerShell Cmdlet Reference*.

`Restart-EC2Instance`

The following code example shows how to use `Restart-EC2Instance`.

Tools for PowerShell

Example 1: This example reboots the specified instance.

```
Restart-EC2Instance -InstanceId i-12345678
```

- For API details, see RebootInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Revoke-EC2SecurityGroupEgress`

The following code example shows how to use `Revoke-EC2SecurityGroupEgress`.

Tools for PowerShell

Example 1: This example removes the rule for the specified security group for EC2-VPC. This revokes access to the specified IP address range on TCP port 80. The syntax used by this example requires PowerShell version 3 or higher.

```
$ip = @{ IpProtocol="tcp"; FromPort="80"; ToPort="80"; IpRanges="203.0.113.0/24" }
Revoke-EC2SecurityGroupEgress -GroupId sg-12345678 -IpPermission $ip
```

Example 2: With PowerShell version 2, you must use New-Object to create the IpPermission object.

```
$ip = New-Object Amazon.EC2.Model.IpPermission
$ip.IpProtocol = "tcp"
$ip.FromPort = 80
$ip.ToPort = 80
$ip.IpRanges.Add("203.0.113.0/24")
Revoke-EC2SecurityGroupEgress -GroupId sg-12345678 -IpPermission $ip
```

Example 3: This example revokes access to the specified source security group on TCP port 80.

```
$ug = New-Object Amazon.EC2.Model.UserIdGroupPair
$ug.GroupId = "sg-1a2b3c4d"
$ug.UserId = "123456789012"
Revoke-EC2SecurityGroupEgress -GroupId sg-12345678 -IpPermission
 @( @{ IpProtocol="tcp"; FromPort="80"; ToPort="80"; UserIdGroupPairs=$ug } )
```

- For API details, see RevokeSecurityGroupEgress in *AWS Tools for PowerShell Cmdlet Reference*.

`Revoke-EC2SecurityGroupIngress`

The following code example shows how to use `Revoke-EC2SecurityGroupIngress`.

Tools for PowerShell

Example 1: This example revokes access to TCP port 22 from the specified address range for the specified security group for EC2-VPC. Note that you must identify security groups for EC2-VPC using the security group ID not the security group name. The syntax used by this example requires PowerShell version 3 or higher.

```
$ip = @{ IpProtocol="tcp"; FromPort="22"; ToPort="22"; IpRanges="203.0.113.0/24" }
Revoke-EC2SecurityGroupIngress -GroupId sg-12345678 -IpPermission $ip
```

Example 2: With PowerShell version 2, you must use New-Object to create the IpPermission object.

```
$ip = New-Object Amazon.EC2.Model.IpPermission
$ip.IpProtocol = "tcp"
$ip.FromPort = 22
$ip.ToPort = 22
$ip.IpRanges.Add("203.0.113.0/24")

Revoke-EC2SecurityGroupIngress -GroupId sg-12345678 -IpPermission $ip
```

Example 3: This example revokes access to TCP port 22 from the specified address range for the specified security group for EC2-Classic. The syntax used by this example requires PowerShell version 3 or higher.

```
$ip = @{ IpProtocol="tcp"; FromPort="22"; ToPort="22"; IpRanges="203.0.113.0/24" }

Revoke-EC2SecurityGroupIngress -GroupName "my-security-group" -IpPermission $ip
```

Example 4: With PowerShell version 2, you must use New-Object to create the IpPermission object.

```
$ip = New-Object Amazon.EC2.Model.IpPermission
$ip.IpProtocol = "tcp"
$ip.FromPort = 22
$ip.ToPort = 22
$ip.IpRanges.Add("203.0.113.0/24")

Revoke-EC2SecurityGroupIngress -GroupName "my-security-group" -IpPermission $ip
```

- For API details, see RevokeSecurityGroupIngress in *AWS Tools for PowerShell Cmdlet Reference*.

`Send-EC2InstanceStatus`

The following code example shows how to use `Send-EC2InstanceStatus`.

Tools for PowerShell

Example 1: This example reports status feedback for the specified instance.

```
Send-EC2InstanceStatus -Instance i-12345678 -Status impaired -ReasonCode
 unresponsive
```

- For API details, see ReportInstanceStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-EC2NetworkAclAssociation`

The following code example shows how to use `Set-EC2NetworkAclAssociation`.

Tools for PowerShell

Example 1: This example associates the specified network ACL with the subnet for the specified network ACL association.

```
Set-EC2NetworkAclAssociation -NetworkAclId acl-12345678 -AssociationId
 aclassoc-1a2b3c4d
```

Output:

```
aclassoc-87654321
```

- For API details, see ReplaceNetworkAclAssociation in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-EC2NetworkAclEntry`

The following code example shows how to use `Set-EC2NetworkAclEntry`.

Tools for PowerShell

Example 1: This example replaces the specified entry for the specified network ACL. The new rule allows inbound traffic from the specified address to any associated subnet.

```
Set-EC2NetworkAclEntry -NetworkAclId acl-12345678 -Egress $false -RuleNumber 100
 -Protocol 17 -PortRange_From 53 -PortRange_To 53 -CidrBlock 203.0.113.12/24 -
RuleAction allow
```

- For API details, see ReplaceNetworkAclEntry in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-EC2Route`

The following code example shows how to use `Set-EC2Route`.

Tools for PowerShell

Example 1: This example replaces the specified route for the specified route table. The new route sends the specified traffic to the specified virtual private gateway.

```
Set-EC2Route -RouteTableId rtb-1a2b3c4d -DestinationCidrBlock 10.0.0.0/24 -GatewayId
 vgw-1a2b3c4d
```

- For API details, see ReplaceRoute in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-EC2RouteTableAssociation`

The following code example shows how to use `Set-EC2RouteTableAssociation`.

Tools for PowerShell

Example 1: This example associates the specified route table with the subnet for the specified route table association.

```
Set-EC2RouteTableAssociation -RouteTableId rtb-1a2b3c4d -AssociationId
 rtbassoc-12345678
```

Output:

```
rtbassoc-87654321
```

- For API details, see ReplaceRouteTableAssociation in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-EC2Instance`

The following code example shows how to use `Start-EC2Instance`.

Tools for PowerShell

Example 1: This example starts the specified instance.

```
Start-EC2Instance -InstanceId i-12345678
```

Output:

```
CurrentState                    InstanceId    PreviousState
------------                    ----------    -------------
Amazon.EC2.Model.InstanceState    i-12345678    Amazon.EC2.Model.InstanceState
```

Example 2: This example starts the specified instances.

```
@("i-12345678", "i-76543210") | Start-EC2Instance
```

Example 3: This example starts the set of instances that are currently stopped. The Instance objects returned by Get-EC2Instance are piped to Start-EC2Instance. The syntax used by this example requires PowerShell version 3 or higher.

```
(Get-EC2Instance -Filter @{ Name="instance-state-name"; Values="stopped"}).Instances
 | Start-EC2Instance
```

Example 4: With PowerShell version 2, you must use New-Object to create the filter for the Filter parameter.

```
$filter = New-Object Amazon.EC2.Model.Filter
$filter.Name = "instance-state-name"
$filter.Values = "stopped"

(Get-EC2Instance -Filter $filter).Instances | Start-EC2Instance
```

- For API details, see StartInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-EC2InstanceMonitoring`

The following code example shows how to use `Start-EC2InstanceMonitoring`.

Tools for PowerShell

Example 1: This example enables detailed monitoring for the specified instance.

```
Start-EC2InstanceMonitoring -InstanceId i-12345678
```

Output:

```
InstanceId    Monitoring
----------    ----------
i-12345678    Amazon.EC2.Model.Monitoring
```

- For API details, see MonitorInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-EC2ImportTask`

The following code example shows how to use `Stop-EC2ImportTask`.

Tools for PowerShell

Example 1: This example cancels the specified import task (either snapshot or image import). If required, a reason can be providing using the `-CancelReason` parameter.

```
Stop-EC2ImportTask -ImportTaskId import-ami-abcdefgh
```

- For API details, see CancelImportTask in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-EC2Instance`

The following code example shows how to use `Stop-EC2Instance`.

Tools for PowerShell

Example 1: This example stops the specified instance.

```
Stop-EC2Instance -InstanceId i-12345678
```

Output:

```
CurrentState                      InstanceId    PreviousState
------------                      ----------    -------------
Amazon.EC2.Model.InstanceState    i-12345678    Amazon.EC2.Model.InstanceState
```

- For API details, see StopInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-EC2InstanceMonitoring`

The following code example shows how to use `Stop-EC2InstanceMonitoring`.

Tools for PowerShell

Example 1: This example disables detailed monitoring for the specified instance.

```
Stop-EC2InstanceMonitoring -InstanceId i-12345678
```

Output:

```
InstanceId    Monitoring
----------    ----------
i-12345678    Amazon.EC2.Model.Monitoring
```

- For API details, see UnmonitorInstances in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-EC2SpotFleetRequest`

The following code example shows how to use `Stop-EC2SpotFleetRequest`.

Tools for PowerShell

Example 1: This example cancels the specified Spot fleet request and terminates the associated Spot instances.

```
Stop-EC2SpotFleetRequest -SpotFleetRequestId sfr-73fbd2ce-
aa30-494c-8788-1cee4EXAMPLE -TerminateInstance $true
```

Example 2: This example cancels the specified Spot fleet request without terminating the associated Spot instances.

```
Stop-EC2SpotFleetRequest -SpotFleetRequestId sfr-73fbd2ce-
aa30-494c-8788-1cee4EXAMPLE -TerminateInstance $false
```

- For API details, see CancelSpotFleetRequests in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-EC2SpotInstanceRequest`

The following code example shows how to use `Stop-EC2SpotInstanceRequest`.

Tools for PowerShell

Example 1: This example cancels the specified Spot instance request.

```
Stop-EC2SpotInstanceRequest -SpotInstanceRequestId sir-12345678
```

Output:

```
SpotInstanceRequestId    State
---------------------    -----
sir-12345678             cancelled
```

- For API details, see CancelSpotInstanceRequests in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-EC2Address`

The following code example shows how to use `Unregister-EC2Address`.

Tools for PowerShell

Example 1: This example disassociates the specified Elastic IP address from the specified instance in a VPC.

```
Unregister-EC2Address -AssociationId eipassoc-12345678
```

Example 2: This example disassociates the specified Elastic IP address from the specified instance in EC2-Classic.

```
Unregister-EC2Address -PublicIp 203.0.113.17
```

- For API details, see DisassociateAddress in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-EC2Image`

The following code example shows how to use `Unregister-EC2Image`.

Tools for PowerShell

Example 1: This example deregisters the specified AMI.

```
Unregister-EC2Image -ImageId ami-12345678
```

- For API details, see DeregisterImage in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-EC2PrivateIpAddress`

The following code example shows how to use `Unregister-EC2PrivateIpAddress`.

Tools for PowerShell

Example 1: This example unassigns the specified private IP address from the specified network interface.

```
Unregister-EC2PrivateIpAddress -NetworkInterfaceId eni-1a2b3c4d -PrivateIpAddress
 10.0.0.82
```

- For API details, see UnassignPrivateIpAddresses in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-EC2RouteTable`

The following code example shows how to use `Unregister-EC2RouteTable`.

Tools for PowerShell

Example 1: This example removes the specified association between a route table and a subnet.

```
Unregister-EC2RouteTable -AssociationId rtbassoc-1a2b3c4d
```

- For API details, see DisassociateRouteTable in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon ECR examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-ECRLoginCommand`

The following code example shows how to use `Get-ECRLoginCommand`.

Tools for PowerShell

Example 1: Returns a PSObject containing login information that can be used to authenticate to any Amazon ECR registry that your IAM principal has access to. The credentials and region endpoint required for the call to obtain the authorization token are obtained from the shell defaults (set up by the `Set-AWSCredential/Set-DefaultAWSRegion` or `Initialize-AWSDefaultConfiguration` cmdlets). You can use the Command property with Invoke-Expression to log in to the specified registry or use the returned credentials in other tools requiring login.

```
Get-ECRLoginCommand
```

Output:

```
Username      : AWS
```

```
Password      : eyJwYXlsb2Fk...kRBVEFfS0VZIn0=
ProxyEndpoint : https://123456789012.dkr.ecr.us-west-2.amazonaws.com
Endpoint      : https://123456789012.dkr.ecr.us-west-2.amazonaws.com
ExpiresAt     : 9/26/2017 6:08:23 AM
Command       : docker login --username AWS --password
 eyJwYXlsb2Fk...kRBVEFfS0VZIn0= https://123456789012.dkr.ecr.us-west-2.amazonaws.com
```

Example 2: Retrieves a PSObject containing login information that you use as an input to a docker login command. You can specify any Amazon ECR registry URI to authenticate to as long as your IAM principal has access to that registry.

```
(Get-ECRLoginCommand).Password | docker login --username AWS --password-stdin
 012345678910.dkr.ecr.us-east-1.amazonaws.com
```

- For API details, see Get-ECRLoginCommand in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon ECS examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-ECSClusterDetail`

The following code example shows how to use `Get-ECSClusterDetail`.

Tools for PowerShell

Example 1: This cmdlet describes one or more of your ECS clusters.

```
Get-ECSClusterDetail -Cluster "LAB-ECS-CL" -Include SETTINGS | Select-Object *
```

Output:

```
LoggedAt         : 12/27/2019 9:27:41 PM
Clusters         : {LAB-ECS-CL}
Failures         : {}
ResponseMetadata : Amazon.Runtime.ResponseMetadata
ContentLength    : 396
HttpStatusCode   : OK
```

- For API details, see DescribeClusters in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ECSClusterList`

The following code example shows how to use `Get-ECSClusterList`.

Tools for PowerShell

Example 1: This cmdlet returns a list of existing ECS clusters.

```
Get-ECSClusterList
```

Output:

```
arn:aws:ecs:us-west-2:012345678912:cluster/LAB-ECS-CL
arn:aws:ecs:us-west-2:012345678912:cluster/LAB-ECS
```

- For API details, see ListClusters in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ECSClusterService`

The following code example shows how to use `Get-ECSClusterService`.

Tools for PowerShell

Example 1: This example lists all services running in your default cluster.

```
Get-ECSClusterService
```

Example 2: This example lists all services running in the specified cluster.

```
Get-ECSClusterService -Cluster myCluster
```

Example 3: This example lists the services running in the specified cluster, fetching a maximum of 10 service details at a time.

```
$nextToken = $null
do
{
    Get-ECSClusterService -Cluster myCluster -MaxResult 10 -NextToken $nextToken
    $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see ListServices in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ECSService`

The following code example shows how to use `Get-ECSService`.

Tools for PowerShell

Example 1: This example shows how to retrieve details of a specific service from your default cluster.

```
Get-ECSService -Service my-hhtp-service
```

Example 2: This example shows how to retrieve details of a specific service running in the named cluster.

```
Get-ECSService -Cluster myCluster -Service my-hhtp-service
```

- For API details, see DescribeServices in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ECSCluster`

The following code example shows how to use `New-ECSCluster`.

Tools for PowerShell

Example 1: This cmdlet creates a new Amazon ECS cluster.

```
New-ECSCluster -ClusterName "LAB-ECS-CL" -Setting @{Name="containerInsights";
 Value="enabled"}
```

Output:

```
ActiveServicesCount               : 0
Attachments                       : {}
AttachmentsStatus                 :
CapacityProviders                 : {}
ClusterArn                        : arn:aws:ecs:us-west-2:012345678912:cluster/LAB-
ECS-CL
ClusterName                       : LAB-ECS-CL
DefaultCapacityProviderStrategy   : {}
PendingTasksCount                 : 0
RegisteredContainerInstancesCount : 0
RunningTasksCount                 : 0
Settings                          : {containerInsights}
Statistics                        : {}
Status                            : ACTIVE
Tags                              : {}
```

- For API details, see CreateCluster in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ECSService`

The following code example shows how to use `New-ECSService`.

Tools for PowerShell

Example 1: This example command creates a service in your default cluster called `ecs-simple-service`. The service uses the `ecs-demo` task definition and it maintains 10 instantiations of that task.

```
New-ECSService -ServiceName ecs-simple-service -TaskDefinition ecs-demo -
DesiredCount 10
```

Example 2: This example command creates a service behind a load balancer in your default cluster called `ecs-simple-service`. The service uses the `ecs-demo` task definition and it maintains 10 instantiations of that task.

```
$lb = @{
    LoadBalancerName = "EC2Contai-EcsElast-S06278JGSJCM"
    ContainerName = "simple-demo"
    ContainerPort = 80
}
New-ECSService -ServiceName ecs-simple-service -TaskDefinition ecs-demo -
DesiredCount 10 -LoadBalancer $lb
```

- For API details, see CreateService in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ECSCluster`

The following code example shows how to use `Remove-ECSCluster`.

Tools for PowerShell

Example 1: This cmdlet deletes the specified ECS cluster. You must deregister all container instances from this cluster before you may delete it.

```
Remove-ECSCluster -Cluster "LAB-ECS"
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-ECSCluster (DeleteCluster)" on target "LAB-ECS".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteCluster in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ECSService`

The following code example shows how to use `Remove-ECSService`.

Tools for PowerShell

Example 1: Deletes the service named 'my-http-service' in the default cluster. The service must have a desired count and running count of 0 before you can delete it. You are prompted for confirmation before the command proceeds. To bypass the confirmation prompt add the -Force switch.

```
Remove-ECSService -Service my-http-service
```

Example 2: Deletes the service named 'my-http-service' in the named cluster.

```
Remove-ECSService -Cluster myCluster -Service my-http-service
```

- For API details, see DeleteService in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-ECSClusterSetting`

The following code example shows how to use `Update-ECSClusterSetting`.

Tools for PowerShell

Example 1: This cmdlet modifies the settings to use for an ECS cluster.

```
Update-ECSClusterSetting -Cluster "LAB-ECS-CL" -Setting @{Name="containerInsights";
 Value="disabled"}
```

Output:

```
ActiveServicesCount              : 0
Attachments                      : {}
AttachmentsStatus                :
CapacityProviders                : {}
ClusterArn                       : arn:aws:ecs:us-west-2:012345678912:cluster/LAB-
ECS-CL
ClusterName                      : LAB-ECS-CL
DefaultCapacityProviderStrategy  : {}
PendingTasksCount                : 0
RegisteredContainerInstancesCount : 0
RunningTasksCount                : 0
Settings                         : {containerInsights}
```

```
Statistics                          : {}
Status                              : ACTIVE
Tags                                : {}
```

- For API details, see UpdateClusterSettings in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-ECSService`

The following code example shows how to use `Update-ECSService`.

Tools for PowerShell

Example 1: This example command updates the `my-http-service` service to use the `amazon-ecs-sample` task definition.

```
Update-ECSService -Service my-http-service -TaskDefinition amazon-ecs-sample
```

Example 2: This example command updates the desired count of the `my-http-service` service to 10.

```
Update-ECSService -Service my-http-service -DesiredCount 10
```

- For API details, see UpdateService in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon EFS examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Edit-EFSMountTargetSecurityGroup`

The following code example shows how to use `Edit-EFSMountTargetSecurityGroup`.

Tools for PowerShell

Example 1: Updates the security groups in effect for the specified mount target. Up to 5 may be specified, in the format "sg-xxxxxxxx".

```
Edit-EFSMountTargetSecurityGroup -MountTargetId fsmt-1a2b3c4d -SecurityGroup sg-
group1,sg-group3
```

- For API details, see ModifyMountTargetSecurityGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EFSFileSystem`

The following code example shows how to use `Get-EFSFileSystem`.

Tools for PowerShell

Example 1: Returns the collection of all file systems owned by the caller's account in the region.

```
Get-EFSFileSystem
```

Output:

```
CreationTime         : 5/26/2015 4:02:38 PM
CreationToken        : 1a2bff54-85e0-4747-bd95-7bc172c4f555
FileSystemId         : fs-1a2b3c4d
LifeCycleState       : available
Name                 :
```

```
NumberOfMountTargets : 0
OwnerId              : 123456789012
SizeInBytes          : Amazon.ElasticFileSystem.Model.FileSystemSize

CreationTime         : 5/26/2015 4:06:23 PM
CreationToken        : 2b4daa14-85e0-4747-bd95-7bc172c4f555
FileSystemId         : fs-4d3c2b1a
...
```

Example 2: Returns the details of the specified file system.

```
Get-EFSFileSystem -FileSystemId fs-1a2b3c4d
```

Example 3: Returns the details of a file system using the idempotency creation token that was specified at the time the file system was created.

```
Get-EFSFileSystem -CreationToken 1a2bff54-85e0-4747-bd95-7bc172c4f555
```

- For API details, see DescribeFileSystems in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EFSMountTarget`

The following code example shows how to use `Get-EFSMountTarget`.

Tools for PowerShell

Example 1: Returns the collection of mount targets associated with the specified file system.

```
Get-EFSMountTarget -FileSystemId fs-1a2b3c4d
```

Output:

```
FileSystemId       : fs-1a2b3c4d
IpAddress          : 10.0.0.131
LifeCycleState     : available
MountTargetId      : fsmt-1a2b3c4d
NetworkInterfaceId : eni-1a2b3c4d
OwnerId            : 123456789012
SubnetId           : subnet-1a2b3c4d
```

- For API details, see DescribeMountTargets in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EFSMountTargetSecurityGroup`

The following code example shows how to use `Get-EFSMountTargetSecurityGroup`.

Tools for PowerShell

Example 1: Returns the ids of the security groups currently assigned to the network interface associated with the mount target.

```
Get-EFSMountTargetSecurityGroup -MountTargetId fsmt-1a2b3c4d
```

Output:

```
sg-1a2b3c4d
```

- For API details, see DescribeMountTargetSecurityGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EFSTag`

The following code example shows how to use `Get-EFSTag`.

Tools for PowerShell

Example 1: Returns the collection of tags currently associated with the specified file system.

```
Get-EFSTag -FileSystemId fs-1a2b3c4d
```

Output:

```
Key         Value
---         -----
Name        My File System
tagkey1     tagvalue1
tagkey2     tagvalue2
```

- For API details, see DescribeTags in *AWS Tools for PowerShell Cmdlet Reference*.

New-EFSFileSystem

The following code example shows how to use New-EFSFileSystem.

Tools for PowerShell

Example 1: Creates a new, empty file system. The token used to ensure idempotent creation will be generated automatically and can be accessed from the CreationToken member of the returned object.

```
New-EFSFileSystem
```

Output:

```
CreationTime         : 5/26/2015 4:02:38 PM
CreationToken        : 1a2bff54-85e0-4747-bd95-7bc172c4f555
FileSystemId         : fs-1a2b3c4d
LifeCycleState       : creating
Name                 :
NumberOfMountTargets : 0
OwnerId              : 123456789012
SizeInBytes          : Amazon.ElasticFileSystem.Model.FileSystemSize
```

Example 2: Creates a new, empty file system using a custom token to ensure idempotent creation.

```
New-EFSFileSystem -CreationToken "MyUniqueToken"
```

- For API details, see CreateFileSystem in *AWS Tools for PowerShell Cmdlet Reference*.

New-EFSMountTarget

The following code example shows how to use New-EFSMountTarget.

Tools for PowerShell

Example 1: Creates a new mount target for a file system. The specified subnet will be used determine the Virtual Private Cloud (VPC) that the mount target will be created in and the IP address that will be auto-assigned (from the address range of the subnet). The assigned

IP address can be used to then mount this file system on an Amazon EC2 instance. As no security groups were specified the network interface created for the target is associated with the default security group for the subnet's VPC.

```
New-EFSMountTarget -FileSystemId fs-1a2b3c4d -SubnetId subnet-1a2b3c4d
```

Output:

```
FileSystemId       : fs-1a2b3c4d
IpAddress          : 10.0.0.131
LifeCycleState     : creating
MountTargetId      : fsmt-1a2b3c4d
NetworkInterfaceId : eni-1a2b3c4d
OwnerId            : 123456789012
SubnetId           : subnet-1a2b3c4d
```

Example 2: Creates a new mount target for the specified file system with auto-assigned IP address. The network interface created for the mount target is associated with the specified security groups (up to 5, in the format "sg-xxxxxxxx", may be specified).

```
New-EFSMountTarget -FileSystemId fs-1a2b3c4d -SubnetId subnet-1a2b3c4d -
SecurityGroup sg-group1,sg-group2,sg-group3
```

Example 3: Creates a new mount target for the specified file system with the specified IP address.

```
New-EFSMountTarget -FileSystemId fs-1a2b3c4d -SubnetId subnet-1a2b3c4d -IpAddress
 10.0.0.131
```

- For API details, see CreateMountTarget in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EFSTag`

The following code example shows how to use `New-EFSTag`.

Tools for PowerShell

Example 1: Applies the collection of tags to the specified file system. If a tag with key specified already exists on the file system the value of the tag is updated.

```
New-EFSTag -FileSystemId fs-1a2b3c4d -Tag
 @{Key="tagkey1";Value="tagvalue1"},@{Key="tagkey2";Value="tagvalue2"}
```

Example 2: Sets the name tag for the specified file system. This value is returned along with other file system details when the Get-EFSFileSystem cmdlet is used.

```
New-EFSTag -FileSystemId fs-1a2b3c4d -Tag @{Key="Name";Value="My File System"}
```

- For API details, see CreateTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EFSFileSystem`

The following code example shows how to use `Remove-EFSFileSystem`.

Tools for PowerShell

Example 1: Deletes the specified file system that is no longer in use (if the file system has mount targets they must be removed first). You are prompted for confirmation before the cmdlet proceeds - to suppress confirmation, use the `-Force` switch.

```
Remove-EFSFileSystem -FileSystemId fs-1a2b3c4d
```

- For API details, see DeleteFileSystem in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EFSMountTarget`

The following code example shows how to use `Remove-EFSMountTarget`.

Tools for PowerShell

Example 1: Deletes the specified mount target. You are prompted for confirmation before the operation proceeds. To suppress the prompt use the `-Force` switch. Note that this operation forcibly breaks any mounts of the file system via the target - you may want to consider unmounting the file system before running this command, if feasible.

```
Remove-EFSMountTarget -MountTargetId fsmt-1a2b3c4d
```

- For API details, see DeleteMountTarget in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EFSTag`

The following code example shows how to use `Remove-EFSTag`.

Tools for PowerShell

Example 1: Deletes the collection of one or more tags from a file system. You are prompted for confirmation before the cmdlet proceeds - to suppress confirmation, use the `-Force` switch.

```
Remove-EFSTag -FileSystemId fs-1a2b3c4d -TagKey "tagkey1","tagkey2"
```

- For API details, see DeleteTags in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon EKS examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-EKSResourceTag`

The following code example shows how to use `Add-EKSResourceTag`.

Tools for PowerShell

Example 1: This cmdlet associates the specified tags to a resource with the specified resourceArn.

```
Add-EKSResourceTag -ResourceArn "arn:aws:eks:us-west-2:012345678912:cluster/PROD" -
Tag @{Name = "EKSPRODCLUSTER"}
```

- For API details, see TagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSCluster`

The following code example shows how to use `Get-EKSCluster`.

Tools for PowerShell

Example 1: This cmdlet returns descriptive information about an Amazon EKS cluster.

```
Get-EKSCluster -Name "PROD"
```

Output:

```
Arn                  : arn:aws:eks:us-west-2:012345678912:cluster/PROD
CertificateAuthority : Amazon.EKS.Model.Certificate
ClientRequestToken   :
CreatedAt            : 12/25/2019 6:46:17 AM
Endpoint             : https://669608765450FBBE54D1D78A3D71B72C.gr8.us-
west-2.eks.amazonaws.com
Identity             : Amazon.EKS.Model.Identity
Logging              : Amazon.EKS.Model.Logging
Name                 : PROD
PlatformVersion      : eks.7
ResourcesVpcConfig   : Amazon.EKS.Model.VpcConfigResponse
RoleArn              : arn:aws:iam::012345678912:role/eks-iam-role
Status               : ACTIVE
Tags                 : {}
Version              : 1.14
```

- For API details, see DescribeCluster in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSClusterList`

The following code example shows how to use `Get-EKSClusterList`.

Tools for PowerShell

Example 1: This cmdlet lists the Amazon EKS clusters in your AWS account in the specified Region.

```
Get-EKSClusterList
```

Output:

```
 PROD
```

- For API details, see ListClusters in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSFargateProfile`

The following code example shows how to use `Get-EKSFargateProfile`.

Tools for PowerShell

Example 1: This cmdlet returns descriptive information about an AWS Fargate profile.

```
Get-EKSFargateProfile -FargateProfileName "EKSFargate" -ClusterName "TEST"
```

Output:

```
ClusterName         : TEST
CreatedAt           : 12/26/2019 12:34:47 PM
FargateProfileArn   : arn:aws:eks:us-east-2:012345678912:fargateprofile/TEST/
EKSFargate/42b7a119-e16b-a279-ce97-bdf303adec92
FargateProfileName  : EKSFargate
PodExecutionRoleArn : arn:aws:iam::012345678912:role/
AmazonEKSFargatePodExecutionRole
Selectors           : {Amazon.EKS.Model.FargateProfileSelector}
Status              : ACTIVE
Subnets             : {subnet-0cd976f08d5fbfaae, subnet-02f6ff500ff2067a0}
Tags                : {}
```

- For API details, see DescribeFargateProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSFargateProfileList`

The following code example shows how to use `Get-EKSFargateProfileList`.

Tools for PowerShell

Example 1: This cmdlet lists the AWS Fargate profiles associated with the specified cluster in your AWS account in the specified Region.

```
Get-EKSFargateProfileList -ClusterName "TEST"
```

Output:

```
EKSFargate
EKSFargateProfile
```

- For API details, see ListFargateProfiles in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSNodegroup`

The following code example shows how to use `Get-EKSNodegroup`.

Tools for PowerShell

Example 1: This cmdlet returns descriptive information about an Amazon EKS node group.

```
Get-EKSNodegroup -NodegroupName "ProdEKSNodeGroup" -ClusterName "PROD"
```

Output:

```
AmiType        : AL2_x86_64
ClusterName    : PROD
CreatedAt      : 12/25/2019 10:16:45 AM
DiskSize       : 40
Health         : Amazon.EKS.Model.NodegroupHealth
InstanceTypes  : {t3.large}
Labels         : {}
```

```
ModifiedAt     : 12/25/2019 10:16:45 AM
NodegroupArn   : arn:aws:eks:us-west-2:012345678912:nodegroup/PROD/
ProdEKSNodeGroup/7eb79e47-82b6-04d9-e984-95110db6fa85
NodegroupName  : ProdEKSNodeGroup
NodeRole       : arn:aws:iam::012345678912:role/NodeInstanceRole
ReleaseVersion : 1.14.7-20190927
RemoteAccess   :
Resources      :
ScalingConfig  : Amazon.EKS.Model.NodegroupScalingConfig
Status         : CREATING
Subnets        : {subnet-0d1a9fff35efa7691, subnet-0a3f4928edbc224d4}
Tags           : {}
Version        : 1.14
```

- For API details, see DescribeNodegroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSNodegroupList`

The following code example shows how to use `Get-EKSNodegroupList`.

Tools for PowerShell

Example 1: This cmdlet lists the Amazon EKS node groups associated with the specified cluster in your AWS account in the specified Region.

```
Get-EKSNodegroupList -ClusterName PROD
```

Output:

```
ProdEKSNodeGroup
```

- For API details, see ListNodegroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSResourceTag`

The following code example shows how to use `Get-EKSResourceTag`.

Tools for PowerShell

Example 1: This cmdlet list the tags for an Amazon EKS resource.

```
Get-EKSResourceTag -ResourceArn "arn:aws:eks:us-west-2:012345678912:cluster/PROD"
```

Output:

```
Key  Value
---  -----
Name EKSPRODCLUSTER
```

- For API details, see ListTagsForResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSUpdate`

The following code example shows how to use `Get-EKSUpdate`.

Tools for PowerShell

Example 1: This cmdlet returns descriptive information about an update against your Amazon EKS cluster or associated managed node group.

```
Get-EKSUpdate -Name "PROD" -UpdateId "ee708232-7d2e-4ed7-9270-d0b5176f0726"
```

Output:

```
CreatedAt : 12/25/2019 5:03:07 PM
Errors    : {}
Id        : ee708232-7d2e-4ed7-9270-d0b5176f0726
Params    : {Amazon.EKS.Model.UpdateParam}
Status    : Successful
Type      : LoggingUpdate
```

- For API details, see DescribeUpdate in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-EKSUpdateList`

The following code example shows how to use `Get-EKSUpdateList`.

Tools for PowerShell

Example 1: This cmdlet lists the updates associated with an Amazon EKS cluster or managed node group in your AWS account, in the specified Region.

```
Get-EKSUpdateList -Name "PROD"
```

Output:

```
ee708232-7d2e-4ed7-9270-d0b5176f0726
```

- For API details, see ListUpdates in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EKSCluster`

The following code example shows how to use `New-EKSCluster`.

Tools for PowerShell

Example 1: This example creates a new cluster called 'prod'.

```
New-EKSCluster -Name prod -ResourcesVpcConfig
 @{SubnetIds=@("subnet-0a1b2c3d","subnet-3a2b1c0d");SecurityGroupIds="sg-6979fe18"}
 -RoleArn "arn:aws:iam::012345678901:role/eks-service-role"
```

Output:

```
Arn                  : arn:aws:eks:us-west-2:012345678901:cluster/prod
CertificateAuthority : Amazon.EKS.Model.Certificate
ClientRequestToken   :
CreatedAt            : 12/10/2018 9:25:31 PM
Endpoint             :
Name                 : prod
PlatformVersion      : eks.3
ResourcesVpcConfig   : Amazon.EKS.Model.VpcConfigResponse
RoleArn              : arn:aws:iam::012345678901:role/eks-service-role
Status               : CREATING
Version              : 1.10
```

- For API details, see CreateCluster in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EKSFargateProfile`

The following code example shows how to use `New-EKSFargateProfile`.

Tools for PowerShell

Example 1: This cmdlet creates an AWS Fargate profile for your Amazon EKS cluster. You must have at least one Fargate profile in a cluster to be able to schedule pods on Fargate infrastructure.

```
New-EKSFargateProfile -FargateProfileName EKSFargateProfile -ClusterName TEST -
Subnet "subnet-02f6ff500ff2067a0", "subnet-0cd976f08d5fbfaae" -PodExecutionRoleArn
 arn:aws:iam::012345678912:role/AmazonEKSFargatePodExecutionRole -Selector
 @{Namespace="default"}
```

Output:

```
ClusterName         : TEST
CreatedAt           : 12/26/2019 12:38:21 PM
FargateProfileArn   : arn:aws:eks:us-east-2:012345678912:fargateprofile/TEST/
EKSFargateProfile/20b7a11b-8292-41c1-bc56-ffa5e60f6224
FargateProfileName  : EKSFargateProfile
PodExecutionRoleArn : arn:aws:iam::012345678912:role/
AmazonEKSFargatePodExecutionRole
Selectors           : {Amazon.EKS.Model.FargateProfileSelector}
Status              : CREATING
Subnets             : {subnet-0cd976f08d5fbfaae, subnet-02f6ff500ff2067a0}
Tags                : {}
```

- For API details, see CreateFargateProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`New-EKSNodeGroup`

The following code example shows how to use `New-EKSNodeGroup`.

Tools for PowerShell

Example 1: This cmdlet creates a managed worker node group for an Amazon EKS cluster. You can only create a node group for your cluster that is equal to the current Kubernetes version for the cluster. All node groups are created with the latest AMI release version for the respective minor Kubernetes version of the cluster.

```
New-EKSNodeGroup -NodeGroupName "ProdEKSNodeGroup" -AmiType "AL2_x86_64"
 -DiskSize 40 -ClusterName "PROD" -ScalingConfig_DesiredSize 2 -
ScalingConfig_MinSize 2 -ScalingConfig_MaxSize 5 -InstanceType t3.large
```

```
 -NodeRole "arn:aws:iam::012345678912:role/NodeInstanceRole" -Subnet
 "subnet-0d1a9fff35efa7691","subnet-0a3f4928edbc224d4"
```

Output:

```
AmiType        : AL2_x86_64
ClusterName    : PROD
CreatedAt      : 12/25/2019 10:16:45 AM
DiskSize       : 40
Health         : Amazon.EKS.Model.NodegroupHealth
InstanceTypes  : {t3.large}
Labels         : {}
ModifiedAt     : 12/25/2019 10:16:45 AM
NodegroupArn   : arn:aws:eks:us-west-2:012345678912:nodegroup/PROD/
ProdEKSNodeGroup/7eb79e47-82b6-04d9-e984-95110db6fa85
NodegroupName  : ProdEKSNodeGroup
NodeRole       : arn:aws:iam::012345678912:role/NodeInstanceRole
ReleaseVersion : 1.14.7-20190927
RemoteAccess   :
Resources      :
ScalingConfig  : Amazon.EKS.Model.NodegroupScalingConfig
Status         : CREATING
Subnets        : {subnet-0d1a9fff35efa7691, subnet-0a3f4928edbc224d4}
Tags           : {}
Version        : 1.14
```

- For API details, see CreateNodegroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EKSCluster`

The following code example shows how to use `Remove-EKSCluster`.

Tools for PowerShell

Example 1: This cmdlet deletes the Amazon EKS cluster control plane.

```
Remove-EKSCluster -Name "DEV-KUBE-CL"
```

Output:

```
Confirm
Are you sure you want to perform this action?
```

```
Performing the operation "Remove-EKSCluster (DeleteCluster)" on target "DEV-KUBE-
CL".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y

Arn                  : arn:aws:eks:us-west-2:012345678912:cluster/DEV-KUBE-CL
CertificateAuthority : Amazon.EKS.Model.Certificate
ClientRequestToken   :
CreatedAt            : 12/25/2019 9:33:25 AM
Endpoint             : https://02E6D31E3E4F8C15D7BE7F58D527776A.yl4.us-
west-2.eks.amazonaws.com
Identity             : Amazon.EKS.Model.Identity
Logging              : Amazon.EKS.Model.Logging
Name                 : DEV-KUBE-CL
PlatformVersion      : eks.7
ResourcesVpcConfig   : Amazon.EKS.Model.VpcConfigResponse
RoleArn              : arn:aws:iam::012345678912:role/eks-iam-role
Status               : DELETING
Tags                 : {}
Version              : 1.14
```

- For API details, see DeleteCluster in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EKSFargateProfile`

The following code example shows how to use `Remove-EKSFargateProfile`.

Tools for PowerShell

Example 1: This cmdlet deletes an AWS Fargate profile. When you delete a Fargate profile, any pods running on Fargate that were created with the profile are deleted.

```
Remove-EKSFargateProfile -FargateProfileName "EKSFargate" -ClusterName "TEST"
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-EKSFargateProfile (DeleteFargateProfile)" on target
 "EKSFargate".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

```
ClusterName         : TEST
CreatedAt           : 12/26/2019 12:34:47 PM
FargateProfileArn   : arn:aws:eks:us-east-2:012345678912:fargateprofile/TEST/
EKSFargate/42b7a119-e16b-a279-ce97-bdf303adec92
FargateProfileName  : EKSFargate
PodExecutionRoleArn : arn:aws:iam::012345678912:role/
AmazonEKSFargatePodExecutionRole
Selectors           : {Amazon.EKS.Model.FargateProfileSelector}
Status              : DELETING
Subnets             : {subnet-0cd976f08d5fbfaae, subnet-02f6ff500ff2067a0}
Tags                : {}
```

- For API details, see DeleteFargateProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EKSNodegroup`

The following code example shows how to use `Remove-EKSNodegroup`.

Tools for PowerShell

Example 1: This cmdlet deletes an Amazon EKS node group for a cluster.

```
Remove-EKSNodegroup -NodegroupName "ProdEKSNodeGroup" -ClusterName "PROD"
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-EKSNodegroup (DeleteNodegroup)" on target
 "ProdEKSNodeGroup".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y

AmiType        : AL2_x86_64
ClusterName    : PROD
CreatedAt      : 12/25/2019 10:16:45 AM
DiskSize       : 40
Health         : Amazon.EKS.Model.NodegroupHealth
InstanceTypes  : {t3.large}
Labels         : {}
ModifiedAt     : 12/25/2019 11:01:16 AM
```

```
NodegroupArn    : arn:aws:eks:us-west-2:012345678912:nodegroup/PROD/
ProdEKSNodeGroup/7eb79e47-82b6-04d9-e984-95110db6fa85
NodegroupName   : ProdEKSNodeGroup
NodeRole        : arn:aws:iam::012345678912:role/NodeInstanceRole
ReleaseVersion : 1.14.7-20190927
RemoteAccess    :
Resources       : Amazon.EKS.Model.NodegroupResources
ScalingConfig   : Amazon.EKS.Model.NodegroupScalingConfig
Status          : DELETING
Subnets         : {subnet-0d1a9fff35efa7691, subnet-0a3f4928edbc224d4}
Tags            : {}
Version         : 1.14
```

- For API details, see DeleteNodegroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-EKSResourceTag`

The following code example shows how to use `Remove-EKSResourceTag`.

Tools for PowerShell

Example 1: This cmdlet deletes specified tags from an EKS resource.

```
Remove-EKSResourceTag -ResourceArn "arn:aws:eks:us-west-2:012345678912:cluster/PROD"
 -TagKey "Name"
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-EKSResourceTag (UntagResource)" on target
 "arn:aws:eks:us-west-2:012345678912:cluster/PROD".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see UntagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-EKSClusterConfig`

The following code example shows how to use `Update-EKSClusterConfig`.

Tools for PowerShell

Example 1: Updates an Amazon EKS cluster configuration. Your cluster continues to function during the update.

```
Update-EKSClusterConfig -Name "PROD" -Logging_ClusterLogging
 @{Types="api","audit","authenticator","controllerManager","scheduler",Enabled="True"}
```

Output:

```
CreatedAt : 12/25/2019 5:03:07 PM
Errors    : {}
Id        : ee708232-7d2e-4ed7-9270-d0b5176f0726
Params    : {Amazon.EKS.Model.UpdateParam}
Status    : InProgress
Type      : LoggingUpdate
```

- For API details, see UpdateClusterConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-EKSClusterVersion`

The following code example shows how to use `Update-EKSClusterVersion`.

Tools for PowerShell

Example 1: This cmdlet updates an Amazon EKS cluster to the specified Kubernetes version. Your cluster continues to function during the update.

```
Update-EKSClusterVersion -Name "PROD-KUBE-CL" -Version 1.14
```

Output:

```
CreatedAt : 12/26/2019 9:50:37 AM
Errors    : {}
Id        : ef186eff-3b3a-4c25-bcfc-3dcdf9e898a8
Params    : {Amazon.EKS.Model.UpdateParam, Amazon.EKS.Model.UpdateParam}
Status    : InProgress
Type      : VersionUpdate
```

- For API details, see UpdateClusterVersion in *AWS Tools for PowerShell Cmdlet Reference*.

Elastic Load Balancing - Version 1 examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell with Elastic Load Balancing - Version 1.

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-ELBLoadBalancerToSubnet`

The following code example shows how to use `Add-ELBLoadBalancerToSubnet`.

Tools for PowerShell

Example 1: This example adds the specified subnet to the set of subnets configured for the specified load balancer. The output includes the complete list of subnets.

```
Add-ELBLoadBalancerToSubnet -LoadBalancerName my-load-balancer -Subnet
 subnet-12345678
```

Output:

```
subnet-12345678
subnet-87654321
```

- For API details, see AttachLoadBalancerToSubnets in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-ELBResourceTag`

The following code example shows how to use `Add-ELBResourceTag`.

Tools for PowerShell

Example 1: This example adds the specified tags to the specified load balancer. The syntax used by this example requires PowerShell version 3 or later.

```
Add-ELBResourceTag -LoadBalancerName my-load-balancer -Tag
 @{ Key="project";Value="lima" },@{ Key="department";Value="digital-media" }
```

Example 2: With PowerShell version 2, you must use New-Object to create a tag for the Tag parameter.

```
$tag = New-Object Amazon.ElasticLoadBalancing.Model.Tag
$tag.Key = "project"
$tag.Value = "lima"
Add-ELBResourceTag -LoadBalancerName my-load-balancer -Tag $tag
```

- For API details, see AddTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-ELBAvailabilityZoneForLoadBalancer`

The following code example shows how to use `Disable-ELBAvailabilityZoneForLoadBalancer`.

Tools for PowerShell

Example 1: This example removes the specified Availability Zone from the specified load balancer. The output includes the remaining Availability Zones.

```
Disable-ELBAvailabilityZoneForLoadBalancer -LoadBalancerName my-load-balancer -
AvailabilityZone us-west-2a
```

Output:

```
us-west-2b
```

- For API details, see DisableAvailabilityZonesForLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`Dismount-ELBLoadBalancerFromSubnet`

The following code example shows how to use `Dismount-ELBLoadBalancerFromSubnet`.

Tools for PowerShell

Example 1: This example removes the specified subnet from the set of subnets configured for the specified load balancer. The output includes the remaining subnets.

```
Dismount-ELBLoadBalancerFromSubnet -LoadBalancerName my-load-balancer -Subnet
 subnet-12345678
```

Output:

```
subnet-87654321
```

- For API details, see DetachLoadBalancerFromSubnets in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-ELBLoadBalancerAttribute`

The following code example shows how to use `Edit-ELBLoadBalancerAttribute`.

Tools for PowerShell

Example 1: This example enables cross-zone load balancing for the specified load balancer.

```
Edit-ELBLoadBalancerAttribute -LoadBalancerName my-load-balancer -
CrossZoneLoadBalancing_Enabled $true
```

Example 2: This example disables connection draining for the specified load balancer.

```
Edit-ELBLoadBalancerAttribute -LoadBalancerName my-load-balancer -
ConnectionDraining_Enabled $false
```

Example 3: This example enables access logging for the specified load balancer.

```
Edit-ELBLoadBalancerAttribute -LoadBalancerName my-load-balancer `
>> -AccessLog_Enabled $true `
```

```
>> -AccessLog_S3BucketName my-logs-bucket `
>> -AccessLog_S3BucketPrefix my-app/prod `
>> -AccessLog_EmitInterval 60
```

- For API details, see ModifyLoadBalancerAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-ELBAvailabilityZoneForLoadBalancer`

The following code example shows how to use `Enable-ELBAvailabilityZoneForLoadBalancer`.

Tools for PowerShell

Example 1: This example adds the specified Availability Zone to the specified load balancer. The output includes the complete list of Availability Zones.

```
Enable-ELBAvailabilityZoneForLoadBalancer -LoadBalancerName my-load-balancer -
AvailabilityZone us-west-2a
```

Output:

```
us-west-2a
us-west-2b
```

- For API details, see EnableAvailabilityZonesForLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELBInstanceHealth`

The following code example shows how to use `Get-ELBInstanceHealth`.

Tools for PowerShell

Example 1: This example describes the state of the instances registered with the specified load balancer.

```
Get-ELBInstanceHealth -LoadBalancerName my-load-balancer
```

Output:

```
Description                    InstanceId                    ReasonCode
      State
-----------                    ----------                    ----------
      -----
N/A                            i-87654321                    N/A
      InService
Instance has failed at lea... i-12345678                     Instance
      OutOfService
```

Example 2: This example describes the state of the specified instance registered with the specified load balancer.

```
Get-ELBInstanceHealth -LoadBalancerName my-load-balancer -Instance i-12345678
```

Example 3: This example displays the complete description of the state of the specified instance.

```
(Get-ELBInstanceHealth -LoadBalancerName my-load-balancer -Instance
 i-12345678).Description
```

Output:

```
Instance has failed at least the UnhealthyThreshold number of health checks
 consecutively.
```

- For API details, see DescribeInstanceHealth in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELBLoadBalancer`

The following code example shows how to use `Get-ELBLoadBalancer`.

Tools for PowerShell

Example 1: This example lists the names of your load balancers.

```
Get-ELBLoadBalancer | format-table -property LoadBalancerName
```

Output:

```
LoadBalancerName
----------------
my-load-balancer
my-other-load-balancer
my-internal-load-balancer
```

Example 2: This example describes the specified load balancer.

```
Get-ELBLoadBalancer -LoadBalancerName my-load-balancer
```

Output:

```
AvailabilityZones         : {us-west-2a, us-west-2b}
BackendServerDescriptions :
 {Amazon.ElasticLoadBalancing.Model.BackendServerDescription}
CanonicalHostedZoneName   : my-load-balancer-1234567890.us-west-2.elb.amazonaws.com
CanonicalHostedZoneNameID : Z3DZXE0EXAMPLE
CreatedTime               : 4/11/2015 12:12:45 PM
DNSName                   : my-load-balancer-1234567890.us-west-2.elb.amazonaws.com
HealthCheck               : Amazon.ElasticLoadBalancing.Model.HealthCheck
Instances                 : {i-207d9717, i-afefb49b}
ListenerDescriptions      : {Amazon.ElasticLoadBalancing.Model.ListenerDescription}
LoadBalancerName          : my-load-balancer
Policies                  : Amazon.ElasticLoadBalancing.Model.Policies
Scheme                    : internet-facing
SecurityGroups            : {sg-a61988c3}
SourceSecurityGroup       : Amazon.ElasticLoadBalancing.Model.SourceSecurityGroup
Subnets                   : {subnet-15aaab61}
VPCId                     : vpc-a01106c2
```

Example 3: This example describes all your load balancers in the current AWS region.

```
Get-ELBLoadBalancer
```

Example 4: This example describes all your load balancers across all available AWS Regions.

```
Get-AWSRegion | % { Get-ELBLoadBalancer -Region $_ }
```

- For API details, see DescribeLoadBalancers in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELBLoadBalancerAttribute`

The following code example shows how to use `Get-ELBLoadBalancerAttribute`.

Tools for PowerShell

Example 1: This example describes the attributes for the specified load balancer.

```
Get-ELBLoadBalancerAttribute -LoadBalancerName my-load-balancer
```

Output:

```
AccessLog              : Amazon.ElasticLoadBalancing.Model.AccessLog
AdditionalAttributes   : {}
ConnectionDraining     : Amazon.ElasticLoadBalancing.Model.ConnectionDraining
ConnectionSettings     : Amazon.ElasticLoadBalancing.Model.ConnectionSettings
CrossZoneLoadBalancing : Amazon.ElasticLoadBalancing.Model.CrossZoneLoadBalancing
```

- For API details, see DescribeLoadBalancerAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELBLoadBalancerPolicy`

The following code example shows how to use `Get-ELBLoadBalancerPolicy`.

Tools for PowerShell

Example 1: This example describes the policies associated with the specified load balancer.

```
Get-ELBLoadBalancerPolicy -LoadBalancerName my-load-balancer
```

Output:

```
PolicyAttributeDescriptions            PolicyName
 PolicyTypeName
---------------------------            ----------
 --------------
{ProxyProtocol}                        my-ProxyProtocol-policy
 ProxyProtocolPolicyType
{CookieName}                           my-app-cookie-policy
 AppCookieStickinessPolicyType
```

Example 2: This example describes the attributes of the specified policy.

```
(Get-ELBLoadBalancerPolicy -LoadBalancerName my-load-balancer -PolicyName my-
ProxyProtocol-policy).PolicyAttributeDescriptions
```

Output:

```
AttributeName    AttributeValue
-------------    --------------
ProxyProtocol    true
```

Example 3: This example describes the predefined policies, including the sample policies. The names of the sample policies have the ELBSample- prefix.

```
Get-ELBLoadBalancerPolicy
```

Output:

```
PolicyAttributeDescriptions             PolicyName
 PolicyTypeName
--------------------------             ----------
 --------------
{Protocol-SSLv2, Protocol-TLSv1, Pro... ELBSecurityPolicy-2015-05
 SSLNegotiationPolicyType
{Protocol-SSLv2, Protocol-TLSv1, Pro... ELBSecurityPolicy-2015-03
 SSLNegotiationPolicyType
{Protocol-SSLv2, Protocol-TLSv1, Pro... ELBSecurityPolicy-2015-02
 SSLNegotiationPolicyType
{Protocol-SSLv2, Protocol-TLSv1, Pro... ELBSecurityPolicy-2014-10
 SSLNegotiationPolicyType
{Protocol-SSLv2, Protocol-TLSv1, Pro... ELBSecurityPolicy-2014-01
 SSLNegotiationPolicyType
{Protocol-SSLv2, Protocol-TLSv1, Pro... ELBSecurityPolicy-2011-08
 SSLNegotiationPolicyType
{Protocol-SSLv2, Protocol-TLSv1, Pro... ELBSample-ELBDefaultCipherPolicy
 SSLNegotiationPolicyType
{Protocol-SSLv2, Protocol-TLSv1, Pro... ELBSample-OpenSSLDefaultCipherPolicy
 SSLNegotiationPolicyType
```

- For API details, see DescribeLoadBalancerPolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELBLoadBalancerPolicyType`

The following code example shows how to use `Get-ELBLoadBalancerPolicyType`.

Tools for PowerShell

Example 1: This example gets the policy types supported by Elastic Load Balancing.

```
Get-ELBLoadBalancerPolicyType
```

Output:

```
Description                              PolicyAttributeTypeDescriptions
 PolicyTypeName
-----------                              -------------------------------
 --------------
Stickiness policy with session lifet... {CookieExpirationPeriod}
 LBCookieStickinessPolicyType
Policy that controls authentication ... {PublicKeyPolicyName}
 BackendServerAuthenticationPolicyType
Listener policy that defines the cip... {Protocol-SSLv2, Protocol-TLSv1, Pro...
 SSLNegotiationPolicyType
Policy containing a list of public k... {PublicKey}
 PublicKeyPolicyType
Stickiness policy with session lifet... {CookieName}
 AppCookieStickinessPolicyType
Policy that controls whether to incl... {ProxyProtocol}
 ProxyProtocolPolicyType
```

Example 2: This example describes the specified policy type.

```
Get-ELBLoadBalancerPolicyType -PolicyTypeName ProxyProtocolPolicyType
```

Output:

```
Description                              PolicyAttributeTypeDescriptions
 PolicyTypeName
-----------                              -------------------------------
 --------------
Policy that controls whether to incl... {ProxyProtocol}
 ProxyProtocolPolicyType
```

Example 3: This example displays the complete description of the specified policy type.

```
(Get-ELBLoadBalancerPolicyType -PolicyTypeName).Description
```

Output:

```
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
```

- For API details, see DescribeLoadBalancerPolicyTypes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELBResourceTag`

The following code example shows how to use `Get-ELBResourceTag`.

Tools for PowerShell

Example 1: This example lists the tags for the specified load balancers.

```
Get-ELBResourceTag -LoadBalancerName @("my-load-balancer","my-internal-load-
balancer")
```

Output:

```
LoadBalancerName             Tags
----------------             ----
my-load-balancer             {project, department}
my-internal-load-balancer    {project, department}
```

Example 2: This example describes the tags for the specified load balancer.

```
(Get-ELBResourceTag -LoadBalancerName my-load-balancer).Tags
```

Output:

```
Key          Value
---          -----
```

```
project       lima
department    digital-media
```

- For API details, see DescribeTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Join-ELBSecurityGroupToLoadBalancer`

The following code example shows how to use `Join-ELBSecurityGroupToLoadBalancer`.

Tools for PowerShell

Example 1: This example replaces the current security group for the specified load balancer with the specified security group.

```
Join-ELBSecurityGroupToLoadBalancer -LoadBalancerName my-load-balancer -
SecurityGroup sg-87654321
```

Output:

```
sg-87654321
```

Example 2: To keep the current security group and specify an additional security group, specify both the existing and new security groups.

```
Join-ELBSecurityGroupToLoadBalancer -LoadBalancerName my-load-balancer -
SecurityGroup @("sg-12345678", "sg-87654321")
```

Output:

```
sg-12345678
sg-87654321
```

- For API details, see ApplySecurityGroupsToLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELBAppCookieStickinessPolicy`

The following code example shows how to use `New-ELBAppCookieStickinessPolicy`.

Tools for PowerShell

Example 1: This example creates a stickiness policy that follows the sticky session lifetimes of the specified application-generated cookie.

```
New-ELBAppCookieStickinessPolicy -LoadBalancerName my-load-balancer -PolicyName my-app-cookie-policy -CookieName my-app-cookie
```

- For API details, see CreateAppCookieStickinessPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELBLBCookieStickinessPolicy`

The following code example shows how to use `New-ELBLBCookieStickinessPolicy`.

Tools for PowerShell

Example 1: This example creates a stickiness policy with sticky session lifetimes controlled by the specified expiration period (in seconds).

```
New-ELBLBCookieStickinessPolicy -LoadBalancerName my-load-balancer -PolicyName my-duration-cookie-policy -CookieExpirationPeriod 60
```

Example 2: This example creates a stickiness policy with sticky session lifetimes controlled by the by the lifetime of the browser (user-agent).

```
New-ELBLBCookieStickinessPolicy -LoadBalancerName my-load-balancer -PolicyName my-duration-cookie-policy
```

- For API details, see CreateLbCookieStickinessPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELBLoadBalancer`

The following code example shows how to use `New-ELBLoadBalancer`.

Tools for PowerShell

Example 1: This example creates a load balancer with an HTTP listener in a VPC.

```
$httpListener = New-Object Amazon.ElasticLoadBalancing.Model.Listener
```

```
$httpListener.Protocol = "http"
$httpListener.LoadBalancerPort = 80
$httpListener.InstanceProtocol = "http"
$httpListener.InstancePort = 80
New-ELBLoadBalancer -LoadBalancerName my-vpc-load-balancer -SecurityGroup sg-
a61988c3 -Subnet subnet-15aaab61 -Listener $httpListener

my-vpc-load-balancer-1234567890.us-west-2.elb.amazonaws.com
```

Example 2: This example creates a load balancer with an HTTP listener in EC2-Classic.

```
New-ELBLoadBalancer -LoadBalancerName my-classic-load-balancer -AvailabilityZone us-
west-2a` -Listener $httpListener
```

Output:

```
my-classic-load-balancer-123456789.us-west-2.elb.amazonaws.com
```

Example 3: This example creates a load balancer with an HTTPS listener.

```
$httpsListener = New-Object Amazon.ElasticLoadBalancing.Model.Listener
$httpsListener.Protocol = "https"
$httpsListener.LoadBalancerPort = 443
$httpsListener.InstanceProtocol = "http"
$httpsListener.InstancePort = 80
$httpsListener.SSLCertificateId="arn:aws:iam::123456789012:server-certificate/my-
server-cert"
New-ELBLoadBalancer -LoadBalancerName my-load-balancer -AvailabilityZone us-west-2a
 -Listener $httpsListener

my-load-balancer-123456789.us-west-2.elb.amazonaws.com
```

- For API details, see CreateLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELBLoadBalancerListener`

The following code example shows how to use `New-ELBLoadBalancerListener`.

Tools for PowerShell

Example 1: This example adds an HTTPS listener to the specified load balancer.

```
$httpsListener = New-Object Amazon.ElasticLoadBalancing.Model.Listener
$httpsListener.Protocol = "https"
$httpsListener.LoadBalancerPort = 443
$httpsListener.InstanceProtocol = "https"
$httpsListener.InstancePort = 443
$httpsListener.SSLCertificateId="arn:aws:iam::123456789012:server-certificate/my-
server-cert"
New-ELBLoadBalancerListener -LoadBalancerName my-load-balancer -Listener
 $httpsListener
```

- For API details, see CreateLoadBalancerListeners in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELBLoadBalancerPolicy`

The following code example shows how to use `New-ELBLoadBalancerPolicy`.

Tools for PowerShell

Example 1: This example creates a new proxy protocol policy for a specified load balancer.

```
$attribute = New-Object Amazon.ElasticLoadBalancing.Model.PolicyAttribute -Property
 @{
        AttributeName="ProxyProtocol"
        AttributeValue="True"
    }
New-ELBLoadBalancerPolicy -LoadBalancerName my-load-balancer -PolicyName my-
ProxyProtocol-policy -PolicyTypeName ProxyProtocolPolicyType -PolicyAttribute
 $attribute
```

- For API details, see CreateLoadBalancerPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-ELBInstanceWithLoadBalancer`

The following code example shows how to use `Register-ELBInstanceWithLoadBalancer`.

Tools for PowerShell

Example 1: This example registers the specified EC2 instance with the specified load balancer.

```
Register-ELBInstanceWithLoadBalancer -LoadBalancerName my-load-balancer -Instance
 i-12345678
```

Output:

```
InstanceId
----------
i-12345678
i-87654321
```

- For API details, see RegisterInstancesWithLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELBInstanceFromLoadBalancer`

The following code example shows how to use `Remove-ELBInstanceFromLoadBalancer`.

Tools for PowerShell

Example 1: This example removes the specified EC2 instance from the specified load balancer. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-ELBInstanceFromLoadBalancer -LoadBalancerName my-load-balancer -Instance
 i-12345678
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ELBInstanceFromLoadBalancer
 (DeregisterInstancesFromLoadBalancer)" on Target
"Amazon.ElasticLoadBalancing.Model.Instance".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):

InstanceId
----------
i-87654321
```

- For API details, see DeregisterInstancesFromLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELBLoadBalancer`

The following code example shows how to use `Remove-ELBLoadBalancer`.

Tools for PowerShell

Example 1: This example deletes the specified load balancer. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-ELBLoadBalancer -LoadBalancerName my-load-balancer
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ELBLoadBalancer (DeleteLoadBalancer)" on Target "my-
load-balancer".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELBLoadBalancerListener`

The following code example shows how to use `Remove-ELBLoadBalancerListener`.

Tools for PowerShell

Example 1: This example deletes the listener on port 80 for the specified load balancer. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-ELBLoadBalancerListener -LoadBalancerName my-load-balancer -LoadBalancerPort
 80
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ELBLoadBalancerListener (DeleteLoadBalancerListeners)"
 on Target "80".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteLoadBalancerListeners in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELBLoadBalancerPolicy`

The following code example shows how to use `Remove-ELBLoadBalancerPolicy`.

Tools for PowerShell

Example 1: This example deletes the specified policy from the specified load balancer. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter.

```
Remove-ELBLoadBalancerPolicy -LoadBalancerName my-load-balancer -PolicyName my-
duration-cookie-policy
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing operation "Remove-ELBLoadBalancerPolicy (DeleteLoadBalancerPolicy)" on
 Target "my-duration-cookie-policy".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

- For API details, see DeleteLoadBalancerPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELBResourceTag`

The following code example shows how to use `Remove-ELBResourceTag`.

Tools for PowerShell

Example 1: This example removes the specified tag from the specified load balancer. You are prompted for confirmation before the operation proceeds, unless you also specify the Force parameter. The syntax used by this example requires PowerShell version 3 or later.

```
Remove-ELBResourceTag -LoadBalancerName my-load-balancer -Tag @{ Key="project" }
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-ELBResourceTag (RemoveTags)" on target
 "Amazon.ElasticLoadBalancing.Model.TagKeyOnly".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"):
```

Example 2: With Powershell version 2, you must use New-Object to create the tag for the Tag parameter.

```
$tag = New-Object Amazon.ElasticLoadBalancing.Model.TagKeyOnly
$tag.Key = "project"
Remove-ELBResourceTag -Tag $tag -Force
```

- For API details, see RemoveTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ELBHealthCheck`

The following code example shows how to use `Set-ELBHealthCheck`.

Tools for PowerShell

Example 1: This example configures the health check settings for the specified load balancer.

```
Set-ELBHealthCheck -LoadBalancerName my-load-balancer `
>> -HealthCheck_HealthyThreshold 2 `
>> -HealthCheck_UnhealthyThreshold 2 `
>> -HealthCheck_Target "HTTP:80/ping" `
>> -HealthCheck_Interval 30 `
>> -HealthCheck_Timeout 3
```

Output:

```
HealthyThreshold   : 2
Interval           : 30
Target             : HTTP:80/ping
Timeout            : 3
UnhealthyThreshold : 2
```

- For API details, see ConfigureHealthCheck in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ELBLoadBalancerListenerSSLCertificate`

The following code example shows how to use `Set-ELBLoadBalancerListenerSSLCertificate`.

Tools for PowerShell

Example 1: This example replaces the certificate that terminates the SSL connections for the specified listener.

```
Set-ELBLoadBalancerListenerSSLCertificate -LoadBalancerName my-load-balancer `
>> -LoadBalancerPort 443 `
>> -SSLCertificateId "arn:aws:iam::123456789012:server-certificate/new-server-cert"
```

- For API details, see SetLoadBalancerListenerSslCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ELBLoadBalancerPolicyForBackendServer`

The following code example shows how to use `Set-ELBLoadBalancerPolicyForBackendServer`.

Tools for PowerShell

Example 1: This example replaces the policies for the specified port with the specified policy.

```
Set-ELBLoadBalancerPolicyForBackendServer -LoadBalancerName my-load-balancer -
InstancePort 80 -PolicyName my-ProxyProtocol-policy
```

Example 2: This example removes all policies associated with the specified port.

```
Set-ELBLoadBalancerPolicyForBackendServer -LoadBalancerName my-load-balancer -
InstancePort 80
```

- For API details, see SetLoadBalancerPoliciesForBackendServer in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ELBLoadBalancerPolicyOfListener`

The following code example shows how to use `Set-ELBLoadBalancerPolicyOfListener`.

Tools for PowerShell

Example 1: This example replaces the policies for the specified listener with the specified policy.

```
Set-ELBLoadBalancerPolicyOfListener -LoadBalancerName my-load-balancer -
LoadBalancerPort 443 -PolicyName my-SSLNegotiation-policy
```

Example 2: This example removes all policies associated with the specified listener.

```
Set-ELBLoadBalancerPolicyOfListener -LoadBalancerName my-load-balancer -
LoadBalancerPort 443
```

- For API details, see SetLoadBalancerPoliciesOfListener in *AWS Tools for PowerShell Cmdlet Reference*.

Elastic Load Balancing - Version 2 examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell with Elastic Load Balancing - Version 2.

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-ELB2ListenerCertificate`

The following code example shows how to use `Add-ELB2ListenerCertificate`.

Tools for PowerShell

Example 1: This example adds additional certificate to the specified Listener.

```
Add-ELB2ListenerCertificate -ListenerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener/app/test-alb/3651b4394dd9a24f/3873f123b98f7618' -
Certificate @{CertificateArn = 'arn:aws:acm:us-
east-1:123456789012:certificate/19478bd5-491d-47d4-b1d7-5217feba1d97'}
```

Output:

```
CertificateArn
 IsDefault
--------------
 ---------
arn:aws:acm:us-east-1:123456789012:certificate/19478bd5-491d-47d4-b1d7-5217feba1d97
 False
```

- For API details, see AddListenerCertificates in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-ELB2Tag`

The following code example shows how to use `Add-ELB2Tag`.

Tools for PowerShell

Example 1: This example add new Tag to specified `AWS.Tools.ElasticLoadBalancingV2` resource.

```
Add-ELB2Tag -ResourceArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f' -Tag @{Key =
 'productVersion'; Value = '1.0.0'}
```

- For API details, see AddTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-ELB2Listener`

The following code example shows how to use `Edit-ELB2Listener`.

Tools for PowerShell

Example 1: This example modifes the specified listeners default action to fixed-response.

```
$newDefaultAction = [Amazon.ElasticLoadBalancingV2.Model.Action]@{
    "FixedResponseConfig" = @{
    "ContentType" = "text/plain"
    "MessageBody" = "Hello World"
    "StatusCode" = "200"
  }
  "Type" = [Amazon.ElasticLoadBalancingV2.ActionTypeEnum]::FixedResponse
}

Edit-ELB2Listener -ListenerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener/app/testALB/3e2f03b558e19676/d19f2f14974db685' -Port
 8080 -DefaultAction $newDefaultAction
```

Output:

```
Certificates    : {}
DefaultActions  : {Amazon.ElasticLoadBalancingV2.Model.Action}
ListenerArn     : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener/app/
testALB/3e2f03b558e19676/d19f2f14974db685
LoadBalancerArn : arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/
app/testALB/3e2f03b558e19676
Port            : 8080
Protocol        : HTTP
SslPolicy       :
```

- For API details, see ModifyListener in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-ELB2LoadBalancerAttribute`

The following code example shows how to use `Edit-ELB2LoadBalancerAttribute`.

Tools for PowerShell

Example 1: This example modifes the Attributes of the specified load balancer.

```
Edit-ELB2LoadBalancerAttribute -LoadBalancerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f' -Attribute @{Key =
 'deletion_protection.enabled'; Value = 'true'}
```

Output:

```
Key                                             Value
---                                             -----
deletion_protection.enabled                     true
access_logs.s3.enabled                          false
access_logs.s3.bucket
access_logs.s3.prefix
idle_timeout.timeout_seconds                    60
routing.http2.enabled                           true
routing.http.drop_invalid_header_fields.enabled false
```

- For API details, see ModifyLoadBalancerAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-ELB2Rule`

The following code example shows how to use `Edit-ELB2Rule`.

Tools for PowerShell

Example 1: This example modifes the specified Listener rule configurations.

```
$newRuleCondition = [Amazon.ElasticLoadBalancingV2.Model.RuleCondition]@{
    "PathPatternConfig" = @{
    "Values" = "/login1","/login2","/login3"
  }
  "Field" = "path-pattern"
}
```

```
Edit-ELB2Rule -RuleArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener-rule/app/testALB/3e2f03b558e19676/1c84f02aec143e80/
f4f51dfaa033a8cc' -Condition $newRuleCondition
```

Output:

```
Actions    : {Amazon.ElasticLoadBalancingV2.Model.Action}
Conditions : {Amazon.ElasticLoadBalancingV2.Model.RuleCondition}
IsDefault  : False
Priority   : 10
RuleArn    : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener-rule/app/
testALB/3e2f03b558e19676/1c84f02aec143e80/f4f51dfaa033a8cc
```

- For API details, see ModifyRule in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-ELB2TargetGroup`

The following code example shows how to use `Edit-ELB2TargetGroup`.

Tools for PowerShell

Example 1: This example modifes the properties of the specified Target Group.

```
Edit-ELB2TargetGroup -TargetGroupArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/test-tg/a4e04b3688be1970' -HealthCheckIntervalSecond
 60 -HealthCheckPath '/index.html' -HealthCheckPort 8080
```

Output:

```
HealthCheckEnabled         : True
HealthCheckIntervalSeconds : 60
HealthCheckPath            : /index.html
HealthCheckPort            : 8080
HealthCheckProtocol        : HTTP
HealthCheckTimeoutSeconds  : 5
HealthyThresholdCount      : 5
LoadBalancerArns           : {}
Matcher                    : Amazon.ElasticLoadBalancingV2.Model.Matcher
Port                       : 80
Protocol                   : HTTP
TargetGroupArn             : arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/test-tg/a4e04b3688be1970
```

```
TargetGroupName             : test-tg
TargetType                  : instance
UnhealthyThresholdCount     : 2
VpcId                       : vpc-2cfd7000
```

- For API details, see ModifyTargetGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-ELB2TargetGroupAttribute`

The following code example shows how to use `Edit-ELB2TargetGroupAttribute`.

Tools for PowerShell

Example 1: This example modifies the deregistration_delay attribute of the specified Target Group.

```
Edit-ELB2TargetGroupAttribute -TargetGroupArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/test-tg/a4e04b3688be1970' -Attribute @{Key =
 'deregistration_delay.timeout_seconds'; Value = 600}
```

Output:

```
Key                                Value
---                                -----
stickiness.enabled                 false
deregistration_delay.timeout_seconds  600
stickiness.type                    lb_cookie
stickiness.lb_cookie.duration_seconds 86400
slow_start.duration_seconds        0
load_balancing.algorithm.type      round_robin
```

- For API details, see ModifyTargetGroupAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2AccountLimit`

The following code example shows how to use `Get-ELB2AccountLimit`.

Tools for PowerShell

Example 1: This command lists ELB2 account limits for a given region.

```
Get-ELB2AccountLimit
```

Output:

```
Max  Name
---  ----
3000 target-groups
1000 targets-per-application-load-balancer
50   listeners-per-application-load-balancer
100  rules-per-application-load-balancer
50   network-load-balancers
3000 targets-per-network-load-balancer
500  targets-per-availability-zone-per-network-load-balancer
50   listeners-per-network-load-balancer
5    condition-values-per-alb-rule
5    condition-wildcards-per-alb-rule
100  target-groups-per-application-load-balancer
5    target-groups-per-action-on-application-load-balancer
1    target-groups-per-action-on-network-load-balancer
50   application-load-balancers
```

- For API details, see DescribeAccountLimits in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2Listener`

The following code example shows how to use `Get-ELB2Listener`.

Tools for PowerShell

Example 1: This examples describes listeners of the specified ALB/NLB.

```
Get-ELB2Listener -LoadBalancerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f'
```

Output:

```
Certificates    : {}
DefaultActions  : {Amazon.ElasticLoadBalancingV2.Model.Action}
ListenerArn     : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener/app/
test-alb/3651b4394dd9a24f/1dac07c21187d41e
```

```
LoadBalancerArn : arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/
app/test-alb/3651b4394dd9a24f
Port            : 80
Protocol        : HTTP
SslPolicy       :

Certificates    : {Amazon.ElasticLoadBalancingV2.Model.Certificate}
DefaultActions  : {Amazon.ElasticLoadBalancingV2.Model.Action}
ListenerArn     : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener/app/
test-alb/3651b4394dd9a24f/66e10e3aaf5b6d9b
LoadBalancerArn : arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/
app/test-alb/3651b4394dd9a24f
Port            : 443
Protocol        : HTTPS
SslPolicy       : ELBSecurityPolicy-2016-08
```

- For API details, see DescribeListeners in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2ListenerCertificate`

The following code example shows how to use `Get-ELB2ListenerCertificate`.

Tools for PowerShell

Example 1: This examples describes the certificate for the specified listener.

```
Get-ELB2ListenerCertificate -ListenerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener/app/test-alb/3651b4394dd9a24f/66e10e3aaf5b6d9b'
```

Output:

```
CertificateArn
 IsDefault
--------------
 ---------
arn:aws:acm:us-east-1:123456789012:certificate/5fc7c092-68bf-4862-969c-22fd48b6e17c
 True
```

- For API details, see DescribeListenerCertificates in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2LoadBalancer`

The following code example shows how to use `Get-ELB2LoadBalancer`.

Tools for PowerShell

Example 1: This sample displays all the load balancers for the given region.

```
Get-ELB2LoadBalancer
```

Output:

```
AvailabilityZones     : {us-east-1c}
CanonicalHostedZoneId : Z26RNL4JYFTOTI
CreatedTime           : 6/22/18 11:21:50 AM
DNSName               : test-elb1234567890-238d34ad8d94bc2e.elb.us-
east-1.amazonaws.com
IpAddressType         : ipv4
LoadBalancerArn       : arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/net/test-elb1234567890/238d34ad8d94bc2e
LoadBalancerName      : test-elb1234567890
Scheme                : internet-facing
SecurityGroups        : {}
State                 : Amazon.ElasticLoadBalancingV2.Model.LoadBalancerState
Type                  : network
VpcId                 : vpc-2cf00000
```

- For API details, see DescribeLoadBalancers in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2LoadBalancerAttribute`

The following code example shows how to use `Get-ELB2LoadBalancerAttribute`.

Tools for PowerShell

Example 1: This command describes the attributes of given Load balancer.

```
Get-ELB2LoadBalancerAttribute -LoadBalancerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/net/test-elb/238d34ad8d94bc2e'
```

Output:

```
Key                               Value
---                               -----
access_logs.s3.enabled            false
load_balancing.cross_zone.enabled true
access_logs.s3.prefix
deletion_protection.enabled       false
access_logs.s3.bucket
```

- For API details, see DescribeLoadBalancerAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2Rule`

The following code example shows how to use `Get-ELB2Rule`.

Tools for PowerShell

Example 1: This example describes the listener rules for the specified Listener ARN.

```
Get-ELB2Rule -ListenerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener/app/test-alb/3651b4394dd9a24f/66e10e3aaf5b6d9b'
```

Output:

```
Actions    : {Amazon.ElasticLoadBalancingV2.Model.Action}
Conditions : {Amazon.ElasticLoadBalancingV2.Model.RuleCondition}
IsDefault  : False
Priority   : 1
RuleArn    : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener-rule/app/
test-alb/3651b4394dd9a24f/66e10e3aaf5b6d9b/2286fff5055e0f79

Actions    : {Amazon.ElasticLoadBalancingV2.Model.Action}
Conditions : {Amazon.ElasticLoadBalancingV2.Model.RuleCondition}
IsDefault  : False
Priority   : 2
RuleArn    : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener-rule/app/
test-alb/3651b4394dd9a24f/66e10e3aaf5b6d9b/14e7b036567623ba

Actions    : {Amazon.ElasticLoadBalancingV2.Model.Action}
Conditions : {}
IsDefault  : True
Priority   : default
```

```
RuleArn    : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener-rule/app/
test-alb/3651b4394dd9a24f/66e10e3aaf5b6d9b/853948cf3aa9b2bf
```

- For API details, see DescribeRules in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2SSLPolicy`

The following code example shows how to use `Get-ELB2SSLPolicy`.

Tools for PowerShell

Example 1: This examples lists all available listener policies for ElasticLoadBalancingV2.

```
Get-ELB2SSLPolicy
```

Output:

```
Ciphers
                              Name                                  SslProtocols
-------
                              ----                                  ------------
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-2016-08             {TLSv1,
 TLSv1.1, TLSv1.2}
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-TLS-1-2-2017-01     {TLSv1.2}
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-TLS-1-1-2017-01     {TLSv1.1,
 TLSv1.2}
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-TLS-1-2-Ext-2018-06 {TLSv1.2}
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-FS-2018-06          {TLSv1,
 TLSv1.1, TLSv1.2}
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-2015-05             {TLSv1,
 TLSv1.1, TLSv1.2}
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-TLS-1-0-2015-04     {TLSv1,
 TLSv1.1, TLSv1.2}
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-FS-1-2-Res-2019-08  {TLSv1.2}
```

```
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-FS-1-1-2019-08      {TLSv1.1,
 TLSv1.2}
{ECDHE-ECDSA-AES128-GCM-SHA256, ECDHE-RSA-AES128-GCM-SHA256, ECDHE-ECDSA-AES128-
SHA256, ECDHE-RSA-AES128-SHA256} ELBSecurityPolicy-FS-1-2-2019-08      {TLSv1.2}
```

- For API details, see DescribeSslPolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2Tag`

The following code example shows how to use `Get-ELB2Tag`.

Tools for PowerShell

Example 1: This example lists the Tags for the specified resource.

```
Get-ELB2Tag -ResourceArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f'
```

Output:

```
ResourceArn
           Tags
-----------
           ----
arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/app/test-
alb/3651b4394dd9a24f {stage, internalName, version}
```

- For API details, see DescribeTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2TargetGroup`

The following code example shows how to use `Get-ELB2TargetGroup`.

Tools for PowerShell

Example 1: This example describes the specified Target Group.

```
Get-ELB2TargetGroup -TargetGroupArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/test-tg/a4e04b3688be1970'
```

Output:

```
HealthCheckEnabled         : True
HealthCheckIntervalSeconds : 30
HealthCheckPath            : /
HealthCheckPort            : traffic-port
HealthCheckProtocol        : HTTP
HealthCheckTimeoutSeconds  : 5
HealthyThresholdCount      : 5
LoadBalancerArns           : {arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f}
Matcher                    : Amazon.ElasticLoadBalancingV2.Model.Matcher
Port                       : 80
Protocol                   : HTTP
TargetGroupArn             : arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/test-tg/a4e04b3688be1970
TargetGroupName            : test-tg
TargetType                 : instance
UnhealthyThresholdCount    : 2
VpcId                      : vpc-2cfd7000
```

- For API details, see DescribeTargetGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2TargetGroupAttribute`

The following code example shows how to use `Get-ELB2TargetGroupAttribute`.

Tools for PowerShell

Example 1: This example describes the attributes of the specified Target Group.

```
Get-ELB2TargetGroupAttribute -TargetGroupArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/test-tg/a4e04b3688be1970'
```

Output:

```
Key                                Value
---                                -----
stickiness.enabled                 false
deregistration_delay.timeout_seconds  300
stickiness.type                    lb_cookie
```

```
stickiness.lb_cookie.duration_seconds 86400
slow_start.duration_seconds           0
load_balancing.algorithm.type         round_robin
```

- For API details, see DescribeTargetGroupAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ELB2TargetHealth`

The following code example shows how to use `Get-ELB2TargetHealth`.

Tools for PowerShell

Example 1: This example returns the health status of the Targets present in the specified Target Group.

```
Get-ELB2TargetHealth -TargetGroupArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/test-tg/a4e04b3688be1970'
```

Output:

```
HealthCheckPort Target                                                TargetHealth
--------------- ------                                                ------------
80              Amazon.ElasticLoadBalancingV2.Model.TargetDescription
 Amazon.ElasticLoadBalancingV2.Model.TargetHealth
```

- For API details, see DescribeTargetHealth in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELB2Listener`

The following code example shows how to use `New-ELB2Listener`.

Tools for PowerShell

Example 1: This example creates new ALB listener with the default action 'Forward' to send traffic to specified Target Group.

```
$defaultAction = [Amazon.ElasticLoadBalancingV2.Model.Action]@{
  ForwardConfig = @{
    TargetGroups = @(
```

```
      @{ TargetGroupArn = "arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/testAlbTG/3d61c2f20aa5bccb" }
    )
    TargetGroupStickinessConfig = @{
      DurationSeconds = 900
      Enabled = $true
    }
  }
  Type = "Forward"
}

New-ELB2Listener -LoadBalancerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/testALB/3e2f03b558e19676' -Port 8001 -Protocol
 "HTTP" -DefaultAction $defaultAction
```

Output:

```
Certificates    : {}
DefaultActions  : {Amazon.ElasticLoadBalancingV2.Model.Action}
ListenerArn     : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener/app/
testALB/3e2f03b558e19676/1c84f02aec143e80
LoadBalancerArn : arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/
app/testALB/3e2f03b558e19676
Port            : 8001
Protocol        : HTTP
SslPolicy       :
```

- For API details, see CreateListener in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELB2LoadBalancer`

The following code example shows how to use `New-ELB2LoadBalancer`.

Tools for PowerShell

Example 1: This example creates new internet facing Application load balancer with two subnets.

```
New-ELB2LoadBalancer -Type application -Scheme internet-facing -IpAddressType
 ipv4 -Name 'New-Test-ALB' -SecurityGroup 'sg-07c3414abb8811cbd' -subnet 'subnet-
c37a67a6','subnet-fc02eea0'
```

Output:

```
AvailabilityZones     : {us-east-1b, us-east-1a}
CanonicalHostedZoneId : Z35SXDOTRQ7X7K
CreatedTime           : 12/28/19 2:58:03 PM
DNSName               : New-Test-ALB-1391502222.us-east-1.elb.amazonaws.com
IpAddressType         : ipv4
LoadBalancerArn       : arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/New-Test-ALB/dab2e4d90eb51493
LoadBalancerName      : New-Test-ALB
Scheme                : internet-facing
SecurityGroups        : {sg-07c3414abb8811cbd}
State                 : Amazon.ElasticLoadBalancingV2.Model.LoadBalancerState
Type                  : application
VpcId                 : vpc-2cfd7000
```

- For API details, see CreateLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELB2Rule`

The following code example shows how to use `New-ELB2Rule`.

Tools for PowerShell

Example 1: This example creates new Listener rule with fixed-response action based on the customer header value for the specified Listener.

```
$newRuleAction = [Amazon.ElasticLoadBalancingV2.Model.Action]@{
  "FixedResponseConfig" = @{
    "ContentType" = "text/plain"
    "MessageBody" = "Hello World"
    "StatusCode" = "200"
  }
  "Type" = [Amazon.ElasticLoadBalancingV2.ActionTypeEnum]::FixedResponse
}

$newRuleCondition = [Amazon.ElasticLoadBalancingV2.Model.RuleCondition]@{
  "httpHeaderConfig" = @{
    "HttpHeaderName" = "customHeader"
    "Values" = "header2","header1"
  }
  "Field" = "http-header"
```

```
}

New-ELB2Rule -ListenerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener/app/testALB/3e2f03b558e19676/1c84f02aec143e80' -Action
 $newRuleAction -Condition $newRuleCondition -Priority 10
```

Output:

```
Actions    : {Amazon.ElasticLoadBalancingV2.Model.Action}
Conditions : {Amazon.ElasticLoadBalancingV2.Model.RuleCondition}
IsDefault  : False
Priority   : 10
RuleArn    : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener-rule/app/
testALB/3e2f03b558e19676/1c84f02aec143e80/f4f51dfaa033a8cc
```

- For API details, see CreateRule in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ELB2TargetGroup`

The following code example shows how to use `New-ELB2TargetGroup`.

Tools for PowerShell

Example 1: This example creates new Target group with the provided parameters.

```
New-ELB2TargetGroup -HealthCheckEnabled 1 -HealthCheckIntervalSeconds 30 -
HealthCheckPath '/index.html' -HealthCheckPort 80 -HealthCheckTimeoutSecond 5 -
HealthyThresholdCount 2 -UnhealthyThresholdCount 5 -Port 80 -Protocol 'HTTP' -
TargetType instance -VpcId 'vpc-2cfd7000' -Name 'NewTargetGroup'
```

Output:

```
HealthCheckEnabled         : True
HealthCheckIntervalSeconds : 30
HealthCheckPath            : /index.html
HealthCheckPort            : 80
HealthCheckProtocol        : HTTP
HealthCheckTimeoutSeconds  : 5
HealthyThresholdCount      : 2
LoadBalancerArns           : {}
Matcher                    : Amazon.ElasticLoadBalancingV2.Model.Matcher
```

```
Port                        : 80
Protocol                    : HTTP
TargetGroupArn              : arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/NewTargetGroup/534e484681d801bf
TargetGroupName             : NewTargetGroup
TargetType                  : instance
UnhealthyThresholdCount     : 5
VpcId                       : vpc-2cfd7000
```

- For API details, see CreateTargetGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-ELB2Target`

The following code example shows how to use `Register-ELB2Target`.

Tools for PowerShell

Example 1: This example registers 'i-0672a4c4cdeae3111' instance with the specified target group.

```
Register-ELB2Target -TargetGroupArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/test-tg/a4e04b3688be1970' -Target @{Port = 80; Id =
 'i-0672a4c4cdeae3111'}
```

- For API details, see RegisterTargets in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELB2Listener`

The following code example shows how to use `Remove-ELB2Listener`.

Tools for PowerShell

Example 1: This example deletes the specified Listener.

```
Remove-ELB2Listener -ListenerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener/app/test-alb/3651b4394dd9a24f/66e10e3aaf5b6d9b'
```

Output:

```
Confirm
```

```
Are you sure you want to perform this action?
Performing the operation "Remove-ELB2Listener (DeleteListener)" on target
 "arn:aws:elasticloadbalancing:us-east-1:123456789012:listener/app/test-
alb/3651b4394dd9a24f/66e10e3aaf5b6d9b".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): y
```

Example 2: This example removes specified listener from the Load balancer.

```
Remove-ELB2Listener -ListenerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener/app/test-alb/3651b4394dd9a24f/3873f123b98f7618'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-ELB2Listener (DeleteListener)" on target
 "arn:aws:elasticloadbalancing:us-east-1:123456789012:listener/app/test-
alb/3651b4394dd9a24f/3873f123b98f7618".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): y
```

- For API details, see DeleteListener in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELB2ListenerCertificate`

The following code example shows how to use `Remove-ELB2ListenerCertificate`.

Tools for PowerShell

Example 1: This example removes specified certificate from the specified Target group.

```
Remove-ELB2ListenerCertificate -Certificate @{CertificateArn = 'arn:aws:acm:us-
east-1:123456789012:certificate/19478bd5-491d-47d4-b1d7-5217feba1d97'} -ListenerArn
 'arn:aws:elasticloadbalancing:us-east-1:123456789012:listener/app/test-
alb/3651b4394dd9a24f/3873f123b98f7618'
```

Output:

```
Confirm
```

```
Are you sure you want to perform this action?
Performing the operation "Remove-ELB2ListenerCertificate
 (RemoveListenerCertificates)" on target "arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener/app/test-alb/3651b4394dd9a24f/3873f123b98f7618".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): y
```

- For API details, see RemoveListenerCertificates in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELB2LoadBalancer`

The following code example shows how to use `Remove-ELB2LoadBalancer`.

Tools for PowerShell

Example 1: This example deletes the specified Load balancer.

```
Remove-ELB2LoadBalancer -LoadBalancerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-ELB2LoadBalancer (DeleteLoadBalancer)" on target
 "arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/app/test-
alb/3651b4394dd9a24f".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): y
```

- For API details, see DeleteLoadBalancer in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELB2Rule`

The following code example shows how to use `Remove-ELB2Rule`.

Tools for PowerShell

Example 1: This example removes the specified rule from the Listener

```
Remove-ELB2Rule -RuleArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:listener-rule/app/test-
alb/3651b4394dd9a24f/3873f123b98f7618/4b25eb10a42e33ab'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-ELB2Rule (DeleteRule)" on target
 "arn:aws:elasticloadbalancing:us-east-1:123456789012:listener-rule/app/test-
alb/3651b4394dd9a24f/3873f123b98f7618/4b25eb10a42e33ab".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): y
```

- For API details, see DeleteRule in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELB2Tag`

The following code example shows how to use `Remove-ELB2Tag`.

Tools for PowerShell

Example 1: This example removes the tag for the specified key.

```
Remove-ELB2Tag -ResourceArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f' -TagKey
 'productVersion'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-ELB2Tag (RemoveTags)" on target
 "arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/app/test-
alb/3651b4394dd9a24f".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): y
```

- For API details, see RemoveTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-ELB2TargetGroup`

The following code example shows how to use `Remove-ELB2TargetGroup`.

Tools for PowerShell

Example 1: This example removes the specified Target Group.

```
Remove-ELB2TargetGroup -TargetGroupArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:targetgroup/testsssss/4e0b6076bc6483a7'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-ELB2TargetGroup (DeleteTargetGroup)" on
 target "arn:aws:elasticloadbalancing:us-east-1:123456789012:targetgroup/
testsssss/4e0b6076bc6483a7".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): y
```

- For API details, see DeleteTargetGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ELB2IpAddressType`

The following code example shows how to use `Set-ELB2IpAddressType`.

Tools for PowerShell

Example 1: This example changes Load balancer IP address type from 'IPv4' to 'DualStack'.

```
Set-ELB2IpAddressType -LoadBalancerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f' -IpAddressType
 dualstack
```

Output:

```
Value
-----
dualstack
```

- For API details, see SetIpAddressType in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ELB2RulePriority`

The following code example shows how to use `Set-ELB2RulePriority`.

Tools for PowerShell

Example 1: This example changes the priority of the specified listener rule.

```
Set-ELB2RulePriority -RulePriority -RulePriority @{Priority = 11; RuleArn =
 'arn:aws:elasticloadbalancing:us-east-1:123456789012:listener-rule/app/test-
alb/3651b4394dd9a24f/a4eb199fa5046f80/dbf4c6dcef3ec6f8'}
```

Output:

```
Actions    : {Amazon.ElasticLoadBalancingV2.Model.Action}
Conditions : {Amazon.ElasticLoadBalancingV2.Model.RuleCondition}
IsDefault  : False
Priority   : 11
RuleArn    : arn:aws:elasticloadbalancing:us-east-1:123456789012:listener-rule/app/
test-alb/3651b4394dd9a24f/a4eb199fa5046f80/dbf4c6dcef3ec6f8
```

- For API details, see SetRulePriorities in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ELB2SecurityGroup`

The following code example shows how to use `Set-ELB2SecurityGroup`.

Tools for PowerShell

Example 1: This example adds security group 'sg-07c3414abb8811cbd' to the specified Load balancer.

```
Set-ELB2SecurityGroup -LoadBalancerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f' -SecurityGroup
 'sg-07c3414abb8811cbd'
```

Output:

```
sg-07c3414abb8811cbd
```

- For API details, see SetSecurityGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-ELB2Subnet`

The following code example shows how to use `Set-ELB2Subnet`.

Tools for PowerShell

Example 1: This example modifes the subnets of the specified Load balancer.

```
Set-ELB2Subnet -LoadBalancerArn 'arn:aws:elasticloadbalancing:us-
east-1:123456789012:loadbalancer/app/test-alb/3651b4394dd9a24f' -Subnet
 'subnet-7d8a0a51','subnet-c37a67a6'
```

Output:

```
LoadBalancerAddresses SubnetId        ZoneName
--------------------- --------        --------
{}                    subnet-7d8a0a51 us-east-1c
{}                    subnet-c37a67a6 us-east-1b
```

- For API details, see SetSubnets in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-ELB2Target`

The following code example shows how to use `Unregister-ELB2Target`.

Tools for PowerShell

Example 1: This example deregisters instance 'i-0672a4c4cdeae3111' from the specified Target group.

```
$targetDescription = New-Object
 Amazon.ElasticLoadBalancingV2.Model.TargetDescription
$targetDescription.Id = 'i-0672a4c4cdeae3111'
Unregister-ELB2Target -Target $targetDescription -TargetGroupArn
 'arn:aws:elasticloadbalancing:us-east-1:123456789012:targetgroup/test-tg/
a4e04b3688be1970'
```

- For API details, see DeregisterTargets in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon FSx examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell with Amazon FSx.

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-FSXResourceTag`

The following code example shows how to use `Add-FSXResourceTag`.

Tools for PowerShell

Example 1: This example adds tags to the given resource.

```
Add-FSXResourceTag -ResourceARN "arn:aws:fsx:eu-west-1:123456789012:file-system/
fs-01cd23bc4bdf5678a" -Tag @{Key="Users";Value="Test"} -PassThru
```

Output:

```
arn:aws:fsx:eu-west-1:123456789012:file-system/fs-01cd23bc4bdf5678a
```

- For API details, see TagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-FSXBackup`

The following code example shows how to use `Get-FSXBackup`.

Tools for PowerShell

Example 1: This example fetches backups created since yesterday for the given file system id.

```
Get-FSXBackup -Filter @{Name="file-system-id";Values=$fsx.FileSystemId} | Where-
Object CreationTime -gt (Get-Date).AddDays(-1)
```

Output:

```
BackupId        : backup-01dac234e56782bcc
CreationTime    : 6/14/2019 3:35:14 AM
FailureDetails  :
FileSystem      : Amazon.FSx.Model.FileSystem
KmsKeyId        : arn:aws:kms:eu-west-1:123456789012:key/f1af23c4-1b23-1bde-a1f1-
e1234c5af123
Lifecycle       : AVAILABLE
ProgressPercent : 100
ResourceARN     : arn:aws:fsx:eu-west-1:123456789012:backup/backup-01dac234e56782bcc
Tags            : {}
Type            : AUTOMATIC
```

- For API details, see DescribeBackups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-FSXFileSystem`

The following code example shows how to use `Get-FSXFileSystem`.

Tools for PowerShell

Example 1: This example returns the description of given filesystemId.

```
Get-FSXFileSystem -FileSystemId fs-01cd23bc4bdf5678a
```

Output:

```
CreationTime         : 1/17/2019 9:55:30 AM
DNSName              : fs-01cd23bc4bdf5678a.ktmsad.local
```

```
FailureDetails       :
FileSystemId         : fs-01cd23bc4bdf5678a
FileSystemType       : WINDOWS
KmsKeyId             : arn:aws:kms:eu-west-1:123456789012:key/f1af23c4-5b67-8bde-
a9f0-e1234c5af678
Lifecycle            : AVAILABLE
LustreConfiguration  :
NetworkInterfaceIds  : {eni-07d1dda1322b7e209}
OwnerId              : 123456789012
ResourceARN          : arn:aws:fsx:eu-west-1:123456789012:file-system/
fs-01cd23bc4bdf5678a
StorageCapacity      : 300
SubnetIds            : {subnet-7d123456}
Tags                 : {FSx-Service}
VpcId                : vpc-41cf2b3f
WindowsConfiguration : Amazon.FSx.Model.WindowsFileSystemConfiguration
```

- For API details, see DescribeFileSystems in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-FSXResourceTagList`

The following code example shows how to use `Get-FSXResourceTagList`.

Tools for PowerShell

Example 1: This example lists tags for provided resource arn.

```
Get-FSXResourceTagList -ResourceARN $fsx.ResourceARN
```

Output:

```
Key         Value
---         -----
FSx-Service Windows
Users       Dev
```

- For API details, see ListTagsForResource in *AWS Tools for PowerShell Cmdlet Reference*.

`New-FSXBackup`

The following code example shows how to use `New-FSXBackup`.

Tools for PowerShell

Example 1: This example creates a back up of the given file system.

```
New-FSXBackup -FileSystemId fs-0b1fac2345623456ba
```

Output:

```
BackupId        : backup-0b1fac2345623456ba
CreationTime    : 6/14/2019 5:37:17 PM
FailureDetails  :
FileSystem      : Amazon.FSx.Model.FileSystem
KmsKeyId        : arn:aws:kms:eu-west-1:123456789012:key/f1af23c4-1b23-1bde-a1f3-
e1234c5af678
Lifecycle       : CREATING
ProgressPercent : 0
ResourceARN     : arn:aws:fsx:eu-west-1:123456789012:backup/
backup-0b1fac2345623456ba
Tags            : {}
Type            : USER_INITIATED
```

- For API details, see CreateBackup in *AWS Tools for PowerShell Cmdlet Reference*.

`New-FSXFileSystem`

The following code example shows how to use `New-FSXFileSystem`.

Tools for PowerShell

Example 1: This example creates a new 300GB Windows file system, permitting access from the specified subnet, that supports throughput up to 8 megabytes per second. The new file system is automatically joined to the specified Microsoft Active Directory.

```
New-FSXFileSystem -FileSystemType WINDOWS -StorageCapacity
 300 -SubnetId subnet-1a2b3c4d5e6f -WindowsConfiguration
 @{ThroughputCapacity=8;ActiveDirectoryId='d-1a2b3c4d'}
```

Output:

```
CreationTime         : 12/10/2018 6:06:59 PM
DNSName              : fs-abcdef01234567890.example.com
FailureDetails       :
```

```
FileSystemId         : fs-abcdef01234567890
FileSystemType       : WINDOWS
KmsKeyId             : arn:aws:kms:us-west-2:123456789012:key/a1234567-252c-45e9-
afaa-123456789abc
Lifecycle            : CREATING
LustreConfiguration  :
NetworkInterfaceIds  : {}
OwnerId              : 123456789012
ResourceARN          : arn:aws:fsx:us-west-2:123456789012:file-system/fs-
abcdef01234567890
StorageCapacity      : 300
SubnetIds            : {subnet-1a2b3c4d5e6f}
Tags                 : {}
VpcId                : vpc-1a2b3c4d5e6f
WindowsConfiguration : Amazon.FSx.Model.WindowsFileSystemConfiguration
```

- For API details, see CreateFileSystem in *AWS Tools for PowerShell Cmdlet Reference*.

`New-FSXFileSystemFromBackup`

The following code example shows how to use `New-FSXFileSystemFromBackup`.

Tools for PowerShell

Example 1: This exmaple creates new Amazon FSx file system from an existing Amazon FSx for Windows File Server backup.

```
New-FSXFileSystemFromBackup -BackupId $backupID -Tag @{Key="tag:Name";Value="from-
manual-backup"} -SubnetId $SubnetID -SecurityGroupId $SG_ID -WindowsConfiguration
 @{ThroughputCapacity=8;ActiveDirectoryId=$DirectoryID}
```

Output:

```
CreationTime         : 8/8/2019 12:59:58 PM
DNSName              : fs-012ff34e56789120.ktmsad.local
FailureDetails       :
FileSystemId         : fs-012ff34e56789120
FileSystemType       : WINDOWS
KmsKeyId             : arn:aws:kms:eu-west-1:123456789012:key/f1af23c4-5b67-1bde-
a2f3-e4567c8a9321
Lifecycle            : CREATING
LustreConfiguration  :
```

```
NetworkInterfaceIds  : {}
OwnerId              : 933303704102
ResourceARN          : arn:aws:fsx:eu-west-1:123456789012:file-system/
fs-012ff34e56789120
StorageCapacity      : 300
SubnetIds            : {subnet-fa1ae23c}
Tags                 : {tag:Name}
VpcId                : vpc-12cf3b4f
WindowsConfiguration : Amazon.FSx.Model.WindowsFileSystemConfiguration
```

- For API details, see CreateFileSystemFromBackup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-FSXBackup`

The following code example shows how to use `Remove-FSXBackup`.

Tools for PowerShell

Example 1: This example removes the given backup-id.

```
Remove-FSXBackup -BackupId $backupID
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-FSXBackup (DeleteBackup)" on target
 "backup-0bbca1e2345678e12".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y

BackupId                Lifecycle
--------                ---------
backup-0bbca1e2345678e12 DELETED
```

- For API details, see DeleteBackup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-FSXFileSystem`

The following code example shows how to use `Remove-FSXFileSystem`.

Tools for PowerShell

Example 1: This example removes the given FSX file system ID.

```
Remove-FSXFileSystem -FileSystemId fs-012ff34e567890120
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-FSXFileSystem (DeleteFileSystem)" on target
 "fs-012ff34e567890120".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y

FileSystemId         Lifecycle WindowsResponse
------------         --------- ---------------
fs-012ff34e567890120 DELETING  Amazon.FSx.Model.DeleteFileSystemWindowsResponse
```

- For API details, see DeleteFileSystem in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-FSXResourceTag`

The following code example shows how to use `Remove-FSXResourceTag`.

Tools for PowerShell

Example 1: This example removes the resource tag for the given FSX file system resource ARN.

```
Remove-FSXResourceTag -ResourceARN $FSX.ResourceARN -TagKey Users
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-FSXResourceTag (UntagResource)" on target
 "arn:aws:fsx:eu-west-1:933303704102:file-system/fs-07cd45bc6bdf2674a".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see UntagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-FSXFileSystem`

The following code example shows how to use `Update-FSXFileSystem`.

Tools for PowerShell

Example 1: This example updates the FSX file system automatic backup retention days via UpdateFileSystemWindowsConfiguration.

```
$UpdateFSXWinConfig = [Amazon.FSx.Model.UpdateFileSystemWindowsConfiguration]::new()
 $UpdateFSXWinConfig.AutomaticBackupRetentionDays = 35
 Update-FSXFileSystem -FileSystemId $FSX.FileSystemId -WindowsConfiguration
 $UpdateFSXWinConfig
```

Output:

```
CreationTime         : 1/17/2019 9:55:30 AM
DNSName              : fs-01cd23bc4bdf5678a.ktmsad.local
FailureDetails       :
FileSystemId         : fs-01cd23bc4bdf5678a
FileSystemType       : WINDOWS
KmsKeyId             : arn:aws:kms:eu-west-1:123456789012:key/f1af23c4-1b23-1bde-
a1f2-e1234c5af678
Lifecycle            : AVAILABLE
LustreConfiguration  :
NetworkInterfaceIds  : {eni-01cd23bc4bdf5678a}
OwnerId              : 933303704102
ResourceARN          : arn:aws:fsx:eu-west-1:933303704102:file-system/
fs-07cd45bc6bdf2674a
StorageCapacity      : 300
SubnetIds            : {subnet-1d234567}
Tags                 : {FSx-Service}
VpcId                : vpc-23cf4b5f
WindowsConfiguration : Amazon.FSx.Model.WindowsFileSystemConfiguration
```

- For API details, see UpdateFileSystem in *AWS Tools for PowerShell Cmdlet Reference*.

AWS Glue examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`New-GLUEJob`

The following code example shows how to use `New-GLUEJob`.

Tools for PowerShell

Example 1: This example creates a new job in AWS Glue. The command name value is always `glueetl`. AWS Glue supports running job scripts written in Python or Scala. In this example, the job script (MyTestGlueJob.py) is written in Python. Python parameters are specified in the `$DefArgs` variable, and then passed to the PowerShell command in the `DefaultArguments` parameter, which accepts a hashtable. The parameters in the `$JobParams` variable come from the CreateJob API, documented in the Jobs (https://docs.aws.amazon.com/glue/latest/dg/aws-glue-api-jobs-job.html) topic of the AWS Glue API reference.

```
$Command = New-Object Amazon.Glue.Model.JobCommand
$Command.Name = 'glueetl'
$Command.ScriptLocation = 's3://aws-glue-scripts-000000000000-us-west-2/admin/
MyTestGlueJob.py'
```

```
$Command

$Source = "source_test_table"
$Target = "target_test_table"
$Connections = $Source, $Target

$DefArgs = @{
     '--TempDir' = 's3://aws-glue-temporary-000000000000-us-west-2/admin'
     '--job-bookmark-option' = 'job-bookmark-disable'
     '--job-language' = 'python'
     }
$DefArgs

$ExecutionProp = New-Object Amazon.Glue.Model.ExecutionProperty
$ExecutionProp.MaxConcurrentRuns = 1
$ExecutionProp

$JobParams = @{
    "AllocatedCapacity"    = "5"
    "Command"              = $Command
    "Connections_Connection" = $Connections
    "DefaultArguments"  = $DefArgs
    "Description"       = "This is a test"
    "ExecutionProperty" = $ExecutionProp
    "MaxRetries"        = "1"
    "Name"              = "MyOregonTestGlueJob"
    "Role"              = "Amazon-GlueServiceRoleForSSM"
    "Timeout"           = "20"
     }

New-GlueJob @JobParams
```

- For API details, see CreateJob in *AWS Tools for PowerShell Cmdlet Reference*.

AWS Health examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-HLTHEvent`

The following code example shows how to use `Get-HLTHEvent`.

Tools for PowerShell

Example 1: This command returns events from AWS Personal Health Dashboard. The user adds the -Region parameter to see events available to the service in the US East (N. Virginia) Region, but the -Filter_Region parameter filters for events that are logged in the EU (London) and US West (Oregon) Regions (eu-west-2 and us-west-2). The -Filter_StartTime parameter filters for a range of times that events can start, while the -Filter_EndTime parameter filters for a range of times that events can end. The result is a scheduled maintenance event for RDS that starts within the specified -Filter_StartTime range, and ends within the scheduled -Filter_EndTime range.

```
Get-HLTHEvent -Region us-east-1 -Filter_Region "eu-west-2","us-west-2" -
Filter_StartTime @{from="3/14/2019 6:30:00AM";to="3/15/2019 5:00:00PM"} -
Filter_EndTime @{from="3/21/2019 7:00:00AM";to="3/21/2019 5:00:00PM"}
```

Output:

```
Arn               : arn:aws:health:us-west-2::event/RDS/
AWS_RDS_HARDWARE_MAINTENANCE_SCHEDULED/
AWS_RDS_HARDWARE_MAINTENANCE_SCHEDULED_USW2_20190314_20190321
AvailabilityZone  :
EndTime           : 3/21/2019 2:00:00 PM
EventTypeCategory : scheduledChange
EventTypeCode     : AWS_RDS_HARDWARE_MAINTENANCE_SCHEDULED
LastUpdatedTime   : 2/28/2019 2:26:07 PM
```

```
Region             : us-west-2
Service            : RDS
StartTime          : 3/14/2019 2:00:00 PM
StatusCode         : open
```

- For API details, see DescribeEvents in *AWS Tools for PowerShell Cmdlet Reference*.

IAM examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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-IAMClientIDToOpenIDConnectProvider`

The following code example shows how to use `Add-IAMClientIDToOpenIDConnectProvider`.

Tools for PowerShell

Example 1: This command adds the client ID (or audience) `my-application-ID` to the existing OIDC provider named `server.example.com`.

```
Add-IAMClientIDToOpenIDConnectProvider -ClientID "my-application-ID"
 -OpenIDConnectProviderARN "arn:aws:iam::123456789012:oidc-provider/
server.example.com"
```

- For API details, see AddClientIdToOpenIdConnectProvider in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-IAMRoleTag`

The following code example shows how to use `Add-IAMRoleTag`.

Tools for PowerShell

Example 1: This example adds tag to Role in Identity Management Service

```
Add-IAMRoleTag -RoleName AdminRoleacess -Tag @{ Key = 'abac'; Value = 'testing'}
```

- For API details, see TagRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-IAMRoleToInstanceProfile`

The following code example shows how to use `Add-IAMRoleToInstanceProfile`.

Tools for PowerShell

Example 1: This command adds the role named `S3Access` to an existing instance profile named `webserver`. To create the instance profile, use the `New-IAMInstanceProfile` command. After you create the instance profile and associate it with a role using this command, you can attach it to an EC2 instance. To do that, use the `New-EC2Instance` cmdlet with either the `InstanceProfile_Arn` or the `InstanceProfile-Name` parameter to launch the new instance.

```
Add-IAMRoleToInstanceProfile -RoleName "S3Access" -InstanceProfileName "webserver"
```

- For API details, see AddRoleToInstanceProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-IAMUserTag`

The following code example shows how to use `Add-IAMUserTag`.

Tools for PowerShell

Example 1: This example adds tag to User in Identity Management Service

```
Add-IAMUserTag -UserName joe -Tag @{ Key = 'abac'; Value = 'testing'}
```

- For API details, see TagUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Add-IAMUserToGroup`

The following code example shows how to use `Add-IAMUserToGroup`.

Tools for PowerShell

Example 1: This command adds the user named Bob to the group named Admins.

```
Add-IAMUserToGroup -UserName "Bob" -GroupName "Admins"
```

- For API details, see AddUserToGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Disable-IAMMFADevice`

The following code example shows how to use `Disable-IAMMFADevice`.

Tools for PowerShell

Example 1: This command disables the hardware MFA device associated with the user Bob that has the serial number 123456789012.

```
Disable-IAMMFADevice -UserName "Bob" -SerialNumber "123456789012"
```

Example 2: This command disables the virtual MFA device associated with the user David that has the ARN arn:aws:iam::210987654321:mfa/David. Note that virtual MFA device is not deleted from the account. The virtual device is still present and appears in the output of the Get-IAMVirtualMFADevice command. Before you can create a new virtual MFA device for the same user, you must delete the old one by using the Remove-IAMVirtualMFADevice command.

```
Disable-IAMMFADevice -UserName "David" -SerialNumber "arn:aws:iam::210987654321:mfa/
David"
```

- For API details, see DeactivateMfaDevice in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-IAMPassword`

The following code example shows how to use `Edit-IAMPassword`.

Tools for PowerShell

Example 1: This command changes the password for the user that is running the command. This command can be called by IAM users only. If this command is called when you are signed-in with AWS account (root) credentials, the command returns an `InvalidUserType` error.

```
Edit-IAMPassword -OldPassword "MyOldP@ssw0rd" -NewPassword "MyNewP@ssw0rd"
```

- For API details, see ChangePassword in *AWS Tools for PowerShell Cmdlet Reference*.

`Enable-IAMMFADevice`

The following code example shows how to use `Enable-IAMMFADevice`.

Tools for PowerShell

Example 1: This command enables the hardware MFA device with the serial number 987654321098 and associates the device with the user Bob. It includes the first two codes in sequence from the device.

```
Enable-IAMMFADevice -UserName "Bob" -SerialNumber "987654321098" -
AuthenticationCode1 "12345678" -AuthenticationCode2 "87654321"
```

Example 2: This example creates and enables a virtual MFA device. The first command creates the virtual device and returns the device's object representation in the variable `$MFADevice`. You can use the `.Base32StringSeed` or `QRCodePng` properties to configure the user's software application. The final command assigns the device to the user `David`, identifying the device by its serial number. The command also synchronizes the device with AWS by including the first two codes in sequence from the virtual MFA device.

```
$MFADevice = New-IAMVirtualMFADevice -VirtualMFADeviceName "MyMFADevice"
# see example for New-IAMVirtualMFADevice to see how to configure the software
 program with PNG or base32 seed code
```

```
Enable-IAMMFADevice -UserName "David" -SerialNumber -SerialNumber
 $MFADevice.SerialNumber -AuthenticationCode1 "24681357" -AuthenticationCode2
 "13572468"
```

- For API details, see EnableMfaDevice in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAccessKey`

The following code example shows how to use `Get-IAMAccessKey`.

Tools for PowerShell

Example 1: This command lists the access keys for the IAM user named Bob. Note that you cannot list the secret access keys for IAM users. If the secret access keys are lost, you must create new access keys with the `New-IAMAccessKey` cmdlet.

```
Get-IAMAccessKey -UserName "Bob"
```

Output:

```
AccessKeyId               CreateDate                Status              UserName
-----------               ----------                ------              --------
AKIAIOSFODNN7EXAMPLE      12/3/2014 10:53:41 AM     Active              Bob
AKIAI44QH8DHBEXAMPLE      6/6/2013 8:42:26 PM       Inactive            Bob
```

- For API details, see ListAccessKeys in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAccessKeyLastUsed`

The following code example shows how to use `Get-IAMAccessKeyLastUsed`.

Tools for PowerShell

Example 1: Returns the owning user name and last-usage information for the supplied access key.

```
Get-IAMAccessKeyLastUsed -AccessKeyId ABCDEXAMPLE
```

- For API details, see GetAccessKeyLastUsed in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAccountAlias`

The following code example shows how to use `Get-IAMAccountAlias`.

Tools for PowerShell

Example 1: This command returns the account alias for the AWS account.

```
Get-IAMAccountAlias
```

Output:

```
ExampleCo
```

- For API details, see ListAccountAliases in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAccountAuthorizationDetail`

The following code example shows how to use `Get-IAMAccountAuthorizationDetail`.

Tools for PowerShell

Example 1: This example gets authorization details about the identities in the AWS account, and displays the element list of the returned object, including users, groups, and roles. For example, the `UserDetailList` property displays details about the users. Similar information is available in the `RoleDetailList` and `GroupDetailList` properties.

```
$Details=Get-IAMAccountAuthorizationDetail
$Details
```

Output:

```
GroupDetailList : {Administrators, Developers, Testers, Backup}
IsTruncated     : False
Marker          :
RoleDetailList  : {TestRole1, AdminRole, TesterRole, clirole...}
UserDetailList  : {Administrator, Bob, BackupToS3, }
```

```
$Details.UserDetailList
```

Output:

```
Arn            : arn:aws:iam::123456789012:user/Administrator
CreateDate     : 10/16/2014 9:03:09 AM
GroupList      : {Administrators}
Path           : /
UserId         : AIDACKCEVSQ6CEXAMPLE1
UserName       : Administrator
UserPolicyList : {}

Arn            : arn:aws:iam::123456789012:user/Bob
CreateDate     : 4/6/2015 12:54:42 PM
GroupList      : {Developers}
Path           : /
UserId         : AIDACKCEVSQ6CEXAMPLE2
UserName       : bab
UserPolicyList : {}

Arn            : arn:aws:iam::123456789012:user/BackupToS3
CreateDate     : 1/27/2015 10:15:08 AM
GroupList      : {Backup}
Path           : /
UserId         : AIDACKCEVSQ6CEXAMPLE3
UserName       : BackupToS3
UserPolicyList : {BackupServicePermissionsToS3Buckets}
```

- For API details, see GetAccountAuthorizationDetails in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAccountPasswordPolicy`

The following code example shows how to use `Get-IAMAccountPasswordPolicy`.

Tools for PowerShell

Example 1: This example returns details about the password policy for the current account. If no password policy is defined for the account, the command returns a `NoSuchEntity` error.

```
Get-IAMAccountPasswordPolicy
```

Output:

```
AllowUsersToChangePassword : True
ExpirePasswords            : True
HardExpiry                 : False
MaxPasswordAge             : 90
MinimumPasswordLength      : 8
PasswordReusePrevention    : 20
RequireLowercaseCharacters : True
RequireNumbers             : True
RequireSymbols             : False
RequireUppercaseCharacters : True
```

- For API details, see GetAccountPasswordPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAccountSummary`

The following code example shows how to use `Get-IAMAccountSummary`.

Tools for PowerShell

Example 1: This example returns information about the current IAM entity usage and current IAM entity quotas in the AWS account.

```
Get-IAMAccountSummary
```

Output:

```
Key                                Value
Users                              7
GroupPolicySizeQuota               5120
PolicyVersionsInUseQuota           10000
ServerCertificatesQuota            20
AccountSigningCertificatesPresent  0
AccountAccessKeysPresent           0
Groups                             3
UsersQuota                         5000
RolePolicySizeQuota                10240
UserPolicySizeQuota                2048
GroupsPerUserQuota                 10
AssumeRolePolicySizeQuota          2048
AttachedPoliciesPerGroupQuota      2
```

```
Roles                                9
VersionsPerPolicyQuota               5
GroupsQuota                          100
PolicySizeQuota                      5120
Policies                             5
RolesQuota                           250
ServerCertificates                   0
AttachedPoliciesPerRoleQuota         2
MFADevicesInUse                      2
PoliciesQuota                        1000
AccountMFAEnabled                    1
Providers                            2
InstanceProfilesQuota                100
MFADevices                           4
AccessKeysPerUserQuota               2
AttachedPoliciesPerUserQuota         2
SigningCertificatesPerUserQuota      2
PolicyVersionsInUse                  4
InstanceProfiles                     1
...
```

- For API details, see GetAccountSummary in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAttachedGroupPolicyList`

The following code example shows how to use `Get-IAMAttachedGroupPolicyList`.

Tools for PowerShell

Example 1: This command returns the names and ARNs of the managed policies that are attached to the IAM group named `Admins` in the AWS account. To see the list of inline policies embedded in the group, use the `Get-IAMGroupPolicyList` command.

```
Get-IAMAttachedGroupPolicyList -GroupName "Admins"
```

Output:

```
PolicyArn                                                PolicyName
---------                                                ----------
arn:aws:iam::aws:policy/SecurityAudit                    SecurityAudit
arn:aws:iam::aws:policy/AdministratorAccess              AdministratorAccess
```

- For API details, see ListAttachedGroupPolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAttachedRolePolicyList`

The following code example shows how to use `Get-IAMAttachedRolePolicyList`.

Tools for PowerShell

Example 1: This command returns the names and ARNs of the managed policies attached to the IAM role named `SecurityAuditRole` in the AWS account. To see the list of inline policies that are embedded in the role, use the `Get-IAMRolePolicyList` command.

```
Get-IAMAttachedRolePolicyList -RoleName "SecurityAuditRole"
```

Output:

```
PolicyArn                                                 PolicyName
---------                                                 ----------
arn:aws:iam::aws:policy/SecurityAudit                     SecurityAudit
```

- For API details, see ListAttachedRolePolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMAttachedUserPolicyList`

The following code example shows how to use `Get-IAMAttachedUserPolicyList`.

Tools for PowerShell

Example 1: This command returns the names and ARNs of the managed policies for the IAM user named Bob in the AWS account. To see the list of inline policies that are embedded in the IAM user, use the `Get-IAMUserPolicyList` command.

```
Get-IAMAttachedUserPolicyList -UserName "Bob"
```

Output:

```
PolicyArn                                                 PolicyName
---------                                                 ----------
arn:aws:iam::aws:policy/TesterPolicy                      TesterPolicy
```

- For API details, see ListAttachedUserPolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMContextKeysForCustomPolicy`

The following code example shows how to use `Get-IAMContextKeysForCustomPolicy`.

Tools for PowerShell

Example 1: This example fetches all the context keys present in the provided policy json.In order to provide multiple policies you can provide as comma separated list of values.

```
$policy1 = '{"Version":"2012-10-17","Statement":
{"Effect":"Allow","Action":"dynamodb:*","Resource":"arn:aws:dynamodb:us-
west-2:123456789012:table/","Condition":{"DateGreaterThan":
{"aws:CurrentTime":"2015-08-16T12:00:00Z"}}}}'
$policy2 = '{"Version":"2012-10-17","Statement":
{"Effect":"Allow","Action":"dynamodb:*","Resource":"arn:aws:dynamodb:us-
west-2:123456789012:table/"}}'
Get-IAMContextKeysForCustomPolicy -PolicyInputList $policy1,$policy2
```

- For API details, see GetContextKeysForCustomPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMContextKeysForPrincipalPolicy`

The following code example shows how to use `Get-IAMContextKeysForPrincipalPolicy`.

Tools for PowerShell

Example 1: This example fetches all the context keys present in the provided policy json and the policies attached to IAM entity(user/role etc.). For -PolicyInputList you can provide multiple values list as comma separated values.

```
$policy1 = '{"Version":"2012-10-17","Statement":
{"Effect":"Allow","Action":"dynamodb:*","Resource":"arn:aws:dynamodb:us-
west-2:123456789012:table/","Condition":{"DateGreaterThan":
{"aws:CurrentTime":"2015-08-16T12:00:00Z"}}}}'
$policy2 = '{"Version":"2012-10-17","Statement":
{"Effect":"Allow","Action":"dynamodb:*","Resource":"arn:aws:dynamodb:us-
west-2:123456789012:table/"}}'
```

```
Get-IAMContextKeysForPrincipalPolicy -PolicyInputList $policy1,$policy2 -
PolicySourceArn arn:aws:iam::852640994763:user/TestUser
```

- For API details, see GetContextKeysForPrincipalPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMCredentialReport`

The following code example shows how to use `Get-IAMCredentialReport`.

Tools for PowerShell

Example 1: This example opens the returned report and outputs it to the pipeline as an array of text lines. The first line is the header with comma-separated column names. Each successive row is the detail row for one user, with each field separated by commas. Before you can view the report, you must generate it with the `Request-IAMCredentialReport` cmdlet. To retrieve the report as a single string, use `-Raw` instead of `-AsTextArray`. The alias `-SplitLines` is also accepted for the `-AsTextArray` switch. For the full list of columns in the output consult the service API reference. Note that if you do not use `-AsTextArray` or `-SplitLines`, then you must extract the text from the `.Content` property using the .NET `StreamReader` class.

```
Request-IAMCredentialReport
```

Output:

```
Description                                                          State
-----------                                                          -----
No report exists. Starting a new report generation task              STARTED
```

```
Get-IAMCredentialReport -AsTextArray
```

Output:

```
 user,arn,user_creation_time,password_enabled,password_last_used,password_last_changed,passw
 root_account,arn:aws:iam::123456789012:root,2014-10-15T16:31:25+00:00,not_supported,2015-04
A,false,N/A,false,N/A,false,N/A
Administrator,arn:aws:iam::123456789012:user/
Administrator,2014-10-16T16:03:09+00:00,true,2015-04-20T15:18:32+00:00,2014-10-16T16:06:00+0
```

```
A,false,true,2014-12-03T18:53:41+00:00,true,2015-03-25T20:38:14+00:00,false,N/
A,false,N/A
Bill,arn:aws:iam::123456789012:user/Bill,2015-04-15T18:27:44+00:00,false,N/A,N/A,N/
A,false,false,N/A,false,N/A,false,2015-04-20T20:00:12+00:00,false,N/A
```

- For API details, see GetCredentialReport in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMEntitiesForPolicy`

The following code example shows how to use `Get-IAMEntitiesForPolicy`.

Tools for PowerShell

Example 1: This example returns a list of IAM groups, roles, and users who have the policy `arn:aws:iam::123456789012:policy/TestPolicy` attached.

```
Get-IAMEntitiesForPolicy -PolicyArn "arn:aws:iam::123456789012:policy/TestPolicy"
```

Output:

```
IsTruncated  : False
Marker       :
PolicyGroups : {}
PolicyRoles  : {testRole}
PolicyUsers  : {Bob, Theresa}
```

- For API details, see ListEntitiesForPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMGroup`

The following code example shows how to use `Get-IAMGroup`.

Tools for PowerShell

Example 1: This example returns details about the IAM group `Testers`, including a collection of all the IAM users that belong to the group.

```
$results = Get-IAMGroup -GroupName "Testers"
$results
```

Output:

```
Group                                    IsTruncated           Marker
  Users
-----                                    -----------           ------
  -----
Amazon.IdentityManagement.Model.Group    False
  {Theresa, David}
```

```
$results.Group
```

Output:

```
Arn        : arn:aws:iam::123456789012:group/Testers
CreateDate : 12/10/2014 3:39:11 PM
GroupId    : 3RHNZZGQJ7QHMAEXAMPLE1
GroupName  : Testers
Path       : /
```

```
$results.Users
```

Output:

```
Arn              : arn:aws:iam::123456789012:user/Theresa
CreateDate       : 12/10/2014 3:39:27 PM
PasswordLastUsed : 1/1/0001 12:00:00 AM
Path             : /
UserId           : 4OSVDDJJTF4XEEXAMPLE2
UserName         : Theresa

Arn              : arn:aws:iam::123456789012:user/David
CreateDate       : 12/10/2014 3:39:27 PM
PasswordLastUsed : 3/19/2015 8:44:04 AM
Path             : /
UserId           : Y4FKWQCXTA52QEXAMPLE3
UserName         : David
```

- For API details, see GetGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMGroupForUser`

The following code example shows how to use `Get-IAMGroupForUser`.

Tools for PowerShell

Example 1: This example returns the list of IAM groups that the IAM user `David` belongs to.

```
Get-IAMGroupForUser -UserName David
```

Output:

```
Arn        : arn:aws:iam::123456789012:group/Administrators
CreateDate : 10/20/2014 10:06:24 AM
GroupId    : 6WCH4TRY3KIHIEXAMPLE1
GroupName  : Administrators
Path       : /

Arn        : arn:aws:iam::123456789012:group/Testers
CreateDate : 12/10/2014 3:39:11 PM
GroupId    : RHNZZGQJ7QHMAEXAMPLE2
GroupName  : Testers
Path       : /

Arn        : arn:aws:iam::123456789012:group/Developers
CreateDate : 12/10/2014 3:38:55 PM
GroupId    : ZU2EOWMK6WBZOEXAMPLE3
GroupName  : Developers
Path       : /
```

- For API details, see ListGroupsForUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMGroupList`

The following code example shows how to use `Get-IAMGroupList`.

Tools for PowerShell

Example 1: This example returns a collection of all the IAM groups defined in the current AWS account.

```
Get-IAMGroupList
```

Output:

```
Arn        : arn:aws:iam::123456789012:group/Administrators
CreateDate : 10/20/2014 10:06:24 AM
GroupId    : 6WCH4TRY3KIHIEXAMPLE1
GroupName  : Administrators
Path       : /

Arn        : arn:aws:iam::123456789012:group/Developers
CreateDate : 12/10/2014 3:38:55 PM
GroupId    : ZU2EOWMK6WBZOEXAMPLE2
GroupName  : Developers
Path       : /

Arn        : arn:aws:iam::123456789012:group/Testers
CreateDate : 12/10/2014 3:39:11 PM
GroupId    : RHNZZGQJ7QHMAEXAMPLE3
GroupName  : Testers
Path       : /
```

- For API details, see ListGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMGroupPolicy`

The following code example shows how to use `Get-IAMGroupPolicy`.

Tools for PowerShell

Example 1: This example returns details about the embedded inline policy named `PowerUserAccess-Testers` for the group `Testers`. The `PolicyDocument` property is URL encoded. It is decoded in this example with the `UrlDecode` .NET method.

```
$results = Get-IAMGroupPolicy -GroupName Testers -PolicyName PowerUserAccess-Testers
$results
```

Output:

```
GroupName     PolicyDocument                                                PolicyName
---------     --------------                                                ----------
Testers       %7B%0A%20%20%22Version%22%3A%20%222012-10-17%22%2C%0A%20...
 PowerUserAccess-Testers

[System.Reflection.Assembly]::LoadWithPartialName("System.Web.HttpUtility")
```

```
[System.Web.HttpUtility]::UrlDecode($results.PolicyDocument)
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "NotAction": "iam:*",
      "Resource": "*"
    }
  ]
}
```

- For API details, see GetGroupPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMGroupPolicyList`

The following code example shows how to use `Get-IAMGroupPolicyList`.

Tools for PowerShell

Example 1: This example returns a list of the inline policies that are embedded in the group `Testers`. To get the managed policies that are attached to the group, use the command `Get-IAMAttachedGroupPolicyList`.

```
Get-IAMGroupPolicyList -GroupName Testers
```

Output:

```
Deny-Assume-S3-Role-In-Production
PowerUserAccess-Testers
```

- For API details, see ListGroupPolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMInstanceProfile`

The following code example shows how to use `Get-IAMInstanceProfile`.

Tools for PowerShell

Example 1: This example returns details of the instance profile named `ec2instancerole` that is defined in the current AWS account.

```
Get-IAMInstanceProfile -InstanceProfileName ec2instancerole
```

Output:

```
Arn                 : arn:aws:iam::123456789012:instance-profile/ec2instancerole
CreateDate          : 2/17/2015 2:49:04 PM
InstanceProfileId   : HH36PTZQJUR32EXAMPLE1
InstanceProfileName : ec2instancerole
Path                : /
Roles               : {ec2instancerole}
```

- For API details, see GetInstanceProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMInstanceProfileForRole`

The following code example shows how to use `Get-IAMInstanceProfileForRole`.

Tools for PowerShell

Example 1: This example returns details of the instance profile associated with the role `ec2instancerole`.

```
Get-IAMInstanceProfileForRole -RoleName ec2instancerole
```

Output:

```
      Arn                 : arn:aws:iam::123456789012:instance-profile/
ec2instancerole
      CreateDate          : 2/17/2015 2:49:04 PM
      InstanceProfileId   : HH36PTZQJUR32EXAMPLE1
      InstanceProfileName : ec2instancerole
      Path                : /
      Roles               : {ec2instancerole}
```

- For API details, see ListInstanceProfilesForRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMInstanceProfileList`

The following code example shows how to use `Get-IAMInstanceProfileList`.

Tools for PowerShell

Example 1: This example returns a collection of the instance profiles defined in the current AWS account.

```
Get-IAMInstanceProfileList
```

Output:

```
Arn                 : arn:aws:iam::123456789012:instance-profile/ec2instancerole
CreateDate          : 2/17/2015 2:49:04 PM
InstanceProfileId   : HH36PTZQJUR32EXAMPLE1
InstanceProfileName : ec2instancerole
Path                : /
Roles               : {ec2instancerole}
```

- For API details, see ListInstanceProfiles in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMLoginProfile`

The following code example shows how to use `Get-IAMLoginProfile`.

Tools for PowerShell

Example 1: This example returns the password creation date and whether a password reset is required for the IAM user `David`.

```
Get-IAMLoginProfile -UserName David
```

Output:

```
CreateDate                PasswordResetRequired                UserName
----------                ---------------------                --------
12/10/2014 3:39:44 PM     False                                David
```

- For API details, see GetLoginProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMMFADevice`

The following code example shows how to use `Get-IAMMFADevice`.

Tools for PowerShell

Example 1: This example returns details about the MFA device assigned to the IAM user `David`. In this example you can tell that it is a virtual device because the `SerialNumber` is an ARN instead of a physical device's actual serial number.

```
Get-IAMMFADevice -UserName David
```

Output:

```
EnableDate                SerialNumber                            UserName
----------                ------------                            --------
4/8/2015 9:41:10 AM       arn:aws:iam::123456789012:mfa/David     David
```

- For API details, see ListMfaDevices in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMOpenIDConnectProvider`

The following code example shows how to use `Get-IAMOpenIDConnectProvider`.

Tools for PowerShell

Example 1: This example returns details about the OpenID Connect provider whose ARN is `arn:aws:iam::123456789012:oidc-provider/accounts.google.com`. The `ClientIDList` property is a collection that contains all the Client IDs defined for this provider.

```
Get-IAMOpenIDConnectProvider -OpenIDConnectProviderArn
 arn:aws:iam::123456789012:oidc-provider/oidc.example.com
```

Output:

```
ClientIDList         CreateDate               ThumbprintList
        Url
------------         ----------               --------------
        ---
{MyOIDCApp}          2/3/2015 3:00:30 PM
 {12345abcdefghijk67890lmnopqrst98765uvwxy}   oidc.example.com
```

- For API details, see GetOpenIdConnectProvider in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMOpenIDConnectProviderList`

The following code example shows how to use `Get-IAMOpenIDConnectProviderList`.

Tools for PowerShell

Example 1: This example returns a list of ARNS of all the OpenID Connect providers that are defined in the current AWS account.

```
Get-IAMOpenIDConnectProviderList
```

Output:

```
Arn
---
arn:aws:iam::123456789012:oidc-provider/server.example.com
arn:aws:iam::123456789012:oidc-provider/another.provider.com
```

- For API details, see ListOpenIdConnectProviders in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMPolicy`

The following code example shows how to use `Get-IAMPolicy`.

Tools for PowerShell

Example 1: This example returns details about the managed policy whose ARN is `arn:aws:iam::123456789012:policy/MySamplePolicy`.

```
Get-IAMPolicy -PolicyArn arn:aws:iam::123456789012:policy/MySamplePolicy
```

Output:

```
Arn              : arn:aws:iam::aws:policy/MySamplePolicy
AttachmentCount  : 0
CreateDate       : 2/6/2015 10:40:08 AM
```

```
DefaultVersionId : v1
Description      :
IsAttachable     : True
Path             : /
PolicyId         : Z27SI6FQMGNQ2EXAMPLE1
PolicyName       : MySamplePolicy
UpdateDate       : 2/6/2015 10:40:08 AM
```

- For API details, see GetPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMPolicyList`

The following code example shows how to use `Get-IAMPolicyList`.

Tools for PowerShell

Example 1: This example returns a collection of the first three managed policies available in the current AWS account. Because `-scope` is not specified, it defaults to `all` and includes both AWS managed and customer managed policies.

```
Get-IAMPolicyList -MaxItem 3
```

Output:

```
Arn              : arn:aws:iam::aws:policy/AWSDirectConnectReadOnlyAccess
AttachmentCount  : 0
CreateDate       : 2/6/2015 10:40:08 AM
DefaultVersionId : v1
Description      :
IsAttachable     : True
Path             : /
PolicyId         : Z27SI6FQMGNQ2EXAMPLE1
PolicyName       : AWSDirectConnectReadOnlyAccess
UpdateDate       : 2/6/2015 10:40:08 AM

Arn              : arn:aws:iam::aws:policy/AmazonGlacierReadOnlyAccess
AttachmentCount  : 0
CreateDate       : 2/6/2015 10:40:27 AM
DefaultVersionId : v1
Description      :
IsAttachable     : True
```

```
Path             : /
PolicyId         : NJKMU274MET4EEXAMPLE2
PolicyName       : AmazonGlacierReadOnlyAccess
UpdateDate       : 2/6/2015 10:40:27 AM

Arn              : arn:aws:iam::aws:policy/AWSMarketplaceFullAccess
AttachmentCount  : 0
CreateDate       : 2/11/2015 9:21:45 AM
DefaultVersionId : v1
Description      :
IsAttachable     : True
Path             : /
PolicyId         : 5ULJSO2FYVPYGEXAMPLE3
PolicyName       : AWSMarketplaceFullAccess
UpdateDate       : 2/11/2015 9:21:45 AM
```

Example 2: This example returns a collection of the first two customer managed policies available in current AWS account. It uses `-Scope local` to limit the output to only customer managed policies.

```
Get-IAMPolicyList -Scope local -MaxItem 2
```

Output:

```
Arn              : arn:aws:iam::123456789012:policy/MyLocalPolicy
AttachmentCount  : 0
CreateDate       : 2/12/2015 9:39:09 AM
DefaultVersionId : v2
Description      :
IsAttachable     : True
Path             : /
PolicyId         : SQVCBLC4VAOUCEXAMPLE4
PolicyName       : MyLocalPolicy
UpdateDate       : 2/12/2015 9:39:53 AM

Arn              : arn:aws:iam::123456789012:policy/policyforec2instancerole
AttachmentCount  : 1
CreateDate       : 2/17/2015 2:51:38 PM
DefaultVersionId : v11
Description      :
IsAttachable     : True
Path             : /
```

```
PolicyId         : X5JPBLJH2Z2SOEXAMPLE5
PolicyName       : policyforec2instancerole
UpdateDate       : 2/18/2015 8:52:31 AM
```

- For API details, see ListPolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMPolicyVersion`

The following code example shows how to use `Get-IAMPolicyVersion`.

Tools for PowerShell

Example 1: This example returns the policy document for the v2 version of the policy whose ARN is `arn:aws:iam::123456789012:policy/MyManagedPolicy`. The policy document in the `Document` property is URL encoded and is decoded in this example with the `UrlDecode` .NET method.

```
$results = Get-IAMPolicyVersion -PolicyArn arn:aws:iam::123456789012:policy/
MyManagedPolicy -VersionId v2
$results
```

Output:

```
CreateDate             Document
 IsDefaultVersion     VersionId
----------             --------
 ----------------     ---------
2/12/2015 9:39:53 AM   %7B%0A%20%20%22Version%22%3A%20%222012-10...    True
        v2

[System.Reflection.Assembly]::LoadWithPartialName("System.Web.HttpUtility")
$policy = [System.Web.HttpUtility]::UrlDecode($results.Document)
$policy
{
  "Version": "2012-10-17",
  "Statement":
    {
      "Effect": "Allow",
      "Action": "*",
      "Resource": "*"
    }
```

```
}
```

- For API details, see GetPolicyVersion in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMPolicyVersionList`

The following code example shows how to use `Get-IAMPolicyVersionList`.

Tools for PowerShell

Example 1: This example returns the list of available versions of the policy whose ARN is `arn:aws:iam::123456789012:policy/MyManagedPolicy`. To get the policy document for a specific version, use the `Get-IAMPolicyVersion` command and specify the `VersionId` of the one you want.

```
Get-IAMPolicyVersionList -PolicyArn arn:aws:iam::123456789012:policy/MyManagedPolicy
```

Output:

```
CreateDate                  Document                IsDefaultVersion
    VersionId
----------                  --------                ----------------
    ---------
2/12/2015 9:39:53 AM                                True
    v2
2/12/2015 9:39:09 AM                                False
    v1
```

- For API details, see ListPolicyVersions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMRole`

The following code example shows how to use `Get-IAMRole`.

Tools for PowerShell

Example 1: This example returns the details of the `lamda_exec_role`. It includes the trust policy document that specifies who can assume this role. The policy document is URL encoded and can be decoded using the .NET `UrlDecode` method. In this example, the

original policy had all white space removed before it was uploaded to the policy. To see the permissions policy documents that determine what someone who assumes the role can do, use the `Get-IAMRolePolicy` for inline policies, and `Get-IAMPolicyVersion` for attached managed policies.

```
$results = Get-IamRole -RoleName lambda_exec_role
$results | Format-List
```

Output:

```
Arn                      : arn:aws:iam::123456789012:role/lambda_exec_role
AssumeRolePolicyDocument : %7B%22Version%22%3A%222012-10-17%22%2C%22Statement%22%3A
%5B%7B%22Sid%22
                           %3A%22%22%2C%22Effect%22%3A%22Allow%22%2C%22Principal
%22%3A%7B%22Service
                           %22%3A%22lambda.amazonaws.com%22%7D%2C%22Action%22%3A
%22sts%3AAssumeRole
                           %22%7D%5D%7D
CreateDate               : 4/2/2015 9:16:11 AM
Path                     : /
RoleId                   : 2YBIKAIBHNKB4EXAMPLE1
RoleName                 : lambda_exec_role
```

```
$policy = [System.Web.HttpUtility]::UrlDecode($results.AssumeRolePolicyDocument)
$policy
```

Output:

```
{"Version":"2012-10-17","Statement":[{"Sid":"","Effect":"Allow","Principal":
{"Service":"lambda.amazonaws.com"},"Action":"sts:AssumeRole"}]}
```

- For API details, see GetRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMRoleList`

The following code example shows how to use `Get-IAMRoleList`.

Tools for PowerShell

Example 1: This example retrieves a list of all of the IAM roles in the AWS account.

```
Get-IAMRoleList
```

Example 2: This example code snippet retrieves a list of IAM roles in the AWS account and displays them three at a time, and waits for you to press Enter between each group. It passes the `Marker` value from the previous call to specify where the next group should begin.

```
$nextMarker = $null
Do
{
    $results = Get-IAMRoleList -MaxItem 3 -Marker $nextMarker
    $nextMarker = $AWSHistory.LastServiceResponse.Marker
    $results
    Read-Host
} while ($nextMarker -ne $null)
```

- For API details, see ListRoles in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMRolePolicy`

The following code example shows how to use `Get-IAMRolePolicy`.

Tools for PowerShell

Example 1: This example returns the permissions policy document for the policy named `oneClick_lambda_exec_role_policy` that is embedded in the IAM role `lamda_exec_role`. The resulting policy document is URL encoded. It is decoded in this example with the `UrlDecode` .NET method.

```
$results = Get-IAMRolePolicy -RoleName lambda_exec_role -PolicyName
 oneClick_lambda_exec_role_policy
$results
```

Output:

```
PolicyDocument                                          PolicyName
           UserName
--------------                                          ----------
           --------
```

```
%7B%0A%20%20%22Version%22%3A%20%222012-10-17%22%2C%...
 oneClick_lambda_exec_role_policy     lambda_exec_role
```

```
[System.Reflection.Assembly]::LoadWithPartialName("System.Web.HttpUtility")
[System.Web.HttpUtility]::UrlDecode($results.PolicyDocument)
```

Output:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "logs:*"
      ],
      "Resource": "arn:aws:logs:*:*:*"
    },
    {
      "Effect": "Allow",
      "Action": [
        "s3:GetObject",
        "s3:PutObject"
      ],
      "Resource": [
        "arn:aws:s3:::*"
      ]
    }
  ]
}
```

- For API details, see GetRolePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMRolePolicyList`

The following code example shows how to use `Get-IAMRolePolicyList`.

Tools for PowerShell

Example 1: This example returns the list of names of inline policies that are embedded in the IAM role `lamda_exec_role`. To see the details of an inline policy, use the command `Get-IAMRolePolicy`.

```
Get-IAMRolePolicyList -RoleName lambda_exec_role
```

Output:

```
oneClick_lambda_exec_role_policy
```

- For API details, see ListRolePolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMRoleTagList`

The following code example shows how to use `Get-IAMRoleTagList`.

Tools for PowerShell

Example 1: This example fetches the tag associated with the role..

```
Get-IAMRoleTagList -RoleName MyRoleName
```

- For API details, see ListRoleTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMSAMLProvider`

The following code example shows how to use `Get-IAMSAMLProvider`.

Tools for PowerShell

Example 1: 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.

```
Get-IAMSAMLProvider -SAMLProviderArn arn:aws:iam::123456789012:saml-provider/
SAMLADFS
```

Output:

```
CreateDate                SAMLMetadataDocument
     ValidUntil
----------                --------------------
     ----------
```

```
12/23/2014 12:16:55 PM    <EntityDescriptor ID="_12345678-1234-5678-9012-example1...
    12/23/2114 12:16:54 PM
```

- For API details, see GetSamlProvider in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMSAMLProviderList`

The following code example shows how to use `Get-IAMSAMLProviderList`.

Tools for PowerShell

Example 1: This example retrieves the list of SAML 2.0 providers created in the current AWS account. It returns the ARN, creation date, and expiration date for each SAML provider.

```
Get-IAMSAMLProviderList
```

Output:

```
Arn                                                  CreateDate
 ValidUntil
---                                                  ----------
 ----------
arn:aws:iam::123456789012:saml-provider/SAMLADFS     12/23/2014 12:16:55 PM
 12/23/2114 12:16:54 PM
```

- For API details, see ListSAMLProviders in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMServerCertificate`

The following code example shows how to use `Get-IAMServerCertificate`.

Tools for PowerShell

Example 1: This example retrieves details about the server certificate named `MyServerCertificate`. You can find the certificate details in the `CertificateBody` and `ServerCertificateMetadata` properties.

```
$result = Get-IAMServerCertificate -ServerCertificateName MyServerCertificate
$result | format-list
```

Output:

```
CertificateBody          : -----BEGIN CERTIFICATE-----

 MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC

 VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6

 b24xFDASBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAd

 BgkqhkiG9w0BCQEWEG5vb25lQGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIxWhcN

 MTIwNDI0MjA0NTIxWjCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYD

 VQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b24xFDASBgNVBAsTC0lBTSBDb25z

 b2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAdBgkqhkiG9w0BCQEWEG5vb25lQGFt
                           YXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn
+a4GmWIWJ
                           21uUSfwfEvySWtC2XADZ4nB+BLYgVIk60CpiwsZ3G93vUEIO3IyNoH/
f0wYK8m9T
                           rDHudUZg3qX4waLG5M43q7Wgc/
MbQITxOUSQv7c7ugFFDzQGBzZswY6786m86gpE

 Ibb3OhjZnzcvQAaRHhdlQWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQADgYEAtCu4
                           nUhVVxYUntneD9+h8Mg9q6q
+auNKyExzyLwaxlAoo7TJHidbtS4J5iNmZgXL0Fkb

 FFBjvSfpJIlJ00zbhNYS5f6GuoEDmFJl0ZxBHjJnyp378OD8uTs7fLvjx79LjSTb
                           NYiytVbZPQUQ5Yaxu2jXnimvw3rrszlaEXAMPLE=
                           -----END CERTIFICATE-----
CertificateChain         :
ServerCertificateMetadata :
 Amazon.IdentityManagement.Model.ServerCertificateMetadata
```

```
$result.ServerCertificateMetadata
```

Output:

```
Arn                  : arn:aws:iam::123456789012:server-certificate/Org1/Org2/
MyServerCertificate
Expiration           : 1/14/2018 9:52:36 AM
```

```
Path                  : /Org1/Org2/
ServerCertificateId   : ASCAJIFEXAMPLE17HQZYW
ServerCertificateName : MyServerCertificate
UploadDate            : 4/21/2015 11:14:16 AM
```

- For API details, see GetServerCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMServerCertificateList`

The following code example shows how to use `Get-IAMServerCertificateList`.

Tools for PowerShell

Example 1: This example retrieves the list of server certificates that have been uploaded to the current AWS account.

```
Get-IAMServerCertificateList
```

Output:

```
Arn                   : arn:aws:iam::123456789012:server-certificate/Org1/Org2/
MyServerCertificate
Expiration            : 1/14/2018 9:52:36 AM
Path                  : /Org1/Org2/
ServerCertificateId   : ASCAJIFEXAMPLE17HQZYW
ServerCertificateName : MyServerCertificate
UploadDate            : 4/21/2015 11:14:16 AM
```

- For API details, see ListServerCertificates in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMServiceLastAccessedDetail`

The following code example shows how to use `Get-IAMServiceLastAccessedDetail`.

Tools for PowerShell

Example 1: This example provides details of the service last accessed by the IAM entity(user, group, role or policy) associated in Request call.

```
Request-IAMServiceLastAccessedDetail -Arn arn:aws:iam::123456789012:user/TestUser
```

Output:

```
f0b7a819-eab0-929b-dc26-ca598911cb9f
```

```
Get-IAMServiceLastAccessedDetail -JobId f0b7a819-eab0-929b-dc26-ca598911cb9f
```

- For API details, see GetServiceLastAccessedDetails in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMServiceLastAccessedDetailWithEntity`

The following code example shows how to use `Get-IAMServiceLastAccessedDetailWithEntity`.

Tools for PowerShell

Example 1: This example provides the last accessed timestamp for the service in the request by that respective IAM entity.

```
$results = Get-IAMServiceLastAccessedDetailWithEntity -JobId f0b7a819-eab0-929b-
dc26-ca598911cb9f -ServiceNamespace ec2
$results
```

Output:

```
EntityDetailsList : {Amazon.IdentityManagement.Model.EntityDetails}
Error             :
IsTruncated       : False
JobCompletionDate : 12/29/19 11:19:31 AM
JobCreationDate   : 12/29/19 11:19:31 AM
JobStatus         : COMPLETED
Marker            :
```

```
$results.EntityDetailsList
```

Output:

```
EntityInfo                                LastAuthenticated
----------                                -----------------
```

```
Amazon.IdentityManagement.Model.EntityInfo 11/16/19 3:47:00 PM
```

```
$results.EntityInfo
```

Output:

```
Arn  : arn:aws:iam::123456789012:user/TestUser
Id   : AIDA4NBK5CXF5TZHU1234
Name : TestUser
Path : /
Type : USER
```

- For API details, see GetServiceLastAccessedDetailsWithEntities in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMSigningCertificate`

The following code example shows how to use `Get-IAMSigningCertificate`.

Tools for PowerShell

Example 1: This example retrieves details about the signing certificate that is associated with the user named Bob.

```
Get-IAMSigningCertificate -UserName Bob
```

Output:

```
CertificateBody : -----BEGIN CERTIFICATE-----
                  MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
                  VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6
                  b24xFDASBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAd
                  BgkqhkiG9w0BCQEWEG5vb25lQGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
                  MTIwNDI0MjA0NTIxWjCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYD
                  VQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b24xFDASBgNVBAsTC0lBTSBDb25z
                  b2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAdBgkqhkiG9w0BCQEWEG5vb25lQGFt
                  YXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmWIWJ
                  21uUSfwfEvySWtC2XADZ4nB+BLYgVIk60CpiwsZ3G93vUEIO3IyNoH/f0wYK8m9T
                  rDHudUZg3qX4waLG5M43q7Wgc/MbQITxOUSQv7c7ugFFDzQGBzZswY6786m86gpE
                  Ibb3OhjZnzcvQAaRHhdlQWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQADgYEAtCu4
                  nUhVVxYUntneD9+h8Mg9q6q+auNKyExzyLwaxlAoo7TJHidbtS4J5iNmZgXL0Fkb
```

```
                    FFBjvSfpJIlJ00zbhNYS5f6GuoEDmFJl0ZxBHjJnyp378OD8uTs7fLvjx79LjSTb
                    NYiytVbZPQUQ5Yaxu2jXnimvw3rrszlaEXAMPLE=
                    -----END CERTIFICATE-----
CertificateId   : Y3EK7RMEXAMPLESV33FCREXAMPLEMJLU
Status          : Active
UploadDate      : 4/20/2015 1:26:01 PM
UserName        : Bob
```

- For API details, see ListSigningCertificates in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMUser`

The following code example shows how to use `Get-IAMUser`.

Tools for PowerShell

Example 1: This example retrieves details about the user named `David`.

```
Get-IAMUser -UserName David
```

Output:

```
Arn             : arn:aws:iam::123456789012:user/David
CreateDate      : 12/10/2014 3:39:27 PM
PasswordLastUsed : 3/19/2015 8:44:04 AM
Path            : /
UserId          : Y4FKWQCXTA52QEXAMPLE1
UserName        : David
```

Example 2: This example retrieves details about the currently signed-in IAM user.

```
Get-IAMUser
```

Output:

```
Arn             : arn:aws:iam::123456789012:user/Bob
CreateDate      : 10/16/2014 9:03:09 AM
PasswordLastUsed : 3/4/2015 12:12:33 PM
Path            : /
UserId          : 7K3GJEANSKZF2EXAMPLE2
UserName        : Bob
```

- For API details, see GetUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMUserList`

The following code example shows how to use `Get-IAMUserList`.

Tools for PowerShell

Example 1: This example retrieves a collection of users in the current AWS account.

```
Get-IAMUserList
```

Output:

```
Arn              : arn:aws:iam::123456789012:user/Administrator
CreateDate       : 10/16/2014 9:03:09 AM
PasswordLastUsed : 3/4/2015 12:12:33 PM
Path             : /
UserId           : 7K3GJEANSKZF2EXAMPLE1
UserName         : Administrator

Arn              : arn:aws:iam::123456789012:user/Bob
CreateDate       : 4/6/2015 12:54:42 PM
PasswordLastUsed : 1/1/0001 12:00:00 AM
Path             : /
UserId           : L3EWNONDOM3YUEXAMPLE2
UserName         : bab

Arn              : arn:aws:iam::123456789012:user/David
CreateDate       : 12/10/2014 3:39:27 PM
PasswordLastUsed : 3/19/2015 8:44:04 AM
Path             : /
UserId           : Y4FKWQCXTA52QEXAMPLE3
UserName         : David
```

- For API details, see ListUsers in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMUserPolicy`

The following code example shows how to use `Get-IAMUserPolicy`.

Tools for PowerShell

Example 1: This example retrieves the details of the inline policy named `Davids_IAM_Admin_Policy` that is embedded in the IAM user named `David`. The policy document is URL encoded.

```
$results = Get-IAMUserPolicy -PolicyName Davids_IAM_Admin_Policy -UserName David
$results
```

Output:

```
PolicyDocument                                                  PolicyName
    UserName
--------------                                                  ----------
    --------
%7B%0A%20%20%22Version%22%3A%20%222012-10-17%22%2C%...    Davids_IAM_Admin_Policy
    David

[System.Reflection.Assembly]::LoadWithPartialName("System.Web.HttpUtility")
[System.Web.HttpUtility]::UrlDecode($results.PolicyDocument)
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "iam:*"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

- For API details, see GetUserPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMUserPolicyList`

The following code example shows how to use `Get-IAMUserPolicyList`.

Tools for PowerShell

Example 1: This example retrieves the list of names of the inline policies that are embedded in the IAM user named `David`.

```
Get-IAMUserPolicyList -UserName David
```

Output:

```
Davids_IAM_Admin_Policy
```

- For API details, see ListUserPolicies in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMUserTagList`

The following code example shows how to use `Get-IAMUserTagList`.

Tools for PowerShell

Example 1: This example fetches the tag associated with the user.

```
Get-IAMUserTagList -UserName joe
```

- For API details, see ListUserTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-IAMVirtualMFADevice`

The following code example shows how to use `Get-IAMVirtualMFADevice`.

Tools for PowerShell

Example 1: This example retrieves a collection of the virtual MFA devices that are assigned to users in the AWS account. The `User` property of each is an object with details of the IAM user to which the device is assigned.

```
Get-IAMVirtualMFADevice -AssignmentStatus Assigned
```

Output:

```
Base32StringSeed :
EnableDate       : 4/13/2015 12:03:42 PM
QRCodePNG        :
SerialNumber     : arn:aws:iam::123456789012:mfa/David
User             : Amazon.IdentityManagement.Model.User

Base32StringSeed :
EnableDate       : 4/13/2015 12:06:41 PM
QRCodePNG        :
SerialNumber     : arn:aws:iam::123456789012:mfa/root-account-mfa-device
User             : Amazon.IdentityManagement.Model.User
```

- For API details, see ListVirtualMfaDevices in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMAccessKey`

The following code example shows how to use `New-IAMAccessKey`.

Tools for PowerShell

Example 1: This example creates a new access key and secret access key pair and assigns it to the user `David`. Ensure that you save the `AccessKeyId` and `SecretAccessKey` values to a file because this is the only time you can obtain the `SecretAccessKey`. You cannot retrieve it later. If you lose the secret key, you must create a new access key pair.

```
New-IAMAccessKey -UserName David
```

Output:

```
AccessKeyId     : AKIAIOSFODNN7EXAMPLE
CreateDate      : 4/13/2015 1:00:42 PM
SecretAccessKey : wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
Status          : Active
UserName        : David
```

- For API details, see CreateAccessKey in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMAccountAlias`

The following code example shows how to use `New-IAMAccountAlias`.

Tools for PowerShell

Example 1: This example changes the account alias for your AWS account to `mycompanyaws`. The address of the user logon page chages to https://mycompanyaws.signin.aws.amazon.com/console. The original URL using your account ID number instead of the alias (https://<accountidnumber>.signin.aws.amazon.com/console) continues to work. However, any previously defined alias-based URLs stop working.

```
New-IAMAccountAlias -AccountAlias mycompanyaws
```

- For API details, see CreateAccountAlias in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMGroup`

The following code example shows how to use `New-IAMGroup`.

Tools for PowerShell

Example 1: This example creates a new IAM group named `Developers`.

```
New-IAMGroup -GroupName Developers
```

Output:

```
Arn        : arn:aws:iam::123456789012:group/Developers
CreateDate : 4/14/2015 11:21:31 AM
GroupId    : QNEJ5PM4NFSQCEXAMPLE1
GroupName  : Developers
Path       : /
```

- For API details, see CreateGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMInstanceProfile`

The following code example shows how to use `New-IAMInstanceProfile`.

Tools for PowerShell

Example 1: This example creates a new IAM instance profile named `ProfileForDevEC2Instance`. You must separately run the `Add-`

`IAMRoleToInstanceProfile` command to associate the instance profile with an existing IAM role that provides permissions to the instance. Finally, attach the instance profile to an EC2 instance when you launch it. To do that, use the `New-EC2Instance` cmdlet with either the `InstanceProfile_Arn` or `InstanceProfile_Name` parameter.

```
New-IAMInstanceProfile -InstanceProfileName ProfileForDevEC2Instance
```

Output:

```
Arn                 : arn:aws:iam::123456789012:instance-profile/
ProfileForDevEC2Instance
CreateDate          : 4/14/2015 11:31:39 AM
InstanceProfileId   : DYMFXL556EY46EXAMPLE1
InstanceProfileName : ProfileForDevEC2Instance
Path                : /
Roles               : {}
```

- For API details, see CreateInstanceProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMLoginProfile`

The following code example shows how to use `New-IAMLoginProfile`.

Tools for PowerShell

Example 1: This example creates a (temporary) password for the IAM user named Bob, and sets the flag that requires the user to change the password the next time Bob signs in.

```
New-IAMLoginProfile -UserName Bob -Password P@ssw0rd -PasswordResetRequired $true
```

Output:

```
CreateDate                PasswordResetRequired             UserName
----------                ---------------------             --------
4/14/2015 12:26:30 PM     True                              Bob
```

- For API details, see CreateLoginProfile in *AWS Tools for PowerShell Cmdlet Reference*.

New-IAMOpenIDConnectProvider

The following code example shows how to use New-IAMOpenIDConnectProvider.

Tools for PowerShell

Example 1: This example creates an IAM OIDC provider associated with the OIDC compatible provider service found at the URL https://example.oidcprovider.com and the client ID my-testapp-1. The OIDC provider supplies the thumbprint. To authenticate the thumbprint, follow the steps at http://docs.aws.amazon.com/IAM/latest/UserGuide/identity-providers-oidc-obtain-thumbprint.html.

```
New-IAMOpenIDConnectProvider -Url https://example.oidcprovider.com -ClientIDList my-
testapp-1 -ThumbprintList 990F419EXAMPLEECF12DDEDA5EXAMPLE52F20D9E
```

Output:

```
arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com
```

- For API details, see CreateOpenIdConnectProvider in *AWS Tools for PowerShell Cmdlet Reference*.

New-IAMPolicy

The following code example shows how to use New-IAMPolicy.

Tools for PowerShell

Example 1: This example creates a new IAM policy in the current AWS account named MySamplePolicy The file MySamplePolicy.json provides the policy content. Note that you must use the -Raw switch parameter to successfully process the JSON policy file.

```
New-IAMPolicy -PolicyName MySamplePolicy -PolicyDocument (Get-Content -Raw
 MySamplePolicy.json)
```

Output:

```
Arn             : arn:aws:iam::123456789012:policy/MySamplePolicy
```

```
AttachmentCount  : 0
CreateDate       : 4/14/2015 2:45:59 PM
DefaultVersionId : v1
Description      :
IsAttachable     : True
Path             : /
PolicyId         : LD4KP6HVFE7WGEXAMPLE1
PolicyName       : MySamplePolicy
UpdateDate       : 4/14/2015 2:45:59 PM
```

- For API details, see CreatePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMPolicyVersion`

The following code example shows how to use `New-IAMPolicyVersion`.

Tools for PowerShell

Example 1: 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. The `NewPolicyVersion.json` file provides the policy content. Note that you must use the `-Raw` switch parameter to successfully process the JSON policy file.

```
New-IAMPolicyVersion -PolicyArn arn:aws:iam::123456789012:policy/MyPolicy -
PolicyDocument (Get-content -Raw NewPolicyVersion.json) -SetAsDefault $true
```

Output:

```
CreateDate                          Document                IsDefaultVersion
        VersionId
----------                          --------                ----------------
        ---------
4/15/2015 10:54:54 AM                                       True
        v2
```

- For API details, see CreatePolicyVersion in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMRole`

The following code example shows how to use `New-IAMRole`.

Tools for PowerShell

Example 1: This example creates a new role named `MyNewRole` and attaches to it the policy found in the file `NewRoleTrustPolicy.json`. Note that you must use the `-Raw` switch parameter to successfully process the JSON policy file. The policy document displayed in the output is URL encoded. It is decoded in this example with the `UrlDecode` .NET method.

```
$results = New-IAMRole -AssumeRolePolicyDocument (Get-Content -raw
 NewRoleTrustPolicy.json) -RoleName MyNewRole
$results
```

Output:

```
Arn                       : arn:aws:iam::123456789012:role/MyNewRole
AssumeRolePolicyDocument : %7B%0D%0A%20%20%22Version%22%3A%20%222012-10-17%22%2C%0D
%0A%20%20%22Statement%22
                           %3A%20%5B%0D%0A%20%20%20%20%7B%0D%0A
%20%20%20%20%20%20%22Sid%22%3A%20%22%22%2C
                           %0D%0A%20%20%20%20%20%20%22Effect%22%3A%20%22Allow%22%2C
%0D%0A%20%20%20%20%20%20
                           %22Principal%22%3A%20%7B%0D%0A
%20%20%20%20%20%20%20%20%20%22AWS%22%3A%20%22arn%3Aaws
                           %3Aiam%3A%3A123456789012%3ADavid%22%0D%0A
%20%20%20%20%20%20%7D%2C%0D%0A%20%20%20
                           %20%20%20%22Action%22%3A%20%22sts%3AAssumeRole%22%0D%0A
%20%20%20%20%7D%0D%0A%20
                           %20%5D%0D%0A%7D
CreateDate                : 4/15/2015 11:04:23 AM
Path                      : /
RoleId                    : V5PAJI2KPN4EAEXAMPLE1
RoleName                  : MyNewRole

[System.Reflection.Assembly]::LoadWithPartialName("System.Web.HttpUtility")
[System.Web.HttpUtility]::UrlDecode($results.AssumeRolePolicyDocument)
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "",
      "Effect": "Allow",
      "Principal": {
        "AWS": "arn:aws:iam::123456789012:David"
      },
```

```
      "Action": "sts:AssumeRole"
    }
  ]
}
```

- For API details, see CreateRole in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMSAMLProvider`

The following code example shows how to use `New-IAMSAMLProvider`.

Tools for PowerShell

Example 1: This example creates a new SAML provider entity in IAM. It is named `MySAMLProvider` and is described by the SAML metadata document found in the file `SAMLMetaData.xml`, which was separately downloaded from the SAML service provider's web site.

```
New-IAMSAMLProvider -Name MySAMLProvider -SAMLMetadataDocument (Get-Content -Raw
 SAMLMetaData.xml)
```

Output:

```
arn:aws:iam::123456789012:saml-provider/MySAMLProvider
```

- For API details, see CreateSAMLProvider in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMServiceLinkedRole`

The following code example shows how to use `New-IAMServiceLinkedRole`.

Tools for PowerShell

Example 1: This example creates a servicelinked role for autoscaling service.

```
New-IAMServiceLinkedRole -AWSServiceName autoscaling.amazonaws.com -CustomSuffix
 RoleNameEndsWithThis -Description "My service-linked role to support autoscaling"
```

- For API details, see CreateServiceLinkedRole in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMUser`

The following code example shows how to use `New-IAMUser`.

Tools for PowerShell

Example 1: This example creates an IAM user named Bob. If Bob needs to sign in to the AWS console, then you must separately run the command `New-IAMLoginProfile` to create a sign-in profile with a password. If Bob needs to run AWS PowerShell or cross-platform CLI commands or make AWS API calls, then you must separately run the `New-IAMAccessKey` command to create access keys.

```
New-IAMUser -UserName Bob
```

Output:

```
Arn              : arn:aws:iam::123456789012:user/Bob
CreateDate       : 4/22/2015 12:02:11 PM
PasswordLastUsed : 1/1/0001 12:00:00 AM
Path             : /
UserId           : AIDAJWGEFDMEMEXAMPLE1
UserName         : Bob
```

- For API details, see CreateUser in *AWS Tools for PowerShell Cmdlet Reference*.

`New-IAMVirtualMFADevice`

The following code example shows how to use `New-IAMVirtualMFADevice`.

Tools for PowerShell

Example 1: This example creates a new virtual MFA device. Lines 2 and 3 extract the `Base32StringSeed` value that the virtual MFA software program needs to create an account (as an alternative to the QR code). After you configure the program with the value, get two sequential authentication codes from the program. Finally, use the last command to link the virtual MFA device to the IAM user Bob and synchronize the account with the two authentication codes.

```
$Device = New-IAMVirtualMFADevice -VirtualMFADeviceName BobsMFADevice
$SR = New-Object System.IO.StreamReader($Device.Base32StringSeed)
$base32stringseed = $SR.ReadToEnd()
```

```
$base32stringseed
CZWZMCQNW4DEXAMPLE3VOUGXJFZYSUW7EXAMPLECR4NJFD65GX2SLUDW2EXAMPLE
```

Output:

```
-- Pause here to enter base-32 string seed code into virtual MFA program to register
 account. --

Enable-IAMMFADevice -SerialNumber $Device.SerialNumber -UserName Bob -
AuthenticationCode1 123456 -AuthenticationCode2 789012
```

Example 2: This example creates a new virtual MFA device. Lines 2 and 3 extract the QRCodePNG value and write it to a file. This image can be scanned by the virtual MFA software program to create an account (as an alternative to manually entering the Base32StringSeed value). After you create the account in your virtual MFA program, get two sequential authentication codes and enter them in the last commands to link the virtual MFA device to the IAM user Bob and synchronize the account.

```
$Device = New-IAMVirtualMFADevice -VirtualMFADeviceName BobsMFADevice
$BR = New-Object System.IO.BinaryReader($Device.QRCodePNG)
$BR.ReadBytes($BR.BaseStream.Length) | Set-Content -Encoding Byte -Path QRCode.png
```

Output:

```
 -- Pause here to scan PNG with virtual MFA program to register account. --

Enable-IAMMFADevice -SerialNumber $Device.SerialNumber -UserName Bob -
AuthenticationCode1 123456 -AuthenticationCode2 789012
```

- For API details, see CreateVirtualMfaDevice in *AWS Tools for PowerShell Cmdlet Reference*.

`Publish-IAMServerCertificate`

The following code example shows how to use `Publish-IAMServerCertificate`.

Tools for PowerShell

Example 1: This example uploads a new server certificate to the IAM account. The files containing the certificate body, the private key, and (optionally) the certificate chain must all be PEM encoded. Note that the parameters require the actual content of the files rather

than the file names. You must use the `-Raw` switch parameter to successfully process the file contents.

```
Publish-IAMServerCertificate -ServerCertificateName MyTestCert -CertificateBody
 (Get-Content -Raw server.crt) -PrivateKey (Get-Content -Raw server.key)
```

Output:

```
Arn                   : arn:aws:iam::123456789012:server-certificate/MyTestCert
Expiration            : 1/14/2018 9:52:36 AM
Path                  : /
ServerCertificateId   : ASCAJIEXAMPLE7J7HQZYW
ServerCertificateName : MyTestCert
UploadDate            : 4/21/2015 11:14:16 AM
```

- For API details, see [UploadServerCertificate](#) in *AWS Tools for PowerShell Cmdlet Reference*.

`Publish-IAMSigningCertificate`

The following code example shows how to use `Publish-IAMSigningCertificate`.

Tools for PowerShell

Example 1: This example uploads a new X.509 signing certificate and associates it with the IAM user named Bob. The file containing the certificate body is PEM encoded. The `CertificateBody` parameter requires the actual contents of the certificate file rather than the file name. You must use the `-Raw` switch parameter to successfully process the file.

```
Publish-IAMSigningCertificate -UserName Bob -CertificateBody (Get-Content -Raw
 SampleSigningCert.pem)
```

Output:

```
CertificateBody : -----BEGIN CERTIFICATE-----
                  MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
                  VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6
                  b24xFDASBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAd
                  BgkqhkiG9w0BCQEWEG5vb25lQGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
                  MTIwNDI0MjA0NTIxWjCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYD
                  VQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b24xFDASBgNVBAsTC0lBTSBDb25z
                  b2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAdBgkqhkiG9w0BCQEWEG5vb25lQGFt
```

```
                    YXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmWIWJ
                    21uUSfwfEvySWtC2XADZ4nB+BLYgVIk60CpiwsZ3G93vUEIO3IyNoH/f0wYK8m9T
                    rDHudUZg3qX4waLG5M43q7Wgc/MbQITxOUSQv7c7ugFFDzQGBzZswY6786m86gpE
                    Ibb3OhjZnzcvQAaRHhdlQWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQADgYEAtCu4
                    nUhVVxYUntneD9+h8Mg9q6q+auNKyExzyLwaxlAoo7TJHidbtS4J5iNmZgXL0Fkb
                    FFBjvSfpJIlJ00zbhNYS5f6GuoEDmFJl0ZxBHjJnyp378OD8uTs7fLvjx79LjSTb
                    NYiytVbZPQUQ5Yaxu2jXnimvw3rrszlaEXAMPLE=
                    -----END CERTIFICATE-----
CertificateId   : Y3EK7RMEXAMPLESV33FCEXAMPLEHMJLU
Status          : Active
UploadDate      : 4/20/2015 1:26:01 PM
UserName        : Bob
```

- For API details, see UploadSigningCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-IAMGroupPolicy`

The following code example shows how to use `Register-IAMGroupPolicy`.

Tools for PowerShell

Example 1: This example attaches the customer managed policy named `TesterPolicy` to the IAM group `Testers`. The users in that group are immediately affected by the permissions defined in the default version of that policy.

```
Register-IAMGroupPolicy -GroupName Testers -PolicyArn
 arn:aws:iam::123456789012:policy/TesterPolicy
```

Example 2: This example attaches the AWS managed policy named `AdministratorAccess` to the IAM group `Admins`. The users in that group are immediately affected by the permissions defined in the latest version of that policy.

```
Register-IAMGroupPolicy -GroupName Admins -PolicyArn arn:aws:iam::aws:policy/
AdministratorAccess
```

- For API details, see AttachGroupPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-IAMRolePolicy`

The following code example shows how to use `Register-IAMRolePolicy`.

Tools for PowerShell

Example 1: This example attaches the AWS managed policy named `SecurityAudit` to the IAM role `CoSecurityAuditors`. The users who assume that role are immediately affected by the permissions defined in the latest version of that policy.

```
Register-IAMRolePolicy -RoleName CoSecurityAuditors -PolicyArn
 arn:aws:iam::aws:policy/SecurityAudit
```

- For API details, see AttachRolePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-IAMUserPolicy`

The following code example shows how to use `Register-IAMUserPolicy`.

Tools for PowerShell

Example 1: This example attaches the AWS managed policy named `AmazonCognitoPowerUser` to the IAM user Bob. The user is immediately affected by the permissions defined in the latest version of that policy.

```
Register-IAMUserPolicy -UserName Bob -PolicyArn arn:aws:iam::aws:policy/
AmazonCognitoPowerUser
```

- For API details, see AttachUserPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMAccessKey`

The following code example shows how to use `Remove-IAMAccessKey`.

Tools for PowerShell

Example 1: This example deletes the AWS access key pair with the key ID `AKIAIOSFODNN7EXAMPLE` from the user named Bob.

```
Remove-IAMAccessKey -AccessKeyId AKIAIOSFODNN7EXAMPLE -UserName Bob -Force
```

- For API details, see DeleteAccessKey in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMAccountAlias`

The following code example shows how to use `Remove-IAMAccountAlias`.

Tools for PowerShell

Example 1: This example removes the account alias from your AWS account. The user sign in page with the alias at https://mycompanyaws.signin.aws.amazon.com/console no longer works. You must instead use the original URL with your AWS account ID number at https://<accountidnumber>.signin.aws.amazon.com/console.

```
Remove-IAMAccountAlias -AccountAlias mycompanyaws
```

- For API details, see DeleteAccountAlias in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMAccountPasswordPolicy`

The following code example shows how to use `Remove-IAMAccountPasswordPolicy`.

Tools for PowerShell

Example 1: This example deletes the password policy for the AWS account and resets all values to their original defaults. If a password policy does not currently exist, the following error message appears: The account policy with name PasswordPolicy cannot be found.

```
Remove-IAMAccountPasswordPolicy
```

- For API details, see DeleteAccountPasswordPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMClientIDFromOpenIDConnectProvider`

The following code example shows how to use `Remove-IAMClientIDFromOpenIDConnectProvider`.

Tools for PowerShell

Example 1: 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`.

```
Remove-IAMClientIDFromOpenIDConnectProvider -ClientID My-TestApp-3
 -OpenIDConnectProviderArn arn:aws:iam::123456789012:oidc-provider/
example.oidcprovider.com
```

- For API details, see RemoveClientIdFromOpenIdConnectProvider in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMGroup`

The following code example shows how to use `Remove-IAMGroup`.

Tools for PowerShell

Example 1: This example deletes the IAM group named `MyTestGroup`. The first command removes any IAM users that are members of the group, and the second command deletes the IAM group. Both commands work without any prompts for confirmation.

```
(Get-IAMGroup -GroupName MyTestGroup).Users | Remove-IAMUserFromGroup -GroupName
 MyTestGroup -Force
Remove-IAMGroup -GroupName MyTestGroup -Force
```

- For API details, see DeleteGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMGroupPolicy`

The following code example shows how to use `Remove-IAMGroupPolicy`.

Tools for PowerShell

Example 1: This example removes the inline policy named `TesterPolicy` from the IAM group `Testers`. The users in that group immediately lose the permissions defined in that policy.

```
Remove-IAMGroupPolicy -GroupName Testers -PolicyName TestPolicy
```

- For API details, see DeleteGroupPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMInstanceProfile`

The following code example shows how to use `Remove-IAMInstanceProfile`.

Tools for PowerShell

Example 1: This example deletes the EC2 instance profile named `MyAppInstanceProfile`. The first command detaches any roles from the instance profile, and then the second command deletes the instance profile.

```
(Get-IAMInstanceProfile -InstanceProfileName MyAppInstanceProfile).Roles | Remove-
IAMRoleFromInstanceProfile -InstanceProfileName MyAppInstanceProfile
Remove-IAMInstanceProfile -InstanceProfileName MyAppInstanceProfile
```

- For API details, see DeleteInstanceProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMLoginProfile`

The following code example shows how to use `Remove-IAMLoginProfile`.

Tools for PowerShell

Example 1: This example deletes the login profile from the IAM user named Bob. This prevents the user from signing-in to the AWS console. It does not prevent the user from running any AWS CLI, PowerShell, or API calls using AWS access keys that might still be attached to the user account.

```
Remove-IAMLoginProfile -UserName Bob
```

- For API details, see DeleteLoginProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMOpenIDConnectProvider`

The following code example shows how to use `Remove-IAMOpenIDConnectProvider`.

Tools for PowerShell

Example 1: This example deletes the IAM OIDC provider that connects to the provider `example.oidcprovider.com`. Ensure that you update or delete any roles that reference this provider in the `Principal` element of the role's trust policy.

```
Remove-IAMOpenIDConnectProvider -OpenIDConnectProviderArn
 arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com
```

- For API details, see DeleteOpenIdConnectProvider in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMPolicy`

The following code example shows how to use `Remove-IAMPolicy`.

Tools for PowerShell

Example 1: This example deletes the policy whose ARN is `arn:aws:iam::123456789012:policy/MySamplePolicy`. Before you can delete the policy, you must first delete all versions except the default by running `Remove-IAMPolicyVersion`. You must also detach the policy from any IAM users, groups, or roles.

```
Remove-IAMPolicy -PolicyArn arn:aws:iam::123456789012:policy/MySamplePolicy
```

Example 2: This example deletes a policy by first deleting all the non-default policy versions, detaching it from all attached IAM entities, and finally deleting the policy itself. The first line retrieves the policy object. The second line retrieves all the policy versions that are not flagged as the default version into a collection and then deletes each policy in the collection. The third line retrieves all of the IAM users, groups, and roles to which the policy is attached. Lines four through six detach the policy from each attached entity. The last line uses this command to remove the managed policy as well as the remaining default version. The example includes the `-Force` switch parameter on any line that needs it to suppress prompts for confirmation.

```
$pol = Get-IAMPolicy -PolicyArn arn:aws:iam::123456789012:policy/MySamplePolicy
Get-IAMPolicyVersions -PolicyArn $pol.Arn | where {-not $_.IsDefaultVersion} |
 Remove-IAMPolicyVersion -PolicyArn $pol.Arn -force
$attached = Get-IAMEntitiesForPolicy -PolicyArn $pol.Arn
$attached.PolicyGroups | Unregister-IAMGroupPolicy -PolicyArn $pol.arn
$attached.PolicyRoles | Unregister-IAMRolePolicy -PolicyArn $pol.arn
$attached.PolicyUsers | Unregister-IAMUserPolicy -PolicyArn $pol.arn
Remove-IAMPolicy $pol.Arn -Force
```

- For API details, see DeletePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMPolicyVersion`

The following code example shows how to use `Remove-IAMPolicyVersion`.

Tools for PowerShell

Example 1: This example deletes the version identified as v2 from the policy whose ARN is `arn:aws:iam::123456789012:policy/MySamplePolicy`.

```
Remove-IAMPolicyVersion -PolicyArn arn:aws:iam::123456789012:policy/MySamplePolicy -
VersionID v2
```

Example 2: This example deletes a policy by first deleting all non-default policy versions and then deleting the policy itself. The first line retrieves the policy object. The second line retrieves all of the policy versions that are not flagged as the default into a collection and then uses this command to delete each policy in the collection. The last line removes the policy itself as well as the remaining default version. Note that to successfully delete a managed policy, you must also detach the policy from any users, groups, or roles by using the `Unregister-IAMUserPolicy`, `Unregister-IAMGroupPolicy`, and `Unregister-IAMRolePolicy` commands. See the example for the `Remove-IAMPolicy` cmdlet.

```
$pol = Get-IAMPolicy -PolicyArn arn:aws:iam::123456789012:policy/MySamplePolicy
Get-IAMPolicyVersions -PolicyArn $pol.Arn | where {-not $_.IsDefaultVersion} |
 Remove-IAMPolicyVersion -PolicyArn $pol.Arn -force
Remove-IAMPolicy -PolicyArn $pol.Arn -force
```

- For API details, see DeletePolicyVersion in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMRole`

The following code example shows how to use `Remove-IAMRole`.

Tools for PowerShell

Example 1: This example deletes the role named `MyNewRole` from the current IAM account. Before you can delete the role you must first use the `Unregister-IAMRolePolicy` command to detach any managed policies. Inline policies are deleted with the role.

```
Remove-IAMRole -RoleName MyNewRole
```

Example 2: This example detaches any managed policies from the role named `MyNewRole` and then deletes the role. The first line retrieves any managed policies attached to the role as a collection and then detaches each policy in the collection from the role. The second line deletes the role itself. Inline policies are deleted along with the role.

```
Get-IAMAttachedRolePolicyList -RoleName MyNewRole | Unregister-IAMRolePolicy -
RoleName MyNewRole
Remove-IAMRole -RoleName MyNewRole
```

- For API details, see DeleteRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMRoleFromInstanceProfile`

The following code example shows how to use `Remove-IAMRoleFromInstanceProfile`.

Tools for PowerShell

Example 1: This example deletes the role named `MyNewRole` from the EC2 instance profile named `MyNewRole`. An instance profile that is created in the IAM console always has the same name as the role, as in this example. If you create them in the API or CLI, then they can have different names.

```
Remove-IAMRoleFromInstanceProfile -InstanceProfileName MyNewRole -RoleName MyNewRole
 -Force
```

- For API details, see RemoveRoleFromInstanceProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMRolePermissionsBoundary`

The following code example shows how to use `Remove-IAMRolePermissionsBoundary`.

Tools for PowerShell

Example 1: This example shows how to remove the permission boundary attached to an IAM role.

```
Remove-IAMRolePermissionsBoundary -RoleName MyRoleName
```

- For API details, see DeleteRolePermissionsBoundary in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMRolePolicy`

The following code example shows how to use `Remove-IAMRolePolicy`.

Tools for PowerShell

Example 1: This example deletes the inline policy `S3AccessPolicy` that is embedded in the IAM role `S3BackupRole`.

```
Remove-IAMRolePolicy -PolicyName S3AccessPolicy -RoleName S3BackupRole
```

- For API details, see DeleteRolePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMRoleTag`

The following code example shows how to use `Remove-IAMRoleTag`.

Tools for PowerShell

Example 1: This example removes the tag from the role named "MyRoleName" with tag key as "abac". To remove multiple tags, provide a comma separted tag keys list.

```
Remove-IAMRoleTag -RoleName MyRoleName -TagKey "abac","xyzw"
```

- For API details, see UntagRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMSAMLProvider`

The following code example shows how to use `Remove-IAMSAMLProvider`.

Tools for PowerShell

Example 1: This example deletes the IAM SAML 2.0 provider whose ARN is `arn:aws:iam::123456789012:saml-provider/SAMLADFSProvider`.

```
Remove-IAMSAMLProvider -SAMLProviderArn arn:aws:iam::123456789012:saml-provider/
SAMLADFSProvider
```

- For API details, see DeleteSAMLProvider in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMServerCertificate`

The following code example shows how to use `Remove-IAMServerCertificate`.

Tools for PowerShell

Example 1: This example deletes the server certificate named `MyServerCert`.

```
Remove-IAMServerCertificate -ServerCertificateName MyServerCert
```

- For API details, see DeleteServerCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMServiceLinkedRole`

The following code example shows how to use `Remove-IAMServiceLinkedRole`.

Tools for PowerShell

Example 1: This example deleted the service linked role. Please note that if the service is still using this role, then this command results in a failure.

```
Remove-IAMServiceLinkedRole -RoleName
 AWSServiceRoleForAutoScaling_RoleNameEndsWithThis
```

- For API details, see DeleteServiceLinkedRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMSigningCertificate`

The following code example shows how to use `Remove-IAMSigningCertificate`.

Tools for PowerShell

Example 1: This example deletes the signing certificate with the ID `Y3EK7RMEXAMPLESV33FCREXAMPLEMJLU` from the IAM user named Bob.

```
Remove-IAMSigningCertificate -UserName Bob -CertificateId
 Y3EK7RMEXAMPLESV33FCREXAMPLEMJLU
```

- For API details, see DeleteSigningCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMUser`

The following code example shows how to use `Remove-IAMUser`.

Tools for PowerShell

Example 1: This example deletes the IAM user named Bob.

```
Remove-IAMUser -UserName Bob
```

Example 2: This example deletes the IAM user named Theresa along with any elements that must be deleted first.

```
$name = "Theresa"

# find any groups and remove user from them
$groups = Get-IAMGroupForUser -UserName $name
foreach ($group in $groups) { Remove-IAMUserFromGroup -GroupName $group.GroupName -
UserName $name -Force }

# find any inline policies and delete them
$inlinepols = Get-IAMUserPolicies -UserName $name
foreach ($pol in $inlinepols) { Remove-IAMUserPolicy -PolicyName $pol -UserName
 $name -Force}

# find any managed polices and detach them
$managedpols = Get-IAMAttachedUserPolicies -UserName $name
foreach ($pol in $managedpols) { Unregister-IAMUserPolicy -PolicyArn $pol.PolicyArn
 -UserName $name }

# find any signing certificates and delete them
$certs = Get-IAMSigningCertificate -UserName $name
foreach ($cert in $certs) { Remove-IAMSigningCertificate -CertificateId
 $cert.CertificateId -UserName $name -Force }

# find any access keys and delete them
$keys = Get-IAMAccessKey -UserName $name
foreach ($key in $keys) { Remove-IAMAccessKey -AccessKeyId $key.AccessKeyId -
UserName $name -Force }
```

```
# delete the user's login profile, if one exists - note: need to use try/catch to
 suppress not found error
try { $prof = Get-IAMLoginProfile -UserName $name -ea 0 } catch { out-null }
if ($prof) { Remove-IAMLoginProfile -UserName $name -Force }

# find any MFA device, detach it, and if virtual, delete it.
$mfa = Get-IAMMFADevice -UserName $name
if ($mfa) {
    Disable-IAMMFADevice -SerialNumber $mfa.SerialNumber -UserName $name
    if ($mfa.SerialNumber -like "arn:*") { Remove-IAMVirtualMFADevice -SerialNumber
 $mfa.SerialNumber }
}

# finally, remove the user
Remove-IAMUser -UserName $name -Force
```

- For API details, see DeleteUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMUserFromGroup`

The following code example shows how to use `Remove-IAMUserFromGroup`.

Tools for PowerShell

Example 1: This example removes the IAM user Bob from the group `Testers`.

```
Remove-IAMUserFromGroup -GroupName Testers -UserName Bob
```

Example 2: This example finds any groups of which IAM user `Theresa` is a member, and then removes `Theresa` from those groups.

```
$groups = Get-IAMGroupForUser -UserName Theresa
foreach ($group in $groups) { Remove-IAMUserFromGroup -GroupName $group.GroupName -
UserName Theresa -Force }
```

Example 3: This example shows an alternate way of removing the IAM user Bob from the `Testers` group.

```
Get-IAMGroupForUser -UserName Bob | Remove-IAMUserFromGroup -UserName Bob -GroupName
 Testers -Force
```

- For API details, see RemoveUserFromGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMUserPermissionsBoundary`

The following code example shows how to use `Remove-IAMUserPermissionsBoundary`.

Tools for PowerShell

Example 1: This example shows how to remove the permission boundary attached to an IAM user.

```
Remove-IAMUserPermissionsBoundary -UserName joe
```

- For API details, see DeleteUserPermissionsBoundary in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMUserPolicy`

The following code example shows how to use `Remove-IAMUserPolicy`.

Tools for PowerShell

Example 1: This example deletes the inline policy named `AccessToEC2Policy` that is embedded in the IAM user named Bob.

```
Remove-IAMUserPolicy -PolicyName AccessToEC2Policy -UserName Bob
```

Example 2: This example finds all of the inline polices that are embedded in the IAM user named `Theresa` and then deletes them.

```
$inlinepols = Get-IAMUserPolicies -UserName Theresa
foreach ($pol in $inlinepols) { Remove-IAMUserPolicy -PolicyName $pol -UserName
 Theresa -Force}
```

- For API details, see DeleteUserPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMUserTag`

The following code example shows how to use `Remove-IAMUserTag`.

Tools for PowerShell

Example 1: This example removes the tag from the user named "joe" with tag key as "abac" and "xyzw". To remove multiple tags, provide a comma separted tag keys list.

```
Remove-IAMUserTag -UserName joe -TagKey "abac","xyzw"
```

- For API details, see UntagUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-IAMVirtualMFADevice`

The following code example shows how to use `Remove-IAMVirtualMFADevice`.

Tools for PowerShell

Example 1: This example deletes the IAM virtual MFA device whose ARN is `arn:aws:iam::123456789012:mfa/bob`.

```
Remove-IAMVirtualMFADevice -SerialNumber arn:aws:iam::123456789012:mfa/bob
```

Example 2: This example checks to see whether the IAM user Theresa has an MFA device assigned. If one is found, the device is disabled for the IAM user. If the device is virtual, then it is also deleted.

```
$mfa = Get-IAMMFADevice -UserName Theresa
if ($mfa) {
    Disable-IAMMFADevice -SerialNumber $mfa.SerialNumber -UserName $name
    if ($mfa.SerialNumber -like "arn:*") { Remove-IAMVirtualMFADevice -SerialNumber
 $mfa.SerialNumber }
}
```

- For API details, see DeleteVirtualMfaDevice in *AWS Tools for PowerShell Cmdlet Reference*.

`Request-IAMCredentialReport`

The following code example shows how to use `Request-IAMCredentialReport`.

Tools for PowerShell

Example 1: This example requests generation of a new report, which can be done every four hours. If the last report is still recent the State field reads `COMPLETE`. Use `Get-IAMCredentialReport` to view the completed report.

```
Request-IAMCredentialReport
```

Output:

```
Description                                                    State
-----------                                                    -----
No report exists. Starting a new report generation task        STARTED
```

- For API details, see GenerateCredentialReport in *AWS Tools for PowerShell Cmdlet Reference*.

`Request-IAMServiceLastAccessedDetail`

The following code example shows how to use `Request-IAMServiceLastAccessedDetail`.

Tools for PowerShell

Example 1: This example is equivalent cmdlet of GenerateServiceLastAccessedDetails API. This provides with a job id which can be used in Get-IAMServiceLastAccessedDetail and Get-IAMServiceLastAccessedDetailWithEntity

```
Request-IAMServiceLastAccessedDetail -Arn arn:aws:iam::123456789012:user/TestUser
```

- For API details, see GenerateServiceLastAccessedDetails in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-IAMDefaultPolicyVersion`

The following code example shows how to use `Set-IAMDefaultPolicyVersion`.

Tools for PowerShell

Example 1: This example sets the v2 version of the policy whose ARN is `arn:aws:iam::123456789012:policy/MyPolicy` as the default active version.

```
Set-IAMDefaultPolicyVersion -PolicyArn arn:aws:iam::123456789012:policy/MyPolicy -
VersionId v2
```

- For API details, see SetDefaultPolicyVersion in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-IAMRolePermissionsBoundary`

The following code example shows how to use `Set-IAMRolePermissionsBoundary`.

Tools for PowerShell

Example 1: This example shows how to set the Permission boundary for a IAM Role. You can set AWS Managed policies or Custom policies as permission boundary.

```
Set-IAMRolePermissionsBoundary -RoleName MyRoleName -PermissionsBoundary
 arn:aws:iam::123456789012:policy/intern-boundary
```

- For API details, see PutRolePermissionsBoundary in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-IAMUserPermissionsBoundary`

The following code example shows how to use `Set-IAMUserPermissionsBoundary`.

Tools for PowerShell

Example 1: This example shows how to set the Permission boundary for the user. You can set AWS Managed policies or Custom policies as permission boundary.

```
Set-IAMUserPermissionsBoundary -UserName joe -PermissionsBoundary
 arn:aws:iam::123456789012:policy/intern-boundary
```

- For API details, see PutUserPermissionsBoundary in *AWS Tools for PowerShell Cmdlet Reference*.

`Sync-IAMMFADevice`

The following code example shows how to use `Sync-IAMMFADevice`.

Tools for PowerShell

Example 1: This example synchronizes the MFA device that is associated with the IAM user Bob and whose ARN is `arn:aws:iam::123456789012:mfa/bob` with an authenticator program that provided the two authentication codes.

```
Sync-IAMMFADevice -SerialNumber arn:aws:iam::123456789012:mfa/theresa -
AuthenticationCode1 123456 -AuthenticationCode2 987654 -UserName Bob
```

Example 2: This example synchronizes the IAM MFA device that is associated with the IAM user `Theresa` with a physical device that has the serial number `ABCD12345678` and that provided the two authentication codes.

```
Sync-IAMMFADevice -SerialNumber ABCD12345678 -AuthenticationCode1 123456 -
AuthenticationCode2 987654 -UserName Theresa
```

- For API details, see ResyncMfaDevice in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-IAMGroupPolicy`

The following code example shows how to use `Unregister-IAMGroupPolicy`.

Tools for PowerShell

Example 1: This example detaches the managed group policy whose ARN is `arn:aws:iam::123456789012:policy/TesterAccessPolicy` from the group named `Testers`.

```
Unregister-IAMGroupPolicy -GroupName Testers -PolicyArn
 arn:aws:iam::123456789012:policy/TesterAccessPolicy
```

Example 2: This example finds all the managed policies that are attached to the group named `Testers` and detaches them from the group.

```
Get-IAMAttachedGroupPolicies -GroupName Testers | Unregister-IAMGroupPolicy -
Groupname Testers
```

- For API details, see DetachGroupPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-IAMRolePolicy`

The following code example shows how to use `Unregister-IAMRolePolicy`.

Tools for PowerShell

Example 1: This example detaches the managed group policy whose ARN is `arn:aws:iam::123456789012:policy/FederatedTesterAccessPolicy` from the role named `FedTesterRole`.

```
Unregister-IAMRolePolicy -RoleName FedTesterRole -PolicyArn
 arn:aws:iam::123456789012:policy/FederatedTesterAccessPolicy
```

Example 2: This example finds all of the managed policies that are attached to the role named `FedTesterRole` and detaches them from the role.

```
Get-IAMAttachedRolePolicyList -RoleName FedTesterRole | Unregister-IAMRolePolicy -
Rolename FedTesterRole
```

- For API details, see DetachRolePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-IAMUserPolicy`

The following code example shows how to use `Unregister-IAMUserPolicy`.

Tools for PowerShell

Example 1: This example detaches the managed policy whose ARN is `arn:aws:iam::123456789012:policy/TesterPolicy` from the IAM user named Bob.

```
Unregister-IAMUserPolicy -UserName Bob -PolicyArn arn:aws:iam::123456789012:policy/
TesterPolicy
```

Example 2: This example finds all the managed policies that are attached to the IAM user named `Theresa` and detaches those policies from the user.

```
Get-IAMAttachedUserPolicyList -UserName Theresa | Unregister-IAMUserPolicy -Username
 Theresa
```

- For API details, see DetachUserPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMAccessKey`

The following code example shows how to use `Update-IAMAccessKey`.

Tools for PowerShell

Example 1: This example changes the status of the access key `AKIAIOSFODNN7EXAMPLE` for the IAM user named `Bob` to `Inactive`.

```
Update-IAMAccessKey -UserName Bob -AccessKeyId AKIAIOSFODNN7EXAMPLE -Status Inactive
```

- For API details, see UpdateAccessKey in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMAccountPasswordPolicy`

The following code example shows how to use `Update-IAMAccountPasswordPolicy`.

Tools for PowerShell

Example 1: This example updates the password policy for the account with the specified settings. Note that any parameters that are not included in the command are not left unmodified. Instead, they are reset to default values.

```
Update-IAMAccountPasswordPolicy -AllowUsersToChangePasswords $true -HardExpiry
 $false -MaxPasswordAge 90 -MinimumPasswordLength 8 -PasswordReusePrevention 20
 -RequireLowercaseCharacters $true -RequireNumbers $true -RequireSymbols $true -
RequireUppercaseCharacters $true
```

- For API details, see UpdateAccountPasswordPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMAssumeRolePolicy`

The following code example shows how to use `Update-IAMAssumeRolePolicy`.

Tools for PowerShell

Example 1: This example updates the IAM role named `ClientRole` with a new trust policy, the contents of which come from the file `ClientRolePolicy.json`. Note that you must use the `-Raw` switch parameter to successfully process the contents of the JSON file.

```
Update-IAMAssumeRolePolicy -RoleName ClientRole -PolicyDocument (Get-Content -raw
 ClientRolePolicy.json)
```

- For API details, see UpdateAssumeRolePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMGroup`

The following code example shows how to use `Update-IAMGroup`.

Tools for PowerShell

Example 1: This example renames the IAM group `Testers` to `AppTesters`.

```
Update-IAMGroup -GroupName Testers -NewGroupName AppTesters
```

Example 2: This example changes the path of the IAM group `AppTesters` to `/Org1/Org2/`. This changes the ARN for the group to `arn:aws:iam::123456789012:group/Org1/Org2/AppTesters`.

```
Update-IAMGroup -GroupName AppTesters -NewPath /Org1/Org2/
```

- For API details, see UpdateGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMLoginProfile`

The following code example shows how to use `Update-IAMLoginProfile`.

Tools for PowerShell

Example 1: This example sets a new temporary password for the IAM user Bob, and requires the user to change the password the next time the user signs in.

```
Update-IAMLoginProfile -UserName Bob -Password "P@ssw0rd1234" -PasswordResetRequired
 $true
```

- For API details, see UpdateLoginProfile in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMOpenIDConnectProviderThumbprint`

The following code example shows how to use `Update-IAMOpenIDConnectProviderThumbprint`.

Tools for PowerShell

Example 1: 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. The OIDC provider shares the new value when the certificate that is associated with the provider changes.

```
Update-IAMOpenIDConnectProviderThumbprint -OpenIDConnectProviderArn
 arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com -ThumbprintList
 7359755EXAMPLEabc3060bce3EXAMPLEec4542a3
```

- For API details, see UpdateOpenIdConnectProviderThumbprint in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMRole`

The following code example shows how to use `Update-IAMRole`.

Tools for PowerShell

Example 1: This example updates the role description and the maximum session duration value(in seconds) for which a role's session can be requested.

```
Update-IAMRole -RoleName MyRoleName -Description "My testing role" -
MaxSessionDuration 43200
```

- For API details, see UpdateRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMRoleDescription`

The following code example shows how to use `Update-IAMRoleDescription`.

Tools for PowerShell

Example 1: This example updates the description of an IAM role in your account.

```
Update-IAMRoleDescription -RoleName MyRoleName -Description "My testing role"
```

- For API details, see UpdateRoleDescription in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMSAMLProvider`

The following code example shows how to use `Update-IAMSAMLProvider`.

Tools for PowerShell

Example 1: 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`. Note that you must use the `-Raw` switch parameter to successfully process the contents of the JSON file.

```
Update-IAMSAMLProvider -SAMLProviderArn arn:aws:iam::123456789012:saml-provider/
SAMLADFS -SAMLMetadataDocument (Get-Content -Raw SAMLMetaData.xml)
```

- For API details, see UpdateSamlProvider in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMServerCertificate`

The following code example shows how to use `Update-IAMServerCertificate`.

Tools for PowerShell

Example 1: This example renames the certificate named `MyServerCertificate` to `MyRenamedServerCertificate`.

```
Update-IAMServerCertificate -ServerCertificateName MyServerCertificate -
NewServerCertificateName MyRenamedServerCertificate
```

Example 2: This example moves the certificate named `MyServerCertificate` to the path `/Org1/Org2/`. This changes the ARN for the resource to `arn:aws:iam::123456789012:server-certificate/Org1/Org2/MyServerCertificate`.

```
Update-IAMServerCertificate -ServerCertificateName MyServerCertificate -NewPath /
Org1/Org2/
```

- For API details, see UpdateServerCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMSigningCertificate`

The following code example shows how to use `Update-IAMSigningCertificate`.

Tools for PowerShell

Example 1: This example updates the certificate that is associated with the IAM user named Bob and whose certificate ID si Y3EK7RMEXAMPLESV33FCREXAMPLEMJLU to mark it as inactive.

```
Update-IAMSigningCertificate -CertificateId Y3EK7RMEXAMPLESV33FCREXAMPLEMJLU -
UserName Bob -Status Inactive
```

- For API details, see UpdateSigningCertificate in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-IAMUser`

The following code example shows how to use `Update-IAMUser`.

Tools for PowerShell

Example 1: This example renames the IAM user Bob to Robert.

```
Update-IAMUser -UserName Bob -NewUserName Robert
```

Example 2: This example changes the path of the IAM User Bob to /Org1/Org2/, which effectively changes the ARN for the user to arn:aws:iam::123456789012:user/Org1/Org2/bob.

```
Update-IAMUser -UserName Bob -NewPath /Org1/Org2/
```

- For API details, see UpdateUser in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-IAMGroupPolicy`

The following code example shows how to use `Write-IAMGroupPolicy`.

Tools for PowerShell

Example 1: This example creates an inline policy named `AppTesterPolicy` and embeds it in the IAM group `AppTesters`. If an inline policy with the same name already exists, then it is overwritten. The JSON policy content comes the file `apptesterpolicy.json`. Note that you must use the `-Raw` parameter to successfully process the content of the JSON file.

```
Write-IAMGroupPolicy -GroupName AppTesters -PolicyName AppTesterPolicy -
PolicyDocument (Get-Content -Raw apptesterpolicy.json)
```

- For API details, see PutGroupPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-IAMRolePolicy`

The following code example shows how to use `Write-IAMRolePolicy`.

Tools for PowerShell

Example 1: This example creates an inline policy named `FedTesterRolePolicy` and embeds it in the IAM role `FedTesterRole`. If an inline policy with the same name already exists, then it is overwritten. The JSON policy content comes from the file `FedTesterPolicy.json`. Note that you must use the `-Raw` parameter to successfully process the content of the JSON file.

```
Write-IAMRolePolicy -RoleName FedTesterRole -PolicyName FedTesterRolePolicy -
PolicyDocument (Get-Content -Raw FedTesterPolicy.json)
```

- For API details, see PutRolePolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-IAMUserPolicy`

The following code example shows how to use `Write-IAMUserPolicy`.

Tools for PowerShell

Example 1: This example creates an inline policy named `EC2AccessPolicy` and embeds it in the IAM user Bob. If an inline policy with the same name already exists, then it is overwritten. The JSON policy content comes from the file `EC2AccessPolicy.json`. Note that you must use the `-Raw` parameter to successfully process the content of the JSON file.

```
Write-IAMUserPolicy -UserName Bob -PolicyName EC2AccessPolicy -PolicyDocument (Get-
Content -Raw EC2AccessPolicy.json)
```

- For API details, see PutUserPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

Kinesis examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-KINRecord`

The following code example shows how to use `Get-KINRecord`.

Tools for PowerShell

Example 1: This example shows how to return and extract data from a series of one or more records. The iterator supplierd to Get-KINRecord determines the starting position of the records to return which in this example are captured into a variable, $records. Each individual record can then be accessed by indexing the $records collection. Assuming the data in the record is UTF-8 encoded text, the final command shows how you can extract the data from the MemoryStream in the object and return it as text to the console.

```
$records
```

```
$records = Get-KINRecord -ShardIterator "AAAAAAAAAAGIc....9VnbiRNaP"
```

Output:

```
MillisBehindLatest NextShardIterator            Records
------------------ -----------------            -------
0                  AAAAAAAAAAERNIq...uDn11HuUs  {Key1, Key2}
```

```
$records.Records[0]
```

Output:

```
ApproximateArrivalTimestamp Data                    PartitionKey SequenceNumber
--------------------------- ----                    ------------ --------------
3/7/2016 5:14:33 PM         System.IO.MemoryStream Key1
 4955986459776...931586
```

```
[Text.Encoding]::UTF8.GetString($records.Records[0].Data.ToArray())
```

Output:

```
test data from string
```

- For API details, see GetRecords in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-KINShardIterator`

The following code example shows how to use `Get-KINShardIterator`.

Tools for PowerShell

Example 1: Returns a shard iterator for the specified shard and starting position. Details of the shard identifiers and sequence numbers can be obtained from the output of the Get-KINStream cmdlet, by referencing the Shards collection of the returned stream object. The returned iterator can be used with the Get-KINRecord cmdlet to pull data records in the shard.

```
Get-KINShardIterator -StreamName "mystream" -ShardId "shardId-000000000000" -
ShardIteratorType AT_SEQUENCE_NUMBER -StartingSequenceNumber "495598645..."
```

Output:

```
AAAAAAAAAAGIc....9VnbiRNaP
```

- For API details, see GetShardIterator in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-KINStream`

The following code example shows how to use `Get-KINStream`.

Tools for PowerShell

Example 1: Returns details of the specified stream.

```
Get-KINStream -StreamName "mystream"
```

Output:

```
HasMoreShards        : False
RetentionPeriodHours : 24
Shards               : {}
StreamARN            : arn:aws:kinesis:us-west-2:123456789012:stream/mystream
StreamName           : mystream
StreamStatus         : ACTIVE
```

- For API details, see DescribeStream in *AWS Tools for PowerShell Cmdlet Reference*.

`New-KINStream`

The following code example shows how to use `New-KINStream`.

Tools for PowerShell

Example 1: Creates a new stream. By default this cmdlet returns no output so the -PassThru switch is added to return the value supplied to the -StreamName parameter for subsequent use.

```
$streamName = New-KINStream -StreamName "mystream" -ShardCount 1 -PassThru
```

- For API details, see CreateStream in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-KINStream`

The following code example shows how to use `Remove-KINStream`.

Tools for PowerShell

Example 1: Deletes the specified stream. You are prompted for confirmation before the command executes. To suppress confirmation prompting use the -Force switch.

```
Remove-KINStream -StreamName "mystream"
```

- For API details, see DeleteStream in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-KINRecord`

The following code example shows how to use `Write-KINRecord`.

Tools for PowerShell

Example 1: Writes a record containing the string supplied to the -Text parameter.

```
Write-KINRecord -Text "test data from string" -StreamName "mystream" -PartitionKey
 "Key1"
```

Example 2: Writes a record containing the data contained in the specified file. The file is treated as a sequence of bytes so if it contains text, it should be written with any necessary encoding before using it with this cmdlet.

```
Write-KINRecord -FilePath "C:\TestData.txt" -StreamName "mystream" -PartitionKey
 "Key2"
```

- For API details, see PutRecord in *AWS Tools for PowerShell Cmdlet Reference*.

Lambda examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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.

Topics

Actions

`Add-LMResourceTag`

The following code example shows how to use `Add-LMResourceTag`.

Tools for PowerShell

Example 1: Adds the three tags (Washington, Oregon and California) and their associated values to the specified function identified by its ARN.

```
Add-LMResourceTag -Resource "arn:aws:lambda:us-
west-2:123456789012:function:MyFunction" -Tag @{ "Washington" = "Olympia"; "Oregon"
 = "Salem"; "California" = "Sacramento" }
```

- For API details, see TagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMAccountSetting`

The following code example shows how to use `Get-LMAccountSetting`.

Tools for PowerShell

Example 1: This sample displays to compare the Account Limit and Account Usage

```
Get-LMAccountSetting | Select-Object
 @{Name="TotalCodeSizeLimit";Expression={$_.AccountLimit.TotalCodeSize}},
 @{Name="TotalCodeSizeUsed";Expression={$_.AccountUsage.TotalCodeSize}}
```

Output:

```
TotalCodeSizeLimit TotalCodeSizeUsed
------------------ -----------------
       80530636800          15078795
```

- For API details, see GetAccountSettings in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMAlias`

The following code example shows how to use `Get-LMAlias`.

Tools for PowerShell

Example 1: This example retrieves the Routing Config weights for a specific Lambda Function Alias.

```
Get-LMAlias -FunctionName "MylambdaFunction123" -Name "newlabel1" -Select
 RoutingConfig
```

Output:

```
AdditionalVersionWeights
------------------------
{[1, 0.6]}
```

- For API details, see GetAlias in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMFunctionConcurrency`

The following code example shows how to use `Get-LMFunctionConcurrency`.

Tools for PowerShell

Example 1: This examples gets the Reserved concurrency for the Lambda Function

```
Get-LMFunctionConcurrency -FunctionName "MylambdaFunction123" -Select *
```

Output:

```
ReservedConcurrentExecutions
----------------------------
100
```

- For API details, see GetFunctionConcurrency in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMFunctionConfiguration`

The following code example shows how to use `Get-LMFunctionConfiguration`.

Tools for PowerShell

Example 1: This example returns the version specific configuration of a Lambda Function.

```
Get-LMFunctionConfiguration -FunctionName "MylambdaFunction123" -Qualifier
 "PowershellAlias"
```

Output:

```
CodeSha256                  : uWOW0R7z+f0VyLuUg7+/D08hkMFsq0SF4seuyUZJ/R8=
CodeSize                    : 1426
DeadLetterConfig            : Amazon.Lambda.Model.DeadLetterConfig
Description                 : Verson 3 to test Aliases
Environment                 : Amazon.Lambda.Model.EnvironmentResponse
FunctionArn                 : arn:aws:lambda:us-
east-1:123456789012:function:MylambdaFunction123
                              :PowershellAlias
FunctionName                : MylambdaFunction123
Handler                     : lambda_function.launch_instance
KMSKeyArn                   :
LastModified                : 2019-12-25T09:52:59.872+0000
LastUpdateStatus            : Successful
LastUpdateStatusReason      :
LastUpdateStatusReasonCode  :
Layers                      : {}
MasterArn                   :
MemorySize                  : 128
```

```
RevisionId                  : 5d7de38b-87f2-4260-8f8a-e87280e10c33
Role                        : arn:aws:iam::123456789012:role/service-role/lambda
Runtime                     : python3.8
State                       : Active
StateReason                 :
StateReasonCode             :
Timeout                     : 600
TracingConfig               : Amazon.Lambda.Model.TracingConfigResponse
Version                     : 4
VpcConfig                   : Amazon.Lambda.Model.VpcConfigDetail
```

- For API details, see GetFunctionConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMFunctionList`

The following code example shows how to use `Get-LMFunctionList`.

Tools for PowerShell

Example 1: This sample displays all the Lambda functions with sorted code size

```
Get-LMFunctionList | Sort-Object -Property CodeSize | Select-Object FunctionName,
 RunTime, Timeout, CodeSize
```

Output:

```
FunctionName                                                   Runtime   Timeout
 CodeSize
------------                                                   -------   -------
 --------
test                                                           python2.7       3
 243
MylambdaFunction123                                            python3.8     600
 659
myfuncpython1                                                  python3.8     303
 675
```

- For API details, see ListFunctions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMPolicy`

The following code example shows how to use `Get-LMPolicy`.

Tools for PowerShell

Example 1: This sample displays the Function policy of the Lambda function

```
Get-LMPolicy -FunctionName test -Select Policy
```

Output:

```
{"Version":"2012-10-17","Id":"default","Statement":
[{"Sid":"xxxx","Effect":"Allow","Principal":
{"Service":"sns.amazonaws.com"},"Action":"lambda:InvokeFunction","Resource":"arn:aws:lambda:
east-1:123456789102:function:test"}]}
```

- For API details, see GetPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMProvisionedConcurrencyConfig`

The following code example shows how to use `Get-LMProvisionedConcurrencyConfig`.

Tools for PowerShell

Example 1: This example gets the provisioned Concurrency Configuration for the specified Alias of the Lambda Function.

```
C:\>Get-LMProvisionedConcurrencyConfig -FunctionName "MylambdaFunction123" -
Qualifier "NewAlias1"
```

Output:

```
AllocatedProvisionedConcurrentExecutions : 0
AvailableProvisionedConcurrentExecutions : 0
LastModified                             : 2020-01-15T03:21:26+0000
RequestedProvisionedConcurrentExecutions : 70
Status                                   : IN_PROGRESS
StatusReason                             :
```

- For API details, see GetProvisionedConcurrencyConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMProvisionedConcurrencyConfigList`

The following code example shows how to use `Get-LMProvisionedConcurrencyConfigList`.

Tools for PowerShell

Example 1: This example retrieves the list of provisioned concurrency configurations for a Lambda function.

```
Get-LMProvisionedConcurrencyConfigList -FunctionName "MylambdaFunction123"
```

- For API details, see ListProvisionedConcurrencyConfigs in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMResourceTag`

The following code example shows how to use `Get-LMResourceTag`.

Tools for PowerShell

Example 1: Retrieves the tags and their values currently set on the specified function.

```
Get-LMResourceTag -Resource "arn:aws:lambda:us-
west-2:123456789012:function:MyFunction"
```

Output:

```
Key        Value
---        -----
California Sacramento
Oregon     Salem
Washington Olympia
```

- For API details, see ListTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-LMVersionsByFunction`

The following code example shows how to use `Get-LMVersionsByFunction`.

Tools for PowerShell

Example 1: This example returns the list of version specific configurations for each version of the Lambda Function.

```
Get-LMVersionsByFunction -FunctionName "MylambdaFunction123"
```

Output:

```
FunctionName        Runtime   MemorySize Timeout CodeSize LastModified
   RoleName
------------        -------   ---------- ------- -------- ------------
   --------
MylambdaFunction123 python3.8        128     600      659
 2020-01-10T03:20:56.390+0000 lambda
MylambdaFunction123 python3.8        128       5     1426
 2019-12-25T09:19:02.238+0000 lambda
MylambdaFunction123 python3.8        128       5     1426
 2019-12-25T09:39:36.779+0000 lambda
MylambdaFunction123 python3.8        128     600     1426
 2019-12-25T09:52:59.872+0000 lambda
```

- For API details, see ListVersionsByFunction in *AWS Tools for PowerShell Cmdlet Reference*.

`New-LMAlias`

The following code example shows how to use `New-LMAlias`.

Tools for PowerShell

Example 1: This example creates a New Lambda Alias for specified version and routing configuration to specify the percentage of invocation requests that it receives.

```
New-LMAlias -FunctionName "MylambdaFunction123" -
RoutingConfig_AdditionalVersionWeight @{Name="1";Value="0.6} -Description "Alias for
 version 4" -FunctionVersion 4 -Name "PowershellAlias"
```

- For API details, see CreateAlias in *AWS Tools for PowerShell Cmdlet Reference*.

Publish-LMFunction

The following code example shows how to use Publish-LMFunction.

Tools for PowerShell

Example 1: This example creates a new C# (dotnetcore1.0 runtime) function named MyFunction in AWS Lambda, providing the compiled binaries for the function from a zip file on the local file system (relative or absolute paths may be used). C# Lambda functions specify the handler for the function using the designation AssemblyName::Namespace.ClassName::MethodName. You should replace the assembly name (without .dll suffix), namespace, class name and method name parts of the handler spec appropriately. The new function will have environment variables 'envvar1' and 'envvar2' set up from the provided values.

```
Publish-LMFunction -Description "My C# Lambda Function" `
        -FunctionName MyFunction `
        -ZipFilename .\MyFunctionBinaries.zip `
        -Handler "AssemblyName::Namespace.ClassName::MethodName" `
        -Role "arn:aws:iam::123456789012:role/LambdaFullExecRole" `
        -Runtime dotnetcore1.0 `
        -Environment_Variable @{ "envvar1"="value";"envvar2"="value" }
```

Output:

```
CodeSha256       : /NgBMd...gq71I=
CodeSize         : 214784
DeadLetterConfig :
Description      : My C# Lambda Function
Environment      : Amazon.Lambda.Model.EnvironmentResponse
FunctionArn      : arn:aws:lambda:us-west-2:123456789012:function:ToUpper
FunctionName     : MyFunction
Handler          : AssemblyName::Namespace.ClassName::MethodName
KMSKeyArn        :
LastModified     : 2016-12-29T23:50:14.207+0000
MemorySize       : 128
Role             : arn:aws:iam::123456789012:role/LambdaFullExecRole
Runtime          : dotnetcore1.0
Timeout          : 3
Version          : $LATEST
VpcConfig        :
```

Example 2: This example is similar to the previous one except the function binaries are first uploaded to an Amazon S3 bucket (which must be in the same region as the intended Lambda function) and the resulting S3 object is then referenced when creating the function.

```
Write-S3Object -BucketName mybucket -Key MyFunctionBinaries.zip -File .
\MyFunctionBinaries.zip
Publish-LMFunction -Description "My C# Lambda Function" `
        -FunctionName MyFunction `
        -BucketName mybucket `
        -Key MyFunctionBinaries.zip `
        -Handler "AssemblyName::Namespace.ClassName::MethodName" `
        -Role "arn:aws:iam::123456789012:role/LambdaFullExecRole" `
        -Runtime dotnetcore1.0 `
        -Environment_Variable @{ "envvar1"="value";"envvar2"="value" }
```

- For API details, see CreateFunction in *AWS Tools for PowerShell Cmdlet Reference*.

`Publish-LMVersion`

The following code example shows how to use `Publish-LMVersion`.

Tools for PowerShell

Example 1: This example creates a version for the existing snapshot of Lambda Function Code

```
Publish-LMVersion -FunctionName "MylambdaFunction123" -Description "Publishing
 Existing Snapshot of function code as a  new version through Powershell"
```

- For API details, see PublishVersion in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-LMAlias`

The following code example shows how to use `Remove-LMAlias`.

Tools for PowerShell

Example 1: This example deletes the Lambda function Alias mentioned in the command.

```
Remove-LMAlias -FunctionName "MylambdaFunction123" -Name "NewAlias"
```

- For API details, see DeleteAlias in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-LMFunction`

The following code example shows how to use `Remove-LMFunction`.

Tools for PowerShell

Example 1: This example deletes a specific version of a Lambda function

```
Remove-LMFunction -FunctionName "MylambdaFunction123" -Qualifier '3'
```

- For API details, see DeleteFunction in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-LMFunctionConcurrency`

The following code example shows how to use `Remove-LMFunctionConcurrency`.

Tools for PowerShell

Example 1: This examples removes the Function Concurrency of the Lambda Function.

```
Remove-LMFunctionConcurrency -FunctionName "MylambdaFunction123"
```

- For API details, see DeleteFunctionConcurrency in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-LMPermission`

The following code example shows how to use `Remove-LMPermission`.

Tools for PowerShell

Example 1: This example removes the function policy for the specified StatementId of a Lambda Function.

```
$policy =  Get-LMPolicy -FunctionName "MylambdaFunction123" -Select Policy |
 ConvertFrom-Json| Select-Object -ExpandProperty Statement
Remove-LMPermission -FunctionName "MylambdaFunction123" -StatementId $policy[0].Sid
```

- For API details, see RemovePermission in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-LMProvisionedConcurrencyConfig`

The following code example shows how to use `Remove-LMProvisionedConcurrencyConfig`.

Tools for PowerShell

Example 1: This example removes the Provisioned Concurrency Configuration for a specific Alias.

```
Remove-LMProvisionedConcurrencyConfig -FunctionName "MylambdaFunction123" -Qualifier
 "NewAlias1"
```

- For API details, see DeleteProvisionedConcurrencyConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-LMResourceTag`

The following code example shows how to use `Remove-LMResourceTag`.

Tools for PowerShell

Example 1: Removes the supplied tags from a function. The cmdlet will prompt for confirmation before proceeding unless the -Force switch is specified. A single call is made to the service to remove the tags.

```
Remove-LMResourceTag -Resource "arn:aws:lambda:us-
west-2:123456789012:function:MyFunction" -TagKey "Washington","Oregon","California"
```

Example 2: Removes the supplied tags from a function. The cmdlet will prompt for confirmation before proceeding unless the -Force switch is specified. Once call to the service is made per supplied tag.

```
"Washington","Oregon","California" | Remove-LMResourceTag -Resource
 "arn:aws:lambda:us-west-2:123456789012:function:MyFunction"
```

- For API details, see UntagResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-LMAlias`

The following code example shows how to use `Update-LMAlias`.

Tools for PowerShell

Example 1: This example updates the Configuration of an existing Lambda function Alias. It updates the RoutingConfiguration value to shift 60% (0.6) of traffic to version 1

```
Update-LMAlias -FunctionName "MylambdaFunction123" -Description " Alias for version
 2" -FunctionVersion 2 -Name "newlabel1" -RoutingConfig_AdditionalVersionWeight
 @{Name="1";Value="0.6}
```

- For API details, see UpdateAlias in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-LMFunctionCode`

The following code example shows how to use `Update-LMFunctionCode`.

Tools for PowerShell

Example 1: Updates the function named 'MyFunction' with new content contained in the specified zip file. For a C# .NET Core Lambda function the zip file should contain the compiled assembly.

```
Update-LMFunctionCode -FunctionName MyFunction -ZipFilename .\UpdatedCode.zip
```

Example 2: This example is similar to the previous one but uses an Amazon S3 object containing the updated code to update the function.

```
Update-LMFunctionCode -FunctionName MyFunction -BucketName mybucket -Key
 UpdatedCode.zip
```

- For API details, see UpdateFunctionCode in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-LMFunctionConfiguration`

The following code example shows how to use `Update-LMFunctionConfiguration`.

Tools for PowerShell

Example 1: This example updates the existing Lambda Function Configuration

```
Update-LMFunctionConfiguration -FunctionName "MylambdaFunction123" -Handler
 "lambda_function.launch_instance" -Timeout 600 -Environment_Variable
```

```
 @{ "envvar1"="value";"envvar2"="value" } -Role arn:aws:iam::123456789101:role/
service-role/lambda -DeadLetterConfig_TargetArn arn:aws:sns:us-east-1:
 123456789101:MyfirstTopic
```

- For API details, see UpdateFunctionConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-LMFunctionConcurrency`

The following code example shows how to use `Write-LMFunctionConcurrency`.

Tools for PowerShell

Example 1: This example applies the concurrency settings for the Function as a whole.

```
Write-LMFunctionConcurrency -FunctionName "MylambdaFunction123" -
ReservedConcurrentExecution 100
```

- For API details, see PutFunctionConcurrency in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-LMProvisionedConcurrencyConfig`

The following code example shows how to use `Write-LMProvisionedConcurrencyConfig`.

Tools for PowerShell

Example 1: This example adds a provisioned concurrency configuration to a Function's Alias

```
Write-LMProvisionedConcurrencyConfig -FunctionName "MylambdaFunction123" -
ProvisionedConcurrentExecution 20 -Qualifier "NewAlias1"
```

- For API details, see PutProvisionedConcurrencyConfig in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon ML examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell with Amazon ML.

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

`Get-MLBatchPrediction`

The following code example shows how to use `Get-MLBatchPrediction`.

Tools for PowerShell

Example 1: Returns the detailed metadata for a batch prediction with id ID.

```
Get-MLBatchPrediction -BatchPredictionId ID
```

- For API details, see GetBatchPrediction in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-MLBatchPredictionList`

The following code example shows how to use `Get-MLBatchPredictionList`.

Tools for PowerShell

Example 1: Returns a list of all BatchPredictions and their associated data records that match the search criterion given in the request.

```
Get-MLBatchPredictionList
```

Example 2: Returns a list of all BatchPredictions with a status of COMPLETED.

```
Get-MLBatchPredictionList -FilterVariable Status -EQ COMPLETED
```

- For API details, see DescribeBatchPredictions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-MLDataSource`

The following code example shows how to use `Get-MLDataSource`.

Tools for PowerShell

Example 1: Returns the metadata, status, and data file information for a DataSource with the id ID

```
Get-MLDataSource -DataSourceId ID
```

- For API details, see GetDataSource in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-MLDataSourceList`

The following code example shows how to use `Get-MLDataSourceList`.

Tools for PowerShell

Example 1: Returns a list of all DataSources and their associated data records.

```
Get-MLDataSourceList
```

Example 2: Returns a list of all DataSources with a status of COMPLETED.

```
Get-MLDataDourceList -FilterVariable Status -EQ COMPLETED
```

- For API details, see DescribeDataSources in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-MLEvaluation`

The following code example shows how to use `Get-MLEvaluation`.

Tools for PowerShell

Example 1: Returns metadata and status for an Evaluation with id ID.

```
Get-MLEvaluation -EvaluationId ID
```

- For API details, see GetEvaluation in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-MLEvaluationList`

The following code example shows how to use `Get-MLEvaluationList`.

Tools for PowerShell

Example 1: Returns a list of all Evaluation resources

```
Get-MLEvaluationList
```

Example 2: Returns a list of all Evaulations with a status of COMPLETED.

```
Get-MLEvaluationList -FilterVariable Status -EQ COMPLETED
```

- For API details, see DescribeEvaluations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-MLModel`

The following code example shows how to use `Get-MLModel`.

Tools for PowerShell

Example 1: Returns the detail metadata, status, schema, and data file information for a MLModel with id ID.

```
Get-MLModel -ModelId ID
```

- For API details, see GetMLModel in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-MLModelList`

The following code example shows how to use `Get-MLModelList`.

Tools for PowerShell

Example 1: Returns a list of all Models and their associated data records.

```
Get-MLModelList
```

Example 2: Returns a list of all Models with a status of COMPLETED.

```
Get-MLModelList -FilterVariable Status -EQ COMPLETED
```

- For API details, see DescribeMLModels in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-MLPrediction`

The following code example shows how to use `Get-MLPrediction`.

Tools for PowerShell

Example 1: Send a record to the realtime prediction endpoint URL for Model with id ID.

```
Get-MLPrediction -ModelId ID -PredictEndpoint URL -Record @{"A" = "B"; "C" = "D";}
```

- For API details, see Predict in *AWS Tools for PowerShell Cmdlet Reference*.

`New-MLBatchPrediction`

The following code example shows how to use `New-MLBatchPrediction`.

Tools for PowerShell

Example 1: Create a new batch prediction request for model with id ID and put the output at the specified S3 location.

```
New-MLBatchPrediction -ModelId ID -Name NAME -OutputURI s3://...
```

- For API details, see CreateBatchPrediction in *AWS Tools for PowerShell Cmdlet Reference*.

`New-MLDataSourceFromS3`

The following code example shows how to use `New-MLDataSourceFromS3`.

Tools for PowerShell

Example 1: Create a data source with data for an S3 location, with a name of NAME and a schema of SCHEMA.

```
New-MLDataSourceFromS3 -Name NAME -ComputeStatistics $true -DataSpec_DataLocationS3
 "s3://BUCKET/KEY" -DataSchema SCHEMA
```

- For API details, see CreateDataSourceFromS3 in *AWS Tools for PowerShell Cmdlet Reference*.

`New-MLEvaluation`

The following code example shows how to use `New-MLEvaluation`.

Tools for PowerShell

Example 1: Create an evaluation for a given data source id and model id

```
New-MLEvaluation -Name NAME -DataSourceId DSID -ModelId MID
```

- For API details, see CreateEvaluation in *AWS Tools for PowerShell Cmdlet Reference*.

`New-MLModel`

The following code example shows how to use `New-MLModel`.

Tools for PowerShell

Example 1: Create a new model with training data.

```
New-MLModel -Name NAME -ModelType BINARY -Parameter @{...} -TrainingDataSourceId ID
```

- For API details, see CreateMLModel in *AWS Tools for PowerShell Cmdlet Reference*.

`New-MLRealtimeEndpoint`

The following code example shows how to use `New-MLRealtimeEndpoint`.

Tools for PowerShell

Example 1: Create a new realtime prediction endpoint for the given model id.

```
New-MLRealtimeEndpoint -ModelId ID
```

- For API details, see CreateRealtimeEndpoint in *AWS Tools for PowerShell Cmdlet Reference*.

Macie examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-MAC2FindingList`

The following code example shows how to use `Get-MAC2FindingList`.

Tools for PowerShell

Example 1: Returns list of FindingIds for Findings containing a sensitive data detection with type "CREDIT_CARD_NUMBER" or "US_SOCIAL_SECURITY_NUMBER"

```
$criterionAddProperties = New-Object
 Amazon.Macie2.Model.CriterionAdditionalProperties

$criterionAddProperties.Eq = @(
"CREDIT_CARD_NUMBER"
"US_SOCIAL_SECURITY_NUMBER"
```

```
)

$FindingCriterion = @{
'classificationDetails.result.sensitiveData.detections.type' =
 [Amazon.Macie2.Model.CriterionAdditionalProperties]$criterionAddProperties
}

Get-MAC2FindingList -FindingCriteria_Criterion $FindingCriterion -MaxResult 5
```

- For API details, see ListFindings in *AWS Tools for PowerShell Cmdlet Reference*.

AWS OpsWorks examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`New-OPSDeployment`

The following code example shows how to use `New-OPSDeployment`.

Tools for PowerShell

Example 1: This command creates a new app deployment on all of the Linux-based instances in a layer in AWS OpsWorks Stacks. Even if you specify a layer ID, you must specify a stack ID, too. The command lets the deployment restart the instances if required.

```
New-OPSDeployment -StackID "724z93zz-zz78-4zzz-8z9z-1290123zzz1z" -LayerId
 "511b99c5-ec78-4caa-8a9d-1440116ffd1b" -AppId "0f7a109c-bf68-4336-8cb9-
d37fe0b8c61d" -Command_Name deploy -Command_Arg @{Name="allow_reboot";Value="true"}
```

Example 2: This command deploys the `appsetup` recipe from the phpapp cookbook, and the `secbaseline` recipe from the `testcookbook` cookbook. The deployment target is one instance, but the stack ID and layer ID are also required. The Command_Arg parameter `allow_reboot` attribute is set to `true`, which lets the deployment restart the instances if required.

```
$commandArgs = '{ "Name":"execute_recipes", "Args"{ "recipes":
["phpapp::appsetup","testcookbook::secbaseline"] } }'
New-OPSDeployment -StackID "724z93zz-zz78-4zzz-8z9z-1290123zzz1z"
 -LayerId "511b99c5-ec78-4caa-8a9d-1440116ffd1b" -InstanceId
 "d89a6118-0007-4ccf-a51e-59f844127021" -Command_Name $commandArgs -Command_Arg
 @{Name="allow_reboot";Value="true
```

- For API details, see CreateDeployment in *AWS Tools for PowerShell Cmdlet Reference*.

AWS Price List examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-PLSAttributeValue`

The following code example shows how to use `Get-PLSAttributeValue`.

Tools for PowerShell

Example 1: Returns the values for the attribute 'volumeType' for Amazon EC2 in the us-east-1 region.

```
Get-PLSAttributeValue -ServiceCode AmazonEC2 -AttributeName "volumeType" -region us-
east-1
```

Output:

```
Value
-----
Cold HDD
General Purpose
Magnetic
Provisioned IOPS
Throughput Optimized HDD
```

- For API details, see GetAttributeValues in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-PLSProduct`

The following code example shows how to use `Get-PLSProduct`.

Tools for PowerShell

Example 1: Returns details of all products for Amazon EC2.

```
Get-PLSProduct -ServiceCode AmazonEC2 -Region us-east-1
```

Output:

```
{"product":{"productFamily":"Compute Instance","attributes":
{"enhancedNetworkingSupported":"Yes","memory":"30.5
```

```
 GiB","dedicatedEbsThroughput":"800 Mbps","vcpu":"4","locationType":"AWS
 Region","storage":"EBS only","instanceFamily":"Memory
 optimized","operatingSystem":"SUSE","physicalProcessor":"Intel Xeon E5-2686 v4
 (Broadwell)","clockSpeed":"2.3 GHz","ecu":"Variable","networkPerformance":"Up
 to 10 Gigabit","servicename":"Amazon Elastic Compute
 Cloud","instanceType":"r4.xlarge","tenancy":"Shared","usagetype":"USW2-
BoxUsage:r4.xlarge","normalizationSizeFactor":"8","processorFeatures":"Intel AVX,
 Intel AVX2, Intel Turbo","servicecode":"AmazonEC2","licenseModel":"No License
 required","currentGeneration":"Yes","preInstalledSw":"NA","location":"US West
 (Oregon)","processorArchitecture":"64-bit","operation":"RunInstances:000g"},...
```

Example 2: Returns data for Amazon EC2 in the us-east-1 region filtered by volume types of 'General Purpose' that are SSD-backed.

```
Get-PLSProduct -ServiceCode AmazonEC2 -Filter
 @{Type="TERM_MATCH";Field="volumeType";Value="General
 Purpose"},@{Type="TERM_MATCH";Field="storageMedia";Value="SSD-backed"} -Region us-
east-1
```

Output:

```
{"product":{"productFamily":"Storage","attributes":{"storageMedia":"SSD-
backed","maxThroughputvolume":"160 MB/sec","volumeType":"General
 Purpose","maxIopsvolume":"10000",...
```

- For API details, see GetProducts in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-PLSService`

The following code example shows how to use `Get-PLSService`.

Tools for PowerShell

Example 1: Returns the metadata for all available service codes in the us-east-1 region.

```
Get-PLSService -Region us-east-1
```

Output:

```
AttributeNames                                              ServiceCode
```

```
--------------                                                  -----------
{productFamily, servicecode, groupDescription, termType...}     AWSBudgets
{productFamily, servicecode, termType, usagetype...}            AWSCloudTrail
{productFamily, servicecode, termType, usagetype...}            AWSCodeCommit
{productFamily, servicecode, termType, usagetype...}            AWSCodeDeploy
{productFamily, servicecode, termType, usagetype...}            AWSCodePipeline
{productFamily, servicecode, termType, usagetype...}            AWSConfig
...
```

Example 2: Returns the metadata for the Amazon EC2 service in the us-east-1 region.

```
Get-PLSService -ServiceCode AmazonEC2 -Region us-east-1
```

Output:

```
AttributeNames                                                  ServiceCode
--------------                                                  -----------
{volumeType, maxIopsvolume, instanceCapacity10xlarge, locationType...} AmazonEC2
```

- For API details, see DescribeServices in *AWS Tools for PowerShell Cmdlet Reference*.

Resource Groups examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-RGResourceTag`

The following code example shows how to use `Add-RGResourceTag`.

Tools for PowerShell

Example 1: This example adds tag key 'Instances' with value 'workboxes' to the given resource group arn

```
Add-RGResourceTag -Tag @{Instances="workboxes"} -Arn arn:aws:resource-groups:eu-
west-1:123456789012:group/workboxes
```

Output:

```
Arn                                                          Tags
---                                                          ----
arn:aws:resource-groups:eu-west-1:123456789012:group/workboxes {[Instances,
 workboxes]}
```

- For API details, see Tag in *AWS Tools for PowerShell Cmdlet Reference*.

`Find-RGResource`

The following code example shows how to use `Find-RGResource`.

Tools for PowerShell

Example 1: This example creates a ResourceQuery for Instance resource types with tag filters and finds resources.

```
$query = [Amazon.ResourceGroups.Model.ResourceQuery]::new()
$query.Type = [Amazon.ResourceGroups.QueryType]::TAG_FILTERS_1_0
$query.Query = ConvertTo-Json -Compress -Depth 4 -InputObject @{
  ResourceTypeFilters = @('AWS::EC2::Instance')
  TagFilters = @(@{
    Key = 'auto'
    Values = @('no')
  })
 }
```

```
Find-RGResource -ResourceQuery $query | Select-Object -ExpandProperty
 ResourceIdentifiers
```

Output:

```
ResourceArn                                                    ResourceType
-----------                                                    ------------
arn:aws:ec2:eu-west-1:123456789012:instance/i-0123445b6cb7bd67b AWS::EC2::Instance
```

- For API details, see SearchResources in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-RGGroup`

The following code example shows how to use `Get-RGGroup`.

Tools for PowerShell

Example 1: This example retrieves resource group as per the group name

```
Get-RGGroup -GroupName auto-no
```

Output:

```
Description GroupArn                                                  Name
----------- --------                                                  ----
            arn:aws:resource-groups:eu-west-1:123456789012:group/auto-no auto-no
```

- For API details, see GetGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-RGGroupList`

The following code example shows how to use `Get-RGGroupList`.

Tools for PowerShell

Example 1: This example lists resource group already created.

```
Get-RGGroupList
```

Output:

```
GroupArn                                                                    GroupName
--------                                                                    ---------
arn:aws:resource-groups:eu-west-1:123456789012:group/auto-no                auto-no
arn:aws:resource-groups:eu-west-1:123456789012:group/auto-yes               auto-yes
arn:aws:resource-groups:eu-west-1:123456789012:group/build600               build600
```

- For API details, see ListGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-RGGroupQuery`

The following code example shows how to use `Get-RGGroupQuery`.

Tools for PowerShell

Example 1: This example fetches the resource query for the given resource group

```
Get-RGGroupQuery -GroupName auto-no | Select-Object -ExpandProperty ResourceQuery
```

Output:

```
Query
         Type
-----
         ----
{"ResourceTypeFilters":["AWS::EC2::Instance"],"TagFilters":[{"Key":"auto","Values":
["no"]}]} TAG_FILTERS_1_0
```

- For API details, see GetGroupQuery in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-RGGroupResourceList`

The following code example shows how to use `Get-RGGroupResourceList`.

Tools for PowerShell

Example 1: This example lists group resources on the basis of filtered by resource type

```
Get-RGGroupResourceList -Filter @{Name="resource-type";Values="AWS::EC2::Instance"}
 -GroupName auto-yes | Select-Object -ExpandProperty ResourceIdentifiers
```

Output:

```
ResourceArn                                                    ResourceType
-----------                                                    ------------
arn:aws:ec2:eu-west-1:123456789012:instance/i-0123bc45b567890e1 AWS::EC2::Instance
arn:aws:ec2:eu-west-1:123456789012:instance/i-0a1caf2345f67d8dc AWS::EC2::Instance
arn:aws:ec2:eu-west-1:123456789012:instance/i-012e3cb4df567e8aa AWS::EC2::Instance
arn:aws:ec2:eu-west-1:123456789012:instance/i-0fd12dd3456789012 AWS::EC2::Instance
```

- For API details, see ListGroupResources in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-RGResourceTag`

The following code example shows how to use `Get-RGResourceTag`.

Tools for PowerShell

Example 1: This example lists tags for the given resource group arn

```
Get-RGResourceTag -Arn arn:aws:resource-groups:eu-west-1:123456789012:group/
workboxes
```

Output:

```
Key       Value
---       -----
Instances workboxes
```

- For API details, see GetTags in *AWS Tools for PowerShell Cmdlet Reference*.

`New-RGGroup`

The following code example shows how to use `New-RGGroup`.

Tools for PowerShell

Example 1: This example creates a new tag-based AWS Resource Groups resource group named TestPowerShellGroup. The group includes Amazon EC2 instances in the current region that are tagged with the tag key "Name", and tag value "test2". The command returns the query and type of group, and the results of the operation.

```
$ResourceQuery = New-Object -TypeName Amazon.ResourceGroups.Model.ResourceQuery
```

```
$ResourceQuery.Type = "TAG_FILTERS_1_0"
$ResourceQuery.Query = '{"ResourceTypeFilters":["AWS::EC2::Instance"],"TagFilters":
[{"Key":"Name","Values":["test2"]}]}'
$ResourceQuery

New-RGGroup -Name TestPowerShellGroup -ResourceQuery $ResourceQuery -Description
 "Test resource group."
```

Output:

```
Query
            Type
-----
            ----
{"ResourceTypeFilters":["AWS::EC2::Instance"],"TagFilters":[{"Key":"Name","Values":
["test2"]}]} TAG_FILTERS_1_0

LoggedAt         : 11/20/2018 2:40:59 PM
Group            : Amazon.ResourceGroups.Model.Group
ResourceQuery    : Amazon.ResourceGroups.Model.ResourceQuery
Tags             : {}
ResponseMetadata : Amazon.Runtime.ResponseMetadata
ContentLength    : 338
HttpStatusCode   : OK
```

- For API details, see CreateGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-RGGroup`

The following code example shows how to use `Remove-RGGroup`.

Tools for PowerShell

Example 1: This example removes the named resource group

```
Remove-RGGroup -GroupName non-tag-cfn-elbv2
```

Output:

```
Confirm
Are you sure you want to perform this action?
```

```
Performing the operation "Remove-RGGroup (DeleteGroup)" on target "non-tag-cfn-
elbv2".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y

Description GroupArn
 Name
----------- --------
 ----
            arn:aws:resource-groups:eu-west-1:123456789012:group/non-tag-cfn-elbv2
 non-tag-cfn-elbv2
```

- For API details, see DeleteGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-RGResourceTag`

The following code example shows how to use `Remove-RGResourceTag`.

Tools for PowerShell

Example 1: This example removes mentioned tag from the resource group

```
Remove-RGResourceTag -Arn arn:aws:resource-groups:eu-west-1:123456789012:group/
workboxes -Key Instances
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-RGResourceTag (Untag)" on target "arn:aws:resource-
groups:eu-west-1:933303704102:group/workboxes".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y

Arn                                                              Keys
---                                                              ----
arn:aws:resource-groups:eu-west-1:123456789012:group/workboxes {Instances}
```

- For API details, see Untag in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-RGGroup`

The following code example shows how to use `Update-RGGroup`.

Tools for PowerShell

Example 1: This example updates the description of the group

```
Update-RGGroup -GroupName auto-yes -Description "Instances auto-remove"
```

Output:

```
Description             GroupArn
  Name
-----------             --------
  ----
Instances to be cleaned arn:aws:resource-groups:eu-west-1:123456789012:group/auto-
yes auto-yes
```

- For API details, see UpdateGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-RGGroupQuery`

The following code example shows how to use `Update-RGGroupQuery`.

Tools for PowerShell

Example 1: This example creates a query object and updates the query for the group.

```
$query = [Amazon.ResourceGroups.Model.ResourceQuery]::new()
$query.Type = [Amazon.ResourceGroups.QueryType]::TAG_FILTERS_1_0
$query.Query = @{
  ResourceTypeFilters = @('AWS::EC2::Instance')
  TagFilters = @(@{
  Key='Environment'
  Values='Build600.11'
  })
} | ConvertTo-Json -Compress -Depth 4

Update-RGGroupQuery -GroupName build600 -ResourceQuery $query
```

Output:

```
GroupName ResourceQuery
--------- -------------
build600  Amazon.ResourceGroups.Model.ResourceQuery
```

- For API details, see UpdateGroupQuery in *AWS Tools for PowerShell Cmdlet Reference*.

Resource Groups Tagging API examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-RGTResourceTag`

The following code example shows how to use `Add-RGTResourceTag`.

Tools for PowerShell

Example 1: This example adds the tag keys "stage" and "version" with values "beta" and "preprod_test" to an Amazon S3 bucket and an Amazon DynamoDB table. A single call is made to the service to apply the tags.

```
$arn1 = "arn:aws:s3:::mybucket"
$arn2 = "arn:aws:dynamodb:us-west-2:123456789012:table/mytable"
```

```
Add-RGTResourceTag -ResourceARNList $arn1,$arn2 -Tag @{ "stage"="beta";
 "version"="preprod_test" }
```

Example 2: This example adds the specified tags and values to an Amazon S3 bucket and an Amazon DynamoDB table. Two calls are made to the service, one for each resource ARN piped into the cmdlet.

```
$arn1 = "arn:aws:s3:::mybucket"
$arn2 = "arn:aws:dynamodb:us-west-2:123456789012:table/mytable"

$arn1,$arn2 | Add-RGTResourceTag -Tag @{ "stage"="beta"; "version"="preprod_test" }
```

- For API details, see TagResources in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-RGTResource`

The following code example shows how to use `Get-RGTResource`.

Tools for PowerShell

Example 1: Returns all the tagged resources in a region and the tag keys associated with the resource. If no -Region parameter is supplied to the cmdlet it will attempt to infer region from the shell or EC2 instance metadata.

```
Get-RGTResource
```

Output:

```
ResourceARN                                                     Tags
-----------                                                     ----
arn:aws:dynamodb:us-west-2:123456789012:table/mytable           {stage, version}
arn:aws:s3:::mybucket                                           {stage, version,
 othertag}
```

Example 2: Returns all the tagged resources of the specified type in a region. The string for each service name and resource type is the same as that embedded in a resource's Amazon Resource Name (ARN).

```
Get-RGTResource -ResourceType "s3"
```

Output:

```
ResourceARN                                                    Tags
-----------                                                    ----
arn:aws:s3:::mybucket                                          {stage, version,
 othertag}
```

Example 3: Returns all the tagged resources of the specified type in a region. Note that when the resource types are piped into the cmdlet, one call to the service is made for each supplied resource type.

```
"dynamodb","s3" | Get-RGTResource
```

Output:

```
ResourceARN                                                    Tags
-----------                                                    ----
arn:aws:dynamodb:us-west-2:123456789012:table/mytable          {stage, version}
arn:aws:s3:::mybucket                                          {stage, version,
 othertag}
```

Example 4: Returns all the tagged resources that match the specified filter.

```
Get-RGTResource -TagFilter @{ Key="stage" }
```

Output:

```
ResourceARN                                                    Tags
-----------                                                    ----
arn:aws:s3:::mybucket                                          {stage, version,
 othertag}
```

Example 5: Returns all the tagged resources that match the specified filter and resource type.

```
Get-RGTResource -TagFilter @{ Key="stage" } -ResourceType "dynamodb"
```

Output:

```
ResourceARN                                                     Tags
-----------                                                     ----
arn:aws:dynamodb:us-west-2:123456789012:table/mytable           {stage, version}
```

Example 6: Returns all the tagged resources that match the specified filter.

```
Get-RGTResource -TagFilter @{ Key="stage"; Values=@("beta","gamma") }
```

Output:

```
ResourceARN                                                     Tags
-----------                                                     ----
arn:aws:dynamodb:us-west-2:123456789012:table/mytable           {stage, version}
```

- For API details, see GetResources in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-RGTTagKey`

The following code example shows how to use `Get-RGTTagKey`.

Tools for PowerShell

Example 1: Returns all tag keys in the specified region. If the -Region parameter is not specified the cmdlet will attempt to infer the region from the default shell region or EC2 instance metadata. Note that the tag keys are not returned in any specific order.

```
Get-RGTTagKey -region us-west-2
```

Output:

```
version
stage
```

- For API details, see GetTagKeys in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-RGTTagValue`

The following code example shows how to use `Get-RGTTagValue`.

Tools for PowerShell

Example 1: Returns the value for the specified tag in a region. If the -Region parameter is not specified the cmdlet will attempt to infer the region from the default shell region or EC2 instance metadata.

```
Get-RGTTagValue -Key "stage" -Region us-west-2
```

Output:

```
beta
```

- For API details, see GetTagValues in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-RGTResourceTag`

The following code example shows how to use `Remove-RGTResourceTag`.

Tools for PowerShell

Example 1: Removes the tag keys "stage" and "version", and the associated values, from an Amazon S3 bucket and an Amazon DynamoDB table. A single call is made to the service to remove the tags. Before the tags are removed the cmdlet will prompt for confirmation. To bypass confirmation add the -Force parameter.

```
$arn1 = "arn:aws:s3:::mybucket"
$arn2 = "arn:aws:dynamodb:us-west-2:123456789012:table/mytable"

Remove-RGTResourceTag -ResourceARNList $arn1,$arn2 -TagKey "stage","version"
```

Example 2: Removes the tag keys "stage" and "version", and the associated values, from an Amazon S3 bucket and an Amazon DynamoDB table. Two calls are made to the service, one for each resource ARN piped into the cmdlet. Before each call the cmdlet will prompt for confirmation. To bypass confirmation add the -Force parameter.

```
$arn1 = "arn:aws:s3:::mybucket"
$arn2 = "arn:aws:dynamodb:us-west-2:123456789012:table/mytable"

$arn1,$arn2 | Remove-RGTResourceTag -TagKey "stage","version"
```

- For API details, see UntagResources in *AWS Tools for PowerShell Cmdlet Reference*.

Route 53 examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Edit-R53ResourceRecordSet`

The following code example shows how to use `Edit-R53ResourceRecordSet`.

Tools for PowerShell

Example 1: This example creates an A record for www.example.com and changes the A record for test.example.com from 192.0.2.3 to 192.0.2.1. Note that values for changes TXT-type records must be in double quotes. See the Amazon Route 53 documentation for more details. You can use the Get-R53Change cmdlet to poll to determine when the changes are complete.

```
$change1 = New-Object Amazon.Route53.Model.Change
$change1.Action = "CREATE"
$change1.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change1.ResourceRecordSet.Name = "www.example.com"
$change1.ResourceRecordSet.Type = "TXT"
```

```
$change1.ResourceRecordSet.TTL = 600
$change1.ResourceRecordSet.ResourceRecords.Add(@{Value="item 1 item 2 item 3"})

$change2 = New-Object Amazon.Route53.Model.Change
$change2.Action = "DELETE"
$change2.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change2.ResourceRecordSet.Name = "test.example.com"
$change2.ResourceRecordSet.Type = "A"
$change2.ResourceRecordSet.TTL = 600
$change2.ResourceRecordSet.ResourceRecords.Add(@{Value="192.0.2.3"})

$change3 = New-Object Amazon.Route53.Model.Change
$change3.Action = "CREATE"
$change3.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change3.ResourceRecordSet.Name = "test.example.com"
$change3.ResourceRecordSet.Type = "A"
$change3.ResourceRecordSet.TTL = 600
$change3.ResourceRecordSet.ResourceRecords.Add(@{Value="192.0.2.1"})

$params = @{
    HostedZoneId="Z1PA6795UKMFR9"
 ChangeBatch_Comment="This change batch creates a TXT record for www.example.com.
 and changes the A record for test.example.com. from 192.0.2.3 to 192.0.2.1."
 ChangeBatch_Change=$change1,$change2,$change3
}

Edit-R53ResourceRecordSet @params
```

Example 2: This example shows how to create alias resource record sets. 'Z222222222' is the ID of the Amazon Route 53 hosted zone in which you're creating the alias resource record set. 'example.com' is the zone apex for which you want to create an alias and 'www.example.com' is a subdomain for which you also want to create an alias. 'Z1111111111111' is an example of a hosted zone ID for the load balancer and 'example-load-balancer-1111111111.us-east-1.elb.amazonaws.com' is an example of a load balancer domain name with which Amazon Route 53 responds to queries for example.com and www.example.com. See the Amazon Route 53 documentation for more details. You can use the Get-R53Change cmdlet to poll to determine when the changes are complete.

```
$change1 = New-Object Amazon.Route53.Model.Change
$change1.Action = "CREATE"
$change1.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change1.ResourceRecordSet.Name = "example.com"
```

```
$change1.ResourceRecordSet.Type = "A"
$change1.ResourceRecordSet.AliasTarget = New-Object Amazon.Route53.Model.AliasTarget
$change1.ResourceRecordSet.AliasTarget.HostedZoneId = "Z1111111111111"
$change1.ResourceRecordSet.AliasTarget.DNSName = "example-load-
balancer-1111111111.us-east-1.elb.amazonaws.com."
$change1.ResourceRecordSet.AliasTarget.EvaluateTargetHealth = $true

$change2 = New-Object Amazon.Route53.Model.Change
$change2.Action = "CREATE"
$change2.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change1.ResourceRecordSet.Name = "www.example.com"
$change1.ResourceRecordSet.Type = "A"
$change1.ResourceRecordSet.AliasTarget = New-Object Amazon.Route53.Model.AliasTarget
$change1.ResourceRecordSet.AliasTarget.HostedZoneId = "Z1111111111111"
$change1.ResourceRecordSet.AliasTarget.DNSName = "example-load-
balancer-1111111111.us-east-1.elb.amazonaws.com."
$change1.ResourceRecordSet.AliasTarget.EvaluateTargetHealth = $false

$params = @{
    HostedZoneId="Z222222222"
 ChangeBatch_Comment="This change batch creates two alias resource record sets, one
 for the zone apex, example.com, and one for www.example.com, that both point to
 example-load-balancer-1111111111.us-east-1.elb.amazonaws.com."
 ChangeBatch_Change=$change1,$change2
}

Edit-R53ResourceRecordSet @params
```

Example 3: This example creates two A records for www.example.com. One-fourth of the time (1/(1+3)), Amazon Route 53 responds to queries for www.example.com with the two values for the first resource record set (192.0.2.9 and 192.0.2.10). Three-fourths of the time (3/(1+3)) Amazon Route 53 responds to queries for www.example.com with the two values for the second resource record set (192.0.2.11 and 192.0.2.12). See the Amazon Route 53 documentation for more details. You can use the Get-R53Change cmdlet to poll to determine when the changes are complete.

```
$change1 = New-Object Amazon.Route53.Model.Change
$change1.Action = "CREATE"
$change1.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change1.ResourceRecordSet.Name = "www.example.com"
$change1.ResourceRecordSet.Type = "A"
$change1.ResourceRecordSet.SetIdentifier = "Rack 2, Positions 4 and 5"
```

```
$change1.ResourceRecordSet.Weight = 1
$change1.ResourceRecordSet.TTL = 600
$change1.ResourceRecordSet.ResourceRecords.Add(@{Value="192.0.2.9"})
$change1.ResourceRecordSet.ResourceRecords.Add(@{Value="192.0.2.10"})

$change2 = New-Object Amazon.Route53.Model.Change
$change2.Action = "CREATE"
$change2.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change2.ResourceRecordSet.Name = "www.example.com"
$change2.ResourceRecordSet.Type = "A"
$change2.ResourceRecordSet.SetIdentifier = "Rack 5, Positions 1 and 2"
$change2.ResourceRecordSet.Weight = 3
$change2.ResourceRecordSet.TTL = 600
$change2.ResourceRecordSet.ResourceRecords.Add(@{Value="192.0.2.11"})
$change2.ResourceRecordSet.ResourceRecords.Add(@{Value="192.0.2.12"})

$params = @{
    HostedZoneId="Z1PA6795UKMFR9"
    ChangeBatch_Comment="This change creates two weighted resource record sets, each
 of which has two values."
    ChangeBatch_Change=$change1,$change2
}

Edit-R53ResourceRecordSet @params
```

Example 4: This example shows how to create weighted alias resource record sets assuming that example.com is the domain for which you want to create weighted alias resource record sets. SetIdentifier differentiates the two weighted alias resource record sets from one another. This element is required because the Name and Type elements have the same values for both resource record sets. Z1111111111111 and Z3333333333333 are examples of hosted zone IDs for the ELB load balancer specified by the value of DNSName. example-load-balancer-2222222222.us-east-1.elb.amazonaws.com and example-load-balancer-4444444444.us-east-1.elb.amazonaws.com are examples of Elastic Load Balancing domains from which Amazon Route 53 responds to queries for example.com. See the Amazon Route 53 documentation for more details. You can use the Get-R53Change cmdlet to poll to determine when the changes are complete.

```
$change1 = New-Object Amazon.Route53.Model.Change
$change1.Action = "CREATE"
$change1.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change1.ResourceRecordSet.Name = "example.com"
```

```
$change1.ResourceRecordSet.Type = "A"
$change1.ResourceRecordSet.SetIdentifier = "1"
$change1.ResourceRecordSet.Weight = 3
$change1.ResourceRecordSet.AliasTarget = New-Object Amazon.Route53.Model.AliasTarget
$change1.ResourceRecordSet.AliasTarget.HostedZoneId = "Z1111111111111"
$change1.ResourceRecordSet.AliasTarget.DNSName = "example-load-
balancer-2222222222.us-east-1.elb.amazonaws.com."
$change1.ResourceRecordSet.AliasTarget.EvaluateTargetHealth = $true

$change2 = New-Object Amazon.Route53.Model.Change
$change2.Action = "CREATE"
$change2.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change2.ResourceRecordSet.Name = "example.com"
$change2.ResourceRecordSet.Type = "A"
$change2.ResourceRecordSet.SetIdentifier = "2"
$change2.ResourceRecordSet.Weight = 1
$change2.ResourceRecordSet.AliasTarget = New-Object Amazon.Route53.Model.AliasTarget
$change2.ResourceRecordSet.AliasTarget.HostedZoneId = "Z3333333333333"
$change2.ResourceRecordSet.AliasTarget.DNSName = "example-load-
balancer-4444444444.us-east-1.elb.amazonaws.com."
$change2.ResourceRecordSet.AliasTarget.EvaluateTargetHealth = $false

$params = @{
    HostedZoneId="Z5555555555"
    ChangeBatch_Comment="This change batch creates two weighted alias resource
 record sets. Amazon Route 53 responds to queries for example.com with the first ELB
 domain 3/4ths of the times and the second one 1/4th of the time."
    ChangeBatch_Change=$change1,$change2
}

Edit-R53ResourceRecordSet @params
```

Example 5: This example creates two latency alias resource record sets, one for an ELB load balancer in the US West (Oregon) region (us-west-2), and another for a load balancer in the Asia Pacific (Singapore) region (ap-southeast-1). See the Amazon Route 53 documentation for more details. You can use the Get-R53Change cmdlet to poll to determine when the changes are complete.

```
$change1 = New-Object Amazon.Route53.Model.Change
$change1.Action = "CREATE"
$change1.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change1.ResourceRecordSet.Name = "example.com"
$change1.ResourceRecordSet.Type = "A"
```

```
$change1.ResourceRecordSet.SetIdentifier = "Oregon load balancer 1"
$change1.ResourceRecordSet.Region = us-west-2
$change1.ResourceRecordSet.AliasTarget = New-Object Amazon.Route53.Model.AliasTarget
$change1.ResourceRecordSet.AliasTarget.HostedZoneId = "Z1111111111111"
$change1.ResourceRecordSet.AliasTarget.DNSName = "example-load-
balancer-2222222222.us-west-2.elb.amazonaws.com"
$change1.ResourceRecordSet.AliasTarget.EvaluateTargetHealth = $true

$change2 = New-Object Amazon.Route53.Model.Change
$change2.Action = "CREATE"
$change2.ResourceRecordSet = New-Object Amazon.Route53.Model.ResourceRecordSet
$change2.ResourceRecordSet.Name = "example.com"
$change2.ResourceRecordSet.Type = "A"
$change2.ResourceRecordSet.SetIdentifier = "Singapore load balancer 1"
$change2.ResourceRecordSet.Region = ap-southeast-1
$change2.ResourceRecordSet.AliasTarget = New-Object Amazon.Route53.Model.AliasTarget
$change2.ResourceRecordSet.AliasTarget.HostedZoneId = "Z2222222222222"
$change2.ResourceRecordSet.AliasTarget.DNSName = "example-load-
balancer-1111111111.ap-southeast-1.elb.amazonaws.com"
$change2.ResourceRecordSet.AliasTarget.EvaluateTargetHealth = $true

$params = @{
    HostedZoneId="Z5555555555"
    ChangeBatch_Comment="This change batch creates two latency resource record
 sets, one for the US West (Oregon) region and one for the Asia Pacific (Singapore)
 region."
    ChangeBatch_Change=$change1,$change2
}

Edit-R53ResourceRecordSet @params
```

- For API details, see [ChangeResourceRecordSets](#) in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53AccountLimit`

The following code example shows how to use `Get-R53AccountLimit`.

Tools for PowerShell

Example 1: This example returns the maximum number of hosted zones that can be created using the current account.

```
Get-R53AccountLimit -Type MAX_HOSTED_ZONES_BY_OWNER
```

Output:

```
15
```

- For API details, see GetAccountLimit in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53CheckerIpRanges`

The following code example shows how to use `Get-R53CheckerIpRanges`.

Tools for PowerShell

Example 1: This example returns the CIDRs for the Route53 health checkers

```
Get-R53CheckerIpRanges
```

Output:

```
15.177.2.0/23
15.177.6.0/23
15.177.10.0/23
15.177.14.0/23
15.177.18.0/23
15.177.22.0/23
15.177.26.0/23
15.177.30.0/23
15.177.34.0/23
15.177.38.0/23
15.177.42.0/23
15.177.46.0/23
15.177.50.0/23
15.177.54.0/23
15.177.58.0/23
15.177.62.0/23
54.183.255.128/26
54.228.16.0/26
54.232.40.64/26
54.241.32.64/26
```

```
54.243.31.192/26
54.244.52.192/26
54.245.168.0/26
54.248.220.0/26
54.250.253.192/26
54.251.31.128/26
54.252.79.128/26
54.252.254.192/26
54.255.254.192/26
107.23.255.0/26
176.34.159.192/26
177.71.207.128/26
```

- For API details, see GetCheckerIpRanges in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53HostedZone`

The following code example shows how to use `Get-R53HostedZone`.

Tools for PowerShell

Example 1: Returns details of the hosted zone with ID Z1D633PJN98FT9.

```
Get-R53HostedZone -Id Z1D633PJN98FT9
```

- For API details, see GetHostedZone in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53HostedZoneCount`

The following code example shows how to use `Get-R53HostedZoneCount`.

Tools for PowerShell

Example 1: Returns the total number of public and private hosted zones for the current AWS account.

```
Get-R53HostedZoneCount
```

- For API details, see GetHostedZoneCount in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53HostedZoneLimit`

The following code example shows how to use `Get-R53HostedZoneLimit`.

Tools for PowerShell

Example 1: This example returns the limit on the maximum number of records that can be created in the specified hosted zone.

```
Get-R53HostedZoneLimit -HostedZoneId Z3MEQ8T7HAAAAF -Type MAX_RRSETS_BY_ZONE
```

Output:

```
5
```

- For API details, see GetHostedZoneLimit in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53HostedZoneList`

The following code example shows how to use `Get-R53HostedZoneList`.

Tools for PowerShell

Example 1: Outputs all of your public and private hosted zones.

```
Get-R53HostedZoneList
```

Example 2: Outputs all of the hosted zones that are associated with the reusable delegation set that has the ID NZ8X2CISAMPLE

```
Get-R53HostedZoneList -DelegationSetId NZ8X2CISAMPLE
```

- For API details, see ListHostedZones in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53HostedZonesByName`

The following code example shows how to use `Get-R53HostedZonesByName`.

Tools for PowerShell

Example 1: Returns all of your public and private hosted zones in ASCII order by domain name.

```
Get-R53HostedZonesByName
```

Example 2: Returns your public and private hosted zones, in ASCII order by domain name, starting at the specified DNS name.

```
Get-R53HostedZonesByName -DnsName example2.com
```

Example 3: This example shows how to manually enumerate the hosted zones by first retrieving a single item and then iterating two at a time until all zones have been returned, using marker properties attached to the service response in the `$AWSHistory` stack after each call.

```
Get-R53HostedZonesByName -MaxItem 1
while ($LastServiceResponse.IsTruncated)
{
    $nextPageParams = @{
        DnsName=$LastServiceResponse.NextDNSName
        HostedZoneId=$LastServiceResponse.NextHostedZoneId
    }
    Get-R53HostedZonesByName -MaxItem 2 @nextPageParams
}
```

- For API details, see ListHostedZonesByName in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53QueryLoggingConfigList`

The following code example shows how to use `Get-R53QueryLoggingConfigList`.

Tools for PowerShell

Example 1: This example returns all the configurations for DNS query logging that are associated with the current AWS account.

```
Get-R53QueryLoggingConfigList
```

Output:

```
Id                                   HostedZoneId   CloudWatchLogsLogGroupArn
--                                   ------------   ------------------------
59b0fa33-4fea-4471-a88c-926476aaa40d Z385PDS6EAAAZR arn:aws:logs:us-
east-1:111111111112:log-group:/aws/route53/example1.com:*
ee528e95-4e03-4fdc-9d28-9e24ddaaa063 Z94SJHBV1AAAAZ arn:aws:logs:us-
east-1:111111111112:log-group:/aws/route53/example2.com:*
e38dddda-ceb6-45c1-8cb7-f0ae56aaaa2b Z3MEQ8T7AAA1BF arn:aws:logs:us-
east-1:111111111112:log-group:/aws/route53/example3.com:*
```

- For API details, see ListQueryLoggingConfigs in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-R53ReusableDelegationSet`

The following code example shows how to use `Get-R53ReusableDelegationSet`.

Tools for PowerShell

Example 1: This example retrieves information about the specified delegation set including the four name servers that are assigned to the delegation set.

```
Get-R53ReusableDelegationSet -Id N23DS9X4AYEAAA
```

Output:

```
Id                           CallerReference NameServers
--                           --------------- -----------
/delegationset/N23DS9X4AYEAAA testcaller      {ns-545.awsdns-04.net,
 ns-1264.awsdns-30.org, ns-2004.awsdns-58.co.uk, ns-240.awsdns-30.com}
```

- For API details, see GetReusableDelegationSet in *AWS Tools for PowerShell Cmdlet Reference*.

`New-R53HostedZone`

The following code example shows how to use `New-R53HostedZone`.

Tools for PowerShell

Example 1: Creates a new hosted zone named 'example.com', associated with a reusable delegation set. Note that you must supply a value for the CallerReference parameter so that

requests that need to be retried if necessary without the risk of executing the operation twice. Because the hosted zone is being created in a VPC it is automatically private and you should not set the -HostedZoneConfig_PrivateZone parameter.

```
$params = @{
    Name="example.com"
    CallerReference="myUniqueIdentifier"
    HostedZoneConfig_Comment="This is my first hosted zone"
    DelegationSetId="NZ8X2CISAMPLE"
    VPC_VPCId="vpc-1a2b3c4d"
    VPC_VPCRegion="us-east-1"
}

New-R53HostedZone @params
```

- For API details, see CreateHostedZone in *AWS Tools for PowerShell Cmdlet Reference*.

`New-R53QueryLoggingConfig`

The following code example shows how to use `New-R53QueryLoggingConfig`.

Tools for PowerShell

Example 1: This example creates a new Route53 DNS query logging configuration for the specified hosted zone. Amazon Route53 will publish DNS query logs to the specified Cloudwatch log group.

```
New-R53QueryLoggingConfig -HostedZoneId Z3MEQ8T7HAAAAF -CloudWatchLogsLogGroupArn
 arn:aws:logs:us-east-1:111111111111:log-group:/aws/route53/example.com:*
```

Output:

```
QueryLoggingConfig                      Location
------------------                      --------
Amazon.Route53.Model.QueryLoggingConfig https://route53.amazonaws.com/2013-04-01/
queryloggingconfig/ee5aaa95-4e03-4fdc-9d28-9e24ddaaaaa3
```

- For API details, see CreateQueryLoggingConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`New-R53ReusableDelegationSet`

The following code example shows how to use `New-R53ReusableDelegationSet`.

Tools for PowerShell

Example 1: This example creates a reusable delegation set of 4 name servers that can be resused by multiple hosted zones.

```
New-R53ReusableDelegationSet -CallerReference testcallerreference
```

Output:

```
DelegationSet                      Location
-------------                      --------
Amazon.Route53.Model.DelegationSet https://route53.amazonaws.com/2013-04-01/
delegationset/N23DS9XAAAAAXM
```

- For API details, see CreateReusableDelegationSet in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-R53VPCWithHostedZone`

The following code example shows how to use `Register-R53VPCWithHostedZone`.

Tools for PowerShell

Example 1: This example associates the specified VPC with the private hosted zone.

```
Register-R53VPCWithHostedZone -HostedZoneId Z3MEQ8T7HAAAAF -VPC_VPCId vpc-f1b9aaaa -
VPC_VPCRegion us-east-1
```

Output:

```
Id                    Status  SubmittedAt         Comment
--                    ------  -----------         -------
/change/C3SCAAA633Z6DX PENDING 01/28/2020 19:32:02
```

- For API details, see AssociateVPCWithHostedZone in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-R53HostedZone`

The following code example shows how to use `Remove-R53HostedZone`.

Tools for PowerShell

Example 1: Deletes the hosted zone with the specified ID. You will be prompted for confirmation before the command proceeds unless you add the -Force switch parameter.

```
Remove-R53HostedZone -Id Z1PA6795UKMFR9
```

- For API details, see DeleteHostedZone in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-R53QueryLoggingConfig`

The following code example shows how to use `Remove-R53QueryLoggingConfig`.

Tools for PowerShell

Example 1: This example removes the specified configuration for DNS query logging.

```
Remove-R53QueryLoggingConfig -Id ee528e95-4e03-4fdc-9d28-9e24daaa20063
```

- For API details, see DeleteQueryLoggingConfig in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-R53ReusableDelegationSet`

The following code example shows how to use `Remove-R53ReusableDelegationSet`.

Tools for PowerShell

Example 1: This example deletes the specified reusable delegation set.

```
Remove-R53ReusableDelegationSet -Id N23DS9X4AYAAAM
```

- For API details, see DeleteReusableDelegationSet in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-R53VPCFromHostedZone`

The following code example shows how to use `Unregister-R53VPCFromHostedZone`.

Tools for PowerShell

Example 1: This example disassociates the specified VPC from the private hosted zone.

```
Unregister-R53VPCFromHostedZone -HostedZoneId Z3MEQ8T7HAAAAF -VPC_VPCId vpc-f1b9aaaa
 -VPC_VPCRegion us-east-1
```

Output:

```
Id                     Status  SubmittedAt         Comment
--                     ------  -----------         -------
/change/C2XFCAAAA9HKZG PENDING 01/28/2020 10:35:55
```

- For API details, see DisassociateVPCFromHostedZone in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-R53HostedZoneComment`

The following code example shows how to use `Update-R53HostedZoneComment`.

Tools for PowerShell

Example 1: This command updates the comment for the specified hosted zone.

```
Update-R53HostedZoneComment -Id Z385PDS6AAAAAR -Comment "This is my first hosted
 zone"
```

Output:

```
Id                    : /hostedzone/Z385PDS6AAAAAR
Name                  : example.com.
CallerReference       : C5B55555-7147-EF04-8341-69131E805C89
Config                : Amazon.Route53.Model.HostedZoneConfig
ResourceRecordSetCount : 9
LinkedService         :
```

- For API details, see UpdateHostedZoneComment in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon S3 examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Copy-S3Object`

The following code example shows how to use `Copy-S3Object`.

Tools for PowerShell

Example 1: This command copies the object "sample.txt" from bucket "test-files" to the same bucket but with a new key of "sample-copy.txt".

```
Copy-S3Object -BucketName test-files -Key sample.txt -DestinationKey sample-copy.txt
```

Example 2: This command copies the object "sample.txt" from bucket "test-files" to the bucket "backup-files" with a key of "sample-copy.txt".

```
Copy-S3Object -BucketName test-files -Key sample.txt -DestinationKey sample-copy.txt
 -DestinationBucket backup-files
```

Example 3: This command downloads the object "sample.txt" from bucket "test-files" to a local file with name "local-sample.txt".

```
Copy-S3Object -BucketName test-files -Key sample.txt -LocalFile local-sample.txt
```

Example 4: Downloads the single object to the specified file. The downloaded file will be found at c:\downloads\data\archive.zip

```
Copy-S3Object -BucketName test-files -Key data/archive.zip -LocalFolder c:\downloads
```

Example 5: Downloads all objects that match the specified key prefix to the local folder. The relative key hierarchy will be preserved as subfolders in the overall download location.

```
Copy-S3Object -BucketName test-files -KeyPrefix data -LocalFolder c:\downloads
```

- For API details, see CopyObject in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3ACL`

The following code example shows how to use `Get-S3ACL`.

Tools for PowerShell

Example 1: The command gets the details of the object owner of the S3 object.

```
Get-S3ACL -BucketName 's3casetestbucket' -key 'initialize.ps1' -Select
 AccessControlList.Owner
```

Output:

```
DisplayName Id
----------- --
testusername     9988776a6554433d22f1100112e334acb45566778899009e9887bd7f66c5f544
```

- For API details, see GetACL in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3Bucket`

The following code example shows how to use `Get-S3Bucket`.

Tools for PowerShell

Example 1: This command returns all S3 buckets.

```
Get-S3Bucket
```

Example 2: This command returns bucket named "test-files"

```
Get-S3Bucket -BucketName test-files
```

- For API details, see ListBuckets in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketAccelerateConfiguration`

The following code example shows how to use `Get-S3BucketAccelerateConfiguration`.

Tools for PowerShell

Example 1: This command returns the value Enabled, if the transfer acceleration settings is enabled for the bucket specified.

```
Get-S3BucketAccelerateConfiguration -BucketName 's3testbucket'
```

Output:

```
Value
-----
Enabled
```

- For API details, see GetBucketAccelerateConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketAnalyticsConfiguration`

The following code example shows how to use `Get-S3BucketAnalyticsConfiguration`.

Tools for PowerShell

Example 1: This command returns the details of the analytics filter with the name 'testfilter' in the given S3 bucket.

```
Get-S3BucketAnalyticsConfiguration -BucketName 's3testbucket' -AnalyticsId
 'testfilter'
```

- For API details, see GetBucketAnalyticsConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketAnalyticsConfigurationList`

The following code example shows how to use `Get-S3BucketAnalyticsConfigurationList`.

Tools for PowerShell

Example 1: This command returns the first 100 analytics configurations of the given S3 bucket.

```
Get-S3BucketAnalyticsConfigurationList -BucketName 's3casetestbucket'
```

- For API details, see ListBucketAnalyticsConfigurations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketEncryption`

The following code example shows how to use `Get-S3BucketEncryption`.

Tools for PowerShell

Example 1: This command returns all the server side encryption rules associated with the given bucket.

```
Get-S3BucketEncryption -BucketName 's3casetestbucket'
```

- For API details, see GetBucketEncryption in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketInventoryConfiguration`

The following code example shows how to use `Get-S3BucketInventoryConfiguration`.

Tools for PowerShell

Example 1: This command returns the details of the inventory named 'testinventory' for the given S3 bucket.

```
Get-S3BucketInventoryConfiguration -BucketName 's3testbucket' -InventoryId
 'testinventory'
```

- For API details, see GetBucketInventoryConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketInventoryConfigurationList`

The following code example shows how to use `Get-S3BucketInventoryConfigurationList`.

Tools for PowerShell

Example 1: This command returns the first 100 inventory configurations of the given S3 bucket.

```
Get-S3BucketInventoryConfigurationList -BucketName 's3testbucket'
```

- For API details, see ListBucketInventoryConfigurations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketLocation`

The following code example shows how to use `Get-S3BucketLocation`.

Tools for PowerShell

Example 1: This command returns the location constraint for the bucket 's3testbucket', if a constraint exists.

```
Get-S3BucketLocation -BucketName 's3testbucket'
```

Output:

```
Value
-----
ap-south-1
```

- For API details, see GetBucketLocation in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketLogging`

The following code example shows how to use `Get-S3BucketLogging`.

Tools for PowerShell

Example 1: This command returns the logging status for the specified bucket.

```
Get-S3BucketLogging -BucketName 's3testbucket'
```

Output:

```
TargetBucketName   Grants TargetPrefix
----------------   ------ ------------
testbucket1        {}     testprefix
```

- For API details, see GetBucketLogging in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketMetricsConfiguration`

The following code example shows how to use `Get-S3BucketMetricsConfiguration`.

Tools for PowerShell

Example 1: This command returns the details about the metrics filter named 'testfilter' for the given S3 bucket.

```
Get-S3BucketMetricsConfiguration -BucketName 's3testbucket' -MetricsId 'testfilter'
```

- For API details, see GetBucketMetricsConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketNotification`

The following code example shows how to use `Get-S3BucketNotification`.

Tools for PowerShell

Example 1: This example retrieves notification configuration of the given bucket

```
Get-S3BucketNotification -BucketName kt-tools | select -ExpandProperty
 TopicConfigurations
```

Output:

```
Id   Topic
--   -----
mimo arn:aws:sns:eu-west-1:123456789012:topic-1
```

- For API details, see GetBucketNotification in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketPolicy`

The following code example shows how to use `Get-S3BucketPolicy`.

Tools for PowerShell

Example 1: This command outputs the bucket policy associated with the given S3 bucket.

```
Get-S3BucketPolicy -BucketName 's3testbucket'
```

- For API details, see GetBucketPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketPolicyStatus`

The following code example shows how to use `Get-S3BucketPolicyStatus`.

Tools for PowerShell

Example 1: This command returns policy status for the given S3 bucket, indicating whether the bucket is public.

```
Get-S3BucketPolicyStatus -BucketName 's3casetestbucket'
```

- For API details, see GetBucketPolicyStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketReplication`

The following code example shows how to use `Get-S3BucketReplication`.

Tools for PowerShell

Example 1: Returns the replication configuration information set on the bucket named 'mybucket'.

```
Get-S3BucketReplication -BucketName mybucket
```

- For API details, see GetBucketReplication in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketRequestPayment`

The following code example shows how to use `Get-S3BucketRequestPayment`.

Tools for PowerShell

Example 1: Returns the request payment configuration for the bucket named 'mybucket'. By default, the bucket owner pays for downloads from the bucket.

```
Get-S3BucketRequestPayment -BucketName mybucket
```

- For API details, see GetBucketRequestPayment in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketTagging`

The following code example shows how to use `Get-S3BucketTagging`.

Tools for PowerShell

Example 1: This command returns all the tags associated with the given bucket.

```
Get-S3BucketTagging -BucketName 's3casetestbucket'
```

- For API details, see GetBucketTagging in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketVersioning`

The following code example shows how to use `Get-S3BucketVersioning`.

Tools for PowerShell

Example 1: This command returns the status of versioning with respect to the given bucket.

```
Get-S3BucketVersioning -BucketName 's3testbucket'
```

- For API details, see GetBucketVersioning in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3BucketWebsite`

The following code example shows how to use `Get-S3BucketWebsite`.

Tools for PowerShell

Example 1: This command returns the details of the static website configurations of the given S3 bucket.

```
Get-S3BucketWebsite -BucketName 's3testbucket'
```

- For API details, see GetBucketWebsite in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3CORSConfiguration`

The following code example shows how to use `Get-S3CORSConfiguration`.

Tools for PowerShell

Example 1: This command returns an object that contains all the CORS configuration rules corresponding to the given S3 Bucket.

```
Get-S3CORSConfiguration -BucketName 's3testbucket' -Select Configuration.Rules
```

Output:

```
AllowedMethods : {PUT, POST, DELETE}
AllowedOrigins : {http://www.example1.com}
Id             :
ExposeHeaders  : {}
MaxAgeSeconds  : 0
AllowedHeaders : {*}

AllowedMethods : {PUT, POST, DELETE}
AllowedOrigins : {http://www.example2.com}
```

```
Id             :
ExposeHeaders  : {}
MaxAgeSeconds  : 0
AllowedHeaders : {*}

AllowedMethods : {GET}
AllowedOrigins : {*}
Id             :
ExposeHeaders  : {}
MaxAgeSeconds  : 0
AllowedHeaders : {}
```

- For API details, see GetCORSConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3LifecycleConfiguration`

The following code example shows how to use `Get-S3LifecycleConfiguration`.

Tools for PowerShell

Example 1: This example retrieves lifecycle configuration for the bucket.

```
Get-S3LifecycleConfiguration -BucketName test-bla
```

Output:

```
Rules
-----
{Remove-in-150-days, Archive-to-Glacier-in-30-days}
```

- For API details, see GetLifecycleConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3Object`

The following code example shows how to use `Get-S3Object`.

Tools for PowerShell

Example 1: This command retrieves the information about all of the items in the bucket "test-files".

```
Get-S3Object -BucketName test-files
```

Example 2: This command retrieves the information about the item "sample.txt" from bucket "test-files".

```
Get-S3Object -BucketName test-files -Key sample.txt
```

Example 3: This command retrieves the information about all items with the prefix "sample" from bucket "test-files".

```
Get-S3Object -BucketName test-files -KeyPrefix sample
```

- For API details, see ListObjects in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3ObjectLockConfiguration`

The following code example shows how to use `Get-S3ObjectLockConfiguration`.

Tools for PowerShell

Example 1: This command returns the value 'Enabled' if Object lock configuration is enabled for the given S3 bucket.

```
Get-S3ObjectLockConfiguration -BucketName 's3buckettesting' -Select
 ObjectLockConfiguration.ObjectLockEnabled
```

Output:

```
Value
-----
Enabled
```

- For API details, see GetObjectLockConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3ObjectMetadata`

The following code example shows how to use `Get-S3ObjectMetadata`.

Tools for PowerShell

Example 1: This command returns the metadata of the object with key 'ListTrusts.txt' in the given S3 bucket.

```
Get-S3ObjectMetadata -BucketName 's3testbucket' -Key 'ListTrusts.txt'
```

Output:

```
Headers                                       : Amazon.S3.Model.HeadersCollection
Metadata                                      : Amazon.S3.Model.MetadataCollection
DeleteMarker                                  :
AcceptRanges                                  : bytes
ContentRange                                  :
Expiration                                    :
RestoreExpiration                             :
RestoreInProgress                             : False
LastModified                                  : 01/01/2020 08:02:05
ETag                                          : "d000011112a222e333e3bb4ee5d43d21"
MissingMeta                                   : 0
VersionId                                     : null
Expires                                       : 01/01/0001 00:00:00
WebsiteRedirectLocation                       :
ServerSideEncryptionMethod                    : AES256
ServerSideEncryptionCustomerMethod            :
ServerSideEncryptionKeyManagementServiceKeyId :
ReplicationStatus                             :
PartsCount                                    :
ObjectLockLegalHoldStatus                     :
ObjectLockMode                                :
ObjectLockRetainUntilDate                     : 01/01/0001 00:00:00
StorageClass                                  :
RequestCharged                                :
```

- For API details, see GetObjectMetadata in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3ObjectRetention`

The following code example shows how to use `Get-S3ObjectRetention`.

Tools for PowerShell

Example 1: The command returns the mode and date till the object would be retained.

```
Get-S3ObjectRetention -BucketName 's3buckettesting' -Key 'testfile.txt'
```

- For API details, see GetObjectRetention in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3ObjectTagSet`

The following code example shows how to use `Get-S3ObjectTagSet`.

Tools for PowerShell

Example 1: The sample returns the tags associated with the object present on the given S3 bucket.

```
Get-S3ObjectTagSet -Key 'testfile.txt' -BucketName 'testbucket123'
```

Output:

```
Key  Value
---  -----
test value
```

- For API details, see GetObjectTagging in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3PreSignedURL`

The following code example shows how to use `Get-S3PreSignedURL`.

Tools for PowerShell

Example 1: The command returns pre-signed URL for a specified key and an expiration date.

```
Get-S3PreSignedURL -BucketName 's3testbucket' -Key 'testkey' -Expires '2023-11-16'
```

Example 2: The command returns pre-signed URL for a Directory Bucket with specified key and an expiration date.

```
[Amazon.AWSConfigsS3]::UseSignatureVersion4 = $true
      Get-S3PreSignedURL -BucketName sampledirectorybucket--use1-az5--x-s3 -Key
 'testkey' -Expire '2023-11-17'
```

- For API details, see GetPreSignedURL in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3PublicAccessBlock`

The following code example shows how to use `Get-S3PublicAccessBlock`.

Tools for PowerShell

Example 1: The command returns the public access block configuration of the given S3 bucket.

```
Get-S3PublicAccessBlock -BucketName 's3testbucket'
```

- For API details, see GetPublicAccessBlock in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-S3Version`

The following code example shows how to use `Get-S3Version`.

Tools for PowerShell

Example 1: This command returns the metadata about all of the versions of objects in the given S3 bucket.

```
Get-S3Version -BucketName 's3testbucket'
```

Output:

```
IsTruncated         : False
KeyMarker           :
VersionIdMarker     :
NextKeyMarker       :
NextVersionIdMarker :
Versions            : {EC2.txt, EC2MicrosoftWindowsGuide.txt, ListDirectories.json,
 ListTrusts.json}
Name                : s3testbucket
```

```
Prefix              :
MaxKeys             : 1000
CommonPrefixes      : {}
Delimiter           :
```

- For API details, see ListVersions in *AWS Tools for PowerShell Cmdlet Reference*.

`New-S3Bucket`

The following code example shows how to use `New-S3Bucket`.

Tools for PowerShell

Example 1: This command creates a new private bucket named "sample-bucket".

```
New-S3Bucket -BucketName sample-bucket
```

Example 2: This command creates a new bucket named "sample-bucket" with read-write permissions.

```
New-S3Bucket -BucketName sample-bucket -PublicReadWrite
```

Example 3: This command creates a new bucket named "sample-bucket" with read-only permissions.

```
New-S3Bucket -BucketName sample-bucket -PublicReadOnly
```

Example 4: This command creates a new Directory bucket named "samplebucket--use1-az5--x-s3" with PutBucketConfiguration.

```
$bucketConfiguration = @{
      BucketInfo = @{
          DataRedundancy = 'SingleAvailabilityZone'
          Type = 'Directory'
      }
      Location = @{
          Name = 'use1-az5'
          Type = 'AvailabilityZone'
      }
    }
```

```
New-S3Bucket -BucketName samplebucket--use1-az5--x-s3 -BucketConfiguration
 $bucketConfiguration -Region us-east-1
```

- For API details, see PutBucket in *AWS Tools for PowerShell Cmdlet Reference*.

`Read-S3Object`

The following code example shows how to use `Read-S3Object`.

Tools for PowerShell

Example 1: This command retrieves item "sample.txt" from bucket "test-files" and saves it to a file named "local-sample.txt" in the current location. The file "local-sample.txt" does not have to exist before this command is called.

```
Read-S3Object -BucketName test-files -Key sample.txt -File local-sample.txt
```

Example 2: This command retrieves virtual directory "DIR" from bucket "test-files" and saves it to a folder named "Local-DIR" in the current location. The folder "Local-DIR" does not have to exist before this command is called.

```
Read-S3Object -BucketName test-files -KeyPrefix DIR -Folder Local-DIR
```

Example 3: Downloads all objects with keys ending in '.json' from buckets with 'config' in the bucket name to files in the specified folder. The object keys are used to set the filenames.

```
Get-S3Bucket | ? { $_.BucketName -like '*config*' } | Get-S3Object | ? { $_.Key -
like '*.json' } | Read-S3Object -Folder C:\ConfigObjects
```

- For API details, see GetObject in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3Bucket`

The following code example shows how to use `Remove-S3Bucket`.

Tools for PowerShell

Example 1: This command removes all objects and object versions from the bucket 'test-files' and then deletes the bucket. The command will prompt for confirmation before

proceeding. Add the -Force switch to suppress confirmation. Note that buckets that are not empty cannot be deleted.

```
Remove-S3Bucket -BucketName test-files -DeleteBucketContent
```

- For API details, see DeleteBucket in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3BucketAnalyticsConfiguration`

The following code example shows how to use `Remove-S3BucketAnalyticsConfiguration`.

Tools for PowerShell

Example 1: The command removes the analytics filter with name 'testfilter' in the given S3 bucket.

```
Remove-S3BucketAnalyticsConfiguration -BucketName 's3testbucket' -AnalyticsId
 'testfilter'
```

- For API details, see DeleteBucketAnalyticsConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3BucketEncryption`

The following code example shows how to use `Remove-S3BucketEncryption`.

Tools for PowerShell

Example 1: This disables the encryption enabled for the S3 bucket provided.

```
Remove-S3BucketEncryption -BucketName 's3casetestbucket'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-S3BucketEncryption (DeleteBucketEncryption)" on
 target "s3casetestbucket".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteBucketEncryption in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3BucketInventoryConfiguration`

The following code example shows how to use `Remove-S3BucketInventoryConfiguration`.

Tools for PowerShell

Example 1: This command removes the invventory named 'testInventoryName' corresponding to the given S3 bucket.

```
Remove-S3BucketInventoryConfiguration -BucketName 's3testbucket' -InventoryId
 'testInventoryName'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-S3BucketInventoryConfiguration
 (DeleteBucketInventoryConfiguration)" on target "s3testbucket".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteBucketInventoryConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3BucketMetricsConfiguration`

The following code example shows how to use `Remove-S3BucketMetricsConfiguration`.

Tools for PowerShell

Example 1: The command removes the metrics filter with name 'testmetrics' in the given S3 bucket.

```
Remove-S3BucketMetricsConfiguration -BucketName 's3testbucket' -MetricsId
 'testmetrics'
```

- For API details, see DeleteBucketMetricsConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3BucketPolicy`

The following code example shows how to use `Remove-S3BucketPolicy`.

Tools for PowerShell

Example 1: The command removes the bucket policy associated with the given S3 bucket.

```
Remove-S3BucketPolicy -BucketName 's3testbucket'
```

- For API details, see DeleteBucketPolicy in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3BucketReplication`

The following code example shows how to use `Remove-S3BucketReplication`.

Tools for PowerShell

Example 1: Deletes the replication configuration associated with the bucket named 'mybucket'. Note that this operation requires permission for the s3:DeleteReplicationConfiguration action. You will be prompted for confirmation before the operation proceeds - to suppress confirmation, use the -Force switch.

```
Remove-S3BucketReplication -BucketName mybucket
```

- For API details, see DeleteBucketReplication in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3BucketTagging`

The following code example shows how to use `Remove-S3BucketTagging`.

Tools for PowerShell

Example 1: This command removes all the tags associated with the given S3 bucket.

```
Remove-S3BucketTagging -BucketName 's3testbucket'
```

Output:

```
Confirm
```

```
Are you sure you want to perform this action?
Performing the operation "Remove-S3BucketTagging (DeleteBucketTagging)" on target
 "s3testbucket".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteBucketTagging in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3BucketWebsite`

The following code example shows how to use `Remove-S3BucketWebsite`.

Tools for PowerShell

Example 1: This command disables the static website hosting property of the given S3 bucket.

```
Remove-S3BucketWebsite -BucketName 's3testbucket'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-S3BucketWebsite (DeleteBucketWebsite)" on target
 "s3testbucket".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteBucketWebsite in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3CORSConfiguration`

The following code example shows how to use `Remove-S3CORSConfiguration`.

Tools for PowerShell

Example 1: This command removes the CORS configuration for the given S3 bucket.

```
Remove-S3CORSConfiguration -BucketName 's3testbucket'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-S3CORSConfiguration (DeleteCORSConfiguration)" on
 target "s3testbucket".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteCORSConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3LifecycleConfiguration`

The following code example shows how to use `Remove-S3LifecycleConfiguration`.

Tools for PowerShell

Example 1: The command removes all the lifecycle rules for the given S3 bucket.

```
Remove-S3LifecycleConfiguration -BucketName 's3testbucket'
```

- For API details, see DeleteLifecycleConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3MultipartUpload`

The following code example shows how to use `Remove-S3MultipartUpload`.

Tools for PowerShell

Example 1: This command aborts multipart uploads created earlier than 5 days ago.

```
Remove-S3MultipartUpload -BucketName test-files -DaysBefore 5
```

Example 2: This command aborts multipart uploads created earlier than January 2nd, 2014.

```
Remove-S3MultipartUpload -BucketName test-files -InitiatedDate "Thursday, January
 02, 2014"
```

Example 3: This command aborts multipart uploads created earlier than January 2nd, 2014, 10:45:37.

```
Remove-S3MultipartUpload -BucketName test-files -InitiatedDate "2014/01/02 10:45:37"
```

- For API details, see AbortMultipartUpload in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3Object`

The following code example shows how to use `Remove-S3Object`.

Tools for PowerShell

Example 1: This command removes the object "sample.txt" from bucket "test-files". You are prompted for confirmation before the command executes; to suppress the prompt use the -Force switch.

```
Remove-S3Object -BucketName test-files -Key sample.txt
```

Example 2: This command removes the specified version of object "sample.txt" from bucket "test-files", assuming the bucket has been configured to enable object versions.

```
Remove-S3Object -BucketName test-files -Key sample.txt -VersionId
 HLbxnx6V9omT6AQYVpks8mmFKQcejpqt
```

Example 3: This command removes objects "sample1.txt", "sample2.txt" and "sample3.txt" from bucket "test-files" as a single batch operation. The service response will list all keys processed, regardless of the success or error status of the deletion. To obtain only errors for keys that were not able to be processed by the service add the -ReportErrorsOnly parameter (this parameter can also be specified with the alias -Quiet.

```
Remove-S3Object -BucketName test-files -KeyCollection @( "sample1.txt",
 "sample2.txt", "sample3.txt" )
```

Example 4: This example uses an inline expression with the -KeyCollection parameter to obtain the keys of the objects to delete. Get-S3Object returns a collection of Amazon.S3.Model.S3Object instances, each of which has a Key member of type string identifying the object.

```
Remove-S3Object -bucketname "test-files" -KeyCollection (Get-S3Object "test-files" -
KeyPrefix "prefix/subprefix" | select -ExpandProperty Key)
```

Example 5: This example obtains all objects that have a key prefix "prefix/subprefix" in the bucket and deletes them. Note that the incoming objects are processed one at a time. For large collections consider passing the collection to the cmdlet's -InputObject (alias -S3ObjectCollection) parameter to enable the deletion to occur as a batch with a single call to the service.

```
Get-S3Object -BucketName "test-files" -KeyPrefix "prefix/subprefix" | Remove-
S3Object -Force
```

Example 6: This example pipes a collection of Amazon.S3.Model.S3ObjectVersion instances that represent delete markers to the cmdlet for deletion. Note that the incoming objects are processed one at a time. For large collections consider passing the collection to the cmdlet's -InputObject (alias -S3ObjectCollection) parameter to enable the deletion to occur as a batch with a single call to the service.

```
(Get-S3Version -BucketName "test-files").Versions | Where {$_.IsDeleteMarker -eq
 "True"} | Remove-S3Object -Force
```

Example 7: This script shows how to perform a batch delete of a set of objects (in this case delete markers) by constructing an array of objects to be used with the -KeyAndVersionCollection parameter.

```
$keyVersions = @()
$markers = (Get-S3Version -BucketName $BucketName).Versions | Where
 {$_.IsDeleteMarker -eq "True"}
foreach ($marker in $markers) { $keyVersions += @{ Key = $marker.Key; VersionId =
 $marker.VersionId } }
Remove-S3Object -BucketName $BucketName -KeyAndVersionCollection $keyVersions -Force
```

- For API details, see DeleteObjects in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3ObjectTagSet`

The following code example shows how to use `Remove-S3ObjectTagSet`.

Tools for PowerShell

Example 1: This command removes all the tags associated with the object with key 'testfile.txt' in the given S3 Bucket.

```
Remove-S3ObjectTagSet -Key 'testfile.txt' -BucketName 's3testbucket' -Select '^Key'
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-S3ObjectTagSet (DeleteObjectTagging)" on target
 "testfile.txt".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
testfile.txt
```

- For API details, see DeleteObjectTagging in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-S3PublicAccessBlock`

The following code example shows how to use `Remove-S3PublicAccessBlock`.

Tools for PowerShell

Example 1: This command turns off the block public access setting for the given bucket.

```
Remove-S3PublicAccessBlock -BucketName 's3testbucket' -Force -Select '^BucketName'
```

Output:

```
s3testbucket
```

- For API details, see DeletePublicAccessBlock in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-S3BucketEncryption`

The following code example shows how to use `Set-S3BucketEncryption`.

Tools for PowerShell

Example 1: This command enables default AES256 server side encryption with Amazon S3 Managed Keys(SSE-S3) on the given bucket.

```
$Encryptionconfig = @{ServerSideEncryptionByDefault =
 @{ServerSideEncryptionAlgorithm = "AES256"}}
Set-S3BucketEncryption -BucketName 's3testbucket' -
ServerSideEncryptionConfiguration_ServerSideEncryptionRule $Encryptionconfig
```

- For API details, see PutBucketEncryption in *AWS Tools for PowerShell Cmdlet Reference*.

`Test-S3Bucket`

The following code example shows how to use `Test-S3Bucket`.

Tools for PowerShell

Example 1: This command returns True if the bucket exists, False otherwise. The command returns True even if the bucket does not belong to the user.

```
Test-S3Bucket -BucketName test-files
```

- For API details, see Test-S3Bucket in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3BucketAccelerateConfiguration`

The following code example shows how to use `Write-S3BucketAccelerateConfiguration`.

Tools for PowerShell

Example 1: This command enables the transfer acceleration for the given S3 bucket.

```
$statusVal = New-Object Amazon.S3.BucketAccelerateStatus('Enabled')
Write-S3BucketAccelerateConfiguration -BucketName 's3testbucket' -
AccelerateConfiguration_Status $statusVal
```

- For API details, see PutBucketAccelerateConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3BucketNotification`

The following code example shows how to use `Write-S3BucketNotification`.

Tools for PowerShell

Example 1: This example configures the SNS topic configuration for the S3 event ObjectRemovedDelete and enables notification for the given s3 bucket

```
$topic =  [Amazon.S3.Model.TopicConfiguration] @{
  Id = "delete-event"
  Topic = "arn:aws:sns:eu-west-1:123456789012:topic-1"
  Event = [Amazon.S3.EventType]::ObjectRemovedDelete
}

Write-S3BucketNotification -BucketName kt-tools -TopicConfiguration $topic
```

Example 2: This example enables notifications of ObjectCreatedAll for the given bucket sending it to Lambda function.

```
$lambdaConfig = [Amazon.S3.Model.LambdaFunctionConfiguration] @{
  Events = "s3:ObjectCreated:*"
  FunctionArn = "arn:aws:lambda:eu-west-1:123456789012:function:rdplock"
  Id = "ObjectCreated-Lambda"
  Filter = @{
    S3KeyFilter = @{
      FilterRules = @(
        @{Name="Prefix";Value="dada"}
        @{Name="Suffix";Value=".pem"}
      )
    }
  }
}

Write-S3BucketNotification -BucketName ssm-editor -LambdaFunctionConfiguration
 $lambdaConfig
```

Example 3: This example creates 2 different Lambda configuration on the basis of different key-suffix and configured both in a single command.

```
#Lambda Config 1

$firstLambdaConfig = [Amazon.S3.Model.LambdaFunctionConfiguration] @{
  Events = "s3:ObjectCreated:*"
  FunctionArn = "arn:aws:lambda:eu-west-1:123456789012:function:verifynet"
  Id = "ObjectCreated-dada-ps1"
```

```
  Filter = @{
    S3KeyFilter = @{
      FilterRules = @(
        @{Name="Prefix";Value="dada"}
        @{Name="Suffix";Value=".ps1"}
      )
    }
  }
}

#Lambda Config 2

$secondlambdaConfig = [Amazon.S3.Model.LambdaFunctionConfiguration] @{
  Events = [Amazon.S3.EventType]::ObjectCreatedAll
  FunctionArn = "arn:aws:lambda:eu-west-1:123456789012:function:verifyssm"
  Id = "ObjectCreated-dada-json"
  Filter = @{
    S3KeyFilter = @{
      FilterRules = @(
        @{Name="Prefix";Value="dada"}
        @{Name="Suffix";Value=".json"}
      )
    }
  }
}

Write-S3BucketNotification -BucketName ssm-editor -LambdaFunctionConfiguration
 $firstLambdaConfig,$secondlambdaConfig
```

- For API details, see PutBucketNotification in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3BucketReplication`

The following code example shows how to use `Write-S3BucketReplication`.

Tools for PowerShell

Example 1: This example sets a replication configuration with a single rule enabling replication to the 'exampletargetbucket' bucket any new objects created with the key name prefix "TaxDocs" in the bucket 'examplebucket'.

```
$rule1 = New-Object Amazon.S3.Model.ReplicationRule
```

```
$rule1.ID = "Rule-1"
$rule1.Status = "Enabled"
$rule1.Prefix = "TaxDocs"
$rule1.Destination = @{ BucketArn = "arn:aws:s3:::exampletargetbucket" }

$params = @{
    BucketName = "examplebucket"
    Configuration_Role = "arn:aws:iam::35667example:role/
CrossRegionReplicationRoleForS3"
    Configuration_Rule = $rule1
}

Write-S3BucketReplication @params
```

Example 2: This example sets a replication configuration with multiple rules enabling replication to the 'exampletargetbucket' bucket any new objects created with either the key name prefix "TaxDocs" or "OtherDocs". The key prefixes must not overlap.

```
$rule1 = New-Object Amazon.S3.Model.ReplicationRule
$rule1.ID = "Rule-1"
$rule1.Status = "Enabled"
$rule1.Prefix = "TaxDocs"
$rule1.Destination = @{ BucketArn = "arn:aws:s3:::exampletargetbucket" }

$rule2 = New-Object Amazon.S3.Model.ReplicationRule
$rule2.ID = "Rule-2"
$rule2.Status = "Enabled"
$rule2.Prefix = "OtherDocs"
$rule2.Destination = @{ BucketArn = "arn:aws:s3:::exampletargetbucket" }

$params = @{
    BucketName = "examplebucket"
    Configuration_Role = "arn:aws:iam::35667example:role/
CrossRegionReplicationRoleForS3"
    Configuration_Rule = $rule1,$rule2
}

Write-S3BucketReplication @params
```

Example 3: This example updates the replication configuration on the specified bucket to disable the rule controlling replication of objects with the key name prefix "TaxDocs" to the bucket 'exampletargetbucket'.

```
$rule1 = New-Object Amazon.S3.Model.ReplicationRule
$rule1.ID = "Rule-1"
$rule1.Status = "Disabled"
$rule1.Prefix = "TaxDocs"
$rule1.Destination = @{ BucketArn = "arn:aws:s3:::exampletargetbucket" }

$params = @{
    BucketName = "examplebucket"
    Configuration_Role = "arn:aws:iam::35667example:role/
CrossRegionReplicationRoleForS3"
    Configuration_Rule = $rule1
}

Write-S3BucketReplication @params
```

- For API details, see PutBucketReplication in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3BucketRequestPayment`

The following code example shows how to use `Write-S3BucketRequestPayment`.

Tools for PowerShell

Example 1: Updates the request payment configuration for the bucket named 'mybucket' so that the person requesting downloads from the bucket will be charged for the download. By default the bucket owner pays for downloads. To set the request payment back to the default use 'BucketOwner' for the RequestPaymentConfiguration_Payer parameter.

```
Write-S3BucketRequestPayment -BucketName mybucket -RequestPaymentConfiguration_Payer
 Requester
```

- For API details, see PutBucketRequestPayment in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3BucketTagging`

The following code example shows how to use `Write-S3BucketTagging`.

Tools for PowerShell

Example 1: This command applies two tags to a bucket named `cloudtrail-test-2018`: a tag with a key of Stage and a value of Test, and a tag with a key of Environment and a value

of Alpha. To verify that the tags were added to the bucket, run `Get-S3BucketTagging -BucketName bucket_name`. The results should show the tags that you applied to the bucket in the first command. Note that `Write-S3BucketTagging` overwrites the entire existing tag set on a bucket. To add or delete individual tags, run the Resource Groups and Tagging API cmdlets, `Add-RGTResourceTag` and `Remove-RGTResourceTag`. Alternatively, use Tag Editor in the AWS Management Console to manage S3 bucket tags.

```
Write-S3BucketTagging -BucketName cloudtrail-test-2018 -TagSet @( @{ Key="Stage";
 Value="Test" }, @{ Key="Environment"; Value="Alpha" } )
```

Example 2: This command pipes a bucket named `cloudtrail-test-2018` into the `Write-S3BucketTagging` cmdlet. It applies tags Stage:Production and Department:Finance to the bucket. Note that `Write-S3BucketTagging` overwrites the entire existing tag set on a bucket.

```
Get-S3Bucket -BucketName cloudtrail-test-2018 | Write-S3BucketTagging -TagSet
 @( @{ Key="Stage"; Value="Production" }, @{ Key="Department"; Value="Finance" } )
```

- For API details, see PutBucketTagging in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3BucketVersioning`

The following code example shows how to use `Write-S3BucketVersioning`.

Tools for PowerShell

Example 1: The command enables versioning for the given S3 bucket.

```
Write-S3BucketVersioning -BucketName 's3testbucket' -VersioningConfig_Status Enabled
```

- For API details, see PutBucketVersioning in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3BucketWebsite`

The following code example shows how to use `Write-S3BucketWebsite`.

Tools for PowerShell

Example 1: The command enables website hosting for the given bucket with the index document as 'index.html' and error document as 'error.html'.

```
Write-S3BucketWebsite -BucketName 's3testbucket' -
WebsiteConfiguration_IndexDocumentSuffix 'index.html' -
WebsiteConfiguration_ErrorDocument 'error.html'
```

- For API details, see PutBucketWebsite in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3LifecycleConfiguration`

The following code example shows how to use `Write-S3LifecycleConfiguration`.

Tools for PowerShell

Example 1: This example writes / replaces the configuration provided in the $NewRule. This configuration is making sure to limit the scope objects with given prefix and tag values.

```
$NewRule = [Amazon.S3.Model.LifecycleRule] @{
  Expiration =  @{
   Days=  50
  }
  Id =  "Test-From-Write-cmdlet-1"
  Filter=  @{
   LifecycleFilterPredicate =  [Amazon.S3.Model.LifecycleAndOperator]@{
    Operands=  @(
     [Amazon.S3.Model.LifecyclePrefixPredicate] @{
      "Prefix" =  "py"
     },
     [Amazon.S3.Model.LifecycleTagPredicate] @{
      "Tag"=  @{
       "Key" =  "non-use"
       "Value" = "yes"
      }
     }
    )
   }
  }
  "Status"= 'Enabled'
  NoncurrentVersionExpiration = @{
   NoncurrentDays = 75
  }
 }
```

```
Write-S3LifecycleConfiguration -BucketName my-review-scrap -Configuration_Rule
$NewRule
```

Example 2: This example sets multiple rules with filtering. $ArchiveRule sets the objects to archive in 30 days to Glacier and 120 to DeepArchive. $ExpireRule expires both current and previous versions in 150 days for objects with 'py' prefix and tag:key 'archieved' set to 'yes'.

```
$ExpireRule = [Amazon.S3.Model.LifecycleRule] @{
  Expiration =  @{
   Days=  150
  }
  Id =  "Remove-in-150-days"
  Filter=  @{
   LifecycleFilterPredicate =  [Amazon.S3.Model.LifecycleAndOperator]@{
    Operands=  @(
     [Amazon.S3.Model.LifecyclePrefixPredicate] @{
      "Prefix" =  "py"
     },
     [Amazon.S3.Model.LifecycleTagPredicate] @{
      "Tag"=  @{
       "Key" =  "archived"
       "Value" = "yes"
      }
     }
    )
   }
  }
  Status= 'Enabled'
  NoncurrentVersionExpiration = @{
   NoncurrentDays = 150
  }
 }

 $ArchiveRule = [Amazon.S3.Model.LifecycleRule] @{
  Expiration =  $null
  Id =  "Archive-to-Glacier-in-30-days"
  Filter=  @{
   LifecycleFilterPredicate =  [Amazon.S3.Model.LifecycleAndOperator]@{
    Operands= @(
     [Amazon.S3.Model.LifecyclePrefixPredicate] @{
      "Prefix" =  "py"
     },
     [Amazon.S3.Model.LifecycleTagPredicate] @{
```

```
      "Tag"=  @{
       "Key" =  "reviewed"
       "Value" = "yes"
      }
     }
    )
   }
  }
  Status = 'Enabled'
  NoncurrentVersionExpiration = @{
   NoncurrentDays = 75
  }
  Transitions = @(
   @{
    Days = 30
    "StorageClass"= 'Glacier'
   },
   @{
    Days = 120
    "StorageClass"= [Amazon.S3.S3StorageClass]::DeepArchive
   }
  )
}

Write-S3LifecycleConfiguration -BucketName my-review-scrap -Configuration_Rule
$ExpireRule,$ArchiveRule
```

- For API details, see PutLifecycleConfiguration in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3Object`

The following code example shows how to use `Write-S3Object`.

Tools for PowerShell

Example 1: This command uploads the single file "local-sample.txt" to Amazon S3, creating an object with key "sample.txt" in bucket "test-files".

```
Write-S3Object -BucketName test-files -Key "sample.txt" -File .\local-sample.txt
```

Example 2: This command uploads the single file "sample.txt" to Amazon S3, creating an object with key "sample.txt" in bucket "test-files". If the -Key parameter is not supplied, the filename is used as the S3 object key.

```
Write-S3Object -BucketName test-files -File .\sample.txt
```

Example 3: This command uploads the single file "local-sample.txt" to Amazon S3, creating an object with key "prefix/to/sample.txt" in bucket "test-files".

```
Write-S3Object -BucketName test-files -Key "prefix/to/sample.txt" -File .\local-
sample.txt
```

Example 4: This command uploads all files in the subdirectory "Scripts" to the bucket "test-files" and applies the common key prefix "SampleScripts" to each object. Each uploaded file will have a key of "SampleScripts/filename" where 'filename' varies.

```
Write-S3Object -BucketName test-files -Folder .\Scripts -KeyPrefix SampleScripts\
```

Example 5: This command uploads all *.ps1 files in the local director "Scripts" to bucket "test-files" and applies the common key prefix "SampleScripts" to each object. Each uploaded file will have a key of "SampleScripts/filename.ps1" where 'filename' varies.

```
Write-S3Object -BucketName test-files -Folder .\Scripts -KeyPrefix SampleScripts\ -
SearchPattern *.ps1
```

Example 6: This command creates a new S3 object containing the specified content string with key 'sample.txt'.

```
Write-S3Object -BucketName test-files -Key "sample.txt" -Content "object contents"
```

Example 7: This command uploads the specified file (the filename is used as the key) and applies the specified tags to the new object.

```
Write-S3Object -BucketName test-files -File "sample.txt" -TagSet
 @{Key="key1";Value="value1"},@{Key="key2";Value="value2"}
```

Example 8: This command recursively uploads the specified folder and applies the specified tags to all the new objects.

```
Write-S3Object -BucketName test-files -Folder . -KeyPrefix "TaggedFiles" -Recurse -
TagSet @{Key="key1";Value="value1"},@{Key="key2";Value="value2"}
```

- For API details, see PutObject in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-S3ObjectRetention`

The following code example shows how to use `Write-S3ObjectRetention`.

Tools for PowerShell

Example 1: The command enables governance retention mode untill the date '31st Dec 2019 00:00:00' for 'testfile.txt' object in the given S3 bucket.

```
Write-S3ObjectRetention -BucketName 's3buckettesting' -Key 'testfile.txt' -
Retention_Mode GOVERNANCE -Retention_RetainUntilDate "2019-12-31T00:00:00"
```

- For API details, see PutObjectRetention in *AWS Tools for PowerShell Cmdlet Reference*.

S3 Glacier examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Get-GLCJob`

The following code example shows how to use `Get-GLCJob`.

Tools for PowerShell

Example 1: Returns details of the specified job. When the job completes successfully the Read-GCJobOutput cmdlet can be used to retrieve the contents of the job (an archive or inventory list) to the local file system.

```
Get-GLCJob -VaultName myvault -JobId "op1x...JSbthM"
```

Output:

```
Action                       : ArchiveRetrieval
ArchiveId                    : o9O9j...X-TpIhQJw
ArchiveSHA256TreeHash        : 79f3ea754c02f58...dc57bf4395b
ArchiveSizeInBytes           : 38034480
Completed                    : False
CompletionDate               : 1/1/0001 12:00:00 AM
CreationDate                 : 12/13/2018 11:00:14 AM
InventoryRetrievalParameters :
InventorySizeInBytes         : 0
JobDescription               :
JobId                        : op1x...JSbthM
JobOutputPath                :
OutputLocation               :
RetrievalByteRange           : 0-38034479
SelectParameters             :
SHA256TreeHash               : 79f3ea754c02f58...dc57bf4395b
SNSTopic                     :
StatusCode                   : InProgress
StatusMessage                :
Tier                         : Standard
VaultARN                     : arn:aws:glacier:us-west-2:012345678912:vaults/test
```

- For API details, see DescribeJob in *AWS Tools for PowerShell Cmdlet Reference*.

`New-GLCVault`

The following code example shows how to use `New-GLCVault`.

Tools for PowerShell

Example 1: Creates a new vault for the user's account. As no value was supplied to the -AccountId parameter the cmdlets uses a default of "-" indicating the current account.

```
New-GLCVault -VaultName myvault
```

Output:

```
/01234567812/vaults/myvault
```

- For API details, see CreateVault in *AWS Tools for PowerShell Cmdlet Reference*.

`Read-GLCJobOutput`

The following code example shows how to use `Read-GLCJobOutput`.

Tools for PowerShell

Example 1: Downloads the archive content that was scheduled for retrieval in the specified job and stores the contents into a file on disk. The download validates the checksum for you, if one is available. If required the checksum can be obtained from the service response history like so (assuming this cmdlet was the last run): `$AWSHistory.LastServiceResponse`. If the cmdlet was not the most recently run, inspect the `$AWSHistory.Commands` collection to obtain the relevant service response.

```
Read-GLCJobOutput -VaultName myvault -JobId "HSWjArc...Zq2XLiW" -FilePath "c:\temp
\blue.bin"
```

- For API details, see GetJobOutput in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-GLCJob`

The following code example shows how to use `Start-GLCJob`.

Tools for PowerShell

Example 1: Starts a job to retrieve an archive from the specified vault owned by the user. The status of the job can be checked using the Get-GLCJob cmdlet. When the job completes successfully the Read-GCJobOutput cmdlet can be used to retrieve the contents of the archive to the local file system.

```
Start-GLCJob -VaultName myvault -JobType "archive-retrieval" -JobDescription
 "archive retrieval" -ArchiveId "o9O9j...TX-TpIhQJw"
```

Output:

```
JobId            JobOutputPath Location
-----            ------------- --------
op1x...JSbthM                  /012345678912/vaults/test/jobs/op1xe...I4HqCHkSJSbthM
```

- For API details, see InitiateJob in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-GLCArchive`

The following code example shows how to use `Write-GLCArchive`.

Tools for PowerShell

Example 1: Uploads a single file to the specified vault, returning the archive ID and computed checksum.

```
Write-GLCArchive -VaultName myvault -FilePath c:\temp\blue.bin
```

Output:

```
FilePath                  ArchiveId             Checksum
--------                  ---------             --------
C:\temp\blue.bin          o9O9jUUs...TTX-TpIhQJw 79f3e...f4395b
```

Example 2: Uploads the contents of a folder hierarchy to the specified vault in the user's account. For each file uploaded the cmdlet emits the filename, corresponding archive ID and the computed checksum of the archive.

```
Write-GLCArchive -VaultName myvault -FolderPath . -Recurse
```

Output:

```
FilePath                  ArchiveId              Checksum
--------                  ---------              --------
C:\temp\blue.bin          o9O9jUUs...TTX-TpIhQJw 79f3e...f4395b
C:\temp\green.bin         qXAfOdSG...czo729UHXrw d50a1...9184b9
C:\temp\lum.bin           39aNifP3...q9nb8nZkFIg 28886...5c3e27
C:\temp\red.bin           vp7E6rU_...Ejk_HhjAxKA e05f7...4e34f5
C:\temp\Folder1\file1.txt _eRINlip...5Sxy7dD2BaA d0d2a...c8a3ba
C:\temp\Folder2\file2.iso -Ix3jlmu...iXiDh-XfOPA 7469e...3e86f1
```

- For API details, see UploadArchive in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon SES examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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.

Topics

- Actions

Actions

`Get-SESIdentity`

The following code example shows how to use `Get-SESIdentity`.

Tools for PowerShell

Example 1: This command returns a list containing all of the identities (email addresses and domains) for a specific AWS Account, regardless of verification status.

```
Get-SESIdentity
```

- For API details, see ListIdentities in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SESSendQuota`

The following code example shows how to use `Get-SESSendQuota`.

Tools for PowerShell

Example 1: This command returns the user's current sending limits.

```
Get-SESSendQuota
```

- For API details, see GetSendQuota in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SESSendStatistic`

The following code example shows how to use `Get-SESSendStatistic`.

Tools for PowerShell

Example 1: This command returns the user's sending statistics. 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.

```
Get-SESSendStatistic
```

- For API details, see GetSendStatistics in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon SNS examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Publish-SNSMessage`

The following code example shows how to use `Publish-SNSMessage`.

Tools for PowerShell

Example 1: This example shows publishing a message with a single MessageAttribute declared inline.

```
Publish-SNSMessage -TopicArn "arn:aws:sns:us-west-2:123456789012:my-topic" -Message
 "Hello" -MessageAttribute
 @{'City'=[Amazon.SimpleNotificationService.Model.MessageAttributeValue]@{DataType='String';
 StringValue ='AnyCity'}}
```

Example 2: This example shows publishing a message with multiple MessageAttributes declared in advance.

```
$cityAttributeValue = New-Object
 Amazon.SimpleNotificationService.Model.MessageAttributeValue
$cityAttributeValue.DataType = "String"
$cityAttributeValue.StringValue = "AnyCity"

$populationAttributeValue = New-Object
 Amazon.SimpleNotificationService.Model.MessageAttributeValue
$populationAttributeValue.DataType = "Number"
$populationAttributeValue.StringValue = "1250800"

$messageAttributes = New-Object System.Collections.Hashtable
$messageAttributes.Add("City", $cityAttributeValue)
$messageAttributes.Add("Population", $populationAttributeValue)
```

```
Publish-SNSMessage -TopicArn "arn:aws:sns:us-west-2:123456789012:my-topic" -Message
 "Hello" -MessageAttribute $messageAttributes
```

- For API details, see Publish in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon SQS examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-SQSPermission`

The following code example shows how to use `Add-SQSPermission`.

Tools for PowerShell

Example 1: This example allows the specified AWS account to send messages from the specified queue.

```
Add-SQSPermission -Action SendMessage -AWSAccountId 80398EXAMPLE -Label
 SendMessagesFromMyQueue -QueueUrl https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/
MyQueue
```

- For API details, see AddPermission in *AWS Tools for PowerShell Cmdlet Reference*.

`Clear-SQSQueue`

The following code example shows how to use `Clear-SQSQueue`.

Tools for PowerShell

Example 1: This example deletes all messages from the specified queue.

```
Clear-SQSQueue -QueueUrl https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

- For API details, see PurgeQueue in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-SQSMessageVisibility`

The following code example shows how to use `Edit-SQSMessageVisibility`.

Tools for PowerShell

Example 1: This example changes the visibility timeout for the message with the specified receipt handle in the specified queue to 10 hours (10 hours * 60 minutes * 60 seconds = 36000 seconds).

```
Edit-SQSMessageVisibility -QueueUrl https://sqs.us-east-1.amazonaws.com/8039EXAMPLE/
MyQueue -ReceiptHandle AQEBgGDh...J/Iqww== -VisibilityTimeout 36000
```

- For API details, see ChangeMessageVisibility in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-SQSMessageVisibilityBatch`

The following code example shows how to use `Edit-SQSMessageVisibilityBatch`.

Tools for PowerShell

Example 1: This example changes the visibility timeout for 2 messages with the specified receipt handles in the specified queue. The first message's visibility timeout is changed to 10 hours (10 hours * 60 minutes * 60 seconds = 36000 seconds). The second message's visibility timeout is changed to 5 hours (5 hours * 60 minutes * 60 seconds = 18000 seconds).

```
$changeVisibilityRequest1 = New-Object
 Amazon.SQS.Model.ChangeMessageVisibilityBatchRequestEntry
```

```
$changeVisibilityRequest1.Id = "Request1"
$changeVisibilityRequest1.ReceiptHandle = "AQEBd329...v6gl8Q=="
$changeVisibilityRequest1.VisibilityTimeout = 36000

$changeVisibilityRequest2 = New-Object
 Amazon.SQS.Model.ChangeMessageVisibilityBatchRequestEntry
$changeVisibilityRequest2.Id = "Request2"
$changeVisibilityRequest2.ReceiptHandle = "AQEBgGDh...J/Iqww=="
$changeVisibilityRequest2.VisibilityTimeout = 18000

Edit-SQSMessageVisibilityBatch -QueueUrl https://sqs.us-
east-1.amazonaws.com/80398EXAMPLE/MyQueue -Entry $changeVisibilityRequest1,
 $changeVisibilityRequest2
```

Output:

```
Failed    Successful

------    ----------

{}        {Request2, Request1}
```

- For API details, see ChangeMessageVisibilityBatch in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SQSDeadLetterSourceQueue`

The following code example shows how to use `Get-SQSDeadLetterSourceQueue`.

Tools for PowerShell

Example 1: This example lists the URLs of any queues that rely on the specified queue as their dead letter queue.

```
Get-SQSDeadLetterSourceQueue -QueueUrl https://sqs.us-
east-1.amazonaws.com/80398EXAMPLE/MyDeadLetterQueue
```

Output:

```
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyOtherQueue
```

- For API details, see ListDeadLetterSourceQueues in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SQSQueue`

The following code example shows how to use `Get-SQSQueue`.

Tools for PowerShell

Example 1: This example lists all queues.

```
Get-SQSQueue
```

Output:

```
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/AnotherQueue
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/DeadLetterQueue
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyOtherQueue
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyDeadLetterQueue
```

Example 2: This example lists any queues that start with the specified name.

```
Get-SQSQueue -QueueNamePrefix My
```

Output:

```
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyOtherQueue
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyDeadLetterQueue
```

- For API details, see ListQueues in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SQSQueueAttribute`

The following code example shows how to use `Get-SQSQueueAttribute`.

Tools for PowerShell

Example 1: This example lists all attributes for the specified queue.

```
Get-SQSQueueAttribute -AttributeName All -QueueUrl https://sqs.us-
east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

Output:

```
VisibilityTimeout                     : 30
DelaySeconds                          : 0
MaximumMessageSize                    : 262144
MessageRetentionPeriod                : 345600
ApproximateNumberOfMessages           : 0
ApproximateNumberOfMessagesNotVisible : 0
ApproximateNumberOfMessagesDelayed    : 0
CreatedTimestamp                      : 2/11/2015 5:53:35 PM
LastModifiedTimestamp                 : 12/29/2015 2:23:17 PM
QueueARN                              : arn:aws:sqs:us-east-1:80398EXAMPLE:MyQueue
Policy                                :
 {"Version":"2008-10-17","Id":"arn:aws:sqs:us-east-1:80398EXAMPLE:MyQueue/
SQSDefaultPolicy","Statement":[{"Sid":"Sid14
                                       495134224EX","Effect":"Allow","Principal":
{"AWS":"*"},"Action":"SQS:SendMessage","Resource":"arn:aws:sqs:us-east-1:80
                                       398EXAMPLE:MyQueue","Condition":
{"ArnEquals":{"aws:SourceArn":"arn:aws:sns:us-east-1:80398EXAMPLE:MyTopic"}}},
{"Sid":

 "SendMessagesFromMyQueue","Effect":"Allow","Principal":
{"AWS":"80398EXAMPLE"},"Action":"SQS:SendMessage","Resource":"
                                       arn:aws:sqs:us-
east-1:80398EXAMPLE:MyQueue"}]}
Attributes                            : {[QueueArn, arn:aws:sqs:us-
east-1:80398EXAMPLE:MyQueue], [ApproximateNumberOfMessages, 0],
                                       [ApproximateNumberOfMessagesNotVisible, 0],
 [ApproximateNumberOfMessagesDelayed, 0]...}
```

Example 2: This example lists separately only the specified attributes for the specified queue.

```
Get-SQSQueueAttribute -AttributeName MaximumMessageSize, VisibilityTimeout -QueueUrl
 https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

Output:

```
VisibilityTimeout                     : 30
```

```
DelaySeconds                           : 0
MaximumMessageSize                     : 262144
MessageRetentionPeriod                 : 345600
ApproximateNumberOfMessages            : 0
ApproximateNumberOfMessagesNotVisible : 0
ApproximateNumberOfMessagesDelayed     : 0
CreatedTimestamp                       : 2/11/2015 5:53:35 PM
LastModifiedTimestamp                  : 12/29/2015 2:23:17 PM
QueueARN                               : arn:aws:sqs:us-east-1:80398EXAMPLE:MyQueue
Policy                                 :
 {"Version":"2008-10-17","Id":"arn:aws:sqs:us-east-1:80398EXAMPLE:MyQueue/
SQSDefaultPolicy","Statement":[{"Sid":"Sid14
                                         495134224EX","Effect":"Allow","Principal":
{"AWS":"*"},"Action":"SQS:SendMessage","Resource":"arn:aws:sqs:us-east-1:80
                                         398EXAMPLE:MyQueue","Condition":
{"ArnEquals":{"aws:SourceArn":"arn:aws:sns:us-east-1:80398EXAMPLE:MyTopic"}}},
{"Sid":

 "SendMessagesFromMyQueue","Effect":"Allow","Principal":
{"AWS":"80398EXAMPLE"},"Action":"SQS:SendMessage","Resource":"
                                         arn:aws:sqs:us-
east-1:80398EXAMPLE:MyQueue"}]}
Attributes                             : {[MaximumMessageSize, 262144],
 [VisibilityTimeout, 30]}
```

- For API details, see GetQueueAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SQSQueueUrl`

The following code example shows how to use `Get-SQSQueueUrl`.

Tools for PowerShell

Example 1: This example lists the URL of the queue with the specified name.

```
Get-SQSQueueUrl -QueueName MyQueue
```

Output:

```
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

- For API details, see GetQueueUrl in *AWS Tools for PowerShell Cmdlet Reference*.

New-SQSQueue

The following code example shows how to use New-SQSQueue.

Tools for PowerShell

Example 1: This example creates a queue with the specified name.

```
New-SQSQueue -QueueName MyQueue
```

Output:

```
https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

- For API details, see CreateQueue in *AWS Tools for PowerShell Cmdlet Reference*.

Receive-SQSMessage

The following code example shows how to use Receive-SQSMessage.

Tools for PowerShell

Example 1: This example lists information for up to the next 10 messages to be received for the specified queue. The information will contain values for the specified message attributes, if they exist.

```
Receive-SQSMessage -AttributeName SenderId, SentTimestamp -MessageAttributeName
 StudentName, StudentGrade -MessageCount 10 -QueueUrl https://sqs.us-
east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

Output:

```
Attributes             : {[SenderId, AIDAIAZKMSNQ7TEXAMPLE], [SentTimestamp,
 1451495923744]}
Body                   : Information about John Doe's grade.
MD5OfBody              : ea572796e3c231f974fe75d89EXAMPLE
MD5OfMessageAttributes : 48c1ee811f0fe7c4e88fbe0f5EXAMPLE
MessageAttributes      : {[StudentGrade, Amazon.SQS.Model.MessageAttributeValue],
 [StudentName, Amazon.SQS.Model.MessageAttributeValue]}
MessageId              : 53828c4b-631b-469b-8833-c093cEXAMPLE
ReceiptHandle          : AQEBpfGp...20Q5cg==
```

- For API details, see ReceiveMessage in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SQSMessage`

The following code example shows how to use `Remove-SQSMessage`.

Tools for PowerShell

Example 1: This example deletes the message with the specified receipt handle from the specified queue.

```
Remove-SQSMessage -QueueUrl https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
 -ReceiptHandle AQEBd329...v6gl8Q==
```

- For API details, see DeleteMessage in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SQSMessageBatch`

The following code example shows how to use `Remove-SQSMessageBatch`.

Tools for PowerShell

Example 1: This example deletes 2 messages with the specified receipt handles from the specified queue.

```
$deleteMessageRequest1 = New-Object Amazon.SQS.Model.DeleteMessageBatchRequestEntry
$deleteMessageRequest1.Id = "Request1"
$deleteMessageRequest1.ReceiptHandle = "AQEBX2g4...wtJSQg=="

$deleteMessageRequest2 = New-Object Amazon.SQS.Model.DeleteMessageBatchRequestEntry
$deleteMessageRequest2.Id = "Request2"
$deleteMessageRequest2.ReceiptHandle = "AQEBqOVY...KTsLYg=="

Remove-SQSMessageBatch -QueueUrl https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/
MyQueue -Entry $deleteMessageRequest1, $deleteMessageRequest2
```

Output:

```
Failed    Successful
```

```
------    ----------

{}        {Request1, Request2}
```

- For API details, see DeleteMessageBatch in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SQSPermission`

The following code example shows how to use `Remove-SQSPermission`.

Tools for PowerShell

Example 1: This example removes the permission settings with the specified label from the specified queue.

```
Remove-SQSPermission -Label SendMessagesFromMyQueue -QueueUrl https://sqs.us-
east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

- For API details, see RemovePermission in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SQSQueue`

The following code example shows how to use `Remove-SQSQueue`.

Tools for PowerShell

Example 1: This example deletes the specified queue.

```
Remove-SQSQueue -QueueUrl https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

- For API details, see DeleteQueue in *AWS Tools for PowerShell Cmdlet Reference*.

`Send-SQSMessage`

The following code example shows how to use `Send-SQSMessage`.

Tools for PowerShell

Example 1: This example sends a message with the specified attributes and message body to the specified queue with message delivery delayed for 10 seconds.

```
$cityAttributeValue = New-Object Amazon.SQS.Model.MessageAttributeValue
$cityAttributeValue.DataType = "String"
$cityAttributeValue.StringValue = "AnyCity"

$populationAttributeValue = New-Object Amazon.SQS.Model.MessageAttributeValue
$populationAttributeValue.DataType = "Number"
$populationAttributeValue.StringValue = "1250800"

$messageAttributes = New-Object System.Collections.Hashtable
$messageAttributes.Add("City", $cityAttributeValue)
$messageAttributes.Add("Population", $populationAttributeValue)

Send-SQSMessage -DelayInSeconds 10 -MessageAttributes $messageAttributes -
MessageBody "Information about the largest city in Any Region." -QueueUrl https://
sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

Output:

```
MD5OfMessageAttributes             MD5OfMessageBody                    MessageId

----------------------             ----------------                    ---------

1d3e51347bc042efbdf6dda31EXAMPLE   51b0a3256d59467f973009b73EXAMPLE    c35fed8f-
c739-4d0c-818b-1820eEXAMPLE
```

- For API details, see SendMessage in *AWS Tools for PowerShell Cmdlet Reference*.

`Send-SQSMessageBatch`

The following code example shows how to use `Send-SQSMessageBatch`.

Tools for PowerShell

Example 1: This example sends 2 messages with the specified attributes and message bodies to the specified queue. Delivery is delayed for 15 seconds for the first message and 10 seconds for the second message.

```
$student1NameAttributeValue = New-Object Amazon.SQS.Model.MessageAttributeValue
$student1NameAttributeValue.DataType = "String"
$student1NameAttributeValue.StringValue = "John Doe"
```

```
$student1GradeAttributeValue = New-Object Amazon.SQS.Model.MessageAttributeValue
$student1GradeAttributeValue.DataType = "Number"
$student1GradeAttributeValue.StringValue = "89"

$student2NameAttributeValue = New-Object Amazon.SQS.Model.MessageAttributeValue
$student2NameAttributeValue.DataType = "String"
$student2NameAttributeValue.StringValue = "Jane Doe"

$student2GradeAttributeValue = New-Object Amazon.SQS.Model.MessageAttributeValue
$student2GradeAttributeValue.DataType = "Number"
$student2GradeAttributeValue.StringValue = "93"

$message1 = New-Object Amazon.SQS.Model.SendMessageBatchRequestEntry
$message1.DelaySeconds = 15
$message1.Id = "FirstMessage"
$message1.MessageAttributes.Add("StudentName", $student1NameAttributeValue)
$message1.MessageAttributes.Add("StudentGrade", $student1GradeAttributeValue)
$message1.MessageBody = "Information about John Doe's grade."

$message2 = New-Object Amazon.SQS.Model.SendMessageBatchRequestEntry
$message2.DelaySeconds = 10
$message2.Id = "SecondMessage"
$message2.MessageAttributes.Add("StudentName", $student2NameAttributeValue)
$message2.MessageAttributes.Add("StudentGrade", $student2GradeAttributeValue)
$message2.MessageBody = "Information about Jane Doe's grade."

Send-SQSMessageBatch -QueueUrl https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/
MyQueue -Entry $message1, $message2
```

Output:

```
Failed    Successful

------    ----------

{}        {FirstMessage, SecondMessage}
```

- For API details, see SendMessageBatch in *AWS Tools for PowerShell Cmdlet Reference*.

`Set-SQSQueueAttribute`

The following code example shows how to use `Set-SQSQueueAttribute`.

Tools for PowerShell

Example 1: This example shows how to set a policy subscribing a queue to an SNS topic. When a message is published to the topic, a message is sent to the subscribed queue.

```
# create the queue and topic to be associated
$qurl = New-SQSQueue -QueueName "myQueue"
$topicarn = New-SNSTopic -Name "myTopic"

# get the queue ARN to inject into the policy; it will be returned
# in the output's QueueARN member but we need to put it into a variable
# so text expansion in the policy string takes effect
$qarn = (Get-SQSQueueAttribute -QueueUrl $qurl -AttributeName "QueueArn").QueueARN

# construct the policy and inject arns
$policy = @"
{
  "Version": "2008-10-17",
  "Id": "$qarn/SQSPOLICY",
  "Statement": [
      {
      "Sid": "1",
      "Effect": "Allow",
      "Principal": "*",
      "Action": "SQS:SendMessage",
      "Resource": "$qarn",
      "Condition": {
        "ArnEquals": {
          "aws:SourceArn": "$topicarn"
          }
      }
    }
  ]
}
"@

# set the policy
Set-SQSQueueAttribute -QueueUrl $qurl -Attribute @{ Policy=$policy }
```

Example 2: This example sets the specified attributes for the specified queue.

```
Set-SQSQueueAttribute -Attribute @{"DelaySeconds" = "10"; "MaximumMessageSize" =
 "131072"} -QueueUrl https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue
```

- For API details, see SetQueueAttributes in *AWS Tools for PowerShell Cmdlet Reference*.

AWS STS examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Convert-STSAuthorizationMessage`

The following code example shows how to use `Convert-STSAuthorizationMessage`.

Tools for PowerShell

Example 1: Decodes the additional information contained in the supplied encoded message content that was returned in response to a request. The additional information is encoded because details of the authorization status can constitute privileged information that the user who requested the action should not see.

```
Convert-STSAuthorizationMessage -EncodedMessage "...encoded message..."
```

- For API details, see DecodeAuthorizationMessage in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-STSFederationToken`

The following code example shows how to use `Get-STSFederationToken`.

Tools for PowerShell

Example 1: Requests a federated token valid for one hour using "Bob" as the name of the federated user. This name can be used to reference the federated user name in a resource-based policy (such as an Amazon S3 bucket policy). The supplied IAM policy, in JSON format, is used to scope down the permissions that are available to the IAM user. The supplied policy cannot grant more permissions than those granted to the requesting user, with the final permissions for the federated user being the most restrictive set based on the intersection of the passed policy and the IAM user policy.

```
Get-STSFederationToken -Name "Bob" -Policy "...JSON policy..." -DurationInSeconds
 3600
```

- For API details, see GetFederationToken in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-STSSessionToken`

The following code example shows how to use `Get-STSSessionToken`.

Tools for PowerShell

Example 1: Returns an `Amazon.RuntimeAWSCredentials` instance containing temporary credentials valid for a set period of time. The credentials used to request temporary credentials are inferred from the current shell defaults. To specify other credentials, use the -ProfileName or -AccessKey/-SecretKey parameters.

```
Get-STSSessionToken
```

Output:

```
AccessKeyId                              Expiration
 SecretAccessKey                         SessionToken
-----------                              ----------
 ---------------                         ------------
EXAMPLEACCESSKEYID                       2/16/2015 9:12:28 PM
 examplesecretaccesskey...               SamPleTokeN.....
```

Example 2: Returns an `Amazon.RuntimeAWSCredentials` instance containing temporary credentials valid for one hour. The credentials used to make the request are obtained from the specified profile.

```
Get-STSSessionToken -DurationInSeconds 3600 -ProfileName myprofile
```

Output:

```
AccessKeyId                              Expiration
 SecretAccessKey                         SessionToken
-----------                              ----------
 ---------------                         ------------
EXAMPLEACCESSKEYID                       2/16/2015 9:12:28 PM
 examplesecretaccesskey...               SamPleTokeN.....
```

Example 3: Returns an `Amazon.RuntimeAWSCredentials` instance containing temporary credentials valid for one hour using the identification number of the MFA device associated with the account whose credentials are specified in the profile 'myprofilename' and the value provided by the device.

```
Get-STSSessionToken -DurationInSeconds 3600 -ProfileName myprofile -SerialNumber
 YourMFADeviceSerialNumber -TokenCode 123456
```

Output:

```
AccessKeyId                              Expiration
 SecretAccessKey                         SessionToken
-----------                              ----------
 ---------------                         ------------
EXAMPLEACCESSKEYID                       2/16/2015 9:12:28 PM
 examplesecretaccesskey...               SamPleTokeN.....
```

- For API details, see GetSessionToken in *AWS Tools for PowerShell Cmdlet Reference*.

`Use-STSRole`

The following code example shows how to use `Use-STSRole`.

Tools for PowerShell

Example 1: Returns a set of temporary credentials (access key, secret key and session token) that can be used for one hour to access AWS resources that the requesting user might not normally have access to. The returned credentials have the permissions that are allowed by the access policy of the role being assumed and the policy that was supplied (you cannot use the supplied policy to grant permissions in excess of those defined by the access policy of the role being assumed).

```
Use-STSRole -RoleSessionName "Bob" -RoleArn "arn:aws:iam::123456789012:role/demo" -
Policy "...JSON policy..." -DurationInSeconds 3600
```

Example 2: Returns a set of temporary credentials, valid for one hour, that have the same permissions that are defined in the access policy of the role being assumed.

```
Use-STSRole -RoleSessionName "Bob" -RoleArn "arn:aws:iam::123456789012:role/demo" -
DurationInSeconds 3600
```

Example 3: Returns a set of temporary credentials supplying the serial number and generated token from an MFA associated with the user credentials used to execute the cmdlet.

```
Use-STSRole -RoleSessionName "Bob" -RoleArn "arn:aws:iam::123456789012:role/demo" -
DurationInSeconds 3600 -SerialNumber "GAHT12345678" -TokenCode "123456"
```

Example 4: Returns a set of temporary credentials that have assumed a role defined in a customer account. For each role that the third party can assume, the customer account must create a role using an identifier that must be passed in the -ExternalId parameter each time the role is assumed.

```
Use-STSRole -RoleSessionName "Bob" -RoleArn "arn:aws:iam::123456789012:role/demo" -
DurationInSeconds 3600 -ExternalId "ABC123"
```

- For API details, see AssumeRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Use-STSWebIdentityRole`

The following code example shows how to use `Use-STSWebIdentityRole`.

Tools for PowerShell

Example 1: Returns a temporary set of credentials, valid for one hour, for a user who has been authenticated with the Login with Amazon identity provider. The credentials assume the access policy associated with the role identified by the role ARN. Optionally, you can pass a JSON policy to the -Policy parameter that further refine the access permissions (you cannot grant more permissions than are available in the permissions associated with the role). The value supplied to the -WebIdentityToken is the unique user identifier that was returned by the identity provider.

```
Use-STSWebIdentityRole -DurationInSeconds 3600 -ProviderId "www.amazon.com"
 -RoleSessionName "app1" -RoleArn "arn:aws:iam::123456789012:role/
FederatedWebIdentityRole" -WebIdentityToken "Atza...DVI0r1"
```

- For API details, see AssumeRoleWithWebIdentity in *AWS Tools for PowerShell Cmdlet Reference*.

AWS Support examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Add-ASACommunicationToCase`

The following code example shows how to use `Add-ASACommunicationToCase`.

Tools for PowerShell

Example 1: Adds the body of an email communication to the specified case.

```
Add-ASACommunicationToCase -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47" -
CommunicationBody "Some text about the case"
```

Example 2: Adds the body of an email communication to the specified case plus one or more email addresses contained in the CC line of the email.

```
Add-ASACommunicationToCase -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47" -
CcEmailAddress @("email1@address.com", "email2@address.com") -CommunicationBody
 "Some text about the case"
```

- For API details, see AddCommunicationToCase in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASACase`

The following code example shows how to use `Get-ASACase`.

Tools for PowerShell

Example 1: Returns the details of all support cases.

```
Get-ASACase
```

Example 2: Returns the details of all support cases since the specified date and time.

```
Get-ASACase -AfterTime "2013-09-10T03:06Z"
```

Example 3: Returns the details of the first 10 support cases, including those that have been resolved.

```
Get-ASACase -MaxResult 10 -IncludeResolvedCases $true
```

Example 4: Returns the details of the single specified support case.

```
Get-ASACase -CaseIdList "case-12345678910-2013-c4c1d2bf33c5cf47"
```

Example 5: Returns the details of specified support cases.

```
Get-ASACase -CaseIdList @("case-12345678910-2013-c4c1d2bf33c5cf47",
 "case-18929034710-2011-c4fdeabf33c5cf47")
```

Example 6: Returns all support cases using manual paging. The cases are retrieved in batches of 20.

```
$nextToken = $null
do {
  Get-ASACase -NextToken $nextToken -MaxResult 20
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see DescribeCases in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASACommunication`

The following code example shows how to use `Get-ASACommunication`.

Tools for PowerShell

Example 1: Returns all communications for the specified case.

```
Get-ASACommunication -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47"
```

Example 2: Returns all communications since midnight UTC on January 1st 2012 for the specified case.

```
Get-ASACommunication -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47" -AfterTime
 "2012-01-10T00:00Z"
```

Example 3: Returns all communications since midnight UTC on January 1st 2012 for the specified case, using manual paging. The communications are retrieved in batches of 20.

```
$nextToken = $null
```

```
do {
  Get-ASACommunication -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47" -NextToken
 $nextToken -MaxResult 20
  $nextToken = $AWSHistory.LastServiceResponse.NextToken
} while ($nextToken -ne $null)
```

- For API details, see DescribeCommunications in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASAService`

The following code example shows how to use `Get-ASAService`.

Tools for PowerShell

Example 1: Returns all available service codes, names and categories.

```
Get-ASAService
```

Example 2: Returns the name and categories for the service with the specified code.

```
Get-ASAService -ServiceCodeList "amazon-cloudfront"
```

Example 3: Returns the name and categories for the specified service codes.

```
Get-ASAService -ServiceCodeList @("amazon-cloudfront", "amazon-cloudwatch")
```

Example 4: Returns the name and categories (in Japanese) for the specified service codes. Currently English ("en") and Japanese ("ja") language codes are supported.

```
Get-ASAService -ServiceCodeList @("amazon-cloudfront", "amazon-cloudwatch") -
Language "ja"
```

- For API details, see DescribeServices in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASASeverityLevel`

The following code example shows how to use `Get-ASASeverityLevel`.

Tools for PowerShell

Example 1: Returns the list of severity levels that can be assigned to an AWS Support case.

```
Get-ASASeverityLevel
```

Example 2: Returns the list of severity levels that can be assigned to an AWS Support case. The names of the levels are returned in Japanese.

```
Get-ASASeverityLevel -Language "ja"
```

- For API details, see DescribeSeverityLevels in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASATrustedAdvisorCheck`

The following code example shows how to use `Get-ASATrustedAdvisorCheck`.

Tools for PowerShell

Example 1: Returns the collection of Trusted Advisor checks. You must specify the Language parameter which can accept either "en" for English output or "ja" for Japanese output.

```
Get-ASATrustedAdvisorCheck -Language "en"
```

- For API details, see DescribeTrustedAdvisorChecks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASATrustedAdvisorCheckRefreshStatus`

The following code example shows how to use `Get-ASATrustedAdvisorCheckRefreshStatus`.

Tools for PowerShell

Example 1: Returns the current status of refresh requests for the specified checks. Request-ASATrustedAdvisorCheckRefresh can be used to request that the status information of the checks be refreshed.

```
Get-ASATrustedAdvisorCheckRefreshStatus -CheckId @("checkid1", "checkid2")
```

- For API details, see DescribeTrustedAdvisorCheckRefreshStatuses in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASATrustedAdvisorCheckResult`

The following code example shows how to use `Get-ASATrustedAdvisorCheckResult`.

Tools for PowerShell

Example 1: Returns the results of a Trusted Advisor check. The list of available Trusted Advisor checks can be obtained using Get-ASATrustedAdvisorChecks. The output is the overall status of the check, the timestamp at which the check was last run and the unique checkid for the specific check. To have the results output in Japanese, add the -Language "ja" parameter.

```
Get-ASATrustedAdvisorCheckResult -CheckId "checkid1"
```

- For API details, see DescribeTrustedAdvisorCheckResult in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-ASATrustedAdvisorCheckSummary`

The following code example shows how to use `Get-ASATrustedAdvisorCheckSummary`.

Tools for PowerShell

Example 1: Returns the latest summary for the specified Trusted Advisor check.

```
Get-ASATrustedAdvisorCheckSummary -CheckId "checkid1"
```

Example 2: Returns the latest summaries for the specified Trusted Advisor checks.

```
Get-ASATrustedAdvisorCheckSummary -CheckId @("checkid1", "checkid2")
```

- For API details, see DescribeTrustedAdvisorCheckSummaries in *AWS Tools for PowerShell Cmdlet Reference*.

`New-ASACase`

The following code example shows how to use `New-ASACase`.

Tools for PowerShell

Example 1: Creates a new case in the AWS Support Center. Values for the -ServiceCode and -CategoryCode parameters can be obtained using the Get-ASAService cmdlet. The value for the -SeverityCode parameter can be obtained using the Get-ASASeverityLevel cmdlet. The -IssueType parameter value can be either "customer-service" or "technical". If successful the AWS Support case number is output. By default the case will be handled in English, to use Japanese add the -Language "ja" parameter. The -ServiceCode, -CategoryCode, -Subject and -CommunicationBody parameters are mandatory.

```
New-ASACase -ServiceCode "amazon-cloudfront" -CategoryCode "APIs" -SeverityCode
 "low" -Subject "subject text" -CommunicationBody "description of the case" -
CcEmailAddress @("email1@domain.com", "email2@domain.com") -IssueType "technical"
```

- For API details, see CreateCase in *AWS Tools for PowerShell Cmdlet Reference*.

`Request-ASATrustedAdvisorCheckRefresh`

The following code example shows how to use `Request-ASATrustedAdvisorCheckRefresh`.

Tools for PowerShell

Example 1: Requests a refresh for the specified Trusted Advisor check.

```
Request-ASATrustedAdvisorCheckRefresh -CheckId "checkid1"
```

- For API details, see RefreshTrustedAdvisorCheck in *AWS Tools for PowerShell Cmdlet Reference*.

`Resolve-ASACase`

The following code example shows how to use `Resolve-ASACase`.

Tools for PowerShell

Example 1: Returns the initial state of the specified case and the current state after the call to resolve it is completed.

```
Resolve-ASACase -CaseId "case-12345678910-2013-c4c1d2bf33c5cf47"
```

- For API details, see ResolveCase in *AWS Tools for PowerShell Cmdlet Reference*.

Systems Manager examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell with Systems 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

`Add-SSMResourceTag`

The following code example shows how to use `Add-SSMResourceTag`.

Tools for PowerShell

Example 1: This example updates a maintenance window with new tags. There is no output if the command succeeds. The syntax used by this example requires PowerShell version 3 or later.

```
$option1 = @{Key="Stack";Value=@("Production")}
Add-SSMResourceTag -ResourceId "mw-03eb9db42890fb82d" -ResourceType
 "MaintenanceWindow" -Tag $option1
```

Example 2: With PowerShell version 2, you must use New-Object to create each tag. There is no output if the command succeeds.

```
$tag1 = New-Object Amazon.SimpleSystemsManagement.Model.Tag
```

```
$tag1.Key = "Stack"
$tag1.Value = "Production"

Add-SSMResourceTag -ResourceId "mw-03eb9db42890fb82d" -ResourceType
 "MaintenanceWindow" -Tag $tag1
```

- For API details, see AddTagsToResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-SSMDocumentPermission`

The following code example shows how to use `Edit-SSMDocumentPermission`.

Tools for PowerShell

Example 1: This example adds "share" permissions to all accounts for a document. There is no output if the command succeeds.

```
Edit-SSMDocumentPermission -Name "RunShellScript" -PermissionType "Share" -
AccountIdsToAdd all
```

Example 2: This example adds "share" permissions to a specific account for a document. There is no output if the command succeeds.

```
Edit-SSMDocumentPermission -Name "RunShellScriptNew" -PermissionType "Share" -
AccountIdsToAdd "123456789012"
```

- For API details, see ModifyDocumentPermission in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMActivation`

The following code example shows how to use `Get-SSMActivation`.

Tools for PowerShell

Example 1: This example provides details about the activations on your account.

```
Get-SSMActivation
```

Output:

```
ActivationId        : 08e51e79-1e36-446c-8e63-9458569c1363
CreatedDate         : 3/1/2017 12:01:51 AM
DefaultInstanceName : MyWebServers
Description         :
ExpirationDate      : 3/2/2017 12:01:51 AM
Expired             : False
IamRole             : AutomationRole
RegistrationLimit   : 10
RegistrationsCount  : 0
```

- For API details, see DescribeActivations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAssociation`

The following code example shows how to use `Get-SSMAssociation`.

Tools for PowerShell

Example 1: This example describes the association between an instance and a document.

```
Get-SSMAssociation -InstanceId "i-0000293ffd8c57862" -Name "AWS-UpdateSSMAgent"
```

Output:

```
Name                  : AWS-UpdateSSMAgent
InstanceId            : i-0000293ffd8c57862
Date                  : 2/23/2017 6:55:22 PM
Status.Name           : Pending
Status.Date           : 2/20/2015 8:31:11 AM
Status.Message        : temp_status_change
Status.AdditionalInfo : Additional-Config-Needed
```

- For API details, see DescribeAssociation in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAssociationExecution`

The following code example shows how to use `Get-SSMAssociationExecution`.

Tools for PowerShell

Example 1: This example returns the executions for the association ID provided

```
Get-SSMAssociationExecution -AssociationId 123a45a0-c678-9012-3456-78901234db5e
```

Output:

```
AssociationId         : 123a45a0-c678-9012-3456-78901234db5e
AssociationVersion    : 2
CreatedTime           : 3/2/2019 8:53:29 AM
DetailedStatus        :
ExecutionId           : 123a45a0-c678-9012-3456-78901234db5e
LastExecutionDate     : 1/1/0001 12:00:00 AM
ResourceCountByStatus : {Success=4}
Status                : Success
```

- For API details, see DescribeAssociationExecutions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAssociationExecutionTarget`

The following code example shows how to use `Get-SSMAssociationExecutionTarget`.

Tools for PowerShell

Example 1: This example displays the resource ID and its execution status that are part of the the association execution targets

```
Get-SSMAssociationExecutionTarget -AssociationId 123a45a0-
c678-9012-3456-78901234db5e -ExecutionId 123a45a0-c678-9012-3456-78901234db5e |
 Select-Object ResourceId, Status
```

Output:

```
ResourceId           Status
----------           ------
i-0b1b2a3456f7a890b  Success
i-01c12a45d6fc7a89f  Success
i-0a1caf234f56d7dc8  Success
i-012a3fd45af6dbcfe  Failed
i-0ddc1df23c4a5fb67  Success
```

Example 2: This command checks the particular execution of a particular automation since yesterday, where a command document is associated. It further checkes if the association execution failed, and if so, it will display the command invocation details for the execution along with the instance id

```
$AssociationExecution= Get-SSMAssociationExecutionTarget -
AssociationId 1c234567-890f-1aca-a234-5a678d901cb0 -ExecutionId
 12345ca12-3456-2345-2b45-23456789012 |
    Where-Object {$_.LastExecutionDate -gt (Get-Date -Hour 00 -Minute
 00).AddDays(-1)}

foreach ($execution in $AssociationExecution) {
    if($execution.Status -ne 'Success'){
        Write-Output "There was an issue executing the association
 $($execution.AssociationId) on $($execution.ResourceId)"
        Get-SSMCommandInvocation -CommandId $execution.OutputSource.OutputSourceId -
Detail:$true | Select-Object -ExpandProperty CommandPlugins
    }
}
```

Output:

```
There was an issue executing the association 1c234567-890f-1aca-a234-5a678d901cb0 on
 i-0a1caf234f56d7dc8


Name                   : aws:runPowerShellScript
Output                 :
                         ----------ERROR-------
                         failed to run commands: exit status 1
OutputS3BucketName     :
OutputS3KeyPrefix      :
OutputS3Region         : eu-west-1
ResponseCode           : 1
ResponseFinishDateTime : 5/29/2019 11:04:49 AM
ResponseStartDateTime  : 5/29/2019 11:04:49 AM
StandardErrorUrl       :
StandardOutputUrl      :
Status                 : Failed
StatusDetails          : Failed
```

- For API details, see DescribeAssociationExecutionTargets in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAssociationList`

The following code example shows how to use `Get-SSMAssociationList`.

Tools for PowerShell

Example 1: This example lists all the associations for an instance. The syntax used by this example requires PowerShell version 3 or later.

```
$filter1 = @{Key="InstanceId";Value=@("i-0000293ffd8c57862")}
Get-SSMAssociationList -AssociationFilterList $filter1
```

Output:

```
AssociationId      : d8617c07-2079-4c18-9847-1655fc2698b0
DocumentVersion    :
InstanceId         : i-0000293ffd8c57862
LastExecutionDate  : 2/20/2015 8:31:11 AM
Name               : AWS-UpdateSSMAgent
Overview           : Amazon.SimpleSystemsManagement.Model.AssociationOverview
ScheduleExpression :
Targets            : {InstanceIds}
```

Example 2: This example lists all associations for a configuration document. The syntax used by this example requires PowerShell version 3 or later.

```
$filter2 = @{Key="Name";Value=@("AWS-UpdateSSMAgent")}
Get-SSMAssociationList -AssociationFilterList $filter2
```

Output:

```
AssociationId      : d8617c07-2079-4c18-9847-1655fc2698b0
DocumentVersion    :
InstanceId         : i-0000293ffd8c57862
LastExecutionDate  : 2/20/2015 8:31:11 AM
Name               : AWS-UpdateSSMAgent
Overview           : Amazon.SimpleSystemsManagement.Model.AssociationOverview
ScheduleExpression :
```

```
Targets            : {InstanceIds}
```

Example 3: With PowerShell version 2, you must use New-Object to create each filter.

```
$filter1 = New-Object Amazon.SimpleSystemsManagement.Model.AssociationFilter
$filter1.Key = "InstanceId"
$filter1.Value = "i-0000293ffd8c57862"

Get-SSMAssociationList -AssociationFilterList $filter1
```

Output:

```
AssociationId      : d8617c07-2079-4c18-9847-1655fc2698b0
DocumentVersion    :
InstanceId         : i-0000293ffd8c57862
LastExecutionDate  : 2/20/2015 8:31:11 AM
Name               : AWS-UpdateSSMAgent
Overview           : Amazon.SimpleSystemsManagement.Model.AssociationOverview
ScheduleExpression :
Targets            : {InstanceIds}
```

- For API details, see ListAssociations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAssociationVersionList`

The following code example shows how to use `Get-SSMAssociationVersionList`.

Tools for PowerShell

Example 1: This example retrieves all versions of the association provided.

```
Get-SSMAssociationVersionList -AssociationId 123a45a0-c678-9012-3456-78901234db5e
```

Output:

```
AssociationId      : 123a45a0-c678-9012-3456-78901234db5e
AssociationName    :
AssociationVersion : 2
ComplianceSeverity :
CreatedDate        : 3/12/2019 9:21:01 AM
DocumentVersion    :
```

```
MaxConcurrency     :
MaxErrors          :
Name               : AWS-GatherSoftwareInventory
OutputLocation     :
Parameters         : {}
ScheduleExpression :
Targets            : {InstanceIds}

AssociationId      : 123a45a0-c678-9012-3456-78901234db5e
AssociationName    : test-case-1234567890
AssociationVersion : 1
ComplianceSeverity :
CreatedDate        : 3/2/2019 8:53:29 AM
DocumentVersion    :
MaxConcurrency     :
MaxErrors          :
Name               : AWS-GatherSoftwareInventory
OutputLocation     :
Parameters         : {}
ScheduleExpression : rate(30minutes)
Targets            : {InstanceIds}
```

- For API details, see ListAssociationVersions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAutomationExecution`

The following code example shows how to use `Get-SSMAutomationExecution`.

Tools for PowerShell

Example 1: This example displays the details of an Automation Execution.

```
Get-SSMAutomationExecution -AutomationExecutionId "4105a4fc-
f944-11e6-9d32-8fb2db27a909"
```

Output:

```
AutomationExecutionId     : 4105a4fc-f944-11e6-9d32-8fb2db27a909
AutomationExecutionStatus : Failed
DocumentName              : AWS-UpdateLinuxAmi
DocumentVersion           : 1
ExecutionEndTime          : 2/22/2017 9:17:08 PM
```

```
ExecutionStartTime        : 2/22/2017 9:17:02 PM
FailureMessage            : Step launchInstance failed maximum allowed times. You
 are not authorized to perform this operation. Encoded
                            authorization failure message:
 B_V2QyyN7NhSZQYpmVzpEc4oSnj2GLTNYnXUHsTbqJkNMoDgubmbtthLmZyaiUYekORIrA42-
fv1x-04q5Fjff6glh
                            Yb6TI5b0GQeeNrpwNvpDzmO-
PSR1swlAbg9fdM9BcNjyrznspUkWpuKu9EC1Ou6v3OXU1KC9nZ7mPlWMFZNkSioQqpwWEvMw-
GZktsQzm67qOhUhBNOLWYhbS
                            pkfiqzY-5nw3S0obx30fhd3EJa5O_-
GjV_a0nFXQJa70ik40bFOrEh3MtCSbrQT6--DvFy_FQ8TKvkIXadyVskeJI84XOF5WmA60f1pi5GI08i-
nRfZS6oDeU
                            gELBjjoFKD8s3L2aI0B6umWVxnQOjqhQRxwJ53b54sZJ2PW3v_mtg9-
q0CK0ezS3xfh_y0ilaUGOAZG-xjQFuvU_JZedWpla3xi-MZsmblAifBI
                            (Service: AmazonEC2; Status Code: 403; Error Code:
 UnauthorizedOperation; Request ID:
                            6a002f94-ba37-43fd-99e6-39517715fce5)
Outputs                   : {[createImage.ImageId,
 Amazon.Runtime.Internal.Util.AlwaysSendList`1[System.String]]}
Parameters                : {[AutomationAssumeRole,
 Amazon.Runtime.Internal.Util.AlwaysSendList`1[System.String]], [InstanceIamRole,

 Amazon.Runtime.Internal.Util.AlwaysSendList`1[System.String]], [SourceAmiId,

 Amazon.Runtime.Internal.Util.AlwaysSendList`1[System.String]]}
StepExecutions            : {launchInstance, updateOSSoftware, stopInstance,
 createImage...}
```

Example 2: This example lists step details for the given automation execution id

```
Get-SSMAutomationExecution -AutomationExecutionId e1d2bad3-4567-8901-
ae23-456c7c8901be | Select-Object -ExpandProperty StepExecutions | Select-Object
 StepName, Action, StepStatus, ValidNextSteps
```

Output:

```
StepName                  Action                 StepStatus ValidNextSteps
--------                  ------                 ---------- --------------
LaunchInstance            aws:runInstances       Success    {OSCompatibilityCheck}
OSCompatibilityCheck      aws:runCommand         Success    {RunPreUpdateScript}
RunPreUpdateScript        aws:runCommand         Success    {UpdateEC2Config}
UpdateEC2Config           aws:runCommand         Cancelled  {}
UpdateSSMAgent            aws:runCommand         Pending    {}
```

```
UpdateAWSPVDriver          aws:runCommand          Pending    {}
UpdateAWSEnaNetworkDriver aws:runCommand          Pending    {}
UpdateAWSNVMe              aws:runCommand          Pending    {}
InstallWindowsUpdates      aws:runCommand          Pending    {}
RunPostUpdateScript        aws:runCommand          Pending    {}
RunSysprepGeneralize       aws:runCommand          Pending    {}
StopInstance               aws:changeInstanceState Pending    {}
CreateImage                aws:createImage         Pending    {}
TerminateInstance          aws:changeInstanceState Pending    {}
```

- For API details, see GetAutomationExecution in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAutomationExecutionList`

The following code example shows how to use `Get-SSMAutomationExecutionList`.

Tools for PowerShell

Example 1: This example describes all active and terminated Automation Executions associated with your account.

```
Get-SSMAutomationExecutionList
```

Output:

```
AutomationExecutionId     : 4105a4fc-f944-11e6-9d32-8fb2db27a909
AutomationExecutionStatus : Failed
DocumentName              : AWS-UpdateLinuxAmi
DocumentVersion           : 1
ExecutedBy                : admin
ExecutionEndTime          : 2/22/2017 9:17:08 PM
ExecutionStartTime        : 2/22/2017 9:17:02 PM
LogFile                   :
Outputs                   : {[createImage.ImageId,
 Amazon.Runtime.Internal.Util.AlwaysSendList`1[System.String]]}
```

Example 2: This example displays ExecutionID, document, execution start/end timestamp for executions with AutomationExecutionStatus other than 'Success'

```
Get-SSMAutomationExecutionList | Where-Object AutomationExecutionStatus
 -ne "Success" | Select-Object AutomationExecutionId, DocumentName,
```

```
 AutomationExecutionStatus, ExecutionStartTime, ExecutionEndTime | Format-Table -
AutoSize
```

Output:

```
AutomationExecutionId                DocumentName
 AutomationExecutionStatus ExecutionStartTime   ExecutionEndTime
--------------------                ------------
 ------------------------ ------------------   ---------------
e1d2bad3-4567-8901-ae23-456c7c8901be AWS-UpdateWindowsAmi
 Cancelled                 4/16/2019 5:37:04 AM 4/16/2019 5:47:29 AM
61234567-a7f8-90e1-2b34-567b8bf9012c Fixed-UpdateAmi
 Cancelled                 4/16/2019 5:33:04 AM 4/16/2019 5:40:15 AM
91234d56-7e89-0ac1-2aee-34ea5d6a7c89 AWS-UpdateWindowsAmi                    Failed
                   4/16/2019 5:22:46 AM 4/16/2019 5:27:29 AM
```

- For API details, see DescribeAutomationExecutions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAutomationStepExecution`

The following code example shows how to use `Get-SSMAutomationStepExecution`.

Tools for PowerShell

Example 1: This exmaple displays information about all active and terminated step executions in an Automation workflow.

```
Get-SSMAutomationStepExecution -AutomationExecutionId e1d2bad3-4567-8901-
ae23-456c7c8901be | Select-Object StepName, Action, StepStatus
```

Output:

```
StepName                Action                StepStatus
--------                ------                ----------
LaunchInstance          aws:runInstances      Success
OSCompatibilityCheck    aws:runCommand        Success
RunPreUpdateScript      aws:runCommand        Success
UpdateEC2Config         aws:runCommand        Cancelled
UpdateSSMAgent          aws:runCommand        Pending
UpdateAWSPVDriver       aws:runCommand        Pending
```

```
UpdateAWSEnaNetworkDriver aws:runCommand          Pending
UpdateAWSNVMe             aws:runCommand          Pending
InstallWindowsUpdates     aws:runCommand          Pending
RunPostUpdateScript       aws:runCommand          Pending
RunSysprepGeneralize      aws:runCommand          Pending
StopInstance              aws:changeInstanceState Pending
CreateImage               aws:createImage         Pending
TerminateInstance         aws:changeInstanceState Pending
```

- For API details, see DescribeAutomationStepExecutions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMAvailablePatch`

The following code example shows how to use `Get-SSMAvailablePatch`.

Tools for PowerShell

Example 1: This example gets all available patches for Windows Server 2012 that have a MSRC severity of Critical. The syntax used by this example requires PowerShell version 3 or later.

```
$filter1 = @{Key="PRODUCT";Values=@("WindowsServer2012")}
$filter2 = @{Key="MSRC_SEVERITY";Values=@("Critical")}

Get-SSMAvailablePatch -Filter $filter1,$filter2
```

Output:

```
Classification : SecurityUpdates
ContentUrl     : https://support.microsoft.com/en-us/kb/2727528
Description    : A security issue has been identified that could allow an
 unauthenticated remote attacker to compromise your system and gain control
                 over it. You can help protect your system by installing this update
 from Microsoft. After you install this update, you may have to
                 restart your system.
Id             : 1eb507be-2040-4eeb-803d-abc55700b715
KbNumber       : KB2727528
Language       : All
MsrcNumber     : MS12-072
MsrcSeverity   : Critical
Product        : WindowsServer2012
```

```
ProductFamily  : Windows
ReleaseDate    : 11/13/2012 6:00:00 PM
Title          : Security Update for Windows Server 2012 (KB2727528)
Vendor         : Microsoft
...
```

Example 2: With PowerShell version 2, you must use New-Object to create each filter.

```
$filter1 = New-Object Amazon.SimpleSystemsManagement.Model.PatchOrchestratorFilter
$filter1.Key = "PRODUCT"
$filter1.Values = "WindowsServer2012"
$filter2 = New-Object Amazon.SimpleSystemsManagement.Model.PatchOrchestratorFilter
$filter2.Key = "MSRC_SEVERITY"
$filter2.Values = "Critical"

Get-SSMAvailablePatch -Filter $filter1,$filter2
```

Example 3: This example fetches all the updates which are released in last 20 days and applicable to products matching WindowsServer2019

```
Get-SSMAvailablePatch | Where-Object ReleaseDate -ge (Get-Date).AddDays(-20) |
 Where-Object Product -eq "WindowsServer2019" | Select-Object ReleaseDate, Product,
 Title
```

Output:

```
ReleaseDate         Product           Title
-----------         -------           -----
4/9/2019 5:00:12 PM WindowsServer2019 2019-04 Security Update for Adobe Flash Player
 for Windows Server 2019 for x64-based Systems (KB4493478)
4/9/2019 5:00:06 PM WindowsServer2019 2019-04 Cumulative Update for Windows Server
 2019 for x64-based Systems (KB4493509)
4/2/2019 5:00:06 PM WindowsServer2019 2019-03 Servicing Stack Update for Windows
 Server 2019 for x64-based Systems (KB4493510)
```

- For API details, see DescribeAvailablePatches in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMCommand`

The following code example shows how to use `Get-SSMCommand`.

Tools for PowerShell

Example 1: This example lists all commands requested.

```
Get-SSMCommand
```

Output:

```
CommandId          : 4b75a163-d39a-4d97-87c9-98ae52c6be35
Comment            : Apply association with id at update time: 4cc73e42-
d5ae-4879-84f8-57e09c0efcd0
CompletedCount     : 1
DocumentName       : AWS-RefreshAssociation
ErrorCount         : 0
ExpiresAfter       : 2/24/2017 3:19:08 AM
InstanceIds        : {i-0cb2b964d3e14fd9f}
MaxConcurrency     : 50
MaxErrors          : 0
NotificationConfig : Amazon.SimpleSystemsManagement.Model.NotificationConfig
OutputS3BucketName :
OutputS3KeyPrefix  :
OutputS3Region     :
Parameters         : {[associationIds,
 Amazon.Runtime.Internal.Util.AlwaysSendList`1[System.String]]}
RequestedDateTime  : 2/24/2017 3:18:08 AM
ServiceRole        :
Status             : Success
StatusDetails      : Success
TargetCount        : 1
Targets            : {}
```

Example 2: This example gets the status of a specific command.

```
Get-SSMCommand -CommandId "4b75a163-d39a-4d97-87c9-98ae52c6be35"
```

Example 3: This example retrieves all SSM commands invoked after 2019-04-01T00:00:00Z

```
Get-SSMCommand -Filter @{Key="InvokedAfter";Value="2019-04-01T00:00:00Z"} | Select-
Object CommandId, DocumentName, Status, RequestedDateTime | Sort-Object -Property
 RequestedDateTime -Descending
```

Output:

```
CommandId                            DocumentName               Status
 RequestedDateTime
---------                            ------------               ------
 -----------------
edb1b23e-456a-7adb-aef8-90e-012ac34f AWS-RunPowerShellScript    Cancelled 4/16/2019
 5:45:23 AM
1a2dc3fb-4567-890d-a1ad-234b5d6bc7d9 AWS-ConfigureAWSPackage    Success   4/6/2019
 9:19:42 AM
12c3456c-7e90-4f12-1232-1234f5b67893 KT-Retrieve-Cloud-Type-Win Failed    4/2/2019
 4:13:07 AM
fe123b45-240c-4123-a2b3-234bdd567ecf AWS-RunInspecChecks        Failed    4/1/2019
 2:27:31 PM
1eb23aa4-567d-4123-12a3-4c1c2ab34561 AWS-RunPowerShellScript    Success   4/1/2019
 1:05:55 PM
1c2f3bb4-ee12-4bc1-1a23-12345eea123e AWS-RunInspecChecks        Failed    4/1/2019
 11:13:09 AM
```

- For API details, see ListCommands in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMCommandInvocation`

The following code example shows how to use `Get-SSMCommandInvocation`.

Tools for PowerShell

Example 1: This example lists all the invocations of a command.

```
Get-SSMCommandInvocation -CommandId "b8eac879-0541-439d-94ec-47a80d554f44" -Detail
 $true
```

Output:

```
CommandId          : b8eac879-0541-439d-94ec-47a80d554f44
CommandPlugins     : {aws:runShellScript}
Comment            : IP config
DocumentName       : AWS-RunShellScript
InstanceId         : i-0cb2b964d3e14fd9f
InstanceName       :
NotificationConfig : Amazon.SimpleSystemsManagement.Model.NotificationConfig
```

```
RequestedDateTime  : 2/22/2017 8:13:16 PM
ServiceRole        :
StandardErrorUrl   :
StandardOutputUrl  :
Status             : Success
StatusDetails      : Success
TraceOutput        :
```

Example 2: This example lists CommandPlugins for invocation of the command id e1eb2e3c-ed4c-5123-45c1-234f5612345f

```
Get-SSMCommandInvocation -CommandId e1eb2e3c-ed4c-5123-45c1-234f5612345f -Detail:
$true | Select-Object -ExpandProperty CommandPlugins
```

Output:

```
Name                  : aws:runPowerShellScript
Output                : Completed 17.7 KiB/17.7 KiB (40.1 KiB/s) with 1 file(s)
 remainingdownload: s3://dd-aess-r-ctmer/KUMO.png to ..\..\programdata\KUMO.png
                       kumo available

OutputS3BucketName    :
OutputS3KeyPrefix     :
OutputS3Region        : eu-west-1
ResponseCode          : 0
ResponseFinishDateTime : 4/3/2019 11:53:23 AM
ResponseStartDateTime  : 4/3/2019 11:53:21 AM
StandardErrorUrl      :
StandardOutputUrl     :
Status                : Success
StatusDetails         : Success
```

- For API details, see ListCommandInvocations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMCommandInvocationDetail`

The following code example shows how to use `Get-SSMCommandInvocationDetail`.

Tools for PowerShell

Example 1: This example displays the details of a command executed on an instance.

```
Get-SSMCommandInvocationDetail -InstanceId "i-0cb2b964d3e14fd9f" -CommandId
 "b8eac879-0541-439d-94ec-47a80d554f44"
```

Output:

```
CommandId              : b8eac879-0541-439d-94ec-47a80d554f44
Comment                : IP config
DocumentName           : AWS-RunShellScript
ExecutionElapsedTime   : PT0.004S
ExecutionEndDateTime   : 2017-02-22T20:13:16.651Z
ExecutionStartDateTime : 2017-02-22T20:13:16.651Z
InstanceId             : i-0cb2b964d3e14fd9f
PluginName             : aws:runShellScript
ResponseCode           : 0
StandardErrorContent   :
StandardErrorUrl       :
StandardOutputContent  :
StandardOutputUrl      :
Status                 : Success
StatusDetails          : Success
```

- For API details, see GetCommandInvocation in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMComplianceItemList`

The following code example shows how to use `Get-SSMComplianceItemList`.

Tools for PowerShell

Example 1: This example lists compliance items list for the given resource id and type, filtering compliance-type being 'Association'

```
Get-SSMComplianceItemList -ResourceId i-1a2caf345f67d0dc2 -ResourceType
 ManagedInstance -Filter @{Key="ComplianceType";Values="Association"}
```

Output:

```
ComplianceType   : Association
Details          : {[DocumentName, AWS-GatherSoftwareInventory], [DocumentVersion,
 1]}
```

```
ExecutionSummary : Amazon.SimpleSystemsManagement.Model.ComplianceExecutionSummary
Id               : 123a45a1-c234-1234-1245-67891236db4e
ResourceId       : i-1a2caf345f67d0dc2
ResourceType     : ManagedInstance
Severity         : UNSPECIFIED
Status           : COMPLIANT
Title            :
```

- For API details, see ListComplianceItems in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMComplianceSummaryList`

The following code example shows how to use `Get-SSMComplianceSummaryList`.

Tools for PowerShell

Example 1: This example returns a summary count of compliant and non-compliant resources for all compliance types.

```
Get-SSMComplianceSummaryList
```

Output:

```
ComplianceType CompliantSummary
 NonCompliantSummary
-------------- ----------------
 -------------------
FleetTotal     Amazon.SimpleSystemsManagement.Model.CompliantSummary
 Amazon.SimpleSystemsManagement.Model.NonCompliantSummary
Association    Amazon.SimpleSystemsManagement.Model.CompliantSummary
 Amazon.SimpleSystemsManagement.Model.NonCompliantSummary
Custom:InSpec  Amazon.SimpleSystemsManagement.Model.CompliantSummary
 Amazon.SimpleSystemsManagement.Model.NonCompliantSummary
Patch          Amazon.SimpleSystemsManagement.Model.CompliantSummary
 Amazon.SimpleSystemsManagement.Model.NonCompliantSummary
```

- For API details, see ListComplianceSummaries in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMConnectionStatus`

The following code example shows how to use `Get-SSMConnectionStatus`.

Tools for PowerShell

Example 1: This example retrieves the Session Manager connection status for an instance to determine whether it is connected and ready to receive Session Manager connections.

```
Get-SSMConnectionStatus -Target i-0a1caf234f12d3dc4
```

Output:

```
Status    Target
------    ------
Connected i-0a1caf234f12d3dc4
```

- For API details, see GetConnectionStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMDefaultPatchBaseline`

The following code example shows how to use `Get-SSMDefaultPatchBaseline`.

Tools for PowerShell

Example 1: This example displays the default patch baseline.

```
Get-SSMDefaultPatchBaseline
```

Output:

```
arn:aws:ssm:us-west-2:123456789012:patchbaseline/pb-04fb4ae6142167966
```

- For API details, see GetDefaultPatchBaseline in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMDeployablePatchSnapshotForInstance`

The following code example shows how to use `Get-SSMDeployablePatchSnapshotForInstance`.

Tools for PowerShell

Example 1: This example displays the current snapshot for the 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, the example passes an `Amazon.Runtime.InstanceProfileAWSCredentials` object to the Credentials parameter.

```
$credentials = [Amazon.Runtime.InstanceProfileAWSCredentials]::new()
Get-SSMDeployablePatchSnapshotForInstance -SnapshotId "4681775b-098f-4435-
a956-0ef33373ac11" -InstanceId "i-0cb2b964d3e14fd9f" -Credentials $credentials
```

Output:

```
InstanceId          SnapshotDownloadUrl
----------          -------------------
i-0cb2b964d3e14fd9f https://patch-baseline-snapshot-us-west-2.s3-us-
west-2.amazonaws.com/853d0d3db0f0cafe...1692/4681775b-098f-4435...
```

Example 2: This example shows how to get the full SnapshotDownloadUrl. This command must be run from the instance using the instance credentials. To ensure it uses the instance credentials, the example configures the PowerShell session to use an `Amazon.Runtime.InstanceProfileAWSCredentials` object.

```
Set-AWSCredential -Credential
 ([Amazon.Runtime.InstanceProfileAWSCredentials]::new())
(Get-SSMDeployablePatchSnapshotForInstance -SnapshotId "4681775b-098f-4435-
a956-0ef33373ac11" -InstanceId "i-0cb2b964d3e14fd9f").SnapshotDownloadUrl
```

Output:

```
https://patch-baseline-snapshot-us-west-2.s3-us-
west-2.amazonaws.com/853d0d3db0f0cafe...
```

- For API details, see GetDeployablePatchSnapshotForInstance in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMDocument`

The following code example shows how to use `Get-SSMDocument`.

Tools for PowerShell

Example 1: This example returns the content of a document.

```
Get-SSMDocument -Name "RunShellScript"
```

Output:

```
Content
-------
{...
```

Example 2: This example displays the complete contents of a document.

```
(Get-SSMDocument -Name "RunShellScript").Content
{
   "schemaVersion":"2.0",
   "description":"Run an updated script",
   "parameters":{
      "commands":{
         "type":"StringList",
         "description":"(Required) Specify a shell script or a command to run.",
         "minItems":1,
         "displayType":"textarea"
      }
   },
   "mainSteps":[
      {
         "action":"aws:runShellScript",
         "name":"runShellScript",
         "inputs":{
            "commands":"{{ commands }}"
         }
      },
      {
         "action":"aws:runPowerShellScript",
         "name":"runPowerShellScript",
         "inputs":{
            "commands":"{{ commands }}"
         }
      }
   ]
}
```

- For API details, see GetDocument in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMDocumentDescription`

The following code example shows how to use `Get-SSMDocumentDescription`.

Tools for PowerShell

Example 1: This example returns information about a document.

```
Get-SSMDocumentDescription -Name "RunShellScript"
```

Output:

```
CreatedDate     : 2/24/2017 5:25:13 AM
DefaultVersion  : 1
Description     : Run an updated script
DocumentType    : Command
DocumentVersion : 1
Hash            : f775e5df4904c6fa46686c4722fae9de1950dace25cd9608ff8d622046b68d9b
HashType        : Sha256
LatestVersion   : 1
Name            : RunShellScript
Owner           : 123456789012
Parameters      : {commands}
PlatformTypes   : {Linux}
SchemaVersion   : 2.0
Sha1            :
Status          : Active
```

- For API details, see DescribeDocument in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMDocumentList`

The following code example shows how to use `Get-SSMDocumentList`.

Tools for PowerShell

Example 1: Lists all the configuration documents in your account.

```
Get-SSMDocumentList
```

Output:

```
DocumentType    : Command
DocumentVersion : 1
Name            : AWS-ApplyPatchBaseline
Owner           : Amazon
PlatformTypes   : {Windows}
SchemaVersion   : 1.2

DocumentType    : Command
DocumentVersion : 1
Name            : AWS-ConfigureAWSPackage
Owner           : Amazon
PlatformTypes   : {Windows, Linux}
SchemaVersion   : 2.0

DocumentType    : Command
DocumentVersion : 1
Name            : AWS-ConfigureCloudWatch
Owner           : Amazon
PlatformTypes   : {Windows}
SchemaVersion   : 1.2
...
```

Example 2: This example retrieves all automation documents with name matchingi 'Platform'

```
Get-SSMDocumentList -DocumentFilterList @{Key="DocumentType";Value="Automation"} |
 Where-Object Name -Match "Platform"
```

Output:

```
DocumentFormat  : JSON
DocumentType    : Automation
DocumentVersion : 7
Name            : KT-Get-Platform
Owner           : 987654123456
PlatformTypes   : {Windows, Linux}
SchemaVersion   : 0.3
Tags            : {}
TargetType      :
VersionName     :
```

- For API details, see ListDocuments in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMDocumentPermission`

The following code example shows how to use `Get-SSMDocumentPermission`.

Tools for PowerShell

Example 1: This example lists all the versions for a document.

```
Get-SSMDocumentVersionList -Name "RunShellScript"
```

Output:

```
CreatedDate          DocumentVersion IsDefaultVersion Name
-----------          --------------- ---------------- ----
2/24/2017 5:25:13 AM 1               True             RunShellScript
```

- For API details, see DescribeDocumentPermission in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMDocumentVersionList`

The following code example shows how to use `Get-SSMDocumentVersionList`.

Tools for PowerShell

Example 1: This example returns the permission list for a document.

```
Get-SSMDocumentPermission -Name "RunShellScript" -PermissionType "Share"
```

Output:

```
all
```

- For API details, see ListDocumentVersions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMEffectiveInstanceAssociationList`

The following code example shows how to use `Get-SSMEffectiveInstanceAssociationList`.

Tools for PowerShell

Example 1: This example describes the effective associations for an instance.

```
Get-SSMEffectiveInstanceAssociationList -InstanceId "i-0000293ffd8c57862" -MaxResult
 5
```

Output:

```
AssociationId                        Content
-------------                        -------
d8617c07-2079-4c18-9847-1655fc2698b0 {...
```

Example 2: This example displays the contents of the effective associations for an instance.

```
(Get-SSMEffectiveInstanceAssociationList -InstanceId "i-0000293ffd8c57862" -
MaxResult 5).Content
```

Output:

```
{
    "schemaVersion": "1.2",
    "description": "Update the Amazon SSM Agent to the latest version or specified
 version.",
    "parameters": {
        "version": {
            "default": "",
            "description": "(Optional) A specific version of the Amazon SSM Agent to
 install. If not specified, the agen
t will be updated to the latest version.",
            "type": "String"
        },
        "allowDowngrade": {
            "default": "false",
            "description": "(Optional) 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.",
            "type": "String",
            "allowedValues": [
                "true",
                "false"
```

```
            ]
        }
    },
    "runtimeConfig": {
        "aws:updateSsmAgent": {
            "properties": [
                {
                "agentName": "amazon-ssm-agent",
                "source": "https://s3.{Region}.amazonaws.com/amazon-ssm-{Region}/
ssm-agent-manifest.json",
                "allowDowngrade": "{{ allowDowngrade }}",
                "targetVersion": "{{ version }}"
                }
            ]
        }
    }
}
```

- For API details, see DescribeEffectiveInstanceAssociations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMEffectivePatchesForPatchBaseline`

The following code example shows how to use `Get-SSMEffectivePatchesForPatchBaseline`.

Tools for PowerShell

Example 1: This example lists all patch baselines, with a maximum result list of 1.

```
Get-SSMEffectivePatchesForPatchBaseline -BaselineId "pb-0a2f1059b670ebd31" -
MaxResult 1
```

Output:

```
Patch                                       PatchStatus
-----                                       -----------
Amazon.SimpleSystemsManagement.Model.Patch
 Amazon.SimpleSystemsManagement.Model.PatchStatus
```

Example 2: This example displays the patch status for all patch baselines, with a maximum result list of 1.

```
(Get-SSMEffectivePatchesForPatchBaseline -BaselineId "pb-0a2f1059b670ebd31" -
MaxResult 1).PatchStatus
```

Output:

```
ApprovalDate          DeploymentStatus
------------          ----------------
12/21/2010 6:00:00 PM APPROVED
```

- For API details, see DescribeEffectivePatchesForPatchBaseline in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMInstanceAssociationsStatus`

The following code example shows how to use `Get-SSMInstanceAssociationsStatus`.

Tools for PowerShell

Example 1: This example shows details of the associations for an instance.

```
Get-SSMInstanceAssociationsStatus -InstanceId "i-0000293ffd8c57862"
```

Output:

```
AssociationId    : d8617c07-2079-4c18-9847-1655fc2698b0
DetailedStatus   : Pending
DocumentVersion  : 1
ErrorCode        :
ExecutionDate    : 2/20/2015 8:31:11 AM
ExecutionSummary : temp_status_change
InstanceId       : i-0000293ffd8c57862
Name             : AWS-UpdateSSMAgent
OutputUrl        :
Status           : Pending
```

Example 2: This example checks the instance association status for the given instance id and further, displays the execution status of those associations

```
Get-SSMInstanceAssociationsStatus -InstanceId i-012e3cb4df567e8aa | ForEach-Object
 {Get-SSMAssociationExecution -AssociationId .AssociationId}
```

Output:

```
AssociationId         : 512a34a5-c678-1234-1234-12345678db9e
AssociationVersion    : 2
CreatedTime           : 3/2/2019 8:53:29 AM
DetailedStatus        :
ExecutionId           : 512a34a5-c678-1234-1234-12345678db9e
LastExecutionDate     : 1/1/0001 12:00:00 AM
ResourceCountByStatus : {Success=9}
Status                : Success
```

- For API details, see DescribeInstanceAssociationsStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMInstanceInformation`

The following code example shows how to use `Get-SSMInstanceInformation`.

Tools for PowerShell

Example 1: This example shows details of each of your instances.

```
Get-SSMInstanceInformation
```

Output:

```
ActivationId                          :
AgentVersion                          : 2.0.672.0
AssociationOverview                   :
 Amazon.SimpleSystemsManagement.Model.InstanceAggregatedAssociationOverview
AssociationStatus                     : Success
ComputerName                          : ip-172-31-44-222.us-west-2.compute.internal
IamRole                               :
InstanceId                            : i-0cb2b964d3e14fd9f
IPAddress                             : 172.31.44.222
IsLatestVersion                       : True
LastAssociationExecutionDate          : 2/24/2017 3:18:09 AM
LastPingDateTime                      : 2/24/2017 3:35:03 AM
LastSuccessfulAssociationExecutionDate : 2/24/2017 3:18:09 AM
Name                                  :
PingStatus                            : ConnectionLost
```

```
PlatformName                            : Amazon Linux AMI
PlatformType                            : Linux
PlatformVersion                         : 2016.09
RegistrationDate                        : 1/1/0001 12:00:00 AM
ResourceType                            : EC2Instance
```

Example 2: This example shows how to use the -Filter parameter to filter results to only those AWS Systems Manager instances in region `us-east-1` with an `AgentVersion` of `2.2.800.0`. You can find a list of valid -Filter key values in the InstanceInformation API reference topic (https://docs.aws.amazon.com/systems-manager/latest/APIReference/API_InstanceInformation.html#systemsmanager-Type-InstanceInformation-ActivationId).

```
$Filters = @{
    Key="AgentVersion"
    Values="2.2.800.0"
}
Get-SSMInstanceInformation -Region us-east-1 -Filter $Filters
```

Output:

```
ActivationId                            :
AgentVersion                            : 2.2.800.0
AssociationOverview                     :
 Amazon.SimpleSystemsManagement.Model.InstanceAggregatedAssociationOverview
AssociationStatus                       : Success
ComputerName                            : EXAMPLE-EXAMPLE.WORKGROUP
IamRole                                 :
InstanceId                              : i-EXAMPLEb0792d98ce
IPAddress                               : 10.0.0.01
IsLatestVersion                         : False
LastAssociationExecutionDate            : 8/16/2018 12:02:50 AM
LastPingDateTime                        : 8/16/2018 7:40:27 PM
LastSuccessfulAssociationExecutionDate : 8/16/2018 12:02:50 AM
Name                                    :
PingStatus                              : Online
PlatformName                            : Microsoft Windows Server 2016 Datacenter
PlatformType                            : Windows
PlatformVersion                         : 10.0.14393
RegistrationDate                        : 1/1/0001 12:00:00 AM
ResourceType                            : EC2Instance

ActivationId                            :
```

```
AgentVersion                            : 2.2.800.0
AssociationOverview                     :
 Amazon.SimpleSystemsManagement.Model.InstanceAggregatedAssociationOverview
AssociationStatus                       : Success
ComputerName                            : EXAMPLE-EXAMPLE.WORKGROUP
IamRole                                 :
InstanceId                              : i-EXAMPLEac7501d023
IPAddress                               : 10.0.0.02
IsLatestVersion                         : False
LastAssociationExecutionDate            : 8/16/2018 12:00:20 AM
LastPingDateTime                        : 8/16/2018 7:40:35 PM
LastSuccessfulAssociationExecutionDate : 8/16/2018 12:00:20 AM
Name                                    :
PingStatus                              : Online
PlatformName                            : Microsoft Windows Server 2016 Datacenter
PlatformType                            : Windows
PlatformVersion                         : 10.0.14393
RegistrationDate                        : 1/1/0001 12:00:00 AM
ResourceType                            : EC2Instance
```

Example 3: This example shows how to use the -InstanceInformationFilterList parameter to filter results to only those AWS Systems Manager instances in region `us-east-1` with `PlatformTypes` of `Windows` or `Linux`. You can find a list of valid -InstanceInformationFilterList key values in the InstanceInformationFilter API reference topic (https://docs.aws.amazon.com/systems-manager/latest/APIReference/API_InstanceInformationFilter.html).

```
$Filters = @{
   Key="PlatformTypes"
   ValueSet=("Windows","Linux")
}
Get-SSMInstanceInformation -Region us-east-1 -InstanceInformationFilterList $Filters
```

Output:

```
ActivationId                            :
AgentVersion                            : 2.2.800.0
AssociationOverview                     :
 Amazon.SimpleSystemsManagement.Model.InstanceAggregatedAssociationOverview
AssociationStatus                       : Success
ComputerName                            : EXAMPLE-EXAMPLE.WORKGROUP
IamRole                                 :
```

```
InstanceId                              : i-EXAMPLEb0792d98ce
IPAddress                               : 10.0.0.27
IsLatestVersion                         : False
LastAssociationExecutionDate            : 8/16/2018 12:02:50 AM
LastPingDateTime                        : 8/16/2018 7:40:27 PM
LastSuccessfulAssociationExecutionDate : 8/16/2018 12:02:50 AM
Name                                    :
PingStatus                              : Online
PlatformName                            : Ubuntu Server 18.04 LTS
PlatformType                            : Linux
PlatformVersion                         : 18.04
RegistrationDate                        : 1/1/0001 12:00:00 AM
ResourceType                            : EC2Instance

ActivationId                            :
AgentVersion                            : 2.2.800.0
AssociationOverview                     :
 Amazon.SimpleSystemsManagement.Model.InstanceAggregatedAssociationOverview
AssociationStatus                       : Success
ComputerName                            : EXAMPLE-EXAMPLE.WORKGROUP
IamRole                                 :
InstanceId                              : i-EXAMPLEac7501d023
IPAddress                               : 10.0.0.100
IsLatestVersion                         : False
LastAssociationExecutionDate            : 8/16/2018 12:00:20 AM
LastPingDateTime                        : 8/16/2018 7:40:35 PM
LastSuccessfulAssociationExecutionDate : 8/16/2018 12:00:20 AM
Name                                    :
PingStatus                              : Online
PlatformName                            : Microsoft Windows Server 2016 Datacenter
PlatformType                            : Windows
PlatformVersion                         : 10.0.14393
RegistrationDate                        : 1/1/0001 12:00:00 AM
ResourceType                            : EC2Instance
```

Example 4: This example lists ssm managed instances and exports InstanceId, PingStatus, LastPingDateTime and PlatformName to a csv file.

```
Get-SSMInstanceInformation | Select-Object InstanceId, PingStatus, LastPingDateTime,
 PlatformName | Export-Csv Instance-details.csv -NoTypeInformation
```

- For API details, see DescribeInstanceInformation in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMInstancePatch`

The following code example shows how to use `Get-SSMInstancePatch`.

Tools for PowerShell

Example 1: This example gets the patch compliance details for an instance.

```
Get-SSMInstancePatch -InstanceId "i-08ee91c0b17045407"
```

- For API details, see DescribeInstancePatches in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMInstancePatchState`

The following code example shows how to use `Get-SSMInstancePatchState`.

Tools for PowerShell

Example 1: This example gets the patch summary states for an instance.

```
Get-SSMInstancePatchState -InstanceId "i-08ee91c0b17045407"
```

Example 2: This example gets the patch summary states for two instances.

```
Get-SSMInstancePatchState -InstanceId "i-08ee91c0b17045407","i-09a618aec652973a9"
```

- For API details, see DescribeInstancePatchStates in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMInstancePatchStatesForPatchGroup`

The following code example shows how to use `Get-SSMInstancePatchStatesForPatchGroup`.

Tools for PowerShell

Example 1: This example gets the patch summary states per-instance for a patch group.

```
Get-SSMInstancePatchStatesForPatchGroup -PatchGroup "Production"
```

- For API details, see DescribeInstancePatchStatesForPatchGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMInventory`

The following code example shows how to use `Get-SSMInventory`.

Tools for PowerShell

Example 1: This example gets the custom metadata for your inventory.

```
Get-SSMInventory
```

Output:

```
Data
  Id
----
  --
{[AWS:InstanceInformation,
 Amazon.SimpleSystemsManagement.Model.InventoryResultItem]} i-0cb2b964d3e14fd9f
```

- For API details, see GetInventory in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMInventoryEntriesList`

The following code example shows how to use `Get-SSMInventoryEntriesList`.

Tools for PowerShell

Example 1: This example lists all the custom inventory entries for an instance.

```
Get-SSMInventoryEntriesList -InstanceId "i-0cb2b964d3e14fd9f" -TypeName
 "Custom:RackInfo"
```

Output:

```
CaptureTime   : 2016-08-22T10:01:01Z
Entries       :
 {Amazon.Runtime.Internal.Util.AlwaysSendDictionary`2[System.String,System.String]}
```

```
InstanceId    : i-0cb2b964d3e14fd9f
NextToken     :
SchemaVersion : 1.0
TypeName      : Custom:RackInfo
```

Example 2: This example lists the details.

```
(Get-SSMInventoryEntriesList -InstanceId "i-0cb2b964d3e14fd9f" -TypeName
 "Custom:RackInfo").Entries
```

Output:

```
Key          Value
---          -----
RackLocation Bay B/Row C/Rack D/Shelf E
```

- For API details, see ListInventoryEntries in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMInventorySchema`

The following code example shows how to use `Get-SSMInventorySchema`.

Tools for PowerShell

Example 1: This example returns a list of inventory type names for the account.

```
Get-SSMInventorySchema
```

- For API details, see GetInventorySchema in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMLatestEC2Image`

The following code example shows how to use `Get-SSMLatestEC2Image`.

Tools for PowerShell

Example 1: This example lists all the lastest Windows AMIs.

```
PS Get-SSMLatestEC2Image -Path ami-windows-latest
```

Output:

```
Name                                                                           Value
----                                                                           -----
Windows_Server-2008-R2_SP1-English-64Bit-SQL_2012_SP4_Express
 ami-0e5ddd288daff4fab
Windows_Server-2012-R2_RTM-Chinese_Simplified-64Bit-Base
 ami-0c5ea64e6bec1cb50
Windows_Server-2012-R2_RTM-Chinese_Traditional-64Bit-Base
 ami-09775eff0bf8c113d
Windows_Server-2012-R2_RTM-Dutch-64Bit-Base
 ami-025064b67e28cf5df
...
```

Example 2: This example retrieves the AMI id of a specific Amazon Linux image for the us-west-2 region.

```
PS Get-SSMLatestEC2Image -Path ami-amazon-linux-latest -ImageName amzn-ami-hvm-
x86_64-ebs -Region us-west-2
```

Output:

```
ami-09b92cd132204c704
```

Example 3: This example lists all the lastest Windows AMIs matching the specified wildcard expression.

```
Get-SSMLatestEC2Image -Path ami-windows-latest -ImageName *Windows*2019*English*
```

Output:

```
Name                                                Value
----                                                -----
Windows_Server-2019-English-Full-SQL_2017_Web       ami-085e9d27da5b73a42
Windows_Server-2019-English-STIG-Core               ami-0bfd85c29148c7f80
Windows_Server-2019-English-Full-SQL_2019_Web       ami-02099560d7fb11f20
Windows_Server-2019-English-Full-SQL_2016_SP2_Standard   ami-0d7ae2d81c07bd598
...
```

- For API details, see Get-SSMLatestEC2Image in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindow`

The following code example shows how to use `Get-SSMMaintenanceWindow`.

Tools for PowerShell

Example 1: This example gets details about a maintenance window.

```
Get-SSMMaintenanceWindow -WindowId "mw-03eb9db42890fb82d"
```

Output:

```
AllowUnassociatedTargets : False
CreatedDate              : 2/20/2017 6:14:05 PM
Cutoff                   : 1
Duration                 : 2
Enabled                  : True
ModifiedDate             : 2/20/2017 6:14:05 PM
Name                     : TestMaintWin
Schedule                 : cron(0 */30 * * * ? *)
WindowId                 : mw-03eb9db42890fb82d
```

- For API details, see GetMaintenanceWindow in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindowExecution`

The following code example shows how to use `Get-SSMMaintenanceWindowExecution`.

Tools for PowerShell

Example 1: This example lists information about a task executed as part of a maintenance window execution.

```
Get-SSMMaintenanceWindowExecution -WindowExecutionId "518d5565-5969-4cca-8f0e-
da3b2a638355"
```

Output:

```
EndTime           : 2/21/2017 4:00:35 PM
StartTime         : 2/21/2017 4:00:34 PM
Status            : FAILED
```

```
StatusDetails     : One or more tasks in the orchestration failed.
TaskIds           : {ac0c6ae1-daa3-4a89-832e-d384503b6586}
WindowExecutionId : 518d5565-5969-4cca-8f0e-da3b2a638355
```

- For API details, see GetMaintenanceWindowExecution in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindowExecutionList`

The following code example shows how to use `Get-SSMMaintenanceWindowExecutionList`.

Tools for PowerShell

Example 1: This example lists all of the executions for a maintenance window.

```
Get-SSMMaintenanceWindowExecutionList -WindowId "mw-03eb9db42890fb82d"
```

Output:

```
EndTime           : 2/20/2017 6:30:17 PM
StartTime         : 2/20/2017 6:30:16 PM
Status            : FAILED
StatusDetails     : One or more tasks in the orchestration failed.
WindowExecutionId : 6f3215cf-4101-4fa0-9b7b-9523269599c7
WindowId          : mw-03eb9db42890fb82d
```

Example 2: This example lists all of the executions for a maintenance window before a specified date.

```
$option1 = @{Key="ExecutedBefore";Values=@("2016-11-04T05:00:00Z")}
Get-SSMMaintenanceWindowExecutionList -WindowId "mw-03eb9db42890fb82d" -Filter
 $option1
```

Example 3: This example lists all of the executions for a maintenance window after a specified date.

```
$option1 = @{Key="ExecutedAfter";Values=@("2016-11-04T05:00:00Z")}
Get-SSMMaintenanceWindowExecutionList -WindowId "mw-03eb9db42890fb82d" -Filter
 $option1
```

- For API details, see DescribeMaintenanceWindowExecutions in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindowExecutionTask`

The following code example shows how to use `Get-SSMMaintenanceWindowExecutionTask`.

Tools for PowerShell

Example 1: This example lists information about a task that was part of a maintenance window execution.

```
Get-SSMMaintenanceWindowExecutionTask -TaskId "ac0c6ae1-daa3-4a89-832e-d384503b6586"
 -WindowExecutionId "518d5565-5969-4cca-8f0e-da3b2a638355"
```

Output:

```
EndTime           : 2/21/2017 4:00:35 PM
MaxConcurrency    : 1
MaxErrors         : 1
Priority          : 10
ServiceRole       : arn:aws:iam::123456789012:role/MaintenanceWindowsRole
StartTime         : 2/21/2017 4:00:34 PM
Status            : FAILED
StatusDetails     : The maximum error count was exceeded.
TaskArn           : AWS-RunShellScript
TaskExecutionId   : ac0c6ae1-daa3-4a89-832e-d384503b6586
TaskParameters    :
 {Amazon.Runtime.Internal.Util.AlwaysSendDictionary`2[System.String,Amazon.SimpleSystemsMana
                   meterValueExpression]}
Type              : RUN_COMMAND
WindowExecutionId : 518d5565-5969-4cca-8f0e-da3b2a638355
```

- For API details, see GetMaintenanceWindowExecutionTask in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindowExecutionTaskInvocationList`

The following code example shows how to use `Get-SSMMaintenanceWindowExecutionTaskInvocationList`.

Tools for PowerShell

Example 1: This example lists the invocations for a task executed as part of a maintenance window execution.

```
Get-SSMMaintenanceWindowExecutionTaskInvocationList -TaskId "ac0c6ae1-
daa3-4a89-832e-d384503b6586" -WindowExecutionId "518d5565-5969-4cca-8f0e-
da3b2a638355"
```

Output:

```
EndTime           : 2/21/2017 4:00:34 PM
ExecutionId       :
InvocationId      : e274b6e1-fe56-4e32-bd2a-8073c6381d8b
OwnerInformation  :
Parameters        : {"documentName":"AWS-RunShellScript","instanceIds":
["i-0000293ffd8c57862"],"parameters":{"commands":["df"]},"maxConcurrency":"1",
                    "maxErrors":"1"}
StartTime         : 2/21/2017 4:00:34 PM
Status            : FAILED
StatusDetails     : The instance IDs list contains an invalid entry.
TaskExecutionId   : ac0c6ae1-daa3-4a89-832e-d384503b6586
WindowExecutionId : 518d5565-5969-4cca-8f0e-da3b2a638355
WindowTargetId    :
```

- For API details, see DescribeMaintenanceWindowExecutionTaskInvocations in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindowExecutionTaskList`

The following code example shows how to use `Get-SSMMaintenanceWindowExecutionTaskList`.

Tools for PowerShell

Example 1: This example lists the tasks associated with a maintenance window execution.

```
Get-SSMMaintenanceWindowExecutionTaskList -WindowExecutionId
 "518d5565-5969-4cca-8f0e-da3b2a638355"
```

Output:

```
EndTime           : 2/21/2017 4:00:35 PM
StartTime         : 2/21/2017 4:00:34 PM
Status            : SUCCESS
TaskArn           : AWS-RunShellScript
TaskExecutionId   : ac0c6ae1-daa3-4a89-832e-d384503b6586
TaskType          : RUN_COMMAND
WindowExecutionId : 518d5565-5969-4cca-8f0e-da3b2a638355
```

- For API details, see DescribeMaintenanceWindowExecutionTasks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindowList`

The following code example shows how to use `Get-SSMMaintenanceWindowList`.

Tools for PowerShell

Example 1: This example lists all maintenance windows on your account.

```
Get-SSMMaintenanceWindowList
```

Output:

```
Cutoff   : 1
Duration : 4
Enabled  : True
Name     : My-First-Maintenance-Window
WindowId : mw-06d59c1a07c022145
```

- For API details, see DescribeMaintenanceWindows in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindowTarget`

The following code example shows how to use `Get-SSMMaintenanceWindowTarget`.

Tools for PowerShell

Example 1: This example lists all of the targets for a maintenance window.

```
Get-SSMMaintenanceWindowTarget -WindowId "mw-06cf17cbefcb4bf4f"
```

Output:

```
OwnerInformation : Single instance
ResourceType     : INSTANCE
Targets          : {InstanceIds}
WindowId         : mw-06cf17cbefcb4bf4f
WindowTargetId   : 350d44e6-28cc-44e2-951f-4b2c985838f6

OwnerInformation : Two instances in a list
ResourceType     : INSTANCE
Targets          : {InstanceIds}
WindowId         : mw-06cf17cbefcb4bf4f
WindowTargetId   : e078a987-2866-47be-bedd-d9cf49177d3a
```

- For API details, see DescribeMaintenanceWindowTargets in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMMaintenanceWindowTaskList`

The following code example shows how to use `Get-SSMMaintenanceWindowTaskList`.

Tools for PowerShell

Example 1: This example lists all of the tasks for a maintenance window.

```
Get-SSMMaintenanceWindowTaskList -WindowId "mw-06cf17cbefcb4bf4f"
```

Output:

```
LoggingInfo    :
MaxConcurrency : 1
MaxErrors      : 1
Priority       : 10
ServiceRoleArn : arn:aws:iam::123456789012:role/MaintenanceWindowsRole
Targets        : {InstanceIds}
TaskArn        : AWS-RunShellScript
TaskParameters : {[commands,
 Amazon.SimpleSystemsManagement.Model.MaintenanceWindowTaskParameterValueExpression]}
```

```
Type            : RUN_COMMAND
WindowId        : mw-06cf17cbefcb4bf4f
WindowTaskId    : a23e338d-ff30-4398-8aa3-09cd052ebf17
```

- For API details, see DescribeMaintenanceWindowTasks in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMParameterHistory`

The following code example shows how to use `Get-SSMParameterHistory`.

Tools for PowerShell

Example 1: This example lists the value history for a parameter.

```
Get-SSMParameterHistory -Name "Welcome"
```

Output:

```
Description      :
KeyId            :
LastModifiedDate : 3/3/2017 6:55:25 PM
LastModifiedUser : arn:aws:iam::123456789012:user/admin
Name             : Welcome
Type             : String
Value            : helloWorld
```

- For API details, see GetParameterHistory in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMParameterList`

The following code example shows how to use `Get-SSMParameterList`.

Tools for PowerShell

Example 1: This example lists all parameters.

```
Get-SSMParameterList
```

Output:

```
Description      :
KeyId            :
LastModifiedDate : 3/3/2017 6:58:23 PM
LastModifiedUser : arn:aws:iam::123456789012:user/admin
Name             : Welcome
Type             : String
```

- For API details, see DescribeParameters in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMParameterValue`

The following code example shows how to use `Get-SSMParameterValue`.

Tools for PowerShell

Example 1: This example lists the values for a parameter.

```
Get-SSMParameterValue -Name "Welcome"
```

Output:

```
InvalidParameters Parameters
----------------- ----------
{}                {Welcome}
```

Example 2: This example lists the details of the value.

```
(Get-SSMParameterValue -Name "Welcome").Parameters
```

Output:

```
Name    Type   Value
----    ----   -----
Welcome String Good day, Sunshine!
```

- For API details, see GetParameters in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMPatchBaseline`

The following code example shows how to use `Get-SSMPatchBaseline`.

Tools for PowerShell

Example 1: This example lists all patch baselines.

```
Get-SSMPatchBaseline
```

Output:

```
BaselineDescription                                                 BaselineId
                                                  BaselineName
------------------                                                  ----------
                                                  ------------
Default Patch Baseline Provided by AWS.                             arn:aws:ssm:us-
west-2:123456789012:patchbaseline/pb-04fb4ae6142167966 AWS-DefaultP...
Baseline containing all updates approved for production systems pb-045f10b4f382baeda
                                                  Production-B...
Baseline containing all updates approved for production systems pb-0a2f1059b670ebd31
                                                  Production-B...
```

Example 2: This example lists all patch baselines provided by AWS. The syntax used by this example requires PowerShell version 3 or later.

```
$filter1 = @{Key="OWNER";Values=@("AWS")}
```

Output:

```
Get-SSMPatchBaseline -Filter $filter1
```

Example 3: This example lists all patch baselines with you as the owner. The syntax used by this example requires PowerShell version 3 or later.

```
$filter1 = @{Key="OWNER";Values=@("Self")}
```

Output:

```
Get-SSMPatchBaseline -Filter $filter1
```

Example 4: With PowerShell version 2, you must use New-Object to create each tag.

```
$filter1 = New-Object Amazon.SimpleSystemsManagement.Model.PatchOrchestratorFilter
$filter1.Key = "OWNER"
$filter1.Values = "AWS"

Get-SSMPatchBaseline -Filter $filter1
```

Output:

```
BaselineDescription                    BaselineId
                          BaselineName             DefaultBaselin

                                                   e
------------------                     ----------
                          ------------             --------------
Default Patch Baseline Provided by AWS. arn:aws:ssm:us-
west-2:123456789012:patchbaseline/pb-04fb4ae6142167966 AWS-DefaultPatchBaseline True
```

- For API details, see [DescribePatchBaselines](#) in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMPatchBaselineDetail`

The following code example shows how to use `Get-SSMPatchBaselineDetail`.

Tools for PowerShell

Example 1: This example displays the details for a patch baseline.

```
Get-SSMPatchBaselineDetail -BaselineId "pb-03da896ca3b68b639"
```

Output:

```
ApprovalRules   : Amazon.SimpleSystemsManagement.Model.PatchRuleGroup
ApprovedPatches : {}
BaselineId      : pb-03da896ca3b68b639
CreatedDate     : 3/3/2017 5:02:19 PM
Description     : Baseline containing all updates approved for production systems
GlobalFilters   : Amazon.SimpleSystemsManagement.Model.PatchFilterGroup
ModifiedDate    : 3/3/2017 5:02:19 PM
Name            : Production-Baseline
PatchGroups     : {}
```

```
RejectedPatches : {}
```

- For API details, see GetPatchBaseline in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMPatchBaselineForPatchGroup`

The following code example shows how to use `Get-SSMPatchBaselineForPatchGroup`.

Tools for PowerShell

Example 1: This example displays the patch baseline for a patch group.

```
Get-SSMPatchBaselineForPatchGroup -PatchGroup "Production"
```

Output:

```
BaselineId           PatchGroup
----------           ----------
pb-045f10b4f382baeda Production
```

- For API details, see GetPatchBaselineForPatchGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMPatchGroup`

The following code example shows how to use `Get-SSMPatchGroup`.

Tools for PowerShell

Example 1: This example lists the patch group registrations.

```
Get-SSMPatchGroup
```

Output:

```
BaselineIdentity                                                PatchGroup
----------------                                                ----------
Amazon.SimpleSystemsManagement.Model.PatchBaselineIdentity Production
```

- For API details, see DescribePatchGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMPatchGroupState`

The following code example shows how to use `Get-SSMPatchGroupState`.

Tools for PowerShell

Example 1: This example gets the high-level patch compliance summary for a patch group.

```
Get-SSMPatchGroupState -PatchGroup "Production"
```

Output:

```
Instances                          : 4
InstancesWithFailedPatches         : 1
InstancesWithInstalledOtherPatches : 4
InstancesWithInstalledPatches      : 3
InstancesWithMissingPatches        : 0
InstancesWithNotApplicablePatches  : 0
```

- For API details, see DescribePatchGroupState in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMResourceComplianceSummaryList`

The following code example shows how to use `Get-SSMResourceComplianceSummaryList`.

Tools for PowerShell

Example 1: This example gets a resource-level summary count. The summary includes information about compliant and non-compliant statuses and detailed compliance-item severity counts for products that match "Windows10". Because the MaxResult default is 100 if the parameter is not specified, and this value is not valid, MaxResult parameter is added, and the value is set to 50.

```
$FilterValues = @{
  "Key"="Product"
        "Type"="EQUAL"
        "Values"="Windows10"
}
```

```
        Get-SSMResourceComplianceSummaryList -Filter $FilterValues -MaxResult 50
```

- For API details, see ListResourceComplianceSummaries in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-SSMResourceTag`

The following code example shows how to use `Get-SSMResourceTag`.

Tools for PowerShell

Example 1: This example lists the tags for a maintenance window.

```
Get-SSMResourceTag -ResourceId "mw-03eb9db42890fb82d" -ResourceType
 "MaintenanceWindow"
```

Output:

```
Key   Value
---   -----
Stack Production
```

- For API details, see ListTagsForResource in *AWS Tools for PowerShell Cmdlet Reference*.

`New-SSMActivation`

The following code example shows how to use `New-SSMActivation`.

Tools for PowerShell

Example 1: This example creates a managed instance.

```
New-SSMActivation -DefaultInstanceName "MyWebServers" -IamRole "SSMAutomationRole" -
RegistrationLimit 10
```

Output:

```
ActivationCode       ActivationId
--------------       ------------
```

```
KWChhOxBTiwDcKE9BlKC 08e51e79-1e36-446c-8e63-9458569c1363
```

- For API details, see CreateActivation in *AWS Tools for PowerShell Cmdlet Reference*.

`New-SSMAssociation`

The following code example shows how to use `New-SSMAssociation`.

Tools for PowerShell

Example 1: This example associates a configuration document with an instance, using instance IDs.

```
New-SSMAssociation -InstanceId "i-0cb2b964d3e14fd9f" -Name "AWS-UpdateSSMAgent"
```

Output:

```
Name                 : AWS-UpdateSSMAgent
InstanceId           : i-0000293ffd8c57862
Date                 : 2/23/2017 6:55:22 PM
Status.Name          : Associated
Status.Date          : 2/20/2015 8:31:11 AM
Status.Message       : Associated with AWS-UpdateSSMAgent
Status.AdditionalInfo :
```

Example 2: This example associates a configuration document with an instance, using targets.

```
$target = @{Key="instanceids";Values=@("i-0cb2b964d3e14fd9f")}
New-SSMAssociation -Name "AWS-UpdateSSMAgent" -Target $target
```

Output:

```
Name                 : AWS-UpdateSSMAgent
InstanceId           :
Date                 : 3/1/2017 6:22:21 PM
Status.Name          :
Status.Date          :
Status.Message       :
Status.AdditionalInfo :
```

Example 3: This example associates a configuration document with an instance, using targets and parameters.

```
$target = @{Key="instanceids";Values=@("i-0cb2b964d3e14fd9f")}
$params = @{
  "action"="configure"
  "mode"="ec2"
  "optionalConfigurationSource"="ssm"
  "optionalConfigurationLocation"=""
  "optionalRestart"="yes"
}
New-SSMAssociation -Name "Configure-CloudWatch" -AssociationName "CWConfiguration" -
Target $target -Parameter $params
```

Output:

```
Name                 : Configure-CloudWatch
InstanceId           :
Date                 : 5/17/2018 3:17:44 PM
Status.Name          :
Status.Date          :
Status.Message       :
Status.AdditionalInfo :
```

Example 4: This example creates an association with all instances in the region, with `AWS-GatherSoftwareInventory`. It also provides custom files and registry locations in the parameters to collect

```
$params =
 [Collections.Generic.Dictionary[String,Collections.Generic.List[String]]]::new()
$params["windowsRegistry"] ='[{"Path":"HKEY_LOCAL_MACHINE\SOFTWARE\Amazon
\MachineImage","Recursive":false,"ValueNames":["AMIName"]}]'
$params["files"] = '[{"Path":"C:\Program Files","Pattern":
["*.exe"],"Recursive":true}, {"Path":"C:\ProgramData","Pattern":
["*.log"],"Recursive":true}]'
New-SSMAssociation -AssociationName new-in-mum -Name AWS-GatherSoftwareInventory
 -Target @{Key="instanceids";Values="*"} -Parameter $params -region ap-south-1 -
ScheduleExpression "rate(720 minutes)"
```

Output:

```
Name                 : AWS-GatherSoftwareInventory
```

```
InstanceId            :
Date                  : 6/9/2019 8:57:56 AM
Status.Name           :
Status.Date           :
Status.Message        :
Status.AdditionalInfo :
```

- For API details, see CreateAssociation in *AWS Tools for PowerShell Cmdlet Reference*.

`New-SSMAssociationFromBatch`

The following code example shows how to use `New-SSMAssociationFromBatch`.

Tools for PowerShell

Example 1: This example associates a configuration document with multiple instances. The output returns a list of successful and failed operations, if applicable.

```
$option1 = @{InstanceId="i-0cb2b964d3e14fd9f";Name=@("AWS-UpdateSSMAgent")}
$option2 = @{InstanceId="i-0000293ffd8c57862";Name=@("AWS-UpdateSSMAgent")}
New-SSMAssociationFromBatch -Entry $option1,$option2
```

Output:

```
Failed  Successful
------  ----------
{}      {Amazon.SimpleSystemsManagement.Model.FailedCreateAssociation,
 Amazon.SimpleSystemsManagement.Model.FailedCreateAsso...
```

Example 2: This example will show the full details of a successful operation.

```
$option1 = @{InstanceId="i-0cb2b964d3e14fd9f";Name=@("AWS-UpdateSSMAgent")}
$option2 = @{InstanceId="i-0000293ffd8c57862";Name=@("AWS-UpdateSSMAgent")}
(New-SSMAssociationFromBatch -Entry $option1,$option2).Successful
```

- For API details, see CreateAssociationBatch in *AWS Tools for PowerShell Cmdlet Reference*.

`New-SSMDocument`

The following code example shows how to use `New-SSMDocument`.

Tools for PowerShell

Example 1: This example creates a document in your account. The document must be in JSON format. For more information about writing a configuration document, see Configuration Document in the SSM API Reference.

```
New-SSMDocument -Content (Get-Content -Raw "c:\temp\RunShellScript.json") -Name
 "RunShellScript" -DocumentType "Command"
```

Output:

```
CreatedDate     : 3/1/2017 1:21:33 AM
DefaultVersion  : 1
Description     : Run an updated script
DocumentType    : Command
DocumentVersion : 1
Hash            : 1d5ce820e999ff051eb4841ed887593daf77120fd76cae0d18a53cc42e4e22c1
HashType        : Sha256
LatestVersion   : 1
Name            : RunShellScript
Owner           : 809632081692
Parameters      : {commands}
PlatformTypes   : {Linux}
SchemaVersion   : 2.0
Sha1            :
Status          : Creating
```

- For API details, see CreateDocument in *AWS Tools for PowerShell Cmdlet Reference*.

`New-SSMMaintenanceWindow`

The following code example shows how to use `New-SSMMaintenanceWindow`.

Tools for PowerShell

Example 1: This example creates a new maintenance window with the specified name that runs at 4 PM on every Tuesday for 4 hours, with a 1 hour cutoff, and that allows unassociated targets.

```
New-SSMMaintenanceWindow -Name "MyMaintenanceWindow" -Duration 4 -Cutoff 1 -
AllowUnassociatedTarget $true -Schedule "cron(0 16 ? * TUE *)"
```

Output:

```
mw-03eb53e1ea7383998
```

- For API details, see CreateMaintenanceWindow in *AWS Tools for PowerShell Cmdlet Reference*.

`New-SSMPatchBaseline`

The following code example shows how to use `New-SSMPatchBaseline`.

Tools for PowerShell

Example 1: This example creates a patch baseline that approves patches, seven days after they are released by Microsoft, for managed instances running Windows Server 2019 in a production environment.

```
$rule = New-Object Amazon.SimpleSystemsManagement.Model.PatchRule
$rule.ApproveAfterDays = 7

$ruleFilters = New-Object Amazon.SimpleSystemsManagement.Model.PatchFilterGroup

$patchFilter = New-Object Amazon.SimpleSystemsManagement.Model.PatchFilter
$patchFilter.Key="PRODUCT"
$patchFilter.Values="WindowsServer2019"

$severityFilter = New-Object Amazon.SimpleSystemsManagement.Model.PatchFilter
$severityFilter.Key="MSRC_SEVERITY"
$severityFilter.Values.Add("Critical")
$severityFilter.Values.Add("Important")
$severityFilter.Values.Add("Moderate")

$classificationFilter = New-Object Amazon.SimpleSystemsManagement.Model.PatchFilter
$classificationFilter.Key = "CLASSIFICATION"
$classificationFilter.Values.Add( "SecurityUpdates" )
$classificationFilter.Values.Add( "Updates" )
$classificationFilter.Values.Add( "UpdateRollups" )
$classificationFilter.Values.Add( "CriticalUpdates" )

$ruleFilters.PatchFilters.Add($severityFilter)
$ruleFilters.PatchFilters.Add($classificationFilter)
$ruleFilters.PatchFilters.Add($patchFilter)
$rule.PatchFilterGroup = $ruleFilters
```

```
New-SSMPatchBaseline -Name "Production-Baseline-Windows2019" -Description "Baseline
 containing all updates approved for production systems" -ApprovalRules_PatchRule
 $rule
```

Output:

```
pb-0z4z6221c4296b23z
```

- For API details, see CreatePatchBaseline in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-SSMDefaultPatchBaseline`

The following code example shows how to use `Register-SSMDefaultPatchBaseline`.

Tools for PowerShell

Example 1: This example registers a patch baseline as the default patch baseline.

```
Register-SSMDefaultPatchBaseline -BaselineId "pb-03da896ca3b68b639"
```

Output:

```
pb-03da896ca3b68b639
```

- For API details, see RegisterDefaultPatchBaseline in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-SSMPatchBaselineForPatchGroup`

The following code example shows how to use `Register-SSMPatchBaselineForPatchGroup`.

Tools for PowerShell

Example 1: This example registers a patch baseline for a patch group.

```
Register-SSMPatchBaselineForPatchGroup -BaselineId "pb-03da896ca3b68b639" -
PatchGroup "Production"
```

Output:

```
BaselineId           PatchGroup
----------           ----------
pb-03da896ca3b68b639 Production
```

- For API details, see RegisterPatchBaselineForPatchGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-SSMTargetWithMaintenanceWindow`

The following code example shows how to use `Register-SSMTargetWithMaintenanceWindow`.

Tools for PowerShell

Example 1: This example registers an instance with a maintenance window.

```
$option1 = @{Key="InstanceIds";Values=@("i-0000293ffd8c57862")}
Register-SSMTargetWithMaintenanceWindow -WindowId "mw-06cf17cbefcb4bf4f" -Target
 $option1 -OwnerInformation "Single instance" -ResourceType "INSTANCE"
```

Output:

```
d8e47760-23ed-46a5-9f28-927337725398
```

Example 2: This example registers multiple instances with a maintenance window.

```
$option1 =
 @{Key="InstanceIds";Values=@("i-0000293ffd8c57862","i-0cb2b964d3e14fd9f")}
Register-SSMTargetWithMaintenanceWindow -WindowId "mw-06cf17cbefcb4bf4f" -Target
 $option1 -OwnerInformation "Single instance" -ResourceType "INSTANCE"
```

Output:

```
6ab5c208-9fc4-4697-84b7-b02a6cc25f7d
```

Example 3: This example registers an instance with a maintenance window using EC2 tags.

```
$option1 = @{Key="tag:Environment";Values=@("Production")}
Register-SSMTargetWithMaintenanceWindow -WindowId "mw-06cf17cbefcb4bf4f" -Target
 $option1 -OwnerInformation "Production Web Servers" -ResourceType "INSTANCE"
```

Output:

```
2994977e-aefb-4a71-beac-df620352f184
```

- For API details, see RegisterTargetWithMaintenanceWindow in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-SSMTaskWithMaintenanceWindow`

The following code example shows how to use `Register-SSMTaskWithMaintenanceWindow`.

Tools for PowerShell

Example 1: This example registers a task with a maintenance window using an instance ID. The output is the Task ID.

```
$parameters = @{}
$parameterValues = New-Object
 Amazon.SimpleSystemsManagement.Model.MaintenanceWindowTaskParameterValueExpression
$parameterValues.Values = @("Install")
$parameters.Add("Operation", $parameterValues)

Register-SSMTaskWithMaintenanceWindow -WindowId "mw-03a342e62c96d31b0"
 -ServiceRoleArn "arn:aws:iam::123456789012:role/MaintenanceWindowsRole"
 -MaxConcurrency 1 -MaxError 1 -TaskArn "AWS-RunShellScript" -Target
 @{ Key="InstanceIds";Values="i-0000293ffd8c57862" } -TaskType "RUN_COMMAND" -
Priority 10 -TaskParameter $parameters
```

Output:

```
f34a2c47-ddfd-4c85-a88d-72366b69af1b
```

Example 2: This example registers a task with a maintenance window using a target ID. The output is the Task ID.

```
$parameters = @{}
$parameterValues = New-Object
 Amazon.SimpleSystemsManagement.Model.MaintenanceWindowTaskParameterValueExpression
$parameterValues.Values = @("Install")
$parameters.Add("Operation", $parameterValues)
```

```
register-ssmtaskwithmaintenancewindow -WindowId "mw-03a342e62c96d31b0"
 -ServiceRoleArn "arn:aws:iam::123456789012:role/MaintenanceWindowsRole"
 -MaxConcurrency 1 -MaxError 1 -TaskArn "AWS-RunShellScript" -Target
 @{ Key="WindowTargetIds";Values="350d44e6-28cc-44e2-951f-4b2c985838f6" } -TaskType
 "RUN_COMMAND" -Priority 10 -TaskParameter $parameters
```

Output:

```
f34a2c47-ddfd-4c85-a88d-72366b69af1b
```

Example 3: This example creates a parameter object for the run command document `AWS-RunPowerShellScript` and creates a task with given maintenance window using target ID. The return output is the task ID.

```
$parameters =
 [Collections.Generic.Dictionary[String,Collections.Generic.List[String]]]::new()
$parameters.Add("commands",@("ipconfig","dir env:\computername"))
$parameters.Add("executionTimeout",@(3600))

$props = @{
    WindowId = "mw-0123e4cce56ff78ae"
    ServiceRoleArn = "arn:aws:iam::123456789012:role/MaintenanceWindowsRole"
    MaxConcurrency = 1
    MaxError = 1
    TaskType = "RUN_COMMAND"
    TaskArn = "AWS-RunPowerShellScript"
    Target = @{Key="WindowTargetIds";Values="fe1234ea-56d7-890b-12f3-456b789bee0f"}
    Priority = 1
    RunCommand_Parameter = $parameters
    Name = "set-via-cmdlet"
}

Register-SSMTaskWithMaintenanceWindow @props
```

Output:

```
f1e2ef34-5678-12e3-456a-12334c5c6cbe
```

Example 4: This example registers an AWS Systems Manager Automation task by using a document named `Create-Snapshots`.

```
$automationParameters = @{}
$automationParameters.Add( "instanceId", @("{{ TARGET_ID }}") )
$automationParameters.Add( "AutomationAssumeRole",
 @("{arn:aws:iam::111111111111:role/AutomationRole}") )
$automationParameters.Add( "SnapshotTimeout", @("PT20M") )
Register-SSMTaskWithMaintenanceWindow -WindowId mw-123EXAMPLE456`
    -ServiceRoleArn "arn:aws:iam::123456789012:role/MW-Role"`
    -MaxConcurrency 1 -MaxError 1 -TaskArn "CreateVolumeSnapshots"`
    -Target @{ Key="WindowTargetIds";Values="4b5acdf4-946c-4355-
bd68-4329a43a5fd1" }`
    -TaskType "AUTOMATION"`
    -Priority 4`
    -Automation_DocumentVersion '$DEFAULT' -Automation_Parameter
 $automationParameters -Name "Create-Snapshots"
```

- For API details, see RegisterTaskWithMaintenanceWindow in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SSMActivation`

The following code example shows how to use `Remove-SSMActivation`.

Tools for PowerShell

Example 1: This example deletes an activation. There is no output if the command succeeds.

```
Remove-SSMActivation -ActivationId "08e51e79-1e36-446c-8e63-9458569c1363"
```

- For API details, see DeleteActivation in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SSMAssociation`

The following code example shows how to use `Remove-SSMAssociation`.

Tools for PowerShell

Example 1: This example deletes the association between an instance and a document. There is no output if the command succeeds.

```
Remove-SSMAssociation -InstanceId "i-0cb2b964d3e14fd9f" -Name "AWS-UpdateSSMAgent"
```

- For API details, see DeleteAssociation in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SSMDocument`

The following code example shows how to use `Remove-SSMDocument`.

Tools for PowerShell

Example 1: This example deletes a document. There is no output if the command succeeds.

```
Remove-SSMDocument -Name "RunShellScript"
```

- For API details, see DeleteDocument in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SSMMaintenanceWindow`

The following code example shows how to use `Remove-SSMMaintenanceWindow`.

Tools for PowerShell

Example 1: This example removes a maintenance window.

```
Remove-SSMMaintenanceWindow -WindowId "mw-06d59c1a07c022145"
```

Output:

```
mw-06d59c1a07c022145
```

- For API details, see DeleteMaintenanceWindow in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SSMParameter`

The following code example shows how to use `Remove-SSMParameter`.

Tools for PowerShell

Example 1: This example deletes a parameter. There is no output if the command succeeds.

```
Remove-SSMParameter -Name "helloWorld"
```

- For API details, see DeleteParameter in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SSMPatchBaseline`

The following code example shows how to use `Remove-SSMPatchBaseline`.

Tools for PowerShell

Example 1: This example deletes a patch baseline.

```
Remove-SSMPatchBaseline -BaselineId "pb-045f10b4f382baeda"
```

Output:

```
pb-045f10b4f382baeda
```

- For API details, see DeletePatchBaseline in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-SSMResourceTag`

The following code example shows how to use `Remove-SSMResourceTag`.

Tools for PowerShell

Example 1: This example removes a tag from a maintenance window. There is no output if the command succeeds.

```
Remove-SSMResourceTag -ResourceId "mw-03eb9db42890fb82d" -ResourceType
 "MaintenanceWindow" -TagKey "Production"
```

- For API details, see RemoveTagsFromResource in *AWS Tools for PowerShell Cmdlet Reference*.

`Send-SSMCommand`

The following code example shows how to use `Send-SSMCommand`.

Tools for PowerShell

Example 1: This example runs an echo command on a target instance.

```
Send-SSMCommand -DocumentName "AWS-RunPowerShellScript" -Parameter @{commands =
 "echo helloWorld"} -Target @{Key="instanceids";Values=@("i-0cb2b964d3e14fd9f")}
```

Output:

```
CommandId          : d8d190fc-32c1-4d65-a0df-ff5ff3965524
Comment            :
CompletedCount     : 0
DocumentName       : AWS-RunPowerShellScript
ErrorCount         : 0
ExpiresAfter       : 3/7/2017 10:48:37 PM
InstanceIds        : {}
MaxConcurrency     : 50
MaxErrors          : 0
NotificationConfig : Amazon.SimpleSystemsManagement.Model.NotificationConfig
OutputS3BucketName :
OutputS3KeyPrefix  :
OutputS3Region     :
Parameters         : {[commands,
 Amazon.Runtime.Internal.Util.AlwaysSendList`1[System.String]]}
RequestedDateTime  : 3/7/2017 9:48:37 PM
ServiceRole        :
Status             : Pending
StatusDetails      : Pending
TargetCount        : 0
Targets            : {instanceids}
```

Example 2: This example shows how to run a command that accepts nested parameters.

```
Send-SSMCommand -DocumentName "AWS-RunRemoteScript" -Parameter
 @{ sourceType="GitHub";sourceInfo='{"owner": "me","repository": "amazon-
ssm","path": "Examples/Install-Win32OpenSSH"}'; "commandLine"=".\Install-
Win32OpenSSH.ps1"} -InstanceId i-0cb2b964d3e14fd9f
```

- For API details, see SendCommand in *AWS Tools for PowerShell Cmdlet Reference*.

`Start-SSMAutomationExecution`

The following code example shows how to use `Start-SSMAutomationExecution`.

Tools for PowerShell

Example 1: This example runs a document specifying an Automation role, an AMI source ID, and an Amazon EC2 instance role.

```
Start-SSMAutomationExecution -DocumentName AWS-UpdateLinuxAmi -
Parameter @{'AutomationAssumeRole'='arn:aws:iam::123456789012:role/
SSMAutomationRole';'SourceAmiId'='ami-f173cc91';'InstanceIamRole'='EC2InstanceRole'}
```

Output:

```
3a532a4f-0382-11e7-9df7-6f11185f6dd1
```

- For API details, see StartAutomationExecution in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-SSMAutomationExecution`

The following code example shows how to use `Stop-SSMAutomationExecution`.

Tools for PowerShell

Example 1: This example stops an Automation Execution. There is no output if the command succeeds.

```
Stop-SSMAutomationExecution -AutomationExecutionId "4105a4fc-
f944-11e6-9d32-8fb2db27a909"
```

- For API details, see StopAutomationExecution in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-SSMCommand`

The following code example shows how to use `Stop-SSMCommand`.

Tools for PowerShell

Example 1: This example attempts to cancel a command. There is no output if the operation succeeds.

```
Stop-SSMCommand -CommandId "9ded293e-e792-4440-8e3e-7b8ec5feaa38"
```

- For API details, see CancelCommand in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-SSMManagedInstance`

The following code example shows how to use `Unregister-SSMManagedInstance`.

Tools for PowerShell

Example 1: This example deregisters a managed instance. There is no output if the command succeeds.

```
Unregister-SSMManagedInstance -InstanceId "mi-08ab247cdf1046573"
```

- For API details, see DeregisterManagedInstance in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-SSMPatchBaselineForPatchGroup`

The following code example shows how to use `Unregister-SSMPatchBaselineForPatchGroup`.

Tools for PowerShell

Example 1: This example deregisters a patch group from a patch baseline.

```
Unregister-SSMPatchBaselineForPatchGroup -BaselineId "pb-045f10b4f382baeda" -
PatchGroup "Production"
```

Output:

```
BaselineId           PatchGroup
----------           ----------
pb-045f10b4f382baeda Production
```

- For API details, see DeregisterPatchBaselineForPatchGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-SSMTargetFromMaintenanceWindow`

The following code example shows how to use `Unregister-SSMTargetFromMaintenanceWindow`.

Tools for PowerShell

Example 1: This example removes a target from a maintenance window.

```
Unregister-SSMTargetFromMaintenanceWindow -WindowTargetId "6ab5c208-9fc4-4697-84b7-
b02a6cc25f7d" -WindowId "mw-06cf17cbefcb4bf4f"
```

Output:

```
WindowId             WindowTargetId
--------             --------------
mw-06cf17cbefcb4bf4f 6ab5c208-9fc4-4697-84b7-b02a6cc25f7d
```

- For API details, see DeregisterTargetFromMaintenanceWindow in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-SSMTaskFromMaintenanceWindow`

The following code example shows how to use `Unregister-SSMTaskFromMaintenanceWindow`.

Tools for PowerShell

Example 1: This example removes a task from a maintenance window.

```
Unregister-SSMTaskFromMaintenanceWindow -WindowTaskId "f34a2c47-ddfd-4c85-
a88d-72366b69af1b" -WindowId "mw-03a342e62c96d31b0"
```

Output:

```
WindowId             WindowTaskId
--------             ------------
mw-03a342e62c96d31b0 f34a2c47-ddfd-4c85-a88d-72366b69af1b
```

- For API details, see DeregisterTaskFromMaintenanceWindow in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-SSMAssociation`

The following code example shows how to use `Update-SSMAssociation`.

Tools for PowerShell

Example 1: This example updates an association with a new document version.

```
Update-SSMAssociation -AssociationId "93285663-92df-44cb-9f26-2292d4ecc439" -
DocumentVersion "1"
```

Output:

```
Name                  : AWS-UpdateSSMAgent
InstanceId            :
Date                  : 3/1/2017 6:22:21 PM
Status.Name           :
Status.Date           :
Status.Message        :
Status.AdditionalInfo :
```

- For API details, see UpdateAssociation in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-SSMAssociationStatus`

The following code example shows how to use `Update-SSMAssociationStatus`.

Tools for PowerShell

Example 1: This example updates the association status of the association between an instance and a configuration document.

```
Update-SSMAssociationStatus -Name "AWS-UpdateSSMAgent" -InstanceId
 "i-0000293ffd8c57862" -AssociationStatus_Date "2015-02-20T08:31:11Z"
 -AssociationStatus_Name "Pending" -AssociationStatus_Message
 "temporary_status_change" -AssociationStatus_AdditionalInfo "Additional-Config-
Needed"
```

Output:

```
Name                  : AWS-UpdateSSMAgent
InstanceId            : i-0000293ffd8c57862
Date                  : 2/23/2017 6:55:22 PM
Status.Name           : Pending
Status.Date           : 2/20/2015 8:31:11 AM
Status.Message        : temporary_status_change
Status.AdditionalInfo : Additional-Config-Needed
```

- For API details, see UpdateAssociationStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-SSMDocument`

The following code example shows how to use `Update-SSMDocument`.

Tools for PowerShell

Example 1: This creates a new version of a document with the updated contents of the json file you specify. The document must be in JSON format. You can obtain the document version with the "Get-SSMDocumentVersionList" cmdlet.

```
Update-SSMDocument -Name RunShellScript -DocumentVersion "1" -Content (Get-Content -
Raw "c:\temp\RunShellScript.json")
```

Output:

```
CreatedDate     : 3/1/2017 2:59:17 AM
DefaultVersion  : 1
Description     : Run an updated script
DocumentType    : Command
DocumentVersion : 2
Hash            : 1d5ce820e999ff051eb4841ed887593daf77120fd76cae0d18a53cc42e4e22c1
HashType        : Sha256
LatestVersion   : 2
Name            : RunShellScript
Owner           : 809632081692
Parameters      : {commands}
PlatformTypes   : {Linux}
SchemaVersion   : 2.0
Sha1            :
Status          : Updating
```

- For API details, see UpdateDocument in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-SSMDocumentDefaultVersion`

The following code example shows how to use `Update-SSMDocumentDefaultVersion`.

Tools for PowerShell

Example 1: This updates the default version of a document. You can obtain the available document versions with the "Get-SSMDocumentVersionList" cmdlet.

```
Update-SSMDocumentDefaultVersion -Name "RunShellScript" -DocumentVersion "2"
```

Output:

```
DefaultVersion Name
-------------- ----
2              RunShellScript
```

- For API details, see UpdateDocumentDefaultVersion in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-SSMMaintenanceWindow`

The following code example shows how to use `Update-SSMMaintenanceWindow`.

Tools for PowerShell

Example 1: This example updates the name of a maintenance window.

```
Update-SSMMaintenanceWindow -WindowId "mw-03eb9db42890fb82d" -Name "My-Renamed-MW"
```

Output:

```
AllowUnassociatedTargets : False
Cutoff                   : 1
Duration                 : 2
Enabled                  : True
Name                     : My-Renamed-MW
Schedule                 : cron(0 */30 * * * ? *)
WindowId                 : mw-03eb9db42890fb82d
```

Example 2: This example enables a maintenance window.

```
Update-SSMMaintenanceWindow -WindowId "mw-03eb9db42890fb82d" -Enabled $true
```

Output:

```
AllowUnassociatedTargets : False
Cutoff                   : 1
Duration                 : 2
```

```
Enabled                   : True
Name                      : My-Renamed-MW
Schedule                  : cron(0 */30 * * * ? *)
WindowId                  : mw-03eb9db42890fb82d
```

Example 3: This example disables a maintenance window.

```
Update-SSMMaintenanceWindow -WindowId "mw-03eb9db42890fb82d" -Enabled $false
```

Output:

```
AllowUnassociatedTargets : False
Cutoff                   : 1
Duration                 : 2
Enabled                  : False
Name                     : My-Renamed-MW
Schedule                 : cron(0 */30 * * * ? *)
WindowId                 : mw-03eb9db42890fb82d
```

- For API details, see UpdateMaintenanceWindow in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-SSMManagedInstanceRole`

The following code example shows how to use `Update-SSMManagedInstanceRole`.

Tools for PowerShell

Example 1: This example updates the role of a managed instance. There is no output if the command succeeds.

```
Update-SSMManagedInstanceRole -InstanceId "mi-08ab247cdf1046573" -IamRole
 "AutomationRole"
```

- For API details, see UpdateManagedInstanceRole in *AWS Tools for PowerShell Cmdlet Reference*.

`Update-SSMPatchBaseline`

The following code example shows how to use `Update-SSMPatchBaseline`.

Tools for PowerShell

Example 1: This example adds two patches as rejected and one patch as approved to an existing patch baseline.

```
Update-SSMPatchBaseline -BaselineId "pb-03da896ca3b68b639" -RejectedPatch
 "KB2032276","MS10-048" -ApprovedPatch "KB2124261"
```

Output:

```
ApprovalRules   : Amazon.SimpleSystemsManagement.Model.PatchRuleGroup
ApprovedPatches : {KB2124261}
BaselineId      : pb-03da896ca3b68b639
CreatedDate     : 3/3/2017 5:02:19 PM
Description     : Baseline containing all updates approved for production systems
GlobalFilters   : Amazon.SimpleSystemsManagement.Model.PatchFilterGroup
ModifiedDate    : 3/3/2017 5:22:10 PM
Name            : Production-Baseline
RejectedPatches : {KB2032276, MS10-048}
```

- For API details, see UpdatePatchBaseline in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-SSMComplianceItem`

The following code example shows how to use `Write-SSMComplianceItem`.

Tools for PowerShell

Example 1: This example writes a custom compliance item for the given managed instance

```
$item = [Amazon.SimpleSystemsManagement.Model.ComplianceItemEntry]::new()
$item.Id = "07Jun2019-3"
$item.Severity="LOW"
$item.Status="COMPLIANT"
$item.Title="Fin-test-1 - custom"
Write-SSMComplianceItem -ResourceId mi-012dcb3ecea45b678 -ComplianceType
 Custom:VSSCompliant2 -ResourceType ManagedInstance -Item $item -
ExecutionSummary_ExecutionTime "07-Jun-2019"
```

- For API details, see PutComplianceItems in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-SSMInventory`

The following code example shows how to use `Write-SSMInventory`.

Tools for PowerShell

Example 1: This example assigns rack location information to an instance. There is no output if the command succeeds.

```
$data = New-Object
 "System.Collections.Generic.Dictionary[System.String,System.String]"
$data.Add("RackLocation", "Bay B/Row C/Rack D/Shelf F")

$items = New-Object
 "System.Collections.Generic.List[System.Collections.Generic.Dictionary[System.String,
 System.String]]"
$items.Add($data)

$customInventoryItem = New-Object Amazon.SimpleSystemsManagement.Model.InventoryItem
$customInventoryItem.CaptureTime = "2016-08-22T10:01:01Z"
$customInventoryItem.Content = $items
$customInventoryItem.TypeName = "Custom:TestRackInfo2"
$customInventoryItem.SchemaVersion = "1.0"

$inventoryItems = @($customInventoryItem)

Write-SSMInventory -InstanceId "i-0cb2b964d3e14fd9f" -Item $inventoryItems
```

- For API details, see PutInventory in *AWS Tools for PowerShell Cmdlet Reference*.

`Write-SSMParameter`

The following code example shows how to use `Write-SSMParameter`.

Tools for PowerShell

Example 1: This example creates a parameter. There is no output if the command succeeds.

```
Write-SSMParameter -Name "Welcome" -Type "String" -Value "helloWorld"
```

Example 2: This example changes a parameter. There is no output if the command succeeds.

```
Write-SSMParameter -Name "Welcome" -Type "String" -Value "Good day, Sunshine!" -
Overwrite $true
```

- For API details, see PutParameter in *AWS Tools for PowerShell Cmdlet Reference*.

Amazon Translate examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`ConvertTo-TRNTargetLanguage`

The following code example shows how to use `ConvertTo-TRNTargetLanguage`.

Tools for PowerShell

Example 1: Converts the specified English text to French. The text to convert can also be passed as the -Text parameter.

```
"Hello World" | ConvertTo-TRNTargetLanguage -SourceLanguageCode en -
TargetLanguageCode fr
```

- For API details, see TranslateText in *AWS Tools for PowerShell Cmdlet Reference*.

AWS WAFV2 examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`New-WAF2WebACL`

The following code example shows how to use `New-WAF2WebACL`.

Tools for PowerShell

Example 1: This command creates a new web ACL named "waf-test". Kindly note that as per service API documentation, 'DefaultAction' is a required property. Hence, value for either '-DefaultAction_Allow' and/or '-DefaultAction_Block' should be specified. Since '-DefaultAction_Allow' and '-DefaultAction_Block' are not the required properties, value '@{}' could be used as placeholder as shown in above example.

```
New-WAF2WebACL -Name "waf-test" -Scope REGIONAL -Region eu-
west-1 -VisibilityConfig_CloudWatchMetricsEnabled $true -
VisibilityConfig_SampledRequestsEnabled $true -VisibilityConfig_MetricName "waf-
test" -Description "Test" -DefaultAction_Allow @{}
```

Output:

```
ARN         : arn:aws:wafv2:eu-west-1:139480602983:regional/webacl/waf-
test/19460b3f-db14-4b9a-8e23-a417e1eb007f
```

```
Description : Test
Id          : 19460b3f-db14-4b9a-8e23-a417e1eb007f
LockToken   : 5a0cd5eb-d911-4341-b313-b429e6d6b6ab
Name        : waf-test
```

- For API details, see CreateWebAcl in *AWS Tools for PowerShell Cmdlet Reference*.

WorkSpaces examples using Tools for PowerShell

The following code examples show you how to perform actions and implement common scenarios by using the AWS Tools for PowerShell 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

`Approve-WKSIpRule`

The following code example shows how to use `Approve-WKSIpRule`.

Tools for PowerShell

Example 1: This sample adds rules to an existing IP Group

```
$Rule = @(
@{IPRule = "10.1.0.0/0"; RuleDesc = "First Rule Added"},
@{IPRule = "10.2.0.0/0"; RuleDesc = "Second Rule Added"}
)
```

```
Approve-WKSIpRule -GroupId wsipg-abcnx2fcw -UserRule $Rule
```

- For API details, see AuthorizeIpRules in *AWS Tools for PowerShell Cmdlet Reference*.

`Copy-WKSWorkspaceImage`

The following code example shows how to use `Copy-WKSWorkspaceImage`.

Tools for PowerShell

Example 1: This sample copies workspace Image with specified ID from us-west-2 to the current region with the name "CopiedImageTest"

```
Copy-WKSWorkspaceImage -Name CopiedImageTest -SourceRegion us-west-2 -SourceImageId
 wsi-djfoedhw6
```

Output:

```
wsi-456abaqfe
```

- For API details, see CopyWorkspaceImage in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-WKSClientProperty`

The following code example shows how to use `Edit-WKSClientProperty`.

Tools for PowerShell

Example 1: This sample enables Reconnection for the Workspaces Client

```
Edit-WKSClientProperty -Region us-west-2 -ClientProperties_ReconnectEnabled
 "ENABLED" -ResourceId d-123414a369
```

- For API details, see ModifyClientProperties in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-WKSSelfServicePermission`

The following code example shows how to use `Edit-WKSSelfServicePermission`.

Tools for PowerShell

Example 1: This sample enables self service permissions to Change compute type and Increase Volume Size for the specified Directory

```
Edit-WKSSelfservicePermission -Region us-west-2 -ResourceId
 d-123454a369 -SelfservicePermissions_ChangeComputeType ENABLED -
SelfservicePermissions_IncreaseVolumeSize ENABLED
```

- For API details, see ModifySelfservicePermissions in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-WKSWorkspaceAccessProperty`

The following code example shows how to use `Edit-WKSWorkspaceAccessProperty`.

Tools for PowerShell

Example 1: This sample enables Workspace access on Android and Chrome OS for the specified Directory

```
Edit-WKSWorkspaceAccessProperty -Region us-west-2 -ResourceId
 d-123454a369 -WorkspaceAccessProperties_DeviceTypeAndroid ALLOW -
WorkspaceAccessProperties_DeviceTypeChromeOs ALLOW
```

- For API details, see ModifyWorkspaceAccessProperties in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-WKSWorkspaceCreationProperty`

The following code example shows how to use `Edit-WKSWorkspaceCreationProperty`.

Tools for PowerShell

Example 1: This sample enables Internet Access and Maintenance Mode to true as default values while creating a Workspace

```
Edit-WKSWorkspaceCreationProperty -Region us-west-2 -ResourceId
 d-123454a369 -WorkspaceCreationProperties_EnableInternetAccess $true -
WorkspaceCreationProperties_EnableMaintenanceMode $true
```

- For API details, see ModifyWorkspaceCreationProperties in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-WKSWorkspaceProperty`

The following code example shows how to use `Edit-WKSWorkspaceProperty`.

Tools for PowerShell

Example 1: This Sample changes the Workspace Running Mode Property to Auto Stop for the specified Workspace

```
Edit-WKSWorkspaceProperty -WorkspaceId ws-w361s100v -Region us-west-2 -
WorkspaceProperties_RunningMode AUTO_STOP
```

- For API details, see ModifyWorkspaceProperties in *AWS Tools for PowerShell Cmdlet Reference*.

`Edit-WKSWorkspaceState`

The following code example shows how to use `Edit-WKSWorkspaceState`.

Tools for PowerShell

Example 1: This sample changes the state of the specified Workspace to Available

```
Edit-WKSWorkspaceState -WorkspaceId ws-w361s100v -Region us-west-2 -WorkspaceState
 AVAILABLE
```

- For API details, see ModifyWorkspaceState in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSClientProperty`

The following code example shows how to use `Get-WKSClientProperty`.

Tools for PowerShell

Example 1: This sample gets the Client Properties of the Workspace Client for the specified Directory

```
Get-WKSClientProperty -ResourceId d-223562a123
```

- For API details, see DescribeClientProperties in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSIpGroup`

The following code example shows how to use `Get-WKSIpGroup`.

Tools for PowerShell

Example 1: This sample gets the details of the specified IP Group in the specified region

```
Get-WKSIpGroup -Region us-east-1 -GroupId wsipg-8m1234v45
```

Output:

```
GroupDesc GroupId         GroupName UserRules
--------- -------         --------- ---------
          wsipg-8m1234v45 TestGroup {Amazon.WorkSpaces.Model.IpRuleItem,
 Amazon.WorkSpaces.Model.IpRuleItem}
```

- For API details, see DescribeIpGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSTag`

The following code example shows how to use `Get-WKSTag`.

Tools for PowerShell

Example 1: This Sample fetches tag for the given Workspace

```
Get-WKSTag -WorkspaceId ws-w361s234r -Region us-west-2
```

Output:

```
Key         Value
---         -----
auto-delete no
purpose     Workbench
```

- For API details, see DescribeTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSWorkspace`

The following code example shows how to use `Get-WKSWorkspace`.

Tools for PowerShell

Example 1: Retrieves details of all your WorkSpaces to the pipeline.

```
Get-WKSWorkspace
```

Output:

```
BundleId                    : wsb-1a2b3c4d
ComputerName                :
DirectoryId                 : d-1a2b3c4d
ErrorCode                   :
ErrorMessage                :
IpAddress                   :
RootVolumeEncryptionEnabled : False
State                       : PENDING
SubnetId                    :
UserName                    : myuser
UserVolumeEncryptionEnabled : False
VolumeEncryptionKey         :
WorkspaceId                 : ws-1a2b3c4d
WorkspaceProperties         : Amazon.WorkSpaces.Model.WorkspaceProperties
```

Example 2: This command shows the values of child properties of `WorkSpaceProperties` for a workspace in the `us-west-2` region. For more information about the child properties of `WorkSpaceProperties`, see https://docs.aws.amazon.com/workspaces/latest/api/API_WorkspaceProperties.html.

```
(Get-WKSWorkspace -Region us-west-2 -WorkSpaceId ws-xdaf7hc9s).WorkspaceProperties
```

Output:

```
        ComputeTypeName                     : STANDARD
        RootVolumeSizeGib                   : 80
        RunningMode                         : AUTO_STOP
        RunningModeAutoStopTimeoutInMinutes : 60
        UserVolumeSizeGib                   : 50
```

Example 3: This command shows the value of the child property `RootVolumeSizeGib` of `WorkSpaceProperties` for a workspace in the `us-west-2` region. The root volume size, in GiB, is 80.

```
(Get-WKSWorkspace -Region us-west-2 -WorkSpaceId ws-
xdaf7hc9s).WorkspaceProperties.RootVolumeSizeGib
```

Output:

```
        80
```

- For API details, see DescribeWorkspaces in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSWorkspaceBundle`

The following code example shows how to use `Get-WKSWorkspaceBundle`.

Tools for PowerShell

Example 1: This sample fetches details of all the Workspace bundles in the current region

```
Get-WKSWorkspaceBundle
```

Output:

```
BundleId        : wsb-sfhdgv342
ComputeType     : Amazon.WorkSpaces.Model.ComputeType
Description     : This bundle is custom
ImageId         : wsi-235aeqges
LastUpdatedTime : 12/26/2019 06:44:07
Name            : CustomBundleTest
Owner           : 233816212345
RootStorage     : Amazon.WorkSpaces.Model.RootStorage
UserStorage     : Amazon.WorkSpaces.Model.UserStorage
```

- For API details, see DescribeWorkspaceBundles in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSWorkspaceDirectory`

The following code example shows how to use `Get-WKSWorkspaceDirectory`.

Tools for PowerShell

Example 1: This sample lists the directory details for registered directories

```
Get-WKSWorkspaceDirectory
```

Output:

```
Alias                       : TestWorkspace
CustomerUserName            : Administrator
DirectoryId                 : d-123414a369
DirectoryName               : TestDirectory.com
DirectoryType               : MicrosoftAD
DnsIpAddresses              : {172.31.43.45, 172.31.2.97}
IamRoleId                   : arn:aws:iam::761234567801:role/workspaces_RoleDefault
IpGroupIds                  : {}
RegistrationCode            : WSpdx+4RRT43
SelfservicePermissions      : Amazon.WorkSpaces.Model.SelfservicePermissions
State                       : REGISTERED
SubnetIds                   : {subnet-1m3m7b43, subnet-ard11aba}
Tenancy                     : SHARED
WorkspaceAccessProperties   : Amazon.WorkSpaces.Model.WorkspaceAccessProperties
WorkspaceCreationProperties :
 Amazon.WorkSpaces.Model.DefaultWorkspaceCreationProperties
WorkspaceSecurityGroupId    : sg-0ed2441234a123c43
```

- For API details, see DescribeWorkspaceDirectories in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSWorkspaceImage`

The following code example shows how to use `Get-WKSWorkspaceImage`.

Tools for PowerShell

Example 1: This sample fetches all the details of all images in the region

```
Get-WKSWorkspaceImage
```

Output:

```
Description     :This image is copied from another image
ErrorCode       :
ErrorMessage    :
ImageId         : wsi-345ahdjgo
Name            : CopiedImageTest
OperatingSystem : Amazon.WorkSpaces.Model.OperatingSystem
RequiredTenancy : DEFAULT
State           : AVAILABLE
```

- For API details, see DescribeWorkspaceImages in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSWorkspaceSnapshot`

The following code example shows how to use `Get-WKSWorkspaceSnapshot`.

Tools for PowerShell

Example 1: This sample shows the timestamp of the most recent snapshot created for the specified Workspace

```
Get-WKSWorkspaceSnapshot -WorkspaceId ws-w361s100v
```

Output:

```
RebuildSnapshots                  RestoreSnapshots
----------------                  ----------------
{Amazon.WorkSpaces.Model.Snapshot} {Amazon.WorkSpaces.Model.Snapshot}
```

- For API details, see DescribeWorkspaceSnapshots in *AWS Tools for PowerShell Cmdlet Reference*.

`Get-WKSWorkspacesConnectionStatus`

The following code example shows how to use `Get-WKSWorkspacesConnectionStatus`.

Tools for PowerShell

Example 1: This sample fetches the connection status for the specified Workspace

```
Get-WKSWorkspacesConnectionStatus -WorkspaceId ws-w123s234r
```

- For API details, see DescribeWorkspacesConnectionStatus in *AWS Tools for PowerShell Cmdlet Reference*.

`New-WKSIpGroup`

The following code example shows how to use `New-WKSIpGroup`.

Tools for PowerShell

Example 1: This sample creates an empty Ip group named FreshEmptyIpGroup

```
New-WKSIpGroup -GroupName "FreshNewIPGroup"
```

Output:

```
wsipg-w45rty4ty
```

- For API details, see CreateIpGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`New-WKSTag`

The following code example shows how to use `New-WKSTag`.

Tools for PowerShell

Example 1: This example adds a new tag to a workspace named `ws-wsname`. The tag has a key of "Name", and a key value of `AWS_Workspace`.

```
$tag = New-Object Amazon.WorkSpaces.Model.Tag
$tag.Key = "Name"
$tag.Value = "AWS_Workspace"
New-WKSTag -Region us-west-2 -WorkspaceId ws-wsname -Tag $tag
```

Example 2: This example adds multiple tags to a workspace named `ws-wsname`. One tag has a key of "Name" and a key value of `AWS_Workspace`; the other tag has a tag key of "Stage" and a key value of "Test".

```
$tag = New-Object Amazon.WorkSpaces.Model.Tag
```

```
$tag.Key = "Name"
$tag.Value = "AWS_Workspace"

$tag2 = New-Object Amazon.WorkSpaces.Model.Tag
$tag2.Key = "Stage"
$tag2.Value = "Test"
New-WKSTag -Region us-west-2 -WorkspaceId ws-wsname -Tag $tag,$tag2
```

- For API details, see CreateTags in *AWS Tools for PowerShell Cmdlet Reference*.

`New-WKSWorkspace`

The following code example shows how to use `New-WKSWorkspace`.

Tools for PowerShell

Example 1: Create a WorkSpace for the supplied bundle, directory, and user.

```
New-WKSWorkspace -Workspace @{"BundleID" = "wsb-1a2b3c4d"; "DirectoryId" =
 "d-1a2b3c4d"; "UserName" = "USERNAME"}
```

Example 2: This example creates multiple WorkSpaces

```
New-WKSWorkspace -Workspace @{"BundleID" = "wsb-1a2b3c4d"; "DirectoryId"
 = "d-1a2b3c4d"; "UserName" = "USERNAME_1"},@{"BundleID" = "wsb-1a2b3c4d";
 "DirectoryId" = "d-1a2b3c4d"; "UserName" = "USERNAME_2"}
```

- For API details, see CreateWorkspaces in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-WKSIpGroup`

The following code example shows how to use `Register-WKSIpGroup`.

Tools for PowerShell

Example 1: This sample registers the specified IP Group with the specified Directory

```
Register-WKSIpGroup -GroupId wsipg-23ahsdres -DirectoryId d-123412e123
```

- For API details, see AssociateIpGroups in *AWS Tools for PowerShell Cmdlet Reference*.

`Register-WKSWorkspaceDirectory`

The following code example shows how to use `Register-WKSWorkspaceDirectory`.

Tools for PowerShell

Example 1: This sample registers the specified directory for Workspaces Service

```
Register-WKSWorkspaceDirectory -DirectoryId d-123412a123 -EnableWorkDoc $false
```

- For API details, see RegisterWorkspaceDirectory in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-WKSIpGroup`

The following code example shows how to use `Remove-WKSIpGroup`.

Tools for PowerShell

Example 1: This sample deletes the specified IP Group

```
Remove-WKSIpGroup -GroupId wsipg-32fhgtred
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-WKSIpGroup (DeleteIpGroup)" on target
 "wsipg-32fhgtred".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteIpGroup in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-WKSTag`

The following code example shows how to use `Remove-WKSTag`.

Tools for PowerShell

Example 1: This sample removes the tag associated with the Workspace

```
Remove-WKSTag -ResourceId ws-w10b3abcd -TagKey "Type"
```

Output:

```
Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-WKSTag (DeleteTags)" on target "ws-w10b3abcd".
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is
 "Y"): Y
```

- For API details, see DeleteTags in *AWS Tools for PowerShell Cmdlet Reference*.

`Remove-WKSWorkspace`

The following code example shows how to use `Remove-WKSWorkspace`.

Tools for PowerShell

Example 1: Terminates multiple WorkSpaces. use of the -Force switch stops the cmdlet from prompting for confirmation.

```
Remove-WKSWorkspace -WorkspaceId "ws-1a2b3c4d5","ws-6a7b8c9d0" -Force
```

Example 2: Retrieves the collection of all your WorkSpaces and pipes the IDs to the -WorkSpaceId parameter of Remove-WKSWorkspace, terminating all of the WorkSpaces. The cmdlet will prompt before each WorkSpace is terminated. To suppress the confirmation prompt add the -Force switch.

```
Get-WKSWorkspaces | Remove-WKSWorkspace
```

Example 3: This example shows how to pass TerminateRequest objects defining the WorkSpaces to be terminated. The cmdlet will prompt for confirmation before proceeding, unless the -Force switch parameter is also specified.

```
$arrRequest = @()
$request1 = New-Object Amazon.WorkSpaces.Model.TerminateRequest
$request1.WorkspaceId = 'ws-12345678'
$arrRequest += $request1
$request2 = New-Object Amazon.WorkSpaces.Model.TerminateRequest
```

```
$request2.WorkspaceId = 'ws-abcdefgh'
$arrRequest += $request2
Remove-WKSWorkspace -Request $arrRequest
```

- For API details, see TerminateWorkspaces in *AWS Tools for PowerShell Cmdlet Reference*.

`Reset-WKSWorkspace`

The following code example shows how to use `Reset-WKSWorkspace`.

Tools for PowerShell

Example 1: Rebuilds the specified WorkSpace.

```
Reset-WKSWorkspace -WorkspaceId "ws-1a2b3c4d"
```

Example 2: Retrieves the collection of all your WorkSpaces and pipes the IDs to the -WorkSpaceId parameter of Reset-WKSWorkspace, causing the WorkSpaces to be rebuilt.

```
Get-WKSWorkspaces | Reset-WKSWorkspace
```

- For API details, see RebuildWorkspaces in *AWS Tools for PowerShell Cmdlet Reference*.

`Restart-WKSWorkspace`

The following code example shows how to use `Restart-WKSWorkspace`.

Tools for PowerShell

Example 1: Reboots the specified WorkSpace.

```
Restart-WKSWorkspace -WorkspaceId "ws-1a2b3c4d"
```

Example 2: Reboots multiple WorkSpaces.

```
Restart-WKSWorkspace -WorkspaceId "ws-1a2b3c4d","ws-5a6b7c8d"
```

Example 3: Retrieves the collection of all your WorkSpaces and pipes the IDs to the -WorkSpaceId parameter of Restart-WKSWorkspace, causing the WorkSpaces to be restarted.

```
Get-WKSWorkspaces | Restart-WKSWorkspace
```

- For API details, see RebootWorkspaces in *AWS Tools for PowerShell Cmdlet Reference*.

`Stop-WKSWorkspace`

The following code example shows how to use `Stop-WKSWorkspace`.

Tools for PowerShell

Example 1: Stops multiple WorkSpaces.

```
Stop-WKSWorkspace -WorkspaceId "ws-1a2b3c4d5","ws-6a7b8c9d0"
```

Example 2: Retrieves the collection of all your WorkSpaces and pipes the IDs to the -WorkSpaceId parameter of Stop-WKSWorkspace causing the WorkSpaces to be stopped.

```
Get-WKSWorkspaces | Stop-WKSWorkspace
```

Example 3: This example shows how to pass StopRequest objects defining the WorkSpaces to be stopped.

```
$arrRequest = @()
$request1 = New-Object Amazon.WorkSpaces.Model.StopRequest
$request1.WorkspaceId = 'ws-12345678'
$arrRequest += $request1
$request2 = New-Object Amazon.WorkSpaces.Model.StopRequest
$request2.WorkspaceId = 'ws-abcdefgh'
$arrRequest += $request2
Stop-WKSWorkspace -Request $arrRequest
```

- For API details, see StopWorkspaces in *AWS Tools for PowerShell Cmdlet Reference*.

`Unregister-WKSIpGroup`

The following code example shows how to use `Unregister-WKSIpGroup`.

Tools for PowerShell

Example 1: This sample unregisters the specified IP Group from the specified Directory

```
Unregister-WKSIpGroup -GroupId wsipg-12abcdphq -DirectoryId d-123454b123
```

- For API details, see DisassociateIpGroups in *AWS Tools for PowerShell Cmdlet Reference*.

Security for this AWS Product or Service

Cloud security at Amazon Web Services (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 all of the services offered in the AWS Cloud and providing you with services that you can use securely. Our security responsibility is the highest priority at AWS, and the effectiveness of our security is regularly tested and verified by third-party auditors as part of the AWS Compliance Programs.

Security in the Cloud – Your responsibility is determined by the AWS service you are using, and other factors including the sensitivity of your data, your organization's requirements, and applicable laws and regulations.

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.

Topics

Data protection in this AWS product or service

The AWS shared responsibility model applies to data protection in this AWS product or service. 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 this AWS product or service 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 Tools for PowerShell 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 Tools for PowerShell 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 Tools for PowerShell and AWS service endpoints is encrypted by sending everything through an HTTPS/TLS connection.

You don't need to do anything to enable the use of HTTPS/TLS. It is always enabled.

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

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.

Enforcing a minimum TLS version in the Tools for PowerShell

To increase security when communicating with AWS services, you should configure the Tools for PowerShell to use the appropriate TLS version. For information about how to do this, see Enforcing a minimum TLS version in the AWS SDK for .NET Developer Guide.

Additional security considerations for the Tools for PowerShell

This topic contains security considerations in addition to the security topics covered in earlier sections.

Logging of sensitive information

Some operations of this tool might return information that could be considered sensitive, including information from environment variables. The exposure of this information might represent a security risk in certain scenarios; for example, the information could be included in continuous integration and continuous deployment (CI/CD) logs. It is therefore important that you review when you are including such output as part of your logs, and suppress the output when not needed. For additional information about protecting sensitive data, see Data protection in this AWS product or service.

Consider the following best practices:

- Do not use environment variables to store sensitive values for your serverless resources. Instead have your serverless code programmatically retrieve the secret from a secrets store (for example, AWS Secrets Manager).

- Review the contents of your build logs to ensure they do not contain sensitive information. Consider approaches such as piping to /dev/null or capturing the output as a bash or PowerShell variable to suppress command outputs.
- Consider the access of your logs and scope the access appropriately for your use case.

Cmdlet reference for the Tools for PowerShell

The Tools for PowerShell provides cmdlets that you can use to access AWS services. To see what cmdlets are available, see the AWS Tools for PowerShell Cmdlet Reference.

Document history

This topic describes significant changes to the documentation for the AWS Tools for PowerShell.

We also update the documentation periodically in response to customer feedback. To send feedback about a topic, use the feedback buttons next to "Did this page help you?" located at the bottom of each page.

For additional information about changes and updates to the AWS Tools for PowerShell, see the release notes.

Change	Description	Date
Code Examples	Included a chapter with cmdlet examples.	April 17, 2024
Additional security considerations	Included information about potential logging of sensitive data.	April 16, 2024
Configure tool authentication with AWS	Added information about support for SSO in the AWS Tools for PowerShell.	March 15, 2024
Cmdlet reference for the Tools for PowerShell	Added section with a link to the Tools for PowerShell cmdlet reference.	November 17, 2023
Included more IAM best practices updates	Updated guide to align with the IAM best practices . For more information, see Security best practices in IAM.	October 12, 2023
Installing on Windows	Removed information about installing the Tools for Windows PowerShell by using the MSI, which has been deprecated.	September 25, 2023

IAM best practices updates	Updated guide to align with the IAM best practices . For more information, see Security best practices in IAM.	September 8, 2023
Pipelining and $AWSHistory	Added the `IncludeSensitiveData` parameter to the `Set-AWSHistoryConfiguration` cmdlet.	March 9, 2023
Using the ClientConfig parameter in cmdlets	Added information about support for the ClientConfig parameter.	October 28, 2022
Launch an Amazon EC2 Instance Using Windows PowerShell	Added notes about retiring EC2-Classic.	July 26, 2022
AWS Tools for PowerShell Version 4	Added information about version 4, including installation instructions for both Windows and Linux/macOS, and a migration topic that describes the differences from version 3 and introduces new features.	November 21, 2019
AWS Tools for PowerShell 3.3.563	Added information about how to install and use the preview version of the `AWS.Tools.Common` module. This new module breaks apart the older monolithic package into one shared module and one module per AWS service.	October 18, 2019

AWS Tools for PowerShell 3.3.343.0	Added information to the Using the AWS Tools for PowerShell section introducing the AWS Lambda Tools for PowerShell for PowerShell Core developers to build AWS Lambda functions.	September 11, 2018
AWS Tools for Windows PowerShell 3.1.31.0	Added information to the Getting Started section about new cmdlets that use Security Assertion Markup Language (SAML) to support configuring federated identity for users.	December 1, 2015
AWS Tools for Windows PowerShell 2.3.19	Added information to the Cmdlets Discovery and Aliases section about the new `Get-AWSCmdletName` cmdlet that can help users more easily find their desired AWS cmdlets.	February 5, 2015

AWS Tools for Windows PowerShell 1.1.1.0	Collection output from cmdlets is always enumerated to the PowerShell pipeline. Automatic support for pageable service calls. New $AWSHistory shell variable collects service responses and optionally service requests. AWSRegion instances use Region field instead of SystemName to aid pipelining. Remove-S3Bucket supports a -DeleteObjects switch option. Fixed usability issue with Set-AWSCredentials. Initialize-AWSDefaults reports from where it obtained credentials and region data. Stop-EC2Instance accepts Amazon.EC2.Model.Reservation instances as input. Generic List<T> parameter types replaced with array types (T[]). Cmdlets that delete or terminate resources prompt for confirmation prior to deletion. Write-S3Object supports in-line text content to upload to Amazon S3.	May 15, 2013

AWS Tools for Windows PowerShell 1.0.1.0	The install location of the Tools for Windows PowerShell module has changed so that environments using Windows PowerShell version 3 can take advantage of auto-loading. The module and supporting files are now installed to an `AWSPowerShell` subfolder beneath `AWS ToolsPowerShell`. Files from previous versions that exist in the `AWS ToolsPowerShell` folder are automatically removed by the installer. The `PSModulePath` for Windows PowerShell (all versions) is updated in this release to contain the parent folder of the module (`AWS ToolsPowerShell`). For systems with Windows PowerShell version 2, the Start Menu shortcut is updated to import the module from the new location and then run `Initialize-AWSDefaults`. For systems with Windows PowerShell version 3, the Start Menu shortcut is updated to remove the `Import-Module` command, leaving just `Initialize-AWSDefaults`. If you edited your PowerShell profile to perform an `Import-Mo`	December 21, 2012

	dule of the AWSPowerS hell.psd1 file, you will need to update it to point to the file's new location (or, if using PowerShell version 3, remove the Import-Mo dule statement as it is no longer needed). As a result of these changes, the Tools for Windows PowerShell module is now listed as an available module when executing Get-Module -ListAvai lable . In addition, for users of Windows PowerShel l version 3, the execution of any cmdlet exported by the module will automatic ally load the module in the current PowerShell shell without needing to use Import-Module first. This enables interactive use of the cmdlets on a system with an execution policy that disallows script execution.	
AWS Tools for Windows PowerShell 1.0.0.0	Initial release	December 6, 2012