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Welcome

Amazon Relational Database Service (Amazon RDS) is a web service that makes it easier to set up, operate, and scale a relational database in the cloud. It provides cost-efficient, resizeable capacity for an industry-standard relational database and manages common database administration tasks, freeing up developers to focus on what makes their applications and businesses unique.

Amazon RDS gives you access to the capabilities of a MySQL, MariaDB, PostgreSQL, Microsoft SQL Server, Oracle, or Amazon Aurora database server. These capabilities mean that the code, applications, and tools you already use today with your existing databases work with Amazon RDS without modification. Amazon RDS automatically backs up your database and maintains the database software that powers your DB instance. Amazon RDS is flexible: you can scale your DB instance's compute resources and storage capacity to meet your application's demand. As with all Amazon Web Services, there are no up-front investments, and you pay only for the resources you use.

This interface reference for Amazon RDS contains documentation for a programming or command line interface you can use to manage Amazon RDS. Amazon RDS is asynchronous, which means that some interfaces might require techniques such as polling or callback functions to determine when a command has been applied. In this reference, the parameter descriptions indicate whether a command is applied immediately, on the next instance reboot, or during the maintenance window. The reference structure is as follows, and we list following some related topics from the user guide.

**Amazon RDS API Reference**

- For the alphabetical list of API actions, see [API Actions](#).
- For the alphabetical list of data types, see [Data Types](#).
- For a list of common query parameters, see [Common Parameters](#).
- For descriptions of the error codes, see [Common Errors](#).

**Amazon RDS User Guide**

- For a summary of the Amazon RDS interfaces, see [Available RDS Interfaces](#).
- For more information about how to use the Query API, see [Using the Query API](#).

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- AddRoleToDBCluster (p. 6)
- AddRoleToDBInstance (p. 8)
- AddSourceIdentifierToSubscription (p. 10)
- AddTagsToResource (p. 13)
- ApplyPendingMaintenanceAction (p. 15)
- AuthorizeDBSecurityGroupIngress (p. 18)
- BacktrackDBCluster (p. 22)
- CancelExportTask (p. 25)
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• DescribeDBProxyTargetGroups (p. 260)
• DescribeDBProxyTargets (p. 262)
• DescribeDBSecurityGroups (p. 265)
• DescribeDBSnapshotAttributes (p. 268)
• DescribeDBSnapshots (p. 270)
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• DescribeEngineDefaultClusterParameters (p. 279)
• DescribeEngineDefaultParameters (p. 281)
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• DescribeGlobalClusters (p. 300)
• DescribeOptionGroupOptions (p. 302)
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• DescribeOrderableDBInstanceOptions (p. 312)
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- StopDBInstanceAutomatedBackupsReplication (p. 566)
- SwitchoverReadReplica (p. 568)
AddRoleToDBCluster

Associates an AWS Identity and Access Management (IAM) role with a DB cluster.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBClusterIdentifier**

The name of the DB cluster to associate the IAM role with.

Type: String

Required: Yes

**FeatureName**

The name of the feature for the DB cluster that the IAM role is to be associated with. For information about supported feature names, see DBEngineVersion (p. 613).

Type: String

Required: No

**RoleArn**

The Amazon Resource Name (ARN) of the IAM role to associate with the Aurora DB cluster, for example arn:aws:iam::123456789012:role/AuroraAccessRole.

Type: String

Required: Yes

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBClusterRoleAlreadyExists**

The specified IAM role Amazon Resource Name (ARN) is already associated with the specified DB cluster.

HTTP Status Code: 400

**DBClusterRoleQuotaExceeded**

You have exceeded the maximum number of IAM roles that can be associated with the specified DB cluster.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.
HTTP Status Code: 400

Examples

Example

This example illustrates one usage of AddRoleToDBCluster.

Sample Request

```
https://rds.us-east-1.amazonaws.com/
  ?Action=AddRoleToDBCluster
  &DBClusterIdentifier=sample-cluster
  &RoleArn=arn%3Aaws%3Aiam%3A%3A123456789012%3Arole%2Fsampl
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIAIQKE4SARGYLE/20161012/us-east-1/rds/aws4_request
  &X-Amz-Date=20161012T204524Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=d73c069210f98e5377851fa4c2ab2fdd53e8bd5f02f4f8ef15d4da
```

Sample Response

```
<AddRoleToDBClusterResponse xmlns="http://rds.amazonaws.com/doc/2014-10-31/">
  <ResponseMetadata>
    <RequestId>ccccbdb6-90bc-11e6-8533-cd6447e421f8</RequestId>
  </ResponseMetadata>
</AddRoleToDBClusterResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AddRoleToDBInstance

Associates an AWS Identity and Access Management (IAM) role with a DB instance.

**Note**
To add a role to a DB instance, the status of the DB instance must be available.

This command doesn't apply to RDS Custom.

### Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceIdentifier**

The name of the DB instance to associate the IAM role with.

Type: String

Required: Yes

**FeatureName**

The name of the feature for the DB instance that the IAM role is to be associated with. For information about supported feature names, see DBEngineVersion (p. 613).

Type: String

Required: Yes

**RoleArn**

The Amazon Resource Name (ARN) of the IAM role to associate with the DB instance, for example `arn:aws:iam::123456789012:role/AccessRole`.

Type: String

Required: Yes

### Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBInstanceNotFound**

**DBInstanceIdentifier** doesn't refer to an existing DB instance.

HTTP Status Code: 404

**DBInstanceRoleAlreadyExists**

The specified **RoleArn** or **FeatureName** value is already associated with the DB instance.

HTTP Status Code: 400

**DBInstanceRoleQuotaExceeded**

You can't associate any more AWS Identity and Access Management (IAM) roles with the DB instance because the quota has been reached.
HTTP Status Code: 400
InvalidDBInstanceState
The DB instance isn't in a valid state.
HTTP Status Code: 400

Examples

Example
This example illustrates one usage of AddRoleToDBInstance.

Sample Request

```
https://rds.us-east-1.amazonaws.com/
?Action=AddRoleToDBInstance
&DBInstanceIdentifier=sample-instance
&RoleArn=arn%3Aaws%3Aiam%3A%3A123456789012%3Arole%2Fs3Import
&FeatureName=s3Import
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AddSourceIdentifierToSubscription

Adds a source identifier to an existing RDS event notification subscription.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](p. 741).

**SourceIdentifier**

The identifier of the event source to be added.

Constraints:
- If the source type is a DB instance, a `DBInstanceIdentifier` value must be supplied.
- If the source type is a DB cluster, a `DBClusterIdentifier` value must be supplied.
- If the source type is a DB parameter group, a `DBParameterGroupName` value must be supplied.
- If the source type is a DB security group, a `DBSecurityGroupName` value must be supplied.
- If the source type is a DB snapshot, a `DBSnapshotIdentifier` value must be supplied.
- If the source type is a DB cluster snapshot, a `DBClusterSnapshotIdentifier` value must be supplied.
- If the source type is an RDS Proxy, a `DBProxyName` value must be supplied.

Type: String

Required: Yes

**SubscriptionName**

The name of the RDS event notification subscription you want to add a source identifier to.

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.

**EventSubscription**

Contains the results of a successful invocation of the DescribeEventSubscriptions action.

Type: `EventSubscription (p. 668)` object

**Errors**

For information about the errors that are common to all actions, see [Common Errors (p. 743)].

**SourceNotFound**

The requested source could not be found.

HTTP Status Code: 404
SubscriptionNotFound

The subscription name does not exist.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of AddSourceIdentifierToSubscription.

Sample Request

```xml
https://rds.us-east-1.amazonaws.com/
?Action=AddSourceIdentifierToSubscription
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SourceIdentifier=mysqldb
&SubscriptionName=EventSubscription04
&Version=2014-09-01
&X-Amz-Authorization=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIDQKE4SARGYLE/20140422/us-east-1/rds/aws4_request
&X-Amz-Date=20140422T230442Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=347d5e788e809cd06c50214b12750a3c59716bf65b239bb6f7ee8ff537e2df9
```

Sample Response

```xml
<AddSourceIdentifierToSubscriptionResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <AddSourceIdentifierToSubscriptionResult>
    <EventSubscription>
      <SourceType>db-instance</SourceType>
      <Enabled>true</Enabled>
      <CustomerAwsId>803#########</CustomerAwsId>
      <Status>modifying</Status>
      <SourceIdsList>
        <SourceId>mysqldb</SourceId>
      </SourceIdsList>
      <SubscriptionCreationTime>2014-04-22 23:03:19.776</SubscriptionCreationTime>
      <EventCategoriesList>
        <EventCategory>creation</EventCategory>
        <EventCategory>deletion</EventCategory>
      </EventCategoriesList>
      <CustSubscriptionId>EventSubscription04</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-east-1:803#########:myawsuser-RDS</SnsTopicArn>
    </EventSubscription>
  </AddSourceIdentifierToSubscriptionResult>
  <ResponseMetadata>
    <RequestId>6c05f80b-bf71-11d3-f4c6-37db295f7674</RequestId>
  </ResponseMetadata>
</AddSourceIdentifierToSubscriptionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AddTagsToResource

Add metadata tags to an Amazon RDS resource. These tags can also be used with cost allocation reporting to track cost associated with Amazon RDS resources, or used in a Condition statement in an IAM policy for Amazon RDS.

For an overview on tagging Amazon RDS resources, see Tagging Amazon RDS Resources.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**ResourceName**

The Amazon RDS resource that the tags are added to. This value is an Amazon Resource Name (ARN). For information about creating an ARN, see Constructing an RDS Amazon Resource Name (ARN).

Type: String

Required: Yes

**Tags.Tag.N**

The tags to be assigned to the Amazon RDS resource.

Type: Array of Tag (p. 728) objects

Required: Yes

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

**DBProxyNotFoundFault**

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**DBProxyTargetGroupNotFoundFault**

The specified target group isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404
DBSnapshotNotFound

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of AddTagsToResource.

Sample Request

https://rds.us-west-2.amazonaws.com/
  ?Action=AddTagsToResource
  &ResourceName=arn%3Aaws%3Ards%3Aus-west-2%3A123456789012%3Adb%3Asample
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Tags.member.1.Key=InstanceType
  &Tags.member.1.Value=Development
  &Tags.member.2.Key=Owner
  &Tags.member.2.Value=Admin123
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20160913/us-west-2/rds/aws4_request
  &X-Amz-Date=20160913T173915Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=90a257aa949fab364b7db0964a255986922f9335f2e55e7b582ce6f9ccca2a4e0

Sample Response

  <ResponseMetadata>
    <RequestId>fd9cd844-79d8-11e6-956c-915ad715fa2f</RequestId>
  </ResponseMetadata>
</AddTagsToResourceResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ApplyPendingMaintenanceAction

Applies a pending maintenance action to a resource (for example, to a DB instance).

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**ApplyAction**

The pending maintenance action to apply to this resource.

Valid values: system-update, db-upgrade, hardware-maintenance, ca-certificate-rotation

Type: String

Required: Yes

**OptInType**

A value that specifies the type of opt-in request, or undoes an opt-in request. An opt-in request of type immediate can't be undone.

Valid values:
- immediate - Apply the maintenance action immediately.
- next-maintenance - Apply the maintenance action during the next maintenance window for the resource.
- undo-opt-in - Cancel any existing next-maintenance opt-in requests.

Type: String

Required: Yes

**ResourceIdentifier**

The RDS Amazon Resource Name (ARN) of the resource that the pending maintenance action applies to. For information about creating an ARN, see Constructing an RDS Amazon Resource Name (ARN).

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.

**ResourcePendingMaintenanceActions**

Describes the pending maintenance actions for a resource.

Type: ResourcePendingMaintenanceActions (p. 718) object

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).
InvalidDBClusterStateException
The requested operation can't be performed while the cluster is in this state.
HTTP Status Code: 400

InvalidDBInstanceState
The DB instance isn't in a valid state.
HTTP Status Code: 400

ResourceNot FoundFault
The specified resource ID was not found.
HTTP Status Code: 404

Examples

Example
This example illustrates one usage of ApplyPendingMaintenanceAction.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=ApplyPendingMaintenanceAction
&ApplyAction=system-update
&OptInType=immediate
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Al gorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIQKE6SARGYLE/20141216/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194732Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=6e25c542bf96fe24b28c12976ec92d2f856ab1d2a158e21c35441a736e4fde2b

Sample Response

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
  <ApplyPendingMaintenanceActionResult>
    <ResourcePendingMaintenanceActions>
      <PendingMaintenanceActionDetails>
        <PendingMaintenanceAction>
          <Action>system-update</Action>
          <OptInStatus>immediate</OptInStatus>
        </PendingMaintenanceAction>
      </PendingMaintenanceActionDetails>
    </ResourcePendingMaintenanceActions>
  </ApplyPendingMaintenanceActionResult>
  <ResponseMetadata>
    <RequestId>dcfe0682-870c-11e4-9833-b3ad657ea9da</RequestId>
  </ResponseMetadata>
</ApplyPendingMaintenanceActionResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
AuthorizeDBSecurityGroupIngress

Enables ingress to a DBSecurityGroup using one of two forms of authorization. First, EC2 or VPC security groups can be added to the DBSecurityGroup if the application using the database is running on EC2 or VPC instances. Second, IP ranges are available if the application accessing your database is running on the internet. Required parameters for this API are one of CIDR range, EC2SecurityGroupId for VPC, or (EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId for non-VPC).

You can't authorize ingress from an EC2 security group in one AWS Region to an Amazon RDS DB instance in another. You can't authorize ingress from a VPC security group in one VPC to an Amazon RDS DB instance in another.

For an overview of CIDR ranges, go to the Wikipedia Tutorial.

Note

EC2-Classic was retired on August 15, 2022. If you haven't migrated from EC2-Classic to a VPC, we recommend that you migrate as soon as possible. For more information, see Migrate from EC2-Classic to a VPC in the Amazon EC2 User Guide, the blog EC2-Classic Networking is Retiring – Here’s How to Prepare, and Moving a DB instance not in a VPC into a VPC in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

CIDRIP

The IP range to authorize.

Type: String

Required: No

DBSecurityGroupName

The name of the DB security group to add authorization to.

Type: String

Required: Yes

EC2SecurityGroupId

Id of the EC2 security group to authorize. For VPC DB security groups, EC2SecurityGroupId must be provided. Otherwise, EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId must be provided.

Type: String

Required: No

EC2SecurityGroupName

Name of the EC2 security group to authorize. For VPC DB security groups, EC2SecurityGroupId must be provided. Otherwise, EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId must be provided.

Type: String

Required: No
EC2SecurityGroupOwnerId

AWS account number of the owner of the EC2 security group specified in the EC2SecurityGroupName parameter. The AWS access key ID isn't an acceptable value. For VPC DB security groups, EC2SecurityGroupId must be provided. Otherwise, EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId must be provided.

Type: String
Required: No

Response Elements

The following element is returned by the service.

DBSecurityGroup

Contains the details for an Amazon RDS DB security group.

This data type is used as a response element in the DescribeDBSecurityGroups action.

Type: DBSecurityGroup (p. 647) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

AuthorizationAlreadyExists

The specified CIDR IP range or Amazon EC2 security group is already authorized for the specified DB security group.

HTTP Status Code: 400

AuthorizationQuotaExceeded

The DB security group authorization quota has been reached.

HTTP Status Code: 400

DBSecurityGroupNotFoundException

DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404

InvalidDBSecurityGroupState

The state of the DB security group doesn't allow deletion.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of AuthorizeDBSecurityGroupIngress.
Sample Request

https://rds.us-east-1.amazonaws.com/
    Action=AuthorizeDBSecurityGroupIngress
    &CIDRIP=54.241.217.9%2F32
    &DBSecurityGroupName=default
    &SignatureMethod=HmacSHA256
    &SignatureVersion=4
    &Version=2014-09-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIADQKE4SARGYLE/20140423/us-east-1/rds/aws4_request
    &X-Amz-Date=20140423T154632Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=7803146e430626f47b0da058921c0a9f2a7fffd81bd99fc859f2f635e4472bd

Sample Response

  <AuthorizeDBSecurityGroupIngressResult>
    <DBSecurityGroup>
      <EC2SecurityGroups>
        <EC2SecurityGroup>
          <Status>authorized</Status>
          <EC2SecurityGroupName>elasticbeanstalk-windows</EC2SecurityGroupName>
          <EC2SecurityGroupOwnerId>803000000000000000</EC2SecurityGroupOwnerId>
          <EC2SecurityGroupId>sg-7f476617</EC2SecurityGroupId>
        </EC2SecurityGroup>
        <EC2SecurityGroups>
          <DBSecurityGroupDescription>default</DBSecurityGroupDescription>
          <IPRanges>
            <IPRange>
              <CIDRIP>192.0.0.0/24</CIDRIP>
              <Status>authorized</Status>
            </IPRange>
            <IPRange>
              <CIDRIP>190.0.1.0/29</CIDRIP>
              <Status>authorized</Status>
            </IPRange>
            <IPRange>
              <CIDRIP>190.0.2.0/29</CIDRIP>
              <Status>authorized</Status>
            </IPRange>
            <IPRange>
              <CIDRIP>10.0.0.0/8</CIDRIP>
              <Status>authorized</Status>
            </IPRange>
          </IPRanges>
          <OwnerId>803000000000000000</OwnerId>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </EC2SecurityGroups>
    </AuthorizeDBSecurityGroupIngressResult>
  </ResponseMetadata>
</AuthorizeDBSecurityGroupIngressResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
BacktrackDBCluster

Backtracks a DB cluster to a specific time, without creating a new DB cluster.

For more information on backtracking, see Backtracking an Aurora DB Cluster in the Amazon Aurora User Guide.

Note
This action applies only to Aurora MySQL DB clusters.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

BacktrackTo

The timestamp of the time to backtrack the DB cluster to, specified in ISO 8601 format. For more information about ISO 8601, see the ISO8601 Wikipedia page.

Note
If the specified time isn't a consistent time for the DB cluster, Aurora automatically chooses the nearest possible consistent time for the DB cluster.

Constraints:
- Must contain a valid ISO 8601 timestamp.
- Can't contain a timestamp set in the future.

Example: 2017-07-08T18:00Z

Type: Timestamp

Required: Yes

DBClusterIdentifier

The DB cluster identifier of the DB cluster to be backtracked. This parameter is stored as a lowercase string.

Constraints:
- Must contain from 1 to 63 alphanumeric characters or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Example: my-cluster1

Type: String

Required: Yes

Force

A value that indicates whether to force the DB cluster to backtrack when binary logging is enabled. Otherwise, an error occurs when binary logging is enabled.

Type: Boolean

Required: No
UseEarliestTimeOnPointInTimeUnavailable

A value that indicates whether to backtrack the DB cluster to the earliest possible backtrack time when BacktrackTo is set to a timestamp earlier than the earliest backtrack time. When this parameter is disabled and BacktrackTo is set to a timestamp earlier than the earliest backtrack time, an error occurs.

Type: Boolean
Required: No

Response Elements

The following elements are returned by the service.

BacktrackedFrom

The timestamp of the time from which the DB cluster was backtracked.

Type: Timestamp

BacktrackIdentifier

Contains the backtrack identifier.

Type: String

BacktrackRequestCreationTime

The timestamp of the time at which the backtrack was requested.

Type: Timestamp

BacktrackTo

The timestamp of the time to which the DB cluster was backtracked.

Type: Timestamp

DBClusterIdentifier

Contains a user-supplied DB cluster identifier. This identifier is the unique key that identifies a DB cluster.

Type: String

Status

The status of the backtrack. This property returns one of the following values:
- applying - The backtrack is currently being applied to or rolled back from the DB cluster.
- completed - The backtrack has successfully been applied to or rolled back from the DB cluster.
- failed - An error occurred while the backtrack was applied to or rolled back from the DB cluster.
- pending - The backtrack is currently pending application to or rollback from the DB cluster.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

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**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CancelExportTask

Cancels an export task in progress that is exporting a snapshot to Amazon S3. Any data that has already been written to the S3 bucket isn't removed.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

ExportTaskIdentifier

The identifier of the snapshot export task to cancel.

- Type: String
- Required: Yes

Response Elements

The following elements are returned by the service.

ExportOnly.member.N

The data exported from the snapshot. Valid values are the following:
- database - Export all the data from a specified database.
- database.table table-name - Export a table of the snapshot. This format is valid only for RDS for MySQL, RDS for MariaDB, and Aurora MySQL.
- database.schema schema-name - Export a database schema of the snapshot. This format is valid only for RDS for PostgreSQL and Aurora PostgreSQL.
- database.schema.table table-name - Export a table of the database schema. This format is valid only for RDS for PostgreSQL and Aurora PostgreSQL.

- Type: Array of strings

ExportTaskIdentifier

A unique identifier for the snapshot export task. This ID isn't an identifier for the Amazon S3 bucket where the snapshot is exported to.

- Type: String

FailureCause

The reason the export failed, if it failed.

- Type: String

IamRoleArn

The name of the IAM role that is used to write to Amazon S3 when exporting a snapshot.

- Type: String

KmsKeyId

The key identifier of the AWS KMS key that is used to encrypt the snapshot when it's exported to Amazon S3. The KMS key identifier is its key ARN, key ID, alias ARN, or alias name. The IAM role used for the snapshot export must have encryption and decryption permissions to use this KMS key.
**PercentProgress**

The progress of the snapshot export task as a percentage.

Type: Integer

**S3Bucket**

The Amazon S3 bucket that the snapshot is exported to.

Type: String

**S3Prefix**

The Amazon S3 bucket prefix that is the file name and path of the exported snapshot.

Type: String

**SnapshotTime**

The time that the snapshot was created.

Type: Timestamp

**SourceArn**

The Amazon Resource Name (ARN) of the snapshot exported to Amazon S3.

Type: String

**SourceType**

The type of source for the export.

Type: String

Valid Values: SNAPSHOT | CLUSTER

**Status**

The progress status of the export task.

Type: String

**TaskEndTime**

The time that the snapshot export task completed.

Type: Timestamp

**TaskStartTime**

The time that the snapshot export task started.

Type: Timestamp

**TotalExtractedDataInGB**

The total amount of data exported, in gigabytes.

Type: Integer

**WarningMessage**

A warning about the snapshot export task.

Type: String
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

ExportTaskNotFound

The export task doesn’t exist.

HTTP Status Code: 404

InvalidExportTaskStateFault

You can’t cancel an export task that has completed.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CopyDBClusterParameterGroup

Copies the specified DB cluster parameter group.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

SourceDBClusterParameterGroupIdentifier

The identifier or Amazon Resource Name (ARN) for the source DB cluster parameter group. For information about creating an ARN, see Constructing an ARN for Amazon RDS in the Amazon Aurora User Guide.

Constraints:
- Must specify a valid DB cluster parameter group.

Type: String
Required: Yes

Tags.Tag.N

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects
Required: No

TargetDBClusterParameterGroupDescription

A description for the copied DB cluster parameter group.

Type: String
Required: Yes

TargetDBClusterParameterGroupIdentifier

The identifier for the copied DB cluster parameter group.

Constraints:
- Can't be null, empty, or blank
- Must contain from 1 to 255 letters, numbers, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

Example: my-cluster-param-group1

Type: String
Required: Yes

Response Elements

The following element is returned by the service.
DBClusterParameterGroup

Contains the details of an Amazon RDS DB cluster parameter group.

This data type is used as a response element in the DescribeDBClusterParameterGroups action.

Type: DBClusterParameterGroup (p. 605) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBParameterGroupAlreadyExists

A DB parameter group with the same name exists.

HTTP Status Code: 400

DBParameterGroupNameNotRef

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

DBParameterGroupQuotaExceeded

The request would result in the user exceeding the allowed number of DB parameter groups.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of CopyDBClusterParameterGroup.

Sample Request

```
https://rds.us-east-1.amazonaws.com/
?Action=CopyDBClusterParameterGroup
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SourceDBClusterParameterGroupIdentifier=arn%3Aaws%3Ards%3Aus-east-1%3A815981987263%3Acluster-pg%3Amy-cluster-pg
&TargetDBParameterGroupIdentifier=new-cluster-pg
&TargetDBParameterGroupDescription=New%20cluster%20group
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20160705/us-east-1/rds/aws4_request
&X-Amz-Date=20160705T143101Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=9164337ef99ca98f500e874a1cb7ef62f3cea29d00b448b9e07e5cb3b288dfffed2
```

Sample Response
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CopyDBClusterSnapshot

Copies a snapshot of a DB cluster.

To copy a DB cluster snapshot from a shared manual DB cluster snapshot, `SourceDBClusterSnapshotIdentifier` must be the Amazon Resource Name (ARN) of the shared DB cluster snapshot.

You can copy an encrypted DB cluster snapshot from another AWS Region. In that case, the AWS Region where you call the `CopyDBClusterSnapshot` operation is the destination AWS Region for the encrypted DB cluster snapshot to be copied to. To copy an encrypted DB cluster snapshot from another AWS Region, you must provide the following values:

- `KmsKeyId` - The AWS Key Management System (AWS KMS) key identifier for the key to use to encrypt the copy of the DB cluster snapshot in the destination AWS Region.
- `TargetDBClusterSnapshotIdentifier` - The identifier for the new copy of the DB cluster snapshot in the destination AWS Region.
- `SourceDBClusterSnapshotIdentifier` - The DB cluster snapshot identifier for the encrypted DB cluster snapshot to be copied. This identifier must be in the ARN format for the source AWS Region and is the same value as the `SourceDBClusterSnapshotIdentifier` in the presigned URL.

To cancel the copy operation once it is in progress, delete the target DB cluster snapshot identified by `TargetDBClusterSnapshotIdentifier` while that DB cluster snapshot is in "copying" status.

For more information on copying encrypted Amazon Aurora DB cluster snapshots from one AWS Region to another, see Copying a Snapshot in the Amazon Aurora User Guide.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**CopyTags**

A value that indicates whether to copy all tags from the source DB cluster snapshot to the target DB cluster snapshot. By default, tags are not copied.

Type: Boolean

Required: No

**KmsKeyId**

The AWS KMS key identifier for an encrypted DB cluster snapshot. The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the AWS KMS key.

If you copy an encrypted DB cluster snapshot from your AWS account, you can specify a value for `KmsKeyId` to encrypt the copy with a new KMS key. If you don't specify a value for `KmsKeyId`, then the copy of the DB cluster snapshot is encrypted with the same KMS key as the source DB cluster snapshot.
If you copy an encrypted DB cluster snapshot that is shared from another AWS account, then you must specify a value for KmsKeyId.

To copy an encrypted DB cluster snapshot to another AWS Region, you must set KmsKeyId to the AWS KMS key identifier you want to use to encrypt the copy of the DB cluster snapshot in the destination AWS Region. KMS keys are specific to the AWS Region that they are created in, and you can't use KMS keys from one AWS Region in another AWS Region.

If you copy an unencrypted DB cluster snapshot and specify a value for the KmsKeyId parameter, an error is returned.

Type: String
Required: No

PreSignedUrl

When you are copying a DB cluster snapshot from one AWS GovCloud (US) Region to another, the URL that contains a Signature Version 4 signed request for the CopyDBClusterSnapshot API operation in the AWS Region that contains the source DB cluster snapshot to copy. Use the PreSignedUrl parameter when copying an encrypted DB cluster snapshot from another AWS Region. Don't specify PreSignedUrl when copying an encrypted DB cluster snapshot in the same AWS Region.

This setting applies only to AWS GovCloud (US) Regions. It's ignored in other AWS Regions.

The presigned URL must be a valid request for the CopyDBClusterSnapshot API operation that can run in the source AWS Region that contains the encrypted DB cluster snapshot to copy. The presigned URL request must contain the following parameter values:

- **KmsKeyId** - The AWS KMS key identifier for the KMS key to use to encrypt the copy of the DB cluster snapshot in the destination AWS Region. This is the same identifier for both the CopyDBClusterSnapshot operation that is called in the destination AWS Region, and the operation contained in the presigned URL.
- **DestinationRegion** - The name of the AWS Region that the DB cluster snapshot is to be created in.
- **SourceDBClusterSnapshotIdentifier** - The DB cluster snapshot identifier for the encrypted DB cluster snapshot to be copied. This identifier must be in the Amazon Resource Name (ARN) format for the source AWS Region. For example, if you are copying an encrypted DB cluster snapshot from the us-west-2 AWS Region, then your SourceDBClusterSnapshotIdentifier looks like the following example: arn:aws:rds:us-west-2:123456789012:cluster-snapshot:aurora-cluster1-snapshot-20161115.

To learn how to generate a Signature Version 4 signed request, see Authenticating Requests: Using Query Parameters (AWS Signature Version 4) and Signature Version 4 Signing Process.

**Note**

If you are using an AWS SDK tool or the AWS CLI, you can specify SourceRegion (or --source-region for the AWS CLI) instead of specifying PreSignedUrl manually. Specifying SourceRegion autogenerates a presigned URL that is a valid request for the operation that can run in the source AWS Region.

Type: String
Required: No

SourceDBClusterSnapshotIdentifier

The identifier of the DB cluster snapshot to copy. This parameter isn't case-sensitive.

You can't copy an encrypted, shared DB cluster snapshot from one AWS Region to another.
Constraints:

- Must specify a valid system snapshot in the "available" state.
- If the source snapshot is in the same AWS Region as the copy, specify a valid DB snapshot identifier.
- If the source snapshot is in a different AWS Region than the copy, specify a valid DB cluster snapshot ARN. For more information, go to Copying Snapshots Across AWS Regions in the Amazon Aurora User Guide.

Example: my-cluster-snapshot1

Type: String

Required: Yes

**Tags.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

**TargetDBClusterSnapshotIdentifier**

The identifier of the new DB cluster snapshot to create from the source DB cluster snapshot. This parameter isn't case-sensitive.

Constraints:

- Must contain from 1 to 63 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Example: my-cluster-snapshot2

Type: String

Required: Yes

### Response Elements

The following element is returned by the service.

**DBClusterSnapshot**

Contains the details for an Amazon RDS DB cluster snapshot

This data type is used as a response element in the DescribeDBClusterSnapshots action.

Type: DBClusterSnapshot (p. 607) object

### Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterSnapshotAlreadyExistsFault**

The user already has a DB cluster snapshot with the given identifier.
HTTP Status Code: 400
**DBClusterSnapshotNotFoundFault**
DBClusterSnapshotIdentifier doesn't refer to an existing DB cluster snapshot.

HTTP Status Code: 404
**InvalidDBClusterSnapshotStateFault**
The supplied value isn't a valid DB cluster snapshot state.

HTTP Status Code: 400
**InvalidDBClusterStateFault**
The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400
**KMSKeyNotAccessibleFault**
An error occurred accessing an AWS KMS key.

HTTP Status Code: 400
**SnapshotQuotaExceeded**
The request would result in the user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of CopyDBClusterSnapshot.

Sample Request

```xml
https://rds.us-west-2.amazonaws.com/
?Action=CopyDBClusterSnapshot
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SourceDBClusterSnapshotIdentifier=rds%3Asample-cluster-2016-09-14-10-38
&TargetDBClusterSnapshotIdentifier=cluster-snapshot-copy-1
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20160914/us-west-2/rds/aws4_request
&X-Amz-Date=20160914T164919Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=4503d6112f2ab5332d7d1871c6b97dda9748d3d4da0c82c19ace80cfd384
```

Sample Response

```xml
<?xml version="1.0" encoding="UTF-8"?>
  <CopyDBClusterSnapshotResult>
    <DBClusterSnapshot>
      <MasterUsername>mymasteruser</MasterUsername>
      <AllocatedStorage>1</AllocatedStorage>
      <SnapshotType>manual</SnapshotType>
      <AvailabilityZones>
        <AvailabilityZone>us-west-2a</AvailabilityZone>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
      </AvailabilityZones>
    </DBClusterSnapshot>
  </CopyDBClusterSnapshotResult>
</CopyDBClusterSnapshotResponse>
```
<AvailabilityZone>us-west-2a</AvailabilityZone>
<AvailabilityZone>us-west-2b</AvailabilityZone>
<AvailabilityZone>us-west-2c</AvailabilityZone>
</AvailabilityZones>
<StorageEncrypted>false</StorageEncrypted>
<Engine>aurora</Engine>
<Port>0</Port>
<LicenseModel>aurora</LicenseModel>
<SnapshotCreateTime>2016-09-14T10:38:05.616Z</SnapshotCreateTime>
<PercentProgress>100</PercentProgress>
<VpcId>vpc-e97e7d8d</VpcId>
<DBClusterSnapshotIdentifier>cluster-snapshot-copy-1</DBClusterSnapshotIdentifier>
<DBClusterIdentifier>sample-cluster</DBClusterIdentifier>
<ClusterCreateTime>2016-09-13T16:57:52.695Z</ClusterCreateTime>
>Status>available</Status>
</DBClusterSnapshot>
</CopyDBClusterSnapshotResult>
<ResponseMetadata>
<RequestId>2e861f29-7a9b-11e6-94c8-21ac69ee8f8c</RequestId>
</ResponseMetadata>
</CopyDBClusterSnapshotResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CopyDBParameterGroup

Copies the specified DB parameter group.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](#).

**SourceDBParameterGroupIdentifier**

The identifier or ARN for the source DB parameter group. For information about creating an ARN, see [Constructing an ARN for Amazon RDS](#) in the *Amazon RDS User Guide*.

Constraints:
- Must specify a valid DB parameter group.

Type: String

Required: Yes

**Tags.Tag.N**

A list of tags. For more information, see [Tagging Amazon RDS Resources](#) in the *Amazon RDS User Guide*.

Type: Array of [Tag](#) objects

Required: No

**TargetDBParameterGroupDescription**

A description for the copied DB parameter group.

Type: String

Required: Yes

**TargetDBParameterGroupIdentifier**

The identifier for the copied DB parameter group.

Constraints:
- Can't be null, empty, or blank
- Must contain from 1 to 255 letters, numbers, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

Example: `my-db-parameter-group`

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.
DBParameterGroup

Contains the details of an Amazon RDS DB parameter group.

This data type is used as a response element in the DescribeDBParameterGroups action.

Type: DBParameterGroup (p. 636) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBParameterGroupAlreadyExists

A DB parameter group with the same name exists.

HTTP Status Code: 400

DBParameterGroupNotFound

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

DBParameterGroupQuotaExceeded

The request would result in the user exceeding the allowed number of DB parameter groups.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of CopyDBParameterGroup.

Sample Request

https://rds.us-east-1.amazonaws.com/
    ?Action=CopyDBParameterGroup
    &SignatureMethod=HmacSHA256
    &SignatureVersion=4
    &SourceDBParameterGroupIdentifier=arn%3Aaws%3Ards%3Aus-west-2%3A815981987263%3pg%3Amy-
remote-param-group
    &TargetDBParameterGroupIdentifier=new-local-param-group
    &TargetDBParameterGroupDescription=description
    &Version=2014-09-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIADQKE4SARGYLE/20140429/us-east-1/rds/aws4_request
    &X-Amz-Date=20140429T175351Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=9164337efa99caf850e874a1cb7ef62f3cea29d0b448b9e0e7c53b288ddffed2

Sample Response

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CopyDBSnapshot

Copies the specified DB snapshot. The source DB snapshot must be in the available state.

You can copy a snapshot from one AWS Region to another. In that case, the AWS Region where you call the CopyDBSnapshot operation is the destination AWS Region for the DB snapshot copy.

This command doesn't apply to RDS Custom.

For more information about copying snapshots, see Copying a DB Snapshot in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

CopyTags

A value that indicates whether to copy all tags from the source DB snapshot to the target DB snapshot. By default, tags are not copied.

Type: Boolean

Required: No

KmsKeyId

The AWS KMS key identifier for an encrypted DB snapshot. The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

If you copy an encrypted DB snapshot from your AWS account, you can specify a value for this parameter to encrypt the copy with a new KMS key. If you don't specify a value for this parameter, then the copy of the DB snapshot is encrypted with the same AWS KMS key as the source DB snapshot.

If you copy an encrypted DB snapshot that is shared from another AWS account, then you must specify a value for this parameter.

If you specify this parameter when you copy an unencrypted snapshot, the copy is encrypted.

If you copy an encrypted snapshot to a different AWS Region, then you must specify an AWS KMS key identifier for the destination AWS Region. KMS keys are specific to the AWS Region that they are created in, and you can't use KMS keys from one AWS Region in another AWS Region.

Type: String

Required: No

OptionGroupName

The name of an option group to associate with the copy of the snapshot.

Specify this option if you are copying a snapshot from one AWS Region to another, and your DB instance uses a nondefault option group. If your source DB instance uses Transparent Data Encryption for Oracle or Microsoft SQL Server, you must specify this option when copying across AWS Regions. For more information, see Option group considerations in the Amazon RDS User Guide.

Type: String
**PreSignedUrl**

When you are copying a snapshot from one AWS GovCloud (US) Region to another, the URL that contains a Signature Version 4 signed request for the CopyDBSnapshot API operation in the source AWS Region that contains the source DB snapshot to copy.

This setting applies only to AWS GovCloud (US) Regions. It's ignored in other AWS Regions.

You must specify this parameter when you copy an encrypted DB snapshot from another AWS Region by using the Amazon RDS API. Don't specify `PreSignedUrl` when you are copying an encrypted DB snapshot in the same AWS Region.

The presigned URL must be a valid request for the CopyDBClusterSnapshot API operation that can run in the source AWS Region that contains the encrypted DB cluster snapshot to copy. The presigned URL request must contain the following parameter values:

- **DestinationRegion** - The AWS Region that the encrypted DB snapshot is copied to. This AWS Region is the same one where the `CopyDBSnapshot` operation is called that contains this presigned URL.

  For example, if you copy an encrypted DB snapshot from the us-west-2 AWS Region to the us-east-1 AWS Region, then you call the `CopyDBSnapshot` operation in the us-east-1 AWS Region and provide a presigned URL that contains a call to the `CopyDBSnapshot` operation in the us-west-2 AWS Region. For this example, the `DestinationRegion` in the presigned URL must be set to the us-east-1 AWS Region.

- **KmsKeyId** - The AWS KMS key identifier for the KMS key to use to encrypt the copy of the DB snapshot in the destination AWS Region. This is the same identifier for both the `CopyDBSnapshot` operation that is called in the destination AWS Region, and the operation contained in the presigned URL.

- **SourceDBSnapshotIdentifier** - The DB snapshot identifier for the encrypted snapshot to be copied. This identifier must be in the Amazon Resource Name (ARN) format for the source AWS Region. For example, if you are copying an encrypted DB snapshot from the us-west-2 AWS Region, then your `SourceDBSnapshotIdentifier` looks like the following example: `arn:aws:rds:us-west-2:123456789012:snapshot:mysql-instance1-snapshot-20161115`.

To learn how to generate a Signature Version 4 signed request, see [Authenticating Requests: Using Query Parameters (AWS Signature Version 4)](https://docs.aws.amazon.com/AmazonRDS/latest/AWSDBAPI/index.html) and [Signature Version 4 Signing Process](https://docs.aws.amazon.com/AmazonRDS/latest/AWSDBAPI/index.html).

**Note**

If you are using an AWS SDK tool or the AWS CLI, you can specify `SourceRegion` (or `--source-region` for the AWS CLI) instead of specifying `PreSignedUrl` manually. Specifying `SourceRegion` autogenerates a presigned URL that is a valid request for the operation that can run in the source AWS Region.

**SourceDBSnapshotIdentifier**

The identifier for the source DB snapshot.

If the source snapshot is in the same AWS Region as the copy, specify a valid DB snapshot identifier. For example, you might specify `rds:mysql-instance1-snapshot-20130805`.

If the source snapshot is in a different AWS Region than the copy, specify a valid DB snapshot ARN. For example, you might specify `arn:aws:rds:us-west-2:123456789012:snapshot:mysql-instance1-snapshot-20130805`.
If you are copying from a shared manual DB snapshot, this parameter must be the Amazon Resource Name (ARN) of the shared DB snapshot.

If you are copying an encrypted snapshot this parameter must be in the ARN format for the source AWS Region.

Constraints:

- Must specify a valid system snapshot in the "available" state.

Example: rds:mydb-2012-04-02-00-01


Type: String

Required: Yes

**Tags.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

**TargetCustomAvailabilityZone**

The external custom Availability Zone (CAZ) identifier for the target CAZ.

Example: rds-caz-aighbgQv.

Type: String

Required: No

**TargetDBSnapshotIdentifier**

The identifier for the copy of the snapshot.

Constraints:

- Can't be null, empty, or blank
- Must contain from 1 to 255 letters, numbers, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

Example: my-db-snapshot

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.

**DBSnapshot**

Contains the details of an Amazon RDS DB snapshot.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**CustomAvailabilityZoneNotFound**

CustomAvailabilityZoneId doesn't refer to an existing custom Availability Zone identifier.

HTTP Status Code: 404

**DBSnapshotAlreadyExists**

DBSnapshotIdentifier is already used by an existing snapshot.

HTTP Status Code: 400

**DBSnapshotNotFound**

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

**InvalidDBSnapshotState**

The state of the DB snapshot doesn't allow deletion.

HTTP Status Code: 400

**KMSKeyNotAccessibleFault**

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

**SnapshotQuotaExceeded**

The request would result in the user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400

Examples

**Example**

This example illustrates one usage of CopyDBSnapshot.

**Sample Request**

```plaintext
https://rds.us-east-1.amazonaws.com/
?Action=CopyDBSnapshot
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SourceDBSnapshotIdentifier=arn%3Aaws%3Ards%3Aus-east-1%3A123456789012%3Asnapshot%3Ards%3Amysql-db-2021-04-27-08-16
&TargetDBSnapshotIdentifier=mysqldb-copy
&Version=2014-10-31
```
Sample Response

```xml
  <CopyDBSnapshotResult>
    <DBSnapshot>
      <Port>3306</Port>
      <OptionGroupName>default:mysql-5-6</OptionGroupName>
      <Engine>mysql</Engine>
      <Status>available</Status>
      <SnapshotType>manual</SnapshotType>
      <LicenseModel>general-public-license</LicenseModel>
      <EngineVersion>5.6.44</EngineVersion>
      <DBSnapshotIdentifier>mysqldb</DBSnapshotIdentifier>
      <DBInstanceIdentifier>mysqldb-copy</DBInstanceIdentifier>
      <SnapshotCreateTime>2021-05-11T06:02:03.422Z</SnapshotCreateTime>
      <OriginalSnapshotCreateTime>2021-04-27T08:16:05.356Z</OriginalSnapshotCreateTime>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <InstanceCreateTime>2021-04-21T22:24:26.573Z</InstanceCreateTime>
      <PercentProgress>100</PercentProgress>
      <AllocatedStorage>100</AllocatedStorage>
      <MasterUsername>admin</MasterUsername>
    </DBSnapshot>
  </CopyDBSnapshotResult>
  <ResponseMetadata>
    <RequestId>2928d60e-beb6-11d3-8e5c-3ccda5460c46</RequestId>
  </ResponseMetadata>
</CopyDBSnapshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CopyOptionGroup

Copies the specified option group.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

SourceOptionGroupIdentifier

The identifier for the source option group.

Constraints:
• Must specify a valid option group.

Type: String
Required: Yes

Tags.Tag.N

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects
Required: No

TargetOptionGroupDescription

The description for the copied option group.

Type: String
Required: Yes

TargetOptionGroupIdentifier

The identifier for the copied option group.

Constraints:
• Can't be null, empty, or blank
• Must contain from 1 to 255 letters, numbers, or hyphens
• First character must be a letter
• Can't end with a hyphen or contain two consecutive hyphens

Example: my-option-group

Type: String
Required: Yes

Response Elements

The following element is returned by the service.

OptionGroup
Errors

Type: `OptionGroup` (p. 684) object

For information about the errors that are common to all actions, see Common Errors (p. 743).

**OptionGroupAlreadyExistsFault**

The option group you are trying to create already exists.

HTTP Status Code: 400

**OptionGroupNotFoundFault**

The specified option group could not be found.

HTTP Status Code: 404

**OptionGroupQuotaExceededFault**

The quota of 20 option groups was exceeded for this AWS account.

HTTP Status Code: 400

Examples

**Example**

This example illustrates one usage of CopyOptionGroup.

**Sample Request**

```plaintext
https://rds.us-east-1.amazonaws.com/
?Action=CopyOptionGroup
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SourceOptionGroupIdentifier=my-option-group
&TargetOptionGroupDescription=New%20option%20group
&TargetOptionGroupIdentifier=new-option-group
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140429/us-east-1/rds/aws4_request
&X-Amz-Date=20140429T175351Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=9164337efa99caf850e874a1cb7ef62f3cea29d0b448b9e0e7c53b288dffd2
```

**Sample Response**

```xml
  <CopyOptionGroupResult>
    <OptionGroup>
      <OptionGroupName>new-option-group</OptionGroupName>
      <MajorEngineVersion>5.6</MajorEngineVersion>
      <AllowsVpcAndNonVpcInstanceMemberships>false</AllowsVpcAndNonVpcInstanceMemberships>
      <EngineName>mysql</EngineName>
      <OptionGroupDescription>description</OptionGroupDescription>
    </OptionGroup>
  </CopyOptionGroupResult>
</CopyOptionGroupResponse>
```


See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
See Also

- AWS SDK for Ruby V3
CreateCustomDBEngineVersion

A CEV is a binary volume snapshot of a database engine and specific AMI. The supported engines are the following:

- Oracle Database 12.1 Enterprise Edition with the January 2021 or later RU/RUR
- Oracle Database 19c Enterprise Edition with the January 2021 or later RU/RUR

Amazon RDS, which is a fully managed service, supplies the Amazon Machine Image (AMI) and database software. The Amazon RDS database software is preinstalled, so you need only select a DB engine and version, and create your database. With Amazon RDS Custom for Oracle, you upload your database installation files in Amazon S3.

When you create a custom engine version, you specify the files in a JSON document called a CEV manifest. This document describes installation .zip files stored in Amazon S3. RDS Custom creates your CEV from the installation files that you provided. This service model is called Bring Your Own Media (BYOM).

Creation takes approximately two hours. If creation fails, RDS Custom issues RDS-EVENT-0196 with the message Creation failed for custom engine version, and includes details about the failure. For example, the event prints missing files.

After you create the CEV, it is available for use. You can create multiple CEVs, and create multiple RDS Custom instances from any CEV. You can also change the status of a CEV to make it available or inactive.

**Note**
The MediaImport service that imports files from Amazon S3 to create CEVs isn't integrated with AWS CloudTrail. If you turn on data logging for Amazon RDS in CloudTrail, calls to the CreateCustomDbEngineVersion event aren't logged. However, you might see calls from the API gateway that accesses your Amazon S3 bucket. These calls originate from the MediaImport service for the CreateCustomDbEngineVersion event.

For more information, see Creating a CEV in the Amazon RDS User Guide.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DatabaseInstallationFilesS3BucketName**

The name of an Amazon S3 bucket that contains database installation files for your CEV. For example, a valid bucket name is my-custom-installation-files.

Type: String


Pattern: .*

Required: Yes

**DatabaseInstallationFilesS3Prefix**

The Amazon S3 directory that contains the database installation files for your CEV. For example, a valid bucket name is 123456789012/cev1. If this setting isn't specified, no prefix is assumed.

Type: String

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Length Constraints: Minimum length of 1. Maximum length of 255.
Pattern: .*
Required: No
**Description**
An optional description of your CEV.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 1000.
Pattern: .*
Required: No

**Engine**
The database engine to use for your custom engine version (CEV). The only supported value is custom-oracle-ee.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 35.
Pattern: ^[A-Za-z0-9-]{1,35}$
Required: Yes

**EngineVersion**
The name of your CEV. The name format is 19.*customized_string*. For example, a valid name is 19.my_cev1. This setting is required for RDS Custom for Oracle, but optional for Amazon RDS. The combination of Engine and EngineVersion is unique per customer per Region.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 60.
Pattern: ^(11\.\d{1}|12\.\d{1}|18|19)(\.[a-zA-Z0-9-_.-]+){1,50}$
Required: Yes

**KMSKeyId**
The AWS KMS key identifier for an encrypted CEV. A symmetric encryption KMS key is required for RDS Custom, but optional for Amazon RDS.
If you have an existing symmetric encryption KMS key in your account, you can use it with RDS Custom. No further action is necessary. If you don't already have a symmetric encryption KMS key in your account, follow the instructions in [Creating a symmetric encryption KMS key](https://docs.aws.amazon.com/aws-sdk-php/latest/guides/s3.html) in the AWS SDK for PHP Getting Started Guide.
You can choose the same symmetric encryption key when you create a CEV and a DB instance, or choose different keys.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 2048.
Pattern: [a-zA-Z0-9_:.-\/-\/]+
**Manifest**

The CEV manifest, which is a JSON document that describes the installation .zip files stored in Amazon S3. Specify the name/value pairs in a file or a quoted string. RDS Custom applies the patches in the order in which they are listed.

The following JSON fields are valid:

- **MediaImportTemplateVersion**
  
  Version of the CEV manifest. The date is in the format YYYY-MM-DD.

- **databaseInstallationFileNames**
  
  Ordered list of installation files for the CEV.

- **opatchFileNames**
  
  Ordered list of OPatch installers used for the Oracle DB engine.

- **psuRuPatchFileNames**
  
  The PSU and RU patches for this CEV.

- **OtherPatchFileNames**
  
  The patches that are not in the list of PSU and RU patches. Amazon RDS applies these patches after applying the PSU and RU patches.

For more information, see [Creating the CEV manifest](http://awacs.amazonaws.com/AmazonRDS/latest/UserGuide/) in the *Amazon RDS User Guide*.

- **Type**: String
- **Length Constraints**: Minimum length of 1. Maximum length of 51000.
- **Pattern**: `[^\s\S]*`

**Tags.Tag.N**

A list of tags. For more information, see [Tagging Amazon RDS Resources](http://awacs.amazonaws.com/AmazonRDS/latest/UserGuide/) in the *Amazon RDS User Guide*.

- **Type**: Array of [Tag](http://awacs.amazonaws.com/AmazonRDS/latest/UserGuide/) objects

**Response Elements**

The following elements are returned by the service.

**CreateTime**

- **Type**: Timestamp

**DatabaseInstallationFilesS3BucketName**

- **Type**: String
DatabaseInstallationFilesS3Prefix

The Amazon S3 directory that contains the database installation files. If not specified, then no prefix is assumed.

Type: String

DBEngineDescription

The description of the database engine.

Type: String

DBEngineVersionArn

The ARN of the custom engine version.

Type: String

DBEngineVersionDescription

The description of the database engine version.

Type: String

DBParameterGroupFamily

The name of the DB parameter group family for the database engine.

Type: String

DefaultCharacterSet

The default character set for new instances of this engine version, if the CharacterSetName parameter of the CreateDBInstance API isn't specified.

Type: CharacterSet (p. 581) object

Engine

The name of the database engine.

Type: String

EngineVersion

The version number of the database engine.

Type: String

ExportableLogTypes.member.N

The types of logs that the database engine has available for export to CloudWatch Logs.

Type: Array of strings

KMSKeyId

The AWS KMS key identifier for an encrypted CEV. This parameter is required for RDS Custom, but optional for Amazon RDS.

Type: String

MajorEngineVersion

The major engine version of the CEV.

Type: String
Status

The status of the DB engine version, either available or deprecated.

Type: String

SupportedCharacterSets

A list of the character sets supported by this engine for the `CharacterSetName` parameter of the `CreateDBInstance` operation.

Type: Array of `CharacterSet` objects

SupportedEngineModes

A list of the supported DB engine modes.

Type: Array of strings

SupportedFeatureNames

A list of features supported by the DB engine.

The supported features vary by DB engine and DB engine version.

To determine the supported features for a specific DB engine and DB engine version using the AWS CLI, use the following command:

```
aws rds describe-db-engine-versions --engine <engine_name> --engine-version <engine_version>
```

For example, to determine the supported features for RDS for PostgreSQL version 13.3 using the AWS CLI, use the following command:

```
aws rds describe-db-engine-versions --engine postgres --engine-version 13.3
```

The supported features are listed under `SupportedFeatureNames` in the output.

Type: Array of strings

SupportedNcharCharacterSets

A list of the character sets supported by the Oracle DB engine for the `NcharCharacterSetName` parameter of the `CreateDBInstance` operation.

Type: Array of `CharacterSet` objects

SupportedTimezones

A list of the time zones supported by this engine for the `Timezone` parameter of the `CreateDBInstance` action.

Type: Array of `Timezone` objects

SupportsBabelfish

A value that indicates whether the engine version supports Babelfish for Aurora PostgreSQL.

Type: Boolean

SupportsGlobalDatabases

A value that indicates whether you can use Aurora global databases with a specific DB engine version.
Type: Boolean

**SupportsLogExportsToCloudwatchLogs**

A value that indicates whether the engine version supports exporting the log types specified by ExportableLogTypes to CloudWatch Logs.

Type: Boolean

**SupportsParallelQuery**

A value that indicates whether you can use Aurora parallel query with a specific DB engine version.

Type: Boolean

**SupportsReadReplica**

Indicates whether the database engine version supports read replicas.

Type: Boolean

**TagList.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

**ValidUpgradeTarget.UpgradeTarget.N**

A list of engine versions that this database engine version can be upgraded to.

Type: Array of UpgradeTarget (p. 731) objects

---

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).

**CustomDBEngineVersionAlreadyExistsFault**

A CEV with the specified name already exists.

HTTP Status Code: 400

**CustomDBEngineVersionQuotaExceededFault**

You have exceeded your CEV quota.

HTTP Status Code: 400

**KMSKeyNotAccessibleFault**

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

---

**Examples**

**Example**

This example illustrates one usage of CreateCustomDBEngineVersion.
Sample Request

https://rds.us-east-1.amazonaws.com/
?Engine=custom-oracle-ee
&EngineVersion=19.cev1
&DatabaseInstallationFilesS3BucketName=1-custom-installation-files
&DatabaseInstallationFilesS3Prefix=123456789012/cev1
&KMSKeyId=12ab5c6d-5678-90e1-2fgh-45hijklmnop
&Description=cev%20description
&Manifest=%7B%22mediaImportTemplateVersion%22%3A%222020-08--14%22%2C%
%22databaseInstallationFileNames%22%3A%5B%22V982063-01.zip%22%5D%2C%22psuPatchFileNames%
%22%5A%5B%22p688080b_190000_Linux-x86-64.zip%22%5D%2C%22psuRpuPatchFileNames%22%5A%5B%22%5B%
%22p1720396_190000_Linux-x86-64.zip%22%5B%22p29213893_190000DBRU_Generic.zip%22%2C%
%22p28730253_190000_Linux-x86-64.zip%22%5B%22p29374604_190000DBRU_Generic.zip%22%2C%
%22p28852325_190000_Linux-x86-64.zip%22%5B%22p29997937_190000DBRU_Generic.zip%22%2C%
%22p13350373_190000_Linux-x86-64.zip%22%5B%22p51350142_190000DBRU_Generic.zip%22%5D%7D

Sample Response

  <CreateCustomDBEngineVersionResult>
    <DatabaseInstallationFilesS3Prefix>123456789012/cev1</DatabaseInstallationFilesS3Prefix>
    <MajorEngineVersion>19</MajorEngineVersion>
    <DBEngineVersionDescription>cev description</DBEngineVersionDescription>
    <SupportsGlobalDatabases>false</SupportsGlobalDatabases>
    <SupportsParallelQuery>false</SupportsParallelQuery>
    <DBEngineDescription>Oracle Database server EE for RDS Custom</DBEngineDescription>
    <Status>creating</Status>
  </CreateCustomDBEngineVersionResult>
  <ResponseMetadata>
    <RequestId>897d9e88-057a-4695-812c-29cd36ed89d5</RequestId>
  </ResponseMetadata>
</CreateCustomDBEngineVersionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBCluster

Creates a new Amazon Aurora DB cluster or Multi-AZ DB cluster.

You can use the ReplicationSourceIdentifier parameter to create an Amazon Aurora DB cluster as a read replica of another DB cluster or Amazon RDS MySQL or PostgreSQL DB instance.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

AllocatedStorage

The amount of storage in gibibytes (GiB) to allocate to each DB instance in the Multi-AZ DB cluster.

This setting is required to create a Multi-AZ DB cluster.

Valid for: Multi-AZ DB clusters only

Type: Integer

Required: No

AutoMinorVersionUpgrade

A value that indicates whether minor engine upgrades are applied automatically to the DB cluster during the maintenance window. By default, minor engine upgrades are applied automatically.

Valid for: Multi-AZ DB clusters only

Type: Boolean

Required: No

AvailabilityZones.AvailabilityZone.N

A list of Availability Zones (AZs) where DB instances in the DB cluster can be created.

For information on AWS Regions and Availability Zones, see Choosing the Regions and Availability Zones in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: Array of strings

Required: No

BacktrackWindow

The target backtrack window, in seconds. To disable backtracking, set this value to 0.

Default: 0

Constraints:

• If specified, this value must be set to a number from 0 to 259,200 (72 hours).
Valid for: Aurora MySQL DB clusters only

Type: Long
Required: No

**BackupRetentionPeriod**

The number of days for which automated backups are retained.

Default: 1

Constraints:
- Must be a value from 1 to 35

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Integer
Required: No

**CharacterSetName**

A value that indicates that the DB cluster should be associated with the specified CharacterSet.

Valid for: Aurora DB clusters only

Type: String
Required: No

**CopyTagsToSnapshot**

A value that indicates whether to copy all tags from the DB cluster to snapshots of the DB cluster. The default is not to copy them.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean
Required: No

**DatabaseName**

The name for your database of up to 64 alphanumeric characters. If you do not provide a name, Amazon RDS doesn't create a database in the DB cluster you are creating.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String
Required: No

**DBClusterIdentifier**

The DB cluster identifier. This parameter is stored as a lowercase string.

Constraints:
- Must contain from 1 to 63 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Example: my-cluster1
Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: Yes

**DBClusterInstanceClass**

The compute and memory capacity of each DB instance in the Multi-AZ DB cluster, for example db.m6gd.xlarge. Not all DB instance classes are available in all AWS Regions, or for all database engines.

For the full list of DB instance classes and availability for your engine, see [DB instance class](http://amazonrdsuserguide) in the Amazon RDS User Guide.

This setting is required to create a Multi-AZ DB cluster.

Valid for: Multi-AZ DB clusters only

Type: String

Required: No

**DBClusterParameterGroupName**

The name of the DB cluster parameter group to associate with this DB cluster. If you do not specify a value, then the default DB cluster parameter group for the specified DB engine and version is used.

Constraints:

- If supplied, must match the name of an existing DB cluster parameter group.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**DBSubnetGroupName**

A DB subnet group to associate with this DB cluster.

This setting is required to create a Multi-AZ DB cluster.

Constraints: Must match the name of an existing DBSubnetGroup. Must not be default.

Example: mydbsubnetgroup

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**DeletionProtection**

A value that indicates whether the DB cluster has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean

Required: No
Domain

The Active Directory directory ID to create the DB cluster in.

For Amazon Aurora DB clusters, Amazon RDS can use Kerberos authentication to authenticate users that connect to the DB cluster.

For more information, see Kerberos authentication in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: String

Required: No

DomainIAMRoleName

Specify the name of the IAM role to be used when making API calls to the Directory Service.

Valid for: Aurora DB clusters only

Type: String

Required: No

EnableCloudwatchLogsExports.member.N

The list of log types that need to be enabled for exporting to CloudWatch Logs. The values in the list depend on the DB engine being used.

**RDS for MySQL**

Possible values are error, general, and slowquery.

**RDS for PostgreSQL**

Possible values are postgresql and upgrade.

**Aurora MySQL**

Possible values are audit, error, general, and slowquery.

**Aurora PostgreSQL**

Possible value is postgresql.

For more information about exporting CloudWatch Logs for Amazon RDS, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon RDS User Guide.

For more information about exporting CloudWatch Logs for Amazon Aurora, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Array of strings

Required: No

EnableGlobalWriteForwarding

A value that indicates whether to enable this DB cluster to forward write operations to the primary cluster of an Aurora global database (GlobalCluster (p. 675)). By default, write operations are not allowed on Aurora DB clusters that are secondary clusters in an Aurora global database.
You can set this value only on Aurora DB clusters that are members of an Aurora global database. With this parameter enabled, a secondary cluster can forward writes to the current primary cluster and the resulting changes are replicated back to this cluster. For the primary DB cluster of an Aurora global database, this value is used immediately if the primary is demoted by the FailoverGlobalCluster (p. 341) API operation, but it does nothing until then.

Valid for: Aurora DB clusters only
Type: Boolean
Required: No

EnableHttpEndpoint

A value that indicates whether to enable the HTTP endpoint for an Aurora Serverless v1 DB cluster. By default, the HTTP endpoint is disabled.

When enabled, the HTTP endpoint provides a connectionless web service API for running SQL queries on the Aurora Serverless v1 DB cluster. You can also query your database from inside the RDS console with the query editor.

For more information, see Using the Data API for Aurora Serverless v1 in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only
Type: Boolean
Required: No

EnableIAMDatabaseAuthentication

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

For more information, see IAM Database Authentication in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only
Type: Boolean
Required: No

EnablePerformanceInsights

A value that indicates whether to turn on Performance Insights for the DB cluster.

For more information, see Using Amazon Performance Insights in the Amazon RDS User Guide.

Valid for: Multi-AZ DB clusters only
Type: Boolean
Required: No

Engine

The name of the database engine to be used for this DB cluster.

Valid Values:
- `aurora` (for MySQL 5.6-compatible Aurora)
- `aurora-mysql` (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora)
- `aurora-postgresql`
• mysql
• postgres

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: Yes

**EngineMode**

The DB engine mode of the DB cluster, either provisioned, serverless, parallelquery, global, or multimaster.

The parallelquery engine mode isn't required for Aurora MySQL version 1.23 and higher 1.x versions, and version 2.09 and higher 2.x versions.

The global engine mode isn't required for Aurora MySQL version 1.22 and higher 1.x versions, and global engine mode isn't required for any 2.x versions.

The multimaster engine mode only applies for DB clusters created with Aurora MySQL version 5.6.10a.

The serverless engine mode only applies for Aurora Serverless v1 DB clusters.

For Aurora PostgreSQL, the global engine mode isn't required, and both the parallelquery and the multimaster engine modes currently aren’t supported.

Limitations and requirements apply to some DB engine modes. For more information, see the following sections in the *Amazon Aurora User Guide*:

- Limitations of Aurora Serverless v1
- Requirements for Aurora Serverless v2
- Limitations of Parallel Query
- Limitations of Aurora Global Databases
- Limitations of Multi-Master Clusters

Valid for: Aurora DB clusters only

Type: String

Required: No

**EngineVersion**

The version number of the database engine to use.

To list all of the available engine versions for MySQL 5.6-compatible Aurora, use the following command:

```bash
aws rds describe-db-engine-versions --engine aurora --query "DBEngineVersions[].EngineVersion"
```

To list all of the available engine versions for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora, use the following command:

```bash
aws rds describe-db-engine-versions --engine aurora-mysql --query "DBEngineVersions[].EngineVersion"
```

To list all of the available engine versions for Aurora PostgreSQL, use the following command:
aws rds describe-db-engine-versions --engine aurora-postgresql --query "DBEngineVersions[].EngineVersion"

To list all of the available engine versions for RDS for MySQL, use the following command:
aws rds describe-db-engine-versions --engine mysql --query "DBEngineVersions[].EngineVersion"

To list all of the available engine versions for RDS for PostgreSQL, use the following command:
aws rds describe-db-engine-versions --engine postgres --query "DBEngineVersions[].EngineVersion"

**Aurora MySQL**

For information, see [MySQL on Amazon RDS Versions](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/chap_mysql.html) in the *Amazon Aurora User Guide*.

**Aurora PostgreSQL**

For information, see [Amazon Aurora PostgreSQL releases and engine versions](https://docs.aws.amazon.com/AmazonAurora/latest/PostgreSQLUserGuide/) in the *Amazon Aurora User Guide*.

**MySQL**

For information, see [MySQL on Amazon RDS Versions](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_MySQL.html) in the *Amazon RDS User Guide*.

**PostgreSQL**

For information, see [Amazon RDS for PostgreSQL versions and extensions](https://docs.aws.amazon.com/AmazonRDS/latest/PostgreSQLUserGuide/) in the *Amazon RDS User Guide*.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

**GlobalClusterIdentifier**

The global cluster ID of an Aurora cluster that becomes the primary cluster in the new global database cluster.

Valid for: Aurora DB clusters only

**Type:** String

**Required:** No

**Iops**

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for each DB instance in the Multi-AZ DB cluster.

For information about valid IOPS values, see [Amazon RDS Provisioned IOPS storage](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_MultiAZDBClusters.html) in the *Amazon RDS User Guide*.

This setting is required to create a Multi-AZ DB cluster.

Constraints: Must be a multiple between .5 and 50 of the storage amount for the DB cluster.

Valid for: Multi-AZ DB clusters only

**Type:** Integer
Request Parameters

Required: No

KmsKeyId

The AWS KMS key identifier for an encrypted DB cluster.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key. To use a KMS key in a different AWS account, specify the key ARN or alias ARN.

When a KMS key isn't specified in KmsKeyId:
- If ReplicationSourceIdentifier identifies an encrypted source, then Amazon RDS will use the KMS key used to encrypt the source. Otherwise, Amazon RDS will use your default KMS key.
- If the StorageEncrypted parameter is enabled and ReplicationSourceIdentifier isn't specified, then Amazon RDS will use your default KMS key.

There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.

If you create a read replica of an encrypted DB cluster in another AWS Region, you must set KmsKeyId to a KMS key identifier that is valid in the destination AWS Region. This KMS key is used to encrypt the read replica in that AWS Region.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

MasterUsername

The name of the master user for the DB cluster.

Constraints:
- Must be 1 to 16 letters or numbers.
- First character must be a letter.
- Can't be a reserved word for the chosen database engine.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

MasterUserPassword

The password for the master database user. This password can contain any printable ASCII character except "/", ";", or ";@".

Constraints: Must contain from 8 to 41 characters.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

MonitoringInterval

The interval, in seconds, between points when Enhanced Monitoring metrics are collected for the DB cluster. To turn off collecting Enhanced Monitoring metrics, specify 0. The default is 0.

If MonitoringRoleArn is specified, also set MonitoringInterval to a value other than 0.
Valid Values: 0, 1, 5, 10, 15, 30, 60
Valid for: Multi-AZ DB clusters only
Type: Integer
Required: No

**MonitoringRoleArn**

The Amazon Resource Name (ARN) for the IAM role that permits RDS to send Enhanced Monitoring metrics to Amazon CloudWatch Logs. An example is `arn:aws:iam:123456789012:role/emaccess`. For information on creating a monitoring role, see Setting up and enabling Enhanced Monitoring in the Amazon RDS User Guide.

If `MonitoringInterval` is set to a value other than 0, supply a `MonitoringRoleArn` value.
Valid for: Multi-AZ DB clusters only
Type: String
Required: No

**NetworkType**

The network type of the DB cluster.
Valid values:
- IPV4
- DUAL

The network type is determined by the `DBSubnetGroup` specified for the DB cluster. A `DBSubnetGroup` can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).
For more information, see Working with a DB instance in a VPC in the Amazon Aurora User Guide.
Valid for: Aurora DB clusters only
Type: String
Required: No

**OptionGroupName**

A value that indicates that the DB cluster should be associated with the specified option group. DB clusters are associated with a default option group that can't be modified.
Type: String
Required: No

**PerformanceInsightsKMSKeyId**

The AWS KMS key identifier for encryption of Performance Insights data.
The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.
If you don't specify a value for `PerformanceInsightsKMSKeyId`, then Amazon RDS uses your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.
Valid for: Multi-AZ DB clusters only
PerformanceInsightsRetentionPeriod

The number of days to retain Performance Insights data. The default is 7 days. The following values are valid:

- 7
- month * 31, where month is a number of months from 1-23
- 731

For example, the following values are valid:

- 93 (3 months * 31)
- 341 (11 months * 31)
- 589 (19 months * 31)
- 731

If you specify a retention period such as 94, which isn't a valid value, RDS issues an error.

Valid for: Multi-AZ DB clusters only

Port

The port number on which the instances in the DB cluster accept connections.

RDS for MySQL and Aurora MySQL

Default: 3306

Valid values: 1150-65535

RDS for PostgreSQL and Aurora PostgreSQL

Default: 5432

Valid values: 1150-65535

Valid for: Aurora DB clusters and Multi-AZ DB clusters

PreferredBackupWindow

The daily time range during which automated backups are created if automated backups are enabled using the BackupRetentionPeriod parameter.

The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region. To view the time blocks available, see Backup window in the Amazon Aurora User Guide.

Constraints:

- Must be in the format hh24:mi-hh24:mi.
- Must be in Universal Coordinated Time (UTC).
- Must not conflict with the preferred maintenance window.
Request Parameters

- Must be at least 30 minutes.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**PreferredMaintenanceWindow**

The weekly time range during which system maintenance can occur, in Universal Coordinated Time (UTC).


The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region, occurring on a random day of the week. To see the time blocks available, see [Adjusting the Preferred DB Cluster Maintenance Window](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/USER_MaintenanceWindows.html) in the *Amazon Aurora User Guide*.

Valid Days: Mon, Tue, Wed, Thu, Fri, Sat, Sun.

Constraints: Minimum 30-minute window.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**PreSignedUrl**

When you are replicating a DB cluster from one AWS GovCloud (US) Region to another, an URL that contains a Signature Version 4 signed request for the `CreateDBCluster` operation to be called in the source AWS Region where the DB cluster is replicated from. Specify `PreSignedUrl` only when you are performing cross-Region replication from an encrypted DB cluster.

The presigned URL must be a valid request for the `CreateDBCluster` API operation that can run in the source AWS Region that contains the encrypted DB cluster to copy.

The presigned URL request must contain the following parameter values:

- **KmsKeyId** - The AWS KMS key identifier for the KMS key to use to encrypt the copy of the DB cluster in the destination AWS Region. This should refer to the same KMS key for both the `CreateDBCluster` operation that is called in the destination AWS Region, and the operation contained in the presigned URL.

- **DestinationRegion** - The name of the AWS Region that Aurora read replica will be created in.

- **ReplicationSourceIdentifier** - The DB cluster identifier for the encrypted DB cluster to be copied. This identifier must be in the Amazon Resource Name (ARN) format for the source AWS Region. For example, if you are copying an encrypted DB cluster from the us-west-2 AWS Region, then your `ReplicationSourceIdentifier` would look like Example: `arn:aws:rds:us-west-2:123456789012:cluster:aurora-cluster1`.


**Note**

If you are using an AWS SDK tool or the AWS CLI, you can specify `SourceRegion` (or `--source-region` for the AWS CLI) instead of specifying `PreSignedUrl` manually. Specifying `SourceRegion` autogenerates a presigned URL that is a valid request for the operation that can run in the source AWS Region.

Valid for: Aurora DB clusters only
Type: String

Required: No

**PubliclyAccessible**

A value that indicates whether the DB cluster is publicly accessible.

When the DB cluster is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB cluster's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB cluster's VPC. Access to the DB cluster is ultimately controlled by the security group it uses. That public access isn't permitted if the security group assigned to the DB cluster doesn't permit it.

When the DB cluster isn't publicly accessible, it is an internal DB cluster with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether DBSubnetGroupName is specified.

If DBSubnetGroupName isn't specified, and PubliclyAccessible isn't specified, the following applies:
- If the default VPC in the target Region doesn't have an internet gateway attached to it, the DB cluster is private.
- If the default VPC in the target Region has an internet gateway attached to it, the DB cluster is public.

If DBSubnetGroupName is specified, and PubliclyAccessible isn't specified, the following applies:
- If the subnets are part of a VPC that doesn't have an internet gateway attached to it, the DB cluster is private.
- If the subnets are part of a VPC that has an internet gateway attached to it, the DB cluster is public.

Valid for: Multi-AZ DB clusters only

Type: Boolean

Required: No

**ReplicationSourceIdentifier**

The Amazon Resource Name (ARN) of the source DB instance or DB cluster if this DB cluster is created as a read replica.

Valid for: Aurora DB clusters only

Type: String

Required: No

**ScalingConfiguration**

For DB clusters in serverless DB engine mode, the scaling properties of the DB cluster.

Valid for: Aurora DB clusters only

Type: ScalingConfiguration (p. 720) object

Required: No

**ServerlessV2ScalingConfiguration**

Contains the scaling configuration of an Aurora Serverless v2 DB cluster.
Response Elements

For more information, see Using Amazon Aurora Serverless v2 in the Amazon Aurora User Guide.

Type: ServerlessV2ScalingConfiguration (p. 724) object

Required: No

**StorageEncrypted**

A value that indicates whether the DB cluster is encrypted.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean

Required: No

**StorageType**

Specifies the storage type to be associated with the DB cluster.

This setting is required to create a Multi-AZ DB cluster.

Valid values: io1

When specified, a value for the Iops parameter is required.

Default: io1

Valid for: Multi-AZ DB clusters only

Type: String

Required: No

**Tags.Tag.N**

Tags to assign to the DB cluster.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Array of Tag (p. 728) objects

Required: No

**VpcSecurityGroupIds.VpcSecurityGroupId.N**

A list of EC2 VPC security groups to associate with this DB cluster.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Array of strings

Required: No

## Response Elements

The following element is returned by the service.

**DBCluster**

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster,
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterAlreadyExistsFault**

The user already has a DB cluster with the given identifier.

HTTP Status Code: 400

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBClusterParameterGroupNotFound**

DBClusterParameterGroupName doesn't refer to an existing DB cluster parameter group.

HTTP Status Code: 404

**DBClusterQuotaExceededFault**

The user attempted to create a new DB cluster and the user has already reached the maximum allowed DB cluster quota.

HTTP Status Code: 403

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

**DBSubnetGroupDoesNotCoverEnoughAZs**

Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.

HTTP Status Code: 400

**DBSubnetGroupNotFoundFault**

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404
DomainNotFoundFault

Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404

GlobalClusterNotFoundFault

The GlobalClusterIdentifier doesn't refer to an existing global database cluster.

HTTP Status Code: 404

InsufficientStorageClusterCapacity

There is insufficient storage available for the current action. You might be able to resolve this error by updating your subnet group to use different Availability Zones that have more storage available.

HTTP Status Code: 400

InvalidDBClusterStateFault

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

InvalidDBInstanceState

The DB instance isn't in a valid state.

HTTP Status Code: 400

InvalidDBSubnetGroupStateFault

The DB subnet group cannot be deleted because it's in use.

HTTP Status Code: 400

InvalidGlobalClusterStateFault

The global cluster is in an invalid state and can't perform the requested operation.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

InvalidVPCNetworkStateFault

The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400

KMSKeyNotAccessibleFault

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

StorageQuotaExceeded

The request would result in the user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400
Examples

Creating an Aurora DB cluster

This example illustrates one usage of CreateDBCluster.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=CreateDBCluster
&DBClusterIdentifier=sample-cluster
&Engine=aurora
&MasterUserPassword=<password>
&MasterUsername=myawsuser
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Credential=AKIADQKE4SARGYLE/20150927/us-east-1/rds/aws4_request
&X-Amz-Date=20150927T164851Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=6a8f4bd6a98f649c75ea04a6b3929ecc75ac09739588391cd7250f5280e716db

Sample Response

<CreateDBClusterResult>
  <DBCluster>
    <Port>3306</Port>
    <Engine>aurora</Engine>
    <Status>creating</Status>
    <BackupRetentionPeriod>1</BackupRetentionPeriod>
    <VpcSecurityGroups>
      <VpcSecurityGroupMembership>
        <Status>active</Status>
        <VpcSecurityGroupId>sg-2103dc23</VpcSecurityGroupId>
      </VpcSecurityGroupMembership>
    </VpcSecurityGroups>
    <DBSubnetGroup>default</DBSubnetGroup>
    <EngineVersion>5.6.10a</EngineVersion>
    <Endpoint>sample-cluster.cluster-ctrayan0rynq.us-east-1.rds.amazonaws.com</Endpoint>
    <DBClusterParameterGroup>default.aurora5.6</DBClusterParameterGroup>
    <AvailabilityZones>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <AvailabilityZone>us-east-1c</AvailabilityZone>
      <AvailabilityZone>us-east-1e</AvailabilityZone>
    </AvailabilityZones>
    <DBClusterIdentifier>sample-cluster</DBClusterIdentifier>
    <PreferredBackupWindow>04:22-04:52</PreferredBackupWindow>
    <PreferredMaintenanceWindow>fri:06:44-fri:07:14</PreferredMaintenanceWindow>
    <DBClusterMembers/>
    <AllocatedStorage>1</AllocatedStorage>
    <MasterUsername>myawsuser</MasterUsername>
  </DBCluster>
</CreateDBClusterResult>
<ResponseMetadata>
  <RequestId>46d2b228-7681-11e5-3e8b-9b2c0d5d51a9</RequestId>
</ResponseMetadata>
Creating a Multi-AZ DB cluster

This example illustrates one usage of CreateDBCluster.

Sample Request

```xml
https://rds.us-west-2.amazonaws.com/
?Action=CreateDBCluster
&AvailabilityZones.AvailabilityZone.1=us-west-2a
&BackupRetentionPeriod=2
&DatabaseName=mydb
&DBClusterIdentifier=my-multi-az-cluster
&DBClusterParameterGroupName=my-multi-az-cpg
&VpcSecurityGroupIds.VpcSecurityGroupId.1=sg-6921cc28
&DBSubnetGroupName=mysubnet1
&Engine=mysql
&EngineVersion=8.0.26
&Port=3306
&MasterUsername=admin
&MasterUserPassword=<password>
&PreferredBackupWindow=11:34-12:04
&PreferredMaintenanceWindow=sat:07:05-sat:07:35
&StorageEncrypted=true
&KmsKeyId=123EXAMPLE-abcd-4567-efgEXAMPLE
&EngineMode=provisioned
&DeletionProtection=false
&EnableHttpEndpoint=false
&CopyTagsToSnapshot=true
&DBClusterInstanceClass=db.r6gd.large
&AllocatedStorage=100
&StorageType=io1
&Iops=1000
&PubliclyAccessible=true
&AutoMinorVersionUpgrade=true
&MonitoringInterval=30
&MonitoringRoleArn=arn:aws:iam:123456789012:role/enhance-monitoring-role
&EnablePerformanceInsights=true
&PerformanceInsightsKMSKeyId=123EXAMPLE-abcd-4567-efgEXAMPLE
&PerformanceInsightsRetentionPeriod=7
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-AlGORITHM=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIQKCE4SARYGLE/20211026/us-west-2/rds/aws4_request
&X-Amz-Date=20211026T203712Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=6a8f4bd6a98f649c75ea04a6b3929eccc75ac09739588391cd7250f5280e716db
```

Sample Response

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?><CreateDBClusterResult xmlns="http://rds.amazonaws.com/doc/2014-10-31/">
<DBCluster>
  <CrossAccountClone>false</CrossAccountClone>
  <AllocatedStorage>100</AllocatedStorage>
  <DatabaseName>mydb</DatabaseName>
</DBCluster>
</CreateDBClusterResponse>
```
<AssociatedRoles />
<AvailabilityZones>
    <AvailabilityZone>us-west-2a</AvailabilityZone>
    <AvailabilityZone>us-west-2b</AvailabilityZone>
    <AvailabilityZone>us-west-2c</AvailabilityZone>
</AvailabilityZones>
<ReadReplicaIdentifiers />
<Iops>1000</Iops>
<PerformanceInsightsKMSKeyId>arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE</PerformanceInsightsKMSKeyId>
<PerformanceInsightsRetentionPeriod>7</PerformanceInsightsRetentionPeriod>
<EngineVersion>8.0.26</EngineVersion>
<MasterUsername>admin</MasterUsername>
<DBClusterMembers>
    <DBClusterMember>
        <DBInstanceIdentifier>my-multi-az-cluster-3</DBInstanceIdentifier>
        <DBClusterParameterGroupStatus>In-sync</DBClusterParameterGroupStatus>
        <PromotionTier>1</PromotionTier>
        <IsClusterWriter>false</IsClusterWriter>
    </DBClusterMember>
    <DBClusterMember>
        <DBInstanceIdentifier>my-multi-az-cluster-instance-2</DBInstanceIdentifier>
        <DBClusterParameterGroupStatus>In-sync</DBClusterParameterGroupStatus>
        <PromotionTier>1</PromotionTier>
        <IsClusterWriter>false</IsClusterWriter>
    </DBClusterMember>
    <DBClusterMember>
        <DBInstanceIdentifier>my-multi-az-cluster-instance-1</DBInstanceIdentifier>
        <DBClusterParameterGroupStatus>In-sync</DBClusterParameterGroupStatus>
        <PromotionTier>1</PromotionTier>
        <IsClusterWriter>false</IsClusterWriter>
    </DBClusterMember>
</DBClusterMembers>
<HttpEndpointEnabled>false</HttpEndpointEnabled>
<Port>3306</Port>
<MonitoringInterval>30</MonitoringInterval>
<BackupRetentionPeriod>2</BackupRetentionPeriod>
<KmsKeyId>arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE</KmsKeyId>
<DBClusterIdentifier>my-multi-az-cluster</DBClusterIdentifier>
<DbClusterResourceId>cluster-RCPGZXFNHCTBQLDRJXGCP62VQ</DbClusterResourceId>
<Status>creating</Status>
<PreferredBackupWindow>11:34-12:04</PreferredBackupWindow>
<DeletionProtection>false</DeletionProtection>
<Endpoint>my-multi-az-cluster.cluster-123456789012.us-west-2.rds.amazonaws.com</Endpoint>
<EngineMode>provisioned</EngineMode>
<Engine>mysql</Engine>
<ReaderEndpoint>my-multi-az-cluster.cluster-ro-123456789012.us-west-2.rds.amazonaws.com</ReaderEndpoint>
<PubliclyAccessible>true</PubliclyAccessible>
<IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
<ClusterCreateTime>2021-10-20T00:12:00.867Z</ClusterCreateTime>
<PerformanceInsightsEnabled>true</PerformanceInsightsEnabled>
<Multiaz>true</Multiaz>
<DomainMemberships />
<MonitoringRoleArn>arn:aws:iam::123456789012:role/enhance-monitoring-role</MonitoringRoleArn>
<StorageEncrypted>true</StorageEncrypted>
<DBSubnetGroup>mysubnet1</DBSubnetGroup>
<VpcSecurityGroups>
    <VpcSecurityGroupId>sg-6921cc28</VpcSecurityGroupId>
</VpcSecurityGroups>

<TagList />
<HostedZoneId>Z3GZ3VYA3PQGHTQ</HostedZoneId>
<PreferredMaintenanceWindow>sat:07:05-sat:07:35</PreferredMaintenanceWindow>
<DBClusterParameterGroup>my-multi-az-cpg</DBClusterParameterGroup>
<StorageType>io1</StorageType>
<DBClusterInstanceClass>db.r6gd.large</DBClusterInstanceClass>
<CopyTagsToSnapshot>false</CopyTagsToSnapshot>
<AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
</DBCluster>
</CreateDBClusterResult>
</ResponseMetadata>
</CreateDBClusterResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBClusterEndpoint

Creates a new custom endpoint and associates it with an Amazon Aurora DB cluster.

**Note**
This action applies only to Aurora DB clusters.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

- **DBClusterEndpointIdentifier**
  - The identifier to use for the new endpoint. This parameter is stored as a lowercase string.
  - Type: String
  - Required: Yes

- **DBClusterIdentifier**
  - The DB cluster identifier of the DB cluster associated with the endpoint. This parameter is stored as a lowercase string.
  - Type: String
  - Required: Yes

- **EndpointType**
  - The type of the endpoint, one of: READER, WRITER, ANY.
  - Type: String
  - Required: Yes

- **ExcludedMembers.member.N**
  - List of DB instance identifiers that aren't part of the custom endpoint group. All other eligible instances are reachable through the custom endpoint. This parameter is relevant only if the list of static members is empty.
  - Type: Array of strings
  - Required: No

- **StaticMembers.member.N**
  - List of DB instance identifiers that are part of the custom endpoint group.
  - Type: Array of strings
  - Required: No

- **Tags.Tag.N**
  - The tags to be assigned to the Amazon RDS resource.
  - Type: Array of Tag (p. 728) objects
  - Required: No
Response Elements

The following elements are returned by the service.

**CustomEndpointType**

The type associated with a custom endpoint. One of: READER, WRITER, ANY.

Type: String

**DBClusterEndpointArn**

The Amazon Resource Name (ARN) for the endpoint.

Type: String

**DBClusterEndpointIdentifier**

The identifier associated with the endpoint. This parameter is stored as a lowercase string.

Type: String

**DBClusterEndpointResourceIdentifier**

A unique system-generated identifier for an endpoint. It remains the same for the whole life of the endpoint.

Type: String

**DBClusterIdentifier**

The DB cluster identifier of the DB cluster associated with the endpoint. This parameter is stored as a lowercase string.

Type: String

**Endpoint**

The DNS address of the endpoint.

Type: String

**EndpointType**

The type of the endpoint. One of: READER, WRITER, CUSTOM.

Type: String

**ExcludedMembers.member.N**

List of DB instance identifiers that aren't part of the custom endpoint group. All other eligible instances are reachable through the custom endpoint. Only relevant if the list of static members is empty.

Type: Array of strings

**StaticMembers.member.N**

List of DB instance identifiers that are part of the custom endpoint group.

Type: Array of strings

**Status**

The current status of the endpoint. One of: creating, available, deleting, inactive, modifying. The inactive state applies to an endpoint that can't be used for a certain kind of cluster, such as a writer endpoint for a read-only secondary cluster in a global database.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterEndpointAlreadyExistsFault**

The specified custom endpoint can't be created because it already exists.

HTTP Status Code: 400

**DBClusterEndpointQuotaExceededFault**

The cluster already has the maximum number of custom endpoints.

HTTP Status Code: 403

**DBClusterNotFoundFault**

`DBClusterIdentifier` doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBInstanceNotFound**

`DBInstanceIdentifier` doesn't refer to an existing DB instance.

HTTP Status Code: 404

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBClusterParameterGroup

Creates a new DB cluster parameter group.

Parameters in a DB cluster parameter group apply to all of the instances in a DB cluster.

A DB cluster parameter group is initially created with the default parameters for the database engine used by instances in the DB cluster. To provide custom values for any of the parameters, you must modify the group after creating it using ModifyDBClusterParameterGroup. Once you've created a DB cluster parameter group, you need to associate it with your DB cluster using ModifyDBCluster.

When you associate a new DB cluster parameter group with a running Aurora DB cluster, reboot the DB instances in the DB cluster without failover for the new DB cluster parameter group and associated settings to take effect.

When you associate a new DB cluster parameter group with a running Multi-AZ DB cluster, reboot the DB cluster without failover for the new DB cluster parameter group and associated settings to take effect.

Important
After you create a DB cluster parameter group, you should wait at least 5 minutes before creating your first DB cluster that uses that DB cluster parameter group as the default parameter group. This allows Amazon RDS to fully complete the create action before the DB cluster parameter group is used as the default for a new DB cluster. This is especially important for parameters that are critical when creating the default database for a DB cluster, such as the character set for the default database defined by the character_set_database parameter. You can use the Parameter Groups option of the Amazon RDS console or the DescribeDBClusterParameters operation to verify that your DB cluster parameter group has been created or modified.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterParameterGroupName

The name of the DB cluster parameter group.

Constraints:
• Must not match the name of an existing DB cluster parameter group.

Note
This value is stored as a lowercase string.

Type: String

Required: Yes

DBParameterGroupFamily

The DB cluster parameter group family name. A DB cluster parameter group can be associated with one and only one DB cluster parameter group family, and can be applied only to a DB cluster running a database engine and engine version compatible with that DB cluster parameter group family.
Aurora MySQL
Example: aurora5.6, aurora-mysql5.7, aurora-mysql8.0

Aurora PostgreSQL
Example: aurora-postgresql9.6

RDS for MySQL
Example: mysql8.0

RDS for PostgreSQL
Example: postgres12

To list all of the available parameter group families for a DB engine, use the following command:

```bash
aws rds describe-db-engine-versions --query "DBEngineVersions[].DBParameterGroupFamily" --engine <engine>
```

For example, to list all of the available parameter group families for the Aurora PostgreSQL DB engine, use the following command:

```bash
aws rds describe-db-engine-versions --query "DBEngineVersions[].DBParameterGroupFamily" --engine aurora-postgresql
```

**Note**
The output contains duplicates.

The following are the valid DB engine values:
- `aurora` (for MySQL 5.6-compatible Aurora)
- `aurora-mysql` (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora)
- `aurora-postgresql`
- `mysql`
- `postgres`

Type: String
Required: Yes

**Description**
The description for the DB cluster parameter group.

Type: String
Required: Yes

**Tags.Tag.N**
Tags to assign to the DB cluster parameter group.

Type: Array of Tag (p. 728) objects
Required: No

---

**Response Elements**
The following element is returned by the service.
DBClusterParameterGroup

Contains the details of an Amazon RDS DB cluster parameter group.

This data type is used as a response element in the DescribeDBClusterParameterGroups action.

Type: DBClusterParameterGroup (p. 605) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBParameterGroupAlreadyExists

A DB parameter group with the same name exists.

HTTP Status Code: 400

DBParameterGroupQuotaExceeded

The request would result in the user exceeding the allowed number of DB parameter groups.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of CreateDBClusterParameterGroup.

Sample Request

https://rds.us-east-1.amazonaws.com/?Action=CreateDBClusterParameterGroup
&DBClusterParameterGroupName=samplegroup
&DBParameterGroupFamily=aurora5.6
&Description=Sample group
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20150318/us-east-1/rds/aws4_request
&X-Amz-Date=20150318T183624Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=86d521a3a117a033df0aa381fde0cd8a5ab5c7ab87a29aa9154438c3790ba611

Sample Response

  <CreateDBClusterParameterGroupResult>
    <DBClusterParameterGroup>
      <DBParameterGroupFamily>aurora5.6</DBParameterGroupFamily>
      <Description>Sample group</Description>
      <DBClusterParameterGroupName>samplegroup</DBClusterParameterGroupName>
  </DBClusterParameterGroup>
</CreateDBClusterParameterGroupResponse>
<DBClusterParameterGroup>
</DBClusterParameterGroup>
</CreateDBClusterParameterGroupResult>
<ResponseMetadata>
  <RequestId>ae81a963-cd9d-11e4-8b88-8351746a4c92</RequestId>
</ResponseMetadata>
</CreateDBClusterParameterGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBClusterSnapshot

Creates a snapshot of a DB cluster.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBClusterIdentifier**

The identifier of the DB cluster to create a snapshot for. This parameter isn't case-sensitive.

**Constraints:**
- Must match the identifier of an existing DBCluster.

**Example:** my-cluster1

**Type:** String

**Required:** Yes

**DBClusterSnapshotIdentifier**

The identifier of the DB cluster snapshot. This parameter is stored as a lowercase string.

**Constraints:**
- Must contain from 1 to 63 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

**Example:** my-cluster1-snapshot1

**Type:** String

**Required:** Yes

**Tags.Tag.N**

The tags to be assigned to the DB cluster snapshot.

**Type:** Array of Tag (p. 728) objects

**Required:** No

Response Elements

The following element is returned by the service.

**DBClusterSnapshot**

Contains the details for an Amazon RDS DB cluster snapshot
This data type is used as a response element in the DescribeDBClusterSnapshots action.

Type: **DBClusterSnapshot** (p. 607) object

**Errors**

For information about the errors that are common to all actions, see **Common Errors** (p. 743).

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBClusterSnapshotAlreadyExistsFault**

The user already has a DB cluster snapshot with the given identifier.

HTTP Status Code: 400

**InvalidDBClusterSnapshotStateFault**

The supplied value isn't a valid DB cluster snapshot state.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**SnapshotQuotaExceeded**

The request would result in the user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400

**Examples**

**Example**

This example illustrates one usage of CreateDBClusterSnapshot.

**Sample Request**

https://rds.us-east-1.amazonaws.com/

?Action=CreateDBClusterSnapshot

&DBClusterIdentifier=sample-cluster

&DBClusterSnapshotIdentifier=sample-cluster-snapshot

&SignatureMethod=HmacSHA256

&SignatureVersion=4

&Version=2014-10-31

&X-Amz-Algorithm=AWS4-HMAC-SHA256

&X-Amz-Credential=AKIADQKE4SARGYLE/20150318/us-east-1/rds/aws4_request

&X-Amz-Date=20150318T205321Z

&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date

&X-Amz-Signature=9573ced573a41cdec8e2ef1d9b5235a141f97ae30b4469fc9b0f16149399c4bf
Sample Response

```xml
  <CreateDBClusterSnapshotResult>
    <DBClusterSnapshot>
      <Port>0</Port>
      <Engine>Aurora</Engine>
      <Status>creating</Status>
      <SnapshotType>manual</SnapshotType>
      <LicenseModel>Aurora</LicenseModel>
      <DBClusterSnapshotIdentifier>sample-cluster-snapshot</DBClusterSnapshotIdentifier>
      <SnapshotCreateTime>2015-03-18T20:53:22.523Z</SnapshotCreateTime>
      <DBClusterIdentifier>sample-cluster</DBClusterIdentifier>
      <VpcId>vpc-3fafe54</VpcId>
      <ClusterCreateTime>2015-03-06T22:11:13.826Z</ClusterCreateTime>
      <PercentProgress>0</PercentProgress>
      <AllocatedStorage>1</AllocatedStorage>
      <MasterUsername>awsuser</MasterUsername>
    </DBClusterSnapshot>
  </CreateDBClusterSnapshotResult>
  <ResponseMetadata>
    <RequestId>d070d0d2-cea0-11e4-8c88-8351226c8c92</RequestId>
  </ResponseMetadata>
</CreateDBClusterSnapshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBInstance

Creates a new DB instance.

The new DB instance can be an RDS DB instance, or it can be a DB instance in an Aurora DB cluster. For an Aurora DB cluster, you can call this operation multiple times to add more than one DB instance to the cluster.

For more information about creating an RDS DB instance, see Creating an Amazon RDS DB instance in the Amazon RDS User Guide.

For more information about creating a DB instance in an Aurora DB cluster, see Creating an Amazon Aurora DB cluster in the Amazon Aurora User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

AllocatedStorage

The amount of storage in gibibytes (GiB) to allocate for the DB instance.

Type: Integer

Amazon Aurora

Not applicable. Aurora cluster volumes automatically grow as the amount of data in your database increases, though you are only charged for the space that you use in an Aurora cluster volume.

Amazon RDS Custom

Constraints to the amount of storage for each storage type are the following:

- General Purpose (SSD) storage (gp2, gp3): Must be an integer from 40 to 65536 for RDS Custom for Oracle, 16384 for RDS Custom for SQL Server.
- Provisioned IOPS storage (io1): Must be an integer from 40 to 65536 for RDS Custom for Oracle, 16384 for RDS Custom for SQL Server.

MySQL

Constraints to the amount of storage for each storage type are the following:

- General Purpose (SSD) storage (gp2, gp3): Must be an integer from 20 to 65536.
- Provisioned IOPS storage (io1): Must be an integer from 100 to 65536.
- Magnetic storage (standard): Must be an integer from 5 to 3072.

MariaDB

Constraints to the amount of storage for each storage type are the following:

- General Purpose (SSD) storage (gp2, gp3): Must be an integer from 20 to 65536.
- Provisioned IOPS storage (io1): Must be an integer from 100 to 65536.
- Magnetic storage (standard): Must be an integer from 5 to 3072.

PostgreSQL

Constraints to the amount of storage for each storage type are the following:

- General Purpose (SSD) storage (gp2, gp3): Must be an integer from 20 to 65536.
• Provisioned IOPS storage (io1): Must be an integer from 100 to 65536.
• Magnetic storage (standard): Must be an integer from 5 to 3072.

**Oracle**

Constraints to the amount of storage for each storage type are the following:
• General Purpose (SSD) storage (gp2, gp3): Must be an integer from 20 to 65536.
• Provisioned IOPS storage (io1): Must be an integer from 100 to 65536.
• Magnetic storage (standard): Must be an integer from 10 to 3072.

**SQL Server**

Constraints to the amount of storage for each storage type are the following:
• General Purpose (SSD) storage (gp2, gp3):
  • Enterprise and Standard editions: Must be an integer from 20 to 16384.
  • Web and Express editions: Must be an integer from 20 to 16384.
• Provisioned IOPS storage (io1):
  • Enterprise and Standard editions: Must be an integer from 100 to 16384.
  • Web and Express editions: Must be an integer from 100 to 16384.
• Magnetic storage (standard):
  • Enterprise and Standard editions: Must be an integer from 20 to 1024.
  • Web and Express editions: Must be an integer from 20 to 1024.

Type: Integer
Required: No

**AutoMinorVersionUpgrade**

A value that indicates whether minor engine upgrades are applied automatically to the DB instance during the maintenance window. By default, minor engine upgrades are applied automatically.

If you create an RDS Custom DB instance, you must set AutoMinorVersionUpgrade to false.

Type: Boolean
Required: No

**AvailabilityZone**

The Availability Zone (AZ) where the database will be created. For information on AWS Regions and Availability Zones, see Regions and Availability Zones.

**Amazon Aurora**

Each Aurora DB cluster hosts copies of its storage in three separate Availability Zones. Specify one of these Availability Zones. Aurora automatically chooses an appropriate Availability Zone if you don't specify one.

Default: A random, system-chosen Availability Zone in the endpoint's AWS Region.

Example: us-east-1d

Constraint: The AvailabilityZone parameter can't be specified if the DB instance is a Multi-AZ deployment. The specified Availability Zone must be in the same AWS Region as the current endpoint.

Type: String
Required: No

**BackupRetentionPeriod**

The number of days for which automated backups are retained. Setting this parameter to a positive number enables backups. Setting this parameter to 0 disables automated backups.

**Amazon Aurora**

Not applicable. The retention period for automated backups is managed by the DB cluster.

Default: 1

Constraints:
- Must be a value from 0 to 35
- Can't be set to 0 if the DB instance is a source to read replicas
- Can't be set to 0 for an RDS Custom for Oracle DB instance

Type: Integer

Required: No

**BackupTarget**

Specifies where automated backups and manual snapshots are stored.

Possible values are `outposts` (AWS Outposts) and `region` (AWS Region). The default is `region`.

For more information, see Working with Amazon RDS on AWS Outposts in the Amazon RDS User Guide.

Type: String

Required: No

**CharacterSetName**

For supported engines, this value indicates that the DB instance should be associated with the specified CharacterSet.

This setting doesn't apply to RDS Custom. However, if you need to change the character set, you can change it on the database itself.

**Amazon Aurora**

Not applicable. The character set is managed by the DB cluster. For more information, see CreateDBCluster.

Type: String

Required: No

**CopyTagsToSnapshot**

A value that indicates whether to copy tags from the DB instance to snapshots of the DB instance. By default, tags are not copied.

**Amazon Aurora**

Not applicable. Copying tags to snapshots is managed by the DB cluster. Setting this value for an Aurora DB instance has no effect on the DB cluster setting.

Type: Boolean
Required: No

**CustomIamInstanceProfile**

The instance profile associated with the underlying Amazon EC2 instance of an RDS Custom DB instance. The instance profile must meet the following requirements:

- The profile must exist in your account.
- The profile must have an IAM role that Amazon EC2 has permissions to assume.
- The instance profile name and the associated IAM role name must start with the prefix AWSRDSCustom.

For the list of permissions required for the IAM role, see Configure IAM and your VPC in the Amazon RDS User Guide.

This setting is required for RDS Custom.

Type: String

Required: No

**DBClusterIdentifier**

The identifier of the DB cluster that the instance will belong to.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**DBInstanceClass**

The compute and memory capacity of the DB instance, for example db.m5.large. Not all DB instance classes are available in all AWS Regions, or for all database engines. For the full list of DB instance classes, and availability for your engine, see DB instance classes in the Amazon RDS User Guide or Aurora DB instance classes in the Amazon Aurora User Guide.

Type: String

Required: Yes

**DBInstanceIdentifier**

The DB instance identifier. This parameter is stored as a lowercase string.

Constraints:

- Must contain from 1 to 63 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Example: mydbinstance

Type: String

Required: Yes

**DBName**

The meaning of this parameter differs according to the database engine you use.

**MySQL**

The name of the database to create when the DB instance is created. If this parameter isn't specified, no database is created in the DB instance.
Constraints:
  • Must contain 1 to 64 letters or numbers.
  • Must begin with a letter. Subsequent characters can be letters, underscores, or digits (0-9).
  • Can’t be a word reserved by the specified database engine

**MariaDB**

The name of the database to create when the DB instance is created. If this parameter isn’t specified, no database is created in the DB instance.

Constraints:
  • Must contain 1 to 64 letters or numbers.
  • Must begin with a letter. Subsequent characters can be letters, underscores, or digits (0-9).
  • Can’t be a word reserved by the specified database engine

**PostgreSQL**

The name of the database to create when the DB instance is created. If this parameter isn’t specified, a database named `postgres` is created in the DB instance.

Constraints:
  • Must contain 1 to 63 letters, numbers, or underscores.
  • Must begin with a letter. Subsequent characters can be letters, underscores, or digits (0-9).
  • Can’t be a word reserved by the specified database engine

**Oracle**

The Oracle System ID (SID) of the created DB instance. If you specify `null`, the default value `ORCL` is used. You can’t specify the string `NULL`, or any other reserved word, for `DBName`.

Default: ORCL

Constraints:
  • Can’t be longer than 8 characters

**Amazon RDS Custom for Oracle**

The Oracle System ID (SID) of the created RDS Custom DB instance. If you don’t specify a value, the default value is `ORCL`.

Default: ORCL

Constraints:
  • It must contain 1 to 8 alphanumeric characters.
  • It must contain a letter.
  • It can’t be a word reserved by the database engine.

**Amazon RDS Custom for SQL Server**

Not applicable. Must be null.

**SQL Server**

Not applicable. Must be null.

**Amazon Aurora MySQL**
The name of the database to create when the primary DB instance of the Aurora MySQL DB cluster is created. If this parameter isn't specified for an Aurora MySQL DB cluster, no database is created in the DB cluster.

Constraints:
- It must contain 1 to 64 alphanumeric characters.
- It can't be a word reserved by the database engine.

**Amazon Aurora PostgreSQL**

The name of the database to create when the primary DB instance of the Aurora PostgreSQL DB cluster is created. If this parameter isn't specified for an Aurora PostgreSQL DB cluster, a database named `postgres` is created in the DB cluster.

Constraints:
- It must contain 1 to 63 alphanumeric characters.
- It must begin with a letter. Subsequent characters can be letters, underscores, or digits (0 to 9).
- It can't be a word reserved by the database engine.

Type: String

Required: No

**DBParameterGroupName**

The name of the DB parameter group to associate with this DB instance. If you do not specify a value, then the default DB parameter group for the specified DB engine and version is used.

This setting doesn't apply to RDS Custom.

Constraints:
- It must be 1 to 255 letters, numbers, or hyphens.
- The first character must be a letter.
- It can't end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

**DBSecurityGroups.DBSecurityGroupName.N**

A list of DB security groups to associate with this DB instance.

This setting applies to the legacy EC2-Classic platform, which is no longer used to create new DB instances. Use the `VpcSecurityGroupIds` setting instead.

Type: Array of strings

Required: No

**DBSubnetGroupName**

A DB subnet group to associate with this DB instance.

Constraints: Must match the name of an existing DBSubnetGroup. Must not be default.

Example: `mydbsubnetgroup`

Type: String

Required: No
DeletionProtection

A value that indicates whether the DB instance has deletion protection enabled. The database can’t be deleted when deletion protection is enabled. By default, deletion protection isn't enabled. For more information, see Deleting a DB Instance.

Amazon Aurora

Not applicable. You can enable or disable deletion protection for the DB cluster. For more information, see CreateDBCluster. DB instances in a DB cluster can be deleted even when deletion protection is enabled for the DB cluster.

Type: Boolean

Required: No

Domain

The Active Directory directory ID to create the DB instance in. Currently, only MySQL, Microsoft SQL Server, Oracle, and PostgreSQL DB instances can be created in an Active Directory Domain.

For more information, see Kerberos Authentication in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Amazon Aurora

Not applicable. The domain is managed by the DB cluster.

Type: String

Required: No

DomainIAMRoleName

Specify the name of the IAM role to be used when making API calls to the Directory Service.

This setting doesn't apply to RDS Custom.

Amazon Aurora

Not applicable. The domain is managed by the DB cluster.

Type: String

Required: No

EnableCloudwatchLogsExports

The list of log types that need to be enabled for exporting to CloudWatch Logs. The values in the list depend on the DB engine. For more information, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon RDS User Guide.

Amazon Aurora

Not applicable. CloudWatch Logs exports are managed by the DB cluster.

RDS Custom

Not applicable.

MariaDB

Possible values are audit, error, general, and slowquery.
Microsoft SQL Server
Possible values are agent and error.

MySQL
Possible values are audit, error, general, and slowquery.

Oracle
Possible values are alert, audit, listener, trace, and oemagent.

PostgreSQL
Possible values are postgresql and upgrade.

Type: Array of strings
Required: No

EnableCustomerOwnedIp
A value that indicates whether to enable a customer-owned IP address (CoIP) for an RDS on Outposts DB instance.

A CoIP provides local or external connectivity to resources in your Outpost subnets through your on-premises network. For some use cases, a CoIP can provide lower latency for connections to the DB instance from outside of its virtual private cloud (VPC) on your local network.

For more information about RDS on Outposts, see Working with Amazon RDS on AWS Outposts in the Amazon RDS User Guide.

For more information about CoIPs, see Customer-owned IP addresses in the AWS Outposts User Guide.

Type: Boolean
Required: No

EnableIAMDatabaseAuthentication
A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

For more information, see IAM Database Authentication for MySQL and PostgreSQL in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Amazon Aurora
Not applicable. Mapping AWS IAM accounts to database accounts is managed by the DB cluster.

Type: Boolean
Required: No

EnablePerformanceInsights
A value that indicates whether to enable Performance Insights for the DB instance. For more information, see Using Amazon Performance Insights in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Type: Boolean
**Engine**

The name of the database engine to be used for this instance.

Not every database engine is available for every AWS Region.

Valid Values:
- aurora (for MySQL 5.6-compatible Aurora)
- aurora-mysql (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora)
- aurora-postgresql
- custom-oracle-ee (for RDS Custom for Oracle instances)
- custom-sqlserver-ee (for RDS Custom for SQL Server instances)
- custom-sqlserver-se (for RDS Custom for SQL Server instances)
- custom-sqlserver-web (for RDS Custom for SQL Server instances)
- mariadb
- mysql
- oracle-ee
- oracle-ee-cdb
- oracle-se2
- oracle-se2-cdb
- postgres
- sqlserver-ee
- sqlserver-se
- sqlserver-ex
- sqlserver-web

Type: String

Required: Yes

**EngineVersion**

The version number of the database engine to use.

For a list of valid engine versions, use the DescribeDBEngineVersions operation.

The following are the database engines and links to information about the major and minor versions that are available with Amazon RDS. Not every database engine is available for every AWS Region.

**Amazon Aurora**

Not applicable. The version number of the database engine to be used by the DB instance is managed by the DB cluster.

**Amazon RDS Custom for Oracle**

A custom engine version (CEV) that you have previously created. This setting is required for RDS Custom for Oracle. The CEV name has the following format: 19.<customized_string>. An example identifier is 19.my_cev1. For more information, see Creating an RDS Custom for Oracle DB instance in the Amazon RDS User Guide.

**Amazon RDS Custom for SQL Server**

See RDS Custom for SQL Server general requirements in the Amazon RDS User Guide.
MariaDB
For information, see MariaDB on Amazon RDS Versions in the Amazon RDS User Guide.

Microsoft SQL Server
For information, see Microsoft SQL Server Versions on Amazon RDS in the Amazon RDS User Guide.

MySQL
For information, see MySQL on Amazon RDS Versions in the Amazon RDS User Guide.

Oracle
For information, see Oracle Database Engine Release Notes in the Amazon RDS User Guide.

PostgreSQL
For information, see Amazon RDS for PostgreSQL versions and extensions in the Amazon RDS User Guide.

Type: String
Required: No

Iops
The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for the DB instance. For information about valid IOPS values, see Amazon RDS DB instance storage in the Amazon RDS User Guide.

Constraints: For MariaDB, MySQL, Oracle, and PostgreSQL DB instances, must be a multiple between .5 and 50 of the storage amount for the DB instance. For SQL Server DB instances, must be a multiple between 1 and 50 of the storage amount for the DB instance.

Amazon Aurora
Not applicable. Storage is managed by the DB cluster.

Type: Integer
Required: No

KmsKeyId
The AWS KMS key identifier for an encrypted DB instance.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key. To use a KMS key in a different AWS account, specify the key ARN or alias ARN.

Amazon Aurora
Not applicable. The AWS KMS key identifier is managed by the DB cluster. For more information, see CreateDBCluster.

If StorageEncrypted is enabled, and you do not specify a value for the KmsKeyId parameter, then Amazon RDS uses your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.

Amazon RDS Custom
A KMS key is required for RDS Custom instances. For most RDS engines, if you leave this parameter empty while enabling StorageEncrypted, the engine uses the default KMS key. However, RDS Custom doesn't use the default key when this parameter is empty. You must explicitly specify a key.
Request Parameters

**LicenseModel**

License model information for this DB instance.

Valid values: `license-included` | `bring-your-own-license` | `general-public-license`

This setting doesn't apply to RDS Custom.

**Amazon Aurora**

Not applicable.

**Type:** String  
**Required:** No

**MasterUsername**

The name for the master user.

**Amazon Aurora**

Not applicable. The name for the master user is managed by the DB cluster.

**Amazon RDS**

Constraints:
- Required.
- Must be 1 to 16 letters, numbers, or underscores.
- First character must be a letter.
- Can't be a reserved word for the chosen database engine.

**Type:** String  
**Required:** No

**MasterUserPassword**

The password for the master user. The password can include any printable ASCII character except "/", "\", or "@".

**Amazon Aurora**

Not applicable. The password for the master user is managed by the DB cluster.

**MariaDB**

Constraints: Must contain from 8 to 41 characters.

**Microsoft SQL Server**

Constraints: Must contain from 8 to 128 characters.

**MySQL**

Constraints: Must contain from 8 to 41 characters.

**Oracle**
Constraints: Must contain from 8 to 30 characters.

**PostgreSQL**

Constraints: Must contain from 8 to 128 characters.

Type: String

Required: No

**MaxAllocatedStorage**

The upper limit in gibibytes (GiB) to which Amazon RDS can automatically scale the storage of the DB instance.

For more information about this setting, including limitations that apply to it, see Managing capacity automatically with Amazon RDS storage autoscaling in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

**Amazon Aurora**

Not applicable. Storage is managed by the DB cluster.

Type: Integer

Required: No

**MonitoringInterval**

The interval, in seconds, between points when Enhanced Monitoring metrics are collected for the DB instance. To disable collection of Enhanced Monitoring metrics, specify 0. The default is 0.

If MonitoringRoleArn is specified, then you must set MonitoringInterval to a value other than 0.

This setting doesn't apply to RDS Custom.

Valid Values: 0, 1, 5, 10, 15, 30, 60

Type: Integer

Required: No

**MonitoringRoleArn**

The ARN for the IAM role that permits RDS to send enhanced monitoring metrics to Amazon CloudWatch Logs. For example, arn:aws:iam:123456789012:role/emaccess. For information on creating a monitoring role, see Setting Up and Enabling Enhanced Monitoring in the Amazon RDS User Guide.

If MonitoringInterval is set to a value other than 0, then you must supply a MonitoringRoleArn value.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**MultiAZ**

A value that indicates whether the DB instance is a Multi-AZ deployment. You can't set the AvailabilityZone parameter if the DB instance is a Multi-AZ deployment.
This setting doesn't apply to RDS Custom.

**Amazon Aurora**

Not applicable. DB instance Availability Zones (AZs) are managed by the DB cluster.

Type: Boolean

Required: No

**NcharCharacterSetName**

The name of the NCHAR character set for the Oracle DB instance.

This parameter doesn't apply to RDS Custom.

Type: String

Required: No

**NetworkType**

The network type of the DB instance.

Valid values:

- IPV4
- DUAL

The network type is determined by the DBSubnetGroup specified for the DB instance. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon RDS User Guide.

Type: String

Required: No

**OptionGroupName**

A value that indicates that the DB instance should be associated with the specified option group.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, can't be removed from an option group. Also, that option group can't be removed from a DB instance after it is associated with a DB instance.

This setting doesn't apply to RDS Custom.

**Amazon Aurora**

Not applicable.

Type: String

Required: No

**PerformanceInsightsKMSKeyId**

The AWS KMS key identifier for encryption of Performance Insights data.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

If you do not specify a value for PerformanceInsightsKMSKeyId, then Amazon RDS uses your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.
This setting doesn't apply to RDS Custom.

Type: String
Required: No

**PerformanceInsightsRetentionPeriod**

The number of days to retain Performance Insights data. The default is 7 days. The following values are valid:

- 7
- \( \text{month} \times 31 \), where \( \text{month} \) is a number of months from 1-23
- 731

For example, the following values are valid:

- 93 (3 months * 31)
- 341 (11 months * 31)
- 589 (19 months * 31)
- 731

If you specify a retention period such as 94, which isn't a valid value, RDS issues an error.

This setting doesn't apply to RDS Custom.

Type: Integer
Required: No

**Port**

The port number on which the database accepts connections.

**MySQL**

Default: 3306

Valid values: 1150-65535

Type: Integer

**MariaDB**

Default: 3306

Valid values: 1150-65535

Type: Integer

**PostgreSQL**

Default: 5432

Valid values: 1150-65535

Type: Integer

**Oracle**

Default: 1521

Valid values: 1150-65535
**SQL Server**

Default: 1433

Valid values: 1150–65535 except 1234, 1434, 3260, 3343, 3389, 47001, and 49152–49156.

**Amazon Aurora**

Default: 3306

Valid values: 1150–65535

Type: Integer

Required: No

**PreferredBackupWindow**

The daily time range during which automated backups are created if automated backups are enabled, using the `BackupRetentionPeriod` parameter. The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region. For more information, see [Backup window](#) in the Amazon RDS User Guide.

**Amazon Aurora**

Not applicable. The daily time range for creating automated backups is managed by the DB cluster.

Constraints:
- Must be in the format `hh24:mi-hh24:mi`.
- Must be in Universal Coordinated Time (UTC).
- Must not conflict with the preferred maintenance window.
- Must be at least 30 minutes.

Type: String

Required: No

**PreferredMaintenanceWindow**

The time range each week during which system maintenance can occur, in Universal Coordinated Time (UTC). For more information, see [Amazon RDS Maintenance Window](#).


The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region, occurring on a random day of the week.

Valid Days: Mon, Tue, Wed, Thu, Fri, Sat, Sun.

Constraints: Minimum 30-minute window.

Type: String

Required: No

**ProcessorFeatures.ProcessorFeature.N**

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance.
This setting doesn't apply to RDS Custom.

**Amazon Aurora**

Not applicable.

Type: Array of ProcessorFeature (p. 709) objects

Required: No

**PromotionTier**

A value that specifies the order in which an Aurora Replica is promoted to the primary instance after a failure of the existing primary instance. For more information, see Fault Tolerance for an Aurora DB Cluster in the Amazon Aurora User Guide.

This setting doesn't apply to RDS Custom.

Default: 1

Valid Values: 0 - 15

Type: Integer

Required: No

**PubliclyAccessible**

A value that indicates whether the DB instance is publicly accessible.

When the DB instance is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB instance's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB instance's VPC. Access to the DB instance is ultimately controlled by the security group it uses. That public access is not permitted if the security group assigned to the DB instance doesn't permit it.

When the DB instance isn't publicly accessible, it is an internal DB instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether DBSubnetGroupName is specified.

If DBSubnetGroupName isn't specified, and PubliclyAccessible isn't specified, the following applies:
- If the default VPC in the target Region doesn't have an internet gateway attached to it, the DB instance is private.
- If the default VPC in the target Region has an internet gateway attached to it, the DB instance is public.

If DBSubnetGroupName is specified, and PubliclyAccessible isn't specified, the following applies:
- If the subnets are part of a VPC that doesn’t have an internet gateway attached to it, the DB instance is private.
- If the subnets are part of a VPC that has an internet gateway attached to it, the DB instance is public.

Type: Boolean

Required: No

**StorageEncrypted**

A value that indicates whether the DB instance is encrypted. By default, it isn't encrypted.
For RDS Custom instances, either set this parameter to `true` or leave it unset. If you set this parameter to `false`, RDS reports an error.

**Amazon Aurora**

Not applicable. The encryption for DB instances is managed by the DB cluster.

Type: Boolean

Required: No

**StorageThroughput**

Specifies the storage throughput value for the DB instance.

This setting doesn't apply to RDS Custom or Amazon Aurora.

Type: Integer

Required: No

**StorageType**

Specifies the storage type to be associated with the DB instance.

Valid values: `gp2` | `gp3` | `io1` | `standard`

If you specify `io1` or `gp3`, you must also include a value for the `Iops` parameter.

Default: `io1` if the `Iops` parameter is specified, otherwise `gp2`

**Amazon Aurora**

Not applicable. Storage is managed by the DB cluster.

Type: String

Required: No

**Tags.Tag.N**

Tags to assign to the DB instance.

Type: Array of Tag (p. 728) objects

Required: No

**TdeCredentialArn**

The ARN from the key store with which to associate the instance for TDE encryption.

This setting doesn't apply to RDS Custom.

**Amazon Aurora**

Not applicable.

Type: String

Required: No

**TdeCredentialPassword**

The password for the given ARN from the key store in order to access the device.

This setting doesn't apply to RDS Custom.
Response Elements

The following element is returned by the service.

**DBInstance**

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: **DBInstance** (p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**AuthorizationNotFound**

The specified CIDR IP range or Amazon EC2 security group might not be authorized for the specified DB security group.

Or, RDS might not be authorized to perform necessary actions using IAM on your behalf.

HTTP Status Code: 404

**BackupPolicyNotFoundFault**

This error has been deprecated.
HTTP Status Code: 404
**DBClusterNotFoundException**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404
**DBInstanceAlreadyExists**

The user already has a DB instance with the given identifier.

HTTP Status Code: 400
**DBParameterGroupNotFoundException**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404
**DBSecurityGroupNotFoundException**

DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404
**DBSubnetGroupDoesNotCoverEnoughAZs**

Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.

HTTP Status Code: 400
**DBSubnetGroupNotFoundException**

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404
**DomainNotFoundException**

Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404
**InstanceQuotaExceeded**

The request would result in the user exceeding the allowed number of DB instances.

HTTP Status Code: 400
**InsufficientDBInstanceCapacity**

The specified DB instance class isn't available in the specified Availability Zone.

HTTP Status Code: 400
**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400
**InvalidSubnet**

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400
InvalidVPCNetworkStateFault
The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.
HTTP Status Code: 400

KMSKeyNotAccessibleFault
An error occurred accessing an AWS KMS key.
HTTP Status Code: 400

NetworkTypeNotSupported
The network type is invalid for the DB instance. Valid network type values are IPV4 and DUAL.
HTTP Status Code: 400

OptionGroupNotFoundFault
The specified option group could not be found.
HTTP Status Code: 404

ProvisionedIopsNotAvailableInAZFault
Provisioned IOPS not available in the specified Availability Zone.
HTTP Status Code: 400

StorageQuotaExceeded
The request would result in the user exceeding the allowed amount of storage available across all DB instances.
HTTP Status Code: 400

StorageTypeNotSupported
Storage of the StorageType specified can't be associated with the DB instance.
HTTP Status Code: 400

Examples

Example
This example illustrates one usage of CreateDBInstance.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=CreateDBInstance
&AllocatedStorage=15
&DBInstanceClass=db.m5.large
&DBInstanceIdentifier=myawsuser-dbi01
&Engine=MySQL
&MasterUserPassword=<password>
&MasterUsername=myawsuser
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE6SARGYLE/20140424/us-east-1/rds/aws4_request
&X-Amz-Date=20140424T194844Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=bee4aabc750bf7dad0cd9e22b952bd6089d91e2a16592c2293e532eeaab8bc77

Sample Response

```xml
<CreateDBInstanceResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <CreateDBInstanceResult>
    <DBInstance>
      <BackupRetentionPeriod>7</BackupRetentionPeriod>
      <DBInstanceStatus>creating</DBInstanceStatus>
      <MultiAZ>false</MultiAZ>
      <VpcSecurityGroups/>
      <DBInstanceIdentifier>myawsuser-dbi01</DBInstanceIdentifier>
      <PreferredBackupWindow>03:50-04:20</PreferredBackupWindow>
      <PreferredMaintenanceWindow>wed:06:38-wed:07:08</PreferredMaintenanceWindow>
      <Engine>mysql</Engine>
      <PendingModifiedValues>
        <MasterUserPassword>****</MasterUserPassword>
      </PendingModifiedValues>
      <LicenseModel>general-public-license</LicenseModel>
      <EngineVersion>5.6.13</EngineVersion>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.6</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
      <OptionGroupMemberships>
        <OptionGroupMembership>
          <OptionGroupName>default:mysql-5-6</OptionGroupName>
          <Status>in-sync</Status>
        </OptionGroupMembership>
      </OptionGroupMemberships>
      <DBSecurityGroups>
        <DBSecurityGroup>
          <Status>active</Status>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </DBSecurityGroups>
      <PubliclyAccessible>true</PubliclyAccessible>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
      <AllocatedStorage>15</AllocatedStorage>
      <DBInstanceClass>db.m5.large</DBInstanceClass>
      <MasterUsername>myawsuser</MasterUsername>
    </DBInstance>
  </CreateDBInstanceResult>
  <ResponseMetadata>
    <RequestId>523e3218-afc7-11c3-90f5-f90431260ab4</RequestId>
  </ResponseMetadata>
</CreateDBInstanceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
CreateDBInstanceReadReplica

Creates a new DB instance that acts as a read replica for an existing source DB instance. You can create a read replica for a DB instance running MySQL, MariaDB, Oracle, PostgreSQL, or SQL Server. For more information, see Working with Read Replicas in the Amazon RDS User Guide.

Amazon Aurora doesn't support this operation. Call the CreateDBInstance operation to create a DB instance for an Aurora DB cluster.

All read replica DB instances are created with backups disabled. All other DB instance attributes (including DB security groups and DB parameter groups) are inherited from the source DB instance, except as specified.

**Important**
Your source DB instance must have backup retention enabled.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**AutoMinorVersionUpgrade**

A value that indicates whether minor engine upgrades are applied automatically to the read replica during the maintenance window.

This setting doesn't apply to RDS Custom.

Default: Inherits from the source DB instance

Type: Boolean

Required: No

**AvailabilityZone**

The Availability Zone (AZ) where the read replica will be created.

Default: A random, system-chosen Availability Zone in the endpoint's AWS Region.

Example: us-east-1d

Type: String

Required: No

**CopyTagsToSnapshot**

A value that indicates whether to copy all tags from the read replica to snapshots of the read replica. By default, tags are not copied.

Type: Boolean

Required: No

**CustomIamInstanceProfile**

The instance profile associated with the underlying Amazon EC2 instance of an RDS Custom DB instance. The instance profile must meet the following requirements:

- The profile must exist in your account.
- The profile must have an IAM role that Amazon EC2 has permissions to assume.
• The instance profile name and the associated IAM role name must start with the prefix AWSRDSCustom.

For the list of permissions required for the IAM role, see Configure IAM and your VPC in the Amazon RDS User Guide.

This setting is required for RDS Custom.

Type: String
Required: No

DBInstanceClass

The compute and memory capacity of the read replica, for example db.m4.large. Not all DB instance classes are available in all AWS Regions, or for all database engines. For the full list of DB instance classes, and availability for your engine, see DB Instance Class in the Amazon RDS User Guide.

Default: Inherits from the source DB instance.

Type: String
Required: No

DBInstanceIdentifier

The DB instance identifier of the read replica. This identifier is the unique key that identifies a DB instance. This parameter is stored as a lowercase string.

Type: String
Required: Yes

DBParameterGroupName

The name of the DB parameter group to associate with this DB instance.

If you do not specify a value for DBParameterGroupName, then Amazon RDS uses the DBParameterGroup of source DB instance for a same Region read replica, or the default DBParameterGroup for the specified DB engine for a cross-Region read replica.

Specifying a parameter group for this operation is only supported for MySQL and Oracle DB instances. It isn't supported for RDS Custom.

Constraints:
• Must be 1 to 255 letters, numbers, or hyphens.
• First character must be a letter
• Can't end with a hyphen or contain two consecutive hyphens

Type: String
Required: No

DBSubnetGroupName

Specifies a DB subnet group for the DB instance. The new DB instance is created in the VPC associated with the DB subnet group. If no DB subnet group is specified, then the new DB instance isn't created in a VPC.

Constraints:
• Can only be specified if the source DB instance identifier specifies a DB instance in another AWS Region.
Request Parameters

- If supplied, must match the name of an existing DBSubnetGroup.
- The specified DB subnet group must be in the same AWS Region in which the operation is running.
- All read replicas in one AWS Region that are created from the same source DB instance must
  either:
  - Specify DB subnet groups from the same VPC. All these read replicas are created in the same VPC.
  - Not specify a DB subnet group. All these read replicas are created outside of any VPC.

  Example: mydbsubnetgroup

  Type: String
  Required: No

**DeletionProtection**

A value that indicates whether the DB instance has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled. For more information, see Deleting a DB Instance.

  Type: Boolean
  Required: No

**Domain**

The Active Directory directory ID to create the DB instance in. Currently, only MySQL, Microsoft SQL Server, Oracle, and PostgreSQL DB instances can be created in an Active Directory Domain.

For more information, see Kerberos Authentication in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

  Type: String
  Required: No

**DomainIAMRoleName**

Specify the name of the IAM role to be used when making API calls to the Directory Service.

This setting doesn't apply to RDS Custom.

  Type: String
  Required: No

**EnableCloudwatchLogsExports.member.N**

The list of logs that the new DB instance is to export to CloudWatch Logs. The values in the list depend on the DB engine being used. For more information, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

  Type: Array of strings
  Required: No

**EnableIAMDatabaseAuthentication**

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.
For more information about IAM database authentication, see IAM Database Authentication for MySQL and PostgreSQL in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Type: Boolean

Required: No

**EnablePerformanceInsights**

A value that indicates whether to enable Performance Insights for the read replica.

For more information, see Using Amazon Performance Insights in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Type: Boolean

Required: No

**Iops**

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for the DB instance.

Type: Integer

Required: No

**KmsKeyId**

The AWS KMS key identifier for an encrypted read replica.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

If you create an encrypted read replica in the same AWS Region as the source DB instance, then do not specify a value for this parameter. A read replica in the same AWS Region is always encrypted with the same KMS key as the source DB instance.

If you create an encrypted read replica in a different AWS Region, then you must specify a KMS key identifier for the destination AWS Region. KMS keys are specific to the AWS Region that they are created in, and you can't use KMS keys from one AWS Region in another AWS Region.

You can't create an encrypted read replica from an unencrypted DB instance.

This setting doesn't apply to RDS Custom, which uses the same KMS key as the primary replica.

Type: String

Required: No

**MaxAllocatedStorage**

The upper limit in gibibytes (GiB) to which Amazon RDS can automatically scale the storage of the DB instance.

For more information about this setting, including limitations that apply to it, see Managing capacity automatically with Amazon RDS storage autoscaling in the Amazon RDS User Guide.

Type: Integer

Required: No
**MonitoringInterval**

The interval, in seconds, between points when Enhanced Monitoring metrics are collected for the read replica. To disable collecting Enhanced Monitoring metrics, specify 0. The default is 0.

If MonitoringRoleArn is specified, then you must also set MonitoringInterval to a value other than 0.

This setting doesn't apply to RDS Custom.

Valid Values: 0, 1, 5, 10, 15, 30, 60

Type: Integer

Required: No

**MonitoringRoleArn**

The ARN for the IAM role that permits RDS to send enhanced monitoring metrics to Amazon CloudWatch Logs. For example, arn:aws:iam:123456789012:role/emaccess. For information on creating a monitoring role, go to To create an IAM role for Amazon RDS Enhanced Monitoring in the Amazon RDS User Guide.

If MonitoringInterval is set to a value other than 0, then you must supply a MonitoringRoleArn value.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**MultiAZ**

A value that indicates whether the read replica is in a Multi-AZ deployment.

You can create a read replica as a Multi-AZ DB instance. RDS creates a standby of your replica in another Availability Zone for failover support for the replica. Creating your read replica as a Multi-AZ DB instance is independent of whether the source database is a Multi-AZ DB instance.

This setting doesn't apply to RDS Custom.

Type: Boolean

Required: No

**NetworkType**

The network type of the DB instance.

Valid values:

- IPV4
- DUAL

The network type is determined by the DBSubnetGroup specified for read replica. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon RDS User Guide.

Type: String

Required: No
OptionGroupName

The option group the DB instance is associated with. If omitted, the option group associated with the source instance is used.

Note
For SQL Server, you must use the option group associated with the source instance.

This setting doesn't apply to RDS Custom.

Type: String
Required: No

PerformanceInsightsKMSKeyId

The AWS KMS key identifier for encryption of Performance Insights data.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

If you do not specify a value for PerformanceInsightsKMSKeyId, then Amazon RDS uses your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.

This setting doesn't apply to RDS Custom.

Type: String
Required: No

PerformanceInsightsRetentionPeriod

The number of days to retain Performance Insights data. The default is 7 days. The following values are valid:

- 7
- $month \times 31$, where $month$ is a number of months from 1-23
- 731

For example, the following values are valid:

- 93 (3 months * 31)
- 341 (11 months * 31)
- 589 (19 months * 31)
- 731

If you specify a retention period such as 94, which isn't a valid value, RDS issues an error.

This setting doesn't apply to RDS Custom.

Type: Integer
Required: No

Port

The port number that the DB instance uses for connections.

Default: Inherits from the source DB instance

Valid Values: 1150-65535

Type: Integer
Required: No
PreSignedUrl

When you are creating a read replica from one AWS GovCloud (US) Region to another or from one China AWS Region to another, the URL that contains a Signature Version 4 signed request for the CreateDBInstanceReadReplica API operation in the source AWS Region that contains the source DB instance.

This setting applies only to AWS GovCloud (US) Regions and China AWS Regions. It's ignored in other AWS Regions.

You must specify this parameter when you create an encrypted read replica from another AWS Region by using the Amazon RDS API. Don't specify PreSignedUrl when you are creating an encrypted read replica in the same AWS Region.

The presigned URL must be a valid request for the CreateDBInstanceReadReplica API operation that can run in the source AWS Region that contains the encrypted source DB instance. The presigned URL request must contain the following parameter values:

- **DestinationRegion** - The AWS Region that the encrypted read replica is created in. This AWS Region is the same one where the CreateDBInstanceReadReplica operation is called that contains this presigned URL.
  
  For example, if you create an encrypted DB instance in the us-west-1 AWS Region, from a source DB instance in the us-east-2 AWS Region, then you call the CreateDBInstanceReadReplica operation in the us-east-1 AWS Region and provide a presigned URL that contains a call to the CreateDBInstanceReadReplica operation in the us-west-2 AWS Region. For this example, the DestinationRegion in the presigned URL must be set to the us-east-1 AWS Region.

- **KmsKeyId** - The AWS KMS key identifier for the key to use to encrypt the read replica in the destination AWS Region. This is the same identifier for both the CreateDBInstanceReadReplica operation that is called in the destination AWS Region, and the operation contained in the presigned URL.

- **SourceDBInstanceIdentifier** - The DB instance identifier for the encrypted DB instance to be replicated. This identifier must be in the Amazon Resource Name (ARN) format for the source AWS Region. For example, if you are creating an encrypted read replica from a DB instance in the us-west-2 AWS Region, then your SourceDBInstanceIdentifier looks like the following example: arn:aws:rds:us-west-2:123456789012:instance:mysql-instance1-20161115.

To learn how to generate a Signature Version 4 signed request, see Authenticating Requests: Using Query Parameters (AWS Signature Version 4) and Signature Version 4 Signing Process.

**Note**

If you are using an AWS SDK tool or the AWS CLI, you can specify SourceRegion (or --source-region for the AWS CLI) instead of specifying PreSignedUrl manually. Specifying SourceRegion autogenerates a presigned URL that is a valid request for the operation that can run in the source AWS Region. SourceRegion isn't supported for SQL Server, because Amazon RDS for SQL Server doesn't support cross-Region read replicas.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**ProcessorFeatures.ProcessorFeature.N**

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance.

This setting doesn't apply to RDS Custom.
Type: Array of ProcessorFeature (p. 709) objects

Required: No

PubliclyAccessible

A value that indicates whether the DB instance is publicly accessible.

When the DB cluster is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB cluster's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB cluster's VPC. Access to the DB cluster is ultimately controlled by the security group it uses. That public access isn't permitted if the security group assigned to the DB cluster doesn't permit it.

When the DB instance isn't publicly accessible, it is an internal DB instance with a DNS name that resolves to a private IP address.

For more information, see CreateDBInstance (p. 85).

Type: Boolean

Required: No

ReplicaMode

The open mode of the replica database: mounted or read-only.

**Note**

This parameter is only supported for Oracle DB instances.

Mounted DB replicas are included in Oracle Database Enterprise Edition. The main use case for mounted replicas is cross-Region disaster recovery. The primary database doesn't use Active Data Guard to transmit information to the mounted replica. Because it doesn't accept user connections, a mounted replica can't serve a read-only workload.

You can create a combination of mounted and read-only DB replicas for the same primary DB instance. For more information, see Working with Oracle Read Replicas for Amazon RDS in the Amazon RDS User Guide.

For RDS Custom, you must specify this parameter and set it to mounted. The value won't be set by default. After replica creation, you can manage the open mode manually.

Type: String

Valid Values: open-read-only | mounted

Required: No

SourceDBInstanceIdentifier

The identifier of the DB instance that will act as the source for the read replica. Each DB instance can have up to five read replicas.

Constraints:

- Must be the identifier of an existing MySQL, MariaDB, Oracle, PostgreSQL, or SQL Server DB instance.
- Can specify a DB instance that is a MySQL read replica only if the source is running MySQL 5.6 or later.
- For the limitations of Oracle read replicas, see Read Replica Limitations with Oracle in the Amazon RDS User Guide.
- For the limitations of SQL Server read replicas, see Read Replica Limitations with Microsoft SQL Server in the Amazon RDS User Guide.
Request Parameters

- Can specify a PostgreSQL DB instance only if the source is running PostgreSQL 9.3.5 or later (9.4.7 and higher for cross-Region replication).
- The specified DB instance must have automatic backups enabled, that is, its backup retention period must be greater than 0.
- If the source DB instance is in the same AWS Region as the read replica, specify a valid DB instance identifier.
- If the source DB instance is in a different AWS Region from the read replica, specify a valid DB instance ARN. For more information, see Constructing an ARN for Amazon RDS in the Amazon RDS User Guide. This doesn't apply to SQL Server or RDS Custom, which don't support cross-Region replicas.

  Type: String
  
  Required: Yes

**StorageThroughput**

Specifies the storage throughput value for the read replica.

This setting doesn't apply to RDS Custom or Amazon Aurora.

  Type: Integer
  
  Required: No

**StorageType**

Specifies the storage type to be associated with the read replica.

Valid values: gp2 | gp3 | io1 | standard

If you specify io1 or gp3, you must also include a value for the Iops parameter.

Default: io1 if the Iops parameter is specified, otherwise gp2

  Type: String
  
  Required: No

**Tags.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

  Type: Array of Tag (p. 728) objects
  
  Required: No

**UseDefaultProcessorFeatures**

A value that indicates whether the DB instance class of the DB instance uses its default processor features.

This setting doesn't apply to RDS Custom.

  Type: Boolean
  
  Required: No

**VpcSecurityGroupIds.VpcSecurityGroupId.N**

A list of Amazon EC2 VPC security groups to associate with the read replica.

This setting doesn't apply to RDS Custom.
Default: The default EC2 VPC security group for the DB subnet group’s VPC.

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

**DBInstance**

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: $DBInstance$ (p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBInstanceAlreadyExists**

The user already has a DB instance with the given identifier.

HTTP Status Code: 400

**DBInstanceNotFound**

DBInstanceIdentifier doesn’t refer to an existing DB instance.

HTTP Status Code: 404

**DBParameterGroupNotFound**

DBParameterGroupName doesn’t refer to an existing DB parameter group.

HTTP Status Code: 404

**DBSecurityGroupNotFound**

DBSecurityGroupName doesn’t refer to an existing DB security group.

HTTP Status Code: 404

**DBSubnetGroupDoesNotCoverEnoughAZs**

Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.

HTTP Status Code: 400

**DBSubnetGroupNotAllowedFault**

The DBSubnetGroup shouldn’t be specified while creating read replicas that lie in the same region as the source instance.
HTTP Status Code: 400
**DBSubnetGroupNotFoundFault**
DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404
**DomainNotFoundFault**
Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404
**InstanceQuotaExceeded**
The request would result in the user exceeding the allowed number of DB instances.

HTTP Status Code: 400
**InsufficientDBInstanceCapacity**
The specified DB instance class isn't available in the specified Availability Zone.

HTTP Status Code: 400
**InvalidDBInstanceState**
The DB instance isn't in a valid state.

HTTP Status Code: 400
**InvalidDBSubnetGroupFault**
The DBSubnetGroup doesn't belong to the same VPC as that of an existing cross-region read replica of the same source instance.

HTTP Status Code: 400
**InvalidSubnet**
The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400
**InvalidVPCNetworkStateFault**
The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400
**KMSKeyNotAccessibleFault**
An error occurred accessing an AWS KMS key.

HTTP Status Code: 400
**NetworkTypeNotSupported**
The network type is invalid for the DB instance. Valid network type values are IPV4 and DUAL.

HTTP Status Code: 400
**OptionGroupNotFoundFault**
The specified option group could not be found.

HTTP Status Code: 404
ProvisionedIopsNotAvailableInAZFault

Provisioned IOPS not available in the specified Availability Zone.

HTTP Status Code: 400

StorageQuotaExceeded

The request would result in the user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

StorageTypeNotSupported

Storage of the StorageType specified can't be associated with the DB instance.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of CreateDBInstanceReadReplica.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=CreateDBInstanceReadReplica
&DBInstanceIdentifier=mysqldb-rr
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SourceDBInstanceIdentifier=mysqldb
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140425/us-east-1/rds/aws4_request
&X-Amz-Date=20140425T170525Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=a5bc7bb9648272e9967c76fc582b308d3ee37d6c4f7a4eb62c2d885ec595c373

Sample Response

<CreateDBInstanceReadReplicaResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <CreateDBInstanceReadReplicaResult>
    <DBInstance>
      <BackupRetentionPeriod>0</BackupRetentionPeriod>
      <MultiAZ>false</MultiAZ>
      <DBInstanceStatus>creating</DBInstanceStatus>
      <VpcSecurityGroups/>
      <DBInstanceIdentifier>mysqldb-rr</DBInstanceIdentifier>
      <PreferredBackupWindow>08:14-08:44</PreferredBackupWindow>
      <PreferredMaintenanceWindow>fri:04:50-fri:05:20</PreferredMaintenanceWindow>
      <ReadReplicaDBInstanceIdentifiers/>
      <Engine>mysql</Engine>
      <PendingModifiedValues/>
      <LicenseModel>general-public-license</LicenseModel>
      <EngineVersion>5.6.13</EngineVersion>
    </DBInstance>
  </CreateDBInstanceReadReplicaResult>
</CreateDBInstanceReadReplicaResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBParameterGroup

Creates a new DB parameter group.

A DB parameter group is initially created with the default parameters for the database engine used by the DB instance. To provide custom values for any of the parameters, you must modify the group after creating it using ModifyDBParameterGroup. Once you've created a DB parameter group, you need to associate it with your DB instance using ModifyDBInstance. When you associate a new DB parameter group with a running DB instance, you need to reboot the DB instance without failover for the new DB parameter group and associated settings to take effect.

This command doesn't apply to RDS Custom.

**Important**

After you create a DB parameter group, you should wait at least 5 minutes before creating your first DB instance that uses that DB parameter group as the default parameter group. This allows Amazon RDS to fully complete the create action before the parameter group is used as the default for a new DB instance. This is especially important for parameters that are critical when creating the default database for a DB instance, such as the character set for the default database defined by the `character_set_database` parameter. You can use the Parameter Groups option of the Amazon RDS console or the DescribeDBParameters command to verify that your DB parameter group has been created or modified.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBParameterGroupFamily**

The DB parameter group family name. A DB parameter group can be associated with one and only one DB parameter group family, and can be applied only to a DB instance running a database engine and engine version compatible with that DB parameter group family.

To list all of the available parameter group families for a DB engine, use the following command:

```bash
aws rds describe-db-engine-versions --query "DBEngineVersions[].DBParameterGroupFamily" --engine <engine>
```

For example, to list all of the available parameter group families for the MySQL DB engine, use the following command:

```bash
aws rds describe-db-engine-versions --query "DBEngineVersions[].DBParameterGroupFamily" --engine mysql
```

**Note**

The output contains duplicates.

The following are the valid DB engine values:
- `aurora` (for MySQL 5.6-compatible Aurora)
- `aurora-mysql` (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora)
- `aurora-postgresql`
- `mariadb`
- `mysql`
- `oracle-ee`
- `oracle-ee-cdb`
Response Elements

The following element is returned by the service.

**DBParameterGroup**

Contains the details of an Amazon RDS DB parameter group.

This data type is used as a response element in the DescribeDBParameterGroups action.

Type: **DBParameterGroup** (p. 636) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).
DBParameterGroupAlreadyExists
A DB parameter group with the same name exists.
HTTP Status Code: 400

DBParameterGroupQuotaExceeded
The request would result in the user exceeding the allowed number of DB parameter groups.
HTTP Status Code: 400

Examples

Example
This example illustrates one usage of CreateDBParameterGroup.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=CreateDBParameterGroup
&DBParameterGroupFamily=MySQL5.1
&DBParameterGroupName=mydbparamgroup3
&Description=My%20new%20DB%20Parameter%20Group
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAI4S5RE4M2KYN/20140423/us-east-1/rds/aws4_request
&X-Amz-Date=20140423T201938Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=3a686a93e76cbf6167d30f24db81c42571fb324a27c70e0a5d462d0a18370a98

Sample Response

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<CreateDBParameterGroupResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <CreateDBParameterGroupResult>
    <DBParameterGroup>
      <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
      <Description>My new DB Parameter Group</Description>
      <DBParameterGroupName>mydbparamgroup3</DBParameterGroupName>
    </DBParameterGroup>
  </CreateDBParameterGroupResult>
  <ResponseMetadata>
    <RequestId>7805c127-af22-11c3-96ac-6999cc5f7e72</RequestId>
  </ResponseMetadata>
</CreateDBParameterGroupResponse>

See Also
For more information about using this API in one of the language-specific AWS SDKs, see the following:
- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBProxy

Creates a new DB proxy.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**Auth.member.N**

The authorization mechanism that the proxy uses.

Type: Array of UserAuthConfig (p. 733) objects

Required: Yes

**DBProxyName**

The identifier for the proxy. This name must be unique for all proxies owned by your AWS account in the specified AWS Region. An identifier must begin with a letter and must contain only ASCII letters, digits, and hyphens; it can't end with a hyphen or contain two consecutive hyphens.

Type: String

Required: Yes

**DebugLogging**

Whether the proxy includes detailed information about SQL statements in its logs. This information helps you to debug issues involving SQL behavior or the performance and scalability of the proxy connections. The debug information includes the text of SQL statements that you submit through the proxy. Thus, only enable this setting when needed for debugging, and only when you have security measures in place to safeguard any sensitive information that appears in the logs.

Type: Boolean

Required: No

**EngineFamily**

The kinds of databases that the proxy can connect to. This value determines which database network protocol the proxy recognizes when it interprets network traffic to and from the database. For Aurora MySQL, RDS for MariaDB, and RDS for MySQL databases, specify MYSQL. For Aurora PostgreSQL and RDS for PostgreSQL databases, specify POSTGRESQL. For RDS for Microsoft SQL Server, specify SQLSERVER.

Type: String

Valid Values: MYSQL | POSTGRESQL | SQLSERVER

Required: Yes

**IdleClientTimeout**

The number of seconds that a connection to the proxy can be inactive before the proxy disconnects it. You can set this value higher or lower than the connection timeout limit for the associated database.

Type: Integer

Required: No
RequireTLS
A Boolean parameter that specifies whether Transport Layer Security (TLS) encryption is required for connections to the proxy. By enabling this setting, you can enforce encrypted TLS connections to the proxy.
Type: Boolean
Required: No

RoleArn
The Amazon Resource Name (ARN) of the IAM role that the proxy uses to access secrets in AWS Secrets Manager.
Type: String
Required: Yes

Tags.Tag.N
An optional set of key-value pairs to associate arbitrary data of your choosing with the proxy.
Type: Array of Tag (p. 728) objects
Required: No

VpcSecurityGroupIds.member.N
One or more VPC security group IDs to associate with the new proxy.
Type: Array of strings
Required: No

VpcSubnetIds.member.N
One or more VPC subnet IDs to associate with the new proxy.
Type: Array of strings
Required: Yes

Response Elements
The following element is returned by the service.

DBProxy
The DBProxy structure corresponding to the new proxy.
Type: DBProxy (p. 638) object

Errors
For information about the errors that are common to all actions, see Common Errors (p. 743).

DBProxyAlreadyExistsFault
The specified proxy name must be unique for all proxies owned by your AWS account in the specified AWS Region.
HTTP Status Code: 400

DBProxyQuotaExceededFault

Your AWS account already has the maximum number of proxies in the specified AWS Region.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBProxyEndpoint

Create a DBProxyEndpoint. Only applies to proxies that are associated with Aurora DB clusters. You can use DB proxy endpoints to specify read/write or read-only access to the DB cluster. You can also use DB proxy endpoints to access a DB proxy through a different VPC than the proxy's default VPC.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBProxyEndpointName

The name of the DB proxy endpoint to create.

Type: String


Pattern: [a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*

Required: Yes

DBProxyName

The name of the DB proxy associated with the DB proxy endpoint that you create.

Type: String


Pattern: [a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*

Required: Yes

Tags.Tag.N

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

TargetRole

A value that indicates whether the DB proxy endpoint can be used for read/write or read-only operations. The default is READ_WRITE. The only role that proxies for RDS for Microsoft SQL Server support is READ_WRITE.

Type: String

Valid Values: READ_WRITE | READ_ONLY

Required: No

VpcSecurityGroupIds.member.N

The VPC security group IDs for the DB proxy endpoint that you create. You can specify a different set of security group IDs than for the original DB proxy. The default is the default security group for the VPC.
Response Elements

The following element is returned by the service.

**DBProxyEndpoint**

The `DBProxyEndpoint` object that is created by the API operation. The DB proxy endpoint that you create might provide capabilities such as read/write or read-only operations, or using a different VPC than the proxy’s default VPC.

Type: `DBProxyEndpoint` (p. 641) object

Errors

For information about the errors that are common to all actions, see [Common Errors](#common-errors).

**DBProxyEndpointAlreadyExistsFault**

The specified DB proxy endpoint name must be unique for all DB proxy endpoints owned by your AWS account in the specified AWS Region.

HTTP Status Code: 400

**DBProxyEndpointQuotaExceededFault**

The DB proxy already has the maximum number of endpoints.

HTTP Status Code: 400

**DBProxyNotFoundFault**

The specified proxy name doesn’t correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**InvalidDBProxyStateFault**

The requested operation can’t be performed while the proxy is in this state.

HTTP Status Code: 400

**InvalidSubnet**

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBSecurityGroup

Creates a new DB security group. DB security groups control access to a DB instance.

A DB security group controls access to EC2-Classic DB instances that are not in a VPC.

Note
EC2-Classic was retired on August 15, 2022. If you haven't migrated from EC2-Classic to a VPC, we recommend that you migrate as soon as possible. For more information, see Migrate from EC2-Classic to a VPC in the Amazon EC2 User Guide, the blog EC2-Classic Networking is Retiring – Here’s How to Prepare, and Moving a DB instance not in a VPC into a VPC in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBSecurityGroupDescription**

The description for the DB security group.

Type: String

Required: Yes

**DBSecurityGroupName**

The name for the DB security group. This value is stored as a lowercase string.

Constraints:

- Must be 1 to 255 letters, numbers, or hyphens.
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens
- Must not be "Default"

Example: mysecuritygroup

Type: String

Required: Yes

**Tags.N**

Tags to assign to the DB security group.

Type: Array of Tag (p. 728) objects

Required: No

Response Elements

The following element is returned by the service.

**DBSecurityGroup**

Contains the details for an Amazon RDS DB security group.
This data type is used as a response element in the DescribeDBSecurityGroups action.

Type: `DBSecurityGroup` (p. 647) object

## Errors

For information about the errors that are common to all actions, see [Common Errors](p. 743).

### DBSecurityGroupAlreadyExists

A DB security group with the name specified in `DBSecurityGroupName` already exists.

HTTP Status Code: 400

### DBSecurityGroupNotSupported

A DB security group isn't allowed for this action.

HTTP Status Code: 400

### QuotaExceeded.DBSecurityGroup

The request would result in the user exceeding the allowed number of DB security groups.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of CreateDBSecurityGroup.

#### Sample Request

```java
https://rds.us-east-1.amazonaws.com/
?Action=CreateDBSecurityGroup
&DBSecurityGroupDescription=My%20new%20DB%20Security%20Group
&DBSecurityGroupName=mydbsecuritygroup00
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140424/us-east-1/rds/aws4_request
&X-Amz-Date=20140424T190716Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=c2f180a3f0f5d73b47f9c229937a78f3569bf14392db8093d9b2e6785609ab45
```

#### Sample Response

```
<CreateDBSecurityGroupResult>
<DBSecurityGroup>
<EC2SecurityGroups/>
<DBSecurityGroupDescription>My new DB Security Group</DBSecurityGroupDescription>
<IPRanges/>
<OwnerId>803#########</OwnerId>
</DBSecurityGroup>
</CreateDBSecurityGroupResult>
</CreateDBSecurityGroupResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBSnapshot

Creates a snapshot of a DB instance. The source DB instance must be in the available or storage-optimization state.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceIdentifier**

The identifier of the DB instance that you want to create the snapshot of.

Constraints:

- Must match the identifier of an existing DBInstance.

Type: String

Required: Yes

**DBSnapshotIdentifier**

The identifier for the DB snapshot.

Constraints:

- Can't be null, empty, or blank
- Must contain from 1 to 255 letters, numbers, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

Example: my-snapshot-id

Type: String

Required: Yes

**Tags.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

Response Elements

The following element is returned by the service.

**DBSnapshot**

Contains the details of an Amazon RDS DB snapshot.

This data type is used as a response element in the DescribeDBSnapshots action.

Type: DBSnapshot (p. 650) object
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

**DBSnapshotAlreadyExists**

DBSnapshotIdentifier is already used by an existing snapshot.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

**SnapshotQuotaExceeded**

The request would result in the user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of CreateDBSnapshot.

Sample Request

```
https://rds.us-east-1.amazonaws.com/?Action=CreateDBSnapshot
&DBInstanceIdentifier=mysqldb-02
&DBSnapshotIdentifier=mySQLdb-snap-1
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140423/us-east-1/rds/aws4_request
&X-Amz-Date=20140423T161105Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=e9649af6edcfbab4016f04d72e1b7fc16d8734c37477afcf25b3def625484ed2
```

Sample Response

```
<CreateDBSnapshotResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <CreateDBSnapshotResult>
    <DBSnapshot>
      <Port>3306</Port>
      <OptionGroupName>default:mysql-5-6</OptionGroupName>
      <Engine>mysql</Engine>
      <Status>creating</Status>
    </DBSnapshot>
  </CreateDBSnapshotResult>
</CreateDBSnapshotResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateDBSubnetGroup

Creates a new DB subnet group. DB subnet groups must contain at least one subnet in at least two AZs in the AWS Region.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBSubnetGroupDescription**

The description for the DB subnet group.

Type: String

Required: Yes

**DBSubnetGroupName**

The name for the DB subnet group. This value is stored as a lowercase string.

Constraints:

- Must contain no more than 255 letters, numbers, periods, underscores, spaces, or hyphens.
- Must not be default.
- First character must be a letter.

Example: mydbsubnetgroup

Type: String

Required: Yes

**SubnetIds.SubnetIdentifier.N**

The EC2 Subnet IDs for the DB subnet group.

Type: Array of strings

Required: Yes

**Tags.Tag.N**

Tags to assign to the DB subnet group.

Type: Array of Tag (p. 728) objects

Required: No

Response Elements

The following element is returned by the service.

**DBSubnetGroup**

Contains the details of an Amazon RDS DB subnet group.

This data type is used as a response element in the DescribeDBSubnetGroups action.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBSubnetGroupAlreadyExists

DBSubnetGroupName is already used by an existing DB subnet group.

HTTP Status Code: 400

DBSubnetGroupDoesNotCoverEnoughAZs

Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.

HTTP Status Code: 400

DBSubnetGroupQuotaExceeded

The request would result in the user exceeding the allowed number of DB subnet groups.

HTTP Status Code: 400

DBSubnetQuotaExceededFault

The request would result in the user exceeding the allowed number of subnets in a DB subnet groups.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of CreateDBSubnetGroup.

Sample Request

```plaintext
https://rds.us-east-1.amazonaws.com/
  ?Action=CreateDBSubnetGroup
  &DBSubnetGroupDescription=My%20new%20DB%20Subnet%20Group
  &DBSubnetGroupName=myawsuser-dbsubnetgroup
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-09-01
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20140425/us-east-1/rds/aws4_request
  &X-Amz-Date=20140425T173028Z
```
Sample Response

```xml
<CreateDBSubnetGroupResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <CreateDBSubnetGroupResult>
    <DBSubnetGroup>
      <VpcId>vpc-33dc97ea</VpcId>
      <SubnetGroupStatus>Complete</SubnetGroupStatus>
      <DBSubnetGroupDescription>My new DB subnet group</DBSubnetGroupDescription>
      <DBSubnetGroupName>myawsuser-dbsubnetgroup</DBSubnetGroupName>
      <Subnets>
        <Subnet>
          <SubnetStatus>Active</SubnetStatus>
          <SubnetIdentifier>subnet-e4d398a1</SubnetIdentifier>
          <SubnetAvailabilityZone>
            <Name>us-east-1b</Name>
          </SubnetAvailabilityZone>
        </Subnet>
        <Subnet>
          <SubnetStatus>Active</SubnetStatus>
          <SubnetIdentifier>subnet-c2b66ba</SubnetIdentifier>
          <SubnetAvailabilityZone>
            <Name>us-east-1c</Name>
          </SubnetAvailabilityZone>
        </Subnet>
      </Subnets>
    </DBSubnetGroup>
  </CreateDBSubnetGroupResult>
  <ResponseMetadata>
    <RequestId>3a401b3f-bb9e-11d3-f4c6-37db295f7674</RequestId>
  </ResponseMetadata>
</CreateDBSubnetGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateEventSubscription

Creates an RDS event notification subscription. This operation requires a topic Amazon Resource Name (ARN) created by either the RDS console, the SNS console, or the SNS API. To obtain an ARN with SNS, you must create a topic in Amazon SNS and subscribe to the topic. The ARN is displayed in the SNS console.

You can specify the type of source (SourceType) that you want to be notified of and provide a list of RDS sources (SourceIds) that triggers the events. You can also provide a list of event categories (EventCategories) for events that you want to be notified of. For example, you can specify SourceType = db-instance, SourceIds = mydbinstance1, mydbinstance2 and EventCategories = Availability, Backup.

If you specify both the SourceType and SourceIds, such as SourceType = db-instance and SourceIds = myDBInstance1, you are notified of all the db-instance events for the specified source. If you specify a SourceType but do not specify SourceIds, you receive notice of the events for that source type for all your RDS sources. If you don't specify either the SourceType or the SourceIds, you are notified of events generated from all RDS sources belonging to your customer account.

For more information about subscribing to an event for RDS DB engines, see Subscribing to Amazon RDS event notification in the Amazon RDS User Guide.

For more information about subscribing to an event for Aurora DB engines, see Subscribing to Amazon RDS event notification in the Amazon Aurora User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Enabled

A value that indicates whether to activate the subscription. If the event notification subscription isn't activated, the subscription is created but not active.

Type: Boolean

Required: No

EventCategories.EventCategory.N

A list of event categories for a particular source type (SourceType) that you want to subscribe to. You can see a list of the categories for a given source type in the "Amazon RDS event categories and event messages" section of the Amazon RDS User Guide or the Amazon Aurora User Guide. You can also see this list by using the DescribeEventCategories operation.

Type: Array of strings

Required: No

SnsTopicArn

The Amazon Resource Name (ARN) of the SNS topic created for event notification. The ARN is created by Amazon SNS when you create a topic and subscribe to it.

Type: String

Required: Yes
SourceIds.SourceId.N

The list of identifiers of the event sources for which events are returned. If not specified, then all sources are included in the response. An identifier must begin with a letter and must contain only ASCII letters, digits, and hyphens. It can't end with a hyphen or contain two consecutive hyphens.

Constraints:
- If SourceIds are supplied, SourceType must also be provided.
- If the source type is a DB instance, a DBInstanceIdentifier value must be supplied.
- If the source type is a DB cluster, a DBClusterIdentifier value must be supplied.
- If the source type is a DB parameter group, a DBParameterGroupName value must be supplied.
- If the source type is a DB security group, a DBSecurityGroupName value must be supplied.
- If the source type is a DB snapshot, a DBSnapshotIdentifier value must be supplied.
- If the source type is a DB cluster snapshot, a DBClusterSnapshotIdentifier value must be supplied.
- If the source type is an RDS Proxy, a DBProxyName value must be supplied.

Type: Array of strings

Required: No

SourceType

The type of source that is generating the events. For example, if you want to be notified of events generated by a DB instance, you set this parameter to db-instance. For RDS Proxy events, specify db-proxy. If this value isn't specified, all events are returned.

Valid values: db-instance | db-cluster | db-parameter-group | db-security-group | db-snapshot | db-cluster-snapshot | db-proxy

Type: String

Required: No

SubscriptionName

The name of the subscription.

Constraints: The name must be less than 255 characters.

Type: String

Required: Yes

Tags.Tag.N

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

Response Elements

The following element is returned by the service.

EventSubscription

Contains the results of a successful invocation of the DescribeEventSubscriptions action.
Type: EventSubscription (p. 668) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

EventSubscriptionQuotaExceeded

You have reached the maximum number of event subscriptions.

HTTP Status Code: 400

SNSInvalidTopic

SNS has responded that there is a problem with the SNS topic specified.

HTTP Status Code: 400

SNSNoAuthorization

You do not have permission to publish to the SNS topic ARN.

HTTP Status Code: 400

SNSTopicArnNotFound

The SNS topic ARN does not exist.

HTTP Status Code: 404

SourceNotFound

The requested source could not be found.

HTTP Status Code: 404

SubscriptionAlreadyExist

The supplied subscription name already exists.

HTTP Status Code: 400

SubscriptionCategoryNotFound

The supplied category does not exist.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of CreateEventSubscription.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=CreateEventSubscription
&Enabled=true
&EventCategories.member.1=failure
Sample Response

```xml
  <CreateEventSubscriptionResult>
    <EventSubscription>
      <SourceType>db-security-group</SourceType>
      <Enabled>true</Enabled>
      <CustomerAwsId>803#########</CustomerAwsId>
      <Status>creating</Status>
      <SubscriptionCreationTime>Fri Apr 25 21:43:25 UTC 2014</SubscriptionCreationTime>
      <EventCategoriesList>
        <EventCategory>configuration change</EventCategory>
        <EventCategory>failure</EventCategory>
      </EventCategoriesList>
      <CustSubscriptionId>myawsuser-secgrp</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-east-1:802#########:myawsuser-RDS</SnsTopicArn>
    </EventSubscription>
  </CreateEventSubscriptionResult>
  <ResponseMetadata>
    <RequestId>f15e9dc3-bbb1-11d3-f4c6-f95f7674</RequestId>
  </ResponseMetadata>
</CreateEventSubscriptionResponse>
```

Example

This example illustrates one usage of CreateEventSubscription.

Sample Request

```url
https://rds.us-east-1.amazonaws.com/
?Action=CreateEventSubscription
&Enabled=true
&EventCategories.member.1=creation
&EventCategories.member.2=deletion
&EventCategories.member.3=failover
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SnsTopicArn=arn:aws:sns:us-east-1:802#########:myawsuser-RDS
&SourceType=db-instance
&SubscriptionName=myawsuser-inst
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140429/us-east-1/rds/aws4_request
&X-Amz-Date=20140429T184410Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=1e1879f2f3e39c0713569cc192426bf1cc5c42f9d1acc7726bcd93155fb71
```
Sample Response

```
  <CreateEventSubscriptionResult>
    <EventSubscription>
      <SourceType>db-instance</SourceType>
      <Enabled>true</Enabled>
      <CustomerAwsId>803#########</CustomerAwsId>
      <Status>creating</Status>
      <SubscriptionCreationTime>Tue Apr 29 18:44:10 UTC 2014</SubscriptionCreationTime>
      <EventCategoriesList>
        <EventCategory>creation</EventCategory>
        <EventCategory>deletion</EventCategory>
        <EventCategory>failover</EventCategory>
      </EventCategoriesList>
      <CustSubscriptionId>myawsuser-inst</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-east-1:802#########:myawsuser-RDS</SnsTopicArn>
    </EventSubscription>
  </CreateEventSubscriptionResult>
  <ResponseMetadata>
    <RequestId>30feb307-bebd-11d3-f4c6-37db295f7674</RequestId>
  </ResponseMetadata>
</CreateEventSubscriptionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateGlobalCluster

Creates an Aurora global database spread across multiple AWS Regions. The global database contains a single primary cluster with read-write capability, and a read-only secondary cluster that receives data from the primary cluster through high-speed replication performed by the Aurora storage subsystem.

You can create a global database that is initially empty, and then add a primary cluster and a secondary cluster to it. Or you can specify an existing Aurora cluster during the create operation, and this cluster becomes the primary cluster of the global database.

**Note**

This action applies only to Aurora DB clusters.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DatabaseName**

The name for your database of up to 64 alphanumeric characters. If you do not provide a name, Amazon Aurora will not create a database in the global database cluster you are creating.

Type: String

Required: No

**DeletionProtection**

The deletion protection setting for the new global database. The global database can't be deleted when deletion protection is enabled.

Type: Boolean

Required: No

**Engine**

The name of the database engine to be used for this DB cluster.

Type: String

Required: No

**EngineVersion**

The engine version of the Aurora global database.

Type: String

Required: No

**GlobalClusterIdentifier**

The cluster identifier of the new global database cluster.

Type: String

Required: No

**SourceDBClusterIdentifier**

The Amazon Resource Name (ARN) to use as the primary cluster of the global database. This parameter is optional.
Response Elements

The following element is returned by the service.

GlobalCluster

A data type representing an Aurora global database.

Type: GlobalCluster (p. 675) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterNotFoundFault

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

GlobalClusterAlreadyExistsFault

The GlobalClusterIdentifier already exists. Choose a new global database identifier (unique name) to create a new global database cluster.

HTTP Status Code: 400

GlobalClusterQuotaExceededFault

The number of global database clusters for this account is already at the maximum allowed.

HTTP Status Code: 400

InvalidDBClusterStateFault

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
CreateOptionGroup

Creates a new option group. You can create up to 20 option groups.

This command doesn't apply to RDS Custom.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](p. 741).

**EngineName**

Specifies the name of the engine that this option group should be associated with.

Valid Values:
- mariadb
- mysql
- oracle-ee
- oracle-ee-cdb
- oracle-se2
- oracle-se2-cdb
- postgres
- sqlserver-ee
- sqlserver-se
- sqlserver-ex
- sqlserver-web

Type: String

Required: Yes

**MajorEngineVersion**

Specifies the major version of the engine that this option group should be associated with.

Type: String

Required: Yes

**OptionGroupDescription**

The description of the option group.

Type: String

Required: Yes

**OptionGroupName**

Specifies the name of the option group to be created.

Constraints:
- Must be 1 to 255 letters, numbers, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens
Example: myoptiongroup
Type: String
Required: Yes
Tags.Tag.N
Tags to assign to the option group.
Type: Array of Tag (p. 728) objects
Required: No

Response Elements
The following element is returned by the service.

OptionGroup
Type: OptionGroup (p. 684) object

Errors
For information about the errors that are common to all actions, see Common Errors (p. 743).

OptionGroupAlreadyExistsFault
The option group you are trying to create already exists.
HTTP Status Code: 400

OptionGroupQuotaExceededFault
The quota of 20 option groups was exceeded for this AWS account.
HTTP Status Code: 400

Examples
Example
This example illustrates one usage of CreateOptionGroup.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=CreateOptionGroup
&EngineName=mysql
&MajorEngineVersion=5.6
&OptionGroupName=myawsuser-og00
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140425/us-east-1/rds/aws4_request
&X-Amz-Date=20140425T174519Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=d3a89afa4511d0c4ecab046d6dc760a72bfe6bb15999cce053adeb2617b60384

Sample Response

```xml
  <CreateOptionGroupResult>
    <OptionGroup>
      <AllowsVpcAndNonVpcInstanceMemberships>true</AllowsVpcAndNonVpcInstanceMemberships>
      <MajorEngineVersion>5.6</MajorEngineVersion>
      <OptionGroupName>myawsuser-og00</OptionGroupName>
      <EngineName>mysql</EngineName>
      <OptionGroupDescription>My Option Group</OptionGroupDescription>
      <Options/>
    </OptionGroup>
  </CreateOptionGroupResult>
  <ResponseMetadata>
    <RequestId>4d7f11f2-bbf0-11d3-ae4f-eec568ed6b36</RequestId>
  </ResponseMetadata>
</CreateOptionGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteCustomDBEngineVersion

Deletes a custom engine version. To run this command, make sure you meet the following prerequisites:

- The CEV must not be the default for RDS Custom. If it is, change the default before running this command.
- The CEV must not be associated with an RDS Custom DB instance, RDS Custom instance snapshot, or automated backup of your RDS Custom instance.

Typically, deletion takes a few minutes.

**Note**
The MediaImport service that imports files from Amazon S3 to create CEVs isn't integrated with AWS CloudTrail. If you turn on data logging for Amazon RDS in CloudTrail, calls to the DeleteCustomDbEngineVersion event aren't logged. However, you might see calls from the API gateway that accesses your Amazon S3 bucket. These calls originate from the MediaImport service for the DeleteCustomDbEngineVersion event.

For more information, see Deleting a CEV in the Amazon RDS User Guide.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**Engine**

The database engine. The only supported engine is custom-oracle-ee.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 35.

Pattern: `^[A-Za-z0-9-]{1,35}$`

Required: Yes

**EngineVersion**

The custom engine version (CEV) for your DB instance. This option is required for RDS Custom, but optional for Amazon RDS. The combination of Engine and EngineVersion is unique per customer per AWS Region.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60.

Pattern: `^(11\.|12\.|18|19)(\.[a-zA-Z0-9_.-]{1,50})$`

Required: Yes

**Response Elements**

The following elements are returned by the service.

**CreateTime**

The creation time of the DB engine version.
Response Elements

- **Type**: Timestamp

**DatabaseInstallationFilesS3BucketName**

The name of the Amazon S3 bucket that contains your database installation files.

- **Type**: String

**DatabaseInstallationFilesS3Prefix**

The Amazon S3 directory that contains the database installation files. If not specified, then no prefix is assumed.

- **Type**: String

**DBEngineDescription**

The description of the database engine.

- **Type**: String

**DBEngineVersionArn**

The ARN of the custom engine version.

- **Type**: String

**DBEngineVersionDescription**

The description of the database engine version.

- **Type**: String

**DBParameterGroupFamily**

The name of the DB parameter group family for the database engine.

- **Type**: String

**DefaultCharacterSet**

The default character set for new instances of this engine version, if the `CharacterSetName` parameter of the CreateDBInstance API isn't specified.

- **Type**: CharacterSet (p. 581) object

**Engine**

The name of the database engine.

- **Type**: String

**EngineVersion**

The version number of the database engine.

- **Type**: String

**ExportableLogTypes.member.N**

The types of logs that the database engine has available for export to CloudWatch Logs.

- **Type**: Array of strings

**KMSKeyId**

The AWS KMS key identifier for an encrypted CEV. This parameter is required for RDS Custom, but optional for Amazon RDS.
Type: String

**MajorEngineVersion**

The major engine version of the CEV.

Type: String

**Status**

The status of the DB engine version, either available or deprecated.

Type: String

**SupportedCharacterSets.CharacterSet.N**

A list of the character sets supported by this engine for the CharacterSetName parameter of the CreateDBInstance operation.

Type: Array of [CharacterSet](p. 581) objects

**SupportedEngineModes.member.N**

A list of the supported DB engine modes.

Type: Array of strings

**SupportedFeatureNames.member.N**

A list of features supported by the DB engine.

The supported features vary by DB engine and DB engine version.

To determine the supported features for a specific DB engine and DB engine version using the AWS CLI, use the following command:

`aws rds describe-db-engine-versions --engine <engine_name> --engine-version <engine_version>`

For example, to determine the supported features for RDS for PostgreSQL version 13.3 using the AWS CLI, use the following command:

`aws rds describe-db-engine-versions --engine postgres --engine-version 13.3`

The supported features are listed under SupportedFeatureNames in the output.

Type: Array of strings

**SupportedNcharCharacterSets.CharacterSet.N**

A list of the character sets supported by the Oracle DB engine for the NcharCharacterSetName parameter of the CreateDBInstance operation.

Type: Array of [CharacterSet](p. 581) objects

**SupportedTimezones.Timezone.N**

A list of the time zones supported by this engine for the Timezone parameter of the CreateDBInstance action.

Type: Array of [Timezone](p. 730) objects

**SupportsBabelfish**

A value that indicates whether the engine version supports Babelfish for Aurora PostgreSQL.

Type: Boolean
SupportsGlobalDatabases

A value that indicates whether you can use Aurora global databases with a specific DB engine version.

Type: Boolean

SupportsLogExportsToCloudwatchLogs

A value that indicates whether the engine version supports exporting the log types specified by ExportableLogTypes to CloudWatch Logs.

Type: Boolean

SupportsParallelQuery

A value that indicates whether you can use Aurora parallel query with a specific DB engine version.

Type: Boolean

SupportsReadReplica

Indicates whether the database engine version supports read replicas.

Type: Boolean

TagList.Tag.N

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

ValidUpgradeTarget.UpgradeTarget.N

A list of engine versions that this database engine version can be upgraded to.

Type: Array of UpgradeTarget (p. 731) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

CustomDBEngineVersionNotFoundFault

The specified CEV was not found.

HTTP Status Code: 404

InvalidCustomDBEngineVersionStateFault

You can't delete the CEV.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of DeleteCustomDBEngineVersion.
Sample Request

https://rds.us-east-1.amazonaws.com/
?Engine=custom-oracle-ee
&EngineVersion=19.cev1
&Operation=DeleteCustomDBEngineVersion
&Version=1999-01-01
&AWSAccessKeyId=ABCDEF1GHIJKLMNOPQRSTUV
&SignatureVersion=2
&SignatureMethod=HmacSHA1
&Timestamp=2021-10-13T21%3A37%3A10.000Z

Sample Response

  <DeleteCustomDBEngineVersionResult>
    <DatabaseInstallationFilesS3Prefix>123456789012/cev1</DatabaseInstallationFilesS3Prefix>
    <MajorEngineVersion>19</MajorEngineVersion>
    <DBEngineVersionDescription>some text</DBEngineVersionDescription>
    <SupportsGlobalDatabases>false</SupportsGlobalDatabases>
    <SupportsParallelQuery>false</SupportsParallelQuery>
    <Engine>custom-oracle-ee</Engine>
    <KMSKeyId>arn:aws:kms:us-east-1:123456789012:key/12ab3c4d-1234-12a3-1aa2-12a3bcdefghi</KMSKeyId>
    <Environment>19.cev</Environment>
    <SupportsReadReplica>false</SupportsReadReplica>
    <SupportsCluster>false</SupportsCluster>
    <TagList/>
    <CreateTime>2021-10-12T21:51:34.468Z</CreateTime>
    <DatabaseInstallationFilesS3BucketName>1-custom-installation-files</DatabaseInstallationFilesS3BucketName>
    <SupportsLogExportsToCloudwatchLogs>false</SupportsLogExportsToCloudwatchLogs>
    <AMI>
      <member>
        <Id>ami-0c65ec39d269b9aed</Id>
        <Status>failed</Status>
      </member>
    </AMI>
    <DBEngineDescription>Oracle Database server EE for RDS Custom</DBEngineDescription>
    <Status>deleting</Status>
  </DeleteCustomDBEngineVersionResult>
  <ResponseMetadata>
    <RequestId>a1234b56-7890-1234-5678-cde90fg1h2i3</RequestId>
  </ResponseMetadata>
</DeleteCustomDBEngineVersionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2

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• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteDBCluster

The DeleteDBCluster action deletes a previously provisioned DB cluster. When you delete a DB cluster, all automated backups for that DB cluster are deleted and can't be recovered. Manual DB cluster snapshots of the specified DB cluster are not deleted.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterIdentifier

The DB cluster identifier for the DB cluster to be deleted. This parameter isn't case-sensitive.

Constraints:
- Must match an existing DBClusterIdentifier.

Type: String
Required: Yes

FinalDBSnapshotIdentifier

The DB cluster snapshot identifier of the new DB cluster snapshot created when SkipFinalSnapshot is disabled.

Note
Specifying this parameter and also skipping the creation of a final DB cluster snapshot with the SkipFinalSnapshot parameter results in an error.

Constraints:
- Must be 1 to 255 letters, numbers, or hyphens.
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

Type: String
Required: No

SkipFinalSnapshot

A value that indicates whether to skip the creation of a final DB cluster snapshot before the DB cluster is deleted. If skip is specified, no DB cluster snapshot is created. If skip isn't specified, a DB cluster snapshot is created before the DB cluster is deleted. By default, skip isn't specified, and the DB cluster snapshot is created. By default, this parameter is disabled.

Note
You must specify a FinalDBSnapshotIdentifier parameter if SkipFinalSnapshot is disabled.

Type: Boolean
Required: No
Response Elements

The following element is returned by the service.

**DBCluster**

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations `CreateDBCluster`, `DeleteDBCluster`, `DescribeDBClusters`, `FailoverDBCluster`, `ModifyDBCluster`, `PromoteReadReplicaDBCluster`, `RestoreDBClusterFromS3`, `RestoreDBClusterFromSnapshot`, `RestoreDBClusterToPointInTime`, `StartDBCluster`, and `StopDBCluster`.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations `CreateDBCluster`, `DeleteDBCluster`, `DescribeDBClusters`, `FailoverDBCluster`, `ModifyDBCluster`, `RebootDBCluster`, `RestoreDBClusterFromSnapshot`, and `RestoreDBClusterToPointInTime`.

For more information on Amazon Aurora DB clusters, see [What is Amazon Aurora?](https://docs.aws.amazon.com/AmazonAurora/latest/udaug/what-is-aurora.html) in the *Amazon Aurora User Guide*.


Type: `DBCluster` (p. 588) object

Errors

For information about the errors that are common to all actions, see [Common Errors (p. 743)](https://docs.aws.amazon.com/AWSSDK/latest/APIReference/API_Errors.html).

**DBClusterNotFoundFault**

`DBClusterIdentifier` doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBClusterSnapshotAlreadyExistsFault**

The user already has a DB cluster snapshot with the given identifier.

HTTP Status Code: 400

**InvalidDBClusterSnapshotStateFault**

The supplied value isn't a valid DB cluster snapshot state.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**SnapshotQuotaExceeded**

The request would result in the user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400
Examples

Deleting an Aurora DB cluster

This example illustrates one usage of DeleteDBCluster.

Sample Request

https://rds.us-east-1.amazonaws.com/
    ?Action=DeleteDBCluster
    &DBClusterIdentifier=sample-cluster2
    &SignatureMethod=HmacSHA256
    &SignatureVersion=4
    &Version=2014-10-31
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIADQKE4SARGYLE/20140725/us-east-1/rds/aws4_request
    &X-Amz-Date=20140725T162148Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=815910f78c5a9813e1c15300fcf206e04da071b3586770169765292dc6aa2ed4

Sample Response

    <DeleteDBClusterResult>
        <DBCluster>
            <Engine>aurora5.6</Engine>
            <Status>available</Status>
            <BackupRetentionPeriod>0</BackupRetentionPeriod>
            <DBSubnetGroup>my-subgroup</DBSubnetGroup>
            <EngineVersion>5.6.10a</EngineVersion>
            <Endpoint>sample-cluster2.cluster-cbfvmgb0y5fy.us-east-1.rds.amazonaws.com</Endpoint>
            <DBClusterIdentifier>sample-cluster2</DBClusterIdentifier>
            <PreferredBackupWindow>04:45-05:15</PreferredBackupWindow>
            <PreferredMaintenanceWindow>sat:05:56-sat:06:26</PreferredMaintenanceWindow>
            <DBClusterMembers/>
            <AllocatedStorage>15</AllocatedStorage>
            <MasterUsername>awsuser</MasterUsername>
        </DBCluster>
    </DeleteDBClusterResult>
    <ResponseMetadata>
        <RequestId>c72118dc-1417-11e4-8c7b-931a6c1fef28</RequestId>
    </ResponseMetadata>
</DeleteDBClusterResponse>

Deleting a Multi-AZ DB cluster

This example illustrates one usage of DeleteDBCluster.

Sample Request

https://rds.us-west-2.amazonaws.com/
    ?Action=DeleteDBCluster
    &DBClusterIdentifier=my-multi-az-cluster
    &SkipFinalSnapshot=true
    &Version=2014-10-31
    &X-Amz-Credential=AKIADQKE4SARGYLE/20140725/us-west-2/rds/aws4_request
    &X-Amz-Date=20140725T162148Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=815910f78c5a9813e1c15300fcf206e04da071b3586770169765292dc6aa2ed4
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SAIYGLY/20210227/us-west-2/rds/aws4_request
&X-Amz-Date=20210227T000821Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=815910f78c5a9813e1c15300fcf206e04daa07b5358e770169765292d6aa2ed4

Sample Response

  <ResponseCode>DeleteDBClusterResponse</ResponseCode>
  <ResponseMetadata>
    <HTTPHeaders>
      <Content-Length>16724</Content-Length>
      <Date>2021-02-27T00:08:21Z</Date>
      <Expires>2021-02-27T00:08:22Z</Expires>
      <Last-Modified>2021-02-27T00:08:21Z</Last-Modified>
      <Request-ID>300f547e-c80a-4909-93b2-033f5855a712</Request-ID>
      <Server>CloudFront</Server>
      <X-Amz-CFRetrieval-Id>c1369a72-2a4c-4d2a-807b-e27f72f8c6b0</X-Amz-CFRetrieval-Id>
    </HTTPHeaders>
    <HTTPStatusCode>200</HTTPStatusCode>
    <ResponseMetadataHeaderNames>
      <Content-Length/>
      <Date/>
      <Expires/>
      <Last-Modified/>
      <Request-ID/>
      <Server/>
      <X-Amz-CFRetrieval-Id/>
    </ResponseMetadataHeaderNames>
    <ResponseMetadataReason/>
  </ResponseMetadata>
  <ReturnCode>true</ReturnCode>
  <ReturnMessage>DeleteDBCluster was successful. DeleteDBClusterRequest was successful.</ReturnMessage>
  <DeleteDBClusterResult>
    <DBCluster>
      <CrossAccountClone>false</CrossAccountClone>
      <AllocatedStorage>1000</AllocatedStorage>
      <AssociatedRoles />
      <AvailabilityZones />
      <ReadReplicaIdentifiers />
      <EngineVersion>8.0.26</EngineVersion>
      <MasterUsername>admin</MasterUsername>
      <DBClusterMembers />
      <HttpEndpointEnabled>false</HttpEndpointEnabled>
      <Port>3066</Port>
      <MonitoringInterval>0</MonitoringInterval>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <DBClusterIdentifier>my-multi-az-cluster</DBClusterIdentifier>
      <DbClusterResourceId>cluster-XDHARXDLDCRL2VZZXKBCFN3RQI</DbClusterResourceId>
      <LatestRestorableTime>2021-08-17T23:15:00Z</LatestRestorableTime>
      <Status>available</Status>
      <PreferredBackupWindow>22:02-22:32</PreferredBackupWindow>
      <DeletionProtection>false</DeletionProtection>
      <Endpoint>my-multi-az-cluster.cluster-123456789012.us-west-2.rds.amazonaws.com</Endpoint>
      <Engine>mysql</Engine>
      <ReaderEndpoint>my-multi-az-cluster.cluster-ro-123456789012.us-west-2.rds.amazonaws.com</ReaderEndpoint>
      <PubliclyAccessible>true</PubliclyAccessible>
      <IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
      <EarliestRestorableTime>2021-08-17T23:15:00Z</EarliestRestorableTime>
      <ClusterCreateTime>2021-08-10T23:02:10.460Z</ClusterCreateTime>
      <PerformanceInsightsEnabled>false</PerformanceInsightsEnabled>
      <MultiAZ>true</MultiAZ>
      <DomainMemberships />
      <StorageEncrypted>false</StorageEncrypted>
      <DBSubnetGroup>subnetgroup1</DBSubnetGroup>
      <VpcSecurityGroupMembership>
        <Path>/VpcSecurityGroupMembership</Path>
        <VpcSecurityGroupId>sg-6921cc28</VpcSecurityGroupId>
        <Status>active</Status>
      </VpcSecurityGroupMembership>
      <TagList />
      <HostedZoneId>Z3GZ3VVA3PGHTQ</HostedZoneId>
      <DBClusterParameterGroup>default.mysql8.0</DBClusterParameterGroup>
      <StorageType>io1</StorageType>
      <DBClusterInstanceClass>db.r6gd.xlarge</DBClusterInstanceClass>
      <CopyTagsToSnapshot>false</CopyTagsToSnapshot>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
    </DBCluster>
    </DeleteDBClusterResult>
  </DeleteDBClusterResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBClusterEndpoint

Deletes a custom endpoint and removes it from an Amazon Aurora DB cluster.

**Note**
This action only applies to Aurora DB clusters.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](p. 741).

**DBClusterEndpointIdentifier**

The identifier associated with the custom endpoint. This parameter is stored as a lowercase string.

*Type: String*

*Required: Yes*

**Response Elements**

The following elements are returned by the service.

**CustomEndpointType**

The type associated with a custom endpoint. One of: READER, WRITER, ANY.

*Type: String*

**DBClusterEndpointArn**

The Amazon Resource Name (ARN) for the endpoint.

*Type: String*

**DBClusterEndpointIdentifier**

The identifier associated with the endpoint. This parameter is stored as a lowercase string.

*Type: String*

**DBClusterEndpointResourceIdentifier**

A unique system-generated identifier for an endpoint. It remains the same for the whole life of the endpoint.

*Type: String*

**DBClusterIdentifier**

The DB cluster identifier of the DB cluster associated with the endpoint. This parameter is stored as a lowercase string.

*Type: String*

**Endpoint**

The DNS address of the endpoint.

*Type: String*
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterEndpointNotFoundFault**

The specified custom endpoint doesn't exist.

HTTP Status Code: 400

**InvalidDBClusterEndpointStateFault**

The requested operation can't be performed on the endpoint while the endpoint is in this state.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteDBClusterParameterGroup

Deletes a specified DB cluster parameter group. The DB cluster parameter group to be deleted can't be
associated with any DB clusters.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB
instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common
Parameters (p. 741).

DBClusterParameterGroupName

The name of the DB cluster parameter group.

Constraints:
• Must be the name of an existing DB cluster parameter group.
• You can't delete a default DB cluster parameter group.
• Can't be associated with any DB clusters.

Type: String
Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBParameterGroupNotFound

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

InvalidDBParameterGroupState

The DB parameter group is in use or is in an invalid state. If you are attempting to delete the
parameter group, you can't delete it when the parameter group is in this state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of DeleteDBClusterParameterGroup.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=DeleteDBClusterParameterGroup
&DBClusterParameterGroupName=sample-cluster-pg
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20160913/us-west-2/rds/aws4_request
&X-Amz-Date=20160913T172430Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=3f54b5ee720c264296e98a1c0393a9abd91bc0847dfe7dd9be02ede8fd95ae5

Sample Response

  <ResponseMetadata>
    <RequestId>ee0201e1-79d6-11e6-9b94-838991bd60c6</RequestId>
  </ResponseMetadata>
</DeleteDBClusterParameterGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBClusterSnapshot

Deletes a DB cluster snapshot. If the snapshot is being copied, the copy operation is terminated.

**Note**
The DB cluster snapshot must be in the available state to be deleted.

For more information on Amazon Aurora, see [What is Amazon Aurora?](https://docs.aws.amazon.com/Aurora/latest/UserGuide/what-is.html) in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see [Multi-AZ deployments with two readable standby DB instances](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultipleAvailabilityZonesDBClusters.html) in the Amazon RDS User Guide.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](#).

**DBClusterSnapshotIdentifier**

The identifier of the DB cluster snapshot to delete.

Constraints: Must be the name of an existing DB cluster snapshot in the available state.

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.

**DBClusterSnapshot**

Contains the details for an Amazon RDS DB cluster snapshot

This data type is used as a response element in the DescribeDBClusterSnapshots action.

Type: [DBClusterSnapshot](#) object

**Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

**DBClusterSnapshotNotFoundFault**

**DBClusterSnapshotIdentifier** doesn't refer to an existing DB cluster snapshot.

HTTP Status Code: 404

**InvalidDBClusterSnapshotStateFault**

The supplied value isn't a valid DB cluster snapshot state.

HTTP Status Code: 400
Examples

Example

This example illustrates one usage of DeleteDBClusterSnapshot.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DeleteDBClusterSnapshot
&DBClusterSnapshotIdentifier=sample-cluster-snapshot
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorith=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20150318/us-east-1/rds/aws4_request
&X-Amz-Date=20150318T215614Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=7aaab0a295151051bc4723f5b1f7b6b535615b8db9256bd56993c4dc6df4c2c4

Sample Response

<?xml version="1.0" encoding="UTF-8"?>
  <DeleteDBClusterSnapshotResult>
    <DBClusterSnapshot>
      <Port>0</Port>
      <Status>available</Status>
      <Engine>aurora</Engine>
      <SnapshotType>manual</SnapshotType>
      <LicenseModel>aurora</LicenseModel>
      <DBClusterSnapshotIdentifier>sample-cluster-snapshot</DBClusterSnapshotIdentifier>
      <SnapshotCreateTime>2015-03-18T20:53:22.523Z</SnapshotCreateTime>
      <DBClusterIdentifier>sample-cluster</DBClusterIdentifier>
      <VpcId>vpc-3fabee54</VpcId>
      <ClusterCreateTime>2015-03-06T22:11:13.826Z</ClusterCreateTime>
      <PercentProgress>100</PercentProgress>
      <AllocatedStorage>1</AllocatedStorage>
      <MasterUsername>awsuser</MasterUsername>
    </DBClusterSnapshot>
  </DeleteDBClusterSnapshotResult>
  <ResponseMetadata/>
</DeleteDBClusterSnapshotResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
See Also

- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBInstance

The DeleteDBInstance action deletes a previously provisioned DB instance. When you delete a DB instance, all automated backups for that instance are deleted and can't be recovered. Manual DB snapshots of the DB instance to be deleted by DeleteDBInstance are not deleted.

If you request a final DB snapshot the status of the Amazon RDS DB instance is deleting until the DB snapshot is created. The API action DescribeDBInstance is used to monitor the status of this operation. The action can't be canceled or reverted once submitted.

When a DB instance is in a failure state and has a status of failed, incompatible-restore, or incompatible-network, you can only delete it when you skip creation of the final snapshot with the SkipFinalSnapshot parameter.

If the specified DB instance is part of an Amazon Aurora DB cluster, you can't delete the DB instance if both of the following conditions are true:

- The DB cluster is a read replica of another Amazon Aurora DB cluster.
- The DB instance is the only instance in the DB cluster.

To delete a DB instance in this case, first call the PromoteReadReplicaDBCluster API action to promote the DB cluster so it's no longer a read replica. After the promotion completes, then call the DeleteDBInstance API action to delete the final instance in the DB cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBInstanceIdentifier

The DB instance identifier for the DB instance to be deleted. This parameter isn't case-sensitive.

Constraints:

- Must match the name of an existing DB instance.

Type: String

Required: Yes

DeleteAutomatedBackups

A value that indicates whether to remove automated backups immediately after the DB instance is deleted. This parameter isn't case-sensitive. The default is to remove automated backups immediately after the DB instance is deleted.

Type: Boolean

Required: No

FinalDBSnapshotIdentifier

The DBSnapshotIdentifier of the new DBSnapshot created when the SkipFinalSnapshot parameter is disabled.

*Note*

If you enable this parameter and also enable SkipFinalSnapshot, the command results in an error.

This setting doesn't apply to RDS Custom.
Constraints:
- Must be 1 to 255 letters or numbers.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.
- Can't be specified when deleting a read replica.

Type: String
Required: No

**SkipFinalSnapshot**

A value that indicates whether to skip the creation of a final DB snapshot before deleting the instance. If you enable this parameter, RDS doesn't create a DB snapshot. If you don't enable this parameter, RDS creates a DB snapshot before the DB instance is deleted. By default, skip isn't enabled, and the DB snapshot is created.

**Note**

If you don't enable this parameter, you must specify the `FinalDBSnapshotIdentifier` parameter.

When a DB instance is in a failure state and has a status of `failed`, `incompatible-restore`, or `incompatible-network`, RDS can delete the instance only if you enable this parameter.

If you delete a read replica or an RDS Custom instance, you must enable this setting.

This setting is required for RDS Custom.

Type: Boolean
Required: No

**Response Elements**

The following element is returned by the service.

**DBInstance**

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: [DBInstance](p. 617) object

**Errors**

For information about the errors that are common to all actions, see [Common Errors (p. 743)].

**DBInstanceAutomatedBackupQuotaExceeded**

The quota for retained automated backups was exceeded. This prevents you from retaining any additional automated backups. The retained automated backups quota is the same as your DB Instance quota.
HTTP Status Code: 400
**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404
**DBSnapshotAlreadyExists**

DBSnapshotIdentifier is already used by an existing snapshot.

HTTP Status Code: 400
**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400
**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400
**SnapshotQuotaExceeded**

The request would result in the user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400

---

**Examples**

**Example**

This example illustrates one usage of DeleteDBInstance.

**Sample Request**

```plaintext
https://rds.us-east-1.amazonaws.com/?Action=DeleteDBInstance
&DBInstanceIdentifier=mydatabase
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SkipFinalSnapshot=true
&Version=2014-09-01
&X-Amz-AlGORITHM=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20131109/us-east-1/rds/aws4_request
&X-Amz-Date=20131109T001924Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=70e774e243c0fbb7ffe84029637005bf543e9e321cddf432c0b272be5687d32d8
```

**Sample Response**

```xml
  <DeleteDBInstanceResult>
    <DBInstance>
      <BackupRetentionPeriod>7</BackupRetentionPeriod>
      <DBInstanceStatus>deleting</DBInstanceStatus>
      <MultiAZ>false</MultiAZ>
    </DBInstance>
  </DeleteDBInstanceResult>
</DeleteDBInstanceResponse>
```

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<VpcSecurityGroups/>
<DBInstanceIdentifier>mydatabase</DBInstanceIdentifier>
<PreferredBackupWindow>08:14-08:44</PreferredBackupWindow>
<PreferredMaintenanceWindow>fri:04:50-fri:05:20</PreferredMaintenanceWindow>
<AvailabilityZone>us-east-1a</AvailabilityZone>
<ReadReplicaDBInstanceIdentifiers/>
<LatestRestorableTime>2013-11-09T00:15:00Z</LatestRestorableTime>
<Engine>mysql</Engine>
<PendingModifiedValues/>
<LicenseModel>general-public-license</LicenseModel>
<EngineVersion>5.6.13</EngineVersion>
<Endpoint>
  <Port>3306</Port>
  <Address>mydatabase.cf037hpkuvjt.us-east-1.rds.amazonaws.com</Address>
</Endpoint>
<DBParameterGroups>
  <DBParameterGroup>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
    <DBParameterGroupName>default.mysql5.6</DBParameterGroupName>
  </DBParameterGroup>
</DBParameterGroups>
<OptionGroupMemberships>
  <OptionGroupMembership>
    <OptionGroupName>default:mysql-5-6</OptionGroupName>
    <Status>in-sync</Status>
  </OptionGroupMembership>
</OptionGroupMemberships>
<PubliclyAccessible>true</PubliclyAccessible>
<DBSecurityGroups>
  <DBSecurityGroup>
    <Status>active</Status>
    <DBSecurityGroupName>default</DBSecurityGroupName>
  </DBSecurityGroup>
</DBSecurityGroups>
<DBName>mysqldb</DBName>
<AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
<InstanceCreateTime>2011-04-28T23:33:54.909Z</InstanceCreateTime>
<AllocatedStorage>100</AllocatedStorage>
<MasterUsername>myawsuser</MasterUsername>
<DBInstanceClass>db.m1.medium</DBInstanceClass>
</DBInstance>
</DeleteDBInstanceResult>
<ResponseMetadata>
  <RequestId>7369556f-b70d-11c3-faca-6ba18376ea1b</RequestId>
</ResponseMetadata>
</DeleteDBInstanceResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBInstanceAutomatedBackup

Deletes automated backups using the DbiResourceId value of the source DB instance or the Amazon Resource Name (ARN) of the automated backups.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBInstanceAutomatedBackupsArn

The Amazon Resource Name (ARN) of the automated backups to delete, for example, arn:aws:rds:us-east-1:123456789012:auto-backup:ab-L2IJCEXJJP7XQ7H0J4SIEXAMPLE.

This setting doesn't apply to RDS Custom.

Type: String
Required: No

DbiResourceId

The identifier for the source DB instance, which can't be changed and which is unique to an AWS Region.

Type: String
Required: No

Response Elements

The following element is returned by the service.

DBInstanceAutomatedBackup

An automated backup of a DB instance. It consists of system backups, transaction logs, and the database instance properties that existed at the time you deleted the source instance.

Type: DBInstanceAutomatedBackup (p. 629) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBInstanceAutomatedBackupNotFound

No automated backup for this DB instance was found.

HTTP Status Code: 404

InvalidDBInstanceAutomatedBackupState

The automated backup is in an invalid state. For example, this automated backup is associated with an active instance.

HTTP Status Code: 400
Examples

Example

This example illustrates one usage of DeleteDBInstanceAutomatedBackup.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DeleteDBInstanceAutomatedBackup
&DbiResourceId=db-YVS5NRBNHPGJZ3IT3WADXYSWYU
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20180912/us-east-1/rds/aws4_request
&X-Amz-Date=20180912T200207Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date

Example

This example illustrates one usage of DeleteDBInstanceAutomatedBackup.

Sample Response

<DeleteDBInstanceAutomatedBackupResult>
<DBInstanceAutomatedBackup>
<EngineVersion>11.2.0.4.v13</EngineVersion>
<MasterUsername>admin</MasterUsername>
<AllocatedStorage>50</AllocatedStorage>
<InstanceCreateTime>2018-08-17T21:58:30Z</InstanceCreateTime>
<DbiResourceId>db-YVS5NRBNHPGJZ3IT3WADXYSWYU</DbiResourceId>
<DBInstanceArn>arn:aws:rds:us-east-1:1234567890:db:myoracle1</DBInstanceArn>
<DBInstanceIdentifier>myoracle1</DBInstanceIdentifier>
<RestoreWindow/>
<Encrypted>false</Encrypted>
<Engine>oracle-ee</Engine>
<Port>1521</Port>
LICENSEModel>bring-your-own-license</LICENSEModel>
<IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
<StorageType>magnetic</StorageType>
<OptionGroupName>default:oracle-ee-11-2</OptionGroupName>
<Region>us-east-1</Region>
>Status>deleting</Status>
</DBInstanceAutomatedBackup>
</DeleteDBInstanceAutomatedBackupResult>
<ResponseMetadata>
<RequestId>d1b4b637-3663-49c9-95ef-65e4e2be848</RequestId>
</ResponseMetadata>
</DeleteDBInstanceAutomatedBackupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBParameterGroup

Deletes a specified DB parameter group. The DB parameter group to be deleted can't be associated with any DB instances.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBParameterGroupName**

The name of the DB parameter group.

Constraints:
- Must be the name of an existing DB parameter group
- You can't delete a default DB parameter group
- Can't be associated with any DB instances

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBParameterGroupNameNotFound**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

**InvalidDBParameterGroupState**

The DB parameter group is in use or is in an invalid state. If you are attempting to delete the parameter group, you can't delete it when the parameter group is in this state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of DeleteDBParameterGroup.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DeleteDBParameterGroup
&DBParameterGroupName=mydbparamgroup3
&SignatureMethod=HmacSHA256
&SignatureVersion=4
Sample Response

<?xml version="1.0" encoding="UTF-8"?>
  <ResponseMetadata>
    <RequestId>cad6c267-ba25-11d3-fe11-33d33a9bb7e3</RequestId>
  </ResponseMetadata>
</DeleteDBParameterGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBProxy

Deletes an existing DB proxy.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBProxyName

The name of the DB proxy to delete.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

DBProxy

The data structure representing the details of the DB proxy that you delete.

Type: DBProxy (p. 638) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBProxyNotNotFoundFault

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

InvalidDBProxyStateFault

The requested operation can't be performed while the proxy is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
See Also

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBProxyEndpoint

Deletes a DBProxyEndpoint. Doing so removes the ability to access the DB proxy using the endpoint that you defined. The endpoint that you delete might have provided capabilities such as read/write or read-only operations, or using a different VPC than the DB proxy's default VPC.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBProxyEndpointName

The name of the DB proxy endpoint to delete.

Type: String


Pattern: [a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*

Required: Yes

Response Elements

The following element is returned by the service.

DBProxyEndpoint

The data structure representing the details of the DB proxy endpoint that you delete.

Type: DBProxyEndpoint (p. 641) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBProxyEndpointNotFoundFault

The DB proxy endpoint doesn't exist.

HTTP Status Code: 404

InvalidDBProxyEndpointStateFault

You can't perform this operation while the DB proxy endpoint is in a particular state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteDBSecurityGroup

Deletes a DB security group.

The specified DB security group must not be associated with any DB instances.

Note
EC2-Classic was retired on August 15, 2022. If you haven't migrated from EC2-Classic to a VPC, we recommend that you migrate as soon as possible. For more information, see Migrate from EC2-Classic to a VPC in the Amazon EC2 User Guide, the blog EC2-Classic Networking is Retiring – Here's How to Prepare, and Moving a DB instance not in a VPC into a VPC in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBSecurityGroupName

The name of the DB security group to delete.

Note
You can't delete the default DB security group.

Constraints:
- Must be 1 to 255 letters, numbers, or hyphens.
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens
- Must not be "Default"

Type: String
Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBSecurityGroupNotFound

DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404

InvalidDBSecurityGroupState

The state of the DB security group doesn't allow deletion.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of DeleteDBSecurityGroup.
Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DeleteDBSecurityGroup
&DBSecurityGroupName=mydbsecuritygroup
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140423/us-east-1/rds/aws4_request
&X-Amz-Date=20140423T203336Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=873c15061fe60b9db8ea63137e5af82b157019696fc3e9764ef2abd9d71c640a

Sample Response

  <ResponseMetadata>
    <RequestId>7aec7454-ba25-11d3-855b-576787000e19</RequestId>
  </ResponseMetadata>
</DeleteDBSecurityGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBSnapshot

Deletes a DB snapshot. If the snapshot is being copied, the copy operation is terminated.

**Note**
The DB snapshot must be in the available state to be deleted.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](p. 741).

**DBSnapshotIdentifier**

The DB snapshot identifier.

Constraints: Must be the name of an existing DB snapshot in the available state.

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.

**DBSnapshot**

Contains the details of an Amazon RDS DB snapshot.

This data type is used as a response element in the DescribeDBSnapshots action.

Type: [DBSnapshot](p. 650) object

**Errors**

For information about the errors that are common to all actions, see [Common Errors](p. 743).

**DBSnapshotNotFound**

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

**InvalidDBSnapshotState**

The state of the DB snapshot doesn't allow deletion.

HTTP Status Code: 400

**Examples**

**Example**

This example illustrates one usage of DeleteDBSnapshot.
Sample Request

```
https://rds.us-east-1.amazonaws.com/
  ?Action=DeleteDBSnapshot
  &DBSnapshotIdentifier=mysqldb-snap-02
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20210623/us-east-1/rds/aws4_request
  &X-Amz-Date=20210623T203337Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=619f04acfe4b0802f4a4526b1c79da79d0b3097151c24f28e83e851d6541414
```

Sample Response

```
  <DeleteDBSnapshotResult>
    <DBSnapshot>
      <Port>3306</Port>
      <OptionGroupName>default:mysql-5-6</OptionGroupName>
      <Status>deleted</Status>
      <Engine>mysql</Engine>
      <SnapshotType>manual</SnapshotType>
      <LicenseModel>general-public-license</LicenseModel>
      <DBInstanceIdentifier>mysqldb</DBInstanceIdentifier>
      <EngineVersion>5.6.44</EngineVersion>
      <SnapshotIdentifier>mysqldb-snap-02</SnapshotIdentifier>
      <SnapshotCreateTime>2021-04-27T08:16:05.356Z</SnapshotCreateTime>
      <OriginalSnapshotCreateTime>2021-04-27T08:16:05.356Z</OriginalSnapshotCreateTime>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <InstanceCreateTime>2021-04-21T22:24:26.573Z</InstanceCreateTime>
      <PercentProgress>100</PercentProgress>
      <AllocatedStorage>100</AllocatedStorage>
      <MasterUsername>myawsuser</MasterUsername>
    </DBSnapshot>
  </DeleteDBSnapshotResult>
  <ResponseMetadata>
    <RequestId>7b17b2b1-ba25-11d3-a537-cef97546330c</RequestId>
  </ResponseMetadata>
</DeleteDBSnapshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteDBSubnetGroup

Deletes a DB subnet group.

Note
The specified database subnet group must not be associated with any DB instances.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBSubnetGroupName

The name of the database subnet group to delete.

Note
You can't delete the default subnet group.

Constraints: Must match the name of an existing DBSubnetGroup. Must not be default.

Example: mydbsubnetgroup

Type: String
Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBSubnetGroupNotFoundFault

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404

InvalidDBSubnetGroupStateFault

The DB subnet group cannot be deleted because it's in use.

HTTP Status Code: 400

InvalidDBSubnetStateFault

The DB subnet isn't in the available state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of DeleteDBSubnetGroup.

Sample Request
Sample Response

```xml
<ResponseMetadata>
  <RequestId>6295e5ab-bbf3-11d3-f4c6-37db295f7674</RequestId>
</ResponseMetadata>
</DeleteDBSubnetGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteEventSubscription

Deletes an RDS event notification subscription.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

SubscriptionName

The name of the RDS event notification subscription you want to delete.

Type: String
Required: Yes

Response Elements

The following element is returned by the service.

EventSubscription

Contains the results of a successful invocation of the DescribeEventSubscriptions action.

Type: EventSubscription (p. 668) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

InvalidEventSubscriptionState

This error can occur if someone else is modifying a subscription. You should retry the action.

HTTP Status Code: 400

SubscriptionNotFound

The subscription name does not exist.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DeleteEventSubscription.

Sample Request

https://rds.us-east-1.amazonaws.com/
Sample Response

```xml
  <DeleteEventSubscriptionResult>  
    <EventSubscription>  
      <Enabled>true</Enabled>  
      <CustomerAwsId>803#########</CustomerAwsId>  
      <SourceType>db-instance</SourceType>  
      <Status>deleting</Status>  
      <SourceIdsList>  
        <SourceId>mysqldb</SourceId>  
      </SourceIdsList>  
      <SubscriptionCreationTime>2014-04-22 23:03:19.776</SubscriptionCreationTime>  
      <CustSubscriptionId>EventSubscription04</CustSubscriptionId>  
      <SnsTopicArn>arn:aws:sns:us-east-1:803#########:myawsuser-RDS</SnsTopicArn>  
    </EventSubscription>  
  </DeleteEventSubscriptionResult>  
</DeleteEventSubscriptionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeleteGlobalCluster

Deletes a global database cluster. The primary and secondary clusters must already be detached or destroyed first.

**Note**
This action only applies to Aurora DB clusters.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**GlobalClusterIdentifier**

The cluster identifier of the global database cluster being deleted.

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.

**GlobalCluster**

A data type representing an Aurora global database.

Type: GlobalCluster (p. 675) object

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).

**GlobalClusterNotFoundFault**

The GlobalClusterIdentifier doesn't refer to an existing global database cluster.

HTTP Status Code: 404

**InvalidGlobalClusterStateFault**

The global cluster is in an invalid state and can't perform the requested operation.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DeleteOptionGroup

Deletes an existing option group.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**OptionGroupName**

The name of the option group to be deleted.

*Note*

You can't delete default option groups.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**InvalidOptionGroupStateFault**

The option group isn't in the *available* state.

HTTP Status Code: 400

**OptionGroupNotFoundFault**

The specified option group could not be found.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DeleteOptionGroup.

Sample Request

```
https://rds.us-east-1.amazonaws.com/
  ?Action=DeleteOptionGroup
  &OptionGroupName=myawsuser-og00
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-09-01
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20140425/us-east-1/rds/aws4_request
  &X-Amz-Date=20140425T181205Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=8a684aebe6d5219bb3572316a341963324d6ef339bd0dcfa5854f1a01d401214
```
Sample Response

```xml
<DeleteOptionGroupResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <ResponseMetadata>
    <RequestId>0ac9cda2-bbf4-11d3-f92b-31fa5e8dbc99</RequestId>
  </ResponseMetadata>
</DeleteOptionGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DeregisterDBProxyTargets

Remove the association between one or more DBProxyTarget data structures and a DBProxyTargetGroup.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterIdentifiers.member.N

One or more DB cluster identifiers.

Type: Array of strings

Required: No

DBInstanceIdentifiers.member.N

One or more DB instance identifiers.

Type: Array of strings

Required: No

DBProxyName

The identifier of the DBProxy that is associated with the DBProxyTargetGroup.

Type: String

Required: Yes

TargetGroupName

The identifier of the DBProxyTargetGroup.

Type: String

Required: No

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBProxyNotFoundFault

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

DBProxyTargetGroupNotFoundFault

The specified target group isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404
DBProxyTargetNotFoundFault

The specified RDS DB instance or Aurora DB cluster isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

InvalidDBProxyStateFault

The requested operation can't be performed while the proxy is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeAccountAttributes

Lists all of the attributes for a customer account. The attributes include Amazon RDS quotas for the account, such as the number of DB instances allowed. The description for a quota includes the quota name, current usage toward that quota, and the quota’s maximum value.

This command doesn't take any parameters.

Response Elements

The following element is returned by the service.

AccountQuotas.AccountQuota.N

A list of AccountQuota objects. Within this list, each quota has a name, a count of usage toward the quota maximum, and a maximum value for the quota.

Type: Array of AccountQuota (p. 575) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

Examples

Example

This example illustrates one usage of DescribeAccountAttributes.

Sample Request

https://rds.us-east-1.amazonaws.com/?Action=DescribeAccountAttributes
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20141216/us-west-2/rds/aws4_request
&X-Amz-Date=20141216T192233Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=b49545dd3c933bdded80655d433d84bf745261e1abe6be3b3a7922c52c5240cd8

Sample Response

<DescribeAccountAttributesResult>
 <AccountQuotaList>
  <AccountQuota>
   <AccountQuotaName>DBInstances</AccountQuotaName>
   <Used>22</Used>
   <Max>40</Max>
  </AccountQuota>
 </AccountQuotaList>
</DescribeAccountAttributesResult>

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<AccountQuota>
  <AccountQuotaName>ReservedDBInstances</AccountQuotaName>
  <Used>6</Used>
  <Max>40</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>AllocatedStorage</AccountQuotaName>
  <Used>27459</Used>
  <Max>100000</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>DBSecurityGroupsPerVPC</AccountQuotaName>
  <Used>11</Used>
  <Max>25</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>AuthorizationsPerDBSecurityGroup</AccountQuotaName>
  <Used>10</Used>
  <Max>20</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>DBParameterGroups</AccountQuotaName>
  <Used>40</Used>
  <Max>50</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>ManualSnapshots</AccountQuotaName>
  <Used>32</Used>
  <Max>50</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>EventSubscriptions</AccountQuotaName>
  <Used>3</Used>
  <Max>20</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>DBSubnetGroups</AccountQuotaName>
  <Used>19</Used>
  <Max>20</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>OptionGroups</AccountQuotaName>
  <Used>14</Used>
  <Max>20</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>SubnetsPerDBSubnetGroup</AccountQuotaName>
  <Used>6</Used>
  <Max>20</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>ReadReplicasPerMaster</AccountQuotaName>
  <Used>2</Used>
  <Max>5</Max>
</AccountQuota>

<AccountQuota>
  <AccountQuotaName>DBClusterRoles</AccountQuotaName>
  <Used>1</Used>
  <Max>5</Max>
</AccountQuota>

</AccountQuot alist>
</DescribeAccountAttributesResult>
</ResponseMetadata>
</DescribeAccountAttributesResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeCertificates

Lists the set of CA certificates provided by Amazon RDS for this AWS account.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**CertificateIdentifier**

The user-supplied certificate identifier. If this parameter is specified, information for only the identified certificate is returned. This parameter isn't case-sensitive.

Constraints:
- Must match an existing CertificateIdentifier.

Type: String

Required: No

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous DescribeCertificates request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

**Response Elements**

The following elements are returned by the service.

**Certificates.Certificate.N**

The list of Certificate objects for the AWS account.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

CertificateNotFound

CertificateIdentifier doesn't refer to an existing certificate.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeCertificates.

Sample Request

```plaintext
https://rds.amazonaws.com/
  ?Action=DescribeCertificates
  &MaxRecords=100
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20141121/us-west-2/rds/aws4_request
  &X-Amz-Date=20141121T164732Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=6e25c542bf96fe24b28c12976ec92d2f856ab1d2a158e21c35441a736e4fde2b
```

Sample Response

```xml
  <DescribeCertificatesResult>
    <Certificates>
      <Certificate>
        <CertificateIdentifier>rdscacertificate</CertificateIdentifier>
        <CertificateType>ca</CertificateType>
        <ThumbPrint>xxxxxxxxxxxx</ThumbPrint>
        <ValidFrom>2010-05-22T01:12:00.000Z</ValidFrom>
        <ValidTill>2014-05-22T01:12:00.000Z</ValidTill>
      </Certificate>
    </Certificates>
  </DescribeCertificatesResult>
  <ResponseMetadata>
    <RequestId>9135ff3-8509-11e0-bd9b-a7b1ece36d51</RequestId>
  </ResponseMetadata>
</DescribeCertificatesResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBClusterBacktracks

Returns information about backtracks for a DB cluster.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

**Note**
This action only applies to Aurora MySQL DB clusters.

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

### BacktrackIdentifier

If specified, this value is the backtrack identifier of the backtrack to be described.

**Constraints:**
- Must contain a valid universally unique identifier (UUID). For more information about UUIDs, see A Universally Unique Identifier (UUID) URN Namespace.

**Example:** 123e4567-e89b-12d3-a456-426655440000

**Type:** String

**Required:** No

### DBClusterIdentifier

The DB cluster identifier of the DB cluster to be described. This parameter is stored as a lowercase string.

**Constraints:**
- Must contain from 1 to 63 alphanumeric characters or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

**Example:** my-cluster1

**Type:** String

**Required:** Yes

### Filters.Filter.N

A filter that specifies one or more DB clusters to describe. Supported filters include the following:
- **db-cluster-backtrack-id** - Accepts backtrack identifiers. The results list includes information about only the backtracks identified by these identifiers.
- **db-cluster-backtrack-status** - Accepts any of the following backtrack status values:
  - applying
  - completed
  - failed
  - pending

The results list includes information about only the backtracks identified by these values.
Response Elements

The following elements are returned by the service.

**DBClusterBacktracks.DBClusterBacktrack.N**

Contains a list of backtracks for the user.

Type: Array of **DBClusterBacktrack** objects

**Marker**

A pagination token that can be used in a later DescribeDBClusterBacktracks request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors](#).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBClusterEndpoints

Returns information about endpoints for an Amazon Aurora DB cluster.

**Note**
This action only applies to Aurora DB clusters.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBClusterEndpointIdentifier**

The identifier of the endpoint to describe. This parameter is stored as a lowercase string.

Type: String

Required: No

**DBClusterIdentifier**

The DB cluster identifier of the DB cluster associated with the endpoint. This parameter is stored as a lowercase string.

Type: String

Required: No

**Filters.Filter.N**

A set of name-value pairs that define which endpoints to include in the output. The filters are specified as name-value pairs, in the format Name=endpoint_type,Values=endpoint_type1,endpoint_type2,.... Name can be one of: db-cluster-endpoint-type, db-cluster-endpoint-custom-type, db-cluster-endpoint-id, db-cluster-endpoint-status. Values for the db-cluster-endpoint-type filter can be one or more of: reader, writer, custom. Values for the db-cluster-endpoint-custom-type filter can be one or more of: reader, any. Values for the db-cluster-endpoint-status filter can be one or more of: available, creating, deleting, inactive, modifying.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous DescribeDBClusterEndpoints request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100
Response Elements

The following elements are returned by the service.

**DBClusterEndpoints.DBClusterEndpointList.N**

Contains the details of the endpoints associated with the cluster and matching any filter conditions.

Type: Array of **DBClusterEndpoint (p. 601)** objects

**Marker**

An optional pagination token provided by a previous DescribeDBClusterEndpoints request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by **MaxRecords**.

Type: String

Errors

For information about the errors that are common to all actions, see **Common Errors (p. 743)**.

**DBClusterNotFoundFault**

DBClusterIdentifier doesn’t refer to an existing DB cluster.

HTTP Status Code: 404

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
**DescribeDBClusterParameterGroups**

Returns a list of `DBClusterParameterGroup` descriptions. If a `DBClusterParameterGroupName` parameter is specified, the list will contain only the description of the specified DB cluster parameter group.

For more information on Amazon Aurora, see [What is Amazon Aurora?](https://docs.amazonwebservices.com/Aurora/latest/UserGuide/index.html) in the *Amazon Aurora User Guide*.


**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](https://docs.aws.amazon.com/AWSSDK/latest/DeveloperGuide/API-Common-Parameters.html).

**DBClusterParameterGroupName**

The name of a specific DB cluster parameter group to return details for.

Constraints:
- If supplied, must match the name of an existing `DBClusterParameterGroup`.

Type: String

Required: No

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of `Filter` objects

Required: No

**Marker**

An optional pagination token provided by a previous `DescribeDBClusterParameterGroups` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No
Response Elements

The following elements are returned by the service.

**DBClusterParameterGroups.DBClusterParameterGroup.N**

A list of DB cluster parameter groups.

Type: Array of [DBClusterParameterGroup](p. 605) objects

**Marker**

An optional pagination token provided by a previous DescribeDBClusterParameterGroups request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors](p. 743).

**DBParameterGroupNotFound**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

Examples

**Example**

This example illustrates one usage of DescribeDBClusterParameterGroups.

**Sample Request**

```xml
https://rds.us-east-1.amazonaws.com/
?Action=DescribeDBClusterParameterGroups
&MaxRecords=30
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20150318/us-east-1/rds/aws4_request
&X-Amz-Date=20150318T184307Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=d9922fd06b86b870c072b896745251ea8b52bad64bf90e30b0e46f1bb488cca
```

**Sample Response**

```xml
  <DescribeDBClusterParameterGroupsResult>
  </DescribeDBClusterParameterGroupsResult>
</DescribeDBClusterParameterGroupsResponse>
```
<DBParameterGroupFamily>aurora5.6</DBParameterGroupFamily>
<Description>Default cluster parameter group for aurora5.6</Description>
<DBClusterParameterGroupName>default.aurora5.6</DBClusterParameterGroupName>
</DBClusterParameterGroup>

<DBClusterParameterGroup>
<DBParameterGroupFamily>aurora5.6</DBParameterGroupFamily>
<Description>Sample group</Description>
<DBClusterParameterGroupName>samplegroup</DBClusterParameterGroupName>
</DBClusterParameterGroup>

<DBClusterParameterGroup>
<DBParameterGroupFamily>aurora5.6</DBParameterGroupFamily>
<Description>Custom group</Description>
<DBClusterParameterGroupName>custom-group</DBClusterParameterGroupName>
</DBClusterParameterGroup>
</DBClusterParameterGroups>
</DescribeDBClusterParameterGroupsResult>
<ResponseMetadata>
RequestId: 9e6503d0-cd9e-11e4-ccf9-7528e6a28483
</ResponseMetadata>
</DescribeDBClusterParameterGroupsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBClusterParameters

Returns the detailed parameter list for a particular DB cluster parameter group.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterParameterGroupName

The name of a specific DB cluster parameter group to return parameter details for.

Constraints:
- If supplied, must match the name of an existing DBClusterParameterGroup.

Type: String

Required: Yes

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

Marker

An optional pagination token provided by a previous DescribeDBClusterParameters request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

Source

A value that indicates to return only parameters for a specific source. Parameter sources can be engine, service, or customer.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

**Marker**

An optional pagination token provided by a previous DescribeDBClusterParameters request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

**Parameters.Parameter.N**

Provides a list of parameters for the DB cluster parameter group.

Type: Array of Parameter (p. 701) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBParameterGroupNotFound**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeDBClusterParameters.

Sample Request

https://rds.us-west-2.amazonaws.com/
   ?Action=DescribeDBClusterParameters
   &DBClusterParameterGroupName=default.aurora5.6
   &SignatureMethod=HmacSHA256
   &SignatureVersion=4
   &Version=2014-10-31
   &X-Amz-Algorithm=AWS4-HMAC-SHA256
   &X-Amz-Credential=AKIADQKE4SARGYLE/20151231/us-west-2/rds/aws4_request
   &X-Amz-Date=20151231T225813Z
   &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
   &X-Amz-Signature=cf8b9ab9c4a36bbb5f5043209b1985784a226d132ed61a5c35163c40506e83f7

Sample Response

   <DescribeDBClusterParametersResult>
      <Parameters>
         <Parameter>
            ...
         </Parameter>
      </Parameters>
   </DescribeDBClusterParametersResult>
</DescribeDBClusterParametersResponse>

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### Parameters

<table>
<thead>
<tr>
<th>ParameterName</th>
<th>ParameterValue</th>
<th>ApplyMethod</th>
<th>Source</th>
<th>IsModifiable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>auto_increment_increment</td>
<td>1-65535</td>
<td>pending-reboot</td>
<td>engine-default</td>
<td>true</td>
<td>Intended for use with master-to-master replication, and can be used to control the operation of AUTO_INCREMENT columns.</td>
</tr>
<tr>
<td>auto_increment_offset</td>
<td>1-65535</td>
<td>pending-reboot</td>
<td>engine-default</td>
<td>true</td>
<td>Determines the starting point for the AUTO_INCREMENT column value.</td>
</tr>
<tr>
<td>binlog_checksum</td>
<td>NONE,CRC32</td>
<td>pending-reboot</td>
<td>engine-default</td>
<td>true</td>
<td>When enabled, this variable causes the master to write a checksum for each event in the binary log.</td>
</tr>
<tr>
<td>binlog_format</td>
<td>ROW,STATEMENT,MIXED,OFF</td>
<td>pending-reboot</td>
<td>system</td>
<td>false</td>
<td>Binary logging format for replication.</td>
</tr>
<tr>
<td>binlog_row_image</td>
<td>full,minimal,noblob</td>
<td>pending-reboot</td>
<td>engine-default</td>
<td>false</td>
<td>Whether the server logs full or minimal rows with row-based replication.</td>
</tr>
</tbody>
</table>

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeDBClusters

Returns information about Amazon Aurora DB clusters and Multi-AZ DB clusters. This API supports pagination.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

This operation can also return information for Amazon Neptune DB instances and Amazon DocumentDB instances.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBClusterIdentifier**

The user-supplied DB cluster identifier or the Amazon Resource Name (ARN) of the DB cluster. If this parameter is specified, information from only the specific DB cluster is returned. This parameter isn't case-sensitive.

Constraints:
- If supplied, must match an existing DBClusterIdentifier.

Type: String

Required: No

**Filters.Filter.N**

A filter that specifies one or more DB clusters to describe.

Supported filters:
- **clone-group-id** - Accepts clone group identifiers. The results list only includes information about the DB clusters associated with these clone groups.
- **db-cluster-id** - Accepts DB cluster identifiers and DB cluster Amazon Resource Names (ARNs). The results list only includes information about the DB clusters identified by these ARNs.
- **domain** - Accepts Active Directory directory IDs. The results list only includes information about the DB clusters associated with these domains.
- **engine** - Accepts engine names. The results list only includes information about the DB clusters for these engines.

Type: Array of Filter (p. 674) objects

Required: No

**IncludeShared**

Optional Boolean parameter that specifies whether the output includes information about clusters shared from other AWS accounts.

Type: Boolean

Required: No
Marker
An optional pagination token provided by a previous DescribeDBClusters request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String
Required: No

MaxRecords
The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100
Constraints: Minimum 20, maximum 100.
Type: Integer
Required: No

Response Elements
The following elements are returned by the service.

DBClusters.DBCluster
Contains a list of DB clusters for the user.

Type: Array of DBCluster (p. 588) objects

Marker
A pagination token that can be used in a later DescribeDBClusters request.

Type: String

Errors
For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterNotFoundFault
DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

Examples
Describing an Aurora DB cluster
This example illustrates one usage of DescribeDBClusters.

Sample Request
https://rds.us-east-1.amazonaws.com/?Action=DescribeDBClusters
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-AlGORITHM=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140722/us-east-1/rds/aws4_request
&X-Amz-Date=20140722T200807Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=2d4f2b9e8abc31122b5546f94c0499ba47de813cb875f9b9c78e8e19c9afe1b

Sample Response

  <DescribeDBClustersResult>
    <DBCluster>
      <AssociatedRoles>
        <DBClusterRole>
          <RoleArn>arn:aws:iam::123456789012:role/sample-role</RoleArn>
          <Status>ACTIVE</Status>
        </DBClusterRole>
      </AssociatedRoles>
      <Engine>aurora</Engine>
      <Status>available</Status>
      <BackupRetentionPeriod>0</BackupRetentionPeriod>
      <DBSubnetGroup>my-subgroup</DBSubnetGroup>
      <EngineVersion>5.6.10a</EngineVersion>
      <Endpoint>sample-cluster2.cluster-cbfvmb0y5fy.us-east-1.rds.amazonaws.com</Endpoint>
      <DBClusterIdentifier>sample-cluster2</DBClusterIdentifier>
      <PreferredBackupWindow>04:45-05:15</PreferredBackupWindow>
      <PreferredMaintenanceWindow>sat:05:56-sat:06:26</PreferredMaintenanceWindow>
      <DBClusterMembers/>
      <AllocatedStorage>15</AllocatedStorage>
      <MasterUsername>awsuser</MasterUsername>
    </DBCluster>
    <DBCluster>
      <AssociatedRoles />
      <Engine>aurora5.6</Engine>
      <Status>available</Status>
      <BackupRetentionPeriod>0</BackupRetentionPeriod>
      <DBSubnetGroup>my-subgroup</DBSubnetGroup>
      <EngineVersion>5.6.10a</EngineVersion>
      <Endpoint>sample-cluster3.cluster-cefgqfx9y5fy.us-east-1.rds.amazonaws.com</Endpoint>
      <DBClusterIdentifier>sample-cluster3</DBClusterIdentifier>
      <PreferredBackupWindow>07:06-07:36</PreferredBackupWindow>
      <PreferredMaintenanceWindow>tue:10:18-tue:10:48</PreferredMaintenanceWindow>
      <DBClusterMembers/>
      <IsClusterWriter>true</IsClusterWriter>
      <DBInstanceIdentifier>sample-cluster3-master</DBInstanceIdentifier>
    </DBClusterMember>
    <DBClusterMember>
      <IsClusterWriter>false</IsClusterWriter>
      <DBInstanceIdentifier>sample-cluster3-read1</DBInstanceIdentifier>
    </DBClusterMember>
    <AllocatedStorage>15</AllocatedStorage>
    <MasterUsername>awsuser</MasterUsername>
  </DescribeDBClustersResult>
</DescribeDBClustersResponse>
Describing a Multi-AZ DB cluster

This example illustrates one usage of DescribeDBClusters.

Sample Request

```xml
  <DBClusters>
    <DBCluster>
      <CrossAccountClone>false</CrossAccountClone>
      <AllocatedStorage>100</AllocatedStorage>
      <DatabaseName>mydb</DatabaseName>
      <AssociatedRoles />
      <AvailabilityZones>
        <AvailabilityZone>us-west-2a</AvailabilityZone>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
        <AvailabilityZone>us-west-2c</AvailabilityZone>
      </AvailabilityZones>
      <Iops>1000</Iops>
      <PerformanceInsightsKMSKeyId>/arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE/</PerformanceInsightsKMSKeyId>
      <PerformanceInsightsRetentionPeriod>7</PerformanceInsightsRetentionPeriod>
      <EngineVersion>8.0.26</EngineVersion>
      <MasterUsername>admin</MasterUsername>
      <DBClusterMembers>
        <DBClusterMember>
          <DBInstanceIdentifier>my-multi-az-cluster-instance-3</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
          <PromotionTier>1</PromotionTier>
          <IsClusterWriter>false</IsClusterWriter>
        </DBClusterMember>
        <DBClusterMember>
          <DBInstanceIdentifier>my-multi-az-cluster-instance-2</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
          <PromotionTier>1</PromotionTier>
          <IsClusterWriter>false</IsClusterWriter>
        </DBClusterMember>
      </DBClusterMembers>
    </DBCluster>
  </DBClusters>
</DescribeDBClusters>
```

Sample Response

```xml
  <DescribeDBClustersResult>
    <DBClusters>
      <DBCluster>
        <CrossAccountClone>false</CrossAccountClone>
        <AllocatedStorage>100</AllocatedStorage>
        <DatabaseName>mydb</DatabaseName>
        <AssociatedRoles />
        <AvailabilityZones>
          <AvailabilityZone>us-west-2a</AvailabilityZone>
          <AvailabilityZone>us-west-2b</AvailabilityZone>
          <AvailabilityZone>us-west-2c</AvailabilityZone>
        </AvailabilityZones>
        <Iops>1000</Iops>
        <PerformanceInsightsKMSKeyId>/arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE/</PerformanceInsightsKMSKeyId>
        <PerformanceInsightsRetentionPeriod>7</PerformanceInsightsRetentionPeriod>
        <EngineVersion>8.0.26</EngineVersion>
        <MasterUsername>admin</MasterUsername>
        <DBClusterMembers>
          <DBClusterMember>
            <DBInstanceIdentifier>my-multi-az-cluster-instance-3</DBInstanceIdentifier>
            <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
            <PromotionTier>1</PromotionTier>
            <IsClusterWriter>false</IsClusterWriter>
          </DBClusterMember>
          <DBClusterMember>
            <DBInstanceIdentifier>my-multi-az-cluster-instance-2</DBInstanceIdentifier>
            <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
            <PromotionTier>1</PromotionTier>
            <IsClusterWriter>false</IsClusterWriter>
          </DBClusterMember>
        </DBClusterMembers>
      </DBCluster>
    </DBClusters>
  </DescribeDBClustersResult>
</DescribeDBClustersResponse>
```
<table>
<thead>
<tr>
<th>Tag Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBClusterIdentifier</td>
<td>my-multi-az-cluster</td>
</tr>
<tr>
<td>DBClusterResourceIdentifier</td>
<td>my-multi-az-cluster</td>
</tr>
<tr>
<td>Status</td>
<td>creating</td>
</tr>
<tr>
<td>DeletionProtection</td>
<td>false</td>
</tr>
<tr>
<td>HostedZoneId</td>
<td>Z3GZ3VYA3PgHTQ</td>
</tr>
<tr>
<td>DomainMemberships</td>
<td>/</td>
</tr>
<tr>
<td>MonitoringRoleArn</td>
<td>arn:aws:iam::123456789012:role/enhance-monitoring-role</td>
</tr>
<tr>
<td>EngineMode</td>
<td>provisioned</td>
</tr>
<tr>
<td>PubliclyAccessible</td>
<td>true</td>
</tr>
<tr>
<td>IAMDatabaseAuthenticationEnabled</td>
<td>false</td>
</tr>
<tr>
<td>ActivityStreamStatus</td>
<td>stopped</td>
</tr>
<tr>
<td>PerformanceInsightsEnabled</td>
<td>true</td>
</tr>
<tr>
<td>MultiAZ</td>
<td>true</td>
</tr>
<tr>
<td>StorageEncrypted</td>
<td>true</td>
</tr>
<tr>
<td>DBSubnetGroup</td>
<td>mysubnet1</td>
</tr>
<tr>
<td>VpcSecurityGroups</td>
<td>/</td>
</tr>
<tr>
<td>VpcSecurityGroupMembership</td>
<td>/</td>
</tr>
<tr>
<td>StorageType</td>
<td>io1</td>
</tr>
<tr>
<td>DBClusterInstanceClass</td>
<td>db.r6gd.large</td>
</tr>
<tr>
<td>CopyTagsToSnapshot</td>
<td>false</td>
</tr>
<tr>
<td>AutoMinorVersionUpgrade</td>
<td>true</td>
</tr>
</tbody>
</table>

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeDBClusterSnapshotAttributes

Returns a list of DB cluster snapshot attribute names and values for a manual DB cluster snapshot.

When sharing snapshots with other AWS accounts, DescribeDBClusterSnapshotAttributes returns the `restore` attribute and a list of IDs for the AWS accounts that are authorized to copy or restore the manual DB cluster snapshot. If `all` is included in the list of values for the `restore` attribute, then the manual DB cluster snapshot is public and can be copied or restored by all AWS accounts.

To add or remove access for an AWS account to copy or restore a manual DB cluster snapshot, or to make the manual DB cluster snapshot public or private, use the ModifyDBClusterSnapshotAttribute API action.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBClusterSnapshotIdentifier**

The identifier for the DB cluster snapshot to describe the attributes for.

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.

**DBClusterSnapshotAttributesResult**

Contains the results of a successful call to the DescribeDBClusterSnapshotAttributes API action.

Manual DB cluster snapshot attributes are used to authorize other AWS accounts to copy or restore a manual DB cluster snapshot. For more information, see the ModifyDBClusterSnapshotAttribute API action.

Type: `DBClusterSnapshotAttributesResult` (p. 612) object

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterSnapshotNotFoundFault**

`DBClusterSnapshotIdentifier` doesn't refer to an existing DB cluster snapshot.

HTTP Status Code: 404
Examples

Example

This example illustrates one usage of DescribeDBClusterSnapshotAttributes.

Sample Request

```
https://rds.us-west-2.amazonaws.com/
   ?Action=DescribeDBClusterSnapshotAttributes
   &DBClusterSnapshotIdentifier=manual-cluster-snapshot1
   &SignatureMethod=HmacSHA256
   &SignatureVersion=4
   &Version=2014-10-31
   &X-Amz-Algorithm=AWS4-HMAC-SHA256
   &X-Amz-Credential=AKIADQKE4SARGYLE/20151027/us-east-1/rds/aws4_request
   &X-Amz-Date=20151027T210706Z
   &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
   &X-Amz-Signature=27413f450dfac3d68b2197453e52109bacd3863f9df1a02d6e40022165bb2e09
```

Sample Response

```
   <DescribeDBClusterSnapshotAttributesResult>
      <DBClusterSnapshotAttributesResult>
         <DBClusterSnapshotAttributes>
            <DBClusterSnapshotAttribute>
               <AttributeName>restore</AttributeName>
               <AttributeValues>
                  <AttributeValue>012345678901</AttributeValue>
               </AttributeValues>
            </DBClusterSnapshotAttribute>
         </DBClusterSnapshotAttributes>
         <DBSnapshotIdentifier>manual-cluster-snapshot1</DBSnapshotIdentifier>
      </DBClusterSnapshotAttributesResult>
      <ResponseMetadata>
         <RequestId>ae5be4a2-7cee-11e5-a056-f1c189649a47</RequestId>
      </ResponseMetadata>
   </DescribeDBClusterSnapshotAttributesResult>
</DescribeDBClusterSnapshotAttributesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python

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• AWS SDK for Ruby V3
DescribeDBClusterSnapshots

Returns information about DB cluster snapshots. This API action supports pagination.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterIdentifier

The ID of the DB cluster to retrieve the list of DB cluster snapshots for. This parameter can't be used in conjunction with the DBClusterSnapshotIdentifier parameter. This parameter isn't case-sensitive.

Constraints:
- If supplied, must match the identifier of an existing DBCluster.

Type: String

Required: No

DBClusterSnapshotIdentifier

A specific DB cluster snapshot identifier to describe. This parameter can't be used in conjunction with the DBClusterIdentifier parameter. This value is stored as a lowercase string.

Constraints:
- If supplied, must match the identifier of an existing DBClusterSnapshot.
- If this identifier is for an automated snapshot, the SnapshotType parameter must also be specified.

Type: String

Required: No

Filters.Filter.N

A filter that specifies one or more DB cluster snapshots to describe.

Supported filters:
- db-cluster-id - Accepts DB cluster identifiers and DB cluster Amazon Resource Names (ARNs).
- db-cluster-snapshot-id - Accepts DB cluster snapshot identifiers.
- snapshot-type - Accepts types of DB cluster snapshots.
- engine - Accepts names of database engines.

Type: Array of Filter (p. 674) objects

Required: No

IncludePublic

A value that indicates whether to include manual DB cluster snapshots that are public and can be copied or restored by any AWS account. By default, the public snapshots are not included.
You can share a manual DB cluster snapshot as public by using the `ModifyDBClusterSnapshotAttribute (p. 379)` API action.

**IncludeShared**

A value that indicates whether to include shared manual DB cluster snapshots from other AWS accounts that this AWS account has been given permission to copy or restore. By default, these snapshots are not included.

You can give an AWS account permission to restore a manual DB cluster snapshot from another AWS account by the `ModifyDBClusterSnapshotAttribute` API action.

**Marker**

An optional pagination token provided by a previous `DescribeDBClusterSnapshots` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

**SnapshotType**

The type of DB cluster snapshots to be returned. You can specify one of the following values:

- **automated** - Return all DB cluster snapshots that have been automatically taken by Amazon RDS for my AWS account.
- **manual** - Return all DB cluster snapshots that have been taken by my AWS account.
- **shared** - Return all manual DB cluster snapshots that have been shared to my AWS account.
- **public** - Return all DB cluster snapshots that have been marked as public.

If you don't specify a `SnapshotType` value, then both automated and manual DB cluster snapshots are returned. You can include shared DB cluster snapshots with these results by enabling the `IncludeShared` parameter. You can include public DB cluster snapshots with these results by enabling the `IncludePublic` parameter.

The `IncludeShared` and `IncludePublic` parameters don't apply for `SnapshotType` values of `manual` or `automated`. The `IncludePublic` parameter doesn't apply when `SnapshotType` is set to `shared`. The `IncludeShared` parameter doesn't apply when `SnapshotType` is set to `public`.

**IncludePublic**

Type: Boolean

Required: No

**IncludeShared**

A value that indicates whether to include shared manual DB cluster snapshots from other AWS accounts that this AWS account has been given permission to copy or restore. By default, these snapshots are not included.

You can give an AWS account permission to restore a manual DB cluster snapshot from another AWS account by the `ModifyDBClusterSnapshotAttribute` API action.

**Marker**

An optional pagination token provided by a previous `DescribeDBClusterSnapshots` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

**SnapshotType**

The type of DB cluster snapshots to be returned. You can specify one of the following values:

- **automated** - Return all DB cluster snapshots that have been automatically taken by Amazon RDS for my AWS account.
- **manual** - Return all DB cluster snapshots that have been taken by my AWS account.
- **shared** - Return all manual DB cluster snapshots that have been shared to my AWS account.
- **public** - Return all DB cluster snapshots that have been marked as public.

If you don't specify a `SnapshotType` value, then both automated and manual DB cluster snapshots are returned. You can include shared DB cluster snapshots with these results by enabling the `IncludeShared` parameter. You can include public DB cluster snapshots with these results by enabling the `IncludePublic` parameter.

The `IncludeShared` and `IncludePublic` parameters don't apply for `SnapshotType` values of `manual` or `automated`. The `IncludePublic` parameter doesn't apply when `SnapshotType` is set to `shared`. The `IncludeShared` parameter doesn't apply when `SnapshotType` is set to `public`.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

**DBClusterSnapshots.DBClusterSnapshot.N**

Provides a list of DB cluster snapshots for the user.

Type: Array of [DBClusterSnapshot](p. 607) objects

**Marker**

An optional pagination token provided by a previous DescribeDBClusterSnapshots request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors](p. 743).

**DBClusterSnapshotNotFoundFault**

DBClusterSnapshotIdentifier doesn't refer to an existing DB cluster snapshot.

HTTP Status Code: 404

Examples

**Example**

This example illustrates one usage of DescribeDBClusterSnapshots.

**Sample Request**

```plaintext
https://rds.us-east-1.amazonaws.com/
  ?Action=DescribeDBClusterSnapshots
  &IncludePublic=false
  &IncludeShared=true
  &MaxRecords=40
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20150318/us-east-1/rds/aws4_request
  &X-Amz-Date=20150318T204210Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=913f0ec1dfc684ff9c6ef3eab5885258dbb22017c47b1bcd4fed4680e35ae4f4b
```

**Sample Response**

```xml
  <DescribeDBClusterSnapshotsResult/>
</DescribeDBClusterSnapshotsResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBEngineVersions

Returns a list of the available DB engines.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBParameterGroupFamily**

The name of a specific DB parameter group family to return details for.

Constraints:

- If supplied, must match an existing DBParameterGroupFamily.

Type: String

Required: No

**DefaultOnly**

A value that indicates whether only the default version of the specified engine or engine and major version combination is returned.

Type: Boolean

Required: No

**Engine**

The database engine to return.

Valid Values:

- `aurora` (for MySQL 5.6-compatible Aurora)
- `aurora-mysql` (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora)
- `aurora-postgresql`
- `mariadb`
- `mysql`
- `oracle-ee`
- `oracle-ee-cdb`
- `oracle-se2`
- `oracle-se2-cdb`
- `postgres`
- `sqlserver-ee`
- `sqlserver-se`
- `sqlserver-ex`
- `sqlserver-web`

Type: String

Required: No

**EngineVersion**

The database engine version to return.
Example: 5.1.49

Type: String

Required: No

Filters.Filter.N

A filter that specifies one or more DB engine versions to describe.

Supported filters:

- db-parameter-group-family - Accepts parameter groups family names. The results list only includes information about the DB engine versions for these parameter group families.
- engine - Accepts engine names. The results list only includes information about the DB engine versions for these engines.
- engine-mode - Accepts DB engine modes. The results list only includes information about the DB engine versions for these engine modes. Valid DB engine modes are the following:
  - global
  - multimaster
  - parallelquery
  - provisioned
  - serverless
- engine-version - Accepts engine versions. The results list only includes information about the DB engine versions for these engine versions.
- status - Accepts engine version statuses. The results list only includes information about the DB engine versions for these statuses. Valid statuses are the following:
  - available
  - deprecated

Type: Array of Filter (p. 674) objects

Required: No

IncludeAll

A value that indicates whether to include engine versions that aren't available in the list. The default is to list only available engine versions.

Type: Boolean

Required: No

ListSupportedCharacterSets

A value that indicates whether to list the supported character sets for each engine version.

If this parameter is enabled and the requested engine supports the CharacterSetName parameter for CreateDBInstance, the response includes a list of supported character sets for each engine version.

For RDS Custom, the default is not to list supported character sets. If you set ListSupportedCharacterSets to true, RDS Custom returns no results.

Type: Boolean

Required: No

ListSupportedTimezones

A value that indicates whether to list the supported time zones for each engine version.
If this parameter is enabled and the requested engine supports the TimeZone parameter for CreateDBInstance, the response includes a list of supported time zones for each engine version.

For RDS Custom, the default is not to list supported time zones. If you set ListSupportedTimezones to true, RDS Custom returns no results.

Type: Boolean
Required: No

**Marker**

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String
Required: No

**MaxRecords**

The maximum number of records to include in the response. If more than the MaxRecords value is available, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer
Required: No

**Response Elements**

The following elements are returned by the service.

**DBEngineVersions.DBEngineVersion.N**

A list of DBEngineVersion elements.

Type: Array of `DBEngineVersion` objects

**Marker**

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

**Errors**

For information about the errors that are common to all actions, see `Common Errors (p. 743)`.

**Examples**

**Example**

This example illustrates one usage of DescribeDBEngineVersions.
Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=DescribeDBEngineVersions
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194732Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=4772d17a4c43bcd209ff42a0778dd23e73f8434253effd7ac53b89ade3dad45f

Sample Response

  <DescribeDBEngineVersionsResult>
    <DBEngineVersions>
      <DBEngineVersion>
        <Engine>mysql</Engine>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <DBEngineDescription>MySQL Community Edition</DBEngineDescription>
        <EngineVersion>5.1.57</EngineVersion>
        <DBEngineVersionDescription>MySQL 5.1.57</DBEngineVersionDescription>
      </DBEngineVersion>
      <DBEngineVersion>
        <Engine>mysql</Engine>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <DBEngineDescription>MySQL Community Edition</DBEngineDescription>
        <EngineVersion>5.1.61</EngineVersion>
        <DBEngineVersionDescription>MySQL 5.1.61</DBEngineVersionDescription>
      </DBEngineVersion>
      <DBEngineVersion>
        <Engine>mysql</Engine>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <DBEngineDescription>MySQL Community Edition</DBEngineDescription>
        <EngineVersion>5.1.62</EngineVersion>
        <DBEngineVersionDescription>MySQL 5.1.62</DBEngineVersionDescription>
      </DBEngineVersion>
    </DBEngineVersions>
  </DescribeDBEngineVersionsResult>
  <ResponseMetadata>
    <RequestId>b74d2635-b98c-11d3-fbc7-5c0aad74da7c</RequestId>
  </ResponseMetadata>
</DescribeDBEngineVersionsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeDBInstanceAutomatedBackups

Displays backups for both current and deleted instances. For example, use this operation to find details about automated backups for previously deleted instances. Current instances with retention periods greater than zero (0) are returned for both the DescribeDBInstanceAutomatedBackups and DescribeDBInstances operations.

All parameters are optional.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBInstanceAutomatedBackupsArn

The Amazon Resource Name (ARN) of the replicated automated backups, for example, `arn:aws:rds:us-east-1:123456789012:auto-backup:ab-L2JCEXJP7XQ7HOJ4S1EXAMPLE`.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

DBInstanceIdentifier

(Optional) The user-supplied instance identifier. If this parameter is specified, it must match the identifier of an existing DB instance. It returns information from the specific DB instance' automated backup. This parameter isn't case-sensitive.

Type: String

Required: No

DbiResourceId

The resource ID of the DB instance that is the source of the automated backup. This parameter isn't case-sensitive.

Type: String

Required: No

Filters.Filter.N

A filter that specifies which resources to return based on status.

Supported filters are the following:

- status
  - active - automated backups for current instances
  - retained - automated backups for deleted instances and after backup replication is stopped
  - creating - automated backups that are waiting for the first automated snapshot to be available

- db-instance-id - Accepts DB instance identifiers and Amazon Resource Names (ARNs). The results list includes only information about the DB instance automated backups identified by these ARNs.

- dbi-resource-id - Accepts DB resource identifiers and Amazon Resource Names (ARNs). The results list includes only information about the DB instance resources identified by these ARNs.
Returns all resources by default. The status for each resource is specified in the response.

Type: Array of Filter (p. 674) objects

Required: No

Marker

The pagination token provided in the previous request. If this parameter is specified the response includes only records beyond the marker, up to MaxRecords.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

DBInstanceAutomatedBackups.DBInstanceAutomatedBackup.N

A list of DBInstanceAutomatedBackup instances.

Type: Array of DBInstanceAutomatedBackup (p. 629) objects

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBInstanceAutomatedBackupNotFound

No automated backup for this DB instance was found.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeDBInstanceAutomatedBackups.
Sample Request

```plaintext
https://rds.us-east-1.amazonaws.com/
?Action=DescribeDBInstanceAutomatedBackups
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140420/us-east-1/rds/aws4_request
&X-Amz-Date=20180912T200207Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=ca944f79fa60576d2c2d29d74d764739e4f22b9d0e52a1d3be0d095743b0
```

Sample Response

```xml
  <DescribeDBInstanceAutomatedBackupsResult>
    <DBInstanceAutomatedBackups>
      <DBInstanceAutomatedBackup>DeleteDBInstanceAutomatedBackupResultDeleteDBInstanceAutomatedBackupResult
        <EngineVersion>11.2.0.4.v13</EngineVersion>
        <MasterUsername>admin</MasterUsername>
        <AllocatedStorage>50</AllocatedStorage>
        <InstanceCreateTime>2018-08-17T21:58:30Z</InstanceCreateTime>
        <DbiResourceId>db-IXRXA2X67KFFA6JWYYWFZEB1DE</DbiResourceId>
        <DBInstanceArn>arn:aws:rds:us-east-1:1234567890:db:myoracle1</DBInstanceArn>
        <DBInstanceIdentifier>myoracle1</DBInstanceIdentifier>
        <RestoreWindow/>
        <Encrypted>false</Encrypted>
        <Engine>oracle-ee</Engine>
        <Port>1521</Port>
        <LicenseModel>bring-your-own-license</LicenseModel>
        <IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
        <StorageType>magnetic</StorageType>
        <OptionGroupName>default:oracle-ee-11-2</OptionGroupName>
        <Region>us-east-1</Region>
        <Status>creating</Status>
      </DBInstanceAutomatedBackup>
      <DBInstanceAutomatedBackup>
        <EngineVersion>11.2.0.4.v12</EngineVersion>
        <MasterUsername>admin</MasterUsername>
        <AllocatedStorage>50</AllocatedStorage>
        <InstanceCreateTime>2018-08-21T00:32:55Z</InstanceCreateTime>
        <AvailabilityZone>us-east-1d</AvailabilityZone>
        <DbiResourceId>db-YVS5NRBNHPGJ3IT5WADX7ZFWYU</DbiResourceId>
        <DBInstanceArn>arn:aws:rds:us-east-1:1234567890:db:myoracle2</DBInstanceArn>
        <DBInstanceIdentifier>myoracle2</DBInstanceIdentifier>
        <RestoreWindow>
          <EarliestTime>2018-08-21T00:33:32.648Z</EarliestTime>
          <LatestTime>2018-08-28T20:16:27Z</LatestTime>
        </RestoreWindow>
        <Encrypted>false</Encrypted>
        <Engine>oracle-ee</Engine>
        <Port>1521</Port>
        <LicenseModel>bring-your-own-license</LicenseModel>
        <IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
        <StorageType>magnetic</StorageType>
        <OptionGroupName>default:oracle-ee-11-2</OptionGroupName>
        <Region>us-east-1</Region>
        <Status>active</Status>
      </DBInstanceAutomatedBackup>
    </DBInstanceAutomatedBackups>
  </DescribeDBInstanceAutomatedBackupsResult>
</DescribeDBInstanceAutomatedBackupsResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBInstances

Returns information about provisioned RDS instances. This API supports pagination.

**Note**
This operation can also return information for Amazon Neptune DB instances and Amazon DocumentDB instances.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceIdentifier**

The user-supplied instance identifier or the Amazon Resource Name (ARN) of the DB instance. If this parameter is specified, information from only the specific DB instance is returned. This parameter isn't case-sensitive.

Constraints:
- If supplied, must match the identifier of an existing DBInstance.

Type: String

Required: No

**Filters.Filter.N**

A filter that specifies one or more DB instances to describe.

Supported filters:
- **db-cluster-id** - Accepts DB cluster identifiers and DB cluster Amazon Resource Names (ARNs). The results list only includes information about the DB instances associated with the DB clusters identified by these ARNs.
- **db-instance-id** - Accepts DB instance identifiers and DB instance Amazon Resource Names (ARNs). The results list only includes information about the DB instances identified by these ARNs.
- **dbi-resource-id** - Accepts DB instance resource identifiers. The results list will only include information about the DB instances identified by these DB instance resource identifiers.
- **domain** - Accepts Active Directory directory IDs. The results list only includes information about the DB instances associated with these domains.
- **engine** - Accepts engine names. The results list only includes information about the DB instances for these engines.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous DescribeDBInstances request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No
MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

DBInstances.DBInstance.N

A list of DBInstance instances.

Type: Array of DBInstance (p. 617) objects

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBInstanceNotFound

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeDBInstances.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DescribeDBInstances
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256

API Version 2014-10-31
240
Sample Response

```xml
  <DescribeDBInstancesResult>
    <DBInstances>
      <DBInstance>
        <AllocatedStorage>100</AllocatedStorage>
        <DBParameterGroups>
          <DBParameterGroup>
            <DBParameterGroupName>default.mysql5.6</DBParameterGroupName>
            <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          </DBParameterGroup>
        </DBParameterGroups>
        <AvailabilityZone>us-east-1b</AvailabilityZone>
        <SecondaryAvailabilityZone>us-east-1a</SecondaryAvailabilityZone>
        <Iops>1000</Iops>
        <EngineVersion>5.6.39</EngineVersion>
        <MasterUsername>mysqldbadmin</MasterUsername>
        <InstanceCreateTime>2018-03-28T19:54:07.871Z</InstanceCreateTime>
        <DBInstanceClass>db.m4.xlarge</DBInstanceClass>
        <MonitoringInterval>60</MonitoringInterval>
        <DBInstanceStatus>available</DBInstanceStatus>
        <BackupRetentionPeriod>7</BackupRetentionPeriod>
        <KmsKeyId>arn:aws:kms:us-east-1:1234567890:key/######################</KmsKeyId>
        <OptionGroupMemberships>
          <OptionGroupMembership>
            <OptionGroupName>default:mysql-5-6</OptionGroupName>
            <Status>in-sync</Status>
          </OptionGroupMembership>
        </OptionGroupMemberships>
        <LatestRestorableTime>2018-03-28T20:10:00Z</LatestRestorableTime>
        <CACertificateIdentifier>rds-ca-2015</CACertificateIdentifier>
        <DBInstancePort>0</DBInstancePort>
        <DBInstanceArn>arn:aws:rds:us-east-1:1234567890:db:mysqldb</DBInstanceArn>
        <Endpoint>
          <HostedZoneId>Z2R2ITUGPM61AM</HostedZoneId>
          <Address>mysqldb.########.us-east-1.rds.amazonaws.com</Address>
          <Port>3306</Port>
        </Endpoint>
        <Engine>mysql</Engine>
        <PubliclyAccessible>true</PubliclyAccessible>
        <IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
        <MultiAZ>true</MultiAZ>
        <MonitoringRoleArn>arn:aws:iam::1234567890:role/rds-monitoring-role</MonitoringRoleArn>
        <StorageEncryption>true</StorageEncryption>
        <DBSubnetGroup>
          <VpcId>vpc-########</VpcId>
        </DBSubnetGroup>
      </DBInstance>
    </DBInstances>
  </DescribeDBInstancesResult>
</DescribeDBInstancesResponse>
```
<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1e</Name>
  </SubnetAvailabilityZone>
</Subnet>

<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1d</Name>
  </SubnetAvailabilityZone>
</Subnet>

<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1c</Name>
  </SubnetAvailabilityZone>
</Subnet>

<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1f</Name>
  </SubnetAvailabilityZone>
</Subnet>

<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1a</Name>
  </SubnetAvailabilityZone>
</Subnet>

<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1b</Name>
  </SubnetAvailabilityZone>
</Subnet>

</Subnets>

<SubnetGroupStatus>Complete</SubnetGroupStatus>
<DBSubnetGroupDescription>default</DBSubnetGroupDescription>
<DBSubnetGroupName>default</DBSubnetGroupName>
</DBSubnetGroup>

<VpcSecurityGroups>
  <VpcSecurityGroupMembership>
    <VpcSecurityGroupId>sg-########</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroupMembership>
</VpcSecurityGroups>

<LicenseModel>general-public-license</LicenseModel>
<PendingModifiedValues/>
<PreferredMaintenanceWindow>fri:05:57-fri:06:27</PreferredMaintenanceWindow>
<StorageType>io1</StorageType>
<AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
COPYTAGSTOSNAPSHOT=false</COPYTAGSTOSNAPSHOT>
</DBInstance>

<AllocatedStorage>100</AllocatedStorage>

<DBParameterGroups>
  <DBParameterGroup>
    <DBParameterGroupName>default.oracle-ee-12.1</DBParameterGroupName>
    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
  </DBParameterGroup>
</DBParameterGroups>
<SubnetAvailabilityZone>
  <Name>us-east-1c</Name>
</SubnetAvailabilityZone>
</Subnet>
<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1f</Name>
  </SubnetAvailabilityZone>
</Subnet>
<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1a</Name>
  </SubnetAvailabilityZone>
</Subnet>
<Subnet>
  <SubnetIdentifier>subnet-########</SubnetIdentifier>
  <SubnetStatus>Active</SubnetStatus>
  <SubnetAvailabilityZone>
    <Name>us-east-1b</Name>
  </SubnetAvailabilityZone>
</Subnet>
</Subnets>
<SubnetGroupStatus>Complete</SubnetGroupStatus>
<DBSubnetGroupDescription>default</DBSubnetGroupDescription>
<DBSubnetGroupName>default</DBSubnetGroupName>
</DBSubnetGroup>
<VpcSecurityGroups>
  <VpcSecurityGroupMembership>
    <VpcSecurityGroupId>sg-########</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroupMembership>
</VpcSecurityGroups>
<VpcSecurityGroups>
  <LicenseModel>bring-your-own-license</LicenseModel>
  <PendingModifiedValues/>
  <PreferredMaintenanceWindow>tue:08:39-tue:09:09</PreferredMaintenanceWindow>
  <StorageType>io1</StorageType>
  <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
  <CopyTagsToSnapshot>false</CopyTagsToSnapshot>
</DBInstance>
</DBInstances>
</DescribeDBInstancesResult>
<ResponseMetadata>
  <RequestId>298f362b-e14a-4ee0-9840-4546c276014a</RequestId>
</ResponseMetadata>
</DescribeDBInstancesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeDBLogFiles

Returns a list of DB log files for the DB instance.

This command doesn't apply to RDS Custom.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBInstanceIdentifier

The customer-assigned name of the DB instance that contains the log files you want to list.

Constraints:
• Must match the identifier of an existing DBInstance.

Type: String

Required: Yes

FileLastWritten

Filters the available log files for files written since the specified date, in POSIX timestamp format with milliseconds.

Type: Long

Required: No

FilenameContains

Filters the available log files for log file names that contain the specified string.

Type: String

Required: No

FileSize

Filters the available log files for files larger than the specified size.

Type: Long

Required: No

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

Marker

The pagination token provided in the previous request. If this parameter is specified the response includes only records beyond the marker, up to MaxRecords.

Type: String

Required: No
MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Type: Integer
Required: No

Response Elements

The following elements are returned by the service.

DescribeDBLogFiles.DescribeDBLogFilesDetails.N

The DB log files returned.

Type: Array of DescribeDBLogFilesDetails objects

Marker

A pagination token that can be used in a later DescribeDBLogFiles request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBInstanceNotFound

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeDBLogFiles.

Sample Request

https://rds.us-east-1.amazonaws.com/?Action=DescribeDBLogFiles&DBInstanceIdentifier=mysqldb&MaxRecords=100&SignatureMethod=HmacSHA256&SignatureVersion=4&Version=2014-09-01&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-east-1/rds/aws4_request&X-Amz-Date=20140421T225750Z&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
Sample Response

```xml
<DescribeDBLogFilesResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <DescribeDBLogFilesResult>
    <DescribeDBLogFiles>
      <DescribeDBLogFilesDetails>
        <LastWritten>1398119101000</LastWritten>
        <LogFileName>error/mysql-error-running.log</LogFileName>
        <Size>1599</Size>
      </DescribeDBLogFilesDetails>
      <DescribeDBLogFilesDetails>
        <LastWritten>1398120900000</LastWritten>
        <LogFileName>error/mysql-error.log</LogFileName>
        <Size>0</Size>
      </DescribeDBLogFilesDetails>
    </DescribeDBLogFiles>
  </DescribeDBLogFilesResult>
  <ResponseMetadata>
    <RequestId>4c6ed648-b9f7-11d3-97bd-7999dd5a8f72</RequestId>
  </ResponseMetadata>
</DescribeDBLogFilesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBParameterGroups

Returns a list of DBParameterGroup descriptions. If a DBParameterGroupName is specified, the list will contain only the description of the specified DB parameter group.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBParameterGroupName

The name of a specific DB parameter group to return details for.

Constraints:
  • If supplied, must match the name of an existing DBClusterParameterGroup.

Type: String
Required: No

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects
Required: No

Marker

An optional pagination token provided by a previous DescribeDBParameterGroups request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String
Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer
Required: No

Response Elements

The following elements are returned by the service.

DBParameterGroups.DBParameterGroup.N

A list of DBParameterGroup instances.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBParameterGroupNotFound

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeDBParameterGroups.

Sample Request

```
https://rds.us-west-2.amazonaws.com/
  ?Action=DescribeDBParameterGroups
&DBParameterGroupName=mysql-logs
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194732Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=e2753df1cb019f212057b51e8a2ac16dae05b344063355b195b560ef6e76661a
```

Sample Response

```
  <DescribeDBParameterGroupsResult>
    <DBParameterGroups>
      <DBParameterGroup>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Description>Default parameter group for mysql5.1</Description>
        <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
      </DBParameterGroup>
      <DBParameterGroup>
        <DBParameterGroupFamily>mysql5.5</DBParameterGroupFamily>
        <Description>Default parameter group for mysql5.5</Description>
        <DBParameterGroupName>default.mysql5.5</DBParameterGroupName>
      </DBParameterGroup>
    </DBParameterGroups>
  </DescribeDBParameterGroupsResult>
</DescribeDBParameterGroupsResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBParameters

Returns the detailed parameter list for a particular DB parameter group.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBParameterGroupName**

The name of a specific DB parameter group to return details for.

Constraints:
- If supplied, must match the name of an existing DBParameterGroup.

Type: String

Required: Yes

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous DescribeDBParameters request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

**Source**

The parameter types to return.

Default: All parameter types returned

Valid Values: user | system | engine-default

Type: String

Required: No
Response Elements

The following elements are returned by the service.

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Parameters.Parameter.N

A list of Parameter values.

Type: Array of Parameter (p. 701) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBParameterGroupNotFound

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeDBParameters.

Sample Request

https://rds.us-east-1.amazonaws.com/
  ?Action=DescribeDBParameters
  &DBParameterGroupName=oracle-logs
  &MaxRecords=100
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-09-01
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-east-1/rds/aws4_request
  &X-Amz-Date=20140421T231357Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=ac9b18d6ae7cab4bf45ed2caa99cd8438101b293c0a84e80c3bab77f7369cc7

Sample Response

<DescribeDBParametersResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <DescribeDBParametersResult>
    <Marker>bGlzdGVuZXJfbmV0d29ya3M=</Marker>
    <Parameters>
      <Parameter>
        <Name>parameter1</Name>
        <Value>value1</Value>
      </Parameter>
      <Parameter>
        <Name>parameter2</Name>
        <Value>value2</Value>
      </Parameter>
    </Parameters>
  </DescribeDBParametersResult>
</DescribeDBParametersResponse>
<Parameter>
  <ParameterName>aq_tm_processes</ParameterName>
  <ParameterValue>300</ParameterValue>
  <DataType>integer</DataType>
  <Source>system</Source>
  <IsModifiable>false</IsModifiable>
  <Description>Maximum number of seconds of redos the standby could lose</Description>
  <ApplyType>dynamic</ApplyType>
  <ParameterName>archive_lag_target</ParameterName>
</Parameter>

<Parameter>
  <ParameterValue>/rdsdbdata/admin/{dbName}/adump</ParameterValue>
  <DataType>string</DataType>
  <Source>engine-default</Source>
  <IsModifiable>false</IsModifiable>
  <Description>Directory in which auditing files are to reside</Description>
  <ApplyType>dynamic</ApplyType>
  <ParameterName>audit_file_dest</ParameterName>
</Parameter>

<Parameter>
  <DataType>boolean</DataType>
  <Source>engine-default</Source>
  <IsModifiable>false</IsModifiable>
  <Description>enable sys auditing</Description>
  <ApplyType>static</ApplyType>
  <AllowedValues>TRUE,FALSE</AllowedValues>
  <ParameterName>audit_sys_operations</ParameterName>
</Parameter>

<Parameter>
  <DataType>string</DataType>
  <Source>engine-default</Source>
  <IsModifiable>false</IsModifiable>
  <Description>Syslog facility and level</Description>
  <ApplyType>static</ApplyType>
  <ParameterName>audit_syslog_level</ParameterName>
</Parameter>

<Parameter>
  <DataType>string</DataType>
  <Source>engine-default</Source>
  <IsModifiable>true</IsModifiable>
  <Description>enable system auditing</Description>
  <ApplyType>static</ApplyType>
  <AllowedValues>DB, OS, NONE, TRUE, FALSE, DB_EXTENDED, XML</AllowedValues>
  <ParameterName>audit_trail</ParameterName>
</Parameter>
</DescribeDBParametersResult>

<ResponseMetadata>
  <RequestId>8c40488f-b9ff-11d3-a15e-7ac49293f4fa</RequestId>
</ResponseMetadata>
</DescribeDBParametersResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeDBProxies

Returns information about DB proxies.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBProxyName

The name of the DB proxy. If you omit this parameter, the output includes information about all DB proxies owned by your AWS account ID.

Type: String

Required: No

Filters.Filter.N

This parameter is not currently supported.

Type: Array of Filter (p. 674) objects

Required: No

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer


Required: No

Response Elements

The following elements are returned by the service.

DBProxies.member.N

A return value representing an arbitrary number of DBProxy data structures.

Type: Array of DBProxy (p. 638) objects
Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBProxyNotFoundFault

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBProxyEndpoints

Returns information about DB proxy endpoints.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBProxyEndpointName**

The name of a DB proxy endpoint to describe. If you omit this parameter, the output includes information about all DB proxy endpoints associated with the specified proxy.

Type: String


Pattern: `[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*`  

Required: No

**DBProxyName**

The name of the DB proxy whose endpoints you want to describe. If you omit this parameter, the output includes information about all DB proxy endpoints associated with all your DB proxies.

Type: String


Pattern: `[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*`  

Required: No

**Filters.Filter.N**

This parameter is not currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Default: 100

Constraints: Minimum 20, maximum 100.
Response Elements

The following elements are returned by the service.

DBProxyEndpoints.member.N

The list of ProxyEndpoint objects returned by the API operation.

Type: Array of DBProxyEndpoint (p. 641) objects

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBProxyEndpointNotFoundFault

The DB proxy endpoint doesn't exist.

HTTP Status Code: 404

DBProxyNotBoundFault

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBProxyTargetGroups

Returns information about DB proxy target groups, represented by DBProxyTargetGroup data structures.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBProxyName

The identifier of the DBProxy associated with the target group.
Type: String
Required: Yes

Filters.Filter.N

This parameter is not currently supported.
Type: Array of Filter (p. 674) objects
Required: No

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.
Type: String
Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.
Default: 100
Constraints: Minimum 20, maximum 100.
Type: Integer
Required: No

TargetGroupName

The identifier of the DBProxyTargetGroup to describe.
Type: String
Required: No

Response Elements

The following elements are returned by the service.
Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

TargetGroups.member.N

An arbitrary number of DBProxyTargetGroup objects, containing details of the corresponding target groups.

Type: Array of DBProxyTargetGroup (p. 645) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBProxyNotFoundFault

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

DBProxyTargetGroupNotFoundFault

The specified target group isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

InvalidDBProxyStateFault

The requested operation can't be performed while the proxy is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBProxyTargets

Returns information about DBProxyTarget objects. This API supports pagination.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBProxyName

The identifier of the DBProxyTarget to describe.

Type: String
Required: Yes

Filters.Filter.N

This parameter is not currently supported.

Type: Array of Filter (p. 674) objects
Required: No

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String
Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Default: 100
Constraints: Minimum 20, maximum 100.
Type: Integer
Required: No

TargetGroupName

The identifier of the DBProxyTargetGroup to describe.

Type: String
Required: No

Response Elements

The following elements are returned by the service.
Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Targets.member.N

An arbitrary number of `DBProxyTarget` objects, containing details of the corresponding targets.

Type: Array of `DBProxyTarget` objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBProxyNotFoundFault**

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**DBProxyTargetGroupNotFoundFault**

The specified target group isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**DBProxyTargetNotFoundFault**

The specified RDS DB instance or Aurora DB cluster isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**InvalidDBProxyStateFault**

The requested operation can't be performed while the proxy is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBSecurityGroups

Returns a list of DBSecurityGroup descriptions. If a DBSecurityGroupName is specified, the list will contain only the descriptions of the specified DB security group.

**Note**
EC2-Classic was retired on August 15, 2022. If you haven't migrated from EC2-Classic to a VPC, we recommend that you migrate as soon as possible. For more information, see Migrate from EC2-Classic to a VPC in the Amazon EC2 User Guide, the blog EC2-Classic Networking is Retiring – Here’s How to Prepare, and Moving a DB instance not in a VPC into a VPC in the Amazon RDS User Guide.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBSecurityGroupName**

The name of the DB security group to return details for.

Type: String

Required: No

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous DescribeDBSecurityGroups request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

**Response Elements**

The following elements are returned by the service.
DBSecurityGroups.DBSecurityGroup.N

A list of DBSecurityGroup instances.

Type: Array of DBSecurityGroup (p. 647) objects

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBSecurityGroupNotFound

DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeDBSecurityGroups.

Sample Request

```
https://rds.us-west-2.amazonaws.com/
?Action=DescribeDBSecurityGroups
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194732Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=b14bcddedcf2fd7ffbcce45ed2ca99cd848ee309a19070f946ad2a54f5331fe
```

Sample Response

```
  <DescribeDBSecurityGroupsResult>
    <DBSecurityGroups>
      <DBSecurityGroup>
        <EC2SecurityGroups/>
        <DBSecurityGroupDescription>My security group</DBSecurityGroupDescription>
        <IPRanges>
          <IPRange>
            <CIDRIP>192.0.0.0/24</CIDRIP>
            <Status>authorized</Status>
          </IPRange>
        </IPRanges>
      </DBSecurityGroup>
    </DBSecurityGroups>
  </DescribeDBSecurityGroupsResult>
</DescribeDBSecurityGroupsResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBSnapshotAttributes

Returns a list of DB snapshot attribute names and values for a manual DB snapshot.

When sharing snapshots with other AWS accounts, DescribeDBSnapshotAttributes returns the restore attribute and a list of IDs for the AWS accounts that are authorized to copy or restore the manual DB snapshot. If all is included in the list of values for the restore attribute, then the manual DB snapshot is public and can be copied or restored by all AWS accounts.

To add or remove access for an AWS account to copy or restore a manual DB snapshot, or to make the manual DB snapshot public or private, use the ModifyDBSnapshotAttribute API action.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBSnapshotIdentifier**

The identifier for the DB snapshot to describe the attributes for.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

**DBSnapshotAttributesResult**

Contains the results of a successful call to the DescribeDBSnapshotAttributes API action.

Manual DB snapshot attributes are used to authorize other AWS accounts to copy or restore a manual DB snapshot. For more information, see the ModifyDBSnapshotAttribute API action.

Type: [DBSnapshotAttributesResult](p. 656) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBSnapshotNotFound**

**DBSnapshotIdentifier** doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

Examples

**Example**

This example illustrates one usage of DescribeDBSnapshotAttributes.
Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=DescribeDBSnapshotAttributes
&DBSnapshotIdentifier=manual-snapshot1
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20151027/us-east-1/rds/aws4_request
&X-Amz-Date=20151027T210706Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=27413f450dfac3d68b2197453e52109bacd3863f9df1a02d6e40022165bb2e09

Sample Response

  <DescribeDBSnapshotAttributesResult>
    <DBSnapshotAttributesResult>
      <DBSnapshotAttributes>
        <DBSnapshotAttribute>
          <AttributeName>restore</AttributeName>
          <AttributeValues>
            <AttributeValue>012345678901</AttributeValue>
          </AttributeValues>
        </DBSnapshotAttribute>
      </DBSnapshotAttributes>
      <DBSnapshotIdentifier>manual-snapshot1</DBSnapshotIdentifier>
    </DBSnapshotAttributesResult>
  </DescribeDBSnapshotAttributesResult>
  <ResponseMetadata>
    <RequestId>ae5be4a2-7cee-11e5-a056-f1c189649a47</RequestId>
  </ResponseMetadata>
</DescribeDBSnapshotAttributesResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBSnapshots

Returns information about DB snapshots. This API action supports pagination.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceIdentifier**

The ID of the DB instance to retrieve the list of DB snapshots for. This parameter isn't case-sensitive.

Constraints:
- If supplied, must match the identifier of an existing DBInstance.

Type: String

Required: No

**DbiResourceId**

A specific DB resource ID to describe.

Type: String

Required: No

**DBSnapshotIdentifier**

A specific DB snapshot identifier to describe. This value is stored as a lowercase string.

Constraints:
- If supplied, must match the identifier of an existing DBSnapshot.
- If this identifier is for an automated snapshot, the SnapshotType parameter must also be specified.

Type: String

Required: No

**Filters.Filter.N**

A filter that specifies one or more DB snapshots to describe.

Supported filters:
- `db-instance-id` - Accepts DB instance identifiers and DB instance Amazon Resource Names (ARNs).
- `db-snapshot-id` - Accepts DB snapshot identifiers.
- `dbi-resource-id` - Accepts identifiers of source DB instances.
- `snapshot-type` - Accepts types of DB snapshots.
- `engine` - Accepts names of database engines.

Type: Array of Filter (p. 674) objects
Request Parameters

**Required:** No

**IncludePublic**

A value that indicates whether to include manual DB cluster snapshots that are public and can be copied or restored by any AWS account. By default, the public snapshots are not included.

You can share a manual DB snapshot as public by using the `ModifyDBSnapshotAttribute` API.

This setting doesn't apply to RDS Custom.

Type: Boolean  
Required: No

**IncludeShared**

A value that indicates whether to include shared manual DB cluster snapshots from other AWS accounts that this AWS account has been given permission to copy or restore. By default, these snapshots are not included.

You can give an AWS account permission to restore a manual DB snapshot from another AWS account by using the `ModifyDBSnapshotAttribute` API action.

This setting doesn't apply to RDS Custom.

Type: Boolean  
Required: No

**Marker**

An optional pagination token provided by a previous `DescribeDBSnapshots` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String  
Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100  
Constraints: Minimum 20, maximum 100.

Type: Integer  
Required: No

**SnapshotType**

The type of snapshots to be returned. You can specify one of the following values:

- `automated` - Return all DB snapshots that have been automatically taken by Amazon RDS for my AWS account.
- `manual` - Return all DB snapshots that have been taken by my AWS account.
• shared - Return all manual DB snapshots that have been shared to my AWS account.
• public - Return all DB snapshots that have been marked as public.
• awsbackup - Return the DB snapshots managed by the AWS Backup service.

For information about AWS Backup, see the AWS Backup Developer Guide.

The awsbackup type does not apply to Aurora.

If you don't specify a SnapshotType value, then both automated and manual snapshots are returned. Shared and public DB snapshots are not included in the returned results by default. You can include shared snapshots with these results by enabling the IncludeShared parameter. You can include public snapshots with these results by enabling the IncludePublic parameter.

The IncludeShared and IncludePublic parameters don't apply for SnapshotType values of manual or automated. The IncludePublic parameter doesn't apply when SnapshotType is set to shared. The IncludeShared parameter doesn't apply when SnapshotType is set to public.

Type: String
Required: No

Response Elements

The following elements are returned by the service.

DBSnapshots.DBSnapshot.N
A list of DBSnapshot instances.

Type: Array of DBSnapshot (p. 650) objects

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBSnapshotNotFound
DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

Examples

Example
This example illustrates one usage of DescribeDBSnapshots.
Sample Request

https://rds.us-west-2.amazonaws.com/
  ?Action=DescribeDBSnapshots
  &IncludePublic=false
  &IncludeShared=true
  &MaxRecords=100
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20210621/us-west-2/rds/aws4_request
  &X-Amz-Date=20210621T194732Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=4aa31bdcf7b5e08dadffbf6e8448a51871e283ffe270e77890e15487354bcca

Sample Response

  <DescribeDBSnapshotsResult>
    <DBSnapshots>
      <DBSnapshot>
        <Port>3306</Port>
        <OptionGroupName>default:mysql-5-6</OptionGroupName>
        <Engine>mysql</Engine>
        <Status>available</Status>
        <SnapshotType>manual</SnapshotType>
        <LicenseModel>general-public-license</LicenseModel>
        <EngineVersion>5.6.44</EngineVersion>
        <DBInstanceIdentifier>my-mysqlexampledb</DBInstanceIdentifier>
        <DBSnapshotIdentifier>my-test-restore-snapshot</DBSnapshotIdentifier>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
        <InstanceCreateTime>2021-01-29T22:58:31.857Z</InstanceCreateTime>
        <PercentProgress>100</PercentProgress>
        <AllocatedStorage>5</AllocatedStorage>
        <MasterUsername>awsmyuser</MasterUsername>
      </DBSnapshot>
      <DBSnapshot>
        <Port>3306</Port>
        <OptionGroupName>default:mysql-5-6</OptionGroupName>
        <Engine>mysql</Engine>
        <Status>available</Status>
        <SnapshotType>automated</SnapshotType>
        <LicenseModel>general-public-license</LicenseModel>
        <EngineVersion>5.6.44</EngineVersion>
        <DBInstanceIdentifier>my-mysqlexampledb</DBInstanceIdentifier>
        <DBSnapshotIdentifier>rds:my-mysqlexampledb-2021-04-19-10-08</DBSnapshotIdentifier>
        <SnapshotCreateTime>2021-05-11T06:02:02.422Z</SnapshotCreateTime>
        <OriginalSnapshotCreateTime>2021-04-27T08:16:05.356Z</OriginalSnapshotCreateTime>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
        <InstanceCreateTime>2021-01-29T22:58:24.231Z</InstanceCreateTime>
        <PercentProgress>100</PercentProgress>
        <AllocatedStorage>5</AllocatedStorage>
        <MasterUsername>awsmyuser</MasterUsername>
      </DBSnapshot>
      <DBSnapshot>
        <Port>3306</Port>
        <OptionGroupName>default:mysql-5-6</OptionGroupName>
        <Engine>mysql</Engine>
        <Status>available</Status>
        <SnapshotType>automated</SnapshotType>
        <LicenseModel>general-public-license</LicenseModel>
        <EngineVersion>5.6.44</EngineVersion>
        <DBInstanceIdentifier>my-mysqlexampledb</DBInstanceIdentifier>
        <DBSnapshotIdentifier>rds:my-mysqlexampledb-2021-04-19-10-08</DBSnapshotIdentifier>
        <SnapshotCreateTime>2021-05-11T06:02:02.422Z</SnapshotCreateTime>
        <OriginalSnapshotCreateTime>2021-04-27T08:16:05.356Z</OriginalSnapshotCreateTime>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
        <InstanceCreateTime>2021-01-29T22:58:24.231Z</InstanceCreateTime>
        <PercentProgress>100</PercentProgress>
        <AllocatedStorage>5</AllocatedStorage>
        <MasterUsername>awsmyuser</MasterUsername>
      </DBSnapshot>
    </DBSnapshots>
  </DescribeDBSnapshotsResult>
</DescribeDBSnapshotsResponse>
<Engine>mysql</Engine>
<Status>available</Status>
<SnapshotType>automated</SnapshotType>
<LicenseModel>general-public-license</LicenseModel>
<EngineVersion>5.6.44</EngineVersion>
<DBInstanceIdentifier>my-mysqlexampledb</DBInstanceIdentifier>
<DBSnapshotIdentifier>rds:my-mysqlexampledb-2021-04-20-10-09</DBSnapshotIdentifier>
<SnapshotCreateTime>2021-04-20T10:09:15.446Z</SnapshotCreateTime>
<OriginalSnapshotCreateTime>2021-04-20T10:09:15.446Z</OriginalSnapshotCreateTime>
<AvailabilityZone>us-west-2b</AvailabilityZone>
<InstanceCreateTime>2021-01-29T22:58:24.231Z</InstanceCreateTime>
<PercentProgress>100</PercentProgress>
<AllocatedStorage>5</AllocatedStorage>
<MasterUsername>awsmyuser</MasterUsername>
</DBSnapshot>
</DBSnapshots>
</DescribeDBSnapshotsResult>
<ResponseMetadata>
<RequestId>b7769930-b98c-11d3-f272-7cd6ccee12cc5</RequestId>
</ResponseMetadata>
</DescribeDBSnapshotsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeDBSubnetGroups

Returns a list of DBSubnetGroup descriptions. If a DBSubnetGroupName is specified, the list will contain only the descriptions of the specified DBSubnetGroup.

For an overview of CIDR ranges, go to the Wikipedia Tutorial.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBSubnetGroupName**

The name of the DB subnet group to return details for.

Type: String

Required: No

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous DescribeDBSubnetGroups request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

**DBSubnetGroups.DBSubnetGroup.N**

A list of DBSubnetGroup instances.

Type: Array of DBSubnetGroup (p. 657) objects
Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.
Type: String

Errors
For information about the errors that are common to all actions, see Common Errors (p. 743).

DBSubnetGroupNameNotFoundFault
DBSubnetGroupName doesn't refer to an existing DB subnet group.
HTTP Status Code: 404

Examples
Example
This example illustrates one usage of DescribeDBSubnetGroups.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=DescribeDBSubnetGroups
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIQKE4SARGYLE/20140421/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194732Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=6cc9b2825866148e1d6290b8aa2e9d75b1884b116d8665759942d87ebfbed426

Sample Response

<DescribeDBSubnetGroupsResult>  
<DBSubnetGroups>  
<DBSubnetGroup>  
<VpcId>vpc-e7abbdce</VpcId>  
<SubnetGroupStatus>Complete</SubnetGroupStatus>  
<DBSubnetGroupDescription>DB subnet group 1</DBSubnetGroupDescription>  
<DBSubnetGroupName>mydbsubnetgroup1</DBSubnetGroupName>  
<Subnets>  
<Subnet>  
<SubnetStatus>Active</SubnetStatus>  
<SubnetIdentifier>subnet-e8b3e5b1</SubnetIdentifier>  
<SubnetAvailabilityZone>  
<Name>us-west-2a</Name>  
<ProvisionedIopsCapable>false</ProvisionedIopsCapable>  
</SubnetAvailabilityZone>  
</Subnet>  
</Subnets>  
</DBSubnetGroup>  
</DBSubnetGroups>  
</DescribeDBSubnetGroupsResult>  
</DescribeDBSubnetGroupsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeEngineDefaultClusterParameters

Returns the default engine and system parameter information for the cluster database engine.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBParameterGroupFamily**

The name of the DB cluster parameter group family to return engine parameter information for.

Type: String

Required: Yes

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous DescribeEngineDefaultClusterParameters request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

Response Elements

The following element is returned by the service.

**EngineDefaults**

Contains the result of a successful invocation of the DescribeEngineDefaultParameters action.

Type: EngineDefaults (p. 664) object
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeEngineDefaultParameters

Returns the default engine and system parameter information for the specified database engine.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBParameterGroupFamily

The name of the DB parameter group family.

Valid Values:
- aurora5.6
- aurora-mysql5.7
- aurora-mysql8.0
- aurora-postgresql10
- aurora-postgresql11
- aurora-postgresql12
- aurora-postgresql13
- aurora-postgresql14
- custom-oracle-ee-19
- mariadb10.2
- mariadb10.3
- mariadb10.4
- mariadb10.5
- mariadb10.6
- mysql5.7
- mysql8.0
- oracle-ee-19
- oracle-ee-cdb-19
- oracle-ee-cdb-21
- oracle-se2-19
- oracle-se2-cdb-19
- oracle-se2-cdb-21
- postgres10
- postgres11
- postgres12
- postgres13
- postgres14
- sqlserver-eet-1.0
- sqlserver-eet-12.0
- sqlserver-eet-13.0
- sqlserver-eet-14.0
- sqlserver-eet-15.0
- sqlserver-ext-11.0
Response Elements

The following element is returned by the service.

**EngineDefaults**

Contains the result of a successful invocation of the DescribeEngineDefaultParameters action.
Type: `EngineDefaults` (p. 664) object

**Errors**

For information about the errors that are common to all actions, see `Common Errors` (p. 743).

**Examples**

**Example**

This example illustrates one usage of `DescribeEngineDefaultParameters`.

**Sample Request**

```
https://rds.us-west-2.amazonaws.com/
?Action=DescribeEngineDefaultParameters
&DBParameterGroupFamily=mysql5.1
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194732Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=747cc243a8a2385b0b06a9e2d145d08b905a39620b2782edd8382ea1712cf826
```

**Sample Response**

```
<EngineDefaults>
  <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
  <Marker>bG9nX3FZXJpZ4Nfbm90X3VzaW5nX2luZGV4Z1M=</Marker>
  <Parameters>
    <Parameter>
      <DataType>boolean</DataType>
      <Source>engine-default</Source>
      <IsModifiable>false</IsModifiable>
      <Description>Controls whether user-defined functions that have only an xxx symbol for the main function can be loaded</Description>
      <ApplyType>static</ApplyType>
      <AllowedValues>0,1</AllowedValues>
      <ParameterName>allow-suspicious-udfs</ParameterName>
    </Parameter>
    <Parameter>
      <DataType>integer</DataType>
      <Source>engine-default</Source>
      <IsModifiable>true</IsModifiable>
      <Description>Intended for use with master-to-master replication, and can be used to control the operation of AUTO_INCREMENT columns</Description>
      <ApplyType>dynamic</ApplyType>
      <AllowedValues>1-65535</AllowedValues>
      <ParameterName>auto_increment_increment</ParameterName>
    </Parameter>
  </Parameters>
</EngineDefaults>
```

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### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeEventCategories

Displays a list of categories for all event source types, or, if specified, for a specified source type. You can also see this list in the "Amazon RDS event categories and event messages" section of the Amazon RDS User Guide or the Amazon Aurora User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

SourceType

The type of source that is generating the events. For RDS Proxy events, specify db-proxy.

Valid values: db-instance | db-cluster | db-parameter-group | db-security-group | db-snapshot | db-cluster-snapshot | db-proxy

Type: String

Required: No

Response Elements

The following element is returned by the service.

EventCategoriesMapList.EventCategoriesMap.N

A list of EventCategoriesMap data types.

Type: Array of EventCategoriesMap (p. 667) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

Examples

Example

This example illustrates one usage of DescribeEventCategories.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=DescribeEventCategories
&SignatureMethod=HmacSHA256
&SignatureVersion=4

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Sample Response

```xml
  <DescribeEventCategoriesResult>
    <EventCategoriesMapList>
      <EventCategoriesMap>
        <SourceType>db-instance</SourceType>
        <EventCategories>
          <EventCategory>backup</EventCategory>
          <EventCategory>recovery</EventCategory>
          <EventCategory>restoration</EventCategory>
          <EventCategory>failover</EventCategory>
          <EventCategory>low storage</EventCategory>
          <EventCategory>maintenance</EventCategory>
          <EventCategory>deletion</EventCategory>
          <EventCategory>availability</EventCategory>
          <EventCategory>configuration change</EventCategory>
          <EventCategory>notification</EventCategory>
          <EventCategory>failure</EventCategory>
          <EventCategory>creation</EventCategory>
        </EventCategories>
      </EventCategoriesMap>
      <EventCategoriesMap>
        <SourceType>db-security-group</SourceType>
        <EventCategories>
          <EventCategory>configuration change</EventCategory>
          <EventCategory>failure</EventCategory>
        </EventCategories>
      </EventCategoriesMap>
      <EventCategoriesMap>
        <SourceType>db-parameter-group</SourceType>
        <EventCategories>
          <EventCategory>configuration change</EventCategory>
        </EventCategories>
      </EventCategoriesMap>
      <EventCategoriesMap>
        <SourceType>db-snapshot</SourceType>
        <EventCategories>
          <EventCategory>deletion</EventCategory>
          <EventCategory>restoration</EventCategory>
          <EventCategory>notification</EventCategory>
          <EventCategory>failure</EventCategory>
          <EventCategory>creation</EventCategory>
        </EventCategories>
      </EventCategoriesMap>
    </EventCategoriesMapList>
  </DescribeEventCategoriesResult>
  <ResponseMetadata>
    <RequestId>b79456f2-b98c-11d3-f272-7cd6c612cc5</RequestId>
  </ResponseMetadata>
</DescribeEventCategoriesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeEvents

Returns events related to DB instances, DB clusters, DB parameter groups, DB security groups, DB snapshots, DB cluster snapshots, and RDS Proxies for the past 14 days. Events specific to a particular DB instance, DB cluster, DB parameter group, DB security group, DB snapshot, DB cluster snapshot group, or RDS Proxy can be obtained by providing the name as a parameter.

For more information on working with events, see Monitoring Amazon RDS events in the Amazon RDS User Guide and Monitoring Amazon Aurora events in the Amazon Aurora User Guide.

**Note**
By default, RDS returns events that were generated in the past hour.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**Duration**

The number of minutes to retrieve events for.

Default: 60

Type: Integer

Required: No

**EndTime**

The end of the time interval for which to retrieve events, specified in ISO 8601 format. For more information about ISO 8601, go to the ISO8601 Wikipedia page.

Example: 2009-07-08T18:00Z

Type: Timestamp

Required: No

**EventCategories.EventCategory.N**

A list of event categories that trigger notifications for a event notification subscription.

Type: Array of strings

Required: No

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous DescribeEvents request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String
MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

SourceIdentifier

The identifier of the event source for which events are returned. If not specified, then all sources are included in the response.

Constraints:

- If SourceIdentifier is supplied, SourceType must also be provided.
- If the source type is a DB instance, a DBInstanceIdentifier value must be supplied.
- If the source type is a DB cluster, a DBClusterIdentifier value must be supplied.
- If the source type is a DB parameter group, a DBParameterGroupName value must be supplied.
- If the source type is a DB security group, a DBSecurityGroupName value must be supplied.
- If the source type is a DB snapshot, a DBSnapshotIdentifier value must be supplied.
- If the source type is a DB cluster snapshot, a DBClusterSnapshotIdentifier value must be supplied.
- If the source type is an RDS Proxy, a DBProxyName value must be supplied.
- Can't end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

SourceType

The event source to retrieve events for. If no value is specified, all events are returned.

Type: String

Valid Values: db-instance | db-parameter-group | db-security-group | db-snapshot | db-cluster | db-cluster-snapshot | custom-engine-version | db-proxy

Required: No

StartTime

The beginning of the time interval to retrieve events for, specified in ISO 8601 format. For more information about ISO 8601, go to the ISO8601 Wikipedia page.

Example: 2009-07-08T18:00Z

Type: Timestamp

Required: No
Response Elements

The following elements are returned by the service.

**Events.Event.N**

A list of Event instances.

Type: Array of Event (p. 665) objects

**Marker**

An optional pagination token provided by a previous Events request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

Examples

**Example**

This example illustrates one usage of DescribeEvents.

**Sample Request**

```
https://rds.us-west-2.amazonaws.com/
?Action=DescribeEvents
&Duration=1440
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194733Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=8e313cabcdbd9766c56a2886b5b298fd944e0b7cfa248953c82705fdd0374f27
```

**Sample Response**

```
  <DescribeEventsResult>
    <Events>
      <Event>
        <Message>Backing up DB instance</Message>
        <SourceType>db-instance</SourceType>
        <EventCategories>
          <EventCategory>backup</EventCategory>
        </EventCategories>
        <Date>2014-04-21T06:23:33.866Z</Date>
        <SourceIdentifier>mypgdbinstance</SourceIdentifier>
      </Event>
    </Events>
  </DescribeEventsResult>
</DescribeEventsResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeEventSubscriptions

Lists all the subscription descriptions for a customer account. The description for a subscription includes SubscriptionName, SNSTopicARN, CustomerID, SourceType, SourceID, CreationTime, and Status.

If you specify a SubscriptionName, lists the description for that subscription.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

Marker

An optional pagination token provided by a previous DescribeOrderableDBInstanceOptions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

SubscriptionName

The name of the RDS event notification subscription you want to describe.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

EventSubscriptionsList.EventSubscription.N

A list of EventSubscriptions data types.
Type: Array of EventSubscription (p. 668) objects

Marker

An optional pagination token provided by a previous DescribeOrderableDBInstanceOptions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

SubscriptionNotFound

The subscription name does not exist.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeEventSubscriptions.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DescribeEventSubscriptions
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140428/us-east-1/rds/aws4_request
&X-Amz-Date=20140428T161907Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=4208679fe967783a1a149c826199080a066085d5a8827a80c6c0cadb3b80d4

Sample Response

  <DescribeEventSubscriptionsResult>
    <EventSubscriptionsList>
      <EventSubscription>
        <Enabled>true</Enabled>
        <CustomerAwsId>802#########</CustomerAwsId>
        <SourceType>db-instance</SourceType>
        <Status>active</Status>
        <SourceIdsList>
          <SourceId>mysqldb-rr</SourceId>
          <SourceId>mysqldb</SourceId>
        </SourceIdsList>
      </EventSubscription>
    </EventSubscriptionsList>
  </DescribeEventSubscriptionsResult>
</DescribeEventSubscriptionsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
See Also

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeExportTasks

Returns information about a snapshot export to Amazon S3. This API operation supports pagination.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

ExportTaskIdentifier

The identifier of the snapshot export task to be described.

Type: String

Required: No

Filters.Filter.N

Filters specify one or more snapshot exports to describe. The filters are specified as name-value pairs that define what to include in the output. Filter names and values are case-sensitive.

Supported filters include the following:
- export-task-identifier - An identifier for the snapshot export task.
- s3-bucket - The Amazon S3 bucket the snapshot is exported to.
- source-arn - The Amazon Resource Name (ARN) of the snapshot exported to Amazon S3
- status - The status of the export task. Must be lowercase. Valid statuses are the following:
  - canceled
  - canceling
  - complete
  - failed
  - in_progress
  - starting

Type: Array of Filter (p. 674) objects

Required: No

Marker

An optional pagination token provided by a previous DescribeExportTasks request. If you specify this parameter, the response includes only records beyond the marker, up to the value specified by the MaxRecords parameter.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified value, a pagination token called a marker is included in the response. You can use the marker in a later DescribeExportTasks request to retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.
Type: Integer
Required: No

**SourceArn**
The Amazon Resource Name (ARN) of the snapshot exported to Amazon S3.
Type: String
Required: No

**SourceType**
The type of source for the export.
Type: String
Valid Values: SNAPSHOT | CLUSTER
Required: No

---

## Response Elements

The following elements are returned by the service.

**ExportTasks.ExportTask.N**
Information about an export of a snapshot to Amazon S3.
Type: Array of ExportTask (p. 670) objects

**Marker**
A pagination token that can be used in a later DescribeExportTasks request. A marker is used for pagination to identify the location to begin output for the next response of DescribeExportTasks.
Type: String

---

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**ExportTaskNotFound**
The export task doesn't exist.
HTTP Status Code: 404

---

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeGlobalClusters

Returns information about Aurora global database clusters. This API supports pagination.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

**Note**
This action only applies to Aurora DB clusters.

### Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**Filters.Filter.N**
This parameter isn't currently supported.

- **Type:** Array of Filter (p. 674) objects
- **Required:** No

**GlobalClusterIdentifier**

The user-supplied DB cluster identifier. If this parameter is specified, information from only the specific DB cluster is returned. This parameter isn't case-sensitive.

- **Constraints:**
  - If supplied, must match an existing DBClusterIdentifier.

  - **Type:** String
  - **Required:** No

**Marker**

An optional pagination token provided by a previous DescribeGlobalClusters request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

- **Type:** String
- **Required:** No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

- **Default:** 100
- **Constraints:** Minimum 20, maximum 100.

- **Type:** Integer
- **Required:** No

### Response Elements

The following elements are returned by the service.
GlobalClusters.GlobalClusterMember.N

The list of global clusters returned by this request.

Type: Array of GlobalCluster (p. 675) objects

Marker

An optional pagination token provided by a previous DescribeGlobalClusters request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

GlobalClusterNotFoundException

The GlobalClusterIdentifier doesn't refer to an existing global database cluster.

HTTP Status Code: 404

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeOptionGroupOptions

Describes all available options.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**EngineName**

A required parameter. Options available for the given engine name are described.

Valid Values:
- mariadb
- mysql
- oracle-ee
- oracle-ee-cdb
- oracle-se2
- oracle-se2-cdb
- postgres
- sqlserver-ee
- sqlserver-se
- sqlserver-ex
- sqlserver-web

Type: String

Required: Yes

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**MajorEngineVersion**

If specified, filters the results to include only options for the specified major engine version.

Type: String

Required: No

**Marker**

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.
Default: 100
Constraints: Minimum 20, maximum 100.
Type: Integer
Required: No

Response Elements

The following elements are returned by the service.

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.
Type: String

OptionGroupOptions.OptionGroupOption.N
List of available option group options.
Type: Array of OptionGroupOption (p. 687) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

Examples

Example
This example illustrates one usage of DescribeOptionGroupOptions.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=DescribeOptionGroupOptions
&EngineName=oracle-se1
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194733Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=3792d1669ce65ba1ba6a85b2e4057235e46dd3d0072663c17f4b4439fd8af702

Sample Response

<DescribeOptionGroupOptionsResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <DescribeOptionGroupOptionsResult>
    <OptionGroupOptions>
      <OptionGroupOption>
API Version 2014-10-31

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
See Also

- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeOptionGroups

Describes the available option groups.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

EngineName

Filters the list of option groups to only include groups associated with a specific database engine.

Valid Values:
  • mariadb
  • mysql
  • oracle-ee
  • oracle-ee-cdb
  • oracle-se2
  • oracle-se2-cdb
  • postgres
  • sqlserver-ee
  • sqlserver-se
  • sqlserver-ex
  • sqlserver-web

Type: String
Required: No

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects
Required: No

MajorEngineVersion

Filters the list of option groups to only include groups associated with a specific database engine version. If specified, then EngineName must also be specified.

Type: String
Required: No

Marker

An optional pagination token provided by a previous DescribeOptionGroups request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String
Required: No
MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

OptionGroupName

The name of the option group to describe. Can't be supplied together with EngineName or MajorEngineVersion.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

OptionGroupsList.OptionGroup.N

List of option groups.

Type: Array of OptionGroup (p. 684) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

OptionGroupNotFoundFault

The specified option group could not be found.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeOptionGroups.
Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DescribeOptionGroups
&MaxRecords=100
&OptionGroupName=myawsuser-grp1
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-east-1/rds/aws4_request
&X-Amz-Date=20140421T231357Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=fabfbeb85c44e3f151d44211790c5135a9074fd8d85ec11778ac6cfab6c5bc

Sample Response

  <DescribeOptionGroupsResult>
    <OptionGroupsList>
      <OptionGroup>
        <AllowsVpcAndNonVpcInstanceMemberships>true</AllowsVpcAndNonVpcInstanceMemberships>
        <MajorEngineVersion>5.6</MajorEngineVersion>
        <OptionGroupName>myawsuser-grp1</OptionGroupName>
        <EngineName>mysql</EngineName>
        <OptionGroupDescription>my test option group</OptionGroupDescription>
        <Options/>
      </OptionGroup>
    </OptionGroupsList>
  </DescribeOptionGroupsResult>
  <ResponseMetadata>
    <RequestId>8c6201fc-b9ff-11d3-f92b-31fa5e8d9bc99</RequestId>
  </ResponseMetadata>
</DescribeOptionGroupsResponse>

Example

This example illustrates one usage of DescribeOptionGroups.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=DescribeOptionGroups
&MaxRecords=100
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140613/us-west-2/rds/aws4_request
&X-Amz-Date=20140613T223341Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=5ae331adcd684c27d66e0b794a51933effe32a0c026ba2e994ae483ee47a0ba

Sample Response

API Version 2014-10-31
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  <DescribeOptionGroupsResult>
    <OptionGroupsList>
      <OptionGroup>
        <OptionGroupName>default:mysql-5-5</OptionGroupName>
        <AllowsVpcAndNonVpcInstanceMemberships>true</AllowsVpcAndNonVpcInstanceMemberships>
        <MajorEngineVersion>5.5</MajorEngineVersion>
        <EngineName>mysql</EngineName>
        <OptionGroupDescription>Default option group MySQL 5.5</OptionGroupDescription>
        <Options/>
      </OptionGroup>
      <OptionGroup>
        <OptionGroupName>default:postgres-9-3</OptionGroupName>
        <AllowsVpcAndNonVpcInstanceMemberships>true</AllowsVpcAndNonVpcInstanceMemberships>
        <MajorEngineVersion>9.3</MajorEngineVersion>
        <EngineName>postgres</EngineName>
        <OptionGroupDescription>Default option group for postgres 9.3</OptionGroupDescription>
        <Options/>
      </OptionGroup>
      <OptionGroup>
        <OptionGroupName>default:sqlserver-ex-10-50</OptionGroupName>
        <AllowsVpcAndNonVpcInstanceMemberships>true</AllowsVpcAndNonVpcInstanceMemberships>
        <MajorEngineVersion>10.50</MajorEngineVersion>
        <EngineName>sqlserver-ex</EngineName>
        <OptionGroupDescription>Default option group for sqlserver-ex 10.50</OptionGroupDescription>
        <Options/>
      </OptionGroup>
      <OptionGroup>
        <OptionGroupName>default:sqlserver-se-10-50-mirrored</OptionGroupName>
        <AllowsVpcAndNonVpcInstanceMemberships>true</AllowsVpcAndNonVpcInstanceMemberships>
        <MajorEngineVersion>10.50</MajorEngineVersion>
        <EngineName>sqlserver-se</EngineName>
        <OptionGroupDescription>Default Mirroring-enabled option group for sqlserver-se 10.50</OptionGroupDescription>
        <Options>
          <Option>
            <OptionName>Mirroring</OptionName>
            <OptionDescription>SQLServer Database Mirroring</OptionDescription>
            <Persistent>false</Persistent>
            <Permanent>false</Permanent>
            <OptionSettings/>
            <VpcSecurityGroupMemberships/>
            <DBSecurityGroupMemberships/>
          </Option>
        </Options>
      </OptionGroup>
      <OptionGroup>
        <OptionGroupName>default:sqlserver-se-11-00</OptionGroupName>
        <AllowsVpcAndNonVpcInstanceMemberships>true</AllowsVpcAndNonVpcInstanceMemberships>
        <MajorEngineVersion>11.00</MajorEngineVersion>
        <EngineName>sqlserver-se</EngineName>
        <OptionGroupDescription>Default option group for sqlserver-se 11.00</OptionGroupDescription>
        <Options/>
      </OptionGroup>
      <OptionGroup>
        <OptionGroupName>myawsuser-opt-grp</OptionGroupName>
        <AllowsVpcAndNonVpcInstanceMemberships>false</AllowsVpcAndNonVpcInstanceMemberships>
        <MajorEngineVersion>11.2</MajorEngineVersion>
        <EngineName>oracle-ee</EngineName>
        <OptionGroupDescription>test option group</OptionGroupDescription>
        <Options/>
      </OptionGroup>
    </OptionGroupsList>
  </DescribeOptionGroupsResult>
</DescribeOptionGroupsResponse>
<OptionName>NATIVE_NETWORK_ENCRYPTION</OptionName>
<OptionDescription>Oracle Advanced Security - Native Network Encryption</OptionDescription>
<Persistent>false</Persistent>
<Permanent>false</Permanent>
<OptionSettings>
<OptionSetting>
.DataType>STRING</DataType>
<IsModifiable>true</IsModifiable>
<IsCollection>true</IsCollection>
>Description>Specifies list of checksumming algorithms in order of intended use</Description>
<Name>SQLNET.CRYPTO_CHECKSUM_TYPES_SERVER</Name>
<Value>SHA1,MD5</Value>
<ApplyType>STATIC</ApplyType>
<DefaultValue>SHA1,MD5</DefaultValue>
<AllowedValues>SHA1,MD5</AllowedValues>
</OptionSetting>
<OptionSetting>
.DataType>STRING</DataType>
<IsModifiable>true</IsModifiable>
<IsCollection>true</IsCollection>
>Description>Specifies list of encryption algorithms in order of intended use</Description>
<Name>SQLNET.ENCRYPTION_TYPES_SERVER</Name>
<Value>RC4_256,AES256,AES192,3DES168,RC4_128,AES128,3DES112,RC4_56,DES,RC4_40,DES40</Value>
<ApplyType>STATIC</ApplyType>
<DefaultValue>RC4_256,AES256,AES192,3DES168,RC4_128,AES128,3DES112,RC4_56,DES,RC4_40,DES40</DefaultValue>
<AllowedValues>RC4_256,AES256,AES192,3DES168,RC4_128,AES128,3DES112,RC4_56,DES,RC4_40,DES40</AllowedValues>
</OptionSetting>
<OptionSetting>
.DataType>STRING</DataType>
<IsModifiable>true</IsModifiable>
<IsCollection>false</IsCollection>
>Description>Specifies the desired encryption behavior</Description>
<Name>SQLNET.ENCRYPTION_SERVER</Name>
<Value>REQUESTED</Value>
<ApplyType>STATIC</ApplyType>
<DefaultValue>REQUESTED</DefaultValue>
<AllowedValues>ACCEPTED,REJECTED,REQUESTED,REQUIRED</AllowedValues>
</OptionSetting>
<OptionSetting>
.DataType>STRING</DataType>
<IsModifiable>true</IsModifiable>
<IsCollection>false</IsCollection>
>Description>Specifies the desired data integrity behavior</Description>
<Name>SQLNET.CRYPTO_CHECKSUM_SERVER</Name>
<Value>REQUESTED</Value>
<ApplyType>STATIC</ApplyType>
<DefaultValue>REQUESTED</DefaultValue>
<AllowedValues>ACCEPTED,REJECTED,REQUESTED,REQUIRED</AllowedValues>
</OptionSetting>
</OptionSettings>
<VpcSecurityGroupMemberships/>
<DBSecurityGroupMemberships/>
</Option>
<Option>
<OptionName>XMLDB</OptionName>
<OptionDescription>Oracle XMLDB Repository</OptionDescription>
<Persistent>false</Persistent>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeOrderableDBInstanceOptions

Returns a list of orderable DB instance options for the specified DB engine, DB engine version, and DB instance class.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

AvailabilityZoneGroup

The Availability Zone group associated with a Local Zone. Specify this parameter to retrieve available offerings for the Local Zones in the group.

Omit this parameter to show the available offerings in the specified AWS Region.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

DBInstanceClass

The DB instance class filter value. Specify this parameter to show only the available offerings matching the specified DB instance class.

Type: String

Required: No

Engine

The name of the engine to retrieve DB instance options for.

Valid Values:

• aurora (for MySQL 5.6-compatible Aurora)
• aurora-mysql (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora)
• aurora-postgresql
• mariadb
• mysql
• oracle-ee
• oracle-ee-cdb
• oracle-se2
• oracle-se2-cdb
• postgres
• sqlserver-ee
• sqlserver-se
• sqlserver-ex
• sqlserver-web

Type: String

Required: Yes
EngineVersion

The engine version filter value. Specify this parameter to show only the available offerings matching the specified engine version.

Type: String
Required: No

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects
Required: No

LicenseModel

The license model filter value. Specify this parameter to show only the available offerings matching the specified license model.

RDS Custom supports only the BYOL licensing model.

Type: String
Required: No

Marker

An optional pagination token provided by a previous DescribeOrderableDBInstanceOptions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String
Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 10000.

Type: Integer
Required: No

Vpc

A value that indicates whether to show only VPC or non-VPC offerings. RDS Custom supports only VPC offerings.

RDS Custom supports only VPC offerings. If you describe non-VPC offerings for RDS Custom, the output shows VPC offerings.

Type: Boolean
Required: No
Response Elements

The following elements are returned by the service.

Marker

An optional pagination token provided by a previous OrderableDBInstanceOptions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

OrderableDBInstanceOptions.OrderableDBInstanceOption.N

An OrderableDBInstanceOption structure containing information about orderable options for the DB instance.

Type: Array of OrderableDBInstanceOption (p. 695) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

Examples

Example

This example illustrates one usage of DescribeOrderableDBInstanceOptions.

Sample Request

https://rds.us-west-2.amazonaws.com/
  ?Action=DescribeOrderableDBInstanceOptions
  &Engine=mysql
  &EngineVersion=8.0.26
  &DBInstanceClass=db.r6gd.large
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20140421/us-west-2/rds/aws4_request
  &X-Amz-Date=20211020T205537Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=b49545dd3c933bdded80655d433d84bf743261ea1beb33a7922c5c2c5240cd8

Sample Response

<DescribeOrderableDBInstanceOptionsResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <DescribeOrderableDBInstanceOptionsResult>
    <Marker>ZGIubTEuc21hbGwKZ2VuZXJhbC1wdWJsaWtkbGljZ2ZsZQolLjEuNjkK"Tg==</Marker>
    <OrderableDBInstanceOptions>
      <OrderableDBInstanceOption>
        <MultiAZCapable>true</MultiAZCapable>
        <Engine>mysql</Engine>
        <LicenseModel>general-public-license</LicenseModel>
      </OrderableDBInstanceOption>
    </OrderableDBInstanceOptions>
  </DescribeOrderableDBInstanceOptionsResult>
</DescribeOrderableDBInstanceOptionsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
See Also

- AWS SDK for Python
- AWS SDK for Ruby V3
DescribePendingMaintenanceActions

Returns a list of resources (for example, DB instances) that have at least one pending maintenance action.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Filters.Filter.N

A filter that specifies one or more resources to return pending maintenance actions for.

Supported filters:
- `db-cluster-id` - Accepts DB cluster identifiers and DB cluster Amazon Resource Names (ARNs). The results list only includes pending maintenance actions for the DB clusters identified by these ARNs.
- `db-instance-id` - Accepts DB instance identifiers and DB instance ARNs. The results list only includes pending maintenance actions for the DB instances identified by these ARNs.

Type: Array of Filter (p. 674) objects

Marker

An optional pagination token provided by a previous DescribePendingMaintenanceActions request. If this parameter is specified, the response includes only records beyond the marker, up to a number of records specified by MaxRecords.

Type: String

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

ResourceIdentifier

The ARN of a resource to return pending maintenance actions for.

Type: String

Required: No

Response Elements

The following elements are returned by the service.
Marker

An optional pagination token provided by a previous `DescribePendingMaintenanceActions` request. If this parameter is specified, the response includes only records beyond the marker, up to a number of records specified by `MaxRecords`.

Type: String

`PendingMaintenanceActions.ResourcePendingMaintenanceActions.N`

A list of the pending maintenance actions for the resource.

Type: Array of `ResourcePendingMaintenanceActions` objects

Errors

For information about the errors that are common to all actions, see `Common Errors` (p. 743).

`ResourceNotFoundFault`

The specified resource ID was not found.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of `DescribePendingMaintenanceActions`.

Sample Request

```plaintext
https://rds.us-west-2.amazonaws.com/
?Action=DescribePendingMaintenanceActions
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20141216/us-west-2/rds/aws4_request
&X-Amz-Date=20140421T194732Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=6e25c542bf96fe24b28c12976ec92d2f856ab1d2a158e21c35441a736e4fde2b
```

Sample Response

```xml
  <DescribePendingMaintenanceActionsResult>
    <PendingMaintenanceActions>
      <ResourcePendingMaintenanceActions>
        <PendingMaintenanceActionDetails>
          <PendingMaintenanceAction>
            <Action>os-upgrade</Action>
          </PendingMaintenanceAction>
        </PendingMaintenanceActionDetails>
      </ResourcePendingMaintenanceActions>
    </PendingMaintenanceActions>
  </DescribePendingMaintenanceActionsResult>
</DescribePendingMaintenanceActionsResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeReservedDBInstances

Returns information about reserved DB instances for this account, or about a specified reserved DB instance.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceClass**

The DB instance class filter value. Specify this parameter to show only those reservations matching the specified DB instances class.

Type: String

Required: No

**Duration**

The duration filter value, specified in years or seconds. Specify this parameter to show only reservations for this duration.

Valid Values: 1 | 3 | 31536000 | 94608000

Type: String

Required: No

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**LeaseId**

The lease identifier filter value. Specify this parameter to show only the reservation that matches the specified lease ID.

*Note*

AWS Support might request the lease ID for an issue related to a reserved DB instance.

Type: String

Required: No

**Marker**

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more than the MaxRecords value is available, a pagination token called a marker is included in the response so you can retrieve the remaining results.
Default: 100
Constraints: Minimum 20, maximum 100.
Type: Integer
Required: No

MultiAZ
A value that indicates whether to show only those reservations that support Multi-AZ.
Type: Boolean
Required: No

OfferingType
The offering type filter value. Specify this parameter to show only the available offerings matching the specified offering type.
Valid Values: "Partial Upfront" | "All Upfront" | "No Upfront"
Type: String
Required: No

ProductDescription
The product description filter value. Specify this parameter to show only those reservations matching the specified product description.
Type: String
Required: No

ReservedDBInstanceId
The reserved DB instance identifier filter value. Specify this parameter to show only the reservation that matches the specified reservation ID.
Type: String
Required: No

ReservedDBInstancesOfferingId
The offering identifier filter value. Specify this parameter to show only purchased reservations matching the specified offering identifier.
Type: String
Required: No

Response Elements
The following elements are returned by the service.

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.
Type: String
ReservedDBInstances.ReservedDBInstance.N

A list of reserved DB instances.

Type: Array of ReservedDBInstance (p. 713) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

ReservedDBInstanceNotFound

The specified reserved DB Instance not found.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of DescribeReservedDBInstances.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=DescribeReservedDBInstances
&ReservedDBInstanceId=customerSpecifiedID
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE45ARGYLE/20140420/us-west-2/rds/aws4_request
&X-Amz-Date=20140420T162211Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=3312d17a4c43bcd209bc22a0778dd23e73f8434254abbd7ac53b89ade3da88e

Sample Response

<DescribeReservedDBInstancesResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <ReservedDBInstances>
    <ReservedDBInstance>
      <OfferingType>Partial Upfront</OfferingType>
      <CurrencyCode>USD</CurrencyCode>
      <RecurringCharges/>
      <ProductDescription>mysql</ProductDescription>
      <ReservedDBInstancesOfferingId>649fd0c8-cf6d-47a0-bfa6-060f8e75e95f</ReservedDBInstancesOfferingId>
      <MultiAZ>false</MultiAZ>
      <State>active</State>
      <ReservedDBInstanceId>myreservationid</ReservedDBInstanceId>
      <DBInstanceCount>1</DBInstanceCount>
      <Duration>31536000</Duration>
      <FixedPrice>227.5</FixedPrice>
  </ReservedDBInstance>
</ReservedDBInstancesResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeReservedDBInstancesOfferings

Lists available reserved DB instance offerings.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceClass**

The DB instance class filter value. Specify this parameter to show only the available offerings matching the specified DB instance class.

Type: String

Required: No

**Duration**

Duration filter value, specified in years or seconds. Specify this parameter to show only reservations for this duration.

Valid Values: 1 | 3 | 31536000 | 94608000

Type: String

Required: No

**Filters.Filter.N**

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

**Marker**

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

**MaxRecords**

The maximum number of records to include in the response. If more than the MaxRecords value is available, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

**MultiAZ**

A value that indicates whether to show only those reservations that support Multi-AZ.

Type: Boolean
Required: No

**OfferingType**

The offering type filter value. Specify this parameter to show only the available offerings matching the specified offering type.

Valid Values: "Partial Upfront" | "All Upfront" | "No Upfront"

Type: String

Required: No

**ProductDescription**

Product description filter value. Specify this parameter to show only the available offerings that contain the specified product description.

**Note**
The results show offerings that partially match the filter value.

Type: String

Required: No

**ReservedDBInstancesOfferingId**

The offering identifier filter value. Specify this parameter to show only the available offering that matches the specified reservation identifier.

Example: 438012d3-4052-4cc7-b2e3-8d3372e0e706

Type: String

Required: No

---

**Response Elements**

The following elements are returned by the service.

**Marker**

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

**ReservedDBInstancesOfferings.ReservedDBInstancesOffering.N**

A list of reserved DB instance offerings.

Type: Array of [ReservedDBInstancesOffering](p. 716) objects

---

**Errors**

For information about the errors that are common to all actions, see [Common Errors (p. 743)](Common Errors (p. 743)).

**ReservedDBInstancesOfferingNotFound**

Specified offering does not exist.

HTTP Status Code: 404
Examples

Example

This example illustrates one usage of DescribeReservedDBInstancesOfferings.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DescribeReservedDBInstancesOfferings
&ReservedDBInstancesOfferingId=438012d3-4052-4cc7-b2e3-8d3372e0e706
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140411/us-east-1/rds/aws4_request
&X-Amz-Date=20140411T203327Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=545f04acffeb4b80d2e778526b1c9da79d0b3097151c24f28e05e051d65422e2

Sample Response

<DescribeReservedDBInstancesOfferingsResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <DescribeReservedDBInstancesOfferingsResult>
    <ReservedDBInstancesOfferings>
      <ReservedDBInstancesOffering>
        <Duration>31536000</Duration>
        <OfferingType>Partial Upfront</OfferingType>
        <CurrencyCode>USD</CurrencyCode>
        <RecurringCharges>
          <RecurringCharge>
            <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
            <RecurringChargeAmount>0.123</RecurringChargeAmount>
          </RecurringCharge>
        </RecurringCharges>
        <FixedPrice>162.0</FixedPrice>
        <ProductDescription>mysql</ProductDescription>
        <UsagePrice>0.0</UsagePrice>
        <MultiAZ>false</MultiAZ>
      </ReservedDBInstancesOffering>
    </ReservedDBInstancesOfferings>
  </DescribeReservedDBInstancesOfferingsResult>
  <ResponseMetadata>
    <RequestId>521b420a-2961-11e1-bd06-6fe008f046c3</RequestId>
  </ResponseMetadata>
</DescribeReservedDBInstancesOfferingsResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DescribeSourceRegions

Returns a list of the source AWS Regions where the current AWS Region can create a read replica, copy a DB snapshot from, or replicate automated backups from.

Use this operation to determine whether cross-Region features are supported between other Regions and your current Region. This operation supports pagination.

To return information about the Regions that are enabled for your account, or all Regions, use the EC2 operation DescribeRegions. For more information, see DescribeRegions in the Amazon EC2 API Reference.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

Marker

An optional pagination token provided by a previous DescribeSourceRegions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so you can retrieve the remaining results.

Default: 100

Constraints: Minimum 20, maximum 100.

Type: Integer

Required: No

RegionName

The source AWS Region name. For example, us-east-1.

Constraints:

• Must specify a valid AWS Region name.

Type: String

Required: No
Response Elements

The following elements are returned by the service.

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String

SourceRegions.SourceRegion.N

A list of SourceRegion instances that contains each source AWS Region that the current AWS Region can get a read replica or a DB snapshot from.

Type: Array of SourceRegion (p. 726) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

Examples

Example

This example illustrates one usage of DescribeSourceRegions.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=DescribeSourceRegions
&MaxRecords=10
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140429/us-east-1/rds/aws4_request
&X-Amz-Date=20140429T175351Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=9164337efa99caf850e874a1cb7ef62f3cea29d0b448b9e0e7c53b288d8fed2

Sample Response

  <DescribeSourceRegionsResult>
    <SourceRegions>
      <SourceRegion>
        <RegionName>ap-northeast-1</RegionName>
        <EndPoint>https://rds.ap-northeast-1.amazonaws.com</EndPoint>
        <Status>available</Status>
      </SourceRegion>
      <SourceRegion>
        <RegionName>ap-southeast-2</RegionName>
        <EndPoint>https://rds.ap-southeast-2.amazonaws.com</EndPoint>
      </SourceRegion>
    </SourceRegions>
  </DescribeSourceRegionsResult>
</DescribeSourceRegionsResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
DescribeValidDBInstanceModifications

You can call DescribeValidDBInstanceModifications to learn what modifications you can make to your DB instance. You can use this information when you call ModifyDBInstance.

This command doesn't apply to RDS Custom.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBInstanceIdentifier

The customer identifier or the ARN of your DB instance.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

ValidDBInstanceModificationsMessage

Information about valid modifications that you can make to your DB instance. Contains the result of a successful call to the DescribeValidDBInstanceModifications action. You can use this information when you call ModifyDBInstance.

Type: ValidDBInstanceModificationsMessage (p. 737) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBInstanceNotFound

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

InvalidDBInstanceState

The DB instance isn't in a valid state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
DownloadDBLogFilePortion

Downloads all or a portion of the specified log file, up to 1 MB in size.

This command doesn't apply to RDS Custom.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBInstanceIdentifier

The customer-assigned name of the DB instance that contains the log files you want to list.

Constraints:
- Must match the identifier of an existing DBInstance.

Type: String
Required: Yes

LogFileName

The name of the log file to be downloaded.

Type: String
Required: Yes

Marker

The pagination token provided in the previous request or "0". If the Marker parameter is specified the response includes only records beyond the marker until the end of the file or up to NumberOfLines.

Type: String
Required: No

NumberOfLines

The number of lines to download. If the number of lines specified results in a file over 1 MB in size, the file is truncated at 1 MB in size.

If the NumberOfLines parameter is specified, then the block of lines returned can be from the beginning or the end of the log file, depending on the value of the Marker parameter.
- If neither Marker or NumberOfLines are specified, the entire log file is returned up to a maximum of 10000 lines, starting with the most recent log entries first.
- If NumberOfLines is specified and Marker isn't specified, then the most recent lines from the end of the log file are returned.
- If Marker is specified as "0", then the specified number of lines from the beginning of the log file are returned.
- You can download the log file in blocks of lines by specifying the size of the block using the NumberOfLines parameter, and by specifying a value of "0" for the Marker parameter in your first request. Include the Marker value returned in the response as the Marker value for the next request, continuing until the AdditionalDataPending response element returns false.

Type: Integer
Required: No
Response Elements

The following elements are returned by the service.

**AdditionalDataPending**

Boolean value that if true, indicates there is more data to be downloaded.

*Type: Boolean*

**LogFileData**

Entries from the specified log file.

*Type: String*

**Marker**

A pagination token that can be used in a later DownloadDBLogFilePortion request.

*Type: String*

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 743).

**DBInstanceNot Found**

*DBInstanceIdentifier* doesn't refer to an existing DB instance.

*HTTP Status Code: 404*

**DBLogFileNot FoundFault**

*LogFileName* doesn't refer to an existing DB log file.

*HTTP Status Code: 404*

Examples

**Example**

This example illustrates one usage of DownloadDBLogFilePortion.

**Sample Request**

```text
https://rds.us-west-2.amazonaws.com/
?Action=DownloadDBLogFilePortion
&DBInstanceIdentifier=myexampledb
&LogFileName=log%2FERROR
&Marker=0
&NumberOfLines=50
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140127/us-west-2/rds/aws4_request
&X-Amz-Date=20140127T235259Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=2171c5a8e91a70202e77de7e81df75787f3bbd6b4ea97f7a426205474fcc446f
```
Sample Response

  <DownloadDBLogFilePortionResult>
    <Marker>0:4485</Marker>
    <LogFileData>??2014-01-26 23:59:00.01 spid54      Microsoft SQL Server 2012 - 11.0.2100.60 (X64)
Feb 10 2012 19:39:15
Copyright (c) Microsoft Corporation
Web Edition (64-bit) on Windows NT 6.1 &lt;X64&gt; (Build 7601: Service Pack 1) (Hypervisor)

2014-01-26 23:59:00.01 spid54      (c) Microsoft Corporation.
2014-01-26 23:59:00.01 spid54      All rights reserved.
2014-01-26 23:59:00.01 spid54      Server process ID is 2976.
2014-01-26 23:59:00.01 spid54      System Manufacturer: 'Xen', System Model: 'HVM domU'.
2014-01-26 23:59:00.01 spid54      Authentication mode is MIXED.
2014-01-26 23:59:00.01 spid54      Logging SQL Server messages in file 'D:\RDSDBDATA\Log \ERROR'.
2014-01-26 23:59:00.01 spid54      This is an informational message; no user action is required.
2014-01-26 23:59:00.01 spid54      The service account is 'WORKGROUP\AMAZONA-NUQUUMV$'.
2014-01-26 23:59:00.01 spid54      The error log has been reinitialized. See the previous log for older entries.
2014-01-27 00:00:56.42 spid25s     This instance of SQL Server has been using a process ID of 2976 since 10/21/2013 2:16:50 AM (local) 10/21/2013 2:16:50 AM (UTC). This is an informational message only; no user action is required.
2014-01-27 09:35:15.43 spid71      I/O is frozen on database model. No user action is required. However, if I/O is not resumed promptly, you could cancel the backup.
2014-01-27 09:35:15.44 spid72      I/O is frozen on database msdb. No user action is required. However, if I/O is not resumed promptly, you could cancel the backup.
2014-01-27 09:35:15.44 spid74      I/O is frozen on database rdsadmin. No user action is required. However, if I/O is not resumed promptly, you could cancel the backup.
2014-01-27 09:35:15.44 spid73      I/O is frozen on database master. No user action is required. However, if I/O is not resumed promptly, you could cancel the backup.
2014-01-27 09:35:25.57 spid73      I/O was resumed on database master. No user action is required.
2014-01-27 09:35:25.57 spid74      I/O was resumed on database rdsadmin. No user action is required.
2014-01-27 09:35:25.57 spid71      I/O was resumed on database model. No user action is required.
2014-01-27 09:35:25.57 spid72      I/O was resumed on database msdb. No user action is required.
  </DownloadDBLogFilePortionResult>
</DownloadDBLogFilePortionResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
Forces a failover for a DB cluster.

For an Aurora DB cluster, failover for a DB cluster promotes one of the Aurora Replicas (read-only instances) in the DB cluster to be the primary DB instance (the cluster writer).

For a Multi-AZ DB cluster, failover for a DB cluster promotes one of the readable standby DB instances (read-only instances) in the DB cluster to be the primary DB instance (the cluster writer).

An Amazon Aurora DB cluster automatically fails over to an Aurora Replica, if one exists, when the primary DB instance fails. A Multi-AZ DB cluster automatically fails over to a readable standby DB instance when the primary DB instance fails.

To simulate a failure of a primary instance for testing, you can force a failover. Because each instance in a DB cluster has its own endpoint address, make sure to clean up and re-establish any existing connections that use those endpoint addresses when the failover is complete.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

### Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBClusterIdentifier**

A DB cluster identifier to force a failover for. This parameter isn't case-sensitive.

Constraints:
- Must match the identifier of an existing DBCluster.

Type: String

Required: Yes

**TargetDBInstanceIdentifier**

The name of the DB instance to promote to the primary DB instance.

Specify the DB instance identifier for an Aurora Replica or a Multi-AZ readable standby in the DB cluster, for example mydbcluster-replica1.

This setting isn't supported for RDS for MySQL Multi-AZ DB clusters.

Type: String

Required: No

### Response Elements

The following element is returned by the service.
**DBCluster**

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see [What is Amazon Aurora?](https://docs.aws.amazon.com/AmazonAurora/latest/auroraproductGuide/what-is.html) in the [Amazon Aurora User Guide](https://docs.aws.amazon.com/AmazonAurora/latest/auroraproductGuide/).


Type: [DBCluster](https://docs.aws.amazon.com/AWSDocuments2010-10-15/1338) object

**Errors**

For information about the errors that are common to all actions, see [Common Errors](https://docs.aws.amazon.com/AWSDocuments2010-10-15/1338).

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

**Examples**

**Example**

This example illustrates one usage of FailoverDBCluster.

**Sample Request**

```
https://rds.us-east-1.amazonaws.com/
?Action=FailoverDBCluster
&DBClusterIdentifier=sample-cluster
&SignatureMethod=HmacSHA256
```

API Version 2014-10-31
Sample Response

```xml
  <FailoverDBClusterResult>
    <DBCluster>
      <Port>3306</Port>
      <LatestRestorableTime>2015-03-23T17:00:54.893Z</LatestRestorableTime>
      <Engine>aurora</Engine>
      <Status>available</Status>
      <BackupRetentionPeriod>7</BackupRetentionPeriod>
      <VpcSecurityGroups>
        <VpcSecurityGroupMembership>
          <Status>active</Status>
          <VpcSecurityGroupId>sg-922dc2fd</VpcSecurityGroupId>
        </VpcSecurityGroupMembership>
      </VpcSecurityGroups>
      <DBSubnetGroup>sample-group</DBSubnetGroup>
      <EngineVersion>5.6.10a</EngineVersion>
      <Endpoint>sample-cluster.cluster-c1axbgwqdfq.us-east-1.rds.amazonaws.com</Endpoint>
      <DBClusterParameterGroup>default.aurora5.6</DBClusterParameterGroup>
      <DBClusterIdentifier>sample-cluster</DBClusterIdentifier>
      <PreferredBackupWindow>05:47-06:17</PreferredBackupWindow>
      <PreferredMaintenanceWindow>mon:10:16-mon:10:46</PreferredMaintenanceWindow>
      <EarliestRestorableTime>2015-03-04T23:08:59.159Z</EarliestRestorableTime>
      <DBClusterMembers>
        <DBClusterMember>
          <IsClusterWriter>false</IsClusterWriter>
          <DBInstanceIdentifier>sample-replica1</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
        </DBClusterMember>
        <DBClusterMember>
          <IsClusterWriter>true</IsClusterWriter>
          <DBInstanceIdentifier>sample-primary</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
        </DBClusterMember>
      </DBClusterMembers>
      <AllocatedStorage>1</AllocatedStorage>
      <MasterUsername>awsuser</MasterUsername>
    </DBCluster>
  </FailoverDBClusterResult>
  <ResponseMetadata>
    <RequestId>3f396d5b-2f2f-44b9-99f1-049c2d6f7920</RequestId>
  </ResponseMetadata>
</FailoverDBClusterResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
FailoverGlobalCluster

Initiates the failover process for an Aurora global database (GlobalCluster (p. 675)).

A failover for an Aurora global database promotes one of secondary read-only DB clusters to be the primary DB cluster and demotes the primary DB cluster to being a secondary (read-only) DB cluster. In other words, the role of the current primary DB cluster and the selected (target) DB cluster are switched. The selected secondary DB cluster assumes full read/write capabilities for the Aurora global database.

For more information about failing over an Amazon Aurora global database, see Managed planned failover for Amazon Aurora global databases in the Amazon Aurora User Guide.

Note
This action applies to GlobalCluster (p. 675) (Aurora global databases) only. Use this action only on healthy Aurora global databases with running Aurora DB clusters and no Region-wide outages, to test disaster recovery scenarios or to reconfigure your Aurora global database topology.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

GlobalClusterIdentifier

Identifier of the Aurora global database (GlobalCluster (p. 675)) that should be failed over. The identifier is the unique key assigned by the user when the Aurora global database was created. In other words, it's the name of the Aurora global database that you want to fail over.

Constraints:
- Must match the identifier of an existing GlobalCluster (p. 675) (Aurora global database).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: [A-Za-z][0-9A-Za-z-:._]*

Required: Yes

TargetDbClusterIdentifier

Identifier of the secondary Aurora DB cluster that you want to promote to primary for the Aurora global database (GlobalCluster (p. 675).) Use the Amazon Resource Name (ARN) for the identifier so that Aurora can locate the cluster in its AWS Region.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 255.

Pattern: [A-Za-z][0-9A-Za-z-:._]*

Required: Yes

Response Elements

The following element is returned by the service.
GlobalCluster

A data type representing an Aurora global database.

Type: GlobalCluster (p. 675) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterNotFoundFault

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

GlobalClusterNotFoundFault

The GlobalClusterIdentifier doesn't refer to an existing global database cluster.

HTTP Status Code: 404

InvalidDBClusterStateFault

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

InvalidGlobalClusterStateFault

The global cluster is in an invalid state and can't perform the requested operation.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ListTagsForResource

Lists all tags on an Amazon RDS resource.

For an overview on tagging an Amazon RDS resource, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Filters.Filter.N

This parameter isn't currently supported.

Type: Array of Filter (p. 674) objects

Required: No

ResourceName

The Amazon RDS resource with tags to be listed. This value is an Amazon Resource Name (ARN). For information about creating an ARN, see Constructing an ARN for Amazon RDS in the Amazon RDS User Guide.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

TagList.Tag.N

List of tags returned by the ListTagsForResource operation.

Type: Array of Tag (p. 728) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterNotFoundFault

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

DBInstanceNotFound

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404
DBProxyNotFoundFault

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

DBProxyTargetGroupNotFoundFault

The specified target group isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

DBSnapshotNotFound

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of ListTagsForResource.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=ListTagsForResource
&ResourceName=arn%3Aaws%3Ards%3Aus-west-2%3A12345678910%3Adb%3Asample-sql
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20160304/us-west-2/rds/aws4_request
&X-Amz-Date=20160304T205529Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=ad333e422a92110b6340a28a684f0ed78606cc48b29b25682df0175e04b93b85

Sample Response

<ListTagsForResourceResult>
<TagList>
<Tag>
<Value>development-team</Value>
<Key>owner</Key>
</Tag>
<Tag>
<Value>test</Value>
<Key>environment</Key>
</Tag>
</TagList>
</ListTagsForResourceResult>
<ResponseMetadata>
<RequestId>71217a3c-e24b-11e5-a5e9-cad172f9e6c1</RequestId>
</ResponseMetadata>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyActivityStream

Changes the audit policy state of a database activity stream to either locked (default) or unlocked. A locked policy is read-only, whereas an unlocked policy is read/write. If your activity stream is started and locked, you can unlock it, customize your audit policy, and then lock your activity stream. Restarting the activity stream isn't required. For more information, see Modifying a database activity stream in the Amazon RDS User Guide.

This operation is supported for RDS for Oracle only.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

AuditPolicyState

The audit policy state. When a policy is unlocked, it is read/write. When it is locked, it is read-only. You can edit your audit policy only when the activity stream is unlocked or stopped.

Type: String

Valid Values: locked | unlocked

Required: No

ResourceArn

The Amazon Resource Name (ARN) of the RDS for Oracle DB instance, for example, arn:aws:rds:us-east-1:12345667890:instance:my-orcl-db.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

EngineNativeAuditFieldsIncluded

Indicates whether engine-native audit fields are included in the database activity stream.

Type: Boolean

KinesisStreamName

The name of the Amazon Kinesis data stream to be used for the database activity stream.

Type: String

KmsKeyId

The AWS KMS key identifier for encryption of messages in the database activity stream.

Type: String

Mode

The mode of the database activity stream.
Type: String
Valid Values: sync | async

**PolicyStatus**
The status of the modification to the policy state of the database activity stream.
Type: String
Valid Values: locked | unlocked | locking-policy | unlocking-policy

**Status**
The status of the modification to the database activity stream.
Type: String
Valid Values: stopped | starting | started | stopping

**Errors**
For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBInstanceNotFound**
DBInstanceIdentifier doesn't refer to an existing DB instance.
HTTP Status Code: 404

**InvalidDBInstanceState**
The DB instance isn't in a valid state.
HTTP Status Code: 400

**ResourceNotFoundFault**
The specified resource ID was not found.
HTTP Status Code: 404

**See Also**
For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyCertificates

Override the system-default Secure Sockets Layer/Transport Layer Security (SSL/TLS) certificate for Amazon RDS for new DB instances, or remove the override.

By using this operation, you can specify an RDS-approved SSL/TLS certificate for new DB instances that is different from the default certificate provided by RDS. You can also use this operation to remove the override, so that new DB instances use the default certificate provided by RDS.

You might need to override the default certificate in the following situations:

- You already migrated your applications to support the latest certificate authority (CA) certificate, but the new CA certificate is not yet the RDS default CA certificate for the specified AWS Region.
- RDS has already moved to a new default CA certificate for the specified AWS Region, but you are still in the process of supporting the new CA certificate. In this case, you temporarily need additional time to finish your application changes.

For more information about rotating your SSL/TLS certificate for RDS DB engines, see Rotating Your SSL/TLS Certificate in the Amazon RDS User Guide.

For more information about rotating your SSL/TLS certificate for Aurora DB engines, see Rotating Your SSL/TLS Certificate in the Amazon Aurora User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

CertificateIdentifier

The new default certificate identifier to override the current one with.

To determine the valid values, use the describe-certificates AWS CLI command or the DescribeCertificates API operation.

Type: String

Required: No

RemoveCustomerOverride

A value that indicates whether to remove the override for the default certificate. If the override is removed, the default certificate is the system default.

Type: Boolean

Required: No

Response Elements

The following element is returned by the service.

Certificate

A CA certificate for an AWS account.

Type: Certificate (p. 579) object
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

CertificateNotFound

CertificateIdentifier doesn't refer to an existing certificate.

HTTP Status Code: 404

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyCurrentDBClusterCapacity

Set the capacity of an Aurora Serverless v1 DB cluster to a specific value.

Aurora Serverless v1 scales seamlessly based on the workload on the DB cluster. In some cases, the capacity might not scale fast enough to meet a sudden change in workload, such as a large number of new transactions. Call ModifyCurrentDBClusterCapacity to set the capacity explicitly.

After this call sets the DB cluster capacity, Aurora Serverless v1 can automatically scale the DB cluster based on the cooldown period for scaling up and the cooldown period for scaling down.

For more information about Aurora Serverless v1, see Using Amazon Aurora Serverless v1 in the Amazon Aurora User Guide.

Important
If you call ModifyCurrentDBClusterCapacity with the default TimeoutAction, connections that prevent Aurora Serverless v1 from finding a scaling point might be dropped. For more information about scaling points, see Autoscaling for Aurora Serverless v1 in the Amazon Aurora User Guide.

Note
This action only applies to Aurora Serverless v1 DB clusters.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Capacity
The DB cluster capacity.

When you change the capacity of a paused Aurora Serverless v1 DB cluster, it automatically resumes.

Constraints:
• For Aurora MySQL, valid capacity values are 1, 2, 4, 8, 16, 32, 64, 128, and 256.
• For Aurora PostgreSQL, valid capacity values are 2, 4, 8, 16, 32, 64, 192, and 384.

Type: Integer
Required: No

DBClusterIdentifier
The DB cluster identifier for the cluster being modified. This parameter isn't case-sensitive.

Constraints:
• Must match the identifier of an existing DB cluster.

Type: String
Required: Yes

SecondsBeforeTimeout
The amount of time, in seconds, that Aurora Serverless v1 tries to find a scaling point to perform seamless scaling before enforcing the timeout action. The default is 300.

Specify a value between 10 and 600 seconds.
Response Elements

The following elements are returned by the service.

**CurrentCapacity**

The current capacity of the DB cluster.

Type: Integer

**DBClusterIdentifier**

A user-supplied DB cluster identifier. This identifier is the unique key that identifies a DB cluster.

Type: String

**PendingCapacity**

A value that specifies the capacity that the DB cluster scales to next.

Type: Integer

**SecondsBeforeTimeout**

The number of seconds before a call to ModifyCurrentDBClusterCapacity times out.

Type: Integer

**TimeoutAction**

The timeout action of a call to ModifyCurrentDBClusterCapacity, either ForceApplyCapacityChange or RollbackCapacityChange.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.
HTTP Status Code: 404

**InvalidDBClusterCapacityFault**

Capacity isn't a valid Aurora Serverless DB cluster capacity. Valid capacity values are 2, 4, 8, 16, 32, 64, 128, and 256.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyCustomDBEngineVersion

Modifies the status of a custom engine version (CEV). You can find CEVs to modify by calling DescribeDBEngineVersions.

Note
The MediaImport service that imports files from Amazon S3 to create CEVs isn't integrated with AWS CloudTrail. If you turn on data logging for Amazon RDS in CloudTrail, calls to the ModifyCustomDbEngineVersion event aren't logged. However, you might see calls from the API gateway that accesses your Amazon S3 bucket. These calls originate from the MediaImport service for the ModifyCustomDbEngineVersion event.

For more information, see Modifying CEV status in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Description
An optional description of your CEV.

Type: String
Length Constraints: Minimum length of 1. Maximum length of 1000.
Pattern: .*
Required: No

Engine
The DB engine. The only supported value is custom-oracle-ee.

Type: String
Length Constraints: Minimum length of 1. Maximum length of 35.
Pattern: ^[A-Za-z0-9-]{1,35}$
Required: Yes

EngineVersion
The custom engine version (CEV) that you want to modify. This option is required for RDS Custom for Oracle, but optional for Amazon RDS. The combination of Engine and EngineVersion is unique per customer per AWS Region.

Type: String
Length Constraints: Minimum length of 1. Maximum length of 60.
Pattern: ^(11\.|d{1}|12\.d{1}|18|19)(\.[a-zA-Z0-9-_.-]{1,50})$,
Required: Yes

Status
The availability status to be assigned to the CEV. Valid values are as follows:
available

You can use this CEV to create a new RDS Custom DB instance.

inactive

You can create a new RDS Custom instance by restoring a DB snapshot with this CEV. You can't patch or create new instances with this CEV.

You can change any status to any status. A typical reason to change status is to prevent the accidental use of a CEV, or to make a deprecated CEV eligible for use again. For example, you might change the status of your CEV from available to inactive, and from inactive back to available. To change the availability status of the CEV, it must not currently be in use by an RDS Custom instance, snapshot, or automated backup.

Type: String

Valid Values: available | inactive | inactive-except-restore

Required: No

Response Elements

The following elements are returned by the service.

CreateTime

The creation time of the DB engine version.

Type: Timestamp

DatabaseInstallationFilesS3BucketName

The name of the Amazon S3 bucket that contains your database installation files.

Type: String

DatabaseInstallationFilesS3Prefix

The Amazon S3 directory that contains the database installation files. If not specified, then no prefix is assumed.

Type: String

DBEngineDescription

The description of the database engine.

Type: String

DBEngineVersionArn

The ARN of the custom engine version.

Type: String

DBEngineVersionDescription

The description of the database engine version.

Type: String

DBParameterGroupFamily

The name of the DB parameter group family for the database engine.
Type: String

**DefaultCharacterSet**

The default character set for new instances of this engine version, if the `CharacterSetName` parameter of the `CreateDBInstance` API isn't specified.

Type: `CharacterSet` (p. 581) object

**Engine**

The name of the database engine.

Type: String

**EngineVersion**

The version number of the database engine.

Type: String

**ExportableLogTypes.member.N**

The types of logs that the database engine has available for export to CloudWatch Logs.

Type: Array of strings

**KMSKeyId**

The AWS KMS key identifier for an encrypted CEV. This parameter is required for RDS Custom, but optional for Amazon RDS.

Type: String

**MajorEngineVersion**

The major engine version of the CEV.

Type: String

**Status**

The status of the DB engine version, either available or deprecated.

Type: String

**SupportedCharacterSets.CharacterSet.N**

A list of the character sets supported by this engine for the `CharacterSetName` parameter of the `CreateDBInstance` operation.

Type: Array of `CharacterSet` (p. 581) objects

**SupportedEngineModes.member.N**

A list of the supported DB engine modes.

Type: Array of strings

**SupportedFeatureNames.member.N**

A list of features supported by the DB engine.

The supported features vary by DB engine and DB engine version.

To determine the supported features for a specific DB engine and DB engine version using the AWS CLI, use the following command:
For example, to determine the supported features for RDS for PostgreSQL version 13.3 using the AWS CLI, use the following command:

```
aws rds describe-db-engine-versions --engine postgres --engine-version 13.3
```

The supported features are listed under `SupportedFeatureNames` in the output.

**SupportedFeatureNames**

A list of the supported features for this DB engine version.

Type: Array of strings

**SupportedNcharCharacterSets**

A list of the character sets supported by the Oracle DB engine for the `NcharCharacterSetName` parameter of the `CreateDBInstance` operation.

Type: Array of `CharacterSet` objects

**SupportedTimezones**

A list of the time zones supported by this engine for the `Timezone` parameter of the `CreateDBInstance` action.

Type: Array of `Timezone` objects

**SupportsBabelfish**

A value that indicates whether the engine version supports Babelfish for Aurora PostgreSQL.

Type: Boolean

**SupportsGlobalDatabases**

A value that indicates whether you can use Aurora global databases with a specific DB engine version.

Type: Boolean

**SupportsLogExportsToCloudwatchLogs**

A value that indicates whether the engine version supports exporting the log types specified by `ExportableLogTypes` to CloudWatch Logs.

Type: Boolean

**SupportsParallelQuery**

A value that indicates whether you can use Aurora parallel query with a specific DB engine version.

Type: Boolean

**SupportsReadReplica**

Indicates whether the database engine version supports read replicas.

Type: Boolean

**TagList**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of `Tag` objects

**ValidUpgradeTarget**

A list of engine versions that this database engine version can be upgraded to.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**CustomDBEngineVersionNotFoundFault**

The specified CEV was not found.

HTTP Status Code: 404

**InvalidCustomDBEngineVersionStateFault**

You can't delete the CEV.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of ModifyCustomDBEngineVersion.

**Sample Request**

```xml
https://rds.us-east-1.amazonaws.com/
?Engine=19.cev1
&EngineVersion=custom-oracle-ee
&Description=test
&Status=available
&Operation=ModifyCustomDBEngineVersion
&Version=1999-01-01
&AWSAccessKeyId=ABCDEF1JKLMNOPQRSTUV
&SignatureVersion=2
&SignatureMethod=HmacSHA1
&Timestamp=2021-10-13T21%3A38%3A59.000Z
&Signature=vJeEgn2kGiAyCI7uRVAOXqGPlHc%3D
```

**Sample Response**

```xml
  <ModifyCustomDBEngineVersionResult>
    <DatabaseInstallationFilesS3Prefix>123456789012/cev1</DatabaseInstallationFilesS3Prefix>
    <MajorEngineVersion>19</MajorEngineVersion>
    <DBEngineVersionDescription>foo</DBEngineVersionDescription>
    <SupportsGlobalDatabases>false</SupportsGlobalDatabases>
    <SupportsParallelQuery>false</SupportsParallelQuery>
    <Engine>custom-oracle-ee</Engine>
    <KMSKeyId>arn:aws:kms:us-east-1:123456789012:key/12ab3c4d-1234-12a3-1aa2-12a3bcdefghi</KMSKeyId>
    <EngineVersion>19.cev1</EngineVersion>
  </ModifyCustomDBEngineVersionResult>
</ModifyCustomDBEngineVersionResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBCluster

Modify the settings for an Amazon Aurora DB cluster or a Multi-AZ DB cluster. You can change one or more settings by specifying these parameters and the new values in the request.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

AllocatedStorage

The amount of storage in gibibytes (GiB) to allocate to each DB instance in the Multi-AZ DB cluster.

Type: Integer

Valid for: Multi-AZ DB clusters only

Type: Integer

Required: No

AllowMajorVersionUpgrade

A value that indicates whether major version upgrades are allowed.

Constraints: You must allow major version upgrades when specifying a value for the EngineVersion parameter that is a different major version than the DB cluster's current version.

Valid for: Aurora DB clusters only

Type: Boolean

Required: No

ApplyImmediately

A value that indicates whether the modifications in this request and any pending modifications are asynchronously applied as soon as possible, regardless of the PreferredMaintenanceWindow setting for the DB cluster. If this parameter is disabled, changes to the DB cluster are applied during the next maintenance window. All other changes are applied immediately, regardless of the value of the ApplyImmediately parameter.

The ApplyImmediately parameter only affects the EnableIAMDatabaseAuthentication, MasterUserPassword, and NewDBClusterIdentifier values. If the ApplyImmediately parameter is disabled, then changes to the EnableIAMDatabaseAuthentication, MasterUserPassword, and NewDBClusterIdentifier values are applied during the next maintenance window. All other changes are applied immediately, regardless of the value of the ApplyImmediately parameter.

By default, this parameter is disabled.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean
Required: No

**AutoMinorVersionUpgrade**

A value that indicates whether minor engine upgrades are applied automatically to the DB cluster during the maintenance window. By default, minor engine upgrades are applied automatically.

Valid for: Multi-AZ DB clusters only

Type: Boolean

Required: No

**BacktrackWindow**

The target backtrack window, in seconds. To disable backtracking, set this value to 0.

Default: 0

Constraints:
- If specified, this value must be set to a number from 0 to 259,200 (72 hours).

Valid for: Aurora MySQL DB clusters only

Type: Long

Required: No

**BackupRetentionPeriod**

The number of days for which automated backups are retained. Specify a minimum value of 1.

Default: 1

Constraints:
- Must be a value from 1 to 35

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Integer

Required: No

**CloudwatchLogsExportConfiguration**

The configuration setting for the log types to be enabled for export to CloudWatch Logs for a specific DB cluster. The values in the list depend on the DB engine being used.

**RDS for MySQL**

Possible values are error, general, and slowquery.

**RDS for PostgreSQL**

Possible values are postgresql and upgrade.

**Aurora MySQL**

Possible values are audit, error, general, and slowquery.

**Aurora PostgreSQL**

Possible value is postgresql.

For more information about exporting CloudWatch Logs for Amazon RDS, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon RDS User Guide.
For more information about exporting CloudWatch Logs for Amazon Aurora, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: CloudwatchLogsExportConfiguration (p. 582) object

Required: No

CopyTagsToSnapshot

A value that indicates whether to copy all tags from the DB cluster to snapshots of the DB cluster. The default is not to copy them.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean

Required: No

DBClusterIdentifier

The DB cluster identifier for the cluster being modified. This parameter isn't case-sensitive.

Constraints: This identifier must match the identifier of an existing DB cluster.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: Yes

DBClusterInstanceClass

The compute and memory capacity of each DB instance in the Multi-AZ DB cluster, for example db.m6gd.xlarge. Not all DB instance classes are available in all AWS Regions, or for all database engines.

For the full list of DB instance classes and availability for your engine, see DB Instance Class in the Amazon RDS User Guide.

Valid for: Multi-AZ DB clusters only

Type: String

Required: No

DBClusterParameterGroupName

The name of the DB cluster parameter group to use for the DB cluster.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

DBInstanceParameterGroupName

The name of the DB parameter group to apply to all instances of the DB cluster.

Note
When you apply a parameter group using the DBInstanceParameterGroupName parameter, the DB cluster isn't rebooted automatically. Also, parameter changes are applied immediately rather than during the next maintenance window.
Default: The existing name setting

Constraints:
- The DB parameter group must be in the same DB parameter group family as this DB cluster.
- The DBParameterGroupName parameter is valid in combination with the AllowMajorVersionUpgrade parameter for a major version upgrade only.

Valid for: Aurora DB clusters only

Type: String

Required: No

**DeletionProtection**

A value that indicates whether the DB cluster has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean

Required: No

**Domain**

The Active Directory directory ID to move the DB cluster to. Specify none to remove the cluster from its current domain. The domain must be created prior to this operation.

For more information, see *Kerberos Authentication* in the *Amazon Aurora User Guide*.

Valid for: Aurora DB clusters only

Type: String

Required: No

**DomainIAMRoleName**

Specify the name of the IAM role to be used when making API calls to the Directory Service.

Valid for: Aurora DB clusters only

Type: String

Required: No

**EnableGlobalWriteForwarding**

A value that indicates whether to enable this DB cluster to forward write operations to the primary cluster of an Aurora global database (*GlobalCluster*). By default, write operations are not allowed on Aurora DB clusters that are secondary clusters in an Aurora global database.

You can set this value only on Aurora DB clusters that are members of an Aurora global database. With this parameter enabled, a secondary cluster can forward writes to the current primary cluster and the resulting changes are replicated back to this cluster. For the primary DB cluster of an Aurora global database, this value is used immediately if the primary is demoted by the *FailoverGlobalCluster* API operation, but it does nothing until then.

Valid for: Aurora DB clusters only

Type: Boolean

Required: No
EnableHttpEndpoint

A value that indicates whether to enable the HTTP endpoint for an Aurora Serverless v1 DB cluster. By default, the HTTP endpoint is disabled.

When enabled, the HTTP endpoint provides a connectionless web service API for running SQL queries on the Aurora Serverless v1 DB cluster. You can also query your database from inside the RDS console with the query editor.

For more information, see Using the Data API for Aurora Serverless v1 in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: Boolean

Required: No

EnableIAMDatabaseAuthentication

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

For more information, see IAM Database Authentication in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: Boolean

Required: No

EnablePerformanceInsights

A value that indicates whether to turn on Performance Insights for the DB cluster.

For more information, see Using Amazon Performance Insights in the Amazon RDS User Guide.

Valid for: Multi-AZ DB clusters only

Type: Boolean

Required: No

EngineVersion

The version number of the database engine to which you want to upgrade. Changing this parameter results in an outage. The change is applied during the next maintenance window unless ApplyImmediately is enabled.

To list all of the available engine versions for MySQL 5.6-compatible Aurora, use the following command:

```
aws rds describe-db-engine-versions --engine aurora --query "DBEngineVersions[].EngineVersion"
```

To list all of the available engine versions for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora, use the following command:

```
aws rds describe-db-engine-versions --engine aurora-mysql --query "DBEngineVersions[].EngineVersion"
```

To list all of the available engine versions for Aurora PostgreSQL, use the following command:

```
aws rds describe-db-engine-versions --engine aurora-postgresql --query "DBEngineVersions[].EngineVersion"
```
To list all of the available engine versions for RDS for MySQL, use the following command:

```
aws rds describe-db-engine-versions --engine mysql --query "DBEngineVersions[].EngineVersion"
```

To list all of the available engine versions for RDS for PostgreSQL, use the following command:

```
aws rds describe-db-engine-versions --engine postgres --query "DBEngineVersions[].EngineVersion"
```

Valid for: Aurora DB clusters and Multi-AZ DB clusters

**Iops**

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for each DB instance in the Multi-AZ DB cluster.

For information about valid IOPS values, see Amazon RDS Provisioned IOPS storage in the Amazon RDS User Guide.

Constraints: Must be a multiple between .5 and 50 of the storage amount for the DB cluster.

Valid for: Multi-AZ DB clusters only

**MasterUserPassword**

The new password for the master database user. This password can contain any printable ASCII character except “/”, “” or “@”.

Constraints: Must contain from 8 to 41 characters.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

**MonitoringInterval**

The interval, in seconds, between points when Enhanced Monitoring metrics are collected for the DB cluster. To turn off collecting Enhanced Monitoring metrics, specify 0. The default is 0.

If **MonitoringRoleArn** is specified, also set **MonitoringInterval** to a value other than 0.

Valid Values: 0, 1, 5, 10, 15, 30, 60

Valid for: Multi-AZ DB clusters only

**MonitoringRoleArn**

The Amazon Resource Name (ARN) for the IAM role that permits RDS to send Enhanced Monitoring metrics to Amazon CloudWatch Logs. An example is arn:aws:iam:123456789012:role/emacccess. For information on creating a monitoring role, see To create an IAM role for Amazon RDS Enhanced Monitoring in the Amazon RDS User Guide.
If `MonitoringInterval` is set to a value other than 0, supply a `MonitoringRoleArn` value.

Valid for: Multi-AZ DB clusters only

Type: String

Required: No

**NetworkType**

The network type of the DB cluster.

Valid values:
- IPV4
- DUAL

The network type is determined by the `DBSubnetGroup` specified for the DB cluster. A `DBSubnetGroup` can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: String

Required: No

**NewDBClusterIdentifier**

The new DB cluster identifier for the DB cluster when renaming a DB cluster. This value is stored as a lowercase string.

Constraints:
- Must contain from 1 to 63 letters, numbers, or hyphens
- The first character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

Example: `my-cluster2`

Valid for: Aurora DB clusters only

Type: String

Required: No

**OptionGroupName**

A value that indicates that the DB cluster should be associated with the specified option group.

DB clusters are associated with a default option group that can't be modified.

Type: String

Required: No

**PerformanceInsightsKMSKeyId**

The AWS KMS key identifier for encryption of Performance Insights data.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

If you don't specify a value for `PerformanceInsightsKMSKeyId`, then Amazon RDS uses your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.
Valid for: Multi-AZ DB clusters only
Type: String
Required: No

**PerformanceInsightsRetentionPeriod**

The number of days to retain Performance Insights data. The default is 7 days. The following values are valid:
- 7
- month * 31, where month is a number of months from 1-23
- 731

For example, the following values are valid:
- 93 (3 months * 31)
- 341 (11 months * 31)
- 589 (19 months * 31)
- 731

If you specify a retention period such as 94, which isn't a valid value, RDS issues an error.

Valid for: Multi-AZ DB clusters only
Type: Integer
Required: No

**Port**

The port number on which the DB cluster accepts connections.

Constraints: Value must be 1150-65535
Default: The same port as the original DB cluster.

Valid for: Aurora DB clusters only
Type: Integer
Required: No

**PreferredBackupWindow**

The daily time range during which automated backups are created if automated backups are enabled, using the BackupRetentionPeriod parameter.

The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region. To view the time blocks available, see Backup window in the Amazon Aurora User Guide.

Constraints:
- Must be in the format hh24:mi-hh24:mi.
- Must be in Universal Coordinated Time (UTC).
- Must not conflict with the preferred maintenance window.
- Must be at least 30 minutes.

Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: String
Required: No
PreferredMaintenanceWindow

The weekly time range during which system maintenance can occur, in Universal Coordinated Time (UTC).


The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region, occurring on a random day of the week. To see the time blocks available, see Adjusting the Preferred DB Cluster Maintenance Window in the Amazon Aurora User Guide.

Valid Days: Mon, Tue, Wed, Thu, Fri, Sat, Sun.
Constraints: Minimum 30-minute window.
Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: String
Required: No

ScalingConfiguration

The scaling properties of the DB cluster. You can only modify scaling properties for DB clusters in serverless DB engine mode.

Valid for: Aurora DB clusters only
Type: ScalingConfiguration (p. 720) object
Required: No

ServerlessV2ScalingConfiguration

Contains the scaling configuration of an Aurora Serverless v2 DB cluster.

For more information, see Using Amazon Aurora Serverless v2 in the Amazon Aurora User Guide.
Type: ServerlessV2ScalingConfiguration (p. 724) object
Required: No

StorageType

Specifies the storage type to be associated with the DB cluster.

Valid values: io1
When specified, a value for the Iops parameter is required.
Default: io1
Valid for: Multi-AZ DB clusters only
Type: String
Required: No

VpcSecurityGroupIds.VpcSecurityGroupId.N

A list of VPC security groups that the DB cluster will belong to.

Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: Array of strings
Response Elements

The following element is returned by the service.

**DBCluster**

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteRead ReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see [What is Amazon Aurora?](https://docs.aws.amazon.com/AmazonAurora/latest/AuroraUserGuide/) in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see [Multi-AZ deployments with two readable standby DB instances](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/) in the Amazon RDS User Guide.

Type: **DBCluster (p. 588)** object

Errors

For information about the errors that are common to all actions, see [Common Errors (p. 743)](https://docs.aws.amazon.com/AWSECS/latest/UserGuide/).

**DBClusterAlreadyExistsFault**

The user already has a DB cluster with the given identifier.

HTTP Status Code: 400

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBClusterParameterGroupNotFound**

DBClusterParameterGroupName doesn't refer to an existing DB cluster parameter group.

HTTP Status Code: 404

**DBSubnetGroupNotFoundFault**

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404

**DomainNotFoundFault**

Domain doesn't refer to an existing Active Directory domain.
HTTP Status Code: 404
**InvalidDBClusterStateFault**
The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400
**InvalidDBInstanceState**
The DB instance isn't in a valid state.

HTTP Status Code: 400
**InvalidDBSecurityGroupState**
The state of the DB security group doesn't allow deletion.

HTTP Status Code: 400
**InvalidDBSubnetGroupStateFault**
The DB subnet group cannot be deleted because it's in use.

HTTP Status Code: 400
**InvalidSubnet**
The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400
**InvalidVPCNetworkStateFault**
The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400
**StorageQuotaExceeded**
The request would result in the user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

### Examples

#### Modifying an Aurora DB cluster

This example illustrates one usage of ModifyDBCluster.

**Sample Request**

```
https://rds.us-west-2.amazonaws.com/
?Action=ModifyDBCluster
&DBClusterIdentifier=sample-cluster3
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
```
Sample Response

```xml
  <ModifyDBClusterResult>
    <DBCluster>
      <Engine>aurora5.6</Engine>
      <Status>available</Status>
      <BackupRetentionPeriod>0</BackupRetentionPeriod>
      <DBSubnetGroup>my-subgroup</DBSubnetGroup>
      <EngineVersion>5.6.10a</EngineVersion>
      <Endpoint>sample-cluster3.cluster-cefgqfx9y5fy.us-east-1.rds.amazonaws.com</Endpoint>
      <DBClusterIdentifier>sample-cluster3</DBClusterIdentifier>
      <PreferredBackupWindow>07:06-07:36</PreferredBackupWindow>
      <PreferredMaintenanceWindow>tue:10:18-tue:10:48</PreferredMaintenanceWindow>
      <DBClusterMembers>
        <DBClusterMember>
          <IsClusterWriter>true</IsClusterWriter>
          <DBInstanceIdentifier>sample-cluster3-master</DBInstanceIdentifier>
        </DBClusterMember>
        <DBClusterMember>
          <IsClusterWriter>false</IsClusterWriter>
          <DBInstanceIdentifier>sample-cluster3-read1</DBInstanceIdentifier>
        </DBClusterMember>
      </DBClusterMembers>
      <AllocatedStorage>15</AllocatedStorage>
      <MasterUsername>awsuser</MasterUsername>
    </DBCluster>
  </ModifyDBClusterResult>
  <ResponseMetadata>
    <RequestId>d2cd0e2f-1416-11e4-9210-cf99df4125d0</RequestId>
  </ResponseMetadata>
</ModifyDBClusterResponse>
```

Modifying a Multi-AZ DB cluster

This example illustrates one usage of ModifyDBCluster.

Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=ModifyDBCluster
&DBClusterIdentifier=my-multi-az-cluster
&DBClusterInstanceClass=db.m6gd.large
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIQKE4SARGYLE/20211026/us-west-2/rds/aws4_request
&X-Amz-Date=20211027T000000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=d6d1c65c2e94f5800ab411a3f7336625820b103713b6c063430900514e21d784
Sample Response

```xml
  <ModifyDBClusterResult>
    <DBCluster>
      <CrossAccountClone>false</CrossAccountClone>
      <AllocatedStorage>100</AllocatedStorage>
      <DatabaseName>mydb</DatabaseName>
      <AssociatedRoles />
      <AvailabilityZones>
        <AvailabilityZone>us-west-2a</AvailabilityZone>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
        <AvailabilityZone>us-west-2c</AvailabilityZone>
      </AvailabilityZones>
      <ReadReplicaIdentifiers />
      <Iops>1000</Iops>
      <PerformanceInsightsKMSKeyId>arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE</PerformanceInsightsKMSKeyId>
      <PerformanceInsightsRetentionPeriod>7</PerformanceInsightsRetentionPeriod>
      <EngineVersion>8.0.26</EngineVersion>
      <MasterUsername>admin</MasterUsername>
      <DBClusterMembers>
        <DBClusterMember>
          <DBInstanceIdentifier>my-multi-az-cluster-instance-3</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
          <PromotionTier>1</PromotionTier>
          <IsClusterWriter>false</IsClusterWriter>
        </DBClusterMember>
        <DBClusterMember>
          <DBInstanceIdentifier>my-multi-az-cluster-instance-2</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
          <PromotionTier>1</PromotionTier>
          <IsClusterWriter>false</IsClusterWriter>
        </DBClusterMember>
        <DBClusterMember>
          <DBInstanceIdentifier>my-multi-az-cluster-instance-1</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
          <PromotionTier>1</PromotionTier>
          <IsClusterWriter>true</IsClusterWriter>
        </DBClusterMember>
      </DBClusterMembers>
      <HttpEndpointEnabled>false</HttpEndpointEnabled>
      <Port>3306</Port>
      <MonitoringInterval>30</MonitoringInterval>
      <BackupRetentionPeriod>2</BackupRetentionPeriod>
      <KmsKeyId>arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE</KmsKeyId>
      <DBClusterIdentifier>my-multi-az-cluster</DBClusterIdentifier>
      <DBClusterResourceId>cluster-TSW4QJNKY3P2DNDRR523BDGEIU</DBClusterResourceId>
      <Status>available</Status>
      <LatestRestorableTime>2021-10-26T23:55:00Z</LatestRestorableTime>
      <PreferredBackupWindow>11:34-12:04</PreferredBackupWindow>
      <DeletionProtection>false</DeletionProtection>
      <Endpoint>my-multi-az-cluster.cluster-123456789012.us-west-2.rds.amazonaws.com</Endpoint>
      <Engine>mysql</Engine>
      <ReaderEndpoint>my-multi-az-cluster.cluster-ro-123456789012.us-west-2.rds.amazonaws.com</ReaderEndpoint>
      <PubliclyAccessible>true</PubliclyAccessible>
      <IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
      <EarliestRestorableTime>2021-10-26T20:42:05.375Z</EarliestRestorableTime>
      <ClusterCreateTime>2021-10-26T20:31:54.943Z</ClusterCreateTime>
      <PerformanceInsightsEnabled>true</PerformanceInsightsEnabled>
    </DBCluster>
  </ModifyDBClusterResult>
</ModifyDBClusterResponse>
```
<ModifyDBClusterResult>
  <DBCluster>
    <DBSubnetGroup>mysubnet1</DBSubnetGroup>
    <VpcSecurityGroups>
      <VpcSecurityGroupMembership>
        <VpcSecurityGroupId>sg-6921cc28</VpcSecurityGroupId>
        <Status>active</Status>
      </VpcSecurityGroupMembership>
    </VpcSecurityGroups>
    <PreferredMaintenanceWindow>sat:07:05-sat:07:35</PreferredMaintenanceWindow>
    <DBClusterParameterGroup>my-multi-az-cpg</DBClusterParameterGroup>
    <CopyTagsToSnapshot>true</CopyTagsToSnapshot>
    <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
    <HostedZoneId>Z3GZ3VYA3PGHTQ</HostedZoneId>
    <StorageEncrypted>true</StorageEncrypted>
    <MonitoringRoleArn>arn:aws:iam::123456789012:role/enhance-monitoring-role</MonitoringRoleArn>
    <MultiAZ>true</MultiAZ>
    <DBClusterInstanceClass>db.m6gd.large</DBClusterInstanceClass>
    <StorageType>io1</StorageType>
    <DomainMemberships />
  </DBCluster>
</ModifyDBClusterResult>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBClusterEndpoint

Modifies the properties of an endpoint in an Amazon Aurora DB cluster.

**Note**
This action only applies to Aurora DB clusters.

### Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBClusterEndpointIdentifier**

The identifier of the endpoint to modify. This parameter is stored as a lowercase string.

*Type:* String  
*Required:* Yes

**EndpointType**

The type of the endpoint. One of: READER, WRITER, ANY.

*Type:* String  
*Required:* No

**ExcludedMembers.member.N**

List of DB instance identifiers that aren't part of the custom endpoint group. All other eligible instances are reachable through the custom endpoint. Only relevant if the list of static members is empty.

*Type:* Array of strings  
*Required:* No

**StaticMembers.member.N**

List of DB instance identifiers that are part of the custom endpoint group.

*Type:* Array of strings  
*Required:* No

### Response Elements

The following elements are returned by the service.

**CustomEndpointType**

The type associated with a custom endpoint. One of: READER, WRITER, ANY.

*Type:* String

**DBClusterEndpointArn**

The Amazon Resource Name (ARN) for the endpoint.

*Type:* String
DBClusterEndpointIdentifier

The identifier associated with the endpoint. This parameter is stored as a lowercase string.

Type: String

DBClusterEndpointResourceIdentifier

A unique system-generated identifier for an endpoint. It remains the same for the whole life of the endpoint.

Type: String

DBClusterIdentifier

The DB cluster identifier of the DB cluster associated with the endpoint. This parameter is stored as a lowercase string.

Type: String

Endpoint

The DNS address of the endpoint.

Type: String

EndpointType

The type of the endpoint. One of: READER, WRITER, CUSTOM.

Type: String

ExcludedMembers.member.N

List of DB instance identifiers that aren't part of the custom endpoint group. All other eligible instances are reachable through the custom endpoint. Only relevant if the list of static members is empty.

Type: Array of strings

StaticMembers.member.N

List of DB instance identifiers that are part of the custom endpoint group.

Type: Array of strings

Status

The current status of the endpoint. One of: creating, available, deleting, inactive, modifying. The inactive state applies to an endpoint that can't be used for a certain kind of cluster, such as a writer endpoint for a read-only secondary cluster in a global database.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterEndpointNotFoundException

The specified custom endpoint doesn't exist.

HTTP Status Code: 400
DBInstanceNotFound

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

InvalidDBClusterEndpointStateFault

The requested operation can't be performed on the endpoint while the endpoint is in this state.

HTTP Status Code: 400

InvalidDBClusterStateFault

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

InvalidDBInstanceState

The DB instance isn't in a valid state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBClusterParameterGroup

Modifies the parameters of a DB cluster parameter group. To modify more than one parameter, submit a list of the following: ParameterName, ParameterValue, and ApplyMethod. A maximum of 20 parameters can be modified in a single request.

Important
After you create a DB cluster parameter group, you should wait at least 5 minutes before creating your first DB cluster that uses that DB cluster parameter group as the default parameter group. This allows Amazon RDS to fully complete the create action before the parameter group is used as the default for a new DB cluster. This is especially important for parameters that are critical when creating the default database for a DB cluster, such as the character set for the default database defined by the character_set_database parameter. You can use the Parameter Groups option of the Amazon RDS console or the DescribeDBClusterParameters operation to verify that your DB cluster parameter group has been created or modified.

If the modified DB cluster parameter group is used by an Aurora Serverless v1 cluster, Aurora applies the update immediately. The cluster restart might interrupt your workload. In that case, your application must reopen any connections and retry any transactions that were active when the parameter changes took effect.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterParameterGroupName

The name of the DB cluster parameter group to modify.

Type: String

Required: Yes

Parameters.Parameter.N

A list of parameters in the DB cluster parameter group to modify.

Valid Values (for the application method): immediate | pending-reboot

Note
You can use the immediate value with dynamic parameters only. You can use the pending-reboot value for both dynamic and static parameters.

When the application method is immediate, changes to dynamic parameters are applied immediately to the DB clusters associated with the parameter group. When the application method is pending-reboot, changes to dynamic and static parameters are applied after a reboot without failover to the DB clusters associated with the parameter group.

Type: Array of Parameter (p. 701) objects

Required: Yes
Response Elements

The following element is returned by the service.

**DBClusterParameterGroupName**

The name of the DB cluster parameter group.

Constraints:

- Must be 1 to 255 letters or numbers.
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

**Note**

This value is stored as a lowercase string.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBParameterGroupNotFound**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

**InvalidDBParameterGroupState**

The DB parameter group is in use or is in an invalid state. If you are attempting to delete the parameter group, you can't delete it when the parameter group is in this state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of ModifyDBClusterParameterGroup.

Sample Request

```plaintext
https://rds.us-west-2.amazonaws.com/
?Action=ModifyDBClusterParameterGroup
&DBClusterParameterGroupName=sample-cluster-pg
&Parameters.member.1.ApplyMethod=pending-reboot
&Parameters.member.1.ParameterName=binlog_format
&Parameters.member.1.ParameterValue=MIXED
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20160913/us-west-2/rds/aws4_request
&X-Amz-Date=20160913T173245Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
```

API Version 2014-10-31
Sample Response

```xml
  <ModifyDBClusterParameterGroupResult>
    <DBClusterParameterGroupName>sample-cluster-pg</DBClusterParameterGroupName>
  </ModifyDBClusterParameterGroupResult>
  <ResponseMetadata>
    <RequestId>1534d6a1-79d8-11e6-9b94-838991bd50c6</RequestId>
  </ResponseMetadata>
</ModifyDBClusterParameterGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBClusterSnapshotAttribute

Adds an attribute and values to, or removes an attribute and values from, a manual DB cluster snapshot.

To share a manual DB cluster snapshot with other AWS accounts, specify restore as the AttributeName and use the ValuesToAdd parameter to add a list of IDs of the AWS accounts that are authorized to restore the manual DB cluster snapshot. Use the value all to make the manual DB cluster snapshot public, which means that it can be copied or restored by all AWS accounts.

Notes:
- Don't add the all value for any manual DB cluster snapshots that contain private information that you don't want available to all AWS accounts.

If a manual DB cluster snapshot is encrypted, it can be shared, but only by specifying a list of authorized AWS account IDs for the ValuesToAdd parameter. You can't use all as a value for that parameter in this case.

To view which AWS accounts have access to copy or restore a manual DB cluster snapshot, or whether a manual DB cluster snapshot is public or private, use the DescribeDBClusterSnapshotAttributes (p. 222) API operation. The accounts are returned as values for the restore attribute.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

AttributeName

The name of the DB cluster snapshot attribute to modify.

To manage authorization for other AWS accounts to copy or restore a manual DB cluster snapshot, set this value to restore.

Notes:
- To view the list of attributes available to modify, use the DescribeDBClusterSnapshotAttributes (p. 222) API operation.

Type: String

Required: Yes

DBClusterSnapshotIdentifier

The identifier for the DB cluster snapshot to modify the attributes for.

Type: String

Required: Yes

ValuesToAdd.AttributeValue.N

A list of DB cluster snapshot attributes to add to the attribute specified by AttributeName.

To authorize other AWS accounts to copy or restore a manual DB cluster snapshot, set this list to include one or more AWS account IDs, or all to make the manual DB cluster snapshot restorable by any AWS account. Do not add the all value for any manual DB cluster snapshots that contain private information that you don’t want available to all AWS accounts.

Type: Array of strings

Required: No
ValuesToRemove.AttributeValue.N

A list of DB cluster snapshot attributes to remove from the attribute specified by AttributeName.

To remove authorization for other AWS accounts to copy or restore a manual DB cluster snapshot, set this list to include one or more AWS account identifiers, or all to remove authorization for any AWS account to copy or restore the DB cluster snapshot. If you specify all, an AWS account whose account ID is explicitly added to the restore attribute can still copy or restore a manual DB cluster snapshot.

Type: Array of strings
Required: No

Response Elements

The following element is returned by the service.

DBClusterSnapshotAttributesResult

Contains the results of a successful call to the DescribeDBClusterSnapshotAttributes API action.

Manual DB cluster snapshot attributes are used to authorize other AWS accounts to copy or restore a manual DB cluster snapshot. For more information, see the ModifyDBClusterSnapshotAttribute API action.

Type: DBClusterSnapshotAttributesResult (p. 612) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterSnapshotNotFoundFault

DBClusterSnapshotIdentifier doesn't refer to an existing DB cluster snapshot.

HTTP Status Code: 404

InvalidDBClusterSnapshotStateFault

The supplied value isn't a valid DB cluster snapshot state.

HTTP Status Code: 400

SharedSnapshotQuotaExceeded

You have exceeded the maximum number of accounts that you can share a manual DB snapshot with.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of ModifyDBClusterSnapshotAttribute.
Sample Request

https://rds.us-west-2.amazonaws.com/
  ?Action=ModifyDBClusterSnapshotAttribute
  &AttributeName=restore
  &DBClusterSnapshotIdentifier=manual-cluster-snapshot1
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &ValuesToAdd.member.1=123451234512
  &ValuesToAdd.member.2=123456789012
  &ValuesToRemove.member.1=all
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20150922/us-west-2/rds/aws4_request
  &X-Amz-Date=20150922T220515Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=ef38f1ce3dab4e1dbf115d8d2a265c67d17ece1999ffdf36be85714ed36d3bb3

Sample Response

  <ModifyDBClusterSnapshotAttributeResult>
    <DBClusterSnapshotAttributesResult>
      <DBClusterSnapshotAttributes>
        <DBClusterSnapshotAttribute>
          <AttributeName>restore</AttributeName>
          <AttributeValues>
            <AttributeValue>123451234512</AttributeValue>
            <AttributeValue>123456789012</AttributeValue>
          </AttributeValues>
        </DBClusterSnapshotAttribute>
      </DBClusterSnapshotAttributes>
      <DBClusterSnapshotIdentifier>manual-cluster-snapshot1</DBClusterSnapshotIdentifier>
    </DBClusterSnapshotAttributesResult>
  </ModifyDBClusterSnapshotAttributeResult>
  <ResponseMetadata>
    <RequestId>0122a108-2276-11e5-9cc3-0f535c556aa</RequestId>
  </ResponseMetadata>
</ModifyDBClusterSnapshotAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBInstance

Modifies settings for a DB instance. You can change one or more database configuration parameters by specifying these parameters and the new values in the request. To learn what modifications you can make to your DB instance, call DescribeValidDBInstanceModifications before you call ModifyDBInstance.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

AllocatedStorage

The new amount of storage in gibibytes (GiB) to allocate for the DB instance.

For MariaDB, MySQL, Oracle, and PostgreSQL, the value supplied must be at least 10% greater than the current value. Values that are not at least 10% greater than the existing value are rounded up so that they are 10% greater than the current value.

For the valid values for allocated storage for each engine, see CreateDBInstance.

Type: Integer

Required: No

AllowMajorVersionUpgrade

A value that indicates whether major version upgrades are allowed. Changing this parameter doesn't result in an outage and the change is asynchronously applied as soon as possible.

This setting doesn't apply to RDS Custom.

Constraints: Major version upgrades must be allowed when specifying a value for the EngineVersion parameter that is a different major version than the DB instance's current version.

Type: Boolean

Required: No

ApplyImmediately

A value that indicates whether the modifications in this request and any pending modifications are asynchronously applied as soon as possible, regardless of the PreferredMaintenanceWindow setting for the DB instance. By default, this parameter is disabled.

If this parameter is disabled, changes to the DB instance are applied during the next maintenance window. Some parameter changes can cause an outage and are applied on the next call to RebootDBInstance (p. 444), or the next failure reboot. Review the table of parameters in Modifying a DB Instance in the Amazon RDS User Guide to see the impact of enabling or disabling ApplyImmediately for each modified parameter and to determine when the changes are applied.

Type: Boolean

Required: No

AutomationMode

The automation mode of the RDS Custom DB instance: full or all paused. If full, the DB instance automates monitoring and instance recovery. If all paused, the instance pauses automation for the duration set by ResumeFullAutomationModeMinutes.
AutoMinorVersionUpgrade

A value that indicates whether minor version upgrades are applied automatically to the DB instance during the maintenance window. An outage occurs when all the following conditions are met:
- The automatic upgrade is enabled for the maintenance window.
- A newer minor version is available.
- RDS has enabled automatic patching for the engine version.

If any of the preceding conditions isn't met, RDS applies the change as soon as possible and doesn't cause an outage.

For an RDS Custom DB instance, set AutoMinorVersionUpgrade to false. Otherwise, the operation returns an error.

Type: Boolean
Required: No

AwsBackupRecoveryPointArn

The Amazon Resource Name (ARN) of the recovery point in AWS Backup.

This setting doesn't apply to RDS Custom.

Type: String
Pattern: ^arn:aws[a-z-]+:backup:[-a-z0-9]+:[0-9]{12}:[-a-z]+:([a-z0-9\-]+:)?[a-z][a-z0-9\-]{0,255}$
Required: No

BackupRetentionPeriod

The number of days to retain automated backups. Setting this parameter to a positive number enables backups. Setting this parameter to 0 disables automated backups.

**Note**
Enabling and disabling backups can result in a brief I/O suspension that lasts from a few seconds to a few minutes, depending on the size and class of your DB instance.

These changes are applied during the next maintenance window unless the ApplyImmediately parameter is enabled for this request. If you change the parameter from one non-zero value to another non-zero value, the change is asynchronously applied as soon as possible.

Amazon Aurora

Not applicable. The retention period for automated backups is managed by the DB cluster. For more information, see ModifyDBCluster.

Default: Uses existing setting

Constraints:
- It must be a value from 0 to 35. It can't be set to 0 if the DB instance is a source to read replicas. It can't be set to 0 for an RDS Custom for Oracle DB instance.
Request Parameters

- It can be specified for a MySQL read replica only if the source is running MySQL 5.6 or later.
- It can be specified for a PostgreSQL read replica only if the source is running PostgreSQL 9.3.5.

**Type:** Integer  
**Required:** No

**CACertificateIdentifier**

Specifies the certificate to associate with the DB instance.

This setting doesn't apply to RDS Custom.

**Type:** String  
**Required:** No

**CertificateRotationRestart**

A value that indicates whether the DB instance is restarted when you rotate your SSL/TLS certificate.

By default, the DB instance is restarted when you rotate your SSL/TLS certificate. The certificate is not updated until the DB instance is restarted.

**Important**

Set this parameter only if you are not using SSL/TLS to connect to the DB instance.

If you are using SSL/TLS to connect to the DB instance, follow the appropriate instructions for your DB engine to rotate your SSL/TLS certificate:

- For more information about rotating your SSL/TLS certificate for RDS DB engines, see Rotating Your SSL/TLS Certificate in the Amazon RDS User Guide.
- For more information about rotating your SSL/TLS certificate for Aurora DB engines, see Rotating Your SSL/TLS Certificate in the Amazon Aurora User Guide.

This setting doesn't apply to RDS Custom.

**Type:** Boolean  
**Required:** No

**CloudwatchLogsExportConfiguration**

The configuration setting for the log types to be enabled for export to CloudWatch Logs for a specific DB instance.

A change to the CloudwatchLogsExportConfiguration parameter is always applied to the DB instance immediately. Therefore, the ApplyImmediately parameter has no effect.

This setting doesn't apply to RDS Custom.

**Type:** CloudwatchLogsExportConfiguration (p. 582) object  
**Required:** No

**CopyTagsToSnapshot**

A value that indicates whether to copy all tags from the DB instance to snapshots of the DB instance. By default, tags are not copied.

**Amazon Aurora**

Not applicable. Copying tags to snapshots is managed by the DB cluster. Setting this value for an Aurora DB instance has no effect on the DB cluster setting. For more information, see ModifyDBCluster.
Type: Boolean
Required: No

**DBInstanceClass**

The new compute and memory capacity of the DB instance, for example db.m4.large. Not all DB instance classes are available in all AWS Regions, or for all database engines. For the full list of DB instance classes, and availability for your engine, see [DB instance classes](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/DBInstanceClassInfo.DBinstanceclassserviceattributes.html) in the *Amazon RDS User Guide* or [Aurora DB instance classes](https://docs.aws.amazon.com/Aurora/latest/AuroraUserGuide/Aurora.DBInstanceClassInfo.html) in the *Amazon Aurora User Guide*.

If you modify the DB instance class, an outage occurs during the change. The change is applied during the next maintenance window, unless ApplyImmediately is enabled for this request.

This setting doesn't apply to RDS Custom for Oracle.

Default: Uses existing setting

Type: String
Required: No

**DBInstanceIdentifier**

The DB instance identifier. This value is stored as a lowercase string.

Constraints:
- Must match the identifier of an existing DBInstance.

Type: String
Required: Yes

**DBParameterGroupName**

The name of the DB parameter group to apply to the DB instance.

Changing this setting doesn't result in an outage. The parameter group name itself is changed immediately, but the actual parameter changes are not applied until you reboot the instance without failover. In this case, the DB instance isn't rebooted automatically, and the parameter changes aren't applied during the next maintenance window. However, if you modify dynamic parameters in the newly associated DB parameter group, these changes are applied immediately without a reboot.

This setting doesn't apply to RDS Custom.

Default: Uses existing setting

Constraints: The DB parameter group must be in the same DB parameter group family as the DB instance.

Type: String
Required: No

**DBPortNumber**

The port number on which the database accepts connections.

The value of the `DBPortNumber` parameter must not match any of the port values specified for options in the option group for the DB instance.

If you change the `DBPortNumber` value, your database restarts regardless of the value of the `ApplyImmediately` parameter.
This setting doesn't apply to RDS Custom.

**MySQL**
Default: 3306
Valid values: 1150-65535

**MariaDB**
Default: 3306
Valid values: 1150-65535

**PostgreSQL**
Default: 5432
Valid values: 1150-65535
Type: Integer

**Oracle**
Default: 1521
Valid values: 1150-65535

**SQL Server**
Default: 1433
Valid values: 1150-65535 except 1234, 1434, 3260, 3343, 3389, 47001, and 49152-49156.

**Amazon Aurora**
Default: 3306
Valid values: 1150-65535
Type: Integer
Required: No

**DBSecurityGroups.DBSecurityGroupName.N**
A list of DB security groups to authorize on this DB instance. Changing this setting doesn't result in an outage and the change is asynchronously applied as soon as possible.

This setting doesn't apply to RDS Custom.

Constraints:
- If supplied, must match existing DBSecurityGroups.

Type: Array of strings
Required: No

**DBSubnetGroupName**
The new DB subnet group for the DB instance. You can use this parameter to move your DB instance to a different VPC. If your DB instance isn't in a VPC, you can also use this parameter to move your DB instance into a VPC. For more information, see Working with a DB instance in a VPC in the Amazon RDS User Guide.
Changing the subnet group causes an outage during the change. The change is applied during the next maintenance window, unless you enable `ApplyImmediately`.

This parameter doesn't apply to RDS Custom.

Constraints: If supplied, must match the name of an existing DBSubnetGroup.

Example: `mydbsubnetgroup`

Type: String

Required: No

**DeletionProtection**

A value that indicates whether the DB instance has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled. For more information, see [Deleting a DB Instance](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHV0011.html).

Type: Boolean

Required: No

**Domain**

The Active Directory directory ID to move the DB instance to. Specify `none` to remove the instance from its current domain. You must create the domain before this operation. Currently, you can create only MySQL, Microsoft SQL Server, Oracle, and PostgreSQL DB instances in an Active Directory Domain.

For more information, see [Kerberos Authentication](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHV0020.html) in the *Amazon RDS User Guide*.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**DomainIAMRoleName**

The name of the IAM role to use when making API calls to the Directory Service.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**EnableCustomerOwnedIp**

A value that indicates whether to enable a customer-owned IP address (CoIP) for an RDS on Outposts DB instance.

A CoIP provides local or external connectivity to resources in your Outpost subnets through your on-premises network. For some use cases, a CoIP can provide lower latency for connections to the DB instance from outside of its virtual private cloud (VPC) on your local network.

For more information about RDS on Outposts, see [Working with Amazon RDS on AWS Outposts](https://docs.aws.amazon.com/AmazonRDS/latest/RDSCustomOutpostsGuide/WorkWithRDSOnOutposts.html) in the *Amazon RDS User Guide*.

For more information about CoIPs, see [Customer-owned IP addresses](https://docs.aws.amazon.com/AWSEnterpriseModernization/latest/APIReference/what-coip.html) in the *AWS Outposts User Guide*.

Type: Boolean
Required: No

**EnableIAMDatabaseAuthentication**

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

This setting doesn't apply to Amazon Aurora. Mapping AWS IAM accounts to database accounts is managed by the DB cluster.

For more information about IAM database authentication, see [IAM Database Authentication for MySQL and PostgreSQL](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/iam-db-auth.html) in the *Amazon RDS User Guide*.

This setting doesn't apply to RDS Custom.

Type: Boolean

Required: No

**EnablePerformanceInsights**

A value that indicates whether to enable Performance Insights for the DB instance.


This setting doesn't apply to RDS Custom.

Type: Boolean

Required: No

**EngineVersion**

The version number of the database engine to upgrade to. Changing this parameter results in an outage and the change is applied during the next maintenance window unless the `ApplyImmediately` parameter is enabled for this request.

For major version upgrades, if a nondefault DB parameter group is currently in use, a new DB parameter group in the DB parameter group family for the new engine version must be specified. The new DB parameter group can be the default for that DB parameter group family.

If you specify only a major version, Amazon RDS will update the DB instance to the default minor version if the current minor version is lower. For information about valid engine versions, see `CreateDBInstance`, or call `DescribeDBEngineVersions`.

In RDS Custom for Oracle, this parameter is supported for read replicas only if they are in the PATCH_DB_FAILURE lifecycle.

Type: String

Required: No

**Iops**

The new Provisioned IOPS (I/O operations per second) value for the RDS instance.

Changing this setting doesn't result in an outage and the change is applied during the next maintenance window unless the `ApplyImmediately` parameter is enabled for this request. If you are migrating from Provisioned IOPS to standard storage, set this value to 0. The DB instance will require a reboot for the change in storage type to take effect.

If you choose to migrate your DB instance from using standard storage to using Provisioned IOPS, or from using Provisioned IOPS to using standard storage, the process can take time. The duration of the migration depends on several factors such as database load, storage size, storage type (standard...
or Provisioned IOPS), amount of IOPS provisioned (if any), and the number of prior scale storage operations. Typical migration times are under 24 hours, but the process can take up to several days in some cases. During the migration, the DB instance is available for use, but might experience performance degradation. While the migration takes place, nightly backups for the instance are suspended. No other Amazon RDS operations can take place for the instance, including modifying the instance, rebooting the instance, deleting the instance, creating a read replica for the instance, and creating a DB snapshot of the instance.

Constraints: For MariaDB, MySQL, Oracle, and PostgreSQL, the value supplied must be at least 10% greater than the current value. Values that are not at least 10% greater than the existing value are rounded up so that they are 10% greater than the current value.

Default: Uses existing setting

LicenseModel

The license model for the DB instance.

This setting doesn't apply to RDS Custom.

Valid values: license-included | bring-your-own-license | general-public-license

Type: String

Required: No

MasterUserPassword

The new password for the master user. The password can include any printable ASCII character except "/", "=" or "@".

Changing this parameter doesn't result in an outage and the change is asynchronously applied as soon as possible. Between the time of the request and the completion of the request, the MasterUserPassword element exists in the PendingModifiedValues element of the operation response.

This setting doesn't apply to RDS Custom.

Amazon Aurora

Not applicable. The password for the master user is managed by the DB cluster. For more information, see ModifyDBCluster.

Default: Uses existing setting

MariaDB

Constraints: Must contain from 8 to 41 characters.

Microsoft SQL Server

Constraints: Must contain from 8 to 128 characters.

MySQL

Constraints: Must contain from 8 to 41 characters.

Oracle
Constraints: Must contain from 8 to 30 characters.

**PostgreSQL**

Constraints: Must contain from 8 to 128 characters.

**Note**

Amazon RDS API operations never return the password, so this action provides a way to regain access to a primary instance user if the password is lost. This includes restoring privileges that might have been accidentally revoked.

Type: String

Required: No

**MaxAllocatedStorage**

The upper limit in gibibytes (GiB) to which Amazon RDS can automatically scale the storage of the DB instance.

For more information about this setting, including limitations that apply to it, see [Managing capacity automatically with Amazon RDS storage autoscaling](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.Storage.Autoscaling.html) in the *Amazon RDS User Guide*.

This setting doesn't apply to RDS Custom.

Type: Integer

Required: No

**MonitoringInterval**

The interval, in seconds, between points when Enhanced Monitoring metrics are collected for the DB instance. To disable collecting Enhanced Monitoring metrics, specify 0, which is the default.

If `MonitoringRoleArn` is specified, set `MonitoringInterval` to a value other than 0.

This setting doesn't apply to RDS Custom.

Valid Values: 0, 1, 5, 10, 15, 30, 60

Type: Integer

Required: No

**MonitoringRoleArn**

The ARN for the IAM role that permits RDS to send enhanced monitoring metrics to Amazon CloudWatch Logs. For example, `arn:aws:iam:123456789012:role/emaccess`. For information on creating a monitoring role, see [To create an IAM role for Amazon RDS Enhanced Monitoring](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.EM.ConfiguringMonitoring.html) in the *Amazon RDS User Guide*.

If `MonitoringInterval` is set to a value other than 0, supply a `MonitoringRoleArn` value.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**MultiAZ**

A value that indicates whether the DB instance is a Multi-AZ deployment. Changing this parameter doesn't result in an outage. The change is applied during the next maintenance window unless the `ApplyImmediately` parameter is enabled for this request.
This setting doesn't apply to RDS Custom.

**Type:** Boolean  
**Required:** No

**NetworkType**

The network type of the DB instance.

- **Valid values:**
  - IPV4
  - DUAL

  The network type is determined by the DBSubnetGroup specified for the DB instance. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

  For more information, see  Working with a DB instance in a VPC in the *Amazon RDS User Guide.*

**Type:** String  
**Required:** No

**NewDBInstanceIdentifier**

The new DB instance identifier for the DB instance when renaming a DB instance. When you change the DB instance identifier, an instance reboot occurs immediately if you enable ApplyImmediately, or will occur during the next maintenance window if you disable ApplyImmediately. This value is stored as a lowercase string.

This setting doesn't apply to RDS Custom.

- **Constraints:**
  - Must contain from 1 to 63 letters, numbers, or hyphens.
  - The first character must be a letter.
  - Can't end with a hyphen or contain two consecutive hyphens.

  Example: mydbinstance

**Type:** String  
**Required:** No

**OptionGroupName**

A value that indicates the DB instance should be associated with the specified option group.

Changing this parameter doesn't result in an outage, with one exception. If the parameter change results in an option group that enables OEM, it can cause a brief period, lasting less than a second, during which new connections are rejected but existing connections aren't interrupted.

The change is applied during the next maintenance window unless the ApplyImmediately parameter is enabled for this request.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, can't be removed from an option group, and that option group can't be removed from a DB instance after it is associated with a DB instance.

This setting doesn't apply to RDS Custom.

**Type:** String
Required: No

PerformanceInsightsKMSKeyId

The AWS KMS key identifier for encryption of Performance Insights data.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

If you do not specify a value for PerformanceInsightsKMSKeyId, then Amazon RDS uses your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

PerformanceInsightsRetentionPeriod

The number of days to retain Performance Insights data. The default is 7 days. The following values are valid:

- 7
- \( \text{month} \times 31 \), where \( \text{month} \) is a number of months from 1-23
- 731

For example, the following values are valid:

- 93 (3 months * 31)
- 341 (11 months * 31)
- 589 (19 months * 31)
- 731

If you specify a retention period such as 94, which isn't a valid value, RDS issues an error.

This setting doesn't apply to RDS Custom.

Type: Integer

Required: No

PreferredBackupWindow

The daily time range during which automated backups are created if automated backups are enabled, as determined by the BackupRetentionPeriod parameter. Changing this parameter doesn't result in an outage and the change is asynchronously applied as soon as possible. The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region. For more information, see Backup window in the Amazon RDS User Guide.

Amazon Aurora

Not applicable. The daily time range for creating automated backups is managed by the DB cluster. For more information, see ModifyDBCluster.

Constraints:

- Must be in the format hh24:mi-hh24:mi
- Must be in Universal Time Coordinated (UTC)
- Must not conflict with the preferred maintenance window
- Must be at least 30 minutes
PreferredMaintenanceWindow

The weekly time range (in UTC) during which system maintenance can occur, which might result in an outage. Changing this parameter doesn’t result in an outage, except in the following situation, and the change is asynchronously applied as soon as possible. If there are pending actions that cause a reboot, and the maintenance window is changed to include the current time, then changing this parameter will cause a reboot of the DB instance. If moving this window to the current time, there must be at least 30 minutes between the current time and end of the window to ensure pending changes are applied.

For more information, see Amazon RDS Maintenance Window in the Amazon RDS User Guide.

Default: Uses existing setting


Valid Days: Mon | Tue | Wed | Thu | Fri | Sat | Sun

Constraints: Must be at least 30 minutes

ProcessorFeatures.ProcessorFeature.N

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance.

This setting doesn’t apply to RDS Custom.

Type: Array of ProcessorFeature (p. 709) objects

Required: No

PromotionTier

A value that specifies the order in which an Aurora Replica is promoted to the primary instance after a failure of the existing primary instance. For more information, see Fault Tolerance for an Aurora DB Cluster in the Amazon Aurora User Guide.

This setting doesn’t apply to RDS Custom.

Default: 1

Valid Values: 0 - 15

Type: Integer

Required: No

PubliclyAccessible

A value that indicates whether the DB instance is publicly accessible.

When the DB cluster is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB cluster’s virtual private cloud (VPC). It resolves to the public IP address from outside of the DB cluster’s VPC. Access to the DB cluster is ultimately controlled by the security group it uses. That public access isn’t permitted if the security group assigned to the DB cluster doesn’t permit it.
When the DB instance isn't publicly accessible, it is an internal DB instance with a DNS name that resolves to a private IP address.

**PubliclyAccessible** only applies to DB instances in a VPC. The DB instance must be part of a public subnet and **PubliclyAccessible** must be enabled for it to be publicly accessible.

Changes to the **PubliclyAccessible** parameter are applied immediately regardless of the value of the **ApplyImmediately** parameter.

Type: Boolean

Required: No

**ReplicaMode**

A value that sets the open mode of a replica database to either mounted or read-only.

**Note**

Currently, this parameter is only supported for Oracle DB instances.

Mounted DB replicas are included in Oracle Enterprise Edition. The main use case for mounted replicas is cross-Region disaster recovery. The primary database doesn't use Active Data Guard to transmit information to the mounted replica. Because it doesn't accept user connections, a mounted replica can't serve a read-only workload. For more information, see Working with Oracle Read Replicas for Amazon RDS in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Type: String

Valid Values: open-read-only | mounted

Required: No

**ResumeFullAutomationModeMinutes**

The number of minutes to pause the automation. When the time period ends, RDS Custom resumes full automation. The minimum value is 60 (default). The maximum value is 1,440.

Type: Integer

Required: No

**StorageThroughput**

Specifies the storage throughput value for the DB instance.

This setting doesn't apply to RDS Custom or Amazon Aurora.

Type: Integer

Required: No

**StorageType**

Specifies the storage type to be associated with the DB instance.

If you specify Provisioned IOPS (io1), you must also include a value for the Iops parameter.

If you choose to migrate your DB instance from using standard storage to using Provisioned IOPS, or from using Provisioned IOPS to using standard storage, the process can take time. The duration of the migration depends on several factors such as database load, storage size, storage type (standard or Provisioned IOPS), amount of IOPS provisioned (if any), and the number of prior scale storage operations. Typical migration times are under 24 hours, but the process can take up to several days.
in some cases. During the migration, the DB instance is available for use, but might experience performance degradation. While the migration takes place, nightly backups for the instance are suspended. No other Amazon RDS operations can take place for the instance, including modifying the instance, rebooting the instance, deleting the instance, creating a read replica for the instance, and creating a DB snapshot of the instance.

Valid values: gp2 | gp3 | io1 | standard

Default: io1 if the Iops parameter is specified, otherwise gp2

Type: String

Required: No

**TdeCredentialArn**

The ARN from the key store with which to associate the instance for TDE encryption.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**TdeCredentialPassword**

The password for the given ARN from the key store in order to access the device.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**UseDefaultProcessorFeatures**

A value that indicates whether the DB instance class of the DB instance uses its default processor features.

This setting doesn't apply to RDS Custom.

Type: Boolean

Required: No

**VpcSecurityGroupIds.VpcSecurityGroupId.N**

A list of Amazon EC2 VPC security groups to authorize on this DB instance. This change is asynchronously applied as soon as possible.

This setting doesn't apply to RDS Custom.

**Amazon Aurora**

Not applicable. The associated list of EC2 VPC security groups is managed by the DB cluster. For more information, see ModifyDBCluster.

Constraints:
- If supplied, must match existing VpcSecurityGroupIds.

Type: Array of strings

Required: No
Response Elements

The following element is returned by the service.

DBInstance

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: DBInstance (p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

AuthorizationNotFound

The specified CIDR IP range or Amazon EC2 security group might not be authorized for the specified DB security group.

Or, RDS might not be authorized to perform necessary actions using IAM on your behalf.

HTTP Status Code: 404

BackupPolicyNotFoundFault

This error has been deprecated.

CertificateNotFound

CertificateIdentifier doesn't refer to an existing certificate.

HTTP Status Code: 404

DBInstanceAlreadyExists

The user already has a DB instance with the given identifier.

HTTP Status Code: 400

DBInstanceNotFound

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

DBParameterGroupNotFound

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

DBSecurityGroupNotFound

DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404
**DBUpgradeDependencyFailure**

The DB upgrade failed because a resource the DB depends on can't be modified.

HTTP Status Code: 400

**DomainNotFoundFault**

Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404

**InsufficientDBInstanceCapacity**

The specified DB instance class isn't available in the specified Availability Zone.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

**InvalidDBSecurityGroupState**

The state of the DB security group doesn't allow deletion.

HTTP Status Code: 400

**InvalidVPCNetworkStateFault**

The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400

**KMSKeyNotAccessibleFault**

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

**NetworkTypeNotSupported**

The network type is invalid for the DB instance. Valid network type values are IPV4 and DUAL.

HTTP Status Code: 400

**OptionGroupNotFoundFault**

The specified option group could not be found.

HTTP Status Code: 404

**ProvisionedIopsNotAvailableInAZFault**

Provisioned IOPS not available in the specified Availability Zone.

HTTP Status Code: 400

**StorageQuotaExceeded**

The request would result in the user exceeding the allowed amount of storage available across all DB instances.
HTTP Status Code: 400

**StorageTypeNotSupported**

Storage of the StorageType specified can't be associated with the DB instance.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of ModifyDBInstance.

Sample Request

```
https://rds.us-east-1.amazonaws.com/
?Action=ModifyDBInstance
&AllocatedStorage=20
&DBInstanceIdentifier=myawsuser-dbi04
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140425/us-east-1/rds/aws4_request
&X-Amz-Date=20140425T192732Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=1dc9dd716f4855e9bdf188c70f1cf9f6251b070b6881103b59ec70c3e7854b3
```

Sample Response

```
  <ModifyDBInstanceResult>
    <DBInstance>
      <BackupRetentionPeriod>7</BackupRetentionPeriod>
      <DBInstanceStatus>available</DBInstanceStatus>
      <MultiAZ>true</MultiAZ>
      <VpcSecurityGroups/>
      <DBInstanceIdentifier>myawsuser-dbi04</DBInstanceIdentifier>
      <PreferredBackupWindow>10:03-10:33</PreferredBackupWindow>
      <PreferredMaintenanceWindow>wed:03:32-wed:04:02</PreferredMaintenanceWindow>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <ReadReplicaDBInstanceIdentifiers/>
      <LatestRestorableTime>2014-04-25T19:25:00Z</LatestRestorableTime>
      <Engine>mysql</Engine>
      <PendingModifiedValues>
        <AllocatedStorage>20</AllocatedStorage>
      </PendingModifiedValues>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.6</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
    </DBInstance>
  </ModifyDBInstanceResult>
</ModifyDBInstanceResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBParameterGroup

Modifies the parameters of a DB parameter group. To modify more than one parameter, submit a list of the following: ParameterName, ParameterValue, and ApplyMethod. A maximum of 20 parameters can be modified in a single request.

**Important**
After you modify a DB parameter group, you should wait at least 5 minutes before creating your first DB instance that uses that DB parameter group as the default parameter group. This allows Amazon RDS to fully complete the modify action before the parameter group is used as the default for a new DB instance. This is especially important for parameters that are critical when creating the default database for a DB instance, such as the character set for the default database defined by the `character_set_database` parameter. You can use the `ParameterGroups` option of the Amazon RDS console or the `DescribeDBParameters` command to verify that your DB parameter group has been created or modified.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBParameterGroupName**

The name of the DB parameter group.

Constraints:

- If supplied, must match the name of an existing `DBParameterGroup`.

Type: String

Required: Yes

**Parameters.Parameter.N**

An array of parameter names, values, and the application methods for the parameter update. At least one parameter name, value, and application method must be supplied; later arguments are optional. A maximum of 20 parameters can be modified in a single request.

Valid Values (for the application method): `immediate` | `pending-reboot`

You can use the `immediate` value with dynamic parameters only. You can use the `pending-reboot` value for both dynamic and static parameters.

When the application method is `immediate`, changes to dynamic parameters are applied immediately to the DB instances associated with the parameter group.

When the application method is `pending-reboot`, changes to dynamic and static parameters are applied after a reboot without failover to the DB instances associated with the parameter group.

**Note**

You can't use `pending-reboot` with dynamic parameters on RDS for SQL Server DB instances. Use `immediate`.

For more information on modifying DB parameters, see Working with DB parameter groups in the Amazon RDS User Guide.

Type: Array of Parameter (p. 701) objects

Required: Yes
Response Elements

The following element is returned by the service.

**DBParameterGroupName**

The name of the DB parameter group.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBParameterGroupNotFound**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

**InvalidDBParameterGroupState**

The DB parameter group is in use or is in an invalid state. If you are attempting to delete the parameter group, you can't delete it when the parameter group is in this state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of ModifyDBParameterGroup.

Sample Request

```xml
https://rds.us-east-1.amazonaws.com/
    ?Action=ModifyDBParameterGroup
    &DBParameterGroupName=mydbparametergroup01
    &Parameters.member.1.ApplyMethod=immediate
    &Parameters.member.1.ParameterName=binlog_cache_size
    &Parameters.member.1.ParameterValue=65536
    &SignatureMethod=HmacSHA256
    &SignatureVersion=4
    &Version=2014-09-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIADQKE4SARGYLE/20140425/us-east-1/rds/aws4_request
    &X-Amz-Date=20140425T193811Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=afd9acfee876360dd294189465aca26502343d405292dc6e43b1961ad4d1d7e2
```

Sample Response

```xml
    <ModifyDBParameterGroupResult />
    <ResponseMetadata>
        <HTTPStatusCode>401</HTTPStatusCode>
    </ResponseMetadata>
</ModifyDBParameterGroupResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBProxy

Changes the settings for an existing DB proxy.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**Auth.member.N**

The new authentication settings for the DBProxy.

Type: Array of UserAuthConfig (p. 733) objects

Required: No

**DBProxyName**

The identifier for the DBProxy to modify.

Type: String

Required: Yes

**DebugLogging**

Whether the proxy includes detailed information about SQL statements in its logs. This information helps you to debug issues involving SQL behavior or the performance and scalability of the proxy connections. The debug information includes the text of SQL statements that you submit through the proxy. Thus, only enable this setting when needed for debugging, and only when you have security measures in place to safeguard any sensitive information that appears in the logs.

Type: Boolean

Required: No

**IdleClientTimeout**

The number of seconds that a connection to the proxy can be inactive before the proxy disconnects it. You can set this value higher or lower than the connection timeout limit for the associated database.

Type: Integer

Required: No

**NewDBProxyName**

The new identifier for the DBProxy. An identifier must begin with a letter and must contain only ASCII letters, digits, and hyphens; it can't end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

**RequireTLS**

Whether Transport Layer Security (TLS) encryption is required for connections to the proxy. By enabling this setting, you can enforce encrypted TLS connections to the proxy, even if the associated database doesn't use TLS.

Type: Boolean
Response Elements

The following element is returned by the service.

**DBProxy**

The DBProxy object representing the new settings for the proxy.

Type: `DBProxy (p. 638)` object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBProxyAlreadyExistsFault**

The specified proxy name must be unique for all proxies owned by your AWS account in the specified AWS Region.

HTTP Status Code: 400

**DBProxyNotFoundFault**

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**InvalidDBProxyStateFault**

The requested operation can't be performed while the proxy is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
ModifyDBProxyEndpoint

Changes the settings for an existing DB proxy endpoint.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBProxyEndpointName**

The name of the DB proxy associated with the DB proxy endpoint that you want to modify.

- **Type:** String
- **Length Constraints:** Minimum length of 1. Maximum length of 63.
- **Pattern:** `[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*
- **Required:** Yes

**NewDBProxyEndpointName**

The new identifier for the DBProxyEndpoint. An identifier must begin with a letter and must contain only ASCII letters, digits, and hyphens; it can't end with a hyphen or contain two consecutive hyphens.

- **Type:** String
- **Length Constraints:** Minimum length of 1. Maximum length of 63.
- **Pattern:** `[a-zA-Z][a-zA-Z0-9]*(-[a-zA-Z0-9]+)*
- **Required:** No

**VpcSecurityGroupIds.member.N**

The VPC security group IDs for the DB proxy endpoint. When the DB proxy endpoint uses a different VPC than the original proxy, you also specify a different set of security group IDs than for the original proxy.

- **Type:** Array of strings
- **Required:** No

**Response Elements**

The following element is returned by the service.

**DBProxyEndpoint**

The DBProxyEndpoint object representing the new settings for the DB proxy endpoint.

- **Type:** DBProxyEndpoint (p. 641) object

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).
DBProxyEndpointAlreadyExistsFault

The specified DB proxy endpoint name must be unique for all DB proxy endpoints owned by your AWS account in the specified AWS Region.

HTTP Status Code: 400

DBProxyEndpointNotFoundFault

The DB proxy endpoint doesn't exist.

HTTP Status Code: 404

InvalidDBProxyEndpointStateFault

You can't perform this operation while the DB proxy endpoint is in a particular state.

HTTP Status Code: 400

InvalidDBProxyStateFault

The requested operation can't be performed while the proxy is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBProxyTargetGroup

Modifies the properties of a DBProxyTargetGroup.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**ConnectionPoolConfig**

The settings that determine the size and behavior of the connection pool for the target group.

Type: `ConnectionPoolConfiguration (p. 584)` object

Required: No

**DBProxyName**

The name of the proxy.

Type: String

Required: Yes

**NewName**

The new name for the modified DBProxyTarget. An identifier must begin with a letter and must contain only ASCII letters, digits, and hyphens; it can't end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

**TargetGroupName**

The name of the target group to modify.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

**DBProxyTargetGroup**

The settings of the modified DBProxyTarget.

Type: `DBProxyTargetGroup (p. 645)` object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).
DBProxyNotFoundFault

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

DBProxyTargetGroupNotFoundFault

The specified target group isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

InvalidDBProxyStateFault

The requested operation can't be performed while the proxy is in this state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBSnapshot

Updates a manual DB snapshot with a new engine version. The snapshot can be encrypted or unencrypted, but not shared or public.

Amazon RDS supports upgrading DB snapshots for MySQL, PostgreSQL, and Oracle. This command doesn't apply to RDS Custom.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBSnapshotIdentifier

The identifier of the DB snapshot to modify.

Type: String

Required: Yes

EngineVersion

The engine version to upgrade the DB snapshot to.

The following are the database engines and engine versions that are available when you upgrade a DB snapshot.

MySQL

- 5.5.46 (supported for 5.1 DB snapshots)

Oracle

- 12.1.0.2.v8 (supported for 12.1.0.1 DB snapshots)
- 11.2.0.4.v12 (supported for 11.2.0.2 DB snapshots)
- 11.2.0.4.v11 (supported for 11.2.0.3 DB snapshots)

PostgreSQL

For the list of engine versions that are available for upgrading a DB snapshot, see Upgrading the PostgreSQL DB Engine for Amazon RDS.

Type: String

Required: No

OptionGroupName

The option group to identify with the upgraded DB snapshot.

You can specify this parameter when you upgrade an Oracle DB snapshot. The same option group considerations apply when upgrading a DB snapshot as when upgrading a DB instance. For more information, see Option group considerations in the Amazon RDS User Guide.

Type: String

Required: No
Response Elements

The following element is returned by the service.

**DBSnapshot**

Contains the details of an Amazon RDS DB snapshot.

This data type is used as a response element in the DescribeDBSnapshots action.

Type: [DBSnapshot](p. 650) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBSnapshotNotFound**

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of ModifyDBSnapshot.

Sample Request

```xml
https://rds.us-west-2.amazonaws.com/
  ?Action=ModifyDBSnapshot
  &DBSnapshotIdentifier=mysnapshot1
  &EngineVersion=5.6.44
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20161228/us-west-2/rds/aws4_request
  &X-Amz-Date=20210628T220515Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=eb44f1ce3db4e1dbf113d8d2a65d88d17ece1999ff36be85714ed56c6bbd3
```

Sample Response

```xml
  <ModifyDBSnapshotResult>
    <DBSnapshot>
      <Port>3306</Port>
      <OptionGroupName>default:mysql-5-6</OptionGroupName>
      <Engine>mysql</Engine>
      <Status>available</Status>
      <SnapshotType>manual</SnapshotType>
      <LicenseModel>general-public-license</LicenseModel>
      <EngineVersion>5.6.44</EngineVersion>
    </DBSnapshot>
  </ModifyDBSnapshotResult>
</ModifyDBSnapshotResponse>
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBSnapshotAttribute

Adds an attribute and values to, or removes an attribute and values from, a manual DB snapshot.

To share a manual DB snapshot with other AWS accounts, specify restore as the AttributeName and use the ValuesToAdd parameter to add a list of IDs of the AWS accounts that are authorized to restore the manual DB snapshot. Uses the value all to make the manual DB snapshot public, which means it can be copied or restored by all AWS accounts.

**Note**
Don't add the all value for any manual DB snapshots that contain private information that you don't want available to all AWS accounts.

If the manual DB snapshot is encrypted, it can be shared, but only by specifying a list of authorized AWS account IDs for the ValuesToAdd parameter. You can't use all as a value for that parameter in this case.

To view which AWS accounts have access to copy or restore a manual DB snapshot, or whether a manual DB snapshot public or private, use the DescribeDBSnapshotAttributes (p. 268) API operation. The accounts are returned as values for the restore attribute.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**AttributeName**

The name of the DB snapshot attribute to modify.

To manage authorization for other AWS accounts to copy or restore a manual DB snapshot, set this value to restore.  

**Note**
To view the list of attributes available to modify, use the DescribeDBSnapshotAttributes (p. 268) API operation.

Type: String

Required: Yes

**DBSnapshotIdentifier**

The identifier for the DB snapshot to modify the attributes for.

Type: String

Required: Yes

**ValuesToAdd.AttributeValue.N**

A list of DB snapshot attributes to add to the attribute specified by AttributeName.

To authorize other AWS accounts to copy or restore a manual snapshot, set this list to include one or more AWS account IDs, or all to make the manual DB snapshot restorable by any AWS account. Do not add the all value for any manual DB snapshots that contain private information that you don't want available to all AWS accounts.

Type: Array of strings
ValuesToRemove.AttributeValue.N

A list of DB snapshot attributes to remove from the attribute specified by AttributeName.

To remove authorization for other AWS accounts to copy or restore a manual snapshot, set this list to include one or more AWS account identifiers, or all to remove authorization for any AWS account to copy or restore the DB snapshot. If you specify all, an AWS account whose account ID is explicitly added to the restore attribute can still copy or restore the manual DB snapshot.

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

DBSnapshotAttributesResult

Contains the results of a successful call to the DescribeDBSnapshotAttributes API action.

Manual DB snapshot attributes are used to authorize other AWS accounts to copy or restore a manual DB snapshot. For more information, see the ModifyDBSnapshotAttribute API action.

Type: DBSnapshotAttributesResult (p. 656) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBSnapshotNotFound

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

InvalidDBSnapshotState

The state of the DB snapshot doesn't allow deletion.

HTTP Status Code: 400

SharedSnapshotQuotaExceededException

You have exceeded the maximum number of accounts that you can share a manual DB snapshot with.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of ModifyDBSnapshotAttribute.
Sample Request

https://rds.us-west-2.amazonaws.com/
?Action=ModifyDBSnapshotAttribute
&AttributeName=restore
&DBSnapshotIdentifier=manual-snapshot1
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&ValuesToAdd.member.1=123451234512
&ValuesToAdd.member.2=123456789012
&ValuesToRemove.member.1=all
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20150922/us-west-2/rds/aws4_request
&X-Amz-Date=20150922T220515Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=ef38f1ce3db4e1dbf113d8d2a265c67d17ece1999ff36be85714ed56d1db3

Sample Response

  <ModifyDBSnapshotAttributeResult>
    <DBSnapshotAttributesResult>
      <DBSnapshotAttributes>
        <DBSnapshotAttribute>
          <AttributeName>restore</AttributeName>
          <AttributeValues>
            <AttributeValue>123451234512</AttributeValue>
            <AttributeValue>123456789012</AttributeValue>
          </AttributeValues>
        </DBSnapshotAttribute>
      </DBSnapshotAttributes>
      <DBSnapshotIdentifier>manual-snapshot1</DBSnapshotIdentifier>
    </DBSnapshotAttributesResult>
  </ModifyDBSnapshotAttributeResult>
  <ResponseMetadata>
    <RequestId>0122a108-2276-11e5-9cc3-0f535ccff56a</RequestId>
  </ResponseMetadata>
</ModifyDBSnapshotAttributeResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyDBSubnetGroup

Modifies an existing DB subnet group. DB subnet groups must contain at least one subnet in at least two AZs in the AWS Region.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBSubnetGroupDescription

The description for the DB subnet group.

Type: String

Required: No

DBSubnetGroupName

The name for the DB subnet group. This value is stored as a lowercase string. You can't modify the default subnet group.

Constraints: Must match the name of an existing DBSubnetGroup. Must not be default.

Example: mydbsubnetgroup

Type: String

Required: Yes

SubnetIds.SubnetIdentifier.N

The EC2 subnet IDs for the DB subnet group.

Type: Array of strings

Required: Yes

Response Elements

The following element is returned by the service.

DBSubnetGroup

Contains the details of an Amazon RDS DB subnet group.

This data type is used as a response element in the DescribeDBSubnetGroups action.

Type: DBSubnetGroup (p. 657) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBSubnetGroupDoesNotCoverEnoughAZs

Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.
HTTP Status Code: 400
DBSubnetGroupNotFoundFault

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404
DBSubnetQuotaExceededFault

The request would result in the user exceeding the allowed number of subnets in a DB subnet groups.

HTTP Status Code: 400
InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400
SubnetAlreadyInUse

The DB subnet is already in use in the Availability Zone.

Examples

Example

This example illustrates one usage of ModifyDBSubnetGroup.

Sample Request

https://rds.us-east-1.amazonaws.com/
  ?Action=ModifyDBSubnetGroup
  &DBSubnetGroupDescription=A%20new%20Description
  &DBSubnetGroupName=myawsuser-sngrp
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &SubnetIds.member.1=subnet-e4d398a1
  &SubnetIds.member.2=subnet-c2bdb6ba
  &Version=2014-09-01
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20140425/us-east-1/rds/aws4_request
  &X-Amz-Date=20140425T200214Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=213c429d925cb1608fc13a1ddee48715bcac3b0794536ee90beac34203265f9af

Sample Response

<ModifyDBSubnetGroupResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <ModifyDBSubnetGroupResult>
    <DBSubnetGroup>
      <VpcId>vpc-33ac97ea</VpcId>
      <SubnetGroupStatus>Complete</SubnetGroupStatus>
      <DBSubnetGroupDescription>A new Description</DBSubnetGroupDescription>
    </DBSubnetGroup>
  </ModifyDBSubnetGroupResult>
</ModifyDBSubnetGroupResponse>
<DBSubnetGroupName>myawsuser-sngrp</DBSubnetGroupName>
<Subnets>
  <Subnet>
    <SubnetStatus>Active</SubnetStatus>
    <SubnetIdentifier>subnet-e4d398a1</SubnetIdentifier>
    <SubnetAvailabilityZone>
      <Name>us-east-1b</Name>
      <ProvisionedIopsCapable>false</ProvisionedIopsCapable>
    </SubnetAvailabilityZone>
  </Subnet>
  <Subnet>
    <SubnetStatus>Active</SubnetStatus>
    <SubnetIdentifier>subnet-c2db6ba1</SubnetIdentifier>
    <SubnetAvailabilityZone>
      <Name>us-east-1c</Name>
      <ProvisionedIopsCapable>false</ProvisionedIopsCapable>
    </SubnetAvailabilityZone>
  </Subnet>
</Subnets>
</DBSubnetGroup>
</ModifyDBSubnetGroupResult>
<ResponseMetadata>
  <RequestId>6dd028be-bba3-11d3-f4c6-37db295f7674</RequestId>
</ResponseMetadata>
</ModifyDBSubnetGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyEventSubscription

Modifies an existing RDS event notification subscription. You can't modify the source identifiers using this call. To change source identifiers for a subscription, use the AddSourceIdentifierToSubscription and RemoveSourceIdentifierFromSubscription calls.

You can see a list of the event categories for a given source type (SourceType) in Events in the Amazon RDS User Guide or by using the DescribeEventCategories operation.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

Enabled

A value that indicates whether to activate the subscription.

Type: Boolean

Required: No

EventCategories.EventCategory.N

A list of event categories for a source type (SourceType) that you want to subscribe to. You can see a list of the categories for a given source type in Events in the Amazon RDS User Guide or by using the DescribeEventCategories operation.

Type: Array of strings

Required: No

SnsTopicArn

The Amazon Resource Name (ARN) of the SNS topic created for event notification. The ARN is created by Amazon SNS when you create a topic and subscribe to it.

Type: String

Required: No

SourceType

The type of source that is generating the events. For example, if you want to be notified of events generated by a DB instance, you would set this parameter to db-instance. For RDS Proxy events, specify db-proxy. If this value isn't specified, all events are returned.

Valid values: db-instance | db-cluster | db-parameter-group | db-security-group | db-snapshot | db-cluster-snapshot | db-proxy

Type: String

Required: No

SubscriptionName

The name of the RDS event notification subscription.

Type: String

Required: Yes
Response Elements

The following element is returned by the service.

EventSubscription

Contains the results of a successful invocation of the DescribeEventSubscriptions action.

Type: EventSubscription (p. 668) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

EventSubscriptionQuotaExceeded

You have reached the maximum number of event subscriptions.

HTTP Status Code: 400

SNSInvalidTopic

SNS has responded that there is a problem with the SNS topic specified.

HTTP Status Code: 400

SNSNoAuthorization

You do not have permission to publish to the SNS topic ARN.

HTTP Status Code: 400

SNSTopicArnNotFound

The SNS topic ARN does not exist.

HTTP Status Code: 404

SubscriptionCategoryNotFound

The supplied category does not exist.

HTTP Status Code: 404

SubscriptionNotFound

The subscription name does not exist.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of ModifyEventSubscription.

Sample Request
Sample Response

```xml
<ModifyEventSubscriptionResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <ModifyEventSubscriptionResult>
    <EventSubscription>
      <CustomerAwsId>802#########</CustomerAwsId>
      <Enabled>true</Enabled>
      <SourceType>db-instance</SourceType>
      <Status>modifying</Status>
      <SourceIdsList>
        <SourceId>myexampledb</SourceId>
      </SourceIdsList>
      <SubscriptionCreationTime>2014-04-28 18:24:52.735</SubscriptionCreationTime>
      <EventCategoriesList>
        <EventCategory>creation</EventCategory>
        <EventCategory>deletion</EventCategory>
        <EventCategory>failover</EventCategory>
      </EventCategoriesList>
      <CustSubscriptionId>ES-myuser01</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-west-2:802#########:my-rds-events</SnsTopicArn>
    </EventSubscription>
  </ModifyEventSubscriptionResult>
  <ResponseMetadata>
    <RequestId>1798605b-be02-11d3-f73c-899ec2766c3b</RequestId>
  </ResponseMetadata>
</ModifyEventSubscriptionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyGlobalCluster

Modify a setting for an Amazon Aurora global cluster. You can change one or more database configuration parameters by specifying these parameters and the new values in the request. For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

**Note**
This action only applies to Aurora DB clusters.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**AllowMajorVersionUpgrade**

A value that indicates whether major version upgrades are allowed.

Constraints: You must allow major version upgrades when specifying a value for the EngineVersion parameter that is a different major version than the DB cluster's current version.

If you upgrade the major version of a global database, the cluster and DB instance parameter groups are set to the default parameter groups for the new version. Apply any custom parameter groups after completing the upgrade.

Type: Boolean

Required: No

**DeletionProtection**

Indicates if the global database cluster has deletion protection enabled. The global database cluster can't be deleted when deletion protection is enabled.

Type: Boolean

Required: No

**EngineVersion**

The version number of the database engine to which you want to upgrade. Changing this parameter results in an outage. The change is applied during the next maintenance window unless ApplyImmediately is enabled.

To list all of the available engine versions for aurora (for MySQL 5.6-compatible Aurora), use the following command:

```
aws rds describe-db-engine-versions --engine aurora --query '*[]|[?SupportsGlobalDatabases == `true`].[EngineVersion]
```

To list all of the available engine versions for aurora-mysql (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora), use the following command:

```
aws rds describe-db-engine-versions --engine aurora-mysql --query '*[]|[?SupportsGlobalDatabases == `true`].[EngineVersion]
```

To list all of the available engine versions for aurora-postgresql, use the following command:

```
aws rds describe-db-engine-versions --engine aurora-postgresql --query '*[]|[?SupportsGlobalDatabases == `true`].[EngineVersion]
```
Response Elements

The following element is returned by the service.

GlobalCluster

A data type representing an Aurora global database.

Type: GlobalCluster (p. 675) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

GlobalClusterNotFoundFault

The GlobalClusterIdentifier doesn't refer to an existing global database cluster.

HTTP Status Code: 404

InvalidDBClusterStateFault

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

InvalidDBInstanceState

The DB instance isn't in a valid state.
HTTP Status Code: 400

InvalidGlobalClusterStateFault

The global cluster is in an invalid state and can't perform the requested operation.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ModifyOptionGroup

Modifies an existing option group.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

ApplyImmediately

A value that indicates whether to apply the change immediately or during the next maintenance window for each instance associated with the option group.

Type: Boolean

Required: No

OptionGroupName

The name of the option group to be modified.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, can't be removed from an option group, and that option group can't be removed from a DB instance once it is associated with a DB instance.

Type: String

Required: Yes

OptionsToInclude.OptionConfiguration.N

Options in this list are added to the option group or, if already present, the specified configuration is used to update the existing configuration.

Type: Array of OptionConfiguration (p. 682) objects

Required: No

OptionsToRemove.member.N

Options in this list are removed from the option group.

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

OptionGroup

Type: OptionGroup (p. 684) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).
InvalidOptionGroupStateFault

The option group isn’t in the available state.

HTTP Status Code: 400

OptionGroupNotFoundFault

The specified option group could not be found.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of ModifyOptionGroup.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=ModifyOptionGroup
&ApplyImmediately=true
&OptionGroupName=myawsuser-og02
&OptionsToInclude.member.1.DBSecurityGroupMemberships.member.1=default
&OptionsToInclude.member.1.OptionName=MEMCACHED
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140501/us-east-1/rds/aws4_request
&X-Amz-Date=20140501T230529Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=4b278baae6294738704a9948e355af0e9bd4fa0913d5b35b0a9a3c916925aced

Sample Response

<ModifyOptionGroupResult>
  <OptionGroupName>myawsuser-og02</OptionGroupName>
  <MajorEngineVersion>5.6</MajorEngineVersion>
  <AllowsVpcAndNonVpcInstanceMemberships>false</AllowsVpcAndNonVpcInstanceMemberships>
  <EngineName>mysql</EngineName>
  <OptionGroupDescription>my second og</OptionGroupDescription>
  <Options>
    <Option>
      <Port>11211</Port>
      <OptionName>MEMCACHED</OptionName>
      <OptionDescription>Innodb Memcached for MySQL</OptionDescription>
      <Persistent>false</Persistent>
      <OptionSettings>
        <OptionSetting>
          <DataType>BOOLEAN</DataType>
          <IsModifiable>true</IsModifiable>
          <IsCollection>false</IsCollection>
          <Description>If enabled when there is no more memory to store items, memcached will return an error rather than evicting items.</Description>
        </OptionSetting>
      </OptionSettings>
    </Option>
  </Options>
</ModifyOptionGroupResponse>

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Example

This example illustrates one usage of ModifyOptionGroup.

Sample Request

https://rds.us-east-1.amazonaws.com/
  ?Action=ModifyOptionGroup
  &ApplyImmediately=true
  &OptionGroupName=myawsuser-og02
  &OptionsToRemove.OptionName=MEMCACHED
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-09-01
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20140501/us-east-1/rds/aws4_request
  &X-Amz-Date=20140501T231731Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=fd7ee924d39f1014488eb5444a8fdfe0288e958b97703f95845a5addc435c1399

Sample Response

  <ModifyOptionGroupResult>
<OptionGroup>
  <OptionGroupName>myawsuser-og02</OptionGroupName>
  <AllowsVpcAndNonVpcInstanceMemberships>true</AllowsVpcAndNonVpcInstanceMemberships>
  <MajorEngineVersion>5.6</MajorEngineVersion>
  <EngineName>mysql</EngineName>
  <OptionGroupDescription>my second og</OptionGroupDescription>
  <Options/>
</OptionGroup>
</ModifyOptionGroupResult>

<ResponseMetadata>
  <RequestId>b5f134f3-c185-11d3-f4c6-37db295f7674</RequestId>
</ResponseMetadata>
</ModifyOptionGroupResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
PromoteReadReplica

Promotes a read replica DB instance to a standalone DB instance.

**Note**

- Backup duration is a function of the amount of changes to the database since the previous backup. If you plan to promote a read replica to a standalone instance, we recommend that you enable backups and complete at least one backup prior to promotion. In addition, a read replica cannot be promoted to a standalone instance when it is in the backing-up status. If you have enabled backups on your read replica, configure the automated backup window so that daily backups do not interfere with read replica promotion.
- This command doesn't apply to Aurora MySQL, Aurora PostgreSQL, or RDS Custom.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](#).

**BackupRetentionPeriod**

The number of days for which automated backups are retained. Setting this parameter to a positive number enables backups. Setting this parameter to 0 disables automated backups.

Default: 1

Constraints:
- Must be a value from 0 to 35.
- Can't be set to 0 if the DB instance is a source to read replicas.

Type: Integer

Required: No

**DBInstanceIdentifier**

The DB instance identifier. This value is stored as a lowercase string.

Constraints:
- Must match the identifier of an existing read replica DB instance.

Example: mydbinstance

Type: String

Required: Yes

**PreferredBackupWindow**

The daily time range during which automated backups are created if automated backups are enabled, using the BackupRetentionPeriod parameter.

The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region. To see the time blocks available, see Adjusting the Preferred Maintenance Window in the Amazon RDS User Guide.

Constraints:
- Must be in the format **hh24:mi-hh24:mi**.
• Must be in Universal Coordinated Time (UTC).
• Must not conflict with the preferred maintenance window.
• Must be at least 30 minutes.

Type: String
Required: No

Response Elements

The following element is returned by the service.

DBInstance

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: DBInstance (p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBInstanceNotFound

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

InvalidDBInstanceState

The DB instance isn't in a valid state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of PromoteReadReplica.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=PromoteReadReplica
&BackupRetentionPeriod=7
&DBInstanceIdentifier=mysqldb-rr
&SignatureMethod=HmacSHA256
&SignatureVersion=4
Sample Response

```xml
  <PromoteReadReplicaResult>
    <DBInstance>
      <BackupRetentionPeriod>0</BackupRetentionPeriod>
      <DBInstanceStatus>modifying</DBInstanceStatus>
      <MultiAZ>false</MultiAZ>
      <DBInstanceIdentifier>mysqldb-rr</DBInstanceIdentifier>
      <PreferredBackupWindow>08:25-08:55</PreferredBackupWindow>
      <PreferredMaintenanceWindow>fri:04:50-fri:05:20</PreferredMaintenanceWindow>
      <StatusInfos>
        <DBInstanceStatusInfo>
          <Status>replicating</Status>
          <StatusType>read replication</StatusType>
          <Normal>true</Normal>
        </DBInstanceStatusInfo>
      </StatusInfos>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <ReadReplicaDBInstanceIdentifiers/>
      <Engine>mysql</Engine>
      <PendingModifiedValues>
        <BackupRetentionPeriod>7</BackupRetentionPeriod>
      </PendingModifiedValues>
      <LicenseModel>general-public-license</LicenseModel>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.6</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
      <Endpoint>
        <Port>3306</Port>
        <Address>mysqldb-rr.cg029hpkxcjt.us-east-1.rds.amazonaws.com</Address>
      </Endpoint>
      <EngineVersion>5.6.13</EngineVersion>
      <ReadReplicaSourceDBInstanceIdentifier>mysqldb</ReadReplicaSourceDBInstanceIdentifier>
      <OptionGroupMemberships>
        <OptionGroupMembership>
          <OptionGroupName>default:mysql-5-6</OptionGroupName>
          <Status>in-sync</Status>
        </OptionGroupMembership>
      </OptionGroupMemberships>
      <PubliclyAccessible>true</PubliclyAccessible>
      <DBSecurityGroups>
        <DBSecurityGroup>
          <Status>active</Status>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </DBSecurityGroups>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
      <DBName>mysqldb</DBName>
      <InstanceCreateTime>2014-04-25T17:12:34.460Z</InstanceCreateTime>
      <AllocatedStorage>100</AllocatedStorage>
    </DBInstance>
  </PromoteReadReplicaResult>
</PromoteReadReplicaResponse>
```
<DBInstanceClass>db.m1.medium</DBInstanceClass>
<MasterUsername>myawsuser</MasterUsername>
</DBInstance>
</PromoteReadReplicaResult>
<ResponseMetadata>
  <RequestId>8e8c0d64-be21-11d3-a71c-13dc2f771e41</RequestId>
</ResponseMetadata>
</PromoteReadReplicaResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
PromoteReadReplicaDBCluster

Promotes a read replica DB cluster to a standalone DB cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterIdentifier

The identifier of the DB cluster read replica to promote. This parameter isn't case-sensitive.

Constraints:

- Must match the identifier of an existing DB cluster read replica.

Example: my-cluster-replica1

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

DBCluster

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Type: DBCluster (p. 588) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterNotFoundFault

DBClusterIdentifier doesn't refer to an existing DB cluster.
HTTP Status Code: 404

InvalidDBClusterStateFault

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of PromoteReadReplicaDBCluster.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=PromoteReadReplicaDBCluster
&DBClusterIdentifier=my-cluster-replica1
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20160328/us-east-1/rds/aws4_request
&X-Amz-Date=20160328T221226Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=e2b2cfc3db7766b6ef86922f664e05ab306754e50e408d9fd3c8e58069a9b386

Sample Response

  <PromoteReadReplicaDBClusterResult>
    <DBCluster>
      <Port>3306</Port>
      <Engine>aurora</Engine>
      <Status>creating</Status>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <VpcSecurityGroups>
        <VpcSecurityGroupMembership>
          <Status>active</Status>
          <VpcSecurityGroupId>sg-2103dc23</VpcSecurityGroupId>
        </VpcSecurityGroupMembership>
      </VpcSecurityGroups>
      <DBSubnetGroup>default</DBSubnetGroup>
      <EngineVersion>5.6.10a</EngineVersion>
      <Endpoint>sample-cluster.cluster-ctrayan0rynq.us-east-1.rds.amazonaws.com</Endpoint>
      <DBClusterParameterGroup>default.aurora5.6</DBClusterParameterGroup>
      <AvailabilityZones>
        <AvailabilityZone>us-east-1a</AvailabilityZone>
        <AvailabilityZone>us-east-1c</AvailabilityZone>
      </AvailabilityZones>
      <DBClusterIdentifier>my-cluster-replica1</DBClusterIdentifier>
      <PreferredBackupWindow>fri:04:22-fri:04:52</PreferredBackupWindow>
      <PreferredMaintenanceWindow>fri:06:44-fri:07:14</PreferredMaintenanceWindow>
      <DBClusterMembers>
        <DBClusterMember>
          ...
        </DBClusterMember>
      </DBClusterMembers>
    </DBCluster>
  </PromoteReadReplicaDBClusterResult>
</PromoteReadReplicaDBClusterResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
PurchaseReservedDBInstancesOffering

Purchases a reserved DB instance offering.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceCount**

The number of instances to reserve.

Default: 1

Type: Integer

Required: No

**ReservedDBInstanceId**

Customer-specified identifier to track this reservation.

Example: myreservationID

Type: String

Required: No

**ReservedDBInstancesOfferingId**

The ID of the Reserved DB instance offering to purchase.

Example: 438012d3-4052-4cc7-b2e3-8d3372e0e706

Type: String

Required: Yes

**Tags.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

**Response Elements**

The following element is returned by the service.

**ReservedDBInstance**

This data type is used as a response element in the DescribeReservedDBInstances and PurchaseReservedDBInstancesOffering actions.

Type: ReservedDBInstance (p. 713) object
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

ReservedDBInstanceAlreadyExists

User already has a reservation with the given identifier.

HTTP Status Code: 404

ReservedDBInstanceQuotaExceeded

Request would exceed the user's DB Instance quota.

HTTP Status Code: 400

ReservedDBInstancesOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of PurchaseReservedDBInstancesOffering.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=PurchaseReservedDBInstancesOffering
&ReservedDBInstanceId=myreservationID
&ReservedDBInstancesOfferingId=438012d3-4052-4cc7-b2e3-8d3372e0e706
&DBInstanceCount=10
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140415/us-east-1/rds/aws4_request
&X-Amz-Date=20140415T232655Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=c2ac761e8c8f54a8c0727f5a87ad0a766fbb0024510b9aa34ea6d1f7df52fb11

Sample Response

<PurchaseReservedDBInstancesOfferingResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <PurchaseReservedDBInstancesOfferingResult>
    <ReservedDBInstance>
      <OfferingType>Partial Upfront</OfferingType>
      <CurrencyCode>USD</CurrencyCode>
      <RecurringCharges/>
      <ProductDescription>mysql</ProductDescription>
      <ReservedDBInstancesOfferingId>438012d3-4052-4cc7-b2e3-8d3372e0e706</ReservedDBInstancesOfferingId>
    </ReservedDBInstance>
  </PurchaseReservedDBInstancesOfferingResult>
</PurchaseReservedDBInstancesOfferingResponse>
<State>payment-pending</State>
  <ReservedDBInstanceId>myreservationID</ReservedDBInstanceId>
  <DBInstanceCount>10</DBInstanceCount>
  <Duration>31536000</Duration>
  <FixedPrice>123.0</FixedPrice>
  <UsagePrice>0.123</UsagePrice>
  <DBInstanceClass>db.m1.small</DBInstanceClass>
</ReservedDBInstance>
</PurchaseReservedDBInstancesOfferingResult>
<ResponseMetadata>
  <RequestId>7f099901-29cf-11e1-bd06-6fe008f046c3</RequestId>
</ResponseMetadata>
</PurchaseReservedDBInstancesOfferingResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
You might need to reboot your DB cluster, usually for maintenance reasons. For example, if you make certain modifications, or if you change the DB cluster parameter group associated with the DB cluster, reboot the DB cluster for the changes to take effect.

Rebooting a DB cluster restarts the database engine service. Rebooting a DB cluster results in a momentary outage, during which the DB cluster status is set to rebooting.

Use this operation only for a non-Aurora Multi-AZ DB cluster.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](#).

**DBClusterIdentifier**

The DB cluster identifier. This parameter is stored as a lowercase string.

Constraints:
- Must match the identifier of an existing DBCluster.

Type: String

Required: Yes

**Response Elements**

The following element is returned by the service.

**DBCluster**

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Type: DBCluster (p. 588) object
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

Examples

**Example**

This example illustrates one usage of RebootDBCluster.

**Sample Request**

```plaintext
https://rds.us-west-2.amazonaws.com/?Action=RebootDBCluster
&DBClusterIdentifier=my-multi-az-cluster
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20211014/us-west-2/rds/aws4_request
&X-Amz-Date=20211020T204924Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=1c48f44c14183cff26fde7d912946f87f3bb9d715f66448fa57a8f9e99602af5
```

**Sample Response**

```xml
  <RebootDBClusterResult>
    <DBCluster>
      <CrossAccountClone>false</CrossAccountClone>
      <AllocatedStorage>100</AllocatedStorage>
      <DatabaseName>mydb</DatabaseName>
      <AssociatedRoles />
      <AvailabilityZones>
        <AvailabilityZone>us-west-2a</AvailabilityZone>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
        <AvailabilityZone>us-west-2c</AvailabilityZone>
      </AvailabilityZones>
      <Iops>1000</Iops>
    </DBCluster>
  </RebootDBClusterResult>
</RebootDBClusterResponse>
```
<PerformanceInsightsKMSKeyId>arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE</PerformanceInsightsKMSKeyId>
<PerformanceInsightsRetentionPeriod>7</PerformanceInsightsRetentionPeriod>
<EngineVersion>8.0.26</EngineVersion>
<MasterUsername>admin</MasterUsername>

<DBClusterMembers>
  <DBClusterMember>
    <DBInstanceIdentifier>my-multi-az-cluster-instance-3</DBInstanceIdentifier>
    <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
    <PromotionTier>1</PromotionTier>
    <IsClusterWriter>false</IsClusterWriter>
  </DBClusterMember>
  <DBClusterMember>
    <DBInstanceIdentifier>my-multi-az-cluster-instance-2</DBInstanceIdentifier>
    <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
    <PromotionTier>1</PromotionTier>
    <IsClusterWriter>false</IsClusterWriter>
  </DBClusterMember>
  <DBClusterMember>
    <DBInstanceIdentifier>my-multi-az-cluster-instance-1</DBInstanceIdentifier>
    <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
    <PromotionTier>1</PromotionTier>
    <IsClusterWriter>true</IsClusterWriter>
  </DBClusterMember>
</DBClusterMembers>

<HttpEndpointEnabled>false</HttpEndpointEnabled>
<Port>3306</Port>
<MonitoringInterval>30</MonitoringInterval>
<BackupRetentionPeriod>2</BackupRetentionPeriod>
<KmsKeyId>arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE</KmsKeyId>

<DBClusterIdentifier>my-multi-az-cluster</DBClusterIdentifier>
<DbClusterResourceId>cluster-RCPGZXFN1HCTBQLDRJX6CP62VQ</DbClusterResourceId>
<LatestRestorableTime>2021-10-20T20:45:00Z</LatestRestorableTime>
<Status>available</Status>
<PreferredBackupWindow>11:34-12:04</PreferredBackupWindow>
<DeletionProtection>false</DeletionProtection>
<Endpoint>my-multi-az-cluster.cluster-123456789012.us-west-2.rds.amazonaws.com</Endpoint>
<Engine>mysql</Engine>
<ReaderEndpoint>my-multi-az-cluster.cluster-ro-123456789012.us-west-2.rds.amazonaws.com</ReaderEndpoint>
<PubliclyAccessible>true</PubliclyAccessible>
<IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
<EarliestRestorableTime>2021-10-20T00:21:43.013Z</EarliestRestorableTime>
<ClusterCreateTime>2021-10-20T00:12:00.867Z</ClusterCreateTime>
<PerformanceInsightsEnabled>true</PerformanceInsightsEnabled>
<MultiAZ>true</MultiAZ>
<StorageEncrypted>true</StorageEncrypted>
<DBSubnetGroup>mysubnet1</DBSubnetGroup>
</DBClusterMembers>
<AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
<CopyTagsToSnapshot>false</CopyTagsToSnapshot>
</DBCluster>
</RebootDBClusterResult>
<ResponseMetadata>
  <RequestId>056383d9-2d62-415d-b1bb-098b4cc86b5d</RequestId>
</ResponseMetadata>
</RebootDBClusterResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RebootDBInstance

You might need to reboot your DB instance, usually for maintenance reasons. For example, if you make certain modifications, or if you change the DB parameter group associated with the DB instance, you must reboot the instance for the changes to take effect.

Rebooting a DB instance restarts the database engine service. Rebooting a DB instance results in a momentary outage, during which the DB instance status is set to rebooting.

For more information about rebooting, see Rebooting a DB Instance in the Amazon RDS User Guide.

This command doesn't apply to RDS Custom.

If your DB instance is part of a Multi-AZ DB cluster, you can reboot the DB cluster with the RebootDBCluster operation.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBInstanceIdentifier

The DB instance identifier. This parameter is stored as a lowercase string.

Constraints:

- Must match the identifier of an existing DBInstance.

Type: String

Required: Yes

ForceFailover

A value that indicates whether the reboot is conducted through a Multi-AZ failover.

Constraint: You can't enable force failover if the instance isn't configured for Multi-AZ.

Type: Boolean

Required: No

Response Elements

The following element is returned by the service.

DBInstance

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: DBInstance (p. 617) object
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of RebootDBInstance.

Sample Request

```plaintext
https://rds.us-east-1.amazonaws.com/
?Action=RebootDBInstance
&DBInstanceIdentifier=mysqldb
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&amp-Amz-Algorithm=AWS4-HMAC-SHA256
&amp-Amz-Credential=AKIADQKE4SARGYLE/20140428/us-east-1/rds/aws4_request
&amp-Amz-Date=20140428T222011Z
&amp-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&amp-Amz-Signature=1c48f44c14183cff26fde7d912946f87f3bb9d715f6448f457a8f9e99602af5
```

Sample Response

```xml
  <RebootDBInstanceResult>
    <DBInstance>
      <BackupRetentionPeriod>7</BackupRetentionPeriod>
      <DBInstanceStatus>rebooting</DBInstanceStatus>
      <MultiAZ>false</MultiAZ>
      <VpcSecurityGroups/>
      <DBInstanceIdentifier>mysqldb</DBInstanceIdentifier>
      <PreferredBackupWindow>08:14-08:44</PreferredBackupWindow>
      <PreferredMaintenanceWindow>fri:04:50-fri:05:20</PreferredMaintenanceWindow>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <ReadReplicaDBInstanceIdentifiers/>
      <LatestRestorableTime>2014-04-28T22:15:00Z</LatestRestorableTime>
      <Engine>mysql</Engine>
      <PendingModifiedValues/>
      <LicenseModel>general-public-license</LicenseModel>
      <EngineVersion>5.6.13</EngineVersion>
      <Endpoint>
        <Port>3306</Port>
    </DBInstance>
  </RebootDBInstanceResult>
</RebootDBInstanceResponse>
```

API Version 2014-10-31
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RegisterDBProxyTargets

Associate one or more DBProxyTarget data structures with a DBProxyTargetGroup.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterIdentifiers.member.N

One or more DB cluster identifiers.

Type: Array of strings

Required: No

DBInstanceIdentifiers.member.N

One or more DB instance identifiers.

Type: Array of strings

Required: No

DBProxyName

The identifier of the DBProxy that is associated with the DBProxyTargetGroup.

Type: String

Required: Yes

TargetGroupName

The identifier of the DBProxyTargetGroup.

Type: String

Required: No

Response Elements

The following element is returned by the service.

DBProxyTargets.member.N

One or more DBProxyTarget objects that are created when you register targets with a target group.

Type: Array of DBProxyTarget (p. 643) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterNotFoundFault

DBClusterIdentifier doesn't refer to an existing DB cluster.
HTTP Status Code: 404

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

**DBProxyNotFoundFault**

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**DBProxyTargetAlreadyRegisteredFault**

The proxy is already associated with the specified RDS DB instance or Aurora DB cluster.

HTTP Status Code: 400

**DBProxyTargetGroupNotFoundFault**

The specified target group isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**InsufficientAvailableIPsInSubnetFault**

The requested operation can't be performed because there aren't enough available IP addresses in the proxy's subnets. Add more CIDR blocks to the VPC or remove IP address that aren't required from the subnets.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

**InvalidDBProxyStateFault**

The requested operation can't be performed while the proxy is in this state.

HTTP Status Code: 400

---

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2

---

Amazon Relational Database Service API Reference

See Also
See Also

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RemoveFromGlobalCluster

Detaches an Aurora secondary cluster from an Aurora global database cluster. The cluster becomes a standalone cluster with read-write capability instead of being read-only and receiving data from a primary cluster in a different Region.

**Note**
This action only applies to Aurora DB clusters.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](#).

- **DbClusterIdentifier**
  - The Amazon Resource Name (ARN) identifying the cluster that was detached from the Aurora global database cluster.
  - Type: String
  - Required: No

- **GlobalClusterIdentifier**
  - The cluster identifier to detach from the Aurora global database cluster.
  - Type: String
  - Required: No

**Response Elements**

The following element is returned by the service.

- **GlobalCluster**
  - A data type representing an Aurora global database.
  - Type: [GlobalCluster](#) object

**Errors**

For information about the errors that are common to all actions, see [Common Errors](#).

- **DBClusterNotFoundFault**
  - `DbClusterIdentifier` doesn't refer to an existing DB cluster.
  - HTTP Status Code: 404

- **GlobalClusterNotFoundFault**
  - The `GlobalClusterIdentifier` doesn't refer to an existing global database cluster.
  - HTTP Status Code: 404
InvalidGlobalClusterStateFault

The global cluster is in an invalid state and can't perform the requested operation.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RemoveRoleFromDBCluster

Removes the association of an AWS Identity and Access Management (IAM) role from a DB cluster.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterIdentifier

The name of the DB cluster to disassociate the IAM role from.

Type: String
Required: Yes

FeatureName

The name of the feature for the DB cluster that the IAM role is to be disassociated from. For information about supported feature names, see DBEngineVersion (p. 613).

Type: String
Required: No

RoleArn

The Amazon Resource Name (ARN) of the IAM role to disassociate from the Aurora DB cluster, for example arn:aws:iam::123456789012:role/AuroraAccessRole.

Type: String
Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterNotFoundFault

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

DBClusterRoleNotFound

The specified IAM role Amazon Resource Name (ARN) isn't associated with the specified DB cluster.

HTTP Status Code: 404

InvalidDBClusterStateFault

The requested operation can't be performed while the cluster is in this state.
HTTP Status Code: 400

Examples

Example

This example illustrates one usage of RemoveRoleFromDBCluster.

Sample Request

https://rds.us-east-1.amazonaws.com/
  ?Action=RemoveRoleFromDBCluster
  &DBClusterIdentifier=sample-cluster
  &RoleArn=arn%3Aaws%3Aiam%3A%3A123456789012%3Arole%2Fsampole-role
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20161012/us-east-1/rds/aws4_request
  &X-Amz-Date=20161012T204525Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=cd7d5005d56a505b4e2a878c297e6f8a3cc26b19a335ede018ba41f3185c92a2

Sample Response

<RemoveRoleFromDBClusterResponse xmlns="http://rds.amazonaws.com/doc/2014-10-31/">
  <ResponseMetadata>
    <RequestId>ccfca75a-90bc-11e6-8533-cd6377e421f8</RequestId>
  </ResponseMetadata>
</RemoveRoleFromDBClusterResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RemoveRoleFromDBInstance

Disassociates an AWS Identity and Access Management (IAM) role from a DB instance.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceIdentifier**

The name of the DB instance to disassociate the IAM role from.

- Type: String
- Required: Yes

**FeatureName**

The name of the feature for the DB instance that the IAM role is to be disassociated from. For information about supported feature names, see DBEngineVersion.

- Type: String
- Required: Yes

**RoleArn**

The Amazon Resource Name (ARN) of the IAM role to disassociate from the DB instance, for example, `arn:aws:iam::123456789012:role/AccessRole`.

- Type: String
- Required: Yes

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBInstanceNotFound**

- **DBInstanceIdentifier** doesn't refer to an existing DB instance.
- HTTP Status Code: 404

**DBInstanceRoleNotFound**

- The specified RoleArn value doesn't match the specified feature for the DB instance.
- HTTP Status Code: 404

**InvalidDBInstanceState**

- The DB instance isn't in a valid state.
- HTTP Status Code: 400
Examples

Example

This example illustrates one usage of RemoveRoleFromDBInstance.

Sample Request

https://rds.us-east-1.amazonaws.com/
  ?Action=RemoveRoleFromDBInstance
  &DBInstanceIdentifier=sample-instance
  &RoleArn=arn%3Aaws%3AIam%3A%3A123456789012%3Arole%2Fsample-role
  &FeatureName=s3Import

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RemoveSourceIdentifierFromSubscription

Removes a source identifier from an existing RDS event notification subscription.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**SourceIdentifier**

The source identifier to be removed from the subscription, such as the **DB instance identifier** for a DB instance or the name of a security group.

Type: String

Required: Yes

**SubscriptionName**

The name of the RDS event notification subscription you want to remove a source identifier from.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

**EventSubscription**

Contains the results of a successful invocation of the DescribeEventSubscriptions action.

Type: EventSubscription (p. 668) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**SourceNotFound**

The requested source could not be found.

HTTP Status Code: 404

**SubscriptionNotFound**

The subscription name does not exist.

HTTP Status Code: 404

Examples

**Example**

This example illustrates one usage of RemoveSourceIdentifierFromSubscription.
Sample Request

https://rds.us-east-1.amazonaws.com/
    ?Action=RemoveSourceIdentifierFromSubscription
    &SignatureMethod=HmacSHA256
    &SignatureVersion=4
    &SourceIdentifier=si-sample
    &SubscriptionName=myawsuser-secgrp
    &Version=2014-09-01
    &X-Amz-Algorithm=AWS4-HMAC-SHA256
    &X-Amz-Credential=AKIADQKE4SARGYLE/20140428/us-east-1/rds/aws4_request
    &X-Amz-Date=20140428T222718Z
    &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
    &X-Amz-Signature=4419f0015657ee120d781849ffdc6642eefae9ee42bf1d18c4b2ed8eb732f7bf8

Sample Response

<RemoveSourceIdentifierFromSubscriptionResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
    <RemoveSourceIdentifierFromSubscriptionResult>
        <EventSubscription>
            <Enabled>true</Enabled>
            <CustomerAwsId>802#########</CustomerAwsId>
            <SourceType>db-security-group</SourceType>
            <Status>active</Status>
            <EventCategoriesList>
                <EventCategory>configuration change</EventCategory>
                <EventCategory>failure</EventCategory>
            </EventCategoriesList>
            <CustSubscriptionId>myawsuser-secgrp</CustSubscriptionId>
            <SnsTopicArn>arn:aws:sns:us-east-1:802#########:myawsuser-RDS</SnsTopicArn>
        </EventSubscription>
    </RemoveSourceIdentifierFromSubscriptionResult>
    <ResponseMetadata/>
</RemoveSourceIdentifierFromSubscriptionResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RemoveTagsFromResource

Removes metadata tags from an Amazon RDS resource.

For an overview on tagging an Amazon RDS resource, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**ResourceName**

The Amazon RDS resource that the tags are removed from. This value is an Amazon Resource Name (ARN). For information about creating an ARN, see Constructing an ARN for Amazon RDS in the Amazon RDS User Guide.

Type: String

Required: Yes

**TagKeys.member.N**

The tag key (name) of the tag to be removed.

Type: Array of strings

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterNotFoundFault**

**DBClusterIdentifier** doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBInstanceNotFound**

**DBInstanceIdentifier** doesn't refer to an existing DB instance.

HTTP Status Code: 404

**DBProxyNotFoundFault**

The specified proxy name doesn't correspond to a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404

**DBProxyTargetGroupNotFoundFault**

The specified target group isn't available for a proxy owned by your AWS account in the specified AWS Region.

HTTP Status Code: 404
DBSnapshotNotFound

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

Examples

Example

This example illustrates one usage of RemoveTagsFromResource.

Sample Request

```
https://rds.us-west-2.amazonaws.com/
?Action=RemoveTagsFromResource
&ResourceName=arn%3Aaws%3Ards%3Aus-west-2%3A123456789012%3Adb%3Asample
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&TagKeys.member.1=InstanceType
&TagKeys.member.2=Owner
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIQVE4SARGYLE/20160913/us-west-2/rds/aws4_request
&X-Amz-Date=20160913T174918Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=4c72f307a75444461bd9b9ccbd7de361f7ce7b8adad66a52824226320d0a33ca8
```

Sample Response

```
  <ResponseMetadata>
    <RequestId>126d40cc-79da-11e6-b8e4-29f0c684be5d</RequestId>
  </ResponseMetadata>
</RemoveTagsFromResourceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ResetDBClusterParameterGroup

Modifies the parameters of a DB cluster parameter group to the default value. To reset specific parameters submit a list of the following: ParameterName and ApplyMethod. To reset the entire DB cluster parameter group, specify the DBClusterParameterGroupName and ResetAllParameters parameters.

When resetting the entire group, dynamic parameters are updated immediately and static parameters are set to pending-reboot to take effect on the next DB instance restart or RebootDBInstance request. You must call RebootDBInstance for every DB instance in your DB cluster that you want the updated static parameter to apply to.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterParameterGroupName

The name of the DB cluster parameter group to reset.

- Type: String
- Required: Yes

Parameters.Parameter.N

A list of parameter names in the DB cluster parameter group to reset to the default values. You can't use this parameter if the ResetAllParameters parameter is enabled.

- Type: Array of Parameter (p. 701) objects
- Required: No

ResetAllParameters

A value that indicates whether to reset all parameters in the DB cluster parameter group to their default values. You can't use this parameter if there is a list of parameter names specified for the Parameters parameter.

- Type: Boolean
- Required: No

Response Elements

The following element is returned by the service.

DBClusterParameterGroupName

The name of the DB cluster parameter group.

Constraints:
• Must be 1 to 255 letters or numbers.
• First character must be a letter
• Can't end with a hyphen or contain two consecutive hyphens

**Note**
This value is stored as a lowercase string.

Type: String

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

### DBParameterGroupNotFound

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

### InvalidDBParameterGroupState

The DB parameter group is in use or is in an invalid state. If you are attempting to delete the parameter group, you can't delete it when the parameter group is in this state.

HTTP Status Code: 400

## Examples

### Example

This example illustrates one usage of ResetDBClusterParameterGroup.

### Sample Request

```
https://rds.us-west-2.amazonaws.com/
?Action=ResetDBClusterParameterGroup
&DBClusterParameterGroupName=sample-cluster-pg
&Parameters.member.1.ApplyMethod=pending-reboot
&Parameters.member.1.ParameterName=binlog_format
&Parameters.member.2.ApplyMethod=pending-reboot
&Parameters.member.2.ParameterName=innodb_support_xa
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&AWS4-HMAC-SHA256
&Amz-Credential=AKIAIQKE4SARGYLE/20160913/us-west-2/rds/aws4_request
&Amz-Date=20160913T230026Z
&Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&Amz-Signature=7cca4504082065e227696f2dd904fab2f39633bc7d120258c4beddd5da3ade7f
```

### Sample Response

```
  <ResetDBClusterParameterGroupResult>
    <DBClusterParameterGroupName>sample-cluster-pg</DBClusterParameterGroupName>
  </ResetDBClusterParameterGroupResult>
</ResponseMetadata>
```

API Version 2014-10-31
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
ResetDBParameterGroup

Modifies the parameters of a DB parameter group to the engine/system default value. To reset specific parameters, provide a list of the following: ParameterName and ApplyMethod. To reset the entire DB parameter group, specify the DBParameterGroup name and ResetAllParameters parameters. When resetting the entire group, dynamic parameters are updated immediately and static parameters are set to pending-reboot to take effect on the next DB instance restart or RebootDBInstance request.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBParameterGroupName**

The name of the DB parameter group.

Constraints:

- Must match the name of an existing DBParameterGroup.

Type: String

Required: Yes

**Parameters.Parameter.N**

To reset the entire DB parameter group, specify the DBParameterGroup name and ResetAllParameters parameters. To reset specific parameters, provide a list of the following: ParameterName and ApplyMethod. A maximum of 20 parameters can be modified in a single request.

**MySQL**

Valid Values (for Apply method): immediate | pending-reboot

You can use the immediate value with dynamic parameters only. You can use the pending-reboot value for both dynamic and static parameters, and changes are applied when DB instance reboots.

**MariaDB**

Valid Values (for Apply method): immediate | pending-reboot

You can use the immediate value with dynamic parameters only. You can use the pending-reboot value for both dynamic and static parameters, and changes are applied when DB instance reboots.

**Oracle**

Valid Values (for Apply method): pending-reboot

Type: Array of Parameter (p. 701) objects

Required: No

**ResetAllParameters**

A value that indicates whether to reset all parameters in the DB parameter group to default values. By default, all parameters in the DB parameter group are reset to default values.

Type: Boolean
Response Elements

The following element is returned by the service.

**DBParameterGroupName**

The name of the DB parameter group.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBParameterGroupNotFound**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

**InvalidDBParameterGroupState**

The DB parameter group is in use or is in an invalid state. If you are attempting to delete the parameter group, you can't delete it when the parameter group is in this state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of ResetDBParameterGroup.

Sample Request

```text
https://rds.us-east-1.amazonaws.com/
?Action=ResetDBParameterGroup
&DBParameterGroupName=mydbparametergroup01
&ResetAllParameters=true
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140428/us-east-1/rds/aws4_request
&X-Amz-Date=20140428T225714Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=709d1418c91c5ef4129d4665e5c282002a9665699acf4204683c778f03c3573
```

Sample Response

```xml
```
Example

This example illustrates one usage of ResetDBParameterGroup.

Sample Request

```
https://rds.us-east-1.amazonaws.com/
  ?Action=ResetDBParameterGroup
  &DBParameterGroupName=mydbparametergroup01
  &Parameters.member.1.ApplyMethod=immediate
  &Parameters.member.1.ParameterName=bulk_insert_buffer_size
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-09-01
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20140428/us-east-1/rds/aws4_request
  &X-Amz-Date=20140428T230509Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=d343dd7fcc3789d30295b5e3fc67262f28af15d71fca9f978921f0e8845b2d1e6
```

Sample Response

```
  <ResetDBParameterGroupResult>
    <DBParameterGroupName>mydbparametergroup01</DBParameterGroupName>
  </ResetDBParameterGroupResult>
  <ResponseMetadata>
    <RequestId>7acb72cf-be28-11d3-a4fc-e3b7f6c20c5f</RequestId>
  </ResponseMetadata>
</ResetDBParameterGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RestoreDBClusterFromS3

Creates an Amazon Aurora DB cluster from MySQL data stored in an Amazon S3 bucket. Amazon RDS must be authorized to access the Amazon S3 bucket and the data must be created using the Percona XtraBackup utility as described in Migrating Data from MySQL by Using an Amazon S3 Bucket in the Amazon Aurora User Guide.

**Note**
This action only restores the DB cluster, not the DB instances for that DB cluster. You must invoke the CreateDBInstance action to create DB instances for the restored DB cluster, specifying the identifier of the restored DB cluster in DBClusterIdentifier. You can create DB instances only after the RestoreDBClusterFromS3 action has completed and the DB cluster is available.

For more information on Amazon Aurora, see What is Amazon Aurora? in the Amazon Aurora User Guide.

**Note**
This action only applies to Aurora DB clusters. The source DB engine must be MySQL.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

- **AvailabilityZones.AvailabilityZone.N**
  - A list of Availability Zones (AZs) where instances in the restored DB cluster can be created.
  - Type: Array of strings
  - Required: No

- **BacktrackWindow**
  - The target backtrack window, in seconds. To disable backtracking, set this value to 0.
  - **Note**
    Currently, Backtrack is only supported for Aurora MySQL DB clusters.
  - Default: 0
  - Constraints:
    - If specified, this value must be set to a number from 0 to 259,200 (72 hours).
  - Type: Long
  - Required: No

- **BackupRetentionPeriod**
  - The number of days for which automated backups of the restored DB cluster are retained. You must specify a minimum value of 1.
  - Default: 1
  - Constraints:
    - Must be a value from 1 to 35
  - Type: Integer
  - Required: No
**Request Parameters**

**CharacterSetName**

A value that indicates that the restored DB cluster should be associated with the specified CharacterSet.

Type: String

Required: No

**CopyTagsToSnapshot**

A value that indicates whether to copy all tags from the restored DB cluster to snapshots of the restored DB cluster. The default is not to copy them.

Type: Boolean

Required: No

**DatabaseName**

The database name for the restored DB cluster.

Type: String

Required: No

**DBClusterIdentifier**

The name of the DB cluster to create from the source data in the Amazon S3 bucket. This parameter isn't case-sensitive.

Constraints:
- Must contain from 1 to 63 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Example: `my-cluster1`

Type: String

Required: Yes

**DBClusterParameterGroupName**

The name of the DB cluster parameter group to associate with the restored DB cluster. If this argument is omitted, `default.aurora5.6` is used.

Constraints:
- If supplied, must match the name of an existing DBClusterParameterGroup.

Type: String

Required: No

**DBSubnetGroupName**

A DB subnet group to associate with the restored DB cluster.

Constraints: If supplied, must match the name of an existing DBSubnetGroup.

Example: `mydbsubnetgroup`

Type: String
Request Parameters

DeletionProtection

A value that indicates whether the DB cluster has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled.

Type: Boolean
Required: No

Domain

Specify the Active Directory directory ID to restore the DB cluster in. The domain must be created prior to this operation.

For Amazon Aurora DB clusters, Amazon RDS can use Kerberos Authentication to authenticate users that connect to the DB cluster. For more information, see Kerberos Authentication in the Amazon Aurora User Guide.

Type: String
Required: No

DomainIAMRoleName

Specify the name of the IAM role to be used when making API calls to the Directory Service.

Type: String
Required: No

EnableCloudwatchLogsExports

The list of logs that the restored DB cluster is to export to CloudWatch Logs. The values in the list depend on the DB engine being used.

Aurora MySQL

Possible values are audit, error, general, and slowquery.

Aurora PostgreSQL

Possible value is postgresql.

For more information about exporting CloudWatch Logs for Amazon Aurora, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon Aurora User Guide.

Type: Array of strings
Required: No

EnableIAMDatabaseAuthentication

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

For more information, see IAM Database Authentication in the Amazon Aurora User Guide.

Type: Boolean
Required: No

Engine

The name of the database engine to be used for this DB cluster.
Valid Values: aurora (for MySQL 5.6-compatible Aurora) and aurora-mysql (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora)

Type: String
Required: Yes

**EngineVersion**

The version number of the database engine to use.

To list all of the available engine versions for aurora (for MySQL 5.6-compatible Aurora), use the following command:

```
aws rds describe-db-engine-versions --engine aurora --query "DBEngineVersions[].EngineVersion"
```

To list all of the available engine versions for aurora-mysql (for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora), use the following command:

```
aws rds describe-db-engine-versions --engine aurora-mysql --query "DBEngineVersions[].EngineVersion"
```

**Aurora MySQL**

Example: 5.6.10a, 5.6.mysql_aurora.1.19.2, 5.7.mysql_aurora.2.07.1, 8.0.mysql_aurora.3.02.0

Type: String
Required: No

**KmsKeyId**

The AWS KMS key identifier for an encrypted DB cluster.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key. To use a KMS key in a different AWS account, specify the key ARN or alias ARN.

If the StorageEncrypted parameter is enabled, and you do not specify a value for the KmsKeyId parameter, then Amazon RDS will use your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.

Type: String
Required: No

**MasterUsername**

The name of the master user for the restored DB cluster.

Constraints:
- Must be 1 to 16 letters or numbers.
- First character must be a letter.
- Can't be a reserved word for the chosen database engine.

Type: String
Required: Yes

**MasterUserPassword**

The password for the master database user. This password can contain any printable ASCII character except "/", """, or "@".
Constraints: Must contain from 8 to 41 characters.
Type: String
Required: Yes

**NetworkType**

The network type of the DB cluster.

Valid values:
- IPv4
- DUAL

The network type is determined by the DBSubnetGroup specified for the DB cluster. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see [Working with a DB instance in a VPC](https://docs.aws.amazon.com/Aurora/latest/UserGuide/working-with-db-in-a-vpc.html) in the *Amazon Aurora User Guide*.

Type: String
Required: No

**OptionGroupName**

A value that indicates that the restored DB cluster should be associated with the specified option group.

Permanent options can't be removed from an option group. An option group can't be removed from a DB cluster once it is associated with a DB cluster.

Type: String
 Required: No

**Port**

The port number on which the instances in the restored DB cluster accept connections.

Default: 3306

Type: Integer
Required: No

**PreferredBackupWindow**

The daily time range during which automated backups are created if automated backups are enabled using the `BackupRetentionPeriod` parameter.

The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region. To view the time blocks available, see [Backup window](https://docs.aws.amazon.com/Aurora/latest/UserGuide/working-with-db-in-a-vpc.html) in the *Amazon Aurora User Guide*.

Constraints:
- Must be in the format `hh24:mi-hh24:mi`.
- Must be in Universal Coordinated Time (UTC).
- Must not conflict with the preferred maintenance window.
- Must be at least 30 minutes.

Type: String
Required: No
PreferredMaintenanceWindow

The weekly time range during which system maintenance can occur, in Universal Coordinated Time (UTC).


The default is a 30-minute window selected at random from an 8-hour block of time for each AWS Region, occurring on a random day of the week. To see the time blocks available, see Adjusting the Preferred Maintenance Window in the Amazon Aurora User Guide.

Valid Days: Mon, Tue, Wed, Thu, Fri, Sat, Sun.

Constraints: Minimum 30-minute window.

Type: String

Required: No

S3BucketName

The name of the Amazon S3 bucket that contains the data used to create the Amazon Aurora DB cluster.

Type: String

Required: Yes

S3IngestionRoleArn

The Amazon Resource Name (ARN) of the AWS Identity and Access Management (IAM) role that authorizes Amazon RDS to access the Amazon S3 bucket on your behalf.

Type: String

Required: Yes

S3Prefix

The prefix for all of the file names that contain the data used to create the Amazon Aurora DB cluster. If you do not specify a SourceS3Prefix value, then the Amazon Aurora DB cluster is created by using all of the files in the Amazon S3 bucket.

Type: String

Required: No

ServerlessV2ScalingConfiguration

Contains the scaling configuration of an Aurora Serverless v2 DB cluster.

For more information, see Using Amazon Aurora Serverless v2 in the Amazon Aurora User Guide.

Type: ServerlessV2ScalingConfiguration (p. 724) object

Required: No

SourceEngine

The identifier for the database engine that was backed up to create the files stored in the Amazon S3 bucket.

Valid values: mysql

Type: String

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Response Elements

The following element is returned by the service.

**DBCluster**

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see [What is Amazon Aurora?](https:// docs.aws.amazon.com/AmazonAurora/latest/UserGuide/) in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see [Multi-AZ deployments with two readable standby DB instances](https:// docs.aws.amazon.com/RDS/latest/UserGuide/) in the Amazon RDS User Guide.
Type: DBCluster (p. 588) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterAlreadyExistsFault
The user already has a DB cluster with the given identifier.

HTTP Status Code: 400

DBClusterNotFoundFault
DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

DBClusterParameterGroupNotFound
DBClusterParameterGroupName doesn't refer to an existing DB cluster parameter group.

HTTP Status Code: 404

DBClusterQuotaExceededFault
The user attempted to create a new DB cluster and the user has already reached the maximum allowed DB cluster quota.

HTTP Status Code: 403

DBSubnetGroupNotFoundFault
DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404

DomainNotFoundFault
Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404

InsufficientStorageClusterCapacity
There is insufficient storage available for the current action. You might be able to resolve this error by updating your subnet group to use different Availability Zones that have more storage available.

HTTP Status Code: 400

InvalidDBClusterStateFault
The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

InvalidDBSubnetGroupStateFault
The DB subnet group cannot be deleted because it's in use.

HTTP Status Code: 400

InvalidS3BucketFault
The specified Amazon S3 bucket name can't be found or Amazon RDS isn't authorized to access the specified Amazon S3 bucket. Verify the SourceS3BucketName and S3IngestionRoleArn values and try again.
HTTP Status Code: 400
InvalidSubnet
The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400
InvalidVPCNetworkStateFault
The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400
KMSKeyNotAccessibleFault
An error occurred accessing an AWS KMS key.

HTTP Status Code: 400
StorageQuotaExceeded
The request would result in the user exceeding the allowed amount of storage available across all DB instances.

Examples

Example
This example illustrates one usage of RestoreDBClusterFromS3.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=RestoreDBClusterFromS3
&DBClusterIdentifier=sample-cluster
&Engine=aurora
&S3BucketName=s3-ingestion-sample
&SourceEngine=mysql
&SourceEngineVersion=5.6.22
&MastuserUsername=myawsuser
&MastuserPassword=<password>
&S3IngestionRoleArn=arn:aws:iam:123456789012:role/sample-role
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&S3IngestionSource=sample-snapshot
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAJQKE4SARGEYUE/20150323/us-east-1/rds/aws4_request
&X-Amz-Date=20150323T165638Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=c59effef9b7b96f6a8dfed7873611df555364594f7f9ac9cd14d353114771fd

Sample Response

<RestoreDBClusterFromS3Response xmlns="http://rds.amazonaws.com/doc/2014-10-31/">
<RestoreDBClusterFromS3Result>
API Version 2014-10-31
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</RestoreDBClusterFromS3Result>
<DBCluster>
  <Port>3306</Port>
  <Engine>aurora</Engine>
  <Status>creating</Status>
  <BackupRetentionPeriod>1</BackupRetentionPeriod>
  <VpcSecurityGroups>
    <VpcSecurityGroupMembership>
      <Status>active</Status>
      <VpcSecurityGroupId>sg-2103dc23</VpcSecurityGroupId>
    </VpcSecurityGroupMembership>
  </VpcSecurityGroups>
  <DBSubnetGroup>default</DBSubnetGroup>
  <EngineVersion>5.6.10a</EngineVersion>
  <Endpoint>sample-cluster.cluster-ctrayan0rynyq.us-east-1.rds.amazonaws.com</Endpoint>
  <DBClusterParameterGroup>default.aurora5.6</DBClusterParameterGroup>
  <AvailabilityZones>
    <AvailabilityZone>us-east-1a</AvailabilityZone>
    <AvailabilityZone>us-east-1c</AvailabilityZone>
    <AvailabilityZone>us-east-1e</AvailabilityZone>
  </AvailabilityZones>
  <DBClusterIdentifier>sample-cluster</DBClusterIdentifier>
  <PreferredBackupWindow>04:22-04:52</PreferredBackupWindow>
  <PreferredMaintenanceWindow>fri:06:44-fri:07:14</PreferredMaintenanceWindow>
  <DBClusterMembers/>
  <AllocatedStorage>1</AllocatedStorage>
  <MasterUsername>myawsuser</MasterUsername>
</DBCluster>
</RestoreDBClusterFromS3Result>
</ResponseMetadata>
</RestoreDBClusterFromS3Response>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RestoreDBClusterFromSnapshot

Creates a new DB cluster from a DB snapshot or DB cluster snapshot.

The target DB cluster is created from the source snapshot with a default configuration. If you don’t specify a security group, the new DB cluster is associated with the default security group.

**Note**
This action only restores the DB cluster, not the DB instances for that DB cluster. You must invoke the CreateDBInstance action to create DB instances for the restored DB cluster, specifying the identifier of the restored DB cluster in DBClusterIdentifier. You can create DB instances only after the RestoreDBClusterFromSnapshot action has completed and the DB cluster is available.

For more information on Amazon Aurora DB clusters, see [What is Amazon Aurora?](https://docs.aws.amazon.com/Aurora/latest/ug/index.html) in the Amazon Aurora User Guide.


### Request Parameters

For information about the parameters that are common to all actions, see [Common Parameters](https://docs.aws.amazon.com/AmazonRDS/latest/APIReference/Classes.CommonParameters.html) (p. 741).

**AvailabilityZones.AvailabilityZone.N**

Provides the list of Availability Zones (AZs) where instances in the restored DB cluster can be created.

- **Valid for:** Aurora DB clusters only
- **Type:** Array of strings
- **Required:** No

**BacktrackWindow**

The target backtrack window, in seconds. To disable backtracking, set this value to 0.

**Note**
Currently, Backtrack is only supported for Aurora MySQL DB clusters.

- **Default:** 0
- **Constraints:**
  - If specified, this value must be set to a number from 0 to 259,200 (72 hours).
- **Valid for:** Aurora DB clusters only
- **Type:** Long
- **Required:** No

**CopyTagsToSnapshot**

A value that indicates whether to copy all tags from the restored DB cluster to snapshots of the restored DB cluster. The default is not to copy them.

- **Valid for:** Aurora DB clusters and Multi-AZ DB clusters
- **Type:** Boolean
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**Required: No**

**DatabaseName**

The database name for the restored DB cluster.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**DBClusterIdentifier**

The name of the DB cluster to create from the DB snapshot or DB cluster snapshot. This parameter isn't case-sensitive.

Constraints:
- Must contain from 1 to 63 letters, numbers, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

Example: my-snapshot-id

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: Yes

**DBClusterInstanceClass**

The compute and memory capacity of each DB instance in the Multi-AZ DB cluster, for example db.m6gd.xlarge. Not all DB instance classes are available in all AWS Regions, or for all database engines.

For the full list of DB instance classes, and availability for your engine, see [DB Instance Class](#) in the [Amazon RDS User Guide](#).

Valid for: Multi-AZ DB clusters only

Type: String

Required: No

**DBClusterParameterGroupName**

The name of the DB cluster parameter group to associate with this DB cluster. If this argument is omitted, the default DB cluster parameter group for the specified engine is used.

Constraints:
- If supplied, must match the name of an existing default DB cluster parameter group.
- Must be 1 to 255 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No
**DBSubnetGroupName**

The name of the DB subnet group to use for the new DB cluster.

**Constraints:** If supplied, must match the name of an existing DB subnet group.

**Example:** mydbsubnetgroup

**Valid for:** Aurora DB clusters and Multi-AZ DB clusters

**Type:** String

**Required:** No

**DeletionProtection**

A value that indicates whether the DB cluster has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled.

**Valid for:** Aurora DB clusters and Multi-AZ DB clusters

**Type:** Boolean

**Required:** No

**Domain**

Specify the Active Directory directory ID to restore the DB cluster in. The domain must be created prior to this operation. Currently, only MySQL, Microsoft SQL Server, Oracle, and PostgreSQL DB instances can be created in an Active Directory Domain.

For more information, see [Kerberos Authentication](#) in the Amazon RDS User Guide.

**Valid for:** Aurora DB clusters only

**Type:** String

**Required:** No

**DomainIAMRoleName**

Specify the name of the IAM role to be used when making API calls to the Directory Service.

**Valid for:** Aurora DB clusters only

**Type:** String

**Required:** No

**EnableCloudwatchLogsExports.member.N**

The list of logs that the restored DB cluster is to export to Amazon CloudWatch Logs. The values in the list depend on the DB engine being used.

**RDS for MySQL**

Possible values are error, general, and slowquery.

**RDS for PostgreSQL**

Possible values are postgresql and upgrade.

**Aurora MySQL**
Possible values are audit, error, general, and slowquery.

**Aurora PostgreSQL**

Possible value is postgresql.

For more information about exporting CloudWatch Logs for Amazon RDS, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon RDS User Guide.

For more information about exporting CloudWatch Logs for Amazon Aurora, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Array of strings

Required: No

**EnableIAMDatabaseAuthentication**

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

For more information, see IAM Database Authentication in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: Boolean

Required: No

**Engine**

The database engine to use for the new DB cluster.

Default: The same as source

Constraint: Must be compatible with the engine of the source

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: Yes

**EngineMode**

The DB engine mode of the DB cluster, either provisioned, serverless, parallelquery, global, or multimaster.

For more information, see CreateDBCluster.

Valid for: Aurora DB clusters only

Type: String

Required: No

**EngineVersion**

The version of the database engine to use for the new DB cluster.

To list all of the available engine versions for MySQL 5.6-compatible Aurora, use the following command:
aws rds describe-db-engine-versions --engine aurora --query "DBEngineVersions[].EngineVersion"

To list all of the available engine versions for MySQL 5.7-compatible and MySQL 8.0-compatible Aurora, use the following command:

aws rds describe-db-engine-versions --engine aurora-mysql --query "DBEngineVersions[].EngineVersion"

To list all of the available engine versions for Aurora PostgreSQL, use the following command:

aws rds describe-db-engine-versions --engine aurora-postgresql --query "DBEngineVersions[].EngineVersion"

To list all of the available engine versions for RDS for MySQL, use the following command:

aws rds describe-db-engine-versions --engine mysql --query "DBEngineVersions[].EngineVersion"

To list all of the available engine versions for RDS for PostgreSQL, use the following command:

aws rds describe-db-engine-versions --engine postgres --query "DBEngineVersions[].EngineVersion"

**Aurora MySQL**

See [MySQL on Amazon RDS Versions](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/) in the *Amazon Aurora User Guide*.

**Aurora PostgreSQL**

See [Amazon Aurora PostgreSQL releases and engine versions](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/) in the *Amazon Aurora User Guide*.

**MySQL**

See [MySQL on Amazon RDS Versions](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/) in the *Amazon RDS User Guide*.

**PostgreSQL**

See [Amazon RDS for PostgreSQL versions and extensions](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/) in the *Amazon RDS User Guide*.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**Iops**

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for each DB instance in the Multi-AZ DB cluster.

For information about valid IOPS values, see [Amazon RDS Provisioned IOPS storage](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/) in the *Amazon RDS User Guide*.

Constraints: Must be a multiple between .5 and 50 of the storage amount for the DB instance.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Integer

Required: No
**KmsKeyId**

The AWS KMS key identifier to use when restoring an encrypted DB cluster from a DB snapshot or DB cluster snapshot.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key. To use a KMS key in a different AWS account, specify the key ARN or alias ARN.

When you don't specify a value for the KmsKeyId parameter, then the following occurs:

- If the DB snapshot or DB cluster snapshot in SnapshotIdentifier is encrypted, then the restored DB cluster is encrypted using the KMS key that was used to encrypt the DB snapshot or DB cluster snapshot.
- If the DB snapshot or DB cluster snapshot in SnapshotIdentifier isn't encrypted, then the restored DB cluster isn't encrypted.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**NetworkType**

The network type of the DB cluster.

Valid values:

- IPV4
- DUAL

The network type is determined by the DBSubnetGroup specified for the DB cluster. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: String

Required: No

**OptionGroupName**

The name of the option group to use for the restored DB cluster.

DB clusters are associated with a default option group that can't be modified.

Type: String

Required: No

**Port**

The port number on which the new DB cluster accepts connections.

Constraints: This value must be 1150-65535

Default: The same port as the original DB cluster.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Integer

Required: No
PubliclyAccessible

A value that indicates whether the DB cluster is publicly accessible.

When the DB cluster is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB cluster's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB cluster's VPC. Access to the DB cluster is ultimately controlled by the security group it uses. That public access is not permitted if the security group assigned to the DB cluster doesn't permit it.

When the DB cluster isn't publicly accessible, it is an internal DB cluster with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether DBSubnetGroupName is specified.

If DBSubnetGroupName isn't specified, and PubliclyAccessible isn't specified, the following applies:
• If the default VPC in the target Region doesn't have an internet gateway attached to it, the DB cluster is private.
• If the default VPC in the target Region has an internet gateway attached to it, the DB cluster is public.

If DBSubnetGroupName is specified, and PubliclyAccessible isn't specified, the following applies:
• If the subnets are part of a VPC that doesn't have an internet gateway attached to it, the DB cluster is private.
• If the subnets are part of a VPC that has an internet gateway attached to it, the DB cluster is public.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean

Required: No

ScalingConfiguration

For DB clusters in serverless DB engine mode, the scaling properties of the DB cluster.

Valid for: Aurora DB clusters only

Type: ScalingConfiguration (p. 720) object

Required: No

ServerlessV2ScalingConfiguration

Contains the scaling configuration of an Aurora Serverless v2 DB cluster.

For more information, see Using Amazon Aurora Serverless v2 in the Amazon Aurora User Guide.

Type: ServerlessV2ScalingConfiguration (p. 724) object

Required: No

SnapshotIdentifier

The identifier for the DB snapshot or DB cluster snapshot to restore from.

You can use either the name or the Amazon Resource Name (ARN) to specify a DB cluster snapshot. However, you can use only the ARN to specify a DB snapshot.
Constraints:
- Must match the identifier of an existing Snapshot.

Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: String
Required: Yes

**StorageType**

Specifies the storage type to be associated with each DB instance in the Multi-AZ DB cluster.

Valid values: io1
When specified, a value for the Iops parameter is required.
Default: io1
Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: String
Required: No

**Tags.Tag.N**

The tags to be assigned to the restored DB cluster.
Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: Array of Tag objects
Required: No

**VpcSecurityGroupIds.VpcSecurityGroupId.N**

A list of VPC security groups that the new DB cluster will belong to.
Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: Array of strings
Required: No

### Response Elements

The following element is returned by the service.

**DBCluster**

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster,
ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and
RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Type: DBCluster (p. 588) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterAlreadyExistsFault

The user already has a DB cluster with the given identifier.

HTTP Status Code: 400

DBClusterParameterGroupNotFound

DBClusterParameterGroupName doesn't refer to an existing DB cluster parameter group.

HTTP Status Code: 404

DBClusterQuotaExceededFault

The user attempted to create a new DB cluster and the user has already reached the maximum allowed DB cluster quota.

HTTP Status Code: 403

DBClusterSnapshotNotFoundFault

DBClusterSnapshotIdentifier doesn't refer to an existing DB cluster snapshot.

HTTP Status Code: 404

DBSnapshotNotFound

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

DBSubnetGroupNotFoundFault

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404

DBSubnetGroupNotFoundFault

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404

DomainNotFoundFault

Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404
InsufficientDBClusterCapacityFault
The DB cluster doesn't have enough capacity for the current operation.
HTTP Status Code: 403

InsufficientStorageClusterCapacity
There is insufficient storage available for the current action. You might be able to resolve this error by updating your subnet group to use different Availability Zones that have more storage available.
HTTP Status Code: 400

InvalidDBClusterSnapshotStateFault
The supplied value isn't a valid DB cluster snapshot state.
HTTP Status Code: 400

InvalidDBSnapshotState
The state of the DB snapshot doesn't allow deletion.
HTTP Status Code: 400

InvalidRestoreFault
Cannot restore from VPC backup to non-VPC DB instance.
HTTP Status Code: 400

InvalidSubnet
The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.
HTTP Status Code: 400

InvalidVPCNetworkStateFault
The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.
HTTP Status Code: 400

KMSKeyNotAccessibleFault
An error occurred accessing an AWS KMS key.
HTTP Status Code: 400

OptionGroupNotFoundFault
The specified option group could not be found.
HTTP Status Code: 404

StorageQuotaExceeded
The request would result in the user exceeding the allowed amount of storage available across all DB instances.
HTTP Status Code: 400

StorageQuotaExceeded
The request would result in the user exceeding the allowed amount of storage available across all DB instances.
HTTP Status Code: 400
Examples

Creating a new Aurora DB cluster from a snapshot

This example illustrates one usage of RestoreDBClusterFromSnapshot.

Sample Request

```xml
https://rds.us-west-2.amazonaws.com/
?Action=RestoreDBClusterFromSnapshot
&DBClusterIdentifier=sample-restored
&Engine=aurora
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SnapshotIdentifier=sample-snapshot-1
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20160913/us-west-2/rds/aws4_request
&X-Amz-Date=20160913T223701Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=65d0d03242d99a16ef3712142bfd52ac63fd268fbb5efd7edf1e89138da57
```

Sample Response

```xml
  <RestoreDBClusterFromSnapshotResult>
    <DBCluster>
      <AllocatedStorage>1</AllocatedStorage>
      <DatabaseName>sample</DatabaseName>
      <AvailabilityZones>
        <AvailabilityZone>us-west-2a</AvailabilityZone>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
        <AvailabilityZone>us-west-2c</AvailabilityZone>
      </AvailabilityZones>
      <PreferredBackupWindow>10:37-11:07</PreferredBackupWindow>
      <Endpoint>sample-restored.cluster-cnubrrevfka6.us-west-2.rds.amazonaws.com</Endpoint>
      <Engine>aurora</Engine>
      <ReaderEndpoint>sample-restored.cluster-ro-cnubrrevfka6.us-west-2.rds.amazonaws.com</ReaderEndpoint>
      <EngineVersion>5.6.10a</EngineVersion>
      <MasterUsername>mymasteruser</MasterUsername>
      <DBClusterParameterGroup>default.aurora5.6</DBClusterParameterGroup>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <Status>creating</Status>
    </DBCluster>
  </RestoreDBClusterFromSnapshotResult>
</RestoreDBClusterFromSnapshotResponse>
```
Creating a new Multi-AZ DB cluster from a snapshot

This example illustrates one usage of RestoreDBClusterFromSnapshot.

Sample Request

https://rds.us-west-2.amazonaws.com/?Action=RestoreDBClusterFromSnapshot
&DBClusterIdentifier=my-multi-az-cluster
&SnapshotIdentifier=multi-az-cluster-snap
&Engine=mysql
&DBClusterInstanceClass=db.r6gd.large
&StorageType=io1
&Iops=1000
&PubliclyAccessible=true
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIDQKE4SARGYLE/20211026/us-west-2/rds/aws4_request
&X-Amz-Date=20211027T000254Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=65d0d03242d99a16ef3712142bfcdf2ac65fd2f68fb5efd7edfb1e89138da57

Sample Response

  <RestoreDBClusterFromSnapshotResult>
    <DBCluster>
      <CrossAccountClone>false</CrossAccountClone>
      <AllocatedStorage>100</AllocatedStorage>
      <DatabaseName>mydb</DatabaseName>
      <AssociatedRoles />
      <AvailabilityZones>
        <AvailabilityZone>us-west-2a</AvailabilityZone>
        <AvailabilityZone>us-west-2b</AvailabilityZone>
        <AvailabilityZone>us-west-2c</AvailabilityZone>
      </AvailabilityZones>
      <ReadReplicaIdentifiers />
      <Iops>1000</Iops>
      <EngineVersion>8.0.26</EngineVersion>
      <MasterUsername>admin</MasterUsername>
      <DBClusterMembers>
        <DBClusterMember>
          <DBInstanceIdentifier>my-multi-az-cluster-instance-3</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
          <PromotionTier>1</PromotionTier>
          <IsClusterWriter>false</IsClusterWriter>
        </DBClusterMember>
        <DBClusterMember>
          <DBInstanceIdentifier>my-multi-az-cluster-instance-2</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
          <PromotionTier>1</PromotionTier>
          <IsClusterWriter>false</IsClusterWriter>
        </DBClusterMember>
        <DBClusterMember>
          <DBInstanceIdentifier>my-multi-az-cluster-instance-1</DBInstanceIdentifier>
          <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
          <PromotionTier>1</PromotionTier>
          <IsClusterWriter>false</IsClusterWriter>
        </DBClusterMember>
      </DBClusterMembers>
    </DBCluster>
  </RestoreDBClusterFromSnapshotResult>
</RestoreDBClusterFromSnapshotResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
RestoreDBClusterToPointInTime

Restores a DB cluster to an arbitrary point in time. Users can restore to any point in time before LatestRestorableTime for up to BackupRetentionPeriod days. The target DB cluster is created from the source DB cluster with the same configuration as the original DB cluster, except that the new DB cluster is created with the default DB security group.

**Note**
For Aurora, this action only restores the DB cluster, not the DB instances for that DB cluster. You must invoke the CreateDBInstance action to create DB instances for the restored DB cluster, specifying the identifier of the restored DB cluster in DBClusterIdentifier. You can create DB instances only after the RestoreDBClusterToPointInTime action has completed and the DB cluster is available.

For more information on Amazon Aurora DB clusters, see [What is Amazon Aurora?](https://docs.aws.amazon.com/AmazonAurora/latest/auroraguides/get-started.html) in the [Amazon Aurora User Guide](https://docs.aws.amazon.com/AmazonAurora/latest/auroraguides/get-started.html).


**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](p. 741).

**BacktrackWindow**

The target backtrack window, in seconds. To disable backtracking, set this value to 0.

Default: 0

Constraints:
- If specified, this value must be set to a number from 0 to 259,200 (72 hours).

Valid for: Aurora MySQL DB clusters only

Type: Long

Required: No

**CopyTagsToSnapshot**

A value that indicates whether to copy all tags from the restored DB cluster to snapshots of the restored DB cluster. The default is not to copy them.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean

Required: No

**DBClusterIdentifier**

The name of the new DB cluster to be created.

Constraints:
- Must contain from 1 to 63 letters, numbers, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens
Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: Yes

**DBClusterInstanceClass**

The compute and memory capacity of the each DB instance in the Multi-AZ DB cluster, for example db.m6gd.xlarge. Not all DB instance classes are available in all AWS Regions, or for all database engines.

For the full list of DB instance classes, and availability for your engine, see [DB instance class](#) in the [Amazon RDS User Guide](#).

Valid for: Multi-AZ DB clusters only

Type: String

Required: No

**DBClusterParameterGroupName**

The name of the DB cluster parameter group to associate with this DB cluster. If this argument is omitted, the default DB cluster parameter group for the specified engine is used.

Constraints:
- If supplied, must match the name of an existing DB cluster parameter group.
- Must be 1 to 255 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**DBSubnetGroupName**

The DB subnet group name to use for the new DB cluster.

Constraints: If supplied, must match the name of an existing DBSubnetGroup.

Example: mydbsubnetgroup

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No

**DeletionProtection**

A value that indicates whether the DB cluster has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Boolean

Required: No
Domain

Specify the Active Directory directory ID to restore the DB cluster in. The domain must be created prior to this operation.

For Amazon Aurora DB clusters, Amazon RDS can use Kerberos Authentication to authenticate users that connect to the DB cluster. For more information, see Kerberos Authentication in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: String

Required: No

DomainIAMRoleName

Specify the name of the IAM role to be used when making API calls to the Directory Service.

Valid for: Aurora DB clusters only

Type: String

Required: No

EnableCloudwatchLogsExports.member.N

The list of logs that the restored DB cluster is to export to CloudWatch Logs. The values in the list depend on the DB engine being used.

RDS for MySQL

Possible values are error, general, and slowquery.

RDS for PostgreSQL

Possible values are postgresql and upgrade.

Aurora MySQL

Possible values are audit, error, general, and slowquery.

Aurora PostgreSQL

Possible value is postgresql.

For more information about exporting CloudWatch Logs for Amazon RDS, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon RDS User Guide.

For more information about exporting CloudWatch Logs for Amazon Aurora, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Array of strings

Required: No

EnableIAMDatabaseAuthentication

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

For more information, see IAM Database Authentication in the Amazon Aurora User Guide.
Valid for: Aurora DB clusters only

Type: Boolean

Required: No

**EngineMode**

The engine mode of the new cluster. Specify `provisioned` or `serverless`, depending on the type of the cluster you are creating. You can create an Aurora Serverless v1 clone from a provisioned cluster, or a provisioned clone from an Aurora Serverless v1 cluster. To create a clone that is an Aurora Serverless v1 cluster, the original cluster must be an Aurora Serverless v1 cluster or an encrypted provisioned cluster.

Valid for: Aurora DB clusters only

Type: String

Required: No

**Iops**

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for each DB instance in the Multi-AZ DB cluster.

For information about valid IOPS values, see [Amazon RDS Provisioned IOPS storage](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_IOPSHowTo.html) in the *Amazon RDS User Guide*.

Constraints: Must be a multiple between .5 and 50 of the storage amount for the DB instance.

Valid for: Multi-AZ DB clusters only

Type: Integer

Required: No

**KmsKeyId**

The AWS KMS key identifier to use when restoring an encrypted DB cluster from an encrypted DB cluster.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key. To use a KMS key in a different AWS account, specify the key ARN or alias ARN.

You can restore to a new DB cluster and encrypt the new DB cluster with a KMS key that is different from the KMS key used to encrypt the source DB cluster. The new DB cluster is encrypted with the KMS key identified by the KmsKeyId parameter.

If you don't specify a value for the KmsKeyId parameter, then the following occurs:

- If the DB cluster is encrypted, then the restored DB cluster is encrypted using the KMS key that was used to encrypt the source DB cluster.
- If the DB cluster isn't encrypted, then the restored DB cluster isn't encrypted.

If DBClusterIdentifier refers to a DB cluster that isn't encrypted, then the restore request is rejected.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: String

Required: No
**NetworkType**

The network type of the DB cluster.

Valid values:
- IPV4
- DUAL

The network type is determined by the DBSubnetGroup specified for the DB cluster. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon Aurora User Guide.

Valid for: Aurora DB clusters only

Type: String

Required: No

**OptionGroupName**

The name of the option group for the new DB cluster.

DB clusters are associated with a default option group that can't be modified.

Type: String

Required: No

**Port**

The port number on which the new DB cluster accepts connections.

Constraints: A value from 1150-65535.

Default: The default port for the engine.

Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Integer

Required: No

**PubliclyAccessible**

A value that indicates whether the DB cluster is publicly accessible.

When the DB cluster is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB cluster's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB cluster's VPC. Access to the DB cluster is ultimately controlled by the security group it uses. That public access is not permitted if the security group assigned to the DB cluster doesn't permit it.

When the DB cluster isn't publicly accessible, it is an internal DB cluster with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether DBSubnetGroupName is specified.

If DBSubnetGroupName isn't specified, and PubliclyAccessible isn't specified, the following applies:
- If the default VPC in the target Region doesn't have an internet gateway attached to it, the DB cluster is private.
• If the default VPC in the target Region has an internet gateway attached to it, the DB cluster is public.

If DBSubnetGroupName is specified, and PubliclyAccessible isn't specified, the following applies:
• If the subnets are part of a VPC that doesn't have an internet gateway attached to it, the DB cluster is private.
• If the subnets are part of a VPC that has an internet gateway attached to it, the DB cluster is public.

Valid for: Multi-AZ DB clusters only
Type: Boolean
Required: No

**RestoreToTime**

The date and time to restore the DB cluster to.

Valid Values: Value must be a time in Universal Coordinated Time (UTC) format

Constraints:
• Must be before the latest restorable time for the DB instance
• Must be specified if UseLatestRestorableTime parameter isn't provided
• Can't be specified if the UseLatestRestorableTime parameter is enabled
• Can't be specified if the RestoreType parameter is copy-on-write

Example: 2015-03-07T23:45:00Z

Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: Timestamp
Required: No

**RestoreType**

The type of restore to be performed. You can specify one of the following values:
• full-copy - The new DB cluster is restored as a full copy of the source DB cluster.
• copy-on-write - The new DB cluster is restored as a clone of the source DB cluster.

Constraints: You can't specify copy-on-write if the engine version of the source DB cluster is earlier than 1.11.

If you don't specify a RestoreType value, then the new DB cluster is restored as a full copy of the source DB cluster.

Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: String
Required: No

**ScalingConfiguration**

For DB clusters in serverless DB engine mode, the scaling properties of the DB cluster.

Valid for: Aurora DB clusters only
Type: **ScalingConfiguration** (p. 720) object
Request Parameters

**ServerlessV2ScalingConfiguration**
Contains the scaling configuration of an Aurora Serverless v2 DB cluster.
For more information, see Using Amazon Aurora Serverless v2 in the Amazon Aurora User Guide.
Type: ServerlessV2ScalingConfiguration (p. 724) object

**SourceDBClusterIdentifier**
The identifier of the source DB cluster from which to restore.
Constraints:
• Must match the identifier of an existing DBCluster.
Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: String

**StorageType**
Specifies the storage type to be associated with the each DB instance in the Multi-AZ DB cluster.
Valid values: io1
When specified, a value for the Iops parameter is required.
Default: io1
Valid for: Multi-AZ DB clusters only
Type: String

**Tags.Tag.N**
A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.
Type: Array of Tag (p. 728) objects

**UseLatestRestorableTime**
A value that indicates whether to restore the DB cluster to the latest restorable backup time. By default, the DB cluster isn't restored to the latest restorable backup time.
Constraints: Can't be specified if RestoreToTime parameter is provided.
Valid for: Aurora DB clusters and Multi-AZ DB clusters
Type: Boolean

**VpcSecurityGroupIds.VpcSecurityGroupId.N**
A list of VPC security groups that the new DB cluster belongs to.
Valid for: Aurora DB clusters and Multi-AZ DB clusters

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

DBCluster

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Type: DBCluster (p. 588) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterAlreadyExistsFault

The user already has a DB cluster with the given identifier.

HTTP Status Code: 400

DBClusterNotFoundFault

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

DBClusterParameterGroupNotFound

DBClusterParameterGroupName doesn't refer to an existing DB cluster parameter group.

HTTP Status Code: 404

DBClusterQuotaExceededFault

The user attempted to create a new DB cluster and the user has already reached the maximum allowed DB cluster quota.
HTTP Status Code: 403  
**DBClusterSnapshotNotFoundFault**  
DBClusterSnapshotIdentifier doesn't refer to an existing DB cluster snapshot.

HTTP Status Code: 404  
**DBSubnetGroupNotFoundFault**  
DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404  
**DomainNotFoundFault**  
Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404  
**InsufficientDBClusterCapacityFault**  
The DB cluster doesn't have enough capacity for the current operation.

HTTP Status Code: 404  
**InsufficientStorageClusterCapacity**  
There is insufficient storage available for the current action. You might be able to resolve this error by updating your subnet group to use different Availability Zones that have more storage available.

HTTP Status Code: 400  
**InvalidDBClusterSnapshotStateFault**  
The supplied value isn't a valid DB cluster snapshot state.

HTTP Status Code: 400  
**InvalidDBClusterStateFault**  
The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400  
**InvalidDBSnapshotState**  
The state of the DB snapshot doesn't allow deletion.

HTTP Status Code: 400  
**InvalidRestoreFault**  
Cannot restore from VPC backup to non-VPC DB instance.

HTTP Status Code: 400  
**InvalidSubnet**  
The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400  
**InvalidVPCNetworkStateFault**  
The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400
KMSKeyNotAccessibleFault

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

OptionGroupNotFoundFault

The specified option group could not be found.

HTTP Status Code: 404

StorageQuotaExceeded

The request would result in the user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

Examples

Restoring an Aurora DB cluster to a point in time

This example illustrates one usage of RestoreDBClusterToPointInTime.

Sample Request


Sample Response

<RestoreDBClusterToPointInTimeResponse xmlns="http://rds.amazonaws.com/doc/2014-10-31/">
<RestoreDBClusterToPointInTimeResult>
<DBCluster>
<AllocatedStorage>1</AllocatedStorage>
<DatabaseName>sample</DatabaseName>
<AvailabilityZones>
<AvailabilityZone>us-west-2a</AvailabilityZone>
<AvailabilityZone>us-west-2b</AvailabilityZone>
<AvailabilityZone>us-west-2c</AvailabilityZone>
</AvailabilityZones>
<PreferredBackupWindow>10:37-11:07</PreferredBackupWindow>
<Endpoint>sample-restored-1.cluster-cnubrrfwkg6.us-west-2.rds.amazonaws.com</Endpoint>
<Engine>aurora</Engine>
<ReaderEndpoint>sample-restored-1.cluster-ro-cnubrrfwkg6.us-west-2.rds.amazonaws.com</ReaderEndpoint>
</DBCluster>
</RestoreDBClusterToPointInTimeResult>
</RestoreDBClusterToPointInTimeResponse>

API Version 2014-10-31
<EngineVersion>5.6.10a</EngineVersion>
<MasterUsername>mymasteruser</MasterUsername>
</DBClusterMembers/>
<StorageEncrypted>false</StorageEncrypted>
<DBSubnetGroup>default</DBSubnetGroup>
<HostedZoneId>Z1PVIF0822C11W</HostedZoneId>
<VpcSecurityGroups>
  <VpcSecurityGroupMembership>
    <VpcSecurityGroupId>sg-187c1671</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroupMembership>
</VpcSecurityGroups>
<Port>3306</Port>
<PreferredMaintenanceWindow>tue:11:51-tue:12:21</PreferredMaintenanceWindow>
<BackupRetentionPeriod>1</BackupRetentionPeriod>
<BackupRetentionPeriod>
<DBClusterIdentifier>sample-restored-1</DBClusterIdentifier>
</DBCluster>
</DBClusterArn>
</RestoreDBClusterToPointInTimeResult>
</RestoreDBClusterToPointInTimeResponse>

Restoring a Multi-AZ DB cluster to a point in time

This example illustrates one usage of RestoreDBClusterToPointInTime.

Sample Request

https://rds.us-west-2.amazonaws.com/
  ?Action=RestoreDBClusterToPointInTime
  &DBClusterIdentifier=my-multi-az-cluster-pit
  &SourceDBClusterIdentifier=my-multi-az-cluster
  &UseLatestRestorableTime=true
  &DBClusterInstanceClass=db.r6gd.large
  &StorageType=iop
  &Iops=1000
  &PubliclyAccessible=true
  &Version=2014-10-31
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20211026/us-west-2/rds/aws4_request
  &X-Amz-Date=20211027T000601Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=e3b88945052247e82eaeaca6e269e7f6e18a36147b45c3b077bc600472e70de6

Sample Response

<RestoreDBClusterToPointInTimeResponse xmlns="http://rds.amazonaws.com/doc/2014-10-31"/>
</RestoreDBClusterToPointInTimeResponse>

API Version 2014-10-31

500
<AvailabilityZone>us-west-2d</AvailabilityZone>
</AvailabilityZones>
<ReadReplicaIdentifiers />
<Iops>1000</Iops>
<EngineVersion>8.0.26</EngineVersion>
<MasterUsername>admin</MasterUsername>
<DBClusterMembers>
  <DBClusterMember>
    <DBInstanceIdentifier>my-multi-az-cluster-instance-3</DBInstanceIdentifier>
    <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
    <PromotionTier>1</PromotionTier>
    <IsClusterWriter>false</IsClusterWriter>
  </DBClusterMember>
  <DBClusterMember>
    <DBInstanceIdentifier>my-multi-az-cluster-instance-2</DBInstanceIdentifier>
    <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
    <PromotionTier>1</PromotionTier>
    <IsClusterWriter>false</IsClusterWriter>
  </DBClusterMember>
  <DBClusterMember>
    <DBInstanceIdentifier>my-multi-az-cluster-instance-1</DBInstanceIdentifier>
    <DBClusterParameterGroupStatus>in-sync</DBClusterParameterGroupStatus>
    <PromotionTier>1</PromotionTier>
    <IsClusterWriter>false</IsClusterWriter>
  </DBClusterMember>
</DBClusterMembers>
<HttpEndpointEnabled>false</HttpEndpointEnabled>
<Port>3306</Port>
<BackupRetentionPeriod>2</BackupRetentionPeriod>
<KmsKeyId>arn:aws:kms:us-west-2:123456789012:key/123EXAMPLE-abcd-4567-efgEXAMPLE</KmsKeyId>
<DBClusterIdentifier>my-multi-az-cluster-pit</DBClusterIdentifier>
<DbClusterResourceId>cluster-SA2CL64NMV4KTUP6PI4TJWLOM4</DbClusterResourceId>
<Status>creating</Status>
<PreferredBackupWindow>11:34-12:04</PreferredBackupWindow>
<DeletionProtection>false</DeletionProtection>
<Endpoint>my-multi-az-cluster.cluster-123456789012.us-west-2.rds.amazonaws.com</Endpoint>
<EngineMode>provisioned</EngineMode>
<Engine>mysql</Engine>
<ReaderEndpoint>my-multi-az-cluster.cluster-ro-123456789012.us-west-2.rds.amazonaws.com</ReaderEndpoint>
<PubliclyAccessible>true</PubliclyAccessible>
<IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
<ClusterCreateTime>2021-10-27T00:06:04.033Z</ClusterCreateTime>
<MultiAZ>true</MultiAZ>
<DomainMemberships />
<StorageEncrypted>true</StorageEncrypted>
<DBSubnetGroup>default</DBSubnetGroup>
<VpcSecurityGroups>
  <VpcSecurityGroupId>sg-6921cc28</VpcSecurityGroupId>
</VpcSecurityGroups>
<HostedZoneId>Z3GZ3VYA3PHTQ</HostedZoneId>
<TagList />
<PreferredMaintenanceWindow>sat:07:05-sat:07:35</PreferredMaintenanceWindow>
<DBClusterParameterGroup>my-cluster-param-1</DBClusterParameterGroup>
<StorageType>io1</StorageType>
<DBClusterInstanceClass>db.r6gd.large</DBClusterInstanceClass>
<CopyTagsToSnapshot>false</CopyTagsToSnapshot>
<AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
</DBCluster>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RestoreDBInstanceFromDBSnapshot

Creates a new DB instance from a DB snapshot. The target database is created from the source database restore point with most of the source's original configuration, including the default security group and DB parameter group. By default, the new DB instance is created as a Single-AZ deployment, except when the instance is a SQL Server instance that has an option group associated with mirroring. In this case, the instance becomes a Multi-AZ deployment, not a Single-AZ deployment.

If you want to replace your original DB instance with the new, restored DB instance, then rename your original DB instance before you call the RestoreDBInstanceFromDBSnapshot action. RDS doesn't allow two DB instances with the same name. After you have renamed your original DB instance with a different identifier, then you can pass the original name of the DB instance as the DBInstanceIdentifier in the call to the RestoreDBInstanceFromDBSnapshot action. The result is that you replace the original DB instance with the DB instance created from the snapshot.

If you are restoring from a shared manual DB snapshot, the DBSnapshotIdentifier must be the ARN of the shared DB snapshot.

**Note**
This command doesn't apply to Aurora MySQL and Aurora PostgreSQL. For Aurora, use RestoreDBClusterFromSnapshot.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](p. 741).

**AutoMinorVersionUpgrade**

A value that indicates whether minor version upgrades are applied automatically to the DB instance during the maintenance window.

If you restore an RDS Custom DB instance, you must disable this parameter.

Type: Boolean

Required: No

**AvailabilityZone**

The Availability Zone (AZ) where the DB instance will be created.

Default: A random, system-chosen Availability Zone.

Constraint: You can't specify the AvailabilityZone parameter if the DB instance is a Multi-AZ deployment.

Example: us-east-1a

Type: String

Required: No

**BackupTarget**

Specifies where automated backups and manual snapshots are stored for the restored DB instance.

Possible values are outposts (AWS Outposts) and region (AWS Region). The default is region.

For more information, see [Working with Amazon RDS on AWS Outposts](in the Amazon RDS User Guide).
Type: String
Required: No

**CopyTagsToSnapshot**

A value that indicates whether to copy all tags from the restored DB instance to snapshots of the DB instance.

In most cases, tags aren't copied by default. However, when you restore a DB instance from a DB snapshot, RDS checks whether you specify new tags. If yes, the new tags are added to the restored DB instance. If there are no new tags, RDS looks for the tags from the source DB instance for the DB snapshot, and then adds those tags to the restored DB instance.

For more information, see [Copying tags to DB instance snapshots](https://docs.aws.amazon.com/rds/latest/userguide) in the *Amazon RDS User Guide*.

Type: Boolean
Required: No

**CustomIamInstanceProfile**

The instance profile associated with the underlying Amazon EC2 instance of an RDS Custom DB instance. The instance profile must meet the following requirements:

- The profile must exist in your account.
- The profile must have an IAM role that Amazon EC2 has permissions to assume.
- The instance profile name and the associated IAM role name must start with the prefix `AWSRDSCustom`.

For the list of permissions required for the IAM role, see [Configure IAM and your VPC](https://docs.aws.amazon.com/rds/latest/userguide) in the *Amazon RDS User Guide*.

This setting is required for RDS Custom.

Type: String
Required: No

**DBInstanceClass**

The compute and memory capacity of the Amazon RDS DB instance, for example db.m4.large. Not all DB instance classes are available in all AWS Regions, or for all database engines. For the full list of DB instance classes, and availability for your engine, see [DB Instance Class](https://docs.aws.amazon.com/rds/latest/userguide) in the *Amazon RDS User Guide*.

Default: The same DBInstanceClass as the original DB instance.

Type: String
Required: No

**DBInstanceIdentifier**

Name of the DB instance to create from the DB snapshot. This parameter isn't case-sensitive.

Constraints:

- Must contain from 1 to 63 numbers, letters, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

Example: `my-snapshot-id`

Type: String
Required: Yes

**DBName**

The database name for the restored DB instance.

This parameter doesn't apply to the MySQL, PostgreSQL, or MariaDB engines. It also doesn't apply to RDS Custom DB instances.

Type: String

Required: No

**DBParameterGroupName**

The name of the DB parameter group to associate with this DB instance.

If you don't specify a value for DBParameterGroupName, then RDS uses the default DBParameterGroup for the specified DB engine.

This setting doesn't apply to RDS Custom.

Constraints:
- If supplied, must match the name of an existing DBParameterGroup.
- Must be 1 to 255 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

**DBSnapshotIdentifier**

The identifier for the DB snapshot to restore from.

Constraints:
- Must match the identifier of an existing DBSnapshot.
- If you are restoring from a shared manual DB snapshot, the DBSnapshotIdentifier must be the ARN of the shared DB snapshot.

Type: String

Required: Yes

**DBSubnetGroupName**

The DB subnet group name to use for the new instance.

Constraints: If supplied, must match the name of an existing DBSubnetGroup.

Example: mydbsubnetgroup

Type: String

Required: No

**DeletionProtection**

A value that indicates whether the DB instance has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled. For more information, see Deleting a DB Instance.

Type: Boolean
Required: No

Domain

Specify the Active Directory directory ID to restore the DB instance in. The domain/ must be created prior to this operation. Currently, you can create only MySQL, Microsoft SQL Server, Oracle, and PostgreSQL DB instances in an Active Directory Domain.

For more information, see Kerberos Authentication in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

DomainIAMRoleName

Specify the name of the IAM role to be used when making API calls to the Directory Service.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

EnableCloudwatchLogsExports.member.N

The list of logs that the restored DB instance is to export to CloudWatch Logs. The values in the list depend on the DB engine being used. For more information, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Type: Array of strings

Required: No

EnableCustomerOwnedIp

A value that indicates whether to enable a customer-owned IP address (CoIP) for an RDS on Outposts DB instance.

A CoIP provides local or external connectivity to resources in your Outpost subnets through your on-premises network. For some use cases, a CoIP can provide lower latency for connections to the DB instance from outside of its virtual private cloud (VPC) on your local network.

This setting doesn't apply to RDS Custom.

For more information about RDS on Outposts, see Working with Amazon RDS on AWS Outposts in the Amazon RDS User Guide.

For more information about CoIPs, see Customer-owned IP addresses in the AWS Outposts User Guide.

Type: Boolean

Required: No

EnableIAMDatabaseAuthentication

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping is disabled.

For more information about IAM database authentication, see IAM Database Authentication for MySQL and PostgreSQL in the Amazon RDS User Guide.
Request Parameters

This setting doesn't apply to RDS Custom.

**Engine**

The database engine to use for the new instance.

This setting doesn't apply to RDS Custom.

Default: The same as source

Constraint: Must be compatible with the engine of the source. For example, you can restore a MariaDB 10.1 DB instance from a MySQL 5.6 snapshot.

Valid Values:

- mariadb
- mysql
- oracle-ee
- oracle-ee-cdb
- oracle-se2
- oracle-se2-cdb
- postgres
- sqlserver-ee
- sqlserver-se
- sqlserver-ex
- sqlserver-web

**Iops**

Specifies the amount of provisioned IOPS for the DB instance, expressed in I/O operations per second. If this parameter isn't specified, the IOPS value is taken from the backup. If this parameter is set to 0, the new instance is converted to a non-PIOPS instance. The conversion takes additional time, though your DB instance is available for connections before the conversion starts.

The provisioned IOPS value must follow the requirements for your database engine. For more information, see Amazon RDS Provisioned IOPS storage in the Amazon RDS User Guide.

Constraints: Must be an integer greater than 1000.

**LicenseModel**

License model information for the restored DB instance.

This setting doesn't apply to RDS Custom.

Default: Same as source.

Valid values: license-included | bring-your-own-license | general-public-license

Type: String
Request Parameters

**MultiAZ**

A value that indicates whether the DB instance is a Multi-AZ deployment.

This setting doesn't apply to RDS Custom.

Constraint: You can't specify the AvailabilityZone parameter if the DB instance is a Multi-AZ deployment.

Type: Boolean

**NetworkType**

The network type of the DB instance.

Valid values:
- IPV4
- DUAL

The network type is determined by the DBSubnetGroup specified for the DB instance. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon RDS User Guide.

Type: String

**OptionGroupName**

The name of the option group to be used for the restored DB instance.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, can't be removed from an option group, and that option group can't be removed from a DB instance after it is associated with a DB instance.

This setting doesn't apply to RDS Custom.

Type: String

**Port**

The port number on which the database accepts connections.

Default: The same port as the original DB instance

Constraints: Value must be 1150-65535

Type: Integer

**ProcessorFeatures.ProcessorFeature.N**

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance.

This setting doesn't apply to RDS Custom.

Type: Array of ProcessorFeature (p. 709) objects
Required: No

**PubliclyAccessible**

A value that indicates whether the DB instance is publicly accessible.

When the DB instance is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB instance's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB instance's VPC. Access to the DB instance is ultimately controlled by the security group it uses. That public access is not permitted if the security group assigned to the DB instance doesn't permit it.

When the DB instance isn't publicly accessible, it is an internal DB instance with a DNS name that resolves to a private IP address.

For more information, see [CreateDBInstance (p. 85)](p.85).

Type: Boolean

Required: No

**StorageThroughput**

Specifies the storage throughput value for the DB instance.

This setting doesn't apply to RDS Custom or Amazon Aurora.

Type: Integer

Required: No

**StorageType**

Specifies the storage type to be associated with the DB instance.

Valid values: gp2 | gp3 | io1 | standard

If you specify io1 or gp3, you must also include a value for the Iops parameter.

Default: io1 if the Iops parameter is specified, otherwise gp2

Type: String

Required: No

**Tags.Tag.N**

A list of tags. For more information, see [Tagging Amazon RDS Resources](p.728) in the [Amazon RDS User Guide](p.728).

Type: Array of Tag (p. 728) objects

Required: No

**TdeCredentialArn**

The ARN from the key store with which to associate the instance for TDE encryption.

This setting doesn't apply to RDS Custom.

Type: String

Required: No

**TdeCredentialPassword**

The password for the given ARN from the key store in order to access the device.
Response Elements

The following element is returned by the service.

**DBInstance**

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: **DBInstance** (p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**AuthorizationNotFound**

The specified CIDR IP range or Amazon EC2 security group might not be authorized for the specified DB security group.

Or, RDS might not be authorized to perform necessary actions using IAM on your behalf.

HTTP Status Code: 404

**BackupPolicyNotFoundFault**

*This error has been deprecated.*
HTTP Status Code: 404

**DBInstanceAlreadyExists**

The user already has a DB instance with the given identifier.

HTTP Status Code: 400

**DBParameterGroupNameNotFound**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

**DBSecurityGroupNameNotFound**

DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404

**DBSnapshotIdentifierNotFound**

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

**DBSubnetGroupDoesNotCoverEnoughAZs**

Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.

HTTP Status Code: 400

**DBSubnetGroupNameNotFoundFault**

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404

**DomainNameNotFoundFault**

Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404

**InstanceQuotaExceeded**

The request would result in the user exceeding the allowed number of DB instances.

HTTP Status Code: 400

**InsufficientDBInstanceCapacity**

The specified DB instance class isn't available in the specified Availability Zone.

HTTP Status Code: 400

**InvalidDBSnapshotState**

The state of the DB snapshot doesn't allow deletion.

HTTP Status Code: 400

**InvalidRestoreFault**

Cannot restore from VPC backup to non-VPC DB instance.

HTTP Status Code: 400
InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

InvalidVPCNetworkStateFault

The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400

KMSKeyNotAccessibleFault

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

NetworkTypeNotSupported

The network type is invalid for the DB instance. Valid network type values are IPV4 and DUAL.

HTTP Status Code: 400

OptionGroupNotFoundFault

The specified option group could not be found.

HTTP Status Code: 404

ProvisionedIopsNotAvailableInAZFault

Provisioned IOPS not available in the specified Availability Zone.

HTTP Status Code: 400

StorageQuotaExceeded

The request would result in the user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

StorageTypeNotSupported

Storage of the StorageType specified can't be associated with the DB instance.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of RestoreDBInstanceFromDBSnapshot.

Sample Request

https://rds.us-east-1.amazonaws.com/
  ?Action=RestoreDBInstanceFromDBSnapshot
  &DBInstanceIdentifier=mysqldb-restored
  &DBSnapshotIdentifier=rds%3Amysqldb-2014-04-22-08-15
  &SignatureMethod=HmacSHA256
Sample Response

```xml
<RestoreDBInstanceFromDBSnapshotResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <DBInstance>
    <DBInstanceIdentifier>mysqldb-restored</DBInstanceIdentifier>
    <DBInstanceStatus>creating</DBInstanceStatus>
    <DBParameterGroups>
      <DBParameterGroup>
        <DBParameterGroupName>default.mysql5.6</DBParameterGroupName>
      </DBParameterGroup>
    </DBParameterGroups>
    <OptionGroupMemberships>
      <OptionGroupMembership>
        <OptionGroupName>default:mysql-5-6</OptionGroupName>
        <Status>pending-apply</Status>
      </OptionGroupMembership>
    </OptionGroupMemberships>
    <PubliclyAccessible>true</PubliclyAccessible>
    <DBSecurityGroups>
      <DBSecurityGroup>
        <Status>active</Status>
      </DBSecurityGroup>
    </DBSecurityGroups>
    <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
    <AllocatedStorage>100</AllocatedStorage>
    <MasterUsername>myawsuser</MasterUsername>
    <DBInstanceClass>db.m1.medium</DBInstanceClass>
  </DBInstance>
</RestoreDBInstanceFromDBSnapshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
See Also

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
Amazon Relational Database Service (Amazon RDS) supports importing MySQL databases by using backup files. You can create a backup of your on-premises database, store it on Amazon Simple Storage Service (Amazon S3), and then restore the backup file onto a new Amazon RDS DB instance running MySQL. For more information, see Importing Data into an Amazon RDS MySQL DB Instance in the Amazon RDS User Guide.

This command doesn't apply to RDS Custom.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**AllocatedStorage**

The amount of storage (in gigabytes) to allocate initially for the DB instance. Follow the allocation rules specified in CreateDBInstance.

*Note*

Be sure to allocate enough memory for your new DB instance so that the restore operation can succeed. You can also allocate additional memory for future growth.

Type: Integer

Required: No

**AutoMinorVersionUpgrade**

A value that indicates whether minor engine upgrades are applied automatically to the DB instance during the maintenance window. By default, minor engine upgrades are not applied automatically.

Type: Boolean

Required: No

**AvailabilityZone**

The Availability Zone that the DB instance is created in. For information about AWS Regions and Availability Zones, see Regions and Availability Zones in the Amazon RDS User Guide.

Default: A random, system-chosen Availability Zone in the endpoint's AWS Region.

Example: us-east-1d

Constraint: The AvailabilityZone parameter can't be specified if the DB instance is a Multi-AZ deployment. The specified Availability Zone must be in the same AWS Region as the current endpoint.

Type: String

Required: No

**BackupRetentionPeriod**

The number of days for which automated backups are retained. Setting this parameter to a positive number enables backups. For more information, see CreateDBInstance.

Type: Integer

Required: No
CopyTagsToSnapshot

A value that indicates whether to copy all tags from the DB instance to snapshots of the DB instance. By default, tags are not copied.

Type: Boolean
Required: No

DBInstanceClass

The compute and memory capacity of the DB instance, for example db.m4.large. Not all DB instance classes are available in all AWS Regions, or for all database engines. For the full list of DB instance classes, and availability for your engine, see DB Instance Class in the Amazon RDS User Guide.

Importing from Amazon S3 isn't supported on the db.t2.micro DB instance class.

Type: String
Required: Yes

DBInstanceIdentifier

The DB instance identifier. This parameter is stored as a lowercase string.

Constraints:
- Must contain from 1 to 63 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

Example: mydbinstance

Type: String
Required: Yes

DBName

The name of the database to create when the DB instance is created. Follow the naming rules specified in CreateDBInstance.

Type: String
Required: No

DBParameterGroupName

The name of the DB parameter group to associate with this DB instance.

If you do not specify a value for DBParameterGroupName, then the default DBParameterGroup for the specified DB engine is used.

Type: String
Required: No

DBSecurityGroups.DBSecurityGroupName.N

A list of DB security groups to associate with this DB instance.

Default: The default DB security group for the database engine.

Type: Array of strings
Request Parameters

**DBSubnetGroupName**

A DB subnet group to associate with this DB instance.

Constraints: If supplied, must match the name of an existing DBSubnetGroup.

Example: `mydbsubnetgroup`

Type: String

**DeletionProtection**

A value that indicates whether the DB instance has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled. For more information, see [Deleting a DB Instance](#).

Type: Boolean

**EnableCloudwatchLogsExports.member.N**

The list of logs that the restored DB instance is to export to CloudWatch Logs. The values in the list depend on the DB engine being used. For more information, see [Publishing Database Logs to Amazon CloudWatch Logs](#) in the [Amazon RDS User Guide](#).

Type: Array of strings

**EnableIAMDatabaseAuthentication**

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

For more information about IAM database authentication, see [IAM Database Authentication for MySQL and PostgreSQL](#) in the [Amazon RDS User Guide](#).

Type: Boolean

**EnablePerformanceInsights**

A value that indicates whether to enable Performance Insights for the DB instance.

For more information, see [Using Amazon Performance Insights](#) in the [Amazon RDS User Guide](#).

Type: Boolean

**Engine**

The name of the database engine to be used for this instance.

Valid Values: `mysql`

Type: String

Required: Yes
**EngineVersion**

The version number of the database engine to use. Choose the latest minor version of your database engine. For information about engine versions, see CreateDBInstance, or call DescribeDBEngineVersions.

Type: String

Required: No

**Iops**

The amount of Provisioned IOPS (input/output operations per second) to allocate initially for the DB instance. For information about valid IOPS values, see Amazon RDS Provisioned IOPS storage in the Amazon RDS User Guide.

Type: Integer

Required: No

**KmsKeyId**

The AWS KMS key identifier for an encrypted DB instance.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key. To use a KMS key in a different AWS account, specify the key ARN or alias ARN.

If the StorageEncrypted parameter is enabled, and you do not specify a value for the KmsKeyId parameter, then Amazon RDS will use your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.

Type: String

Required: No

**LicenseModel**

The license model for this DB instance. Use general-public-license.

Type: String

Required: No

**MasterUsername**

The name for the master user.

Constraints:
- Must be 1 to 16 letters or numbers.
- First character must be a letter.
- Can't be a reserved word for the chosen database engine.

Type: String

Required: No

**MasterUserPassword**

The password for the master user. The password can include any printable ASCII character except "/", """, or "@".

Constraints: Must contain from 8 to 41 characters.

Type: String
Request Parameters

Required: No

**MaxAllocatedStorage**

The upper limit in gibibytes (GiB) to which Amazon RDS can automatically scale the storage of the DB instance.

For more information about this setting, including limitations that apply to it, see Managing capacity automatically with Amazon RDS storage autoscaling in the Amazon RDS User Guide.

Type: Integer

Required: No

**MonitoringInterval**

The interval, in seconds, between points when Enhanced Monitoring metrics are collected for the DB instance. To disable collecting Enhanced Monitoring metrics, specify 0.

If MonitoringRoleArn is specified, then you must also set MonitoringInterval to a value other than 0.

Valid Values: 0, 1, 5, 10, 15, 30, 60

Default: 0

Type: Integer

Required: No

**MonitoringRoleArn**

The ARN for the IAM role that permits RDS to send enhanced monitoring metrics to Amazon CloudWatch Logs. For example, arn:aws:iam:123456789012:role/emaccess. For information on creating a monitoring role, see Setting Up and Enabling Enhanced Monitoring in the Amazon RDS User Guide.

If MonitoringInterval is set to a value other than 0, then you must supply a MonitoringRoleArn value.

Type: String

Required: No

**MultiAZ**

A value that indicates whether the DB instance is a Multi-AZ deployment. If the DB instance is a Multi-AZ deployment, you can't set the AvailabilityZone parameter.

Type: Boolean

Required: No

**NetworkType**

The network type of the DB instance.

Valid values:

- IPV4
- DUAL

The network type is determined by the DBSubnetGroup specified for the DB instance. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).
For more information, see Working with a DB instance in a VPC in the Amazon RDS User Guide.

Type: String
Required: No

**OptionGroupName**

The name of the option group to associate with this DB instance. If this argument is omitted, the default option group for the specified engine is used.

Type: String
Required: No

**PerformanceInsightsKMSKeyId**

The AWS KMS key identifier for encryption of Performance Insights data.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

If you do not specify a value for PerformanceInsightsKMSKeyId, then Amazon RDS uses your default KMS key. There is a default KMS key for your AWS account. Your AWS account has a different default KMS key for each AWS Region.

Type: String
Required: No

**PerformanceInsightsRetentionPeriod**

The number of days to retain Performance Insights data. The default is 7 days. The following values are valid:

- 7
- month * 31, where month is a number of months from 1-23
- 731

For example, the following values are valid:

- 93 (3 months * 31)
- 341 (11 months * 31)
- 589 (19 months * 31)
- 731

If you specify a retention period such as 94, which isn't a valid value, RDS issues an error.

Type: Integer
Required: No

**Port**

The port number on which the database accepts connections.

Type: Integer

Valid Values: 1150-65535

Default: 3306

Type: Integer
Required: No
**PreferredBackupWindow**

The time range each day during which automated backups are created if automated backups are enabled. For more information, see Backup window in the Amazon RDS User Guide.

Constraints:
- Must be in the format hh24:mi-hh24:mi.
- Must be in Universal Coordinated Time (UTC).
- Must not conflict with the preferred maintenance window.
- Must be at least 30 minutes.

Type: String  
Required: No

**PreferredMaintenanceWindow**

The time range each week during which system maintenance can occur, in Universal Coordinated Time (UTC). For more information, see Amazon RDS Maintenance Window in the Amazon RDS User Guide.

Constraints:
- Must be in the format ddd:hh24:mi-ddd:hh24:mi.
- Valid Days: Mon, Tue, Wed, Thu, Fri, Sat, Sun.
- Must be in Universal Coordinated Time (UTC).
- Must not conflict with the preferred backup window.
- Must be at least 30 minutes.

Type: String  
Required: No

**ProcessorFeatures.ProcessorFeature.N**

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance.

Type: Array of ProcessorFeature (p. 709) objects  
Required: No

**PubliclyAccessible**

A value that indicates whether the DB instance is publicly accessible.

When the DB instance is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB instance’s virtual private cloud (VPC). It resolves to the public IP address from outside of the DB instance’s VPC. Access to the DB instance is ultimately controlled by the security group it uses. That public access is not permitted if the security group assigned to the DB instance doesn't permit it.

When the DB instance isn't publicly accessible, it is an internal DB instance with a DNS name that resolves to a private IP address.

For more information, see CreateDBInstance (p. 85).

Type: Boolean  
Required: No
S3BucketName
The name of your Amazon S3 bucket that contains your database backup file.
Type: String
Required: Yes

S3IngestionRoleArn
An AWS Identity and Access Management (IAM) role to allow Amazon RDS to access your Amazon S3 bucket.
Type: String
Required: Yes

S3Prefix
The prefix of your Amazon S3 bucket.
Type: String
Required: No

SourceEngine
The name of the engine of your source database.
Valid Values: mysql
Type: String
Required: Yes

SourceEngineVersion
The version of the database that the backup files were created from.
MySQL versions 5.6 and 5.7 are supported.
Example: 5.6.40
Type: String
Required: Yes

StorageEncrypted
A value that indicates whether the new DB instance is encrypted or not.
Type: Boolean
Required: No

StorageThroughput
Specifies the storage throughput value for the DB instance.
This setting doesn't apply to RDS Custom or Amazon Aurora.
Type: Integer
Required: No

StorageType
Specifies the storage type to be associated with the DB instance.
Valid values: gp2 | gp3 | io1 | standard

If you specify io1 or gp3, you must also include a value for the Iops parameter.

Default: io1 if the Iops parameter is specified; otherwise gp2

Type: String

Required: No

Tags.Tag.N

A list of tags to associate with this DB instance. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

UseDefaultProcessorFeatures

A value that indicates whether the DB instance class of the DB instance uses its default processor features.

Type: Boolean

Required: No

VpcSecurityGroupIds.VpcSecurityGroupId.N

A list of VPC security groups to associate with this DB instance.

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

DBInstance

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: DBInstance (p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

AuthorizationNotFound

The specified CIDR IP range or Amazon EC2 security group might not be authorized for the specified DB security group.
Or, RDS might not be authorized to perform necessary actions using IAM on your behalf.

HTTP Status Code: 404

**BackupPolicyNotFoundFault**

This error has been deprecated.

HTTP Status Code: 404

**DBInstanceAlreadyExists**

The user already has a DB instance with the given identifier.

HTTP Status Code: 400

**DBParameterGroupNotFound**

DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404

**DBSecurityGroupNotFound**

DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404

**DBSubnetGroupDoesNotCoverEnoughAZs**

Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.

HTTP Status Code: 400

**DBSubnetGroupNotFoundFault**

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404

**InstanceQuotaExceeded**

The request would result in the user exceeding the allowed number of DB instances.

HTTP Status Code: 400

**InsufficientDBInstanceCapacity**

The specified DB instance class isn't available in the specified Availability Zone.

HTTP Status Code: 400

**InvalidS3BucketFault**

The specified Amazon S3 bucket name can't be found or Amazon RDS isn't authorized to access the specified Amazon S3 bucket. Verify the **SourceS3BucketName** and **S3IngestionRoleArn** values and try again.

HTTP Status Code: 400

**InvalidSubnet**

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400
InvalidVPCNetworkStateFault

The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400

KMSKeyNotAccessibleFault

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

NetworkTypeNotSupported

The network type is invalid for the DB instance. Valid network type values are IPV4 and DUAL.

HTTP Status Code: 400

OptionGroupNotFoundFault

The specified option group could not be found.

HTTP Status Code: 404

ProvisionedIopsNotAvailableInAZFault

Provisioned IOPS not available in the specified Availability Zone.

HTTP Status Code: 400

StorageQuotaExceeded

The request would result in the user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

StorageTypeNotSupported

Storage of the StorageType specified can't be associated with the DB instance.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
**RestoreDBInstanceToPointInTime**

Restores a DB instance to an arbitrary point in time. You can restore to any point in time before the time identified by the LatestRestorableTime property. You can restore to a point up to the number of days specified by the BackupRetentionPeriod property.

The target database is created with most of the original configuration, but in a system-selected Availability Zone, with the default security group, the default subnet group, and the default DB parameter group. By default, the new DB instance is created as a single-AZ deployment except when the instance is a SQL Server instance that has an option group that is associated with mirroring; in this case, the instance becomes a mirrored deployment and not a single-AZ deployment.

**Note**
This command doesn't apply to Aurora MySQL and Aurora PostgreSQL. For Aurora, use RestoreDBClusterToPointInTime.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**AutoMinorVersionUpgrade**

A value that indicates whether minor version upgrades are applied automatically to the DB instance during the maintenance window.

This setting doesn't apply to RDS Custom.

Type: Boolean

Required: No

**AvailabilityZone**

The Availability Zone (AZ) where the DB instance will be created.

Default: A random, system-chosen Availability Zone.

Constraint: You can't specify the AvailabilityZone parameter if the DB instance is a Multi-AZ deployment.

Example: us-east-1a

Type: String

Required: No

**BackupTarget**

Specifies where automated backups and manual snapshots are stored for the restored DB instance.

Possible values are outposts (AWS Outposts) and region (AWS Region). The default is region.

For more information, see Working with Amazon RDS on AWS Outposts in the Amazon RDS User Guide.

Type: String

Required: No
CopyTagsToSnapshot

A value that indicates whether to copy all tags from the restored DB instance to snapshots of the DB instance. By default, tags are not copied.

Type: Boolean
Required: No

CustomIamInstanceProfile

The instance profile associated with the underlying Amazon EC2 instance of an RDS Custom DB instance. The instance profile must meet the following requirements:

• The profile must exist in your account.
• The profile must have an IAM role that Amazon EC2 has permissions to assume.
• The instance profile name and the associated IAM role name must start with the prefix AWSRDSCustom.

For the list of permissions required for the IAM role, see Configure IAM and your VPC in the Amazon RDS User Guide.

This setting is required for RDS Custom.

Type: String
Required: No

DBInstanceClass

The compute and memory capacity of the Amazon RDS DB instance, for example db.m4.large. Not all DB instance classes are available in all AWS Regions, or for all database engines. For the full list of DB instance classes, and availability for your engine, see DB Instance Class in the Amazon RDS User Guide.

Default: The same DBInstanceClass as the original DB instance.

Type: String
Required: No

DBName

The database name for the restored DB instance.

Note
This parameter isn't supported for the MySQL or MariaDB engines. It also doesn't apply to RDS Custom.

Type: String
Required: No

DBParameterGroupName

The name of the DB parameter group to associate with this DB instance.

If you do not specify a value for DBParameterGroupName, then the default DBParameterGroup for the specified DB engine is used.

This setting doesn't apply to RDS Custom.

Constraints:
• If supplied, must match the name of an existing DBParameterGroup.
Amazon Relational Database Service API Reference
Request Parameters

- Must be 1 to 255 letters, numbers, or hyphens.
- First character must be a letter.
- Can't end with a hyphen or contain two consecutive hyphens.

**DBSubnetGroupName**

The DB subnet group name to use for the new instance.

Constraints: If supplied, must match the name of an existing DBSubnetGroup.

Example: mydbsubnetgroup

**DeletionProtection**

A value that indicates whether the DB instance has deletion protection enabled. The database can't be deleted when deletion protection is enabled. By default, deletion protection isn't enabled. For more information, see [Deleting a DB Instance](#).

**Domain**

Specify the Active Directory directory ID to restore the DB instance in. Create the domain before running this command. Currently, you can create only the MySQL, Microsoft SQL Server, Oracle, and PostgreSQL DB instances in an Active Directory Domain.

This setting doesn't apply to RDS Custom.

For more information, see [Kerberos Authentication](#) in the Amazon RDS User Guide.

**DomainIAMRoleName**

Specify the name of the IAM role to be used when making API calls to the Directory Service.

This setting doesn't apply to RDS Custom.

**EnableCloudwatchLogsExports.member.N**

The list of logs that the restored DB instance is to export to CloudWatch Logs. The values in the list depend on the DB engine being used. For more information, see [Publishing Database Logs to Amazon CloudWatch Logs](#) in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.
EnableCustomerOwnedIp

A value that indicates whether to enable a customer-owned IP address (CoIP) for an RDS on Outposts DB instance.

A CoIP provides local or external connectivity to resources in your Outpost subnets through your on-premises network. For some use cases, a CoIP can provide lower latency for connections to the DB instance from outside of its virtual private cloud (VPC) on your local network.

This setting doesn't apply to RDS Custom.

For more information about RDS on Outposts, see [Working with Amazon RDS on AWS Outposts](https://docs.aws.amazon.com/rds/latest/ouputst指导/outposts指导/working-with-amazon-rds-on-aws-outposts.html) in the [Amazon RDS User Guide](https://docs.aws.amazon.com/rds/latest/userguide/index.html).

For more information about CoIPs, see [Customer-owned IP addresses](https://docs.aws.amazon.com/(outposts指导/customer-owned-ips.html) in the [AWS Outposts User Guide](https://docs.aws.amazon.com/ouputst指导/ouputst指导.html).

Type: Boolean

Required: No

EnableIAMDatabaseAuthentication

A value that indicates whether to enable mapping of AWS Identity and Access Management (IAM) accounts to database accounts. By default, mapping isn't enabled.

This setting doesn't apply to RDS Custom.

For more information about IAM database authentication, see [IAM Database Authentication for MySQL and PostgreSQL](https://docs.aws.amazon.com/rds/latest/userguide/DB-Integrations.IAM.html) in the [Amazon RDS User Guide](https://docs.aws.amazon.com/rds/latest/userguide/index.html).

Type: Boolean

Required: No

Engine

The database engine to use for the new instance.

This setting doesn't apply to RDS Custom.

Default: The same as source

Constraint: Must be compatible with the engine of the source

Valid Values:
- mariadb
- mysql
- oracle-ee
- oracle-ee-cdb
- oracle-se2
- oracle-se2-cdb
- postgres
- sqlserver-ee
- sqlserver-se
- sqlserver-ex
- sqlserver-web

Type: String
Required: No

**Iops**

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for the DB instance.

Constraints: Must be an integer greater than 1000.

**SQL Server**

Setting the IOPS value for the SQL Server database engine isn't supported.

Type: Integer

Required: No

**LicenseModel**

License model information for the restored DB instance.

This setting doesn't apply to RDS Custom.

Default: Same as source.

Valid values: license-included | bring-your-own-license | general-public-license

Type: String

Required: No

**MaxAllocatedStorage**

The upper limit in gibibytes (GiB) to which Amazon RDS can automatically scale the storage of the DB instance.

For more information about this setting, including limitations that apply to it, see Managing capacity automatically with Amazon RDS storage autoscaling in the Amazon RDS User Guide.

This setting doesn't apply to RDS Custom.

Type: Integer

Required: No

**MultiAZ**

A value that indicates whether the DB instance is a Multi-AZ deployment.

This setting doesn't apply to RDS Custom.

Constraint: You can't specify the AvailabilityZone parameter if the DB instance is a Multi-AZ deployment.

Type: Boolean

Required: No

**NetworkType**

The network type of the DB instance.

Valid values:
- IPV4
- DUAL
The network type is determined by the `DBSubnetGroup` specified for the DB instance. A `DBSubnetGroup` can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon RDS User Guide.

**Type:** String

**Required:** No

**OptionGroupName**

The name of the option group to be used for the restored DB instance.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, can't be removed from an option group, and that option group can't be removed from a DB instance after it is associated with a DB instance.

This setting doesn't apply to RDS Custom.

**Type:** String

**Required:** No

**Port**

The port number on which the database accepts connections.

**Constraints:** Value must be 1150-65535

**Default:** The same port as the original DB instance.

**Type:** Integer

**Required:** No

**ProcessorFeatures.ProcessorFeature.N**

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance.

This setting doesn't apply to RDS Custom.

**Type:** Array of ProcessorFeature (p. 709) objects

**Required:** No

**PubliclyAccessible**

A value that indicates whether the DB instance is publicly accessible.

When the DB cluster is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB cluster's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB cluster's VPC. Access to the DB cluster is ultimately controlled by the security group it uses. That public access isn't permitted if the security group assigned to the DB cluster doesn't permit it.

When the DB instance isn't publicly accessible, it is an internal DB instance with a DNS name that resolves to a private IP address.

For more information, see CreateDBInstance (p. 85).

**Type:** Boolean

**Required:** No
**Request Parameters**

**RestoreTime**

The date and time to restore from.

- **Valid Values:** Value must be a time in Universal Coordinated Time (UTC) format
- **Constraints:**
  - Must be before the latest restorable time for the DB instance
  - Can't be specified if the `UseLatestRestorableTime` parameter is enabled
- **Example:** `2009-09-07T23:45:00Z`
- **Type:** Timestamp
- **Required:** No

**SourceDBInstanceAutomatedBackupsArn**

The Amazon Resource Name (ARN) of the replicated automated backups from which to restore, for example, `arn:aws:rds:useast-1:123456789012:auto-backup:ab-L2IJCEXJP7XQ7H0J4SIEXAMPLE`.

This setting doesn't apply to RDS Custom.
- **Type:** String
- **Required:** No

**SourceDBInstanceIdentifier**

The identifier of the source DB instance from which to restore.

- **Constraints:**
  - Must match the identifier of an existing DB instance.
- **Type:** String
- **Required:** No

**SourceDbiResourceId**

The resource ID of the source DB instance from which to restore.
- **Type:** String
- **Required:** No

**StorageThroughput**

Specifies the storage throughput value for the DB instance.

This setting doesn't apply to RDS Custom or Amazon Aurora.
- **Type:** Integer
- **Required:** No

**StorageType**

Specifies the storage type to be associated with the DB instance.

- **Valid values:** `gp2` | `gp3` | `io1` | `standard`
- **If you specify `io1` or `gp3`, you must also include a value for the `Iops` parameter.**
- **Default:** `io1` if the `Iops` parameter is specified, otherwise `gp2`
**Request Parameters**

**Type:** String  
**Required:** No

**Tags.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

**Type:** Array of Tag (p. 728) objects

**Required:** No

**TargetDBInstanceIdentifier**

The name of the new DB instance to be created.

**Constraints:**
- Must contain from 1 to 63 letters, numbers, or hyphens
- First character must be a letter
- Can't end with a hyphen or contain two consecutive hyphens

**Type:** String

**Required:** Yes

**TdeCredentialArn**

The ARN from the key store with which to associate the instance for TDE encryption. This setting doesn't apply to RDS Custom.

**Type:** String

**Required:** No

**TdeCredentialPassword**

The password for the given ARN from the key store in order to access the device. This setting doesn't apply to RDS Custom.

**Type:** String

**Required:** No

**UseDefaultProcessorFeatures**

A value that indicates whether the DB instance class of the DB instance uses its default processor features. This setting doesn't apply to RDS Custom.

**Type:** Boolean

**Required:** No

**UseLatestRestorableTime**

A value that indicates whether the DB instance is restored from the latest backup time. By default, the DB instance isn't restored from the latest backup time.

**Constraints:** Can't be specified if the RestoreTime parameter is provided.

**Type:** Boolean
Response Elements

The following element is returned by the service.

**DBInstance**

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: **DBInstance** (p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**AuthorizationNotFound**

The specified CIDR IP range or Amazon EC2 security group might not be authorized for the specified DB security group.

Or, RDS might not be authorized to perform necessary actions using IAM on your behalf.

HTTP Status Code: 404

**BackupPolicyNotFoundFault**

This error has been deprecated.

HTTP Status Code: 404

**DBInstanceAlreadyExists**

The user already has a DB instance with the given identifier.

HTTP Status Code: 400

**DBInstanceAutomatedBackupNotFound**

No automated backup for this DB instance was found.

HTTP Status Code: 404

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.
HTTP Status Code: 404
**DBParameterGroupNotFound**
DBParameterGroupName doesn't refer to an existing DB parameter group.

HTTP Status Code: 404
**DBSecurityGroupNameNotFound**
DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404
**DBSubnetGroupDoesNotCoverEnoughAZs**
Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.

HTTP Status Code: 400
**DBSubnetGroupNameNotFoundFault**
DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404
**DomainNameNotFoundFault**
Domain doesn't refer to an existing Active Directory domain.

HTTP Status Code: 404
**InstanceQuotaExceeded**
The request would result in the user exceeding the allowed number of DB instances.

HTTP Status Code: 400
**InsufficientDBInstanceCapacity**
The specified DB instance class isn't available in the specified Availability Zone.

HTTP Status Code: 400
**InvalidDBInstanceState**
The DB instance isn't in a valid state.

HTTP Status Code: 400
**InvalidRestoreFault**
Cannot restore from VPC backup to non-VPC DB instance.

HTTP Status Code: 400
**InvalidSubnet**
The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400
**InvalidVPCNetworkStateFault**
The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.
KMSKeyNotAccessibleFault
An error occurred accessing an AWS KMS key.
HTTP Status Code: 400

NetworkTypeNotSupported
The network type is invalid for the DB instance. Valid network type values are IPV4 and DUAL.
HTTP Status Code: 400

OptionGroupNotFoundFault
The specified option group could not be found.
HTTP Status Code: 404

PointInTimeRestoreNotEnabled
SourceDBInstanceIdentifier refers to a DB instance with BackupRetentionPeriod equal to 0.
HTTP Status Code: 400

ProvisionedIopsNotAvailableInAZFault
Provisioned IOPS not available in the specified Availability Zone.
HTTP Status Code: 400

StorageQuotaExceeded
The request would result in the user exceeding the allowed amount of storage available across all DB instances.
HTTP Status Code: 400

StorageTypeNotSupported
Storage of the StorageType specified can't be associated with the DB instance.
HTTP Status Code: 400

Examples

Example
This example illustrates one usage of RestoreDBInstanceToPointInTime.

Sample Request

https://rds.us-east-1.amazonaws.com/?Action=RestoreDBInstanceToPointInTime
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&SourceDBInstanceIdentifier=mysql
&TargetDBInstanceIdentifier=mysql-pitr
&UseLatestRestorableTime=true
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140428/us-east-1/rds/aws4_request
Sample Response

```xml
<RestoreDBInstanceToPointInTimeResponse xmlns="http://rds.amazonaws.com/doc/2014-09-01/">
  <RestoreDBInstanceToPointInTimeResult>
    <DBInstance>
      <BackupRetentionPeriod>7</BackupRetentionPeriod>
      <DBInstanceStatus>creating</DBInstanceStatus>
      <MultiAZ>false</MultiAZ>
      <DBInstanceIdentifier>mysqldb-pitr</DBInstanceIdentifier>
      <PreferredBackupWindow>08:14-08:44</PreferredBackupWindow>
      <PreferredMaintenanceWindow>fri:04:50-fri:05:20</PreferredMaintenanceWindow>
      <ReadReplicaDBInstanceIdentifiers/>
      <Engine>mysql</Engine>
      <PendingModifiedValues/>
      <LicenseModel>general-public-license</LicenseModel>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.6</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
      <EngineVersion>5.6.13</EngineVersion>
      <OptionGroupMemberships>
        <OptionGroupMembership>
          <OptionGroupName>default:mysql-5-6</OptionGroupName>
          <Status>pending-apply</Status>
        </OptionGroupMembership>
      </OptionGroupMemberships>
      <PubliclyAccessible>true</PubliclyAccessible>
      <DBSecurityGroups>
        <DBSecurityGroup>
          <Status>active</Status>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </DBSecurityGroups>
      <DBName>mysqldb</DBName>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
      <AllocatedStorage>100</AllocatedStorage>
      <MasterUsername>myawsuser</MasterUsername>
      <DBInstanceClass>db.m1.medium</DBInstanceClass>
    </DBInstance>
  </RestoreDBInstanceToPointInTimeResult>
  <ResponseMetadata>
    <RequestId>13447c70-be2c-11d3-f4c6-37db295f7674</RequestId>
  </ResponseMetadata>
</RestoreDBInstanceToPointInTimeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
See Also

- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
RevokeDBSecurityGroupIngress

RevokeDBSecurityGroupIngress

Revoke ingress from a DBSecurityGroup for previously authorized IP ranges or EC2 or VPC security groups. Required parameters for this API are one of CIDRIP, EC2SecurityGroupId for VPC, or (EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId).

**Note**

EC2-Classic was retired on August 15, 2022. If you haven't migrated from EC2-Classic to a VPC, we recommend that you migrate as soon as possible. For more information, see Migrate from EC2-Classic to a VPC in the Amazon EC2 User Guide, the blog EC2-Classic Networking is Retiring – Here’s How to Prepare, and Moving a DB instance not in a VPC into a VPC in the Amazon RDS User Guide.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**CIDRIP**

The IP range to revoke access from. Must be a valid CIDR range. If CIDRIP is specified, EC2SecurityGroupName, EC2SecurityGroupId and EC2SecurityGroupOwnerId can't be provided.

Type: String

Required: No

**DBSecurityGroupName**

The name of the DB security group to revoke ingress from.

Type: String

Required: Yes

**EC2SecurityGroupId**

The id of the EC2 security group to revoke access from. For VPC DB security groups, EC2SecurityGroupId must be provided. Otherwise, EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId must be provided.

Type: String

Required: No

**EC2SecurityGroupName**

The name of the EC2 security group to revoke access from. For VPC DB security groups, EC2SecurityGroupId must be provided. Otherwise, EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId must be provided.

Type: String

Required: No

**EC2SecurityGroupOwnerId**

The AWS account number of the owner of the EC2 security group specified in the EC2SecurityGroupName parameter. The AWS access key ID isn't an acceptable value. For VPC DB security groups, EC2SecurityGroupId must be provided. Otherwise, EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId must be provided.
Response Elements

The following element is returned by the service.

DBSecurityGroup

Contains the details for an Amazon RDS DB security group.

This data type is used as a response element in the DescribeDBSecurityGroups action.

Type: DBSecurityGroup (p. 647) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

AuthorizationNotFound

The specified CIDR IP range or Amazon EC2 security group might not be authorized for the specified DB security group.

Or, RDS might not be authorized to perform necessary actions using IAM on your behalf.

HTTP Status Code: 404

DBSecurityGroupNameNotFound

DBSecurityGroupName doesn't refer to an existing DB security group.

HTTP Status Code: 404

InvalidDBSecurityGroupState

The state of the DB security group doesn't allow deletion.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of RevokeDBSecurityGroupIngress.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=RevokeDBSecurityGroupIngress
&CIDRIP=192.0.0.1%2F32
&DBSecurityGroupName=mydbsecuritygroup01
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
Sample Response

```xml
  <RevokeDBSecurityGroupIngressResult>
    <DBSecurityGroup>
      <EC2SecurityGroups/>
      <DBSecurityGroupDescription>My new DBSecurityGroup</DBSecurityGroupDescription>
      <IPRanges>
        <IPRange>
          <CIDRIP>192.0.0.1/32</CIDRIP>
          <Status>revoking</Status>
        </IPRange>
      </IPRanges>
      <OwnerId>803#########</OwnerId>
      <DBSecurityGroupName>mydbsecuritygroup01</DBSecurityGroupName>
    </DBSecurityGroup>
  </RevokeDBSecurityGroupIngressResult>
  <ResponseMetadata>
    <RequestId>579d8ba0-be2d-11d3-ae4f-eec568ed6b36</RequestId>
  </ResponseMetadata>
</RevokeDBSecurityGroupIngressResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StartActivityStream

Starts a database activity stream to monitor activity on the database. For more information, see Database Activity Streams in the Amazon Aurora User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

ApplyImmediately

Specifies whether or not the database activity stream is to start as soon as possible, regardless of the maintenance window for the database.

Type: Boolean

Required: No

EngineNativeAuditFieldsIncluded

Specifies whether the database activity stream includes engine-native audit fields. This option only applies to an Oracle DB instance. By default, no engine-native audit fields are included.

Type: Boolean

Required: No

KmsKeyId

The AWS KMS key identifier for encrypting messages in the database activity stream. The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

Type: String

Required: Yes

Mode

Specifies the mode of the database activity stream. Database events such as a change or access generate an activity stream event. The database session can handle these events either synchronously or asynchronously.

Type: String

Valid Values: sync | async

Required: Yes

ResourceArn

The Amazon Resource Name (ARN) of the DB cluster, for example, arn:aws:rds:us-east-1:1234567890:cluster:das-cluster.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.
ApplyImmediately
Indicates whether or not the database activity stream will start as soon as possible, regardless of the maintenance window for the database.
Type: Boolean

EngineNativeAuditFieldsIncluded
Indicates whether engine-native audit fields are included in the database activity stream.
Type: Boolean

KinesisStreamName
The name of the Amazon Kinesis data stream to be used for the database activity stream.
Type: String

KmsKeyId
The AWS KMS key identifier for encryption of messages in the database activity stream.
Type: String

Mode
The mode of the database activity stream.
Type: String
Valid Values: sync | async

Status
The status of the database activity stream.
Type: String
Valid Values: stopped | starting | started | stopping

Errors
For information about the errors that are common to all actions, see Common Errors (p. 743).

DBClusterNotFoundFault
DBClusterIdentifier doesn't refer to an existing DB cluster.
HTTP Status Code: 404

DBInstanceNotFound
DBInstanceIdentifier doesn't refer to an existing DB instance.
HTTP Status Code: 404

InvalidDBClusterStateFault
The requested operation can't be performed while the cluster is in this state.
HTTP Status Code: 400

InvalidDBInstanceState
The DB instance isn't in a valid state.
KMSKeyNotAccessibleFault
An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

ResourceNotFoundFault
The specified resource ID was not found.

HTTP Status Code: 404

See Also
For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StartDBCluster

Starts an Amazon Aurora DB cluster that was stopped using the AWS console, the stop-db-cluster AWS CLI command, or the StopDBCluster action.

For more information, see Stopping and Starting an Aurora Cluster in the Amazon Aurora User Guide.

Note
This action only applies to Aurora DB clusters.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterIdentifier

The DB cluster identifier of the Amazon Aurora DB cluster to be started. This parameter is stored as a lowercase string.

Type: String
Required: Yes

Response Elements

The following element is returned by the service.

DBCluster

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Type: DBCluster (p. 588) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).
Examples

Example

This example illustrates one usage of StartDBCluster.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=StartDBCluster
&DBClusterIdentifier=mydbcluster
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-09-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20131016/us-west-1/rds/aws4_request
&X-Amz-Date=20131016T233051Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=087a8eb41cb1ab5f99e81575f23e75757ff6a6e42d7d2b30b9cc0be988c7f97

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StartDBInstance

Starts an Amazon RDS DB instance that was stopped using the AWS console, the stop-db-instance AWS CLI command, or the StopDBInstance action.

For more information, see Starting an Amazon RDS DB instance That Was Previously Stopped in the Amazon RDS User Guide.

**Note**

This command doesn't apply to RDS Custom, Aurora MySQL, and Aurora PostgreSQL. For Aurora DB clusters, use StartDBCluster instead.

**Request Parameters**

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceIdentifier**

The user-supplied instance identifier.

- Type: String
- Required: Yes

**Response Elements**

The following element is returned by the service.

**DBInstance**

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteRead Replica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

- Type: DBInstance (p. 617) object

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 743).

**AuthorizationNotFound**

The specified CIDR IP range or Amazon EC2 security group might not be authorized for the specified DB security group.

Or, RDS might not be authorized to perform necessary actions using IAM on your behalf.

- HTTP Status Code: 404

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.
HTTP Status Code: 404

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

**DBSubnetGroupDoesNotCoverEnoughAZs**

Subnets in the DB subnet group should cover at least two Availability Zones unless there is only one Availability Zone.

HTTP Status Code: 400

**DBSubnetGroupNotFoundFault**

DBSubnetGroupName doesn't refer to an existing DB subnet group.

HTTP Status Code: 404

**InsufficientDBInstanceCapacity**

The specified DB instance class isn't available in the specified Availability Zone.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

**InvalidSubnet**

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

**InvalidVPCNetworkStateFault**

The DB subnet group doesn't cover all Availability Zones after it's created because of users' change.

HTTP Status Code: 400

**KMSKeyNotAccessibleFault**

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

---

**Examples**

**Example**

This example illustrates one usage of StartDBInstance.
Sample Request

https://rds.amazonaws.com/
?Action=StartDBInstance
&DBInstanceIdentifier=mydbinstance
&SignatureMethod=HmacSHA256
&SignatureVersion=4
&Version=2014-10-31
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4EXAMPLE/20131016/us-west-1/rds/aws4_request
&X-Amz-Date=20131016T233051Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=6e25c542bf96fe24b28c12976ec92d2f856ab1d2a158e21c35441a73e4fde2b

Sample Response

  <StartDBInstanceResult>
    <DBInstance>
      <AllocatedStorage>100</AllocatedStorage>
      <EnabledCloudwatchLogsExports>
        <member>alert</member>
        <member>audit</member>
        <member>listener</member>
        <member>trace</member>
      </EnabledCloudwatchLogsExports>
      <AssociatedRoles/>
      <DBParameterGroups>
        <DBParameterGroup>
          <DBParameterGroupName>default.oracle-ee-19</DBParameterGroupName>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
        </DBParameterGroup>
      </DBParameterGroups>
      <AvailabilityZone>us-east-1b</AvailabilityZone>
      <DBSecurityGroups/>
      <Iops>1000</Iops>
      <PerformanceInsightsKMSKeyId>arn:aws:kms:us-east-1:123456789012:key/87c22544-4cac-4640-99de-cfd0a86760ad</PerformanceInsightsKMSKeyId>
      <PerformanceInsightsRetentionPeriod>7</PerformanceInsightsRetentionPeriod>
      <MasterUsername>admin</MasterUsername>
      <InstanceCreateTime>2019-11-23T17:27:58.540Z</InstanceCreateTime>
      <DBInstanceClass>db.t3.medium</DBInstanceClass>
      <HttpEndpointEnabled>false</HttpEndpointEnabled>
      <OptionGroupMemberships>
        <OptionGroupMembership>
          <OptionGroupName>default.oracle-ee-19</OptionGroupName>
          <Status>in-sync</Status>
        </OptionGroupMembership>
      </OptionGroupMemberships>
      <CACertificateIdentifier>rds-ca-2019</CACertificateIdentifier>
      <DbiResourceId>db-LENX3LYCR6OKTGWZEXAMPLE</DbiResourceId>
      <PreferredBackupWindow>08:31-09:01</PreferredBackupWindow>
      <DeletionProtection>false</DeletionProtection>
      <DBInstanceIdentifier>mydbinstance</DBInstanceIdentifier>
    </DBInstance>
  </StartDBInstanceResult>
</StartDBInstanceResponse>
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StartDBInstanceAutomatedBackupsReplication

Enables replication of automated backups to a different AWS Region.

This command doesn't apply to RDS Custom.

For more information, see Replicating Automated Backups to Another AWS Region in the Amazon RDS User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**BackupRetentionPeriod**

The retention period for the replicated automated backups.

Type: Integer

Required: No

**KmsKeyId**

The AWS KMS key identifier for encryption of the replicated automated backups. The KMS key ID is the Amazon Resource Name (ARN) for the KMS encryption key in the destination AWS Region, for example, arn:aws:kms:us-east-1:123456789012:key/AKIAIOSFODNN7EXAMPLE.

Type: String

Required: No

**PreSignedUrl**

In an AWS GovCloud (US) Region, an URL that contains a Signature Version 4 signed request for the StartDBInstanceAutomatedBackupsReplication operation to call in the AWS Region of the source DB instance. The presigned URL must be a valid request for the StartDBInstanceAutomatedBackupsReplication API operation that can run in the AWS Region that contains the source DB instance.

This setting applies only to AWS GovCloud (US) Regions. It's ignored in other AWS Regions.

To learn how to generate a Signature Version 4 signed request, see Authenticating Requests: Using Query Parameters (AWS Signature Version 4) and Signature Version 4 Signing Process.

**Note**

If you are using an AWS SDK tool or the AWS CLI, you can specify SourceRegion (or --source-region for the AWS CLI) instead of specifying PreSignedUrl manually. Specifying SourceRegion autogenerates a presigned URL that is a valid request for the operation that can run in the source AWS Region.

Type: String

Required: No

**SourceDBInstanceArn**

The Amazon Resource Name (ARN) of the source DB instance for the replicated automated backups, for example, arn:aws:rds:us-west-2:123456789012:db:mydatabase.

Type: String
Response Elements

The following element is returned by the service.

**DBInstanceAutomatedBackup**

An automated backup of a DB instance. It consists of system backups, transaction logs, and the database instance properties that existed at the time you deleted the source instance.

Type: [DBInstanceAutomatedBackup](p. 629) object

Errors

For information about the errors that are common to all actions, see [Common Errors](p. 743).

**DBInstanceAutomatedBackupQuotaExceeded**

The quota for retained automated backups was exceeded. This prevents you from retaining any additional automated backups. The retained automated backups quota is the same as your DB Instance quota.

HTTP Status Code: 400

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

**KMSKeyNotAccessibleFault**

An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

**StorageTypeNotSupported**

Storage of the StorageType specified can't be associated with the DB instance.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V3
StartExportTask

Starts an export of a snapshot to Amazon S3. The provided IAM role must have access to the S3 bucket. This command doesn't apply to RDS Custom.

**Request Parameters**

For information about the parameters that are common to all actions, see [Common Parameters](#).

**ExportOnly.member.N**

The data to be exported from the snapshot. If this parameter is not provided, all the snapshot data is exported. Valid values are the following:

- **database** - Export all the data from a specified database.
- **database . table table-name** - Export a table of the snapshot. This format is valid only for RDS for MySQL, RDS for MariaDB, and Aurora MySQL.
- **database . schema schema-name** - Export a database schema of the snapshot. This format is valid only for RDS for PostgreSQL and Aurora PostgreSQL.
- **database . schema . table table-name** - Export a table of the database schema. This format is valid only for RDS for PostgreSQL and Aurora PostgreSQL.

Type: Array of strings

Required: No

**ExportTaskIdentifier**

A unique identifier for the snapshot export task. This ID isn't an identifier for the Amazon S3 bucket where the snapshot is to be exported to.

Type: String

Required: Yes

**IamRoleArn**

The name of the IAM role to use for writing to the Amazon S3 bucket when exporting a snapshot.

Type: String

Required: Yes

**KmsKeyId**

The ID of the AWS KMS key to use to encrypt the snapshot exported to Amazon S3. The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key. The caller of this operation must be authorized to execute the following operations. These can be set in the AWS KMS key policy:

- GrantOperation.Encrypt
- GrantOperation.Decrypt
- GrantOperation.GenerateDataKey
- GrantOperation.GenerateDataKeyWithoutPlaintext
- GrantOperation.ReEncryptFrom
- GrantOperation.ReEncryptTo
- GrantOperation.CreateGrant

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• GrantOperation.DescribeKey
• GrantOperation.RetireGrant

Type: String
Required: Yes

**S3BucketName**

The name of the Amazon S3 bucket to export the snapshot to.

Type: String
Required: Yes

**S3Prefix**

The Amazon S3 bucket prefix to use as the file name and path of the exported snapshot.

Type: String
Required: No

**SourceArn**

The Amazon Resource Name (ARN) of the snapshot to export to Amazon S3.

Type: String
Required: Yes

---

**Response Elements**

The following elements are returned by the service.

**ExportOnly.member.N**

The data exported from the snapshot. Valid values are the following:

- database
- database.table table-name - Export a table of the snapshot. This format is valid only for RDS for MySQL, RDS for MariaDB, and Aurora MySQL.
- database.schema schema-name - Export a database schema of the snapshot. This format is valid only for RDS for PostgreSQL and Aurora PostgreSQL.
- database.schema.table table-name - Export a table of the database schema. This format is valid only for RDS for PostgreSQL and Aurora PostgreSQL.

Type: Array of strings

**ExportTaskIdentifier**

A unique identifier for the snapshot export task. This ID isn't an identifier for the Amazon S3 bucket where the snapshot is exported to.

Type: String

**FailureCause**

The reason the export failed, if it failed.

Type: String
IamRoleArn

The name of the IAM role that is used to write to Amazon S3 when exporting a snapshot.

Type: String

KmsKeyId

The key identifier of the AWS KMS key that is used to encrypt the snapshot when it's exported to Amazon S3. The KMS key identifier is its key ARN, key ID, alias ARN, or alias name. The IAM role used for the snapshot export must have encryption and decryption permissions to use this KMS key.

Type: String

PercentProgress

The progress of the snapshot export task as a percentage.

Type: Integer

S3Bucket

The Amazon S3 bucket that the snapshot is exported to.

Type: String

S3Prefix

The Amazon S3 bucket prefix that is the file name and path of the exported snapshot.

Type: String

SnapshotTime

The time that the snapshot was created.

Type: Timestamp

SourceArn

The Amazon Resource Name (ARN) of the snapshot exported to Amazon S3.

Type: String

SourceType

The type of source for the export.

Type: String

Valid Values: SNAPSHOT | CLUSTER

Status

The progress status of the export task.

Type: String

TaskEndTime

The time that the snapshot export task completed.

Type: Timestamp

TaskStartTime

The time that the snapshot export task started.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBClusterSnapshotNotFoundFault**

DBClusterSnapshotIdentifier doesn't refer to an existing DB cluster snapshot.

HTTP Status Code: 404

**DBSnapshotNotFound**

DBSnapshotIdentifier doesn't refer to an existing DB snapshot.

HTTP Status Code: 404

**ExportTaskAlreadyExists**

You can't start an export task that's already running.

HTTP Status Code: 400

**IamRoleMissingPermissions**

The IAM role requires additional permissions to export to an Amazon S3 bucket.

HTTP Status Code: 400

**IamRoleNotFound**

The IAM role is missing for exporting to an Amazon S3 bucket.

HTTP Status Code: 404

**InvalidExportOnly**

The export is invalid for exporting to an Amazon S3 bucket.

HTTP Status Code: 400

**InvalidExportSourceState**

The state of the export snapshot is invalid for exporting to an Amazon S3 bucket.

HTTP Status Code: 400
InvalidS3BucketFault
The specified Amazon S3 bucket name can't be found or Amazon RDS isn't authorized to access the specified Amazon S3 bucket. Verify the SourceS3BucketName and S3IngestionRoleArn values and try again.

HTTP Status Code: 400

KMSKeyNotAccessibleFault
An error occurred accessing an AWS KMS key.

HTTP Status Code: 400

See Also
For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StopActivityStream

Stops a database activity stream that was started using the AWS console, the start-activity-stream AWS CLI command, or the StartActivityStream action.

For more information, see Database Activity Streams in the Amazon Aurora User Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

ApplyImmediately

Specifies whether or not the database activity stream is to stop as soon as possible, regardless of the maintenance window for the database.

Type: Boolean
Required: No

ResourceArn

The Amazon Resource Name (ARN) of the DB cluster for the database activity stream. For example, arn:aws:rds:us-east-1:1234567890:cluster:das-cluster.

Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

KinesisStreamName

The name of the Amazon Kinesis data stream used for the database activity stream.

Type: String

KmsKeyId

The AWS KMS key identifier used for encrypting messages in the database activity stream.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

Type: String

Status

The status of the database activity stream.

Type: String
Valid Values: stopped | starting | started | stopping

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).
**DBClusterNotFoundFault**

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

**DBInstanceNotFound**

DBInstanceIdentifier doesn't refer to an existing DB instance.

HTTP Status Code: 404

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

**ResourceNotFoundFault**

The specified resource ID was not found.

HTTP Status Code: 404

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StopDBCluster

Stops an Amazon Aurora DB cluster. When you stop a DB cluster, Aurora retains the DB cluster's metadata, including its endpoints and DB parameter groups. Aurora also retains the transaction logs so you can do a point-in-time restore if necessary.

For more information, see Stopping and Starting an Aurora Cluster in the Amazon Aurora User Guide.

Note
This action only applies to Aurora DB clusters.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBClusterIdentifier

The DB cluster identifier of the Amazon Aurora DB cluster to be stopped. This parameter is stored as a lowercase string.

Type: String
Required: Yes

Response Elements

The following element is returned by the service.

DBCluster

Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Type: DBCluster (p. 588) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).
DBClusterNotFoundFault

DBClusterIdentifier doesn't refer to an existing DB cluster.

HTTP Status Code: 404

InvalidDBClusterStateFault

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

InvalidDBInstanceState

The DB instance isn't in a valid state.

HTTP Status Code: 400

Examples

Example

This example illustrates one usage of StopDBCluster.

Sample Request

https://rds.us-east-1.amazonaws.com/
  ?Action=StopDBCluster
  &DBClusterIdentifier=mydbcluster
  &SignatureMethod=HmacSHA256
  &SignatureVersion=4
  &Version=2014-09-01
  &X-Amz-Algorithm=AWS4-HMAC-SHA256
  &X-Amz-Credential=AKIADQKE4SARGYLE/20131016/us-west-1/rds/aws4_request
  &X-Amz-Date=20131016T233051Z
  &X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
  &X-Amz-Signature=087a8eb41cb1ab5f99e81575f23e73757ffcc6a1e42d7d2b30b9cc0be988cff97

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StopDBInstance

Stops an Amazon RDS DB instance. When you stop a DB instance, Amazon RDS retains the DB instance's metadata, including its endpoint, DB parameter group, and option group membership. Amazon RDS also retains the transaction logs so you can do a point-in-time restore if necessary.

For more information, see Stopping an Amazon RDS DB Instance Temporarily in the Amazon RDS User Guide.

Note
This command doesn't apply to RDS Custom, Aurora MySQL, and Aurora PostgreSQL. For Aurora clusters, use StopDBCluster instead.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

DBInstanceIdentifier

The user-supplied instance identifier.

Type: String
Required: Yes

DBSnapshotIdentifier

The user-supplied instance identifier of the DB Snapshot created immediately before the DB instance is stopped.

Type: String
Required: No

Response Elements

The following element is returned by the service.

DBInstance
Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: DBInstance (p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

DBInstanceNotFound

DBInstanceIdentifier doesn't refer to an existing DB instance.
HTTP Status Code: 404

**DBSnapshotAlreadyExists**

DBSnapshotIdentifier is already used by an existing snapshot.

HTTP Status Code: 400

**InvalidDBClusterStateFault**

The requested operation can't be performed while the cluster is in this state.

HTTP Status Code: 400

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400

**SnapshotQuotaExceeded**

The request would result in the user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
StopDBInstanceAutomatedBackupsReplication

Stops automated backup replication for a DB instance.

This command doesn't apply to RDS Custom, Aurora MySQL, and Aurora PostgreSQL.

For more information, see `Replicating Automated Backups to Another AWS Region` in the `Amazon RDS User Guide`.

Request Parameters

For information about the parameters that are common to all actions, see `Common Parameters` (p. 741).

SourceDBInstanceArn

The Amazon Resource Name (ARN) of the source DB instance for which to stop replicating automated backups, for example, `arn:aws:rds:us-west-2:123456789012:db:mydatabase`.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

DBInstanceAutomatedBackup

An automated backup of a DB instance. It consists of system backups, transaction logs, and the database instance properties that existed at the time you deleted the source instance.

Type: `DBInstanceAutomatedBackup` (p. 629) object

Errors

For information about the errors that are common to all actions, see `Common Errors` (p. 743).

DBInstanceNotFound

`DBInstanceIdentifier` doesn't refer to an existing DB instance.

HTTP Status Code: 404

InvalidDBInstanceState

The DB instance isn't in a valid state.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
See Also

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
SwitchoverReadReplica

Switches over an Oracle standby database in an Oracle Data Guard environment, making it the new primary database. Issue this command in the Region that hosts the current standby database.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 741).

**DBInstanceIdentifier**

The DB instance identifier of the current standby database. This value is stored as a lowercase string.

Constraints:

- Must match the identifier of an existing Oracle read replica DB instance.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

**DBInstance**

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Type: [DBInstance](p. 617) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 743).

**DBInstanceNotFound**

**DBInstanceIdentifier** doesn't refer to an existing DB instance.

HTTP Status Code: 404

**InvalidDBInstanceState**

The DB instance isn't in a valid state.

HTTP Status Code: 400
Examples

Example

The following example shows one use of SwitchoverReadReplica.

Sample Request

https://rds.us-east-1.amazonaws.com/
?Action=SwitchoverReadReplica
&DBInstanceIdentifier=new-primary
&Version=2014-10-31
&Signature=12345678caef670d84c14ffba62e107842557f934f1e68e5d38a2d219ae70527

Sample Response

  <SwitchoverReadReplicaResult>
    <DBInstance>
      <AllocatedStorage>20</AllocatedStorage>
      <ReadReplicaSourceDBInstanceIdentifier>bystanders-old-primary</ReadReplicaSourceDBInstanceIdentifier>
      <AssociatedRoles/>
      <DBParameterGroups>
        <DBParameterGroup>
          <DBParameterGroupName>default.oracle-ee-19</DBParameterGroupName>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
        </DBParameterGroup>
      </DBParameterGroups>
      <AvailabilityZone>us-west-2c</AvailabilityZone>
      <DBSecurityGroups/>
      <StatusInfos>
        <DBInstanceStatusInfo>
          <Normal>true</Normal>
          <StatusType>read replication</StatusType>
          <Status>replicating</Status>
        </DBInstanceStatusInfo>
      </StatusInfos>
      <EngineVersion>19.0.0.0.ru-2021-10.rur-2021-10.r1</EngineVersion>
      <MasterUsername>masteruser</MasterUsername>
      <InstanceCreateTime>2022-01-09T11:55:29.005Z</InstanceCreateTime>
      <DBInstanceClass>db.m4.xlarge</DBInstanceClass>
      <StorageThroughput>0</StorageThroughput>
      <HttpEndpointEnabled>false</HttpEndpointEnabled>
      <ReadReplicaDBInstanceIdentifiers/>
      <CustomerOwnedIpEnabled>false</CustomerOwnedIpEnabled>
      <MonitoringInterval>0</MonitoringInterval>
      <DBInstanceStatus>available</DBInstanceStatus>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <OptionGroupMemberships>
        <OptionGroupMembership>
          <OptionGroupName>default:oracle-ee-19</OptionGroupName>
          <Status>in-sync</Status>
        </OptionGroupMembership>
        <OptionGroupMembership>
          <OptionGroupName>default:oracle-ee-19</OptionGroupName>
          <Status>in-sync</Status>
        </OptionGroupMembership>
      </OptionGroupMemberships>
      <BackupTarget>region</BackupTarget>
      <CACertificateIdentifier>rds-ca-2019</CACertificateIdentifier>
      <DBInstancePort>0</DBInstancePort>
      <DbiResourceId>db-ABCDEFG12H3I4J5KLMNOPQR6ST</DbiResourceId>
    </DBInstance>
  </SwitchoverReadReplicaResult>
</SwitchoverReadReplicaResponse>
<PreferredBackupWindow>11:11-11:11</PreferredBackupWindow>
<DeletionProtection>false</DeletionProtection>
<DBInstanceIdentifier>new-primary</DBInstanceIdentifier>
<Endpoint>
  <HostedZoneId>ABCD7F8REH8UF3</HostedZoneId>
  <Address>new-primary.abcdefgh0ijk.us-west-2.rds.amazonaws.com</Address>
  <Port>1521</Port>
</Endpoint>
<Engine>oracle-ee</Engine>
<PubliclyAccessible>true</PubliclyAccessible>
<IAMDatabaseAuthenticationEnabled>false</IAMDatabaseAuthenticationEnabled>
<NetworkType>IPV4</NetworkType>
<PerformanceInsightsEnabled>false</PerformanceInsightsEnabled>
<ReplicaMode>open-read-only</ReplicaMode>
<DBName>ORCL</DBName>
<MultiAZ>false</MultiAZ>
<DomainMemberships/>
<CharacterSetName>AL32UTF8</CharacterSetName>
<StorageEncrypted>false</StorageEncrypted>
<DBSubnetGroup>
  <VpcId>vpc-2f206b57</VpcId>
  <Subnets>
    <Subnet>
      <SubnetIdentifier>subnet-ac26e06</SubnetIdentifier>
      <SubnetStatus>Active</SubnetStatus>
      <SubnetOutpost/>
      <SubnetAvailabilityZone><Name>us-west-2a</Name></SubnetAvailabilityZone>
    </Subnet>
    <Subnet>
      <SubnetIdentifier>subnet-1a2bcd3</SubnetIdentifier>
      <SubnetStatus>Active</SubnetStatus>
      <SubnetOutpost/>
      <SubnetAvailabilityZone><Name>us-west-2b</Name></SubnetAvailabilityZone>
    </Subnet>
    <Subnet>
      <SubnetIdentifier>subnet-a1b2c3de</SubnetIdentifier>
      <SubnetStatus>Active</SubnetStatus>
      <SubnetOutpost/>
      <SubnetAvailabilityZone><Name>us-west-2d</Name></SubnetAvailabilityZone>
    </Subnet>
    <Subnet>
      <SubnetIdentifier>subnet-a12345b6</SubnetIdentifier>
      <SubnetStatus>Active</SubnetStatus>
      <SubnetOutpost/>
      <SubnetAvailabilityZone><Name>us-west-2c</Name></SubnetAvailabilityZone>
    </Subnet>
  </Subnets>
  <SubnetGroupStatus>Complete</SubnetGroupStatus>
  <DBSubnetGroupDescription>default</DBSubnetGroupDescription>
  <DBSubnetGroupName>default</DBSubnetGroupName>
</DBSubnetGroup>
<VpcSecurityGroups>
  <VpcSecurityGroupMembership>
    <VpcSecurityGroupId>ab-12c3d4e5</VpcSecurityGroupId>
    <Status>active</Status>
  </VpcSecurityGroupMembership>
</VpcSecurityGroups>
<TagList/>
<NcharCharacterSetName>AL16UTF16</NcharCharacterSetName>
<LicenseModel>bring-your-own-license</LicenseModel>
<PendingModifiedValues/>
<PreferredMaintenanceWindow>tu:07:56-tue:08:26</PreferredMaintenanceWindow>
<StorageType>gp2</StorageType>
<AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
<CopyTagsToSnapshot>false</CopyTagsToSnapshot>
</DBInstance>
</SwitchoverReadReplicaResult>
<ResponseMetadata>
  <RequestId>abcd12ef-34g5-41d6-aed9-b6366d786923</RequestId>
</ResponseMetadata>
</SwitchoverReadReplicaResponse>

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3
Data Types

The Amazon Relational Database Service API contains several data types that various actions use. This section describes each data type in detail.

**Note**
The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- AccountQuota (p. 575)
- AvailabilityZone (p. 577)
- AvailableProcessorFeature (p. 578)
- Certificate (p. 579)
- CharacterSet (p. 581)
- CloudwatchLogsExportConfiguration (p. 582)
- ClusterPendingModifiedValues (p. 583)
- ConnectionPoolConfiguration (p. 584)
- ConnectionPoolConfigurationInfo (p. 586)
- DBCluster (p. 588)
- DBClusterBacktrack (p. 599)
- DBClusterEndpoint (p. 601)
- DBClusterMember (p. 603)
- DBClusterOptionGroupStatus (p. 604)
- DBClusterParameterGroup (p. 605)
- DBClusterRole (p. 606)
- DBClusterSnapshot (p. 607)
- DBClusterSnapshotAttribute (p. 611)
- DBClusterSnapshotAttributesResult (p. 612)
- DBEngineVersion (p. 613)
- DBInstance (p. 617)
- DBInstanceAutomatedBackup (p. 629)
- DBInstanceAutomatedBackupsReplication (p. 633)
- DBInstanceRole (p. 634)
- DBInstanceStatusInfo (p. 635)
- DBParameterGroup (p. 636)
- DBParameterGroupStatus (p. 637)
- DBProxy (p. 638)
- DBProxyEndpoint (p. 641)
- DBProxyTarget (p. 643)
- DBProxyTargetGroup (p. 645)
- DBSecurityGroup (p. 647)
- DBSecurityGroupMembership (p. 649)
- DBSnapshot (p. 650)
- DBSnapshotAttribute (p. 655)
- DBSnapshotAttributesResult (p. 656)
- DBSubnetGroup (p. 657)
- DescribeDBLogFilesDetails (p. 659)
- DomainMembership (p. 660)
- DoubleRange (p. 661)
- EC2SecurityGroup (p. 662)
- Endpoint (p. 663)
- EngineDefaults (p. 664)
- Event (p. 665)
- EventCategoriesMap (p. 667)
- EventSubscription (p. 668)
- ExportTask (p. 670)
- FailoverState (p. 673)
- Filter (p. 674)
- GlobalCluster (p. 675)
- GlobalClusterMember (p. 677)
- IPRange (p. 678)
- MinimumEngineVersionPerAllowedValue (p. 679)
- Option (p. 680)
- OptionConfiguration (p. 682)
- OptionGroup (p. 684)
- OptionGroupMembership (p. 686)
- OptionGroupOption (p. 687)
- OptionGroupOptionSetting (p. 690)
- OptionSetting (p. 692)
- OptionVersion (p. 694)
- OrderableDBInstanceOption (p. 695)
- Outpost (p. 700)
- Parameter (p. 701)
- PendingCloudwatchLogsExports (p. 703)
- PendingMaintenanceAction (p. 704)
- PendingModifiedValues (p. 706)
- ProcessorFeature (p. 709)
- Range (p. 711)
- RecurringCharge (p. 712)
- ReservedDBInstance (p. 713)
- ReservedDBInstancesOffering (p. 716)
- ResourcePendingMaintenanceActions (p. 718)
- RestoreWindow (p. 719)
- ScalingConfiguration (p. 720)
- ScalingConfigurationInfo (p. 722)
- ServerlessV2ScalingConfiguration (p. 724)
- ServerlessV2ScalingConfigurationInfo (p. 725)
- SourceRegion (p. 726)
- Subnet (p. 727)
- Tag (p. 728)
• TargetHealth (p. 729)
• Timezone (p. 730)
• UpgradeTarget (p. 731)
• UserAuthConfig (p. 733)
• UserAuthConfigInfo (p. 735)
• ValidDBInstanceModificationsMessage (p. 737)
• ValidStorageOptions (p. 738)
• VpcSecurityGroupMembership (p. 740)
AccountQuota

Describes a quota for an AWS account.

The following are account quotas:

- **AllocatedStorage** - The total allocated storage per account, in GiB. The used value is the total allocated storage in the account, in GiB.
- **AuthorizationsPerDBSecurityGroup** - The number of ingress rules per DB security group. The used value is the highest number of ingress rules in a DB security group in the account. Other DB security groups in the account might have a lower number of ingress rules.
- **CustomEndpointsPerDBCluster** - The number of custom endpoints per DB cluster. The used value is the highest number of custom endpoints in a DB clusters in the account. Other DB clusters in the account might have a lower number of custom endpoints.
- **DBClusterParameterGroups** - The number of DB cluster parameter groups per account, excluding default parameter groups. The used value is the count of nondefault DB cluster parameter groups in the account.
- **DBClusterRoles** - The number of associated AWS Identity and Access Management (IAM) roles per DB cluster. The used value is the highest number of associated IAM roles for a DB cluster in the account. Other DB clusters in the account might have a lower number of associated IAM roles.
- **DBClusters** - The number of DB clusters per account. The used value is the count of DB clusters in the account.
- **DBInstanceRoles** - The number of associated IAM roles per DB instance. The used value is the highest number of associated IAM roles for a DB instance in the account. Other DB instances in the account might have a lower number of associated IAM roles.
- **DBInstances** - The number of DB instances per account. The used value is the count of the DB instances in the account.

Amazon RDS DB instances, Amazon Aurora DB instances, Amazon Neptune instances, and Amazon DocumentDB instances apply to this quota.

- **DBParameterGroups** - The number of DB parameter groups per account, excluding default parameter groups. The used value is the count of nondefault DB parameter groups in the account.
- **DBSecurityGroups** - The number of DB security groups (not VPC security groups) per account, excluding the default security group. The used value is the count of nondefault DB security groups in the account.
- **DBSubnetGroups** - The number of DB subnet groups per account. The used value is the count of the DB subnet groups in the account.
- **EventSubscriptions** - The number of event subscriptions per account. The used value is the count of the event subscriptions in the account.
- **ManualClusterSnapshots** - The number of manual DB cluster snapshots per account. The used value is the count of the manual DB cluster snapshots in the account.
- **ManualSnapshots** - The number of manual DB instance snapshots per account. The used value is the count of the manual DB instance snapshots in the account.
- **OptionGroups** - The number of DB option groups per account, excluding default option groups. The used value is the count of nondefault DB option groups in the account.
- **ReadReplicasPerMaster** - The number of read replicas per DB instance. The used value is the highest number of read replicas for a DB instance in the account. Other DB instances in the account might have a lower number of read replicas.
- **ReservedDBInstances** - The number of reserved DB instances per account. The used value is the count of the active reserved DB instances in the account.
SubnetsPerDBSubnetGroup - The number of subnets per DB subnet group. The used value is highest number of subnets for a DB subnet group in the account. Other DB subnet groups in the account might have a lower number of subnets.

For more information, see Quotas for Amazon RDS in the Amazon RDS User Guide and Quotas for Amazon Aurora in the Amazon Aurora User Guide.

Contents

AccountQuotaName

The name of the Amazon RDS quota for this AWS account.

Type: String
Required: No

Max

The maximum allowed value for the quota.

Type: Long
Required: No

Used

The amount currently used toward the quota maximum.

Type: Long
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AvailabilityZone

Contains Availability Zone information.

This data type is used as an element in the OrderableDBInstanceOption data type.

Contents

Name

The name of the Availability Zone.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
AvailableProcessorFeature

Contains the available processor feature information for the DB instance class of a DB instance.

For more information, see Configuring the Processor of the DB Instance Class in the Amazon RDS User Guide.

Contents

AllowedValues

The allowed values for the processor feature of the DB instance class.

Type: String
Required: No

DefaultValue

The default value for the processor feature of the DB instance class.

Type: String
Required: No

Name

The name of the processor feature. Valid names are coreCount and threadsPerCore.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Certificate

A CA certificate for an AWS account.

Contents

CertificateArn
The Amazon Resource Name (ARN) for the certificate.
Type: String
Required: No

CertificateIdentifier
The unique key that identifies a certificate.
Type: String
Required: No

CertificateType
The type of the certificate.
Type: String
Required: No

CustomerOverride
Whether there is an override for the default certificate identifier.
Type: Boolean
Required: No

CustomerOverrideValidTill
If there is an override for the default certificate identifier, when the override expires.
Type: Timestamp
Required: No

Thumbprint
The thumbprint of the certificate.
Type: String
Required: No

ValidFrom
The starting date from which the certificate is valid.
Type: Timestamp
Required: No

ValidTill
The final date that the certificate continues to be valid.
Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**CharacterSet**

This data type is used as a response element in the action `DescribeDBEngineVersions`.

**Contents**

**CharacterSetDescription**

The description of the character set.

Type: String

Required: No

**CharacterSetName**

The name of the character set.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
CloudwatchLogsExportConfiguration

The configuration setting for the log types to be enabled for export to CloudWatch Logs for a specific DB instance or DB cluster.

The EnableLogTypes and DisableLogTypes arrays determine which logs will be exported (or not exported) to CloudWatch Logs. The values within these arrays depend on the DB engine being used.

For more information about exporting CloudWatch Logs for Amazon RDS DB instances, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon RDS User Guide.

For more information about exporting CloudWatch Logs for Amazon Aurora DB clusters, see Publishing Database Logs to Amazon CloudWatch Logs in the Amazon Aurora User Guide.

Contents

DisableLogTypes.member.N

The list of log types to disable.

Type: Array of strings

Required: No

EnableLogTypes.member.N

The list of log types to enable.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ClusterPendingModifiedValues

This data type is used as a response element in the ModifyDBCluster operation and contains changes that will be applied during the next maintenance window.

Contents

DBClusterIdentifier

The DBClusterIdentifier value for the DB cluster.

Type: String

Required: No

EngineVersion

The database engine version.

Type: String

Required: No

IAMDatabaseAuthenticationEnabled

A value that indicates whether mapping of AWS Identity and Access Management (IAM) accounts to database accounts is enabled.

Type: Boolean

Required: No

MasterUserPassword

The master credentials for the DB cluster.

Type: String

Required: No

PendingCloudwatchLogsExports

A list of the log types whose configuration is still pending. In other words, these log types are in the process of being activated or deactivated.

Type: PendingCloudwatchLogsExports (p. 703) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ConnectionPoolConfiguration

Specifies the settings that control the size and behavior of the connection pool associated with a DBProxyTargetGroup.

Contents

ConnectionBorrowTimeout

The number of seconds for a proxy to wait for a connection to become available in the connection pool. Only applies when the proxy has opened its maximum number of connections and all connections are busy with client sessions.

Default: 120

Constraints: between 1 and 3600, or 0 representing unlimited

Type: Integer

Required: No

InitQuery

One or more SQL statements for the proxy to run when opening each new database connection. Typically used with SET statements to make sure that each connection has identical settings such as time zone and character set. For multiple statements, use semicolons as the separator. You can also include multiple variables in a single SET statement, such as SET x=1, y=2.

Default: no initialization query

Type: String

Required: No

MaxConnectionsPercent

The maximum size of the connection pool for each target in a target group. The value is expressed as a percentage of the max_connections setting for the RDS DB instance or Aurora DB cluster used by the target group.

If you specify MaxIdleConnectionsPercent, then you must also include a value for this parameter.

Default: 10 for RDS for Microsoft SQL Server, and 100 for all other engines

Constraints: Must be between 1 and 100.

Type: Integer

Required: No

MaxIdleConnectionsPercent

Controls how actively the proxy closes idle database connections in the connection pool. The value is expressed as a percentage of the max_connections setting for the RDS DB instance or Aurora DB cluster used by the target group. With a high value, the proxy leaves a high percentage of idle database connections open. A low value causes the proxy to close more idle connections and return them to the database.

If you specify this parameter, then you must also include a value for MaxConnectionsPercent.
Default: The default value is half of the value of \texttt{MaxConnectionsPercent}. For example, if \texttt{MaxConnectionsPercent} is 80, then the default value of \texttt{MaxIdleConnectionsPercent} is 40. If the value of \texttt{MaxConnectionsPercent} isn't specified, then for SQL Server, \texttt{MaxIdleConnectionsPercent} is 5, and for all other engines, the default is 50.

Constraints: Must be between 0 and the value of \texttt{MaxConnectionsPercent}.

Type: Integer

Required: No

\texttt{SessionPinningFilters.member.N}

Each item in the list represents a class of SQL operations that normally cause all later statements in a session using a proxy to be pinned to the same underlying database connection. Including an item in the list exempts that class of SQL operations from the pinning behavior.

Default: no session pinning filters

Type: Array of strings

Required: No

\textbf{See Also}

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ConnectionPoolConfigurationInfo

Displays the settings that control the size and behavior of the connection pool associated with a DBProxyTarget.

Contents

ConnectionBorrowTimeout

The number of seconds for a proxy to wait for a connection to become available in the connection pool. Only applies when the proxy has opened its maximum number of connections and all connections are busy with client sessions.

Type: Integer

Required: No

InitQuery

One or more SQL statements for the proxy to run when opening each new database connection. Typically used with SET statements to make sure that each connection has identical settings such as time zone and character set. This setting is empty by default. For multiple statements, use semicolons as the separator. You can also include multiple variables in a single SET statement, such as SET x=1, y=2.

Type: String

Required: No

MaxConnectionsPercent

The maximum size of the connection pool for each target in a target group. The value is expressed as a percentage of the max_connections setting for the RDS DB instance or Aurora DB cluster used by the target group.

Type: Integer

Required: No

MaxIdleConnectionsPercent

Controls how actively the proxy closes idle database connections in the connection pool. The value is expressed as a percentage of the max_connections setting for the RDS DB instance or Aurora DB cluster used by the target group. With a high value, the proxy leaves a high percentage of idle database connections open. A low value causes the proxy to close more idle connections and return them to the database.

Type: Integer

Required: No

SessionPinningFilters.member.N

Each item in the list represents a class of SQL operations that normally cause all later statements in a session using a proxy to be pinned to the same underlying database connection. Including an item in the list exempts that class of SQL operations from the pinning behavior. This setting is only supported for MySQL engine family databases. Currently, the only allowed value is EXCLUDE_VARIABLE_SETS.

Type: Array of strings
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Contains the details of an Amazon Aurora DB cluster or Multi-AZ DB cluster.

For an Amazon Aurora DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, PromoteReadReplicaDBCluster, RestoreDBClusterFromS3, RestoreDBClusterFromSnapshot, RestoreDBClusterToPointInTime, StartDBCluster, and StopDBCluster.

For a Multi-AZ DB cluster, this data type is used as a response element in the operations CreateDBCluster, DeleteDBCluster, DescribeDBClusters, FailoverDBCluster, ModifyDBCluster, RebootDBCluster, RestoreDBClusterFromSnapshot, and RestoreDBClusterToPointInTime.

For more information on Amazon Aurora DB clusters, see What is Amazon Aurora? in the Amazon Aurora User Guide.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

## Contents

### ActivityStreamKinesisStreamName

The name of the Amazon Kinesis data stream used for the database activity stream.

- **Type:** String
- **Required:** No

### ActivityStreamKmsKeyId

The AWS KMS key identifier used for encrypting messages in the database activity stream.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

- **Type:** String
- **Required:** No

### ActivityStreamMode

The mode of the database activity stream. Database events such as a change or access generate an activity stream event. The database session can handle these events either synchronously or asynchronously.

- **Type:** String
- **Valid Values:** sync | async
- **Required:** No

### ActivityStreamStatus

The status of the database activity stream.

- **Type:** String
- **Valid Values:** stopped | starting | started | stopping
- **Required:** No
### AllocatedStorage

For all database engines except Amazon Aurora, `AllocatedStorage` specifies the allocated storage size in gibibytes (GiB). For Aurora, `AllocatedStorage` always returns 1, because Aurora DB cluster storage size isn’t fixed, but instead automatically adjusts as needed.

Type: Integer  
Required: No

### AssociatedRoles.DBClusterRole.N

Provides a list of the AWS Identity and Access Management (IAM) roles that are associated with the DB cluster. IAM roles that are associated with a DB cluster grant permission for the DB cluster to access other Amazon Web Services on your behalf.

Type: Array of `DBClusterRole` (p. 606) objects  
Required: No

### AutomaticRestartTime

The time when a stopped DB cluster is restarted automatically.

Type: Timestamp  
Required: No

### AutoMinorVersionUpgrade

A value that indicates that minor version patches are applied automatically.

This setting is only for non-Aurora Multi-AZ DB clusters.

Type: Boolean  
Required: No

### AvailabilityZones.AvailabilityZone.N

Provides the list of Availability Zones (AZs) where instances in the DB cluster can be created.

Type: Array of strings  
Required: No

### BacktrackConsumedChangeRecords

The number of change records stored for Backtrack.

Type: Long  
Required: No

### BacktrackWindow

The target backtrack window, in seconds. If this value is set to 0, backtracking is disabled for the DB cluster. Otherwise, backtracking is enabled.

Type: Long  
Required: No

### BackupRetentionPeriod

Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer
Required: No

**Capacity**

The current capacity of an Aurora Serverless v1 DB cluster. The capacity is 0 (zero) when the cluster is paused.

For more information about Aurora Serverless v1, see [Using Amazon Aurora Serverless v1](UsersGuide) in the Amazon Aurora User Guide.

Type: Integer

Required: No

**CharacterSetName**

If present, specifies the name of the character set that this cluster is associated with.

Type: String

Required: No

**CloneGroupId**

Identifies the clone group to which the DB cluster is associated.

Type: String

Required: No

**ClusterCreateTime**

Specifies the time when the DB cluster was created, in Universal Coordinated Time (UTC).

Type: Timestamp

Required: No

**CopyTagsToSnapshot**

Specifies whether tags are copied from the DB cluster to snapshots of the DB cluster.

Type: Boolean

Required: No

**CrossAccountClone**

Specifies whether the DB cluster is a clone of a DB cluster owned by a different AWS account.

Type: Boolean

Required: No

**CustomEndpoints.member.N**

Identifies all custom endpoints associated with the cluster.

Type: Array of strings

Required: No

**DatabaseName**

Contains the name of the initial database of this DB cluster that was provided at create time, if one was specified when the DB cluster was created. This same name is returned for the life of the DB cluster.
Type: String
Required: No

**DBClusterArn**

The Amazon Resource Name (ARN) for the DB cluster.

Type: String
Required: No

**DBClusterIdentifier**

Contains a user-supplied DB cluster identifier. This identifier is the unique key that identifies a DB cluster.

Type: String
Required: No

**DBClusterInstanceClass**

The name of the compute and memory capacity class of the DB instance.
This setting is only for non-Aurora Multi-AZ DB clusters.

Type: String
Required: No

**DBClusterMembers.DBClusterMember.N**

Provides the list of instances that make up the DB cluster.

Type: Array of [DBClusterMember](p. 603) objects
Required: No

**DBClusterOptionGroupMemberships.DBClusterOptionGroup.N**

Provides the list of option group memberships for this DB cluster.

Type: Array of [DBClusterOptionGroupStatus](p. 604) objects
Required: No

**DBClusterParameterGroup**

Specifies the name of the DB cluster parameter group for the DB cluster.

Type: String
Required: No

**DbClusterResourceId**

The AWS Region-unique, immutable identifier for the DB cluster. This identifier is found in AWS CloudTrail log entries whenever the KMS key for the DB cluster is accessed.

Type: String
Required: No

**DBSubnetGroup**

Specifies information on the subnet group associated with the DB cluster, including the name, description, and subnets in the subnet group.
DeletionProtection

Indicates if the DB cluster has deletion protection enabled. The database can't be deleted when deletion protection is enabled.

Type: Boolean
Required: No

DomainMemberships.DomainMembership.N

The Active Directory Domain membership records associated with the DB cluster.

Type: Array of DomainMembership (p. 660) objects
Required: No

EarliestBacktrackTime

The earliest time to which a DB cluster can be backtracked.

Type: Timestamp
Required: No

EarliestRestorableTime

The earliest time to which a database can be restored with point-in-time restore.

Type: Timestamp
Required: No

EnabledCloudwatchLogsExports.member.N

A list of log types that this DB cluster is configured to export to CloudWatch Logs.

Log types vary by DB engine. For information about the log types for each DB engine, see Amazon RDS Database Log Files in the Amazon Aurora User Guide.

Type: Array of strings
Required: No

Endpoint

Specifies the connection endpoint for the primary instance of the DB cluster.

Type: String
Required: No

Engine

The name of the database engine to be used for this DB cluster.

Type: String
Required: No

EngineMode

The DB engine mode of the DB cluster, either provisioned, serverless, parallelquery, global, or multimaster.
For more information, see CreateDBCluster.

**Type:** String

**Required:** No

**EngineVersion**

Indicates the database engine version.

**Type:** String

**Required:** No

**GlobalWriteForwardingRequested**

Specifies whether you have requested to enable write forwarding for a secondary cluster in an Aurora global database. Because write forwarding takes time to enable, check the value of GlobalWriteForwardingStatus to confirm that the request has completed before using the write forwarding feature for this cluster.

**Type:** Boolean

**Required:** No

**GlobalWriteForwardingStatus**

Specifies whether a secondary cluster in an Aurora global database has write forwarding enabled, not enabled, or is in the process of enabling it.

**Type:** String

**Valid Values:** enabled | disabled | enabling | disabling | unknown

**Required:** No

**HostedZoneId**

Specifies the ID that Amazon Route 53 assigns when you create a hosted zone.

**Type:** String

**Required:** No

**HttpEndpointEnabled**

A value that indicates whether the HTTP endpoint for an Aurora Serverless v1 DB cluster is enabled.

When enabled, the HTTP endpoint provides a connectionless web service API for running SQL queries on the Aurora Serverless v1 DB cluster. You can also query your database from inside the RDS console with the query editor.

For more information, see Using the Data API for Aurora Serverless v1 in the Amazon Aurora User Guide.

**Type:** Boolean

**Required:** No

**IAMDatabaseAuthenticationEnabled**

A value that indicates whether the mapping of AWS Identity and Access Management (IAM) accounts to database accounts is enabled.

**Type:** Boolean
Iops

The Provisioned IOPS (I/O operations per second) value.

This setting is only for non-Aurora Multi-AZ DB clusters.

Type: Integer

Required: No

KmsKeyId

If StorageEncrypted is enabled, the AWS KMS key identifier for the encrypted DB cluster.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

Type: String

Required: No

LatestRestorableTime

Specifies the latest time to which a database can be restored with point-in-time restore.

Type: Timestamp

Required: No

MasterUsername

Contains the master username for the DB cluster.

Type: String

Required: No

MonitoringInterval

The interval, in seconds, between points when Enhanced Monitoring metrics are collected for the DB cluster.

This setting is only for non-Aurora Multi-AZ DB clusters.

Type: Integer

Required: No

MonitoringRoleArn

The ARN for the IAM role that permits RDS to send Enhanced Monitoring metrics to Amazon CloudWatch Logs.

This setting is only for non-Aurora Multi-AZ DB clusters.

Type: String

Required: No

MultiAZ

Specifies whether the DB cluster has instances in multiple Availability Zones.

Type: Boolean

Required: No
NetworkType

The network type of the DB instance.

Valid values:
- IPV4
- DUAL

The network type is determined by the DBSubnetGroup specified for the DB cluster. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon Aurora User Guide. This setting is only for Aurora DB clusters.

Type: String

Required: No

PendingModifiedValues

A value that specifies that changes to the DB cluster are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: ClusterPendingModifiedValues (p. 583) object

Required: No

PercentProgress

Specifies the progress of the operation as a percentage.

Type: String

Required: No

PerformanceInsightsEnabled

True if Performance Insights is enabled for the DB cluster, and otherwise false.

This setting is only for non-Aurora Multi-AZ DB clusters.

Type: Boolean

Required: No

PerformanceInsightsKMSKeyId

The AWS KMS key identifier for encryption of Performance Insights data.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

This setting is only for non-Aurora Multi-AZ DB clusters.

Type: String

Required: No

PerformanceInsightsRetentionPeriod

The number of days to retain Performance Insights data. The default is 7 days. The following values are valid:
- 7
• *month* * 31, where *month* is a number of months from 1-23
• 731

For example, the following values are valid:
• 93 (3 months * 31)
• 341 (11 months * 31)
• 589 (19 months * 31)
• 731

This setting is only for non-Aurora Multi-AZ DB clusters.

**Type:** Integer  
**Required:** No

**Port**

Specifies the port that the database engine is listening on.

**Type:** Integer  
**Required:** No

**PreferredBackupWindow**

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the BackupRetentionPeriod.

**Type:** String  
**Required:** No

**PreferredMaintenanceWindow**

Specifies the weekly time range during which system maintenance can occur, in Universal Coordinated Time (UTC).

**Type:** String  
**Required:** No

**PubliclyAccessible**

Specifies the accessibility options for the DB instance.

When the DB instance is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB instance's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB instance's VPC. Access to the DB instance is ultimately controlled by the security group it uses. That public access is not permitted if the security group assigned to the DB instance doesn't permit it.

When the DB instance isn't publicly accessible, it is an internal DB instance with a DNS name that resolves to a private IP address.

For more information, see [CreateDBInstance](p. 85).

This setting is only for non-Aurora Multi-AZ DB clusters.

**Type:** Boolean  
**Required:** No
**ReaderEndpoint**

The reader endpoint for the DB cluster. The reader endpoint for a DB cluster load-balances connections across the Aurora Replicas that are available in a DB cluster. As clients request new connections to the reader endpoint, Aurora distributes the connection requests among the Aurora Replicas in the DB cluster. This functionality can help balance your read workload across multiple Aurora Replicas in your DB cluster.

If a failover occurs, and the Aurora Replica that you are connected to is promoted to be the primary instance, your connection is dropped. To continue sending your read workload to other Aurora Replicas in the cluster, you can then reconnect to the reader endpoint.

Type: String
Required: No

**ReadReplicaIdentifiers.ReadReplicaIdentifier.N**

Contains one or more identifiers of the read replicas associated with this DB cluster.

Type: Array of strings
Required: No

**ReplicationSourceIdentifier**

Contains the identifier of the source DB cluster if this DB cluster is a read replica.

Type: String
Required: No

**ScalingConfigurationInfo**

Shows the scaling configuration for an Aurora DB cluster in serverless DB engine mode.

For more information, see Using Amazon Aurora Serverless v1 in the Amazon Aurora User Guide.

Type: ScalingConfigurationInfo (p. 722) object
Required: No

**ServerlessV2ScalingConfiguration**

Shows the scaling configuration for an Aurora Serverless v2 DB cluster.

For more information, see Using Amazon Aurora Serverless v2 in the Amazon Aurora User Guide.

Type: ServerlessV2ScalingConfigurationInfo (p. 725) object
Required: No

**Status**

Specifies the current state of this DB cluster.

Type: String
Required: No

**StorageEncrypted**

Specifies whether the DB cluster is encrypted.

Type: Boolean
Required: No

**StorageType**

The storage type associated with the DB cluster.

This setting is only for non-Aurora Multi-AZ DB clusters.

Type: String

Required: No

**TagList.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No


Provides a list of VPC security groups that the DB cluster belongs to.

Type: Array of VpcSecurityGroupMembership (p. 740) objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBClusterBacktrack

This data type is used as a response element in the DescribeDBClusterBacktracks action.

Contents

BacktrackedFrom

The timestamp of the time from which the DB cluster was backtracked.

Type: Timestamp

Required: No

BacktrackIdentifier

Contains the backtrack identifier.

Type: String

Required: No

BacktrackRequestCreationTime

The timestamp of the time at which the backtrack was requested.

Type: Timestamp

Required: No

BacktrackTo

The timestamp of the time to which the DB cluster was backtracked.

Type: Timestamp

Required: No

DBClusterIdentifier

Contains a user-supplied DB cluster identifier. This identifier is the unique key that identifies a DB cluster.

Type: String

Required: No

Status

The status of the backtrack. This property returns one of the following values:

• applying - The backtrack is currently being applied to or rolled back from the DB cluster.
• completed - The backtrack has successfully been applied to or rolled back from the DB cluster.
• failed - An error occurred while the backtrack was applied to or rolled back from the DB cluster.
• pending - The backtrack is currently pending application to or rollback from the DB cluster.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
DBClusterEndpoint

This data type represents the information you need to connect to an Amazon Aurora DB cluster. This data type is used as a response element in the following actions:

- CreateDBClusterEndpoint
- DescribeDBClusterEndpoints
- ModifyDBClusterEndpoint
- DeleteDBClusterEndpoint

For the data structure that represents Amazon RDS DB instance endpoints, see Endpoint.

Contents

CustomEndpointType

The type associated with a custom endpoint. One of: READER, WRITER, ANY.

Type: String
Required: No

DBClusterEndpointArn

The Amazon Resource Name (ARN) for the endpoint.

Type: String
Required: No

DBClusterEndpointIdentifier

The identifier associated with the endpoint. This parameter is stored as a lowercase string.

Type: String
Required: No

DBClusterEndpointResourceIdentifier

A unique system-generated identifier for an endpoint. It remains the same for the whole life of the endpoint.

Type: String
Required: No

DBClusterIdentifier

The DB cluster identifier of the DB cluster associated with the endpoint. This parameter is stored as a lowercase string.

Type: String
Required: No

Endpoint

The DNS address of the endpoint.

Type: String
Required: No

**EndpointType**

The type of the endpoint. One of: READER, WRITER, CUSTOM.

Type: String

Required: No

**ExcludedMembers.member.N**

List of DB instance identifiers that aren't part of the custom endpoint group. All other eligible instances are reachable through the custom endpoint. Only relevant if the list of static members is empty.

Type: Array of strings

Required: No

**StaticMembers.member.N**

List of DB instance identifiers that are part of the custom endpoint group.

Type: Array of strings

Required: No

**Status**

The current status of the endpoint. One of: creating, available, deleting, inactive, modifying. The inactive state applies to an endpoint that can't be used for a certain kind of cluster, such as a writer endpoint for a read-only secondary cluster in a global database.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBClusterMember

Contains information about an instance that is part of a DB cluster.

Contents

DBClusterParameterGroupStatus

Specifies the status of the DB cluster parameter group for this member of the DB cluster.

Type: String

Required: No

DBInstanceIdentifier

Specifies the instance identifier for this member of the DB cluster.

Type: String

Required: No

IsClusterWriter

Value that is true if the cluster member is the primary instance for the DB cluster and false otherwise.

Type: Boolean

Required: No

PromotionTier

A value that specifies the order in which an Aurora Replica is promoted to the primary instance after a failure of the existing primary instance. For more information, see Fault Tolerance for an Aurora DB Cluster in the Amazon Aurora User Guide.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBClusterOptionGroupStatus

Contains status information for a DB cluster option group.

Contents

**DBClusterOptionGroupName**

Specifies the name of the DB cluster option group.

Type: String

Required: No

**Status**

Specifies the status of the DB cluster option group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBClusterParameterGroup

Contains the details of an Amazon RDS DB cluster parameter group. This data type is used as a response element in the DescribeDBClusterParameterGroups action.

Contents

DBClusterParameterGroupArn
The Amazon Resource Name (ARN) for the DB cluster parameter group.
Type: String
Required: No

DBClusterParameterGroupName
The name of the DB cluster parameter group.
Type: String
Required: No

DBParameterGroupFamily
The name of the DB parameter group family that this DB cluster parameter group is compatible with.
Type: String
Required: No

Description
Provides the customer-specified description for this DB cluster parameter group.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBClusterRole

Describes an AWS Identity and Access Management (IAM) role that is associated with a DB cluster.

Contents

FeatureName

The name of the feature associated with the AWS Identity and Access Management (IAM) role. For information about supported feature names, see DBEngineVersion (p. 613).

Type: String

Required: No

RoleArn

The Amazon Resource Name (ARN) of the IAM role that is associated with the DB cluster.

Type: String

Required: No

Status

Describes the state of association between the IAM role and the DB cluster. The Status property returns one of the following values:

- ACTIVE - the IAM role ARN is associated with the DB cluster and can be used to access other Amazon Web Services on your behalf.
- PENDING - the IAM role ARN is being associated with the DB cluster.
- INVALID - the IAM role ARN is associated with the DB cluster, but the DB cluster is unable to assume the IAM role in order to access other Amazon Web Services on your behalf.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBClusterSnapshot

Contains the details for an Amazon RDS DB cluster snapshot

This data type is used as a response element in the DescribeDBClusterSnapshots action.

Contents

AllocatedStorage

Specifies the allocated storage size in gibibytes (GiB).

Type: Integer

Required: No

AvailabilityZones.AvailabilityZone.N

Provides the list of Availability Zones (AZs) where instances in the DB cluster snapshot can be restored.

Type: Array of strings

Required: No

ClusterCreateTime

Specifies the time when the DB cluster was created, in Universal Coordinated Time (UTC).

Type: Timestamp

Required: No

DBClusterIdentifier

Specifies the DB cluster identifier of the DB cluster that this DB cluster snapshot was created from.

Type: String

Required: No

DBClusterSnapshotArn

The Amazon Resource Name (ARN) for the DB cluster snapshot.

Type: String

Required: No

DBClusterSnapshotIdentifier

Specifies the identifier for the DB cluster snapshot.

Type: String

Required: No

Engine

Specifies the name of the database engine for this DB cluster snapshot.

Type: String

Required: No
EngineMode

Provides the engine mode of the database engine for this DB cluster snapshot.

Type: String

Required: No

EngineVersion

Provides the version of the database engine for this DB cluster snapshot.

Type: String

Required: No

IAMDatabaseAuthenticationEnabled

True if mapping of AWS Identity and Access Management (IAM) accounts to database accounts is enabled, and otherwise false.

Type: Boolean

Required: No

KmsKeyId

If StorageEncrypted is true, the AWS KMS key identifier for the encrypted DB cluster snapshot.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

Type: String

Required: No

LicenseModel

Provides the license model information for this DB cluster snapshot.

Type: String

Required: No

MasterUsername

Provides the master username for this DB cluster snapshot.

Type: String

Required: No

PercentProgress

Specifies the percentage of the estimated data that has been transferred.

Type: Integer

Required: No

Port

Specifies the port that the DB cluster was listening on at the time of the snapshot.

Type: Integer

Required: No
**SnapshotCreateTime**

Provides the time when the snapshot was taken, in Universal Coordinated Time (UTC).

Type: Timestamp

Required: No

**SnapshotType**

Provides the type of the DB cluster snapshot.

Type: String

Required: No

**SourceDBClusterSnapshotArn**

If the DB cluster snapshot was copied from a source DB cluster snapshot, the Amazon Resource Name (ARN) for the source DB cluster snapshot, otherwise, a null value.

Type: String

Required: No

**Status**

Specifies the status of this DB cluster snapshot. Valid statuses are the following:

- available
- copying
- creating

Type: String

Required: No

**StorageEncrypted**

Specifies whether the DB cluster snapshot is encrypted.

Type: Boolean

Required: No

**TagList.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

**VpcId**

Provides the VPC ID associated with the DB cluster snapshot.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
DBClusterSnapshotAttribute

Contains the name and values of a manual DB cluster snapshot attribute.

Manual DB cluster snapshot attributes are used to authorize other AWS accounts to restore a manual DB cluster snapshot. For more information, see the ModifyDBClusterSnapshotAttribute API action.

Contents

AttributeName

The name of the manual DB cluster snapshot attribute.

The attribute named restore refers to the list of AWS accounts that have permission to copy or restore the manual DB cluster snapshot. For more information, see the ModifyDBClusterSnapshotAttribute API action.

Type: String
Required: No

AttributeValue.AttributeValue.N

The value(s) for the manual DB cluster snapshot attribute.

If the AttributeName field is set to restore, then this element returns a list of IDs of the AWS accounts that are authorized to copy or restore the manual DB cluster snapshot. If a value of all is in the list, then the manual DB cluster snapshot is public and available for any AWS account to copy or restore.

Type: Array of strings
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**DBClusterSnapshotAttributesResult**

Contains the results of a successful call to the `DescribeDBClusterSnapshotAttributes` API action.

Manual DB cluster snapshot attributes are used to authorize other AWS accounts to copy or restore a manual DB cluster snapshot. For more information, see the `ModifyDBClusterSnapshotAttribute` API action.

**Contents**

**DBClusterSnapshotAttributes.DBClusterSnapshotAttribute.N**

The list of attributes and values for the manual DB cluster snapshot.

Type: Array of `DBClusterSnapshotAttribute` objects

Required: No

**DBClusterSnapshotIdentifier**

The identifier of the manual DB cluster snapshot that the attributes apply to.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBEngineVersion

This data type is used as a response element in the action DescribeDBEngineVersions.

Contents

CreateTime

The creation time of the DB engine version.

Type: Timestamp

Required: No

DatabaseInstallationFilesS3BucketName

The name of the Amazon S3 bucket that contains your database installation files.

Type: String

Required: No

DatabaseInstallationFilesS3Prefix

The Amazon S3 directory that contains the database installation files. If not specified, then no prefix is assumed.

Type: String

Required: No

DBEngineDescription

The description of the database engine.

Type: String

Required: No

DBEngineVersionArn

The ARN of the custom engine version.

Type: String

Required: No

DBEngineVersionDescription

The description of the database engine version.

Type: String

Required: No

DBParameterGroupFamily

The name of the DB parameter group family for the database engine.

Type: String

Required: No
DefaultCharacterSet

The default character set for new instances of this engine version, if the CharacterSetName parameter of the CreateDBInstance API isn't specified.

Type: CharacterSet (p. 581) object

Required: No

Engine

The name of the database engine.

Type: String

Required: No

EngineVersion

The version number of the database engine.

Type: String

Required: No

ExportableLogTypes.member.N

The types of logs that the database engine has available for export to CloudWatch Logs.

Type: Array of strings

Required: No

KMSKeyId

The AWS KMS key identifier for an encrypted CEV. This parameter is required for RDS Custom, but optional for Amazon RDS.

Type: String

Required: No

MajorEngineVersion

The major engine version of the CEV.

Type: String

Required: No

Status

The status of the DB engine version, either available or deprecated.

Type: String

Required: No

SupportedCharacterSets.CharacterSet.N

A list of the character sets supported by this engine for the CharacterSetName parameter of the CreateDBInstance operation.

Type: Array of CharacterSet (p. 581) objects

Required: No
SupportedEngineModes.member.N

A list of the supported DB engine modes.

Type: Array of strings

Required: No

SupportedFeatureNames.member.N

A list of features supported by the DB engine.

The supported features vary by DB engine and DB engine version.

To determine the supported features for a specific DB engine and DB engine version using the AWS CLI, use the following command:

```bash
aws rds describe-db-engine-versions --engine <engine_name> --engine-version <engine_version>
```

For example, to determine the supported features for RDS for PostgreSQL version 13.3 using the AWS CLI, use the following command:

```bash
aws rds describe-db-engine-versions --engine postgres --engine-version 13.3
```

The supported features are listed under SupportedFeatureNames in the output.

Type: Array of strings

Required: No

SupportedNcharCharacterSets.CharacterSet.N

A list of the character sets supported by the Oracle DB engine for the NcharCharacterSetName parameter of the CreateDBInstance operation.

Type: Array of CharacterSet (p. 581) objects

Required: No

SupportedTimezones.Timezone.N

A list of the time zones supported by this engine for the Timezone parameter of the CreateDBInstance action.

Type: Array of Timezone (p. 730) objects

Required: No

SupportsBabelfish

A value that indicates whether the engine version supports Babelfish for Aurora PostgreSQL.

Type: Boolean

Required: No

SupportsGlobalDatabases

A value that indicates whether you can use Aurora global databases with a specific DB engine version.

Type: Boolean

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBInstance

Contains the details of an Amazon RDS DB instance.

This data type is used as a response element in the operations CreateDBInstance, CreateDBInstanceReadReplica, DeleteDBInstance, DescribeDBInstances, ModifyDBInstance, PromoteReadReplica, RebootDBInstance, RestoreDBInstanceFromDBSnapshot, RestoreDBInstanceFromS3, RestoreDBInstanceToPointInTime, StartDBInstance, and StopDBInstance.

Contents

ActivityStreamEngineNativeAuditFieldsIncluded

Indicates whether engine-native audit fields are included in the database activity stream.

Type: Boolean

Required: No

ActivityStreamKinesisStreamName

The name of the Amazon Kinesis data stream used for the database activity stream.

Type: String

Required: No

ActivityStreamKmsKeyId

The AWS KMS key identifier used for encrypting messages in the database activity stream. The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

Type: String

Required: No

ActivityStreamMode

The mode of the database activity stream. Database events such as a change or access generate an activity stream event. RDS for Oracle always handles these events asynchronously.

Type: String

Valid Values: sync | async

Required: No

ActivityStreamPolicyStatus

The status of the policy state of the activity stream.

Type: String

Valid Values: locked | unlocked | locking-policy | unlocking-policy

Required: No

ActivityStreamStatus

The status of the database activity stream.

Type: String
Valid Values: stopped | starting | started | stopping

Required: No

AllocatedStorage

Specifies the allocated storage size specified in gibibytes (GiB).

Type: Integer

Required: No

AssociatedRoles.DBInstanceRole.N

The AWS Identity and Access Management (IAM) roles associated with the DB instance.

Type: Array of DBInstanceRole (p. 634) objects

Required: No

AutomaticRestartTime

The time when a stopped DB instance is restarted automatically.

Type: Timestamp

Required: No

AutomationMode

The automation mode of the RDS Custom DB instance: full or all paused. If full, the DB instance automates monitoring and instance recovery. If all paused, the instance pauses automation for the duration set by --resume-full-automation-mode-minutes.

Type: String

Valid Values: full | all-paused

Required: No

AutoMinorVersionUpgrade

A value that indicates that minor version patches are applied automatically.

Type: Boolean

Required: No

AvailabilityZone

Specifies the name of the Availability Zone the DB instance is located in.

Type: String

Required: No

AwsBackupRecoveryPointArn

The Amazon Resource Name (ARN) of the recovery point in AWS Backup.

Type: String

Required: No

BackupRetentionPeriod

Specifies the number of days for which automatic DB snapshots are retained.
BackupTarget

Specifies where automated backups and manual snapshots are stored: AWS Outposts or the AWS Region.

Type: String
Required: No

CACertificateIdentifier

The identifier of the CA certificate for this DB instance.

Type: String
Required: No

CharacterSetName

If present, specifies the name of the character set that this instance is associated with.

Type: String
Required: No

CopyTagsToSnapshot

Specifies whether tags are copied from the DB instance to snapshots of the DB instance.

Amazon Aurora

Not applicable. Copying tags to snapshots is managed by the DB cluster. Setting this value for an Aurora DB instance has no effect on the DB cluster setting. For more information, see DBCluster.

Type: Boolean
Required: No

CustomerOwnedIpEnabled

Specifies whether a customer-owned IP address (CoIP) is enabled for an RDS on Outposts DB instance.

A CoIP provides local or external connectivity to resources in your Outpost subnets through your on-premises network. For some use cases, a CoIP can provide lower latency for connections to the DB instance from outside of its virtual private cloud (VPC) on your local network.

For more information about RDS on Outposts, see Working with Amazon RDS on AWS Outposts in the Amazon RDS User Guide.

For more information about CoIPs, see Customer-owned IP addresses in the AWS Outposts User Guide.

Type: Boolean
Required: No

CustomIamInstanceProfile

The instance profile associated with the underlying Amazon EC2 instance of an RDS Custom DB instance. The instance profile must meet the following requirements:
The profile must exist in your account.
The profile must have an IAM role that Amazon EC2 has permissions to assume.
The instance profile name and the associated IAM role name must start with the prefix AWSRDSCustom.

For the list of permissions required for the IAM role, see Configure IAM and your VPC in the Amazon RDS User Guide.

Type: String
Required: No

**DBClusterIdentifier**

If the DB instance is a member of a DB cluster, contains the name of the DB cluster that the DB instance is a member of.

Type: String
Required: No

**DBInstanceArn**

The Amazon Resource Name (ARN) for the DB instance.

Type: String
Required: No

**DBInstanceAutomatedBackupsReplications.DBInstanceAutomatedBackupsReplication.N**

The list of replicated automated backups associated with the DB instance.

Type: Array of DBInstanceAutomatedBackupsReplication (p. 633) objects
Required: No

**DBInstanceClass**

Contains the name of the compute and memory capacity class of the DB instance.

Type: String
Required: No

**DBInstanceIdentifier**

Contains a user-supplied database identifier. This identifier is the unique key that identifies a DB instance.

Type: String
Required: No

**DBInstancePort**

Specifies the port that the DB instance listens on. If the DB instance is part of a DB cluster, this can be a different port than the DB cluster port.

Type: Integer
Required: No

**DBInstanceStatus**

Specifies the current state of this database.
For information about DB instance statuses, see Viewing DB instance status in the Amazon RDS User Guide.

Type: String
Required: No

**DbiResourceId**

The AWS Region-unique, immutable identifier for the DB instance. This identifier is found in AWS CloudTrail log entries whenever the AWS KMS key for the DB instance is accessed.

Type: String
Required: No

**DBName**

The meaning of this parameter differs according to the database engine you use.

MySQL, MariaDB, SQL Server, PostgreSQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String
Required: No

**DBParameterGroups.DBParameterGroup.N**

Provides the list of DB parameter groups applied to this DB instance.

Type: Array of **DBParameterGroupStatus** (p. 637) objects
Required: No

**DBSecurityGroups.DBSecurityGroup.N**

A list of DB security group elements containing **DBSecurityGroup.Name** and **DBSecurityGroup.Status** subelements.

Type: Array of **DBSecurityGroupMembership** (p. 649) objects
Required: No

**DBSubnetGroup**

Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: **DBSubnetGroup** (p. 657) object
Required: No

**DeletionProtection**

Indicates if the DB instance has deletion protection enabled. The database can't be deleted when deletion protection is enabled. For more information, see Deleting a DB Instance.
Type: Boolean
Required: No

DomainMemberships.DomainMembership.N
The Active Directory Domain membership records associated with the DB instance.
Type: Array of DomainMembership (p. 660) objects
Required: No

EnabledCloudwatchLogsExports.member.N
A list of log types that this DB instance is configured to export to CloudWatch Logs.
Log types vary by DB engine. For information about the log types for each DB engine, see Amazon RDS Database Log Files in the Amazon RDS User Guide.
Type: Array of strings
Required: No

Endpoint
Specifies the connection endpoint.

Note
The endpoint might not be shown for instances whose status is creating.

Type: Endpoint (p. 663) object
Required: No

Engine
The name of the database engine to be used for this DB instance.
Type: String
Required: No

EngineVersion
Indicates the database engine version.
Type: String
Required: No

EnhancedMonitoringResourceArn
The Amazon Resource Name (ARN) of the Amazon CloudWatch Logs log stream that receives the Enhanced Monitoring metrics data for the DB instance.
Type: String
Required: No

IAMDatabaseAuthenticationEnabled
True if mapping of AWS Identity and Access Management (IAM) accounts to database accounts is enabled, and otherwise false.

IAM database authentication can be enabled for the following database engines
- For MySQL 5.6, minor version 5.6.34 or higher
- For MySQL 5.7, minor version 5.7.16 or higher
- Aurora 5.6 or higher. To enable IAM database authentication for Aurora, see DBCluster Type.
  
  Type: Boolean
  
  Required: No

**InstanceCreateTime**

Provides the date and time the DB instance was created.

Type: Timestamp

Required: No

**Iops**

Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

Required: No

**KmsKeyId**

If `StorageEncrypted` is true, the AWS KMS key identifier for the encrypted DB instance.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

Type: String

Required: No

**LatestRestorableTime**

Specifies the latest time to which a database can be restored with point-in-time restore.

Type: Timestamp

Required: No

**LicenseModel**

License model information for this DB instance. This setting doesn't apply to RDS Custom.

Type: String

Required: No

**ListenerEndpoint**

Specifies the listener connection endpoint for SQL Server Always On.

Type: **Endpoint (p. 663)** object

Required: No

**MasterUsername**

Contains the master username for the DB instance.

Type: String

Required: No

**MaxAllocatedStorage**

The upper limit in gibibytes (GiB) to which Amazon RDS can automatically scale the storage of the DB instance.
Type: Integer
Required: No

**MonitoringInterval**

The interval, in seconds, between points when Enhanced Monitoring metrics are collected for the DB instance.

Type: Integer
Required: No

**MonitoringRoleArn**

The ARN for the IAM role that permits RDS to send Enhanced Monitoring metrics to Amazon CloudWatch Logs.

Type: String
Required: No

**MultiAZ**

Specifies if the DB instance is a Multi-AZ deployment. This setting doesn't apply to RDS Custom.

Type: Boolean
Required: No

**NcharCharacterSetName**

The name of the NCHAR character set for the Oracle DB instance. This character set specifies the Unicode encoding for data stored in table columns of type NCHAR, NCLOB, or NVARCHAR2.

Type: String
Required: No

**NetworkType**

The network type of the DB instance.

Valid values:

- IPV4
- DUAL

The network type is determined by the DBSubnetGroup specified for the DB instance. A DBSubnetGroup can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see [Working with a DB instance in a VPC](rdsuserguide#working-with-a-db-instance-in-a-vpc) in the Amazon RDS User Guide and [Working with a DB instance in a VPC](auroraguide#working-with-a-db-instance-in-a-vpc) in the Amazon Aurora User Guide.

Type: String
Required: No

**OptionGroupMemberships.OptionGroupMembership.N**

Provides the list of option group memberships for this DB instance.

Type: Array of [OptionGroupMembership](p. 686) objects

Required: No
PendingModifiedValues

A value that specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 706) object

Required: No

PerformanceInsightsEnabled

True if Performance Insights is enabled for the DB instance, and otherwise false.

Type: Boolean

Required: No

PerformanceInsightsKMSKeyId

The AWS KMS key identifier for encryption of Performance Insights data.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

Type: String

Required: No

PerformanceInsightsRetentionPeriod

The number of days to retain Performance Insights data. The default is 7 days. The following values are valid:

- 7
- \( month \times 31 \), where \( month \) is a number of months from 1-23
- 731

For example, the following values are valid:

- 93 (3 months * 31)
- 341 (11 months * 31)
- 589 (19 months * 31)
- 731

Type: Integer

Required: No

PreferredBackupWindow

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the BackupRetentionPeriod.

Type: String

Required: No

PreferredMaintenanceWindow

Specifies the weekly time range during which system maintenance can occur, in Universal Coordinated Time (UTC).

Type: String

Required: No
ProcessorFeatures.ProcessorFeature.N

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance.

Type: Array of ProcessorFeature (p. 709) objects

Required: No

PromotionTier

A value that specifies the order in which an Aurora Replica is promoted to the primary instance after a failure of the existing primary instance. For more information, see Fault Tolerance for an Aurora DB Cluster in the Amazon Aurora User Guide.

Type: Integer

Required: No

PubliclyAccessible

Specifies the accessibility options for the DB instance.

When the DB cluster is publicly accessible, its Domain Name System (DNS) endpoint resolves to the private IP address from within the DB cluster's virtual private cloud (VPC). It resolves to the public IP address from outside of the DB cluster's VPC. Access to the DB cluster is ultimately controlled by the security group it uses. That public access isn't permitted if the security group assigned to the DB cluster doesn't permit it.

When the DB instance isn't publicly accessible, it is an internal DB instance with a DNS name that resolves to a private IP address.

For more information, see CreateDBInstance (p. 85).

Type: Boolean

Required: No

ReadReplicaDBClusterIdentifiers.ReadReplicaDBClusterIdentifier.N

Contains one or more identifiers of Aurora DB clusters to which the RDS DB instance is replicated as a read replica. For example, when you create an Aurora read replica of an RDS for MySQL DB instance, the Aurora MySQL DB cluster for the Aurora read replica is shown. This output doesn't contain information about cross-Region Aurora read replicas.

Note

Currently, each RDS DB instance can have only one Aurora read replica.

Type: Array of strings

Required: No

ReadReplicaDBInstanceIdentifiers.ReadReplicaDBInstanceIdentifier.N

Contains one or more identifiers of the read replicas associated with this DB instance.

Type: Array of strings

Required: No

ReadReplicaSourceDBInstanceIdentifier

Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String
Required: No

**ReplicaMode**

The open mode of an Oracle read replica. The default is `open-read-only`. For more information, see Working with Oracle Read Replicas for Amazon RDS in the Amazon RDS User Guide.

**Note**

This attribute is only supported in RDS for Oracle.

Type: String

Valid Values: `open-read-only` | `mounted`

Required: No

**ResumeFullAutomationModeTime**

The number of minutes to pause the automation. When the time period ends, RDS Custom resumes full automation. The minimum value is 60 (default). The maximum value is 1,440.

Type: Timestamp

Required: No

**SecondaryAvailabilityZone**

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

Required: No

**StatusInfos.DBInstanceStatusInfo.N**

The status of a read replica. If the instance isn't a read replica, this is blank.

Type: Array of `DBInstanceStatusInfo` objects

Required: No

**StorageEncrypted**

Specifies whether the DB instance is encrypted.

Type: Boolean

Required: No

**StorageThroughput**

Specifies the storage throughput for the DB instance.

Type: Integer

Required: No

**StorageType**

Specifies the storage type associated with the DB instance.

Type: String

Required: No
TagList.Tag.N

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No

TdeCredentialArn

The ARN from the key store with which the instance is associated for TDE encryption.

Type: String

Required: No

Timezone

The time zone of the DB instance. In most cases, the Timezone element is empty. Timezone content appears only for Microsoft SQL Server DB instances that were created with a time zone specified.

Type: String

Required: No


Provides a list of VPC security group elements that the DB instance belongs to.

Type: Array of VpcSecurityGroupMembership (p. 740) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBInstanceAutomatedBackup

An automated backup of a DB instance. It consists of system backups, transaction logs, and the database instance properties that existed at the time you deleted the source instance.

Contents

AllocatedStorage

Specifies the allocated storage size in gibibytes (GiB).

Type: Integer

Required: No

AvailabilityZone

The Availability Zone that the automated backup was created in. For information on AWS Regions and Availability Zones, see Regions and Availability Zones.

Type: String

Required: No

BackupRetentionPeriod

The retention period for the automated backups.

Type: Integer

Required: No

BackupTarget

Specifies where automated backups are stored: AWS Outposts or the AWS Region.

Type: String

Required: No

DBInstanceArn

The Amazon Resource Name (ARN) for the automated backups.

Type: String

Required: No

DBInstanceAutomatedBackupsArn

The Amazon Resource Name (ARN) for the replicated automated backups.

Type: String

Required: No

DBInstanceAutomatedBackupsReplications.DBInstanceAutomatedBackupsReplication.N

The list of replications to different AWS Regions associated with the automated backup.

Type: Array of DBInstanceAutomatedBackupsReplication (p. 633) objects

Required: No
**DBInstanceIdentifier**

The customer id of the instance that is/was associated with the automated backup.

Type: String

Required: No

**DbiResourceId**

The identifier for the source DB instance, which can't be changed and which is unique to an AWS Region.

Type: String

Required: No

**Encrypted**

Specifies whether the automated backup is encrypted.

Type: Boolean

Required: No

**Engine**

The name of the database engine for this automated backup.

Type: String

Required: No

**EngineVersion**

The version of the database engine for the automated backup.

Type: String

Required: No

**IAMDatabaseAuthenticationEnabled**

True if mapping of AWS Identity and Access Management (IAM) accounts to database accounts is enabled, and otherwise false.

Type: Boolean

Required: No

**InstanceCreateTime**

Provides the date and time that the DB instance was created.

Type: Timestamp

Required: No

**Iops**

The IOPS (I/O operations per second) value for the automated backup.

Type: Integer

Required: No
KmsKeyId
The AWS KMS key ID for an automated backup.
The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.
Type: String
Required: No
LicenseModel
License model information for the automated backup.
Type: String
Required: No
MasterUsername
The license model of an automated backup.
Type: String
Required: No
OptionGroupName
The option group the automated backup is associated with. If omitted, the default option group for
the engine specified is used.
Type: String
Required: No
Port
The port number that the automated backup used for connections.
Default: Inherits from the source DB instance
Valid Values: 1150-65535
Type: Integer
Required: No
Region
The AWS Region associated with the automated backup.
Type: String
Required: No
RestoreWindow
Earliest and latest time an instance can be restored to.
Type: RestoreWindow (p. 719) object
Required: No
Status
Provides a list of status information for an automated backup:
• active - automated backups for current instances
- retained - automated backups for deleted instances
- creating - automated backups that are waiting for the first automated snapshot to be available.

**Type**: String

**Required**: No

**StorageThroughput**

Specifies the storage throughput for the automated backup.

**Type**: Integer

**Required**: No

**StorageType**

Specifies the storage type associated with the automated backup.

**Type**: String

**Required**: No

**TdeCredentialArn**

The ARN from the key store with which the automated backup is associated for TDE encryption.

**Type**: String

**Required**: No

**Timezone**

The time zone of the automated backup. In most cases, the Timezone element is empty. Timezone content appears only for Microsoft SQL Server DB instances that were created with a time zone specified.

**Type**: String

**Required**: No

**VpcId**

Provides the VPC ID associated with the DB instance.

**Type**: String

**Required**: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBInstanceAutomatedBackupsReplication

Automated backups of a DB instance replicated to another AWS Region. They consist of system backups, transaction logs, and database instance properties.

Contents

**DBInstanceAutomatedBackupsArn**

The Amazon Resource Name (ARN) of the replicated automated backups.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**DBInstanceRole**

Describes an AWS Identity and Access Management (IAM) role that is associated with a DB instance.

**Contents**

**FeatureName**

The name of the feature associated with the AWS Identity and Access Management (IAM) role. For information about supported feature names, see DBEngineVersion.

Type: String  
Required: No

**RoleArn**

The Amazon Resource Name (ARN) of the IAM role that is associated with the DB instance.

Type: String  
Required: No

**Status**

Describes the state of association between the IAM role and the DB instance. The Status property returns one of the following values:

- **ACTIVE** - the IAM role ARN is associated with the DB instance and can be used to access other AWS services on your behalf.
- **PENDING** - the IAM role ARN is being associated with the DB instance.
- **INVALID** - the IAM role ARN is associated with the DB instance, but the DB instance is unable to assume the IAM role in order to access other AWS services on your behalf.

Type: String  
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBInstanceStatusInfo

Provides a list of status information for a DB instance.

Contents

**Message**
Details of the error if there is an error for the instance. If the instance isn't in an error state, this value is blank.

Type: String
Required: No

**Normal**
Boolean value that is true if the instance is operating normally, or false if the instance is in an error state.

Type: Boolean
Required: No

**Status**
Status of the DB instance. For a StatusType of read replica, the values can be replicating, replication stop point set, replication stop point reached, error, stopped, or terminated.

Type: String
Required: No

**StatusType**
This value is currently "read replication."

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBParameterGroup

Contains the details of an Amazon RDS DB parameter group.
This data type is used as a response element in the DescribeDBParameterGroups action.

Contents

DBParameterGroupArn
The Amazon Resource Name (ARN) for the DB parameter group.
Type: String
Required: No

DBParameterGroupFamily
The name of the DB parameter group family that this DB parameter group is compatible with.
Type: String
Required: No

DBParameterGroupName
The name of the DB parameter group.
Type: String
Required: No

Description
Provides the customer-specified description for this DB parameter group.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBParameterGroupStatus

The status of the DB parameter group.

This data type is used as a response element in the following actions:

- CreateDBInstance
- CreateDBInstanceReadReplica
- DeleteDBInstance
- ModifyDBInstance
- RebootDBInstance
- RestoreDBInstanceFromDBSnapshot

Contents

DBParameterGroupName

The name of the DB parameter group.

Type: String
Required: No

ParameterApplyStatus

The status of parameter updates.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBProxy

The data structure representing a proxy managed by the RDS Proxy.

This data type is used as a response element in the DescribeDBProxies action.

Contents

Auth.member.N

One or more data structures specifying the authorization mechanism to connect to the associated RDS DB instance or Aurora DB cluster.

Type: Array of UserAuthConfigInfo (p. 735) objects

Required: No

CreatedDate

The date and time when the proxy was first created.

Type: Timestamp

Required: No

DBProxyArn

The Amazon Resource Name (ARN) for the proxy.

Type: String

Required: No

DBProxyName

The identifier for the proxy. This name must be unique for all proxies owned by your AWS account in the specified AWS Region.

Type: String

Required: No

DebugLogging

Whether the proxy includes detailed information about SQL statements in its logs. This information helps you to debug issues involving SQL behavior or the performance and scalability of the proxy connections. The debug information includes the text of SQL statements that you submit through the proxy. Thus, only enable this setting when needed for debugging, and only when you have security measures in place to safeguard any sensitive information that appears in the logs.

Type: Boolean

Required: No

Endpoint

The endpoint that you can use to connect to the DB proxy. You include the endpoint value in the connection string for a database client application.

Type: String

Required: No
EngineFamily

The kinds of databases that the proxy can connect to. This value determines which database network protocol the proxy recognizes when it interprets network traffic to and from the database. MySQL supports Aurora MySQL, RDS for MariaDB, and RDS for MySQL databases. PostgreSQL supports Aurora PostgreSQL and RDS for PostgreSQL databases. SQLServer supports RDS for Microsoft SQL Server databases.

Type: String
Required: No

IdleClientTimeout

The number of seconds a connection to the proxy can have no activity before the proxy drops the client connection. The proxy keeps the underlying database connection open and puts it back into the connection pool for reuse by later connection requests.

Default: 1800 (30 minutes)
Constraints: 1 to 28,800
Type: Integer
Required: No

RequireTLS

Indicates whether Transport Layer Security (TLS) encryption is required for connections to the proxy.

Type: Boolean
Required: No

RoleArn

The Amazon Resource Name (ARN) for the IAM role that the proxy uses to access Amazon Secrets Manager.

Type: String
Required: No

Status

The current status of this proxy. A status of available means the proxy is ready to handle requests. Other values indicate that you must wait for the proxy to be ready, or take some action to resolve an issue.

Type: String
Valid Values: available | modifying | incompatible-network | insufficient-resource-limits | creating | deleting | suspended | suspending | reactivating
Required: No

UpdatedDate

The date and time when the proxy was last updated.

Type: Timestamp
Required: No
VpcId

Provides the VPC ID of the DB proxy.
Type: String
Required: No

VpcSecurityGroupIds.member.N

Provides a list of VPC security groups that the proxy belongs to.
Type: Array of strings
Required: No

VpcSubnetIds.member.N

The EC2 subnet IDs for the proxy.
Type: Array of strings
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBProxyEndpoint

The data structure representing an endpoint associated with a DB proxy. RDS automatically creates one endpoint for each DB proxy. For Aurora DB clusters, you can associate additional endpoints with the same DB proxy. These endpoints can be read/write or read-only. They can also reside in different VPCs than the associated DB proxy.

This data type is used as a response element in the DescribeDBProxyEndpoints operation.

Contents

**CreatedDate**

The date and time when the DB proxy endpoint was first created.

Type: Timestamp

Required: No

**DBProxyEndpointArn**

The Amazon Resource Name (ARN) for the DB proxy endpoint.

Type: String

Required: No

**DBProxyEndpointName**

The name for the DB proxy endpoint. An identifier must begin with a letter and must contain only ASCII letters, digits, and hyphens; it can't end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

**DBProxyName**

The identifier for the DB proxy that is associated with this DB proxy endpoint.

Type: String

Required: No

**Endpoint**

The endpoint that you can use to connect to the DB proxy. You include the endpoint value in the connection string for a database client application.

Type: String

Required: No

**IsDefault**

A value that indicates whether this endpoint is the default endpoint for the associated DB proxy. Default DB proxy endpoints always have read/write capability. Other endpoints that you associate with the DB proxy can be either read/write or read-only.

Type: Boolean

Required: No
Status

The current status of this DB proxy endpoint. A status of available means the endpoint is ready to handle requests. Other values indicate that you must wait for the endpoint to be ready, or take some action to resolve an issue.

Type: String

Valid Values: available | modifying | incompatible-network | insufficient-resource-limits | creating | deleting

Required: No

TargetRole

A value that indicates whether the DB proxy endpoint can be used for read/write or read-only operations.

Type: String

Valid Values: READ_WRITE | READ_ONLY

Required: No

VpcId

Provides the VPC ID of the DB proxy endpoint.

Type: String

Required: No

VpcSecurityGroupIds.N

Provides a list of VPC security groups that the DB proxy endpoint belongs to.

Type: Array of strings

Required: No

VpcSubnetIds.N

The EC2 subnet IDs for the DB proxy endpoint.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBProxyTarget

Contains the details for an RDS Proxy target. It represents an RDS DB instance or Aurora DB cluster that the proxy can connect to. One or more targets are associated with an RDS Proxy target group.

This data type is used as a response element in the DescribeDBProxyTargets action.

Contents

Endpoint

The writer endpoint for the RDS DB instance or Aurora DB cluster.

Type: String

Required: No

Port

The port that the RDS Proxy uses to connect to the target RDS DB instance or Aurora DB cluster.

Type: Integer

Required: No

RdsResourceId

The identifier representing the target. It can be the instance identifier for an RDS DB instance, or the cluster identifier for an Aurora DB cluster.

Type: String

Required: No

Role

A value that indicates whether the target of the proxy can be used for read/write or read-only operations.

Type: String

Valid Values: READ_WRITE | READ_ONLY | UNKNOWN

Required: No

TargetArn

The Amazon Resource Name (ARN) for the RDS DB instance or Aurora DB cluster.

Type: String

Required: No

TargetHealth

Information about the connection health of the RDS Proxy target.

Type: TargetHealth (p. 729) object

Required: No

TrackedClusterId

The DB cluster identifier when the target represents an Aurora DB cluster. This field is blank when the target represents an RDS DB instance.
Type: String
Required: No

**Type**

Specifies the kind of database, such as an RDS DB instance or an Aurora DB cluster, that the target represents.

Type: String

Valid Values: RDS_INSTANCE | RDS_SERVERLESS_ENDPOINT | TRACKED_CLUSTER

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBProxyTargetGroup

Represents a set of RDS DB instances, Aurora DB clusters, or both that a proxy can connect to. Currently, each target group is associated with exactly one RDS DB instance or Aurora DB cluster.

This data type is used as a response element in the DescribeDBProxyTargetGroups action.

Contents

ConnectionPoolConfig

The settings that determine the size and behavior of the connection pool for the target group.

Type: ConnectionPoolConfigurationInfo (p. 586) object

Required: No

CreatedDate

The date and time when the target group was first created.

Type: Timestamp

Required: No

DBProxyName

The identifier for the RDS proxy associated with this target group.

Type: String

Required: No

IsDefault

Whether this target group is the first one used for connection requests by the associated proxy. Because each proxy is currently associated with a single target group, currently this setting is always true.

Type: Boolean

Required: No

Status

The current status of this target group. A status of available means the target group is correctly associated with a database. Other values indicate that you must wait for the target group to be ready, or take some action to resolve an issue.

Type: String

Required: No

TargetGroupArn

The Amazon Resource Name (ARN) representing the target group.

Type: String

Required: No

TargetGroupName

The identifier for the target group. This name must be unique for all target groups owned by your AWS account in the specified AWS Region.
Type: String
Required: No

**UpdatedDate**

The date and time when the target group was last updated.

Type: Timestamp
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBSecurityGroup

Contains the details for an Amazon RDS DB security group.
This data type is used as a response element in the DescribeDBSecurityGroups action.

Contents

**DBSecurityGroupArn**

The Amazon Resource Name (ARN) for the DB security group.

- Type: String
- Required: No

**DBSecurityGroupDescription**

Provides the description of the DB security group.

- Type: String
- Required: No

**DBSecurityGroupName**

Specifies the name of the DB security group.

- Type: String
- Required: No


Contains a list of EC2SecurityGroup elements.

- Type: Array of EC2SecurityGroup (p. 662) objects
- Required: No

**IPRanges.IPRange.N**

Contains a list of IPRange elements.

- Type: Array of IPRange (p. 678) objects
- Required: No

**OwnerId**

Provides the AWS ID of the owner of a specific DB security group.

- Type: String
- Required: No

**VpcId**

Provides the VpcId of the DB security group.

- Type: String
- Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBSecurityGroupMembership

This data type is used as a response element in the following actions:

- ModifyDBInstance
- RebootDBInstance
- RestoreDBInstanceFromDBSnapshot
- RestoreDBInstanceToPointInTime

Contents

DBSecurityGroupName

The name of the DB security group.

Type: String

Required: No

Status

The status of the DB security group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBSnapshot

Contains the details of an Amazon RDS DB snapshot.
This data type is used as a response element in the DescribeDBSnapshots action.

Contents

AllocatedStorage

Specifies the allocated storage size in gibibytes (GiB).
Type: Integer
Required: No

AvailabilityZone

Specifies the name of the Availability Zone the DB instance was located in at the time of the DB snapshot.
Type: String
Required: No

DBInstanceIdentifier

Specifies the DB instance identifier of the DB instance this DB snapshot was created from.
Type: String
Required: No

DbiResourceId

The identifier for the source DB instance, which can't be changed and which is unique to an AWS Region.
Type: String
Required: No

DBSnapshotArn

The Amazon Resource Name (ARN) for the DB snapshot.
Type: String
Required: No

DBSnapshotIdentifier

Specifies the identifier for the DB snapshot.
Type: String
Required: No

Encrypted

Specifies whether the DB snapshot is encrypted.
Type: Boolean
Required: No

**Engine**

Specifies the name of the database engine.

Type: String  
Required: No

**EngineVersion**

Specifies the version of the database engine.

Type: String  
Required: No

**IAMDatabaseAuthenticationEnabled**

True if mapping of AWS Identity and Access Management (IAM) accounts to database accounts is enabled, and otherwise false.

Type: Boolean  
Required: No

**InstanceCreateTime**

Specifies the time in Coordinated Universal Time (UTC) when the DB instance, from which the snapshot was taken, was created.

Type: Timestamp  
Required: No

**Iops**

Specifies the Provisioned IOPS (I/O operations per second) value of the DB instance at the time of the snapshot.

Type: Integer  
Required: No

**KmsKeyId**

If Encrypted is true, the AWS KMS key identifier for the encrypted DB snapshot.

The AWS KMS key identifier is the key ARN, key ID, alias ARN, or alias name for the KMS key.

Type: String  
Required: No

**LicenseModel**

License model information for the restored DB instance.

Type: String  
Required: No

**MasterUsername**

Provides the master username for the DB snapshot.

Type: String
OptionGroupName

Provides the option group name for the DB snapshot.

Type: String

OriginalSnapshotCreateTime

Specifies the time of the CreateDBSnapshot operation in Coordinated Universal Time (UTC). Doesn't change when the snapshot is copied.

Type: Timestamp

PercentProgress

The percentage of the estimated data that has been transferred.

Type: Integer

Port

Specifies the port that the database engine was listening on at the time of the snapshot.

Type: Integer

ProcessorFeatures.ProcessorFeature.N

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance when the DB snapshot was created.

Type: Array of ProcessorFeature (p. 709) objects

SnapshotCreateTime

Specifies when the snapshot was taken in Coordinated Universal Time (UTC). Changes for the copy when the snapshot is copied.

Type: Timestamp

SnapshotDatabaseTime

The timestamp of the most recent transaction applied to the database that you're backing up. Thus, if you restore a snapshot, SnapshotDatabaseTime is the most recent transaction in the restored DB instance. In contrast, originalSnapshotCreateTime specifies the system time that the snapshot completed.

If you back up a read replica, you can determine the replica lag by comparing SnapshotDatabaseTime with originalSnapshotCreateTime. For example, if originalSnapshotCreateTime is two hours later than SnapshotDatabaseTime, then the replica lag is two hours.

Type: Timestamp
Required: No

**SnapshotTarget**

Specifies where manual snapshots are stored: AWS Outposts or the AWS Region.

Type: String

Required: No

**SnapshotType**

Provides the type of the DB snapshot.

Type: String

Required: No

**SourceDBSnapshotIdentifier**

The DB snapshot Amazon Resource Name (ARN) that the DB snapshot was copied from. It only has a value in the case of a cross-account or cross-Region copy.

Type: String

Required: No

**SourceRegion**

The AWS Region that the DB snapshot was created in or copied from.

Type: String

Required: No

**Status**

Specifies the status of this DB snapshot.

Type: String

Required: No

**StorageThroughput**

Specifies the storage throughput for the DB snapshot.

Type: Integer

Required: No

**StorageType**

Specifies the storage type associated with DB snapshot.

Type: String

Required: No

**TagList.Tag.N**

A list of tags. For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

Type: Array of Tag (p. 728) objects

Required: No
**TdeCredentialArn**

The ARN from the key store with which to associate the instance for TDE encryption.

Type: String

Required: No

**Timezone**

The time zone of the DB snapshot. In most cases, the Timezone element is empty. Timezone content appears only for snapshots taken from Microsoft SQL Server DB instances that were created with a time zone specified.

Type: String

Required: No

**VpcId**

Provides the VPC ID associated with the DB snapshot.

Type: String

Required: No

---

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBSnapshotAttribute

Contains the name and values of a manual DB snapshot attribute

Manual DB snapshot attributes are used to authorize other AWS accounts to restore a manual DB snapshot. For more information, see the ModifyDBSnapshotAttribute API.

Contents

**AttributeName**

The name of the manual DB snapshot attribute.

The attribute named `restore` refers to the list of AWS accounts that have permission to copy or restore the manual DB cluster snapshot. For more information, see the ModifyDBSnapshotAttribute API action.

Type: String

Required: No

**AttributeValues.AttributeValue.N**

The value or values for the manual DB snapshot attribute.

If the `AttributeName` field is set to `restore`, then this element returns a list of IDs of the AWS accounts that are authorized to copy or restore the manual DB snapshot. If a value of `all` is in the list, then the manual DB snapshot is public and available for any AWS account to copy or restore.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DBSnapshotAttributesResult

Contains the results of a successful call to the DescribeDBSnapshotAttributes API action.

Manual DB snapshot attributes are used to authorize other AWS accounts to copy or restore a manual DB snapshot. For more information, see the ModifyDBSnapshotAttribute API action.

Contents

DBSnapshotAttributes.DBSnapshotAttribute.N

The list of attributes and values for the manual DB snapshot.

Type: Array of DBSnapshotAttribute (p. 655) objects

Required: No

DBSnapshotIdentifier

The identifier of the manual DB snapshot that the attributes apply to.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
**DBSubnetGroup**

Contains the details of an Amazon RDS DB subnet group.

This data type is used as a response element in the `DescribeDBSubnetGroups` action.

## Contents

**DBSubnetGroupArn**

The Amazon Resource Name (ARN) for the DB subnet group.

Type: String

Required: No

**DBSubnetGroupDescription**

Provides the description of the DB subnet group.

Type: String

Required: No

**DBSubnetGroupName**

The name of the DB subnet group.

Type: String

Required: No

**SubnetGroupStatus**

Provides the status of the DB subnet group.

Type: String

Required: No

**Subnets.Subnet.N**

Contains a list of `Subnet` elements.

Type: Array of `Subnet` objects

Required: No

**SupportedNetworkTypes.member.N**

The network type of the DB subnet group.

Valid values:
- IPV4
- DUAL

A `DBSubnetGroup` can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL). For more information, see Working with a DB instance in a VPC in the Amazon RDS User Guide.

Type: Array of strings

Required: No
VpcId

Provides the VpcId of the DB subnet group.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DescribeDBLogFilesDetails

This data type is used as a response element to DescribeDBLogFiles.

Contents

LastWritten

A POSIX timestamp when the last log entry was written.

Type: Long

Required: No

LogFileName

The name of the log file for the specified DB instance.

Type: String

Required: No

Size

The size, in bytes, of the log file for the specified DB instance.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DomainMembership

An Active Directory Domain membership record associated with the DB instance or cluster.

Contents

Domain

The identifier of the Active Directory Domain.

Type: String

Required: No

FQDN

The fully qualified domain name of the Active Directory Domain.

Type: String

Required: No

IAMRoleName

The name of the IAM role to be used when making API calls to the Directory Service.

Type: String

Required: No

Status

The status of the Active Directory Domain membership for the DB instance or cluster. Values include joined, pending-join, failed, and so on.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
DoubleRange

A range of double values.

Contents

From
The minimum value in the range.
Type: Double
Required: No

To
The maximum value in the range.
Type: Double
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EC2SecurityGroup

This data type is used as a response element in the following actions:

- AuthorizeDBSecurityGroupIngress
- DescribeDBSecurityGroups
- RevokeDBSecurityGroupIngress

Contents

EC2SecurityGroupId

Specifies the id of the EC2 security group.

Type: String

Required: No

EC2SecurityGroupName

Specifies the name of the EC2 security group.

Type: String

Required: No

EC2SecurityGroupOwnerId

Specifies the AWS ID of the owner of the EC2 security group specified in the EC2SecurityGroupName field.

Type: String

Required: No

Status

Provides the status of the EC2 security group. Status can be "authorizing", "authorized", "revoking", and "revoked".

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Endpoint

This data type represents the information you need to connect to an Amazon RDS DB instance. This data type is used as a response element in the following actions:

- CreateDBInstance
- DescribeDBInstances
- DeleteDBInstance

For the data structure that represents Amazon Aurora DB cluster endpoints, see DBClusterEndpoint.

Contents

Address

Specifies the DNS address of the DB instance.

Type: String

Required: No

HostedZoneId

Specifies the ID that Amazon Route 53 assigns when you create a hosted zone.

Type: String

Required: No

Port

Specifies the port that the database engine is listening on.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EngineDefaults

Contains the result of a successful invocation of the DescribeEngineDefaultParameters action.

Contents

DBParameterGroupFamily

Specifies the name of the DB parameter group family that the engine default parameters apply to.

Type: String
Required: No

Marker

An optional pagination token provided by a previous EngineDefaults request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

Type: String
Required: No

Parameters.Parameter.N

Contains a list of engine default parameters.

Type: Array of Parameter (p. 701) objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Event

This data type is used as a response element in the DescribeEvents action.

Contents

Date

Specifies the date and time of the event.
Type: Timestamp
Required: No

EventCategories.EventCategory.N

Specifies the category for the event.
Type: Array of strings
Required: No

Message

Provides the text of this event.
Type: String
Required: No

SourceArn

The Amazon Resource Name (ARN) for the event.
Type: String
Required: No

SourceIdentifier

Provides the identifier for the source of the event.
Type: String
Required: No

SourceType

Specifies the source type for this event.
Type: String

Valid Values: db-instance | db-parameter-group | db-security-group | db-snapshot | db-cluster | db-cluster-snapshot | custom-engine-version | db-proxy
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EventCategoriesMap

Contains the results of a successful invocation of the DescribeEventCategories operation.

Contents

EventCategories.EventCategory.N

The event categories for the specified source type

Type: Array of strings

Required: No

SourceType

The source type that the returned categories belong to

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
EventSubscription

Contains the results of a successful invocation of the DescribeEventSubscriptions action.

Contents

CustomerAwsId

The AWS customer account associated with the RDS event notification subscription.
Type: String
Required: No

CustSubscriptionId

The RDS event notification subscription Id.
Type: String
Required: No

Enabled

A Boolean value indicating if the subscription is enabled. True indicates the subscription is enabled.
Type: Boolean
Required: No

EventCategoriesList.EventCategory.N

A list of event categories for the RDS event notification subscription.
Type: Array of strings
Required: No

EventSubscriptionArn

The Amazon Resource Name (ARN) for the event subscription.
Type: String
Required: No

SnsTopicArn

The topic ARN of the RDS event notification subscription.
Type: String
Required: No

SourceIdsList.SourceId.N

A list of source IDs for the RDS event notification subscription.
Type: Array of strings
Required: No

SourceType

The source type for the RDS event notification subscription.
Type: String
Required: No

**Status**

The status of the RDS event notification subscription.

Constraints:

Can be one of the following: creating | modifying | deleting | active | no-permission | topic-not-exist

The status "no-permission" indicates that RDS no longer has permission to post to the SNS topic. The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.

Type: String
Required: No

**SubscriptionCreationTime**

The time the RDS event notification subscription was created.

Type: String
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ExportTask

Contains the details of a snapshot export to Amazon S3.

This data type is used as a response element in the DescribeExportTasks action.

Contents

ExportOnly.member.N

The data exported from the snapshot. Valid values are the following:

- database - Export all the data from a specified database.
- database.table table-name - Export a table of the snapshot. This format is valid only for RDS for MySQL, RDS for MariaDB, and Aurora MySQL.
- database.schema schema-name - Export a database schema of the snapshot. This format is valid only for RDS for PostgreSQL and Aurora PostgreSQL.
- database.schema.table table-name - Export a table of the database schema. This format is valid only for RDS for PostgreSQL and Aurora PostgreSQL.

Type: Array of strings

Required: No

ExportTaskIdentifier

A unique identifier for the snapshot export task. This ID isn't an identifier for the Amazon S3 bucket where the snapshot is exported to.

Type: String

Required: No

FailureCause

The reason the export failed, if it failed.

Type: String

Required: No

IamRoleArn

The name of the IAM role that is used to write to Amazon S3 when exporting a snapshot.

Type: String

Required: No

KmsKeyId

The key identifier of the AWS KMS key that is used to encrypt the snapshot when it's exported to Amazon S3. The KMS key identifier is its key ARN, key ID, alias ARN, or alias name. The IAM role used for the snapshot export must have encryption and decryption permissions to use this KMS key.

Type: String

Required: No

PercentProgress

The progress of the snapshot export task as a percentage.
Type: Integer  
Required: No

S3Bucket
The Amazon S3 bucket that the snapshot is exported to.  
Type: String  
Required: No

S3Prefix
The Amazon S3 bucket prefix that is the file name and path of the exported snapshot.  
Type: String  
Required: No

SnapshotTime
The time that the snapshot was created.  
Type: Timestamp  
Required: No

SourceArn
The Amazon Resource Name (ARN) of the snapshot exported to Amazon S3.  
Type: String  
Required: No

SourceType
The type of source for the export.  
Type: String  
Valid Values: SNAPSHOT | CLUSTER  
Required: No

Status
The progress status of the export task.  
Type: String  
Required: No

TaskEndTime
The time that the snapshot export task completed.  
Type: Timestamp  
Required: No

TaskStartTime
The time that the snapshot export task started.  
Type: Timestamp
Required: No

**TotalExtractedDataInGB**

The total amount of data exported, in gigabytes.

Type: Integer

Required: No

**WarningMessage**

A warning about the snapshot export task.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
FailoverState

Contains the state of scheduled or in-process failover operations on an Aurora global database (GlobalCluster (p. 675)). This Data type is empty unless a failover operation is scheduled or is currently underway on the Aurora global database.

Contents

FromDbClusterArn

The Amazon Resource Name (ARN) of the Aurora DB cluster that is currently being demoted, and which is associated with this state.

Type: String
Required: No

Status

The current status of the Aurora global database (GlobalCluster (p. 675)). Possible values are as follows:

- pending  A request to fail over the Aurora global database (GlobalCluster (p. 675)) has been received by the service. The GlobalCluster's primary DB cluster and the specified secondary DB cluster are being verified before the failover process can start.
- failing-over  This status covers the range of Aurora internal operations that take place during the failover process, such as demoting the primary Aurora DB cluster, promoting the secondary Aurora DB, and synchronizing replicas.
- cancelling  The request to fail over the Aurora global database (GlobalCluster (p. 675)) was cancelled and the primary Aurora DB cluster and the selected secondary Aurora DB cluster are returning to their previous states.

Type: String
Valid Values: pending | failing-over | cancelling
Required: No

ToDbClusterArn

The Amazon Resource Name (ARN) of the Aurora DB cluster that is currently being promoted, and which is associated with this state.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Filter

A filter name and value pair that is used to return a more specific list of results from a describe operation. Filters can be used to match a set of resources by specific criteria, such as IDs. The filters supported by a describe operation are documented with the describe operation.

Note
Currently, wildcards are not supported in filters.

The following actions can be filtered:

- DescribeDBClusterBacktracks
- DescribeDBClusterEndpoints
- DescribeDBClusters
- DescribeDBInstances
- DescribePendingMaintenanceActions

Contents

Name

The name of the filter. Filter names are case-sensitive.

Type: String

Required: Yes

Values.Value.N

One or more filter values. Filter values are case-sensitive.

Type: Array of strings

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
GlobalCluster

A data type representing an Aurora global database.

Contents

DatabaseName

The default database name within the new global database cluster.
Type: String
Required: No

DeletionProtection

The deletion protection setting for the new global database cluster.
Type: Boolean
Required: No

Engine

The Aurora database engine used by the global database cluster.
Type: String
Required: No

EngineVersion

Indicates the database engine version.
Type: String
Required: No

FailoverState

A data object containing all properties for the current state of an in-process or pending failover process for this Aurora global database. This object is empty unless the FailoverGlobalCluster (p. 341) API operation has been called on this Aurora global database (GlobalCluster (p. 675)).
Type: FailoverState (p. 673) object
Required: No

GlobalClusterArn

The Amazon Resource Name (ARN) for the global database cluster.
Type: String
Required: No

GlobalClusterIdentifier

Contains a user-supplied global database cluster identifier. This identifier is the unique key that identifies a global database cluster.
Type: String
Required: No

GlobalClusterMembers.GlobalClusterMember.N

The list of cluster IDs for secondary clusters within the global database cluster. Currently limited to 1 item.

Type: Array of GlobalClusterMember (p. 677) objects

Required: No

GlobalClusterResourceId

The AWS Region-unique, immutable identifier for the global database cluster. This identifier is found in AWS CloudTrail log entries whenever the AWS KMS key for the DB cluster is accessed.

Type: String

Required: No

Status

Specifies the current state of this global database cluster.

Type: String

Required: No

StorageEncrypted

The storage encryption setting for the global database cluster.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
GlobalClusterMember

A data structure with information about any primary and secondary clusters associated with an Aurora global database.

Contents

DBClusterArn

The Amazon Resource Name (ARN) for each Aurora cluster.

Type: String

Required: No

GlobalWriteForwardingStatus

Specifies whether a secondary cluster in an Aurora global database has write forwarding enabled, not enabled, or is in the process of enabling it.

Type: String

Valid Values: enabled | disabled | enabling | disabling | unknown

Required: No

IsWriter

Specifies whether the Aurora cluster is the primary cluster (that is, has read-write capability) for the Aurora global database with which it is associated.

Type: Boolean

Required: No

Readers.member.N

The Amazon Resource Name (ARN) for each read-only secondary cluster associated with the Aurora global database.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
IPRange

This data type is used as a response element in the `DescribeDBSecurityGroups` action.

Contents

CIDRIP

Specifies the IP range.

Type: String

Required: No

Status

Specifies the status of the IP range. Status can be "authorizing", "authorized", "revoking", and "revoked".

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
MinimumEngineVersionPerAllowedValue

The minimum DB engine version required for each corresponding allowed value for an option setting.

Contents

AllowedValue

The allowed value for an option setting.

Type: String
Required: No

MinimumEngineVersion

The minimum DB engine version required for the allowed value.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Option

Option details.

Contents

**DBSecurityGroupMemberships.DBSecurityGroup.N**

If the option requires access to a port, then this DB security group allows access to the port.

Type: Array of [DBSecurityGroupMembership (p. 649)] objects

Required: No

**OptionDescription**

The description of the option.

Type: String

Required: No

**OptionName**

The name of the option.

Type: String

Required: No

**OptionSettings.OptionSetting.N**

The option settings for this option.

Type: Array of [OptionSetting (p. 692)] objects

Required: No

**OptionVersion**

The version of the option.

Type: String

Required: No

**Permanent**

Indicate if this option is permanent.

Type: Boolean

Required: No

**Persistent**

Indicate if this option is persistent.

Type: Boolean

Required: No

**Port**

If required, the port configured for this option to use.
Type: Integer

Required: No


If the option requires access to a port, then this VPC security group allows access to the port.

Type: Array of **VpcSecurityGroupMembership** (p. 740) objects

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
OptionConfiguration

A list of all available options

Contents

DBSecurityGroupMemberships.DBSecurityGroupName.N
A list of DBSecurityGroupMembership name strings used for this option.
Type: Array of strings
Required: No

OptionName
The configuration of options to include in a group.
Type: String
Required: Yes

OptionSettings.OptionSetting.N
The option settings to include in an option group.
Type: Array of OptionSetting (p. 692) objects
Required: No

OptionVersion
The version for the option.
Type: String
Required: No

Port
The optional port for the option.
Type: Integer
Required: No

VpcSecurityGroupMemberships.VpcSecurityGroupId.N
A list of VpcSecurityGroupMembership name strings used for this option.
Type: Array of strings
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
• AWS SDK for Ruby V3
OptionGroup

Contents

AllowsVpcAndNonVpcInstanceMemberships
Indicates whether this option group can be applied to both VPC and non-VPC instances. The value true indicates the option group can be applied to both VPC and non-VPC instances.

Type: Boolean
Required: No

EngineName
Indicates the name of the engine that this option group can be applied to.

Type: String
Required: No

MajorEngineVersion
Indicates the major engine version associated with this option group.

Type: String
Required: No

OptionGroupArn
The Amazon Resource Name (ARN) for the option group.

Type: String
Required: No

OptionGroupDescription
Provides a description of the option group.

Type: String
Required: No

OptionGroupName
Specifies the name of the option group.

Type: String
Required: No

Options.
Indicates what options are available in the option group.

Type: Array of Option (p. 680) objects
Required: No

VpcId

If AllowsVpcAndNonVpcInstanceMemberships is false, this field is blank. If AllowsVpcAndNonVpcInstanceMemberships is true and this field is blank, then this option group
can be applied to both VPC and non-VPC instances. If this field contains a value, then this option group can only be applied to instances that are in the VPC indicated by this field.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
OptionGroupMembership

Provides information on the option groups the DB instance is a member of.

Contents

OptionGroupName

The name of the option group that the instance belongs to.

Type: String
Required: No

Status

The status of the DB instance's option group membership. Valid values are: in-sync, pending-apply, pending-removal, pending-maintenance-apply, pending-maintenance-removal, applying, removing, and failed.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
OptionGroupOption

Available option.

Contents

DefaultPort

If the option requires a port, specifies the default port for the option.

Type: Integer
Required: No

Description

The description of the option.

Type: String
Required: No

EngineName

The name of the engine that this option can be applied to.

Type: String
Required: No

MajorEngineVersion

Indicates the major engine version that the option is available for.

Type: String
Required: No

MinimumRequiredMinorEngineVersion

The minimum required engine version for the option to be applied.

Type: String
Required: No

Name

The name of the option.

Type: String
Required: No

OptionGroupOptionSettings.OptionGroupOptionSetting.N

The option settings that are available (and the default value) for each option in an option group.

Type: Array of OptionGroupOptionSetting (p. 690) objects
Required: No

OptionGroupOptionVersions.OptionVersion.N

The versions that are available for the option.
Type: Array of `OptionVersion` objects

Required: No

**OptionsConflictsWith.OptionConflictName.N**

The options that conflict with this option.

Type: Array of strings

Required: No

**OptionsDependedOn.OptionName.N**

The options that are prerequisites for this option.

Type: Array of strings

Required: No

**Permanent**

Permanent options can never be removed from an option group. An option group containing a permanent option can't be removed from a DB instance.

Type: Boolean

Required: No

**Persistent**

Persistent options can't be removed from an option group while DB instances are associated with the option group. If you disassociate all DB instances from the option group, you can remove the persistent option from the option group.

Type: Boolean

Required: No

**PortRequired**

Specifies whether the option requires a port.

Type: Boolean

Required: No

**RequiresAutoMinorEngineVersionUpgrade**

If true, you must enable the Auto Minor Version Upgrade setting for your DB instance before you can use this option. You can enable Auto Minor Version Upgrade when you first create your DB instance, or by modifying your DB instance later.

Type: Boolean

Required: No

**SupportsOptionVersionDowngrade**

If true, you can change the option to an earlier version of the option. This only applies to options that have different versions available.

Type: Boolean

Required: No
VpcOnly

If true, you can only use this option with a DB instance that is in a VPC.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
OptionGroupOptionSetting

Option group option settings are used to display settings available for each option with their default values and other information. These values are used with the DescribeOptionGroupOptions action.

Contents

**AllowedValues**

Indicates the acceptable values for the option group option.

Type: String

Required: No

**ApplyType**

The DB engine specific parameter type for the option group option.

Type: String

Required: No

**DefaultValue**

The default value for the option group option.

Type: String

Required: No

**IsModifiable**

Boolean value where true indicates that this option group option can be changed from the default value.

Type: Boolean

Required: No

**IsRequired**

Boolean value where true indicates that a value must be specified for this option setting of the option group option.

Type: Boolean

Required: No


The minimum DB engine version required for the corresponding allowed value for this option setting.

Type: Array of MinimumEngineVersionPerAllowedValue (p. 679) objects

Required: No

**SettingDescription**

The description of the option group option.

Type: String
Required: No

**SettingName**

The name of the option group option.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
OptionSetting

Option settings are the actual settings being applied or configured for that option. It is used when you modify an option group or describe option groups. For example, the NATIVE_NETWORK_ENCRYPTION option has a setting called SQLNET.ENCRYPTION_SERVER that can have several different values.

Contents

AllowedValues
The allowed values of the option setting.
Type: String
Required: No

ApplyType
The DB engine specific parameter type.
Type: String
Required: No

DataType
The data type of the option setting.
Type: String
Required: No

DefaultValue
The default value of the option setting.
Type: String
Required: No

Description
The description of the option setting.
Type: String
Required: No

IsCollection
Indicates if the option setting is part of a collection.
Type: Boolean
Required: No

IsModifiable
A Boolean value that, when true, indicates the option setting can be modified from the default.
Type: Boolean
Required: No
Name

The name of the option that has settings that you can set.

Type: String

Required: No

Value

The current value of the option setting.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
OptionVersion

The version for an option. Option group option versions are returned by the DescribeOptionGroupOptions action.

Contents

IsDefault

True if the version is the default version of the option, and otherwise false.
Type: Boolean
Required: No

Version

The version of the option.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
OrderableDBInstanceOption

Contains a list of available options for a DB instance.
This data type is used as a response element in the DescribeOrderableDBInstanceOptions action.

Contents

AvailabilityZoneGroup

The Availability Zone group for a DB instance.
Type: String
Required: No

AvailabilityZones.AvailabilityZone.N

A list of Availability Zones for a DB instance.
Type: Array of AvailabilityZone (p. 577) objects
Required: No

AvailableProcessorFeatures.AvailableProcessorFeature.N

A list of the available processor features for the DB instance class of a DB instance.
Type: Array of AvailableProcessorFeature (p. 578) objects
Required: No

DBInstanceClass

The DB instance class for a DB instance.
Type: String
Required: No

Engine

The engine type of a DB instance.
Type: String
Required: No

EngineVersion

The engine version of a DB instance.
Type: String
Required: No

LicenseModel

The license model for a DB instance.
Type: String
Required: No
MaxIopsPerDbInstance

Maximum total provisioned IOPS for a DB instance.

Type: Integer
Required: No

MaxIopsPerGib

Maximum provisioned IOPS per GiB for a DB instance.

Type: Double
Required: No

MaxStorageSize

Maximum storage size for a DB instance.

Type: Integer
Required: No

MaxStorageThroughputPerDbInstance

Maximum storage throughput for a DB instance.

Type: Integer
Required: No

MaxStorageThroughputPerIops

Maximum storage throughput to provisioned IOPS ratio for a DB instance.

Type: Double
Required: No

MinIopsPerDbInstance

Minimum total provisioned IOPS for a DB instance.

Type: Integer
Required: No

MinIopsPerGib

Minimum provisioned IOPS per GiB for a DB instance.

Type: Double
Required: No

MinStorageSize

Minimum storage size for a DB instance.

Type: Integer
Required: No

MinStorageThroughputPerDbInstance

Minimum storage throughput for a DB instance.
Type: Integer
Required: No

**MinStorageThroughputPerIops**

Minimum storage throughput to provisioned IOPS ratio for a DB instance.

Type: Double
Required: No

**MultiAZCapable**

Indicates whether a DB instance is Multi-AZ capable.

Type: Boolean
Required: No

**OutpostCapable**

Whether a DB instance supports RDS on Outposts.

For more information about RDS on Outposts, see Amazon RDS on AWS Outposts in the Amazon RDS User Guide.

Type: Boolean
Required: No

**ReadReplicaCapable**

Indicates whether a DB instance can have a read replica.

Type: Boolean
Required: No

**StorageType**

Indicates the storage type for a DB instance.

Type: String
Required: No

**SupportedActivityStreamModes.member.N**

The list of supported modes for Database Activity Streams. Aurora PostgreSQL returns the value [sync, async]. Aurora MySQL and RDS for Oracle return [async] only. If Database Activity Streams isn’t supported, the return value is an empty list.

Type: Array of strings
Required: No

**SupportedEngineModes.member.N**

A list of the supported DB engine modes.

Type: Array of strings
Required: No

**SupportedNetworkTypes.member.N**

The network types supported by the DB instance (IPV4 or DUAL).
A DB instance can support only the IPv4 protocol or the IPv4 and the IPv6 protocols (DUAL).

For more information, see Working with a DB instance in a VPC in the Amazon RDS User Guide.

Type: Array of strings

Required: No

SupportsClusters

Whether DB instances can be configured as a Multi-AZ DB cluster.

For more information on Multi-AZ DB clusters, see Multi-AZ deployments with two readable standby DB instances in the Amazon RDS User Guide.

Type: Boolean

Required: No

SupportsEnhancedMonitoring

Indicates whether a DB instance supports Enhanced Monitoring at intervals from 1 to 60 seconds.

Type: Boolean

Required: No

SupportsGlobalDatabases

A value that indicates whether you can use Aurora global databases with a specific combination of other DB engine attributes.

Type: Boolean

Required: No

SupportsIAMDatabaseAuthentication

Indicates whether a DB instance supports IAM database authentication.

Type: Boolean

Required: No

SupportsIops

Indicates whether a DB instance supports provisioned IOPS.

Type: Boolean

Required: No

SupportsKerberosAuthentication

Whether a DB instance supports Kerberos Authentication.

Type: Boolean

Required: No

SupportsPerformanceInsights

True if a DB instance supports Performance Insights, otherwise false.

Type: Boolean

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Outpost

A data type that represents an Outpost.

For more information about RDS on Outposts, see Amazon RDS on AWS Outposts in the Amazon RDS User Guide.

Contents

Arn

The Amazon Resource Name (ARN) of the Outpost.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Parameter

This data type is used as a request parameter in the ModifyDBParameterGroup and ResetDBParameterGroup actions.

This data type is used as a response element in the DescribeEngineDefaultParameters and DescribeDBParameters actions.

Contents

AllowedValues

Specifies the valid range of values for the parameter.

Type: String

Required: No

ApplyMethod

Indicates when to apply parameter updates.

Type: String

Valid Values: immediate | pending-reboot

Required: No

ApplyType

Specifies the engine specific parameters type.

Type: String

Required: No

DataType

Specifies the valid data type for the parameter.

Type: String

Required: No

Description

Provides a description of the parameter.

Type: String

Required: No

IsModifiable

Indicates whether (true) or not (false) the parameter can be modified. Some parameters have security or operational implications that prevent them from being changed.

Type: Boolean

Required: No

MinimumEngineVersion

The earliest engine version to which the parameter can apply.
Type: String
Required: No
**ParameterName**
   Specifies the name of the parameter.
   Type: String
   Required: No

**ParameterValue**
   Specifies the value of the parameter.
   Type: String
   Required: No

**Source**
   Indicates the source of the parameter value.
   Type: String
   Required: No

**SupportedEngineModes.member.N**
   The valid DB engine modes.
   Type: Array of strings
   Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PendingCloudwatchLogsExports

A list of the log types whose configuration is still pending. In other words, these log types are in the process of being activated or deactivated.

Contents

LogTypesToDisable.member.N

Log types that are in the process of being enabled. After they are enabled, these log types are exported to CloudWatch Logs.

Type: Array of strings

Required: No

LogTypesToEnable.member.N

Log types that are in the process of being deactivated. After they are deactivated, these log types aren't exported to CloudWatch Logs.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PendingMaintenanceAction

Provides information about a pending maintenance action for a resource.

Contents

Action

The type of pending maintenance action that is available for the resource. Valid actions are system-update, db-upgrade, hardware-maintenance, and ca-certificate-rotation.

Type: String
Required: No

AutoAppliedAfterDate

The date of the maintenance window when the action is applied. The maintenance action is applied to the resource during its first maintenance window after this date.

Type: Timestamp
Required: No

CurrentApplyDate

The effective date when the pending maintenance action is applied to the resource. This date takes into account opt-in requests received from the ApplyPendingMaintenanceAction API, the AutoAppliedAfterDate, and the ForcedApplyDate. This value is blank if an opt-in request has not been received and nothing has been specified as AutoAppliedAfterDate or ForcedApplyDate.

Type: Timestamp
Required: No

Description

A description providing more detail about the maintenance action.

Type: String
Required: No

ForcedApplyDate

The date when the maintenance action is automatically applied.

On this date, the maintenance action is applied to the resource as soon as possible, regardless of the maintenance window for the resource. There might be a delay of one or more days from this date before the maintenance action is applied.

Type: Timestamp
Required: No

OptInStatus

Indicates the type of opt-in request that has been received for the resource.

Type: String
Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
PendingModifiedValues

This data type is used as a response element in the ModifyDBInstance operation and contains changes that will be applied during the next maintenance window.

Contents

AllocatedStorage

The allocated storage size for the DB instance specified in gibibytes (GiB).

Type: Integer

Required: No

AutomationMode

The automation mode of the RDS Custom DB instance: full or all-paused. If full, the DB instance automates monitoring and instance recovery. If all-paused, the instance pauses automation for the duration set by --resume-full-automation-mode-minutes.

Type: String

Valid Values: full | all-paused

Required: No

BackupRetentionPeriod

The number of days for which automated backups are retained.

Type: Integer

Required: No

CACertificateIdentifier

The identifier of the CA certificate for the DB instance.

Type: String

Required: No

DBInstanceClass

The name of the compute and memory capacity class for the DB instance.

Type: String

Required: No

DBInstanceIdentifier

The database identifier for the DB instance.

Type: String

Required: No

DBSubnetGroupName

The DB subnet group for the DB instance.

Type: String
Required: No

**EngineVersion**

The database engine version.

Type: String

Required: No

**IAMDatabaseAuthenticationEnabled**

Whether mapping of AWS Identity and Access Management (IAM) accounts to database accounts is enabled.

Type: Boolean

Required: No

**iops**

The Provisioned IOPS value for the DB instance.

Type: Integer

Required: No

**LicenseModel**

The license model for the DB instance.

Valid values: license-included | bring-your-own-license | general-public-license

Type: String

Required: No

**MasterUserPassword**

The master credentials for the DB instance.

Type: String

Required: No

**MultiAZ**

A value that indicates that the Single-AZ DB instance will change to a Multi-AZ deployment.

Type: Boolean

Required: No

**PendingCloudwatchLogsExports**

A list of the log types whose configuration is still pending. In other words, these log types are in the process of being activated or deactivated.

Type: `PendingCloudwatchLogsExports (p. 703)` object

Required: No

**Port**

The port for the DB instance.

Type: Integer
Required: No

**ProcessorFeatures.ProcessorFeature.N**

The number of CPU cores and the number of threads per core for the DB instance class of the DB instance.

Type: Array of ProcessorFeature (p. 709) objects

Required: No

**ResumeFullAutomationModeTime**

The number of minutes to pause the automation. When the time period ends, RDS Custom resumes full automation. The minimum value is 60 (default). The maximum value is 1,440.

Type: Timestamp

Required: No

**StorageThroughput**

The storage throughput of the DB instance.

Type: Integer

Required: No

**StorageType**

The storage type of the DB instance.

Type: String

Required: No

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ProcessorFeature

Contains the processor features of a DB instance class.

To specify the number of CPU cores, use the coreCount feature name for the Name parameter. To specify the number of threads per core, use the threadsPerCore feature name for the Name parameter.

You can set the processor features of the DB instance class for a DB instance when you call one of the following actions:

- CreateDBInstance
- ModifyDBInstance
- RestoreDBInstanceFromDBSnapshot
- RestoreDBInstanceFromS3
- RestoreDBInstanceToPointInTime

You can view the valid processor values for a particular instance class by calling the DescribeOrderableDBInstanceOptions action and specifying the instance class for the DBInstanceClass parameter.

In addition, you can use the following actions for DB instance class processor information:

- DescribeDBInstances
- DescribeDBSnapshots
- DescribeValidDBInstanceModifications

If you call DescribeDBInstances, ProcessorFeature returns non-null values only if the following conditions are met:

- You are accessing an Oracle DB instance.
- Your Oracle DB instance class supports configuring the number of CPU cores and threads per core.
- The current number CPU cores and threads is set to a non-default value.

For more information, see Configuring the Processor of the DB Instance Class in the Amazon RDS User Guide.

Contents

Name

The name of the processor feature. Valid names are coreCount and threadsPerCore.

Type: String

Required: No

Value

The value of a processor feature name.

Type: String

Required: No
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Range

A range of integer values.

**Contents**

**From**

The minimum value in the range.

Type: Integer

Required: No

**Step**

The step value for the range. For example, if you have a range of 5,000 to 10,000, with a step value of 1,000, the valid values start at 5,000 and step up by 1,000. Even though 7,500 is within the range, it isn't a valid value for the range. The valid values are 5,000, 6,000, 7,000, 8,000...

Type: Integer

Required: No

**To**

The maximum value in the range.

Type: Integer

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
RecurringCharge

This data type is used as a response element in the DescribeReservedDBInstances and DescribeReservedDBInstancesOfferings actions.

Contents

RecurringChargeAmount

The amount of the recurring charge.

Type: Double
Required: No

RecurringChargeFrequency

The frequency of the recurring charge.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReservedDBInstance

This data type is used as a response element in the DescribeReservedDBInstances and PurchaseReservedDBInstancesOffering actions.

Contents

CurrencyCode

The currency code for the reserved DB instance.
Type: String
Required: No

DBInstanceClass

The DB instance class for the reserved DB instance.
Type: String
Required: No

DBInstanceCount

The number of reserved DB instances.
Type: Integer
Required: No

Duration

The duration of the reservation in seconds.
Type: Integer
Required: No

FixedPrice

The fixed price charged for this reserved DB instance.
Type: Double
Required: No

LeaseId

The unique identifier for the lease associated with the reserved DB instance.

Note
AWS Support might request the lease ID for an issue related to a reserved DB instance.
Type: String
Required: No

MultiAZ

Indicates if the reservation applies to Multi-AZ deployments.
Type: Boolean
Required: No

**OfferingType**

The offering type of this reserved DB instance.

Type: String

Required: No

**ProductDescription**

The description of the reserved DB instance.

Type: String

Required: No

**RecurringCharges.RecurringCharge.N**

The recurring price charged to run this reserved DB instance.

Type: Array of `RecurringCharge` (p. 712) objects

Required: No

**ReservedDBInstanceArn**

The Amazon Resource Name (ARN) for the reserved DB instance.

Type: String

Required: No

**ReservedDBInstanceId**

The unique identifier for the reservation.

Type: String

Required: No

**ReservedDBInstancesOfferingId**

The offering identifier.

Type: String

Required: No

**StartTime**

The time the reservation started.

Type: Timestamp

Required: No

**State**

The state of the reserved DB instance.

Type: String

Required: No

**UsagePrice**

The hourly price charged for this reserved DB instance.
Type: Double
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ReservedDBInstancesOffering

This data type is used as a response element in the DescribeReservedDBInstancesOfferings action.

Contents

CurrencyCode

The currency code for the reserved DB instance offering.
Type: String
Required: No

DBInstanceClass

The DB instance class for the reserved DB instance.
Type: String
Required: No

Duration

The duration of the offering in seconds.
Type: Integer
Required: No

FixedPrice

The fixed price charged for this offering.
Type: Double
Required: No

MultiAZ

Indicates if the offering applies to Multi-AZ deployments.
Type: Boolean
Required: No

OfferingType

The offering type.
Type: String
Required: No

ProductDescription

The database engine used by the offering.
Type: String
Required: No
RecurringCharges.RecurringCharge.N

The recurring price charged to run this reserved DB instance.

Type: Array of RecurringCharge (p. 712) objects

Required: No

ReservedDBInstancesOfferingId

The offering identifier.

Type: String

Required: No

UsagePrice

The hourly price charged for this offering.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ResourcePendingMaintenanceActions

Describes the pending maintenance actions for a resource.

Contents

PendingMaintenanceActionDetails.PendingMaintenanceAction.N

A list that provides details about the pending maintenance actions for the resource.

Type: Array of PendingMaintenanceAction (p. 704) objects

Required: No

ResourceIdentifier

The ARN of the resource that has pending maintenance actions.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3


**RestoreWindow**

Earliest and latest time an instance can be restored to:

**Contents**

**EarliestTime**

The earliest time you can restore an instance to.

Type: Timestamp

Required: No

**LatestTime**

The latest time you can restore an instance to.

Type: Timestamp

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScalingConfiguration

Contains the scaling configuration of an Aurora Serverless v1 DB cluster.

For more information, see Using Amazon Aurora Serverless v1 in the Amazon Aurora User Guide.

Contents

AutoPause

A value that indicates whether to allow or disallow automatic pause for an Aurora DB cluster in serverless DB engine mode. A DB cluster can be paused only when it's idle (it has no connections).

Note
If a DB cluster is paused for more than seven days, the DB cluster might be backed up with a snapshot. In this case, the DB cluster is restored when there is a request to connect to it.

Type: Boolean
Required: No

MaxCapacity

The maximum capacity for an Aurora DB cluster in serverless DB engine mode.

For Aurora MySQL, valid capacity values are 1, 2, 4, 8, 16, 32, 64, 128, and 256.
For Aurora PostgreSQL, valid capacity values are 2, 4, 8, 16, 32, 64, 192, and 384.

The maximum capacity must be greater than or equal to the minimum capacity.

Type: Integer
Required: No

MinCapacity

The minimum capacity for an Aurora DB cluster in serverless DB engine mode.

For Aurora MySQL, valid capacity values are 1, 2, 4, 8, 16, 32, 64, 128, and 256.
For Aurora PostgreSQL, valid capacity values are 2, 4, 8, 16, 32, 64, 192, and 384.

The minimum capacity must be less than or equal to the maximum capacity.

Type: Integer
Required: No

SecondsBeforeTimeout

The amount of time, in seconds, that Aurora Serverless v1 tries to find a scaling point to perform seamless scaling before enforcing the timeout action. The default is 300.

Specify a value between 60 and 600 seconds.

Type: Integer
Required: No

SecondsUntilAutoPause

The time, in seconds, before an Aurora DB cluster in serverless mode is paused.
Specify a value between 300 and 86,400 seconds.

Type: Integer

Required: No

**TimeoutAction**

The action to take when the timeout is reached, either `ForceApplyCapacityChange` or `RollbackCapacityChange`.

`ForceApplyCapacityChange` sets the capacity to the specified value as soon as possible.

`RollbackCapacityChange`, the default, ignores the capacity change if a scaling point isn't found in the timeout period.

**Important**

If you specify `ForceApplyCapacityChange`, connections that prevent Aurora Serverless v1 from finding a scaling point might be dropped.

For more information, see [Autoscaling for Aurora Serverless v1](https://docs.aws.amazon.com/AmazonAurora/latest/AuroraServerlessUserGuide/autoscaling-autoscale.html) in the *Amazon Aurora User Guide*.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ScalingConfigurationInfo

Shows the scaling configuration for an Aurora DB cluster in serverless DB engine mode.

For more information, see Using Amazon Aurora Serverless v1 in the Amazon Aurora User Guide.

Contents

AutoPause

A value that indicates whether automatic pause is allowed for the Aurora DB cluster in serverless DB engine mode.

When the value is set to false for an Aurora Serverless v1 DB cluster, the DB cluster automatically resumes.

Type: Boolean

Required: No

MaxCapacity

The maximum capacity for an Aurora DB cluster in serverless DB engine mode.

Type: Integer

Required: No

MinCapacity

The minimum capacity for an Aurora DB cluster in serverless DB engine mode.

Type: Integer

Required: No

SecondsBeforeTimeout

The number of seconds before scaling times out. What happens when an attempted scaling action times out is determined by the TimeoutAction setting.

Type: Integer

Required: No

SecondsUntilAutoPause

The remaining amount of time, in seconds, before the Aurora DB cluster in serverless mode is paused. A DB cluster can be paused only when it's idle (it has no connections).

Type: Integer

Required: No

TimeoutAction

The action that occurs when Aurora times out while attempting to change the capacity of an Aurora Serverless v1 cluster. The value is either ForceApplyCapacityChange or RollbackCapacityChange.

ForceApplyCapacityChange, the default, sets the capacity to the specified value as soon as possible.
RollbackCapacityChange ignores the capacity change if a scaling point isn't found in the timeout period.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ServerlessV2ScalingConfiguration

Contains the scaling configuration of an Aurora Serverless v2 DB cluster.

For more information, see Using Amazon Aurora Serverless v2 in the Amazon Aurora User Guide.

Contents

MaxCapacity

The maximum number of Aurora capacity units (ACUs) for a DB instance in an Aurora Serverless v2 cluster. You can specify ACU values in half-step increments, such as 40, 40.5, 41, and so on. The largest value that you can use is 128.

Type: Double
Required: No

MinCapacity

The minimum number of Aurora capacity units (ACUs) for a DB instance in an Aurora Serverless v2 cluster. You can specify ACU values in half-step increments, such as 8, 8.5, 9, and so on. The smallest value that you can use is 0.5.

Type: Double
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ServerlessV2ScalingConfigurationInfo

Shows the scaling configuration for an Aurora Serverless v2 DB cluster.

For more information, see Using Amazon Aurora Serverless v2 in the Amazon Aurora User Guide.

Contents

MaxCapacity

The maximum number of Aurora capacity units (ACUs) for a DB instance in an Aurora Serverless v2 cluster. You can specify ACU values in half-step increments, such as 40, 40.5, 41, and so on. The largest value that you can use is 128.

Type: Double
Required: No

MinCapacity

The minimum number of Aurora capacity units (ACUs) for a DB instance in an Aurora Serverless v2 cluster. You can specify ACU values in half-step increments, such as 8, 8.5, 9, and so on. The smallest value that you can use is 0.5.

Type: Double
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
SourceRegion

Contains an AWS Region name as the result of a successful call to the DescribeSourceRegions action.

Contents

Endpoint

The endpoint for the source AWS Region endpoint.

Type: String

Required: No

RegionName

The name of the source AWS Region.

Type: String

Required: No

Status

The status of the source AWS Region.

Type: String

Required: No

SupportsDBInstanceAutomatedBackupsReplication

Whether the source AWS Region supports replicating automated backups to the current AWS Region.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Subnet

This data type is used as a response element for the DescribeDBSubnetGroups operation.

Contents

SubnetAvailabilityZone

Contains Availability Zone information.

This data type is used as an element in the OrderableDBInstanceOption data type.

Type: AvailabilityZone (p. 577) object

Required: No

SubnetIdentifier

The identifier of the subnet.

Type: String

Required: No

SubnetOutpost

If the subnet is associated with an Outpost, this value specifies the Outpost.

For more information about RDS on Outposts, see Amazon RDS on AWS Outposts in the Amazon RDS User Guide.

Type: Outpost (p. 700) object

Required: No

SubnetStatus

The status of the subnet.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Tag

Metadata assigned to an Amazon RDS resource consisting of a key-value pair.

Contents

Key

A key is the required name of the tag. The string value can be from 1 to 128 Unicode characters in length and can't be prefixed with aws: or rds:. The string can only contain only the set of Unicode letters, digits, white-space, '_', '.', '/', '=,'+', '-','@' (Java regex: "^[\p{L}\p{Z}\p{N}_.:/=+\-@]*$").

Type: String

Required: No

Value

A value is the optional value of the tag. The string value can be from 1 to 256 Unicode characters in length and can't be prefixed with aws: or rds:. The string can only contain only the set of Unicode letters, digits, white-space, '_', '.', '/', '=,'+', '-','@' (Java regex: "^[\p{L}\p{Z}\p{N}_.:/=+\-@]*$").

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
TargetHealth

Information about the connection health of an RDS Proxy target.

Contents

Description

A description of the health of the RDS Proxy target. If the State is AVAILABLE, a description is not included.

Type: String
Required: No

Reason

The reason for the current health State of the RDS Proxy target.

Type: String

Valid Values: UNREACHABLE | CONNECTIONFAILED | AUTHFAILURE | PENDING_PROXY_CAPACITY | INVALID_REPLICATION_STATE
Required: No

State

The current state of the connection health lifecycle for the RDS Proxy target. The following is a typical lifecycle example for the states of an RDS Proxy target:

registering > unavailable > available > unavailable > available

Type: String

Valid Values: REGISTERING | AVAILABLE | UNAVAILABLE
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Timezone

A time zone associated with a DBInstance or a DBSnapshot. This data type is an element in the response to the DescribeDBInstances, the DescribeDBSnapshots, and the DescribeDBEngineVersions actions.

Contents

TimezoneName

The name of the time zone.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
UpgradeTarget

The version of the database engine that a DB instance can be upgraded to.

Contents

AutoUpgrade

A value that indicates whether the target version is applied to any source DB instances that have AutoMinorVersionUpgrade set to true.

Type: Boolean

Required: No

Description

The version of the database engine that a DB instance can be upgraded to.

Type: String

Required: No

Engine

The name of the upgrade target database engine.

Type: String

Required: No

EngineVersion

The version number of the upgrade target database engine.

Type: String

Required: No

IsMajorVersionUpgrade

A value that indicates whether upgrading to the target version requires upgrading the major version of the database engine.

Type: Boolean

Required: No

SupportedEngineModes.member.N

A list of the supported DB engine modes for the target engine version.

Type: Array of strings

Required: No

SupportsBabelfish

A value that indicates whether you can use Babelfish for Aurora PostgreSQL with the target engine version.

Type: Boolean

Required: No
SupportsGlobalDatabases

A value that indicates whether you can use Aurora global databases with the target engine version.

Type: Boolean

Required: No

SupportsParallelQuery

A value that indicates whether you can use Aurora parallel query with the target engine version.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
UserAuthConfig

Specifies the details of authentication used by a proxy to log in as a specific database user.

Contents

AuthScheme

The type of authentication that the proxy uses for connections from the proxy to the underlying database.

Type: String

Valid Values: SECRETS

Required: No

Description

A user-specified description about the authentication used by a proxy to log in as a specific database user.

Type: String

Required: No

IAMAuth

Whether to require or disallow AWS Identity and Access Management (IAM) authentication for connections to the proxy. The ENABLED value is valid only for proxies with RDS for Microsoft SQL Server.

Type: String

Valid Values: DISABLED  |  REQUIRED  |  ENABLED

Required: No

SecretArn

The Amazon Resource Name (ARN) representing the secret that the proxy uses to authenticate to the RDS DB instance or Aurora DB cluster. These secrets are stored within Amazon Secrets Manager.

Type: String

Required: No

UserName

The name of the database user to which the proxy connects.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java V2
• AWS SDK for Ruby V3
UserAuthConfigInfo

Returns the details of authentication used by a proxy to log in as a specific database user.

Contents

AuthScheme

The type of authentication that the proxy uses for connections from the proxy to the underlying database.

Type: String

Valid Values: SECRETS

Required: No

Description

A user-specified description about the authentication used by a proxy to log in as a specific database user.

Type: String

Required: No

IAMAuth

Whether to require or disallow AWS Identity and Access Management (IAM) authentication for connections to the proxy. The ENABLED value is valid only for proxies with RDS for Microsoft SQL Server.

Type: String

Valid Values: DISABLED | REQUIRED | ENABLED

Required: No

SecretArn

The Amazon Resource Name (ARN) representing the secret that the proxy uses to authenticate to the RDS DB instance or Aurora DB cluster. These secrets are stored within Amazon Secrets Manager.

Type: String

Required: No

UserName

The name of the database user to which the proxy connects.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ValidDBInstanceModificationsMessage

Information about valid modifications that you can make to your DB instance. Contains the result of a successful call to the DescribeValidDBInstanceModifications action. You can use this information when you call ModifyDBInstance.

Contents

Storage.ValidStorageOptions.N

Valid storage options for your DB instance.

Type: Array of ValidStorageOptions (p. 738) objects

Required: No

ValidProcessorFeatures.AvailableProcessorFeature.N

Valid processor features for your DB instance.

Type: Array of AvailableProcessorFeature (p. 578) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
ValidStorageOptions

Information about valid modifications that you can make to your DB instance. Contains the result of a successful call to the DescribeValidDBInstanceModifications action.

Contents

IopsToStorageRatio.DoubleRange.N

The valid range of Provisioned IOPS to gibibytes of storage multiplier. For example, 3-10, which means that provisioned IOPS can be between 3 and 10 times storage.

Type: Array of DoubleRange (p. 661) objects

Required: No

ProvisionedIops.Range.N

The valid range of provisioned IOPS. For example, 1000-256,000.

Type: Array of Range (p. 711) objects

Required: No

ProvisionedStorageThroughput.Range.N

The valid range of provisioned storage throughput. For example, 500-4,000 mebibytes per second (MiBps).

Type: Array of Range (p. 711) objects

Required: No

StorageSize.Range.N

The valid range of storage in gibibytes (GiB). For example, 100 to 16,384.

Type: Array of Range (p. 711) objects

Required: No

StorageThroughputToIopsRatio.DoubleRange.N

The valid range of storage throughput to provisioned IOPS ratios. For example, 0-0.25.

Type: Array of DoubleRange (p. 661) objects

Required: No

StorageType

The valid storage types for your DB instance. For example: gp2, gp3, io1.

Type: String

Required: No

SupportsStorageAutoscaling

Whether or not Amazon RDS can automatically scale storage for DB instances that use the new instance class.

Type: Boolean
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
VpcSecurityGroupMembership

This data type is used as a response element for queries on VPC security group membership.

Contents

Status

The membership status of the VPC security group.
Currently, the only valid status is active.
Type: String
Required: No

VpcSecurityGroupId

The name of the VPC security group.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3
Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see Signature Version 4 Signing Process in the Amazon Web Services General Reference.

**Action**

The action to be performed.

Type: string

Required: Yes

**Version**

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

**X-Amz-Algorithm**

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: AWS4-HMAC-SHA256

Required: Conditional

**X-Amz-Credential**

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: access_key/YYYYMMDD/region/service/aws4_request.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

**X-Amz-Date**

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is
not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see Handling Dates in Signature Version 4 in the Amazon Web Services General Reference.

Type: string
Required: Conditional

**X-Amz-Security-Token**

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS Security Token Service, go to AWS Services That Work with IAM in the IAM User Guide.

Condition: If you're using temporary security credentials from the AWS Security Token Service, you must include the security token.

Type: string
Required: Conditional

**X-Amz-Signature**

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string
Required: Conditional

**X-Amz-SignedHeaders**

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see Task 1: Create a Canonical Request For Signature Version 4 in the Amazon Web Services General Reference.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string
Required: Conditional
Common Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

**AccessDeniedException**

You do not have sufficient access to perform this action.

HTTP Status Code: 400

**IncompleteSignature**

The request signature does not conform to AWS standards.

HTTP Status Code: 400

**InternalFailure**

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

**InvalidAction**

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

**InvalidClientTokenId**

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

**InvalidParameterCombination**

Parameters that must not be used together were used together.

HTTP Status Code: 400

**InvalidParameterValue**

An invalid or out-of-range value was supplied for the input parameter.

HTTP Status Code: 400

**InvalidQueryParameter**

The AWS query string is malformed or does not adhere to AWS standards.

HTTP Status Code: 400

**MalformedQueryString**

The query string contains a syntax error.

HTTP Status Code: 404

**MissingAction**

The request is missing an action or a required parameter.

HTTP Status Code: 400
MissingAuthenticationToken

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

NotAuthorized

You do not have permission to perform this action.

HTTP Status Code: 400

OptInRequired

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

RequestExpired

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

ServiceUnavailable

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

ValidationException

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400