Amazon Redshift

API Reference

API Version 2012-12-01

Amazon Redshift: API Reference

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Welcome

Overview

This is an interface reference for Amazon Redshift. It contains documentation for one of the programming or command line interfaces you can use to manage Amazon Redshift clusters. Note that Amazon Redshift is asynchronous, which means that some interfaces may require techniques, such as polling or asynchronous callback handlers, to determine when a command has been applied. In this reference, the parameter descriptions indicate whether a change is applied immediately, on the next instance reboot, or during the next maintenance window. For a summary of the Amazon Redshift cluster management interfaces, go to Using the Amazon Redshift Management Interfaces.

Amazon Redshift manages all the work of setting up, operating, and scaling a data warehouse: provisioning capacity, monitoring and backing up the cluster, and applying patches and upgrades to the Amazon Redshift engine. You can focus on using your data to acquire new insights for your business and customers.

If you are a first-time user of Amazon Redshift, we recommend that you begin by reading the Amazon Redshift Getting Started Guide.

If you are a database developer, the Amazon Redshift Database Developer Guide explains how to design, build, query, and maintain the databases that make up your data warehouse.

This document was last published on October 11, 2018.

Actions

The following actions are supported:

AcceptReservedNodeExchange

Exchanges a DC1 Reserved Node for a DC2 Reserved Node with no changes to the configuration (term, payment type, or number of nodes) and no additional costs.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ReservedNodeId

A string representing the node identifier of the DC1 Reserved Node to be exchanged.

Type: String

Required: Yes

TargetReservedNodeOfferingId

The unique identifier of the DC2 Reserved Node offering to be used for the exchange. You can obtain the value for the parameter by calling GetReservedNodeExchangeOfferings (p. 153)

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

ExchangedReservedNode

Describes a reserved node. You can call the DescribeReservedNodeOfferings (p. 121) API to obtain the available reserved node offerings.

Type: ReservedNode (p. 251) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

InvalidReservedNodeState

Indicates that the Reserved Node being exchanged is not in an active state.

HTTP Status Code: 400

ReservedNodeAlreadyExists

User already has a reservation with the given identifier.

HTTP Status Code: 404

ReservedNodeAlreadyMigrated

Indicates that the reserved node has already been exchanged.

HTTP Status Code: 400

ReservedNodeNotFound

The specified reserved compute node not found.

HTTP Status Code: 404

ReservedNodeOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

UnsupportedOperation

The requested operation isn't supported.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AuthorizeClusterSecurityGroupIngress

Adds an inbound (ingress) rule to an Amazon Redshift security group. Depending on whether the application accessing your cluster is running on the Internet or an Amazon EC2 instance, you can authorize inbound access to either a Classless Interdomain Routing (CIDR)/Internet Protocol (IP) range or to an Amazon EC2 security group. You can add as many as 20 ingress rules to an Amazon Redshift security group.

If you authorize access to an Amazon EC2 security group, specify *EC2SecurityGroupName* and *EC2SecurityGroupOwnerId*. The Amazon EC2 security group and Amazon Redshift cluster must be in the same AWS region.

If you authorize access to a CIDR/IP address range, specify *CIDRIP*. For an overview of CIDR blocks, see the Wikipedia article on Classless Inter-Domain Routing.

You must also associate the security group with a cluster so that clients running on these IP addresses or the EC2 instance are authorized to connect to the cluster. For information about managing security groups, go to Working with Security Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSecurityGroupName

The name of the security group to which the ingress rule is added.

Type: String

Required: Yes

CIDRIP

The IP range to be added the Amazon Redshift security group.

Type: String

Required: No

EC2SecurityGroupName

The EC2 security group to be added the Amazon Redshift security group.

Type: String

Required: No

EC2SecurityGroupOwnerId

The AWS account number of the owner of the security group specified by the *EC2SecurityGroupName* parameter. The AWS Access Key ID is not an acceptable value.

Example: `111122223333`

Type: String

Required: No

Response Elements

The following element is returned by the service.

ClusterSecurityGroup

Describes a security group.

Type: ClusterSecurityGroup (p. 222) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

AuthorizationAlreadyExists

The specified CIDR block or EC2 security group is already authorized for the specified cluster security group.

HTTP Status Code: 400

AuthorizationQuotaExceeded

The authorization quota for the cluster security group has been reached.

HTTP Status Code: 400

ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

InvalidClusterSecurityGroupState

The state of the cluster security group is not `available`.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
?Action=AuthorizeClusterSecurityGroupIngress
&CIDRIP=10.24.34.0/24
&ClusterSecurityGroupName=example-security-group
&SignatureMethod=HmacSHA256&SignatureVersion=4
&Version=2012-12-01
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLE/20150817/us-west-2/redshift/aws4_request
&X-Amz-Date=20150825T160000Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-date
&X-Amz-Signature=0aa1234bb5cc678ddddd901ee2ff3aa45678b90c12d345e6ff789012345a6b7b
```

Sample Response

```
<AuthorizeClusterSecurityGroupIngressResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
```

```
  <AuthorizeClusterSecurityGroupIngressResult>
    <ClusterSecurityGroup>
      <Tags/>
      <EC2SecurityGroups/>
      <IPRanges>
        <IPRange>
          <CIDRIP>10.24.34.0/24</CIDRIP>
          <Status>authorized</Status>
        </IPRange>
      </IPRanges>
      <Description>Example security group</Description>
      <ClusterSecurityGroupName>example-security-group</ClusterSecurityGroupName>
    </ClusterSecurityGroup>
  </AuthorizeClusterSecurityGroupIngressResult>
  <ResponseMetadata>
    <RequestId>534d1bce-46ac-11e5-b673-31d855cc98c6</RequestId>
  </ResponseMetadata>
</AuthorizeClusterSecurityGroupIngressResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AuthorizeSnapshotAccess

Authorizes the specified AWS customer account to restore the specified snapshot.

For more information about working with snapshots, go to Amazon Redshift Snapshots in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

AccountWithRestoreAccess

The identifier of the AWS customer account authorized to restore the specified snapshot.

To share a snapshot with AWS support, specify amazon-redshift-support.

Type: String

Required: Yes

SnapshotIdentifier

The identifier of the snapshot the account is authorized to restore.

Type: String

Required: Yes

SnapshotClusterIdentifier

The identifier of the cluster the snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than * for the cluster name.

Type: String

Required: No

Response Elements

The following element is returned by the service.

Snapshot

Describes a snapshot.

Type: Snapshot (p. 259) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

AuthorizationAlreadyExists

The specified CIDR block or EC2 security group is already authorized for the specified cluster security group.

HTTP Status Code: 400

AuthorizationQuotaExceeded

The authorization quota for the cluster security group has been reached.

HTTP Status Code: 400

ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

InvalidClusterSnapshotState

The specified cluster snapshot is not in the `available` state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

LimitExceededFault

The encryption key has exceeded its grant limit in AWS KMS.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CopyClusterSnapshot

Copies the specified automated cluster snapshot to a new manual cluster snapshot. The source must be an automated snapshot and it must be in the available state.

When you delete a cluster, Amazon Redshift deletes any automated snapshots of the cluster. Also, when the retention period of the snapshot expires, Amazon Redshift automatically deletes it. If you want to keep an automated snapshot for a longer period, you can make a manual copy of the snapshot. Manual snapshots are retained until you delete them.

For more information about working with snapshots, go to Amazon Redshift Snapshots in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

SourceSnapshotIdentifier

The identifier for the source snapshot.

Constraints:

- Must be the identifier for a valid automated snapshot whose state is `available`.

Type: String

Required: Yes

TargetSnapshotIdentifier

The identifier given to the new manual snapshot.

Constraints:

- Cannot be null, empty, or blank.
- Must contain from 1 to 255 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique for the AWS account that is making the request.

Type: String

Required: Yes

SourceSnapshotClusterIdentifier

The identifier of the cluster the source snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than * for the cluster name.

Constraints:

- Must be the identifier for a valid cluster.

Type: String

Required: No

Response Elements

The following element is returned by the service.

Snapshot

Describes a snapshot.

Type: Snapshot (p. 259) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSnapshotAlreadyExists

The value specified as a snapshot identifier is already used by an existing snapshot.

HTTP Status Code: 400

ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

ClusterSnapshotQuotaExceeded

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

HTTP Status Code: 400

InvalidClusterSnapshotState

The specified cluster snapshot is not in the `available` state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=CopyClusterSnapshot
    &SourceSnapshotIdentifier=cm:examplecluster-2013-01-22-19-27-58
    &TargetSnapshotIdentifier=my-snapshot-456
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T014618Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<CopyClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CopyClusterSnapshotResult>
```

```
    <Snapshot>
      <Port>5439</Port>
      <SnapshotIdentifier>my-snapshot-456</SnapshotIdentifier>
      <Status>available</Status>
      <SnapshotType>manual</SnapshotType>
      <ClusterVersion>1.0</ClusterVersion>
      <SnapshotCreateTime>2013-01-22T19:27:58.931Z</SnapshotCreateTime>
      <NumberOfNodes>2</NumberOfNodes>
      <DBName>dev</DBName>
      <ClusterCreateTime>2013-01-22T19:23:59.368Z</ClusterCreateTime>
      <AvailabilityZone>us-east-1c</AvailabilityZone>
      <NodeType>ds2.xlarge</NodeType>
      <ClusterIdentifier>examplecluster</ClusterIdentifier>
      <MasterUsername>adminuser</MasterUsername>
    </Snapshot>
  </CopyClusterSnapshotResult>
  <ResponseMetadata>
    <RequestId>aebb56f5-64fe-11e2-88c5-53eb05787dfb</RequestId>
  </ResponseMetadata>
</CopyClusterSnapshotResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateCluster

Creates a new cluster.

To create a cluster in Virtual Private Cloud (VPC), you must provide a cluster subnet group name. The cluster subnet group identifies the subnets of your VPC that Amazon Redshift uses when creating the cluster. For more information about managing clusters, go to Amazon Redshift Clusters in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

A unique identifier for the cluster. You use this identifier to refer to the cluster for any subsequent cluster operations such as deleting or modifying. The identifier also appears in the Amazon Redshift console.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens.
- Alphabetic characters must be lowercase.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique for all clusters within an AWS account.

Example: `myexamplecluster`

Type: String

Required: Yes

MasterUsername

The user name associated with the master user account for the cluster that is being created.

Constraints:

- Must be 1 - 128 alphanumeric characters. The user name can't be `PUBLIC`.
- First character must be a letter.
- Cannot be a reserved word. A list of reserved words can be found in Reserved Words in the Amazon Redshift Database Developer Guide.

Type: String

Required: Yes

MasterUserPassword

The password associated with the master user account for the cluster that is being created.

Constraints:

- Must be between 8 and 64 characters in length.
- Must contain at least one uppercase letter.
- Must contain at least one lowercase letter.

- Must contain one number.
- Can be any printable ASCII character (ASCII code 33 to 126) except ' (single quote), " (double quote), \, /, @, or space.

Type: String

Required: Yes

NodeType

The node type to be provisioned for the cluster. For information about node types, go to Working with Clusters in the *Amazon Redshift Cluster Management Guide*.

Valid Values: `ds2.xlarge` | `ds2.8xlarge` | `ds2.xlarge` | `ds2.8xlarge` | `dc1.large` | `dc1.8xlarge` | `dc2.large` | `dc2.8xlarge`

Type: String

Required: Yes

AdditionalInfo

Reserved.

Type: String

Required: No

AllowVersionUpgrade

If `true`, major version upgrades can be applied during the maintenance window to the Amazon Redshift engine that is running on the cluster.

When a new major version of the Amazon Redshift engine is released, you can request that the service automatically apply upgrades during the maintenance window to the Amazon Redshift engine that is running on your cluster.

Default: `true`

Type: Boolean

Required: No

AutomatedSnapshotRetentionPeriod

The number of days that automated snapshots are retained. If the value is 0, automated snapshots are disabled. Even if automated snapshots are disabled, you can still create manual snapshots when you want with CreateClusterSnapshot (p. 31).

Default: `1`

Constraints: Must be a value from 0 to 35.

Type: Integer

Required: No

AvailabilityZone

The EC2 Availability Zone (AZ) in which you want Amazon Redshift to provision the cluster. For example, if you have several EC2 instances running in a specific Availability Zone, then you might want the cluster to be provisioned in the same zone in order to decrease network latency.

Default: A random, system-chosen Availability Zone in the region that is specified by the endpoint.

Example: `us-east-1d`

Constraint: The specified Availability Zone must be in the same region as the current endpoint.

Type: String

Required: No

ClusterParameterGroupName

The name of the parameter group to be associated with this cluster.

Default: The default Amazon Redshift cluster parameter group. For information about the default parameter group, go to Working with Amazon Redshift Parameter Groups

Constraints:

- Must be 1 to 255 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

ClusterSecurityGroups.ClusterSecurityGroupName.N

A list of security groups to be associated with this cluster.

Default: The default cluster security group for Amazon Redshift.

Type: Array of strings

Required: No

ClusterSubnetGroupName

The name of a cluster subnet group to be associated with this cluster.

If this parameter is not provided the resulting cluster will be deployed outside virtual private cloud (VPC).

Type: String

Required: No

ClusterType

The type of the cluster. When cluster type is specified as

- `single-node`, the **NumberOfNodes** parameter is not required.
- `multi-node`, the **NumberOfNodes** parameter is required.

Valid Values: `multi-node` | `single-node`

Default: `multi-node`

Type: String

Required: No

ClusterVersion

The version of the Amazon Redshift engine software that you want to deploy on the cluster.

The version selected runs on all the nodes in the cluster.

Constraints: Only version 1.0 is currently available.

Example: `1.0`

Type: String

Required: No

DBName

The name of the first database to be created when the cluster is created.

To create additional databases after the cluster is created, connect to the cluster with a SQL client and use SQL commands to create a database. For more information, go to Create a Database in the Amazon Redshift Database Developer Guide.

Default: `dev`

Constraints:

- Must contain 1 to 64 alphanumeric characters.
- Must contain only lowercase letters.
- Cannot be a word that is reserved by the service. A list of reserved words can be found in Reserved Words in the Amazon Redshift Database Developer Guide.

Type: String

Required: No

ElasticIp

The Elastic IP (EIP) address for the cluster.

Constraints: The cluster must be provisioned in EC2-VPC and publicly-accessible through an Internet gateway. For more information about provisioning clusters in EC2-VPC, go to Supported Platforms to Launch Your Cluster in the Amazon Redshift Cluster Management Guide.

Type: String

Required: No

Encrypted

If `true`, the data in the cluster is encrypted at rest.

Default: false

Type: Boolean

Required: No

EnhancedVpcRouting

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see Enhanced VPC Routing in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: false

Type: Boolean

Required: No

HsmClientCertificateIdentifier

Specifies the name of the HSM client certificate the Amazon Redshift cluster uses to retrieve the data encryption keys stored in an HSM.

Type: String

Required: No

HsmConfigurationIdentifier

Specifies the name of the HSM configuration that contains the information the Amazon Redshift cluster can use to retrieve and store keys in an HSM.

Type: String

Required: No

IamRoles.IamRoleArn.N

A list of AWS Identity and Access Management (IAM) roles that can be used by the cluster to access other AWS services. You must supply the IAM roles in their Amazon Resource Name (ARN) format. You can supply up to 10 IAM roles in a single request.

A cluster can have up to 10 IAM roles associated with it at any time.

Type: Array of strings

Required: No

KmsKeyId

The AWS Key Management Service (KMS) key ID of the encryption key that you want to use to encrypt data in the cluster.

Type: String

Required: No

MaintenanceTrackName

An optional parameter for the name of the maintenance track for the cluster. If you don't provide a maintenance track name, the cluster is assigned to the `current` track.

Type: String

Required: No

NumberOfNodes

The number of compute nodes in the cluster. This parameter is required when the **ClusterType** parameter is specified as `multi-node`.

For information about determining how many nodes you need, go to Working with Clusters in the *Amazon Redshift Cluster Management Guide*.

If you don't specify this parameter, you get a single-node cluster. When requesting a multi-node cluster, you must specify the number of nodes that you want in the cluster.

Default: `1`

Constraints: Value must be at least 1 and no more than 100.

Type: Integer

Required: No

Port

The port number on which the cluster accepts incoming connections.

The cluster is accessible only via the JDBC and ODBC connection strings. Part of the connection string requires the port on which the cluster will listen for incoming connections.

Default: `5439`

Valid Values: `1150-65535`

Type: Integer

Required: No

PreferredMaintenanceWindow

The weekly time range (in UTC) during which automated cluster maintenance can occur.

Format: `ddd:hh24:mi-ddd:hh24:mi`

Default: A 30-minute window selected at random from an 8-hour block of time per region, occurring on a random day of the week. For more information about the time blocks for each region, see Maintenance Windows in Amazon Redshift Cluster Management Guide.

Valid Days: Mon | Tue | Wed | Thu | Fri | Sat | Sun

Constraints: Minimum 30-minute window.

Type: String

Required: No

PubliclyAccessible

If `true`, the cluster can be accessed from a public network.

Type: Boolean

Required: No

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

VpcSecurityGroupIds.VpcSecurityGroupId.N

A list of Virtual Private Cloud (VPC) security groups to be associated with the cluster.

Default: The default VPC security group is associated with the cluster.

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterAlreadyExists

The account already has a cluster with the given identifier.

HTTP Status Code: 400

ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

ClusterQuotaExceeded

The request would exceed the allowed number of cluster instances for this account. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

ClusterSubnetGroupNotFoundFault

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

HsmClientCertificateNotFoundFault

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

HsmConfigurationNotFoundFault

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

InsufficientClusterCapacity

The number of nodes specified exceeds the allotted capacity of the cluster.

HTTP Status Code: 400

InvalidClusterSubnetGroupStateFault

The cluster subnet group cannot be deleted because it is in use.

HTTP Status Code: 400

InvalidClusterTrack

The provided cluster track name is not valid.

HTTP Status Code: 400

InvalidElasticIpFault

The Elastic IP (EIP) is invalid or cannot be found.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is not valid, or not all of the subnets are in the same VPC.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

InvalidVPCNetworkStateFault

The cluster subnet group does not cover all Availability Zones.

HTTP Status Code: 400

LimitExceededFault

The encryption key has exceeded its grant limit in AWS KMS.

HTTP Status Code: 400

NumberOfNodesPerClusterLimitExceeded

The operation would exceed the number of nodes allowed for a cluster.

HTTP Status Code: 400

NumberOfNodesQuotaExceeded

The operation would exceed the number of nodes allotted to the account. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

Examples

Example

Create a non-VPC cluster.

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
   ?Action=CreateCluster
   &ClusterIdentifier=examplecluster
   &MasterUsername=masteruser
   &MasterUserPassword=12345678Aa
   &NumberOfNodes=2
   &NodeType=ds2.xlarge
   &Version=2012-12-01
   &x-amz-algorithm=AWS4-HMAC-SHA256
   &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
   &x-amz-date=20130123T000028Z
   &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<CreateClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateClusterResult>
    <Cluster>
      <PendingModifiedValues>
        <MasterUserPassword>****</MasterUserPassword>
      </PendingModifiedValues>
      <ClusterVersion>1.0</ClusterVersion>
      <VpcSecurityGroups/>
      <ClusterStatus>creating</ClusterStatus>
      <NumberOfNodes>2</NumberOfNodes>
      <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
      <PubliclyAccessible>true</PubliclyAccessible>
      <Encrypted>false</Encrypted>
      <EnhancedVpcRouting>false</EnhancedVpcRouting>
      <DBName>dev</DBName>
      <PreferredMaintenanceWindow>sun:10:30-sun:11:00</PreferredMaintenanceWindow>
      <ClusterParameterGroups>
        <ClusterParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        </ClusterParameterGroup>
      </ClusterParameterGroups>
      <ClusterSecurityGroups>
        <ClusterSecurityGroup>
          <Status>active</Status>
          <ClusterSecurityGroupName>default</ClusterSecurityGroupName>
        </ClusterSecurityGroup>
      </ClusterSecurityGroups>
      <NodeType>ds2.xlarge</NodeType>
      <ClusterIdentifier>examplecluster</ClusterIdentifier>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
```

```
      <MasterUsername>masteruser</MasterUsername>
    </Cluster>
  </CreateClusterResult>
  <ResponseMetadata>
    <RequestId>e69b1294-64ef-11e2-b07c-f7fbdd006c67</RequestId>
  </ResponseMetadata>
</CreateClusterResponse>
```

Example

Create cluster in virtual private cloud (VPC). This example request specifies a `ClusterSubnetGroupName` to identify the subnets that can be used when creating the cluster.

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
 ?Action=CreateCluster
&ClusterIdentifier=exampleclusterinvpc
&MasterUsername=master
&MasterUserPassword=1234abcdA
&NodeType=ds2.xlarge
&NumberOfNodes=2
&ClusterSubnetGroupName=mysubnetgroup1
   &Version=2012-12-01
   &x-amz-algorithm=AWS4-HMAC-SHA256
   &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
   &x-amz-date=20130123T000028Z
   &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<CreateClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateClusterResult>
    <Cluster>
      <PendingModifiedValues>
        <MasterUserPassword>****</MasterUserPassword>
      </PendingModifiedValues>
      <ClusterSubnetGroupName>mysubnetgroup1</ClusterSubnetGroupName>
      <ClusterVersion>1.0</ClusterVersion>
      <VpcSecurityGroups/>
      <ClusterStatus>creating</ClusterStatus>
      <NumberOfNodes>2</NumberOfNodes>
      <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
      <PubliclyAccessible>false</PubliclyAccessible>
      <Encrpyted>false</Encrypted>
      <EnhancedVpcRouting>false</EnhancedVpcRouting>
      <DBName>dev</DBName>
      <PreferredMaintenanceWindow>sat:08:30-sat:09:00</PreferredMaintenanceWindow>
      <ClusterParameterGroups>
        <ClusterParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        </ClusterParameterGroup>
      </ClusterParameterGroups>
      <VpcId>vpc-796a5913</VpcId>
      <ClusterSecurityGroups/>
      <NodeType>ds2.xlarge</NodeType>
      <ClusterIdentifier>exampleclusterinvpc</ClusterIdentifier>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <MasterUsername>master</MasterUsername>
    </Cluster>
  </CreateClusterResult>
```

```
  <ResponseMetadata>
    <RequestId>fa337bb4-6a4d-11e2-a12a-cb8076a904bd</RequestId>
  </ResponseMetadata>
</CreateClusterResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateClusterParameterGroup

Creates an Amazon Redshift parameter group.

Creating parameter groups is independent of creating clusters. You can associate a cluster with a parameter group when you create the cluster. You can also associate an existing cluster with a parameter group after the cluster is created by using ModifyCluster (p. 155).

Parameters in the parameter group define specific behavior that applies to the databases you create on the cluster. For more information about parameters and parameter groups, go to Amazon Redshift Parameter Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Description

A description of the parameter group.

Type: String

Required: Yes

ParameterGroupFamily

The Amazon Redshift engine version to which the cluster parameter group applies. The cluster engine version determines the set of parameters.

To get a list of valid parameter group family names, you can call DescribeClusterParameterGroups (p. 70). By default, Amazon Redshift returns a list of all the parameter groups that are owned by your AWS account, including the default parameter groups for each Amazon Redshift engine version. The parameter group family names associated with the default parameter groups provide you the valid values. For example, a valid family name is "redshift-1.0".

Type: String

Required: Yes

ParameterGroupName

The name of the cluster parameter group.

Constraints:

- Must be 1 to 255 alphanumeric characters or hyphens
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique withing your AWS account.

  Note
  This value is stored as a lower-case string.

Type: String

Required: Yes

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

Response Elements

The following element is returned by the service.

ClusterParameterGroup

Describes a parameter group.

Type: ClusterParameterGroup (p. 218) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterParameterGroupAlreadyExists

A cluster parameter group with the same name already exists.

HTTP Status Code: 400

ClusterParameterGroupQuotaExceeded

The request would result in the user exceeding the allowed number of cluster parameter groups. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
   ?Action=CreateClusterParameterGroup
   &Description=description my parameter group
   &ParameterGroupFamily=redshift-1.0
   &ParameterGroupName=parametergroup1
   &Version=2012-12-01
   &x-amz-algorithm=AWS4-HMAC-SHA256
   &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
```

```
   &x-amz-date=20130123T002544Z
   &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<CreateClusterParameterGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateClusterParameterGroupResult>
    <ClusterParameterGroup>
      <ParameterGroupFamily>redshift-1.0</ParameterGroupFamily>
      <Description>description my parameter group</Description>
      <ParameterGroupName>parametergroup1</ParameterGroupName>
    </ClusterParameterGroup>
  </CreateClusterParameterGroupResult>
  <ResponseMetadata>
    <RequestId>6d6df847-64f3-11e2-bea9-49e0ce183f07</RequestId>
  </ResponseMetadata>
</CreateClusterParameterGroupResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateClusterSecurityGroup

Creates a new Amazon Redshift security group. You use security groups to control access to non-VPC clusters.

For information about managing security groups, go to Amazon Redshift Cluster Security Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSecurityGroupName

The name for the security group. Amazon Redshift stores the value as a lowercase string.

Constraints:

- Must contain no more than 255 alphanumeric characters or hyphens.
- Must not be "Default".
- Must be unique for all security groups that are created by your AWS account.

Example: `examplesecuritygroup`

Type: String

Required: Yes

Description

A description for the security group.

Type: String

Required: Yes

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

Response Elements

The following element is returned by the service.

ClusterSecurityGroup

Describes a security group.

Type: ClusterSecurityGroup (p. 222) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSecurityGroupAlreadyExists

A cluster security group with the same name already exists.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

QuotaExceeded.ClusterSecurityGroup

The request would result in the user exceeding the allowed number of cluster security groups. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
   ?Action=CreateClusterSecurityGroup
   &ClusterSecurityGroupName=securitygroup1
   &Description=my security group
   &Version=2012-12-01
   &x-amz-algorithm=AWS4-HMAC-SHA256
   &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
   &x-amz-date=20130123T005817Z
   &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<CreateClusterSecurityGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateClusterSecurityGroupResult>
    <ClusterSecurityGroup>
      <EC2SecurityGroups/>
      <IPRanges/>
      <Description>my security group</Description>
      <ClusterSecurityGroupName>securitygroup1</ClusterSecurityGroupName>
    </ClusterSecurityGroup>
  </CreateClusterSecurityGroupResult>
  <ResponseMetadata>
    <RequestId>f9ee270f-64f7-11e2-a8da-655adc216806</RequestId>
  </ResponseMetadata>
</CreateClusterSecurityGroupResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateClusterSnapshot

Creates a manual snapshot of the specified cluster. The cluster must be in the `available` state.

For more information about working with snapshots, go to Amazon Redshift Snapshots in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The cluster identifier for which you want a snapshot.

Type: String

Required: Yes

SnapshotIdentifier

A unique identifier for the snapshot that you are requesting. This identifier must be unique for all snapshots within the AWS account.

Constraints:

- Cannot be null, empty, or blank
- Must contain from 1 to 255 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Example: `my-snapshot-id`

Type: String

Required: Yes

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

Response Elements

The following element is returned by the service.

Snapshot

Describes a snapshot.

Type: Snapshot (p. 259) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

ClusterSnapshotAlreadyExists

The value specified as a snapshot identifier is already used by an existing snapshot.

HTTP Status Code: 400

ClusterSnapshotQuotaExceeded

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

HTTP Status Code: 400

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=CreateClusterSnapshot
    &ClusterIdentifier=examplecluster
    &SnapshotIdentifier=snapshot-1234
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T010824Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<CreateClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateClusterSnapshotResult>
    <Snapshot>
      <Port>5439</Port>
      <SnapshotIdentifier>my-snapshot-123</SnapshotIdentifier>
      <Status>creating</Status>
      <SnapshotType>manual</SnapshotType>
      <ClusterVersion>1.0</ClusterVersion>
```

```
      <SnapshotCreateTime>2013-01-23T01:08:29.142Z</SnapshotCreateTime>
      <NumberOfNodes>2</NumberOfNodes>
      <DBName>dev</DBName>
      <ClusterCreateTime>2013-01-22T19:23:59.368Z</ClusterCreateTime>
      <AvailabilityZone>us-east-1c</AvailabilityZone>
      <NodeType>ds2.xlarge</NodeType>
      <ClusterIdentifier>examplecluster</ClusterIdentifier>
      <MasterUsername>adminuser</MasterUsername>
    </Snapshot>
  </CreateClusterSnapshotResult>
  <ResponseMetadata>
    <RequestId>65baef14-64f9-11e2-bea9-49e0ce183f07</RequestId>
  </ResponseMetadata>
</CreateClusterSnapshotResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateClusterSubnetGroup

Creates a new Amazon Redshift subnet group. You must provide a list of one or more subnets in your existing Amazon Virtual Private Cloud (Amazon VPC) when creating Amazon Redshift subnet group.

For information about subnet groups, go to Amazon Redshift Cluster Subnet Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSubnetGroupName

The name for the subnet group. Amazon Redshift stores the value as a lowercase string.

Constraints:

- Must contain no more than 255 alphanumeric characters or hyphens.
- Must not be "Default".
- Must be unique for all subnet groups that are created by your AWS account.

Example: `examplesubnetgroup`

Type: String

Required: Yes

Description

A description for the subnet group.

Type: String

Required: Yes

SubnetIds.SubnetIdentifier.N

An array of VPC subnet IDs. A maximum of 20 subnets can be modified in a single request.

Type: Array of strings

Required: Yes

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

Response Elements

The following element is returned by the service.

ClusterSubnetGroup

Describes a subnet group.

Type: ClusterSubnetGroup (p. 226) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSubnetGroupAlreadyExists

A *ClusterSubnetGroupName* is already used by an existing cluster subnet group.

HTTP Status Code: 400

ClusterSubnetGroupQuotaExceeded

The request would result in user exceeding the allowed number of cluster subnet groups. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

ClusterSubnetQuotaExceededFault

The request would result in user exceeding the allowed number of subnets in a cluster subnet groups. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is not valid, or not all of the subnets are in the same VPC.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
```

```
  ?Action=CreateClusterSubnetGroup
  &ClusterSubnetGroupName=mysubnetgroup1
  &Description=My subnet group 1
  &SubnetIds.member.1=subnet-756a591f
  &SubnetIds.member.1=subnet-716a591b
  &Version=2012-12-01
  &x-amz-algorithm=AWS4-HMAC-SHA256
  &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130129/us-east-1/redshift/aws4_request
  &x-amz-date=20130129T192820Z
  &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<CreateClusterSubnetGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <CreateClusterSubnetGroupResult>
    <ClusterSubnetGroup>
      <VpcId>vpc-796a5913</VpcId>
      <Description>My subnet group 1</Description>
      <ClusterSubnetGroupName>mysubnetgroup1</ClusterSubnetGroupName>
      <SubnetGroupStatus>Complete</SubnetGroupStatus>
      <Subnets>
        <Subnet>
          <SubnetStatus>Active</SubnetStatus>
          <SubnetIdentifier>subnet-756a591f</SubnetIdentifier>
          <SubnetAvailabilityZone>
            <Name>us-east-1c</Name>
          </SubnetAvailabilityZone>
        </Subnet>
      </Subnets>
    </ClusterSubnetGroup>
  </CreateClusterSubnetGroupResult>
  <ResponseMetadata>
    <RequestId>0a60660f-6a4a-11e2-aad2-71d00c36728e</RequestId>
  </ResponseMetadata>
</CreateClusterSubnetGroupResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateEventSubscription

Creates an Amazon Redshift event notification subscription. This action requires an ARN (Amazon Resource Name) of an Amazon SNS topic created by either the Amazon Redshift console, the Amazon SNS console, or the Amazon SNS API. To obtain an ARN with Amazon 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 source type, and lists of Amazon Redshift source IDs, event categories, and event severities. Notifications will be sent for all events you want that match those criteria. For example, you can specify source type = cluster, source ID = my-cluster-1 and mycluster2, event categories = Availability, Backup, and severity = ERROR. The subscription will only send notifications for those ERROR events in the Availability and Backup categories for the specified clusters.

If you specify both the source type and source IDs, such as source type = cluster and source identifier = my-cluster-1, notifications will be sent for all the cluster events for my-cluster-1. If you specify a source type but do not specify a source identifier, you will receive notice of the events for the objects of that type in your AWS account. If you do not specify either the SourceType nor the SourceIdentifier, you will be notified of events generated from all Amazon Redshift sources belonging to your AWS account. You must specify a source type if you specify a source ID.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

SnsTopicArn

The Amazon Resource Name (ARN) of the Amazon SNS topic used to transmit the event notifications. The ARN is created by Amazon SNS when you create a topic and subscribe to it.

Type: String

Required: Yes

SubscriptionName

The name of the event subscription to be created.

Constraints:

- Cannot be null, empty, or blank.
- Must contain from 1 to 255 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Required: Yes

Enabled

A Boolean value; set to `true` to activate the subscription, set to `false` to create the subscription but not active it.

Type: Boolean

Required: No

EventCategories.EventCategory.N

Specifies the Amazon Redshift event categories to be published by the event notification subscription.

Values: configuration, management, monitoring, security

Type: Array of strings

Required: No

Severity

Specifies the Amazon Redshift event severity to be published by the event notification subscription.

Values: ERROR, INFO

Type: String

Required: No

SourceIds.SourceId.N

A list of one or more identifiers of Amazon Redshift source objects. All of the objects must be of the same type as was specified in the source type parameter. The event subscription will return only events generated by the specified objects. If not specified, then events are returned for all objects within the source type specified.

Example: my-cluster-1, my-cluster-2

Example: my-snapshot-20131010

Type: Array of strings

Required: No

SourceType

The type of source that will be generating the events. For example, if you want to be notified of events generated by a cluster, you would set this parameter to cluster. If this value is not specified, events are returned for all Amazon Redshift objects in your AWS account. You must specify a source type in order to specify source IDs.

Valid values: cluster, cluster-parameter-group, cluster-security-group, and cluster-snapshot.

Type: String

Required: No

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

Response Elements

The following element is returned by the service.

EventSubscription

Describes event subscriptions.

Type: EventSubscription (p. 237) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

EventSubscriptionQuotaExceeded

The request would exceed the allowed number of event subscriptions for this account. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

SNSInvalidTopic

Amazon SNS has responded that there is a problem with the specified Amazon SNS topic.

HTTP Status Code: 400

SNSNoAuthorization

You do not have permission to publish to the specified Amazon SNS topic.

HTTP Status Code: 400

SNSTopicArnNotFound

An Amazon SNS topic with the specified Amazon Resource Name (ARN) does not exist.

HTTP Status Code: 404

SourceNotFound

The specified Amazon Redshift event source could not be found.

HTTP Status Code: 404

SubscriptionAlreadyExist

There is already an existing event notification subscription with the specified name.

HTTP Status Code: 400

SubscriptionCategoryNotFound

The value specified for the event category was not one of the allowed values, or it specified a category that does not apply to the specified source type. The allowed values are Configuration, Management, Monitoring, and Security.

HTTP Status Code: 404

SubscriptionEventIdNotFound

An Amazon Redshift event with the specified event ID does not exist.

HTTP Status Code: 404

SubscriptionSeverityNotFound

The value specified for the event severity was not one of the allowed values, or it specified a severity that does not apply to the specified source type. The allowed values are ERROR and INFO.

HTTP Status Code: 404

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateHsmClientCertificate

Creates an HSM client certificate that an Amazon Redshift cluster will use to connect to the client's HSM in order to store and retrieve the keys used to encrypt the cluster databases.

The command returns a public key, which you must store in the HSM. In addition to creating the HSM certificate, you must create an Amazon Redshift HSM configuration that provides a cluster the information needed to store and use encryption keys in the HSM. For more information, go to Hardware Security Modules in the Amazon Redshift Cluster Management Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

HsmClientCertificateIdentifier

The identifier to be assigned to the new HSM client certificate that the cluster will use to connect to the HSM to use the database encryption keys.

Type: String

Required: Yes

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

Response Elements

The following element is returned by the service.

HsmClientCertificate

Returns information about an HSM client certificate. The certificate is stored in a secure Hardware Storage Module (HSM), and used by the Amazon Redshift cluster to encrypt data files.

Type: HsmClientCertificate (p. 239) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

HsmClientCertificateAlreadyExistsFault

There is already an existing Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

HsmClientCertificateQuotaExceededFault

The quota for HSM client certificates has been reached. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateHsmConfiguration

Creates an HSM configuration that contains the information required by an Amazon Redshift cluster to store and use database encryption keys in a Hardware Security Module (HSM). After creating the HSM configuration, you can specify it as a parameter when creating a cluster. The cluster will then store its encryption keys in the HSM.

In addition to creating an HSM configuration, you must also create an HSM client certificate. For more information, go to Hardware Security Modules in the Amazon Redshift Cluster Management Guide.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Description

A text description of the HSM configuration to be created.

Type: String

Required: Yes

HsmConfigurationIdentifier

The identifier to be assigned to the new Amazon Redshift HSM configuration.

Type: String

Required: Yes

HsmIpAddress

The IP address that the Amazon Redshift cluster must use to access the HSM.

Type: String

Required: Yes

HsmPartitionName

The name of the partition in the HSM where the Amazon Redshift clusters will store their database encryption keys.

Type: String

Required: Yes

HsmPartitionPassword

The password required to access the HSM partition.

Type: String

Required: Yes

HsmServerPublicCertificate

The HSMs public certificate file. When using Cloud HSM, the file name is server.pem.

Type: String

Required: Yes

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

Response Elements

The following element is returned by the service.

HsmConfiguration

Returns information about an HSM configuration, which is an object that describes to Amazon Redshift clusters the information they require to connect to an HSM where they can store database encryption keys.

Type: HsmConfiguration (p. 240) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

HsmConfigurationAlreadyExistsFault

There is already an existing Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

HsmConfigurationQuotaExceededFault

The quota for HSM configurations has been reached. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSnapshotCopyGrant

Creates a snapshot copy grant that permits Amazon Redshift to use a customer master key (CMK) from AWS Key Management Service (AWS KMS) to encrypt copied snapshots in a destination region.

For more information about managing snapshot copy grants, go to Amazon Redshift Database Encryption in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

SnapshotCopyGrantName

The name of the snapshot copy grant. This name must be unique in the region for the AWS account.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens.
- Alphabetic characters must be lowercase.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique for all clusters within an AWS account.

Type: String

Required: Yes

KmsKeyId

The unique identifier of the customer master key (CMK) to which to grant Amazon Redshift permission. If no key is specified, the default key is used.

Type: String

Required: No

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) objects

Required: No

Response Elements

The following element is returned by the service.

SnapshotCopyGrant

The snapshot copy grant that grants Amazon Redshift permission to encrypt copied snapshots with the specified customer master key (CMK) from AWS KMS in the destination region.

For more information about managing snapshot copy grants, go to Amazon Redshift Database Encryption in the *Amazon Redshift Cluster Management Guide*.

Type: SnapshotCopyGrant (p. 264) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

LimitExceededFault

The encryption key has exceeded its grant limit in AWS KMS.

HTTP Status Code: 400

SnapshotCopyGrantAlreadyExistsFault

The snapshot copy grant can't be created because a grant with the same name already exists.

HTTP Status Code: 400

SnapshotCopyGrantQuotaExceededFault

The AWS account has exceeded the maximum number of snapshot copy grants in this region.

HTTP Status Code: 400

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateTags

Adds one or more tags to a specified resource.

A resource can have up to 50 tags. If you try to create more than 50 tags for a resource, you will receive an error and the attempt will fail.

If you specify a key that already exists for the resource, the value for that key will be updated with the new value.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ResourceName

The Amazon Resource Name (ARN) to which you want to add the tag or tags. For example, `arn:aws:redshift:us-east-1:123456789:cluster:t1`.

Type: String

Required: Yes

Tags.Tag.N

One or more name/value pairs to add as tags to the specified resource. Each tag name is passed in with the parameter `Key` and the corresponding value is passed in with the parameter `Value`. The `Key` and `Value` parameters are separated by a comma (,). Separate multiple tags with a space. For example, `--tags "Key"="owner","Value"="admin" "Key"="environment","Value"="test" "Key"="version","Value"="1.0"`.

Type: Array of Tag (p. 270) objects

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

ResourceNotFoundFault

The resource could not be found.

HTTP Status Code: 404

TagLimitExceededFault

The number of tables in your source cluster exceeds the limit for the target cluster. Resize to a larger cluster node type.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteCluster

Deletes a previously provisioned cluster. A successful response from the web service indicates that the request was received correctly. Use DescribeClusters (p. 77) to monitor the status of the deletion. The delete operation cannot be canceled or reverted once submitted. For more information about managing clusters, go to Amazon Redshift Clusters in the *Amazon Redshift Cluster Management Guide*.

If you want to shut down the cluster and retain it for future use, set *SkipFinalClusterSnapshot* to `false` and specify a name for *FinalClusterSnapshotIdentifier*. You can later restore this snapshot to resume using the cluster. If a final cluster snapshot is requested, the status of the cluster will be "final-snapshot" while the snapshot is being taken, then it's "deleting" once Amazon Redshift begins deleting the cluster.

For more information about managing clusters, go to Amazon Redshift Clusters in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The identifier of the cluster to be deleted.

Constraints:

- Must contain lowercase characters.
- Must contain from 1 to 63 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Required: Yes

FinalClusterSnapshotIdentifier

The identifier of the final snapshot that is to be created immediately before deleting the cluster. If this parameter is provided, *SkipFinalClusterSnapshot* must be `false`.

Constraints:

- Must be 1 to 255 alphanumeric characters.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

SkipFinalClusterSnapshot

Determines whether a final snapshot of the cluster is created before Amazon Redshift deletes the cluster. If `true`, a final cluster snapshot is not created. If `false`, a final cluster snapshot is created before the cluster is deleted.

> **Note**
> The *FinalClusterSnapshotIdentifier* parameter must be specified if *SkipFinalClusterSnapshot* is `false`.

Default: `false`

Type: Boolean

Required: No

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

ClusterSnapshotAlreadyExists

The value specified as a snapshot identifier is already used by an existing snapshot.

HTTP Status Code: 400

ClusterSnapshotQuotaExceeded

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

HTTP Status Code: 400

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DeleteCluster
    &ClusterIdentifier=examplecluster2
    &SkipFinalClusterSnapshot=true
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T022400Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DeleteClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DeleteClusterResult>
    <Cluster>
      <PendingModifiedValues/>
      <ClusterVersion>1.0</ClusterVersion>
      <VpcSecurityGroups/>
      <Endpoint>
        <Port>5439</Port>
        <Address>examplecluster2.cobbanlpscsn.us-east-1.redshift.amazonaws.com</Address>
      </Endpoint>
      <ClusterStatus>deleting</ClusterStatus>
      <NumberOfNodes>2</NumberOfNodes>
      <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
      <PubliclyAccessible>true</PubliclyAccessible>
      <Encrypted>true</Encrypted>
      <DBName>dev</DBName>
      <PreferredMaintenanceWindow>sun:10:30-sun:11:00</PreferredMaintenanceWindow>
      <ClusterParameterGroups>
        <ClusterParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        </ClusterParameterGroup>
      </ClusterParameterGroups>
      <ClusterCreateTime>2013-01-23T00:11:32.804Z</ClusterCreateTime>
      <ClusterSecurityGroups>
        <ClusterSecurityGroup>
          <Status>active</Status>
          <ClusterSecurityGroupName>default</ClusterSecurityGroupName>
        </ClusterSecurityGroup>
      </ClusterSecurityGroups>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <NodeType>ds2.xlarge</NodeType>
      <ClusterIdentifier>examplecluster2</ClusterIdentifier>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <MasterUsername>masteruser</MasterUsername>
    </Cluster>
  </DeleteClusterResult>
  <ResponseMetadata>
    <RequestId>f2e6b87e-6503-11e2-b343-393adc3f0a21</RequestId>
  </ResponseMetadata>
</DeleteClusterResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteClusterParameterGroup

Deletes a specified Amazon Redshift parameter group.

Note
You cannot delete a parameter group if it is associated with a cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ParameterGroupName

The name of the parameter group to be deleted.

Constraints:

- Must be the name of an existing cluster parameter group.
- Cannot delete a default cluster parameter group.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

InvalidClusterParameterGroupState

The cluster parameter group action can not be completed because another task is in progress that involves the parameter group. Wait a few moments and try the operation again.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DeleteClusterParameterGroup
    &ParameterGroupName=parametergroup1
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121208/us-east-1/redshift/aws4_request
    &x-amz-date=20121208T015410Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DeleteClusterParameterGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ResponseMetadata>
    <RequestId>29674ca0-40da-11e2-b679-dba6cf515770</RequestId>
  </ResponseMetadata>
</DeleteClusterParameterGroupResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteClusterSecurityGroup

Deletes an Amazon Redshift security group.

> **Note**
> You cannot delete a security group that is associated with any clusters. You cannot delete the default security group.

For information about managing security groups, go to Amazon Redshift Cluster Security Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSecurityGroupName

The name of the cluster security group to be deleted.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

InvalidClusterSecurityGroupState

The state of the cluster security group is not `available`.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DeleteClusterSecurityGroup
    &ClusterSecurityGroupName=securitygroup1
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121208/us-east-1/redshift/aws4_request
    &x-amz-date=20121208T015926Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DeleteClusterSecurityGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
```

```
  <ResponseMetadata>
    <RequestId>e54e05dc-40da-11e2-955f-313c36e9e01d</RequestId>
  </ResponseMetadata>
</DeleteClusterSecurityGroupResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteClusterSnapshot

Deletes the specified manual snapshot. The snapshot must be in the `available` state, with no other users authorized to access the snapshot.

Unlike automated snapshots, manual snapshots are retained even after you delete your cluster. Amazon Redshift does not delete your manual snapshots. You must delete manual snapshot explicitly to avoid getting charged. If other accounts are authorized to access the snapshot, you must revoke all of the authorizations before you can delete the snapshot.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

SnapshotIdentifier

The unique identifier of the manual snapshot to be deleted.

Constraints: Must be the name of an existing snapshot that is in the `available` state.

Type: String

Required: Yes

SnapshotClusterIdentifier

The unique identifier of the cluster the snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than * for the cluster name.

Constraints: Must be the name of valid cluster.

Type: String

Required: No

Response Elements

The following element is returned by the service.

Snapshot

Describes a snapshot.

Type: Snapshot (p. 259) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

InvalidClusterSnapshotState

The specified cluster snapshot is not in the `available` state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DeleteClusterSnapshot
    &SnapshotIdentifier=snapshot-1234
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121208/us-east-1/redshift/aws4_request
    &x-amz-date=20121208T005225Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DeleteClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DeleteClusterSnapshotResult>
    <Snapshot>
      <SnapshotCreateTime>2012-12-07T23:31:02.372Z</SnapshotCreateTime>
      <Port>5439</Port>
      <SnapshotIdentifier>snapshot-1234</SnapshotIdentifier>
      <Status>deleted</Status>
      <ClusterCreateTime>2012-12-06T23:09:01.475Z</ClusterCreateTime>
      <SnapshotType>manual</SnapshotType>
      <ClusterVersion>1.0</ClusterVersion>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <ClusterIdentifier>examplecluster</ClusterIdentifier>
      <MasterUsername>masteruser</MasterUsername>
      <NodeType>ds2.xlarge</NodeType>
      <DBName>mydb</DBName>
      <NumberOfNodes>3</NumberOfNodes>
    </Snapshot>
  </DeleteClusterSnapshotResult>
  <ResponseMetadata>
    <RequestId>88a31de4-40d1-11e2-8a25-eb010998df4e</RequestId>
  </ResponseMetadata>
</DeleteClusterSnapshotResponse>
```

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
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteClusterSubnetGroup

Deletes the specified cluster subnet group.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSubnetGroupName

The name of the cluster subnet group name to be deleted.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSubnetGroupNotFoundFault

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

InvalidClusterSubnetGroupStateFault

The cluster subnet group cannot be deleted because it is in use.

HTTP Status Code: 400

InvalidClusterSubnetStateFault

The state of the subnet is invalid.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DeleteClusterSubnetGroup
    &ClusterSubnetGroupName=my-subnet-group-2
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130130/us-east-1/redshift/aws4_request
    &x-amz-date=20130130T154635Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DeleteClusterSubnetGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
```

```
  <ResponseMetadata>
    <RequestId>3a63806b-6af4-11e2-b27b-4d850b1c672d</RequestId>
  </ResponseMetadata>
</DeleteClusterSubnetGroupResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteEventSubscription

Deletes an Amazon Redshift event notification subscription.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

SubscriptionName

The name of the Amazon Redshift event notification subscription to be deleted.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidSubscriptionStateFault

The subscription request is invalid because it is a duplicate request. This subscription request is already in progress.

HTTP Status Code: 400

SubscriptionNotFound

An Amazon Redshift event notification subscription with the specified name does not 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
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteHsmClientCertificate

Deletes the specified HSM client certificate.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

HsmClientCertificateIdentifier

The identifier of the HSM client certificate to be deleted.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

HsmClientCertificateNotFoundFault

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

InvalidHsmClientCertificateStateFault

The specified HSM client certificate is not in the `available` state, or it is still in use by one or more Amazon Redshift clusters.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteHsmConfiguration

Deletes the specified Amazon Redshift HSM configuration.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

HsmConfigurationIdentifier

The identifier of the Amazon Redshift HSM configuration to be deleted.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

HsmConfigurationNotFoundFault

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

InvalidHsmConfigurationStateFault

The specified HSM configuration is not in the `available` state, or it is still in use by one or more Amazon Redshift clusters.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSnapshotCopyGrant

Deletes the specified snapshot copy grant.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

SnapshotCopyGrantName

The name of the snapshot copy grant to delete.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidSnapshotCopyGrantStateFault

The snapshot copy grant can't be deleted because it is used by one or more clusters.

HTTP Status Code: 400

SnapshotCopyGrantNotFoundFault

The specified snapshot copy grant can't be found. Make sure that the name is typed correctly and that the grant exists in the destination region.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteTags

Deletes a tag or tags from a resource. You must provide the ARN of the resource from which you want to delete the tag or tags.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ResourceName

The Amazon Resource Name (ARN) from which you want to remove the tag or tags. For example, `arn:aws:redshift:us-east-1:123456789:cluster:t1`.

Type: String

Required: Yes

TagKeys.TagKey.N

The tag key that you want to delete.

Type: Array of strings

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

ResourceNotFoundFault

The resource could not be 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python

- AWS SDK for Ruby V2

DescribeClusterDbRevisions

Returns an array of `ClusterDbRevision` objects.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

A unique identifier for a cluster whose `ClusterDbRevisions` you are requesting. This parameter is case sensitive. All clusters defined for an account are returned by default.

Type: String

Required: No

Marker

An optional parameter that specifies the starting point for returning a set of response records. When the results of a `DescribeClusterDbRevisions` request exceed the value specified in `MaxRecords`, Amazon Redshift returns a value in the `marker` field of the response. You can retrieve the next set of response records by providing the returned `marker` value in the `marker` parameter and retrying the request.

Constraints: You can specify either the `ClusterIdentifier` parameter, or the `marker` parameter, but not both.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified MaxRecords value, a value is returned in the `marker` field of the response. You can retrieve the next set of response records by providing the returned `marker` value in the `marker` parameter and retrying the request.

Default: 100

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

ClusterDbRevisions.ClusterDbRevision.N

A list of revisions.

Type: Array of ClusterDbRevision (p. 215) objects

Marker

A string representing the starting point for the next set of revisions. If a value is returned in a response, you can retrieve the next set of revisions by providing the value in the `marker` parameter and retrying the command. If the `marker` field is empty, all revisions have already been returned.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClusterParameterGroups

Returns a list of Amazon Redshift parameter groups, including parameter groups you created and the default parameter group. For each parameter group, the response includes the parameter group name, description, and parameter group family name. You can optionally specify a name to retrieve the description of a specific parameter group.

For more information about parameters and parameter groups, go to Amazon Redshift Parameter Groups in the *Amazon Redshift Cluster Management Guide*.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all parameter groups that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all parameter groups that have any combination of those values are returned.

If both tag keys and values are omitted from the request, parameter groups are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeClusterParameterGroups (p. 70) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

ParameterGroupName

The name of a specific parameter group for which to return details. By default, details about all parameter groups and the default parameter group are returned.

Type: String

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching cluster parameter groups that are associated with the specified key or keys. For example, suppose that you have parameter groups that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the parameter groups that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching cluster parameter groups that are associated with the specified tag value or values. For example, suppose that you have parameter groups that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the parameter groups that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

ParameterGroups.ClusterParameterGroup.N

A list of ClusterParameterGroup (p. 218) instances. Each instance describes one cluster parameter group.

Type: Array of ClusterParameterGroup (p. 218) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeClusterParameterGroups
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T004002Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeClusterParameterGroupsResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeClusterParameterGroupsResult>
    <ParameterGroups>
      <ClusterParameterGroup>
        <ParameterGroupFamily>redshift-1.0</ParameterGroupFamily>
        <Description>Default parameter group for redshift-1.0</Description>
        <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
      </ClusterParameterGroup>
      <ClusterParameterGroup>
        <ParameterGroupFamily>redshift-1.0</ParameterGroupFamily>
        <Description>description my parameter group</Description>
        <ParameterGroupName>parametergroup1</ParameterGroupName>
      </ClusterParameterGroup>
    </ParameterGroups>
  </DescribeClusterParameterGroupsResult>
  <ResponseMetadata>
    <RequestId>6d28788b-64f5-11e2-b343-393adc3f0a21</RequestId>
  </ResponseMetadata>
</DescribeClusterParameterGroupsResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClusterParameters

Returns a detailed list of parameters contained within the specified Amazon Redshift parameter group. For each parameter the response includes information such as parameter name, description, data type, value, whether the parameter value is modifiable, and so on.

You can specify *source* filter to retrieve parameters of only specific type. For example, to retrieve parameters that were modified by a user action such as from ModifyClusterParameterGroup (p. 168), you can specify *source* equal to *user*.

For more information about parameters and parameter groups, go to Amazon Redshift Parameter Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ParameterGroupName

The name of a cluster parameter group for which to return details.

Type: String

Required: Yes

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeClusterParameters (p. 73) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

Source

The parameter types to return. Specify `user` to show parameters that are different form the default. Similarly, specify `engine-default` to show parameters that are the same as the default parameter group.

Default: All parameter types returned.

Valid Values: `user` | `engine-default`

Type: String

Required: No

Response Elements

The following elements are returned by the service.

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Parameters.Parameter.N

A list of Parameter (p. 246) instances. Each instance lists the parameters of one cluster parameter group.

Type: Array of Parameter (p. 246) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeClusterParameters
    &ParameterGroupName=parametergroup1
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121208/us-east-1/redshift/aws4_request
    &x-amz-date=20121208T010408Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeClusterParametersResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeClusterParametersResult>
    <Parameters>
```

```
      <Parameter>
        <ParameterValue>ISO, MDY</ParameterValue>
        <DataType>string</DataType>
        <Source>engine-default</Source>
        <IsModifiable>true</IsModifiable>
        <Description>Sets the display format for date and time values.</Description>
        <ParameterName>datestyle</ParameterName>
      </Parameter>
      <Parameter>
        <ParameterValue>0</ParameterValue>
        <DataType>integer</DataType>
        <Source>engine-default</Source>
        <IsModifiable>true</IsModifiable>
        <Description>Sets the number of digits displayed for floating-point values</
Description>
        <AllowedValues>-15-2</AllowedValues>
        <ParameterName>extra_float_digits</ParameterName>
      </Parameter>
      <Parameter>
        <ParameterValue>default</ParameterValue>
        <DataType>string</DataType>
        <Source>engine-default</Source>
        <IsModifiable>true</IsModifiable>
        <Description>This parameter applies a user-defined label to a group of queries that
 are run during the same session..</Description>
        <ParameterName>query_group</ParameterName>
      </Parameter>
      <Parameter>
        <ParameterValue>false</ParameterValue>
        <DataType>boolean</DataType>
        <Source>engine-default</Source>
        <IsModifiable>true</IsModifiable>
        <Description>require ssl for all databaseconnections</Description>
        <AllowedValues>true,false</AllowedValues>
        <ParameterName>require_ssl</ParameterName>
      </Parameter>
      <Parameter>
        <ParameterValue>$user, public</ParameterValue>
        <DataType>string</DataType>
        <Source>engine-default</Source>
        <IsModifiable>true</IsModifiable>
        <Description>Sets the schema search order for names that are not schema-
qualified.</Description>
        <ParameterName>search_path</ParameterName>
      </Parameter>
      <Parameter>
        <ParameterValue>0</ParameterValue>
        <DataType>integer</DataType>
        <Source>engine-default</Source>
        <IsModifiable>true</IsModifiable>
        <Description>Aborts any statement that takes over the specified number of
 milliseconds.</Description>
        <ParameterName>statement_timeout</ParameterName>
      </Parameter>
      <Parameter>
        <ParameterValue>[{&amp;quot;query_concurrency&amp;quot;:5}]</ParameterValue>
        <DataType>string</DataType>
        <Source>engine-default</Source>
        <IsModifiable>true</IsModifiable>
        <Description>wlm json configuration</Description>
        <ParameterName>wlm_json_configuration</ParameterName>
      </Parameter>
    </Parameters>
  </DescribeClusterParametersResult>
  <ResponseMetadata>
    <RequestId>2ba35df4-40d3-11e2-82cf-0b45b05c0221</RequestId>
```

```
  </ResponseMetadata>
</DescribeClusterParametersResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClusters

Returns properties of provisioned clusters including general cluster properties, cluster database properties, maintenance and backup properties, and security and access properties. This operation supports pagination. For more information about managing clusters, go to Amazon Redshift Clusters in the *Amazon Redshift Cluster Management Guide*.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all clusters that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all clusters that have any combination of those values are returned.

If both tag keys and values are omitted from the request, clusters are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of a cluster whose properties you are requesting. This parameter is case sensitive.

The default is that all clusters defined for an account are returned.

Type: String

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeClusters (p. 77) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Constraints: You can specify either the **ClusterIdentifier** parameter or the **Marker** parameter, but not both.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching clusters that are associated with the specified key or keys. For example, suppose that you have clusters that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the clusters that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching clusters that are associated with the specified tag value or values. For example, suppose that you have clusters that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the clusters that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

Clusters.Cluster.N

A list of `Cluster` objects, where each object describes one cluster.

Type: Array of Cluster (p. 209) objects

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

Example

Describing All Clusters

The following example shows a request that describes all clusters.

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeClusters
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T000452Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeClustersResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeClustersResult>
    <Clusters>
      <Cluster>
        <PendingModifiedValues>
          <MasterUserPassword>****</MasterUserPassword>
        </PendingModifiedValues>
        <ClusterVersion>1.0</ClusterVersion>
        <VpcSecurityGroups/>
        <ClusterStatus>creating</ClusterStatus>
        <NumberOfNodes>2</NumberOfNodes>
        <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
        <PubliclyAccessible>true</PubliclyAccessible>
        <Encrypted>false</Encrypted>
        <EnhancedVpcRouting>false</EnhancedVpcRouting>
        <DBName>dev</DBName>
        <PreferredMaintenanceWindow>sun:10:30-sun:11:00</PreferredMaintenanceWindow>
        <ClusterParameterGroups>
          <ClusterParameterGroup>
            <ParameterApplyStatus>in-sync</ParameterApplyStatus>
            <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
          </ClusterParameterGroup>
        </ClusterParameterGroups>
        <ClusterSecurityGroups>
          <ClusterSecurityGroup>
            <Status>active</Status>
            <ClusterSecurityGroupName>default</ClusterSecurityGroupName>
          </ClusterSecurityGroup>
        </ClusterSecurityGroups>
        <AvailabilityZone>us-east-1a</AvailabilityZone>
        <NodeType>ds2.xlarge</NodeType>
        <ClusterIdentifier>examplecluster</ClusterIdentifier>
        <AllowVersionUpgrade>true</AllowVersionUpgrade>
        <MasterUsername>masteruser</MasterUsername>
      </Cluster>
    </Clusters>
  </DescribeClustersResult>
  <ResponseMetadata>
    <RequestId>837d45d6-64f0-11e2-b07c-f7fbdd006c67</RequestId>
  </ResponseMetadata>
```

```
</DescribeClustersResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClusterSecurityGroups

Returns information about Amazon Redshift security groups. If the name of a security group is specified, the response will contain only information about only that security group.

For information about managing security groups, go to Amazon Redshift Cluster Security Groups in the *Amazon Redshift Cluster Management Guide*.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all security groups that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all security groups that have any combination of those values are returned.

If both tag keys and values are omitted from the request, security groups are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSecurityGroupName

The name of a cluster security group for which you are requesting details. You can specify either the **Marker** parameter or a **ClusterSecurityGroupName** parameter, but not both.

Example: `securitygroup1`

Type: String

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeClusterSecurityGroups (p. 81) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Constraints: You can specify either the **ClusterSecurityGroupName** parameter or the **Marker** parameter, but not both.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching cluster security groups that are associated with the specified key or keys. For example, suppose that you have security groups that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the security groups that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching cluster security groups that are associated with the specified tag value or values. For example, suppose that you have security groups that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the security groups that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

ClusterSecurityGroups.ClusterSecurityGroup.N

A list of ClusterSecurityGroup (p. 222) instances.

Type: Array of ClusterSecurityGroup (p. 222) objects

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeClusterSecurityGroups
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T010237Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeClusterSecurityGroupsResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeClusterSecurityGroupsResult>
    <ClusterSecurityGroups>
      <ClusterSecurityGroup>
        <EC2SecurityGroups/>
        <IPRanges>
          <IPRange>
            <CIDRIP>0.0.0.0/0</CIDRIP>
            <Status>authorized</Status>
          </IPRange>
        </IPRanges>
        <Description>default</Description>
        <ClusterSecurityGroupName>default</ClusterSecurityGroupName>
      </ClusterSecurityGroup>
      <ClusterSecurityGroup>
        <EC2SecurityGroups/>
        <IPRanges/>
        <Description>my security group</Description>
        <ClusterSecurityGroupName>securitygroup1</ClusterSecurityGroupName>
      </ClusterSecurityGroup>
    </ClusterSecurityGroups>
  </DescribeClusterSecurityGroupsResult>
  <ResponseMetadata>
    <RequestId>947a8305-64f8-11e2-bec0-17624ad140dd</RequestId>
  </ResponseMetadata>
</DescribeClusterSecurityGroupsResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClusterSnapshots

Returns one or more snapshot objects, which contain metadata about your cluster snapshots. By default, this operation returns information about all snapshots of all clusters that are owned by you AWS customer account. No information is returned for snapshots owned by inactive AWS customer accounts.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all snapshots that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all snapshots that have any combination of those values are returned. Only snapshots that you own are returned in the response; shared snapshots are not returned with the tag key and tag value request parameters.

If both tag keys and values are omitted from the request, snapshots are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterExists

A value that indicates whether to return snapshots only for an existing cluster. Table-level restore can be performed only using a snapshot of an existing cluster, that is, a cluster that has not been deleted. If `ClusterExists` is set to `true`, `ClusterIdentifier` is required.

Type: Boolean

Required: No

ClusterIdentifier

The identifier of the cluster for which information about snapshots is requested.

Type: String

Required: No

EndTime

A time value that requests only snapshots created at or before the specified time. The time value is specified in ISO 8601 format. For more information about ISO 8601, go to the ISO8601 Wikipedia page.

Example: `2012-07-16T18:00:00Z`

Type: Timestamp

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeClusterSnapshots (p. 85) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

OwnerAccount

The AWS customer account used to create or copy the snapshot. Use this field to filter the results to snapshots owned by a particular account. To describe snapshots you own, either specify your AWS customer account, or do not specify the parameter.

Type: String

Required: No

SnapshotIdentifier

The snapshot identifier of the snapshot about which to return information.

Type: String

Required: No

SnapshotType

The type of snapshots for which you are requesting information. By default, snapshots of all types are returned.

Valid Values: `automated` | `manual`

Type: String

Required: No

StartTime

A value that requests only snapshots created at or after the specified time. The time value is specified in ISO 8601 format. For more information about ISO 8601, go to the ISO8601 Wikipedia page.

Example: `2012-07-16T18:00:00Z`

Type: Timestamp

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching cluster snapshots that are associated with the specified key or keys. For example, suppose that you have snapshots that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the snapshots that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching cluster snapshots that are associated with the specified tag value or values. For example, suppose that you have snapshots that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the snapshots that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Snapshots.Snapshot.N

A list of Snapshot (p. 259) instances.

Type: Array of Snapshot (p. 259) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
```

```
    ?Action=DescribeClusterSnapshots
    &ClusterIdentifier=examplecluster
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T011512Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeClusterSnapshotsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeClusterSnapshotsResult>
    <Snapshots>
      <Snapshot>
        <Port>5439</Port>
        <SnapshotIdentifier>cm:examplecluster-2013-01-22-19-27-58</SnapshotIdentifier>
        <Status>available</Status>
        <SnapshotType>automated</SnapshotType>
        <ClusterVersion>1.0</ClusterVersion>
        <SnapshotCreateTime>2013-01-22T19:27:58.931Z</SnapshotCreateTime>
        <NumberOfNodes>2</NumberOfNodes>
        <DBName>dev</DBName>
        <ClusterCreateTime>2013-01-22T19:23:59.368Z</ClusterCreateTime>
        <AvailabilityZone>us-east-1c</AvailabilityZone>
        <NodeType>ds2.xlarge</NodeType>
        <ClusterIdentifier>examplecluster</ClusterIdentifier>
        <MasterUsername>adminuser</MasterUsername>
      </Snapshot>
      <Snapshot>
        <Port>5439</Port>
        <SnapshotIdentifier>my-snapshot-123</SnapshotIdentifier>
        <Status>available</Status>
        <SnapshotType>manual</SnapshotType>
        <ClusterVersion>1.0</ClusterVersion>
        <SnapshotCreateTime>2013-01-23T01:09:03.149Z</SnapshotCreateTime>
        <NumberOfNodes>2</NumberOfNodes>
        <DBName>dev</DBName>
        <ClusterCreateTime>2013-01-22T19:23:59.368Z</ClusterCreateTime>
        <AvailabilityZone>us-east-1c</AvailabilityZone>
        <NodeType>ds2.xlarge</NodeType>
        <ClusterIdentifier>examplecluster</ClusterIdentifier>
        <MasterUsername>adminuser</MasterUsername>
      </Snapshot>
    </Snapshots>
  </DescribeClusterSnapshotsResult>
  <ResponseMetadata>
    <RequestId>56a9daf4-64fa-11e2-a8da-655adc216806</RequestId>
  </ResponseMetadata>
</DescribeClusterSnapshotsResponse>
```

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
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClusterSubnetGroups

Returns one or more cluster subnet group objects, which contain metadata about your cluster subnet groups. By default, this operation returns information about all cluster subnet groups that are defined in you AWS account.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all subnet groups that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all subnet groups that have any combination of those values are returned.

If both tag keys and values are omitted from the request, subnet groups are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSubnetGroupName

The name of the cluster subnet group for which information is requested.

Type: String

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeClusterSubnetGroups (p. 90) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching cluster subnet groups that are associated with the specified key or keys. For example, suppose that you have subnet groups that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the subnet groups that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching cluster subnet groups that are associated with the specified tag value or values. For example, suppose that you have subnet groups that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the subnet groups that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

ClusterSubnetGroups.ClusterSubnetGroup.N

A list of ClusterSubnetGroup (p. 226) instances.

Type: Array of ClusterSubnetGroup (p. 226) objects

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSubnetGroupNotFoundFault

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
```

```
    ?Action=DescribeClusterSubnetGroups
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130130/us-east-1/redshift/aws4_request
    &x-amz-date=20130130T153938Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeClusterSubnetGroupsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeClusterSubnetGroupsResult>
    <ClusterSubnetGroups>
      <ClusterSubnetGroup>
        <VpcId>vpc-5d917a30</VpcId>
        <Description>my subnet group</Description>
        <ClusterSubnetGroupName>my-subnet-group</ClusterSubnetGroupName>
        <SubnetGroupStatus>Complete</SubnetGroupStatus>
        <Subnets>
          <Subnet>
            <SubnetStatus>Active</SubnetStatus>
            <SubnetIdentifier>subnet-71c5091c</SubnetIdentifier>
            <SubnetAvailabilityZone>
              <Name>us-east-1a</Name>
            </SubnetAvailabilityZone>
          </Subnet>
          <Subnet>
            <SubnetStatus>Active</SubnetStatus>
            <SubnetIdentifier>subnet-78de1215</SubnetIdentifier>
            <SubnetAvailabilityZone>
              <Name>us-east-1a</Name>
            </SubnetAvailabilityZone>
          </Subnet>
        </Subnets>
      </ClusterSubnetGroup>
    </ClusterSubnetGroups>
  </DescribeClusterSubnetGroupsResult>
  <ResponseMetadata>
    <RequestId>42024b68-6af3-11e2-a726-6368a468fa67</RequestId>
  </ResponseMetadata>
</DescribeClusterSubnetGroupsResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClusterTracks

Returns a list of all the available maintenance tracks.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

MaintenanceTrackName

The name of the maintenance track.

Type: String

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a `DescribeClusterTracks` request exceed the value specified in `MaxRecords`, Amazon Redshift returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

An integer value for the maximum number of maintenance tracks to return.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

MaintenanceTracks.MaintenanceTrack.N

A list of maintenance tracks output by the `DescribeClusterTracks` operation.

Type: Array of MaintenanceTrack (p. 244) objects

Marker

The starting point to return a set of response tracklist records. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidClusterTrack

The provided cluster track name is not valid.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClusterVersions

Returns descriptions of the available Amazon Redshift cluster versions. You can call this operation even before creating any clusters to learn more about the Amazon Redshift versions. For more information about managing clusters, go to Amazon Redshift Clusters in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterParameterGroupFamily

The name of a specific cluster parameter group family to return details for.

Constraints:

- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: No

ClusterVersion

The specific cluster version to return.

Example: `1.0`

Type: String

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeClusterVersions (p. 95) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

ClusterVersions.ClusterVersion.N

A list of `Version` elements.

Type: Array of ClusterVersion (p. 228) objects

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeClusterVersions
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121207/us-east-1/redshift/aws4_request
    &x-amz-date=20121207T230708Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeClusterVersionsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeClusterVersionsResult>
    <ClusterVersions>
      <ClusterVersion>
        <ClusterParameterGroupFamily>redshift-1.0</ClusterParameterGroupFamily>
        <Description>Initial release of redshift</Description>
        <ClusterVersion>1.0</ClusterVersion>
      </ClusterVersion>
    </ClusterVersions>
  </DescribeClusterVersionsResult>
  <ResponseMetadata>
    <RequestId>d39cd5e5-40c2-11e2-8a25-eb010998df4e</RequestId>
  </ResponseMetadata>
</DescribeClusterVersionsResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeDefaultClusterParameters

Returns a list of parameter settings for the specified parameter group family.

For more information about parameters and parameter groups, go to Amazon Redshift Parameter Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ParameterGroupFamily

The name of the cluster parameter group family.

Type: String

Required: Yes

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeDefaultClusterParameters (p. 98) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

Response Elements

The following element is returned by the service.

DefaultClusterParameters

Describes the default cluster parameters for a parameter group family.

Type: DefaultClusterParameters (p. 229) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeDefaultClusterParameters
    &ParameterGroupFamily=redshift-1.0
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121207/us-east-1/redshift/aws4_request
    &x-amz-date=20121207T231708Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeDefaultClusterParametersResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeDefaultClusterParametersResult>
    <DefaultClusterParameters>
      <ParameterGroupFamily>redshift-1.0</ParameterGroupFamily>
      <Parameters>
        <Parameter>
          <ParameterValue>ISO, MDY</ParameterValue>
          <DataType>string</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>Sets the display format for date and time values.</Description>
          <ParameterName>datestyle</ParameterName>
        </Parameter>
        <Parameter>
          <ParameterValue>0</ParameterValue>
          <DataType>integer</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>Sets the number of digits displayed for floating-point values</
Description>
          <AllowedValues>-15-2</AllowedValues>
          <ParameterName>extra_float_digits</ParameterName>
        </Parameter>
        <Parameter>
          <ParameterValue>default</ParameterValue>
          <DataType>string</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>This parameter applies a user-defined label to a group of queries
 that are run during the same session..</Description>
          <ParameterName>query_group</ParameterName>
        </Parameter>
        <Parameter>
          <ParameterValue>false</ParameterValue>
          <DataType>boolean</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>require ssl for all databaseconnections</Description>
          <AllowedValues>true,false</AllowedValues>
          <ParameterName>require_ssl</ParameterName>
```

```
        </Parameter>
        <Parameter>
          <ParameterValue>$user, public</ParameterValue>
          <DataType>string</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>Sets the schema search order for names that are not schema-
qualified.</Description>
          <ParameterName>search_path</ParameterName>
        </Parameter>
        <Parameter>
          <ParameterValue>0</ParameterValue>
          <DataType>integer</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>Aborts any statement that takes over the specified number of
 milliseconds.</Description>
          <ParameterName>statement_timeout</ParameterName>
        </Parameter>
        <Parameter>
          <ParameterValue>[{&quot;query_concurrency&quot;:5}]</ParameterValue>
          <DataType>string</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>wlm json configuration</Description>
          <ParameterName>wlm_json_configuration</ParameterName>
        </Parameter>
      </Parameters>
    </DefaultClusterParameters>
  </DescribeDefaultClusterParametersResult>
  <ResponseMetadata>
    <RequestId>396df00b-40c4-11e2-82cf-0b45b05c0221</RequestId>
  </ResponseMetadata>
</DescribeDefaultClusterParametersResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeEventCategories

Displays a list of event categories for all event source types, or for a specified source type. For a list of the event categories and source types, go to Amazon Redshift Event Notifications.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

SourceType

The source type, such as cluster or parameter group, to which the described event categories apply.

Valid values: cluster, cluster-snapshot, cluster-parameter-group, and cluster-security-group.

Type: String

Required: No

Response Elements

The following element is returned by the service.

EventCategoriesMapList.EventCategoriesMap.N

A list of event categories descriptions.

Type: Array of EventCategoriesMap (p. 235) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeEvents

Returns events related to clusters, security groups, snapshots, and parameter groups for the past 14 days. Events specific to a particular cluster, security group, snapshot or parameter group can be obtained by providing the name as a parameter. By default, the past hour of events are returned.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Duration

The number of minutes prior to the time of the request for which to retrieve events. For example, if the request is sent at 18:00 and you specify a duration of 60, then only events which have occurred after 17:00 will be returned.

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

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeEvents (p. 102) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

SourceIdentifier

The identifier of the event source for which events will be returned. If this parameter is not specified, then all sources are included in the response.

Constraints:

If *SourceIdentifier* is supplied, *SourceType* must also be provided.

- Specify a cluster identifier when *SourceType* is `cluster`.
- Specify a cluster security group name when *SourceType* is `cluster-security-group`.
- Specify a cluster parameter group name when *SourceType* is `cluster-parameter-group`.
- Specify a cluster snapshot identifier when *SourceType* is `cluster-snapshot`.

Type: String

Required: No

SourceType

The event source to retrieve events for. If no value is specified, all events are returned.

Constraints:

If *SourceType* is supplied, *SourceIdentifier* must also be provided.

- Specify `cluster` when *SourceIdentifier* is a cluster identifier.
- Specify `cluster-security-group` when *SourceIdentifier* is a cluster security group name.
- Specify `cluster-parameter-group` when *SourceIdentifier* is a cluster parameter group name.
- Specify `cluster-snapshot` when *SourceIdentifier* is a cluster snapshot identifier.

Type: String

Valid Values: `cluster | cluster-parameter-group | cluster-security-group | cluster-snapshot`

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. 233) objects

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned

marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeEvents
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121207/us-east-1/redshift/aws4_request
    &x-amz-date=20121207T232427Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeEventsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeEventsResult>
    <Events>
      <Event>
        <Message>Cluster security group securitygroup1 has been updated. Changes need to be
 applied to all clusters using this cluster security group.</Message>
        <SourceType>cluster-security-group</SourceType>
        <Date>2012-12-07T23:05:02.660Z</Date>
        <SourceIdentifier>securitygroup1</SourceIdentifier>
      </Event>
    </Events>
  </DescribeEventsResult>
  <ResponseMetadata>
    <RequestId>3eeb9efe-40c5-11e2-816a-1bba29fad1f5</RequestId>
  </ResponseMetadata>
</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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeEventSubscriptions

Lists descriptions of all the Amazon Redshift event notification subscriptions for a customer account. If you specify a subscription name, lists the description for that subscription.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all event notification subscriptions that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all subscriptions that have any combination of those values are returned.

If both tag keys and values are omitted from the request, subscriptions are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeEventSubscriptions request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

SubscriptionName

The name of the Amazon Redshift event notification subscription to be described.

Type: String

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching event notification subscriptions that are associated with the specified key or keys. For example, suppose that you have subscriptions that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the subscriptions that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching event notification subscriptions that are associated with the specified tag value or values. For example, suppose that you have subscriptions that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the subscriptions that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

EventSubscriptionsList.EventSubscription.N

A list of event subscriptions.

Type: Array of EventSubscription (p. 237) objects

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

SubscriptionNotFound

An Amazon Redshift event notification subscription with the specified name does not 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
- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeHsmClientCertificates

Returns information about the specified HSM client certificate. If no certificate ID is specified, returns information about all the HSM certificates owned by your AWS customer account.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all HSM client certificates that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all HSM client certificates that have any combination of those values are returned.

If both tag keys and values are omitted from the request, HSM client certificates are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

HsmClientCertificateIdentifier

The identifier of a specific HSM client certificate for which you want information. If no identifier is specified, information is returned for all HSM client certificates owned by your AWS customer account.

Type: String

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeHsmClientCertificates (p. 109) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching HSM client certificates that are associated with the specified key or keys. For example, suppose that you have HSM client certificates that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in

the request, Amazon Redshift returns a response with the HSM client certificates that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching HSM client certificates that are associated with the specified tag value or values. For example, suppose that you have HSM client certificates that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the HSM client certificates that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

HsmClientCertificates.HsmClientCertificate.N

A list of the identifiers for one or more HSM client certificates used by Amazon Redshift clusters to store and retrieve database encryption keys in an HSM.

Type: Array of HsmClientCertificate (p. 239) objects

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

HsmClientCertificateNotFoundFault

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeHsmConfigurations

Returns information about the specified Amazon Redshift HSM configuration. If no configuration ID is specified, returns information about all the HSM configurations owned by your AWS customer account.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all HSM connections that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all HSM connections that have any combination of those values are returned.

If both tag keys and values are omitted from the request, HSM connections are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

HsmConfigurationIdentifier

The identifier of a specific Amazon Redshift HSM configuration to be described. If no identifier is specified, information is returned for all HSM configurations owned by your AWS customer account.

Type: String

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeHsmConfigurations (p. 112) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching HSM configurations that are associated with the specified key or keys. For example, suppose that you have HSM configurations that are tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with the HSM configurations that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching HSM configurations that are associated with the specified tag value or values. For example, suppose that you have HSM configurations that are tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with the HSM configurations that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

HsmConfigurations.HsmConfiguration.N

A list of `HsmConfiguration` objects.

Type: Array of HsmConfiguration (p. 240) objects

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

HsmConfigurationNotFoundFault

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

InvalidTagFault

The tag is invalid.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeLoggingStatus

Describes whether information, such as queries and connection attempts, is being logged for the specified Amazon Redshift cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The identifier of the cluster from which to get the logging status.

Example: `examplecluster`

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

BucketName

The name of the S3 bucket where the log files are stored.

Type: String

LastFailureMessage

The message indicating that logs failed to be delivered.

Type: String

LastFailureTime

The last time when logs failed to be delivered.

Type: Timestamp

LastSuccessfulDeliveryTime

The last time that logs were delivered.

Type: Timestamp

LoggingEnabled

`true` if logging is on, `false` if logging is off.

Type: Boolean

S3KeyPrefix

The prefix applied to the log file names.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeOrderableClusterOptions

Returns a list of orderable cluster options. Before you create a new cluster you can use this operation to find what options are available, such as the EC2 Availability Zones (AZ) in the specific AWS region that you can specify, and the node types you can request. The node types differ by available storage, memory, CPU and price. With the cost involved you might want to obtain a list of cluster options in the specific region and specify values when creating a cluster. For more information about managing clusters, go to Amazon Redshift Clusters in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterVersion

The version filter value. Specify this parameter to show only the available offerings matching the specified version.

Default: All versions.

Constraints: Must be one of the version returned from DescribeClusterVersions (p. 95).

Type: String

Required: No

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeOrderableClusterOptions (p. 117) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

NodeType

The node type filter value. Specify this parameter to show only the available offerings matching the specified node type.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

OrderableClusterOptions.OrderableClusterOption.N

An `OrderableClusterOption` structure containing information about orderable options for the cluster.

Type: Array of OrderableClusterOption (p. 245) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeOrderableClusterOptions
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121207/us-east-1/redshift/aws4_request
    &x-amz-date=20121207T225314Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeOrderableClusterOptionsResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeOrderableClusterOptionsResult>
    <OrderableClusterOptions>
      <OrderableClusterOption>
        <ClusterVersion>1.0</ClusterVersion>
        <ClusterType>multi-node</ClusterType>
        <NodeType>ds2.8xlarge</NodeType>
        <AvailabilityZones>
          <AvailabilityZone>
            <Name>us-east-1a</Name>
            <SupportedPlatforms>
              <SupportedPlatform>
                <Name>EC2</Name>
                <Name>VPC</Name>
              </SupportedPlatform>
```

```
          </SupportedPlatforms>
        </AvailabilityZone>
        <AvailabilityZone>
          <Name>us-east-1c</Name>
          <SupportedPlatforms>
            <SupportedPlatform>
              <Name>EC2</Name>
              <Name>VPC</Name>
            </SupportedPlatform>
          </SupportedPlatforms>
        </AvailabilityZone>
        <AvailabilityZone>
          <Name>us-east-1d</Name>
          <SupportedPlatforms>
            <SupportedPlatform>
              <Name>EC2</Name>
              <Name>VPC</Name>
            </SupportedPlatform>
          </SupportedPlatforms>
        </AvailabilityZone>
      </AvailabilityZones>
    </OrderableClusterOption>
    <OrderableClusterOption>
      <ClusterVersion>1.0</ClusterVersion>
      <ClusterType>multi-node</ClusterType>
      <NodeType>ds2.xlarge</NodeType>
        <AvailabilityZones>
        <AvailabilityZone>
          <Name>us-east-1a</Name>
          <SupportedPlatforms>
            <SupportedPlatform>
              <Name>EC2</Name>
              <Name>VPC</Name>
            </SupportedPlatform>
          </SupportedPlatforms>
        </AvailabilityZone>
        <AvailabilityZone>
          <Name>us-east-1c</Name>
          <SupportedPlatforms>
            <SupportedPlatform>
              <Name>EC2</Name>
              <Name>VPC</Name>
            </SupportedPlatform>
          </SupportedPlatforms>
        </AvailabilityZone>
        <AvailabilityZone>
          <Name>us-east-1d</Name>
          <SupportedPlatforms>
            <SupportedPlatform>
              <Name>EC2</Name>
              <Name>VPC</Name>
            </SupportedPlatform>
          </SupportedPlatforms>
        </AvailabilityZone>
      </AvailabilityZones>
    </OrderableClusterOption>
    <OrderableClusterOption>
      <ClusterVersion>1.0</ClusterVersion>
      <ClusterType>single-node</ClusterType>
      <NodeType>ds2.xlarge</NodeType>
      <AvailabilityZones>
        <AvailabilityZone>
          <Name>us-east-1a</Name>
          <SupportedPlatforms>
            <SupportedPlatform>
              <Name>EC2</Name>
```

```
              <Name>VPC</Name>
            </SupportedPlatform>
          </SupportedPlatforms>
        </AvailabilityZone>
        <AvailabilityZone>
          <Name>us-east-1c</Name>
          <SupportedPlatforms>
            <SupportedPlatform>
              <Name>EC2</Name>
              <Name>VPC</Name>
            </SupportedPlatform>
          </SupportedPlatforms>
        </AvailabilityZone>
        <AvailabilityZone>
          <Name>us-east-1d</Name>
          <SupportedPlatforms>
            <SupportedPlatform>
              <Name>EC2</Name>
              <Name>VPC</Name>
            </SupportedPlatform>
          </SupportedPlatforms>
        </AvailabilityZone>
      </AvailabilityZones>
    </OrderableClusterOption>
  </OrderableClusterOptions>
</DescribeOrderableClusterOptionsResult>
<ResponseMetadata>
  <RequestId>e37414cc-40c0-11e2-b6a0-df98b1a86860</RequestId>
</ResponseMetadata>
</DescribeOrderableClusterOptionsResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeReservedNodeOfferings

Returns a list of the available reserved node offerings by Amazon Redshift with their descriptions including the node type, the fixed and recurring costs of reserving the node and duration the node will be reserved for you. These descriptions help you determine which reserve node offering you want to purchase. You then use the unique offering ID in you call to PurchaseReservedNodeOffering (p. 178) to reserve one or more nodes for your Amazon Redshift cluster.

For more information about reserved node offerings, go to Purchasing Reserved Nodes in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeReservedNodeOfferings (p. 121) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

ReservedNodeOfferingId

The unique identifier for the offering.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned

marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

ReservedNodeOfferings.ReservedNodeOffering.N

A list of `ReservedNodeOffering` objects.

Type: Array of ReservedNodeOffering (p. 254) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

ReservedNodeOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
   ?Action=DescribeReservedNodeOfferings
   &Version=2012-12-01
   &x-amz-algorithm=AWS4-HMAC-SHA256
   &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130117/us-east-1/redshift/aws4_request
   &x-amz-date=20130117T232351Z
   &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeReservedNodeOfferingsResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <DescribeReservedNodeOfferingsResult>
    <ReservedNodeOfferings>
      <ReservedNodeOffering>
        <OfferingType>Heavy Utilization</OfferingType>
        <Duration>94608000</Duration>
        <RecurringCharges>
          <RecurringCharge>
```

```
            <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
            <RecurringChargeAmount>0.21</RecurringChargeAmount>
          </RecurringCharge>
        </RecurringCharges>
        <FixedPrice>12452.0</FixedPrice>
        <ReservedNodeOfferingId>3a98bf7d-979a-49cc-b568-18f24315baf0</
ReservedNodeOfferingId>
        <UsagePrice>0.0</UsagePrice>
        <NodeType>ds2.8xlarge</NodeType>
        <ReservedNodeOfferingType>regular</ReservedNodeOfferingType>
      </ReservedNodeOffering>
      <ReservedNodeOffering>
        <OfferingType>Heavy Utilization</OfferingType>
        <Duration>31536000</Duration>
        <RecurringCharges>
          <RecurringCharge>
            <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
            <RecurringChargeAmount>0.09</RecurringChargeAmount>
          </RecurringCharge>
        </RecurringCharges>
        <FixedPrice>1815.0</FixedPrice>
        <ReservedNodeOfferingId>d586503b-289f-408b-955b-9c95005d6908</
ReservedNodeOfferingId>
        <UsagePrice>0.0</UsagePrice>
        <NodeType>ds2.xlarge</NodeType>
        <ReservedNodeOfferingType>upgradable</ReservedNodeOfferingType>
      </ReservedNodeOffering>
  </DescribeReservedNodeOfferingsResult>
  <ResponseMetadata>
    <RequestId>f4a07e06-60fc-11e2-95d9-658e9466d117</RequestId>
  </ResponseMetadata>
</DescribeReservedNodeOfferingsResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeReservedNodes

Returns the descriptions of the reserved nodes.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a DescribeReservedNodes (p. 124) request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

ReservedNodeId

Identifier for the node reservation.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

ReservedNodes.ReservedNode.N

The list of `ReservedNode` objects.

Type: Array of ReservedNode (p. 251) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

ReservedNodeNotFound

The specified reserved compute node not found.

HTTP Status Code: 404

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=DescribeReservedNodes
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130125/us-east-1/redshift/aws4_request
    &x-amz-date=20130125T202355Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeReservedNodesResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeReservedNodesResult>
    <ReservedNodes>
      <ReservedNode>
        <StartTime>2013-01-22T18:46:48.600Z</StartTime>
        <OfferingType>Medium Utilization</OfferingType>
        <Duration>31536000</Duration>
        <RecurringCharges/>
        <FixedPrice>800.0</FixedPrice>
        <UsagePrice>0.158</UsagePrice>
        <State>payment-pending</State>
        <NodeType>ds2.xlarge</NodeType>
        <NodeCount>1</NodeCount>
        <ReservedNodeOfferingType>regular</ReservedNodeOfferingType>
        <ReservedNodeId>4357912c-9266-469d-beb0-0f1b775e1bc9</ReservedNodeId>
      </ReservedNode>
      <ReservedNode>
        <StartTime>2013-01-22T20:09:16.630Z</StartTime>
        <OfferingType>Heavy Utilization</OfferingType>
        <Duration>94608000</Duration>
        <RecurringCharges>
          <RecurringCharge>
            <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
            <RecurringChargeAmount>0.21</RecurringChargeAmount>
          </RecurringCharge>
```

```
        </RecurringCharges>
        <FixedPrice>12452.0</FixedPrice>
        <UsagePrice>0.0</UsagePrice>
        <State>payment-pending</State>
        <NodeType>ds2.8xlarge</NodeType>
        <NodeCount>2</NodeCount>
        <ReservedNodeOfferingType>upgradable</ReservedNodeOfferingType>
        <ReservedNodeId>93bbbca2-e88c-4b8b-a600-b64eaabf18a3</ReservedNodeId>
      </ReservedNode>
      <ReservedNode>
        <StartTime>2013-01-23T21:49:32.517Z</StartTime>
        <OfferingType>Medium Utilization</OfferingType>
        <Duration>31536000</Duration>
        <RecurringCharges/>
        <FixedPrice>800.0</FixedPrice>
        <UsagePrice>0.158</UsagePrice>
        <State>payment-pending</State>
        <NodeType>ds2.xlarge</NodeType>
        <NodeCount>1</NodeCount>
        <ReservedNodeOfferingType>upgradable</ReservedNodeOfferingType>
        <ReservedNodeId>bbcd9749-f2ea-4d01-9b1b-b576f618eb4e</ReservedNodeId>
      </ReservedNode>
    </ReservedNodes>
  </DescribeReservedNodesResult>
  <ResponseMetadata>
    <RequestId>24dc90c8-672d-11e2-b2e1-8f41f0379151</RequestId>
  </ResponseMetadata>
</DescribeReservedNodesResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeResize

Returns information about the last resize operation for the specified cluster. If no resize operation has ever been initiated for the specified cluster, a `HTTP 404` error is returned. If a resize operation was initiated and completed, the status of the resize remains as `SUCCEEDED` until the next resize.

A resize operation can be requested using ModifyCluster (p. 155) and specifying a different number or type of nodes for the cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of a cluster whose resize progress you are requesting. This parameter is case-sensitive.

By default, resize operations for all clusters defined for an AWS account are returned.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

AvgResizeRateInMegaBytesPerSecond

The average rate of the resize operation over the last few minutes, measured in megabytes per second. After the resize operation completes, this value shows the average rate of the entire resize operation.

Type: Double

ElapsedTimeInSeconds

The amount of seconds that have elapsed since the resize operation began. After the resize operation completes, this value shows the total actual time, in seconds, for the resize operation.

Type: Long

EstimatedTimeToCompletionInSeconds

The estimated time remaining, in seconds, until the resize operation is complete. This value is calculated based on the average resize rate and the estimated amount of data remaining to be processed. Once the resize operation is complete, this value will be 0.

Type: Long

ImportTablesCompleted.member.N

The names of tables that have been completely imported .

Valid Values: List of table names.

Type: Array of strings

ImportTablesInProgress.member.N

The names of tables that are being currently imported.

Valid Values: List of table names.

Type: Array of strings

ImportTablesNotStarted.member.N

The names of tables that have not been yet imported.

Valid Values: List of table names

Type: Array of strings

Message

Type: String

ProgressInMegaBytes

While the resize operation is in progress, this value shows the current amount of data, in megabytes, that has been processed so far. When the resize operation is complete, this value shows the total amount of data, in megabytes, on the cluster, which may be more or less than TotalResizeDataInMegaBytes (the estimated total amount of data before resize).

Type: Long

Status

The status of the resize operation.

Valid Values: `NONE` | `IN_PROGRESS` | `FAILED` | `SUCCEEDED`

Type: String

TargetClusterType

The cluster type after the resize operation is complete.

Valid Values: `multi-node` | `single-node`

Type: String

TargetEncryptionType

Type: String

TargetNodeType

The node type that the cluster will have after the resize operation is complete.

Type: String

TargetNumberOfNodes

The number of nodes that the cluster will have after the resize operation is complete.

Type: Integer

TotalResizeDataInMegaBytes

The estimated total amount of data, in megabytes, on the cluster before the resize operation began.

Type: Long

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

ResizeNotFound

A resize operation for the specified cluster is not found.

HTTP Status Code: 404

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
   ?Action=DescribeResize
   &ClusterIdentifier=examplecluster
   &Version=2012-12-01
   &x-amz-algorithm=AWS4-HMAC-SHA256
   &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121207/us-east-1/redshift/aws4_request
   &x-amz-date=20121207T232427Z
   &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<DescribeResizeResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <DescribeResizeResult>
    <TargetClusterType>multi-node</TargetClusterType>
    <Status>SUCCEEDED</Status>
    <AvgResizeRateInMegaBytesPerSecond>6.5263</AvgResizeRateInMegaBytesPerSecond>
    <ProgressInMegaBytes>66922</ProgressInMegaBytes>
    <EstimatedTimeToCompletionInSeconds>0</EstimatedTimeToCompletionInSeconds>
    <ImportTablesCompleted>
      <member>users</member>
      <member>venue</member>
      <member>sales</member>
      <member>listing</member>
      <member>event</member>
      <member>date</member>
      <member>category</member>
    </ImportTablesCompleted>
    <ElapsedTimeInSeconds>10254</ElapsedTimeInSeconds>
    <TargetNodeType>ds2.xlarge</TargetNodeType>
    <TargetNumberOfNodes>2</TargetNumberOfNodes>
  </DescribeResizeResult>
  <ResponseMetadata>
    <RequestId>a6d59c61-a162-11e2-b2bc-fb54c9d11e09</RequestId>
  </ResponseMetadata>
</DescribeResizeResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSnapshotCopyGrants

Returns a list of snapshot copy grants owned by the AWS account in the destination region.

For more information about managing snapshot copy grants, go to Amazon Redshift Database Encryption in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a `DescribeSnapshotCopyGrant` request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Constraints: You can specify either the **SnapshotCopyGrantName** parameter or the **Marker** parameter, but not both.

Type: String

Required: No

MaxRecords

The maximum number of response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned marker value.

Default: `100`

Constraints: minimum 20, maximum 100.

Type: Integer

Required: No

SnapshotCopyGrantName

The name of the snapshot copy grant.

Type: String

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching resources that are associated with the specified key or keys. For example, suppose that you have resources tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with all resources that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching resources that are associated with the specified value or values. For example, suppose that you have resources tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with all resources that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

Marker

An optional parameter that specifies the starting point to return a set of response records. When the results of a `DescribeSnapshotCopyGrant` request exceed the value specified in `MaxRecords`, AWS returns a value in the `Marker` field of the response. You can retrieve the next set of response records by providing the returned marker value in the `Marker` parameter and retrying the request.

Constraints: You can specify either the **SnapshotCopyGrantName** parameter or the **Marker** parameter, but not both.

Type: String

SnapshotCopyGrants.SnapshotCopyGrant.N

The list of `SnapshotCopyGrant` objects.

Type: Array of SnapshotCopyGrant (p. 264) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

SnapshotCopyGrantNotFoundFault

The specified snapshot copy grant can't be found. Make sure that the name is typed correctly and that the grant exists in the destination region.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeTableRestoreStatus

Lists the status of one or more table restore requests made using the RestoreTableFromClusterSnapshot (p. 195) API action. If you don't specify a value for the `TableRestoreRequestId` parameter, then `DescribeTableRestoreStatus` returns the status of all table restore requests ordered by the date and time of the request in ascending order. Otherwise `DescribeTableRestoreStatus` returns the status of the table specified by `TableRestoreRequestId`.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The Amazon Redshift cluster that the table is being restored to.

Type: String

Required: No

Marker

An optional pagination token provided by a previous `DescribeTableRestoreStatus` request. If this parameter is specified, 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 `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Type: Integer

Required: No

TableRestoreRequestId

The identifier of the table restore request to return status for. If you don't specify a `TableRestoreRequestId` value, then `DescribeTableRestoreStatus` returns the status of all in-progress table restore requests.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

Marker

A pagination token that can be used in a subsequent DescribeTableRestoreStatus (p. 134) request.

Type: String

TableRestoreStatusDetails.TableRestoreStatus.N

A list of status details for one or more table restore requests.

Type: Array of TableRestoreStatus (p. 267) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

TableRestoreNotFoundFault

The specified `TableRestoreRequestId` value was not found.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeTags

Returns a list of tags. You can return tags from a specific resource by specifying an ARN, or you can return all tags for a given type of resource, such as clusters, snapshots, and so on.

The following are limitations for `DescribeTags`:

- You cannot specify an ARN and a resource-type value together in the same request.
- You cannot use the `MaxRecords` and `Marker` parameters together with the ARN parameter.
- The `MaxRecords` parameter can be a range from 10 to 50 results to return in a request.

If you specify both tag keys and tag values in the same request, Amazon Redshift returns all resources that match any combination of the specified keys and values. For example, if you have `owner` and `environment` for tag keys, and `admin` and `test` for tag values, all resources that have any combination of those values are returned.

If both tag keys and values are omitted from the request, resources are returned regardless of whether they have tag keys or values associated with them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `marker` parameter and retrying the command. If the `marker` field is empty, all response records have been retrieved for the request.

Type: String

Required: No

MaxRecords

The maximum number or response records to return in each call. If the number of remaining response records exceeds the specified `MaxRecords` value, a value is returned in a `marker` field of the response. You can retrieve the next set of records by retrying the command with the returned `marker` value.

Type: Integer

Required: No

ResourceName

The Amazon Resource Name (ARN) for which you want to describe the tag or tags. For example, `arn:aws:redshift:us-east-1:123456789:cluster:t1`.

Type: String

Required: No

ResourceType

The type of resource with which you want to view tags. Valid resource types are:

- Cluster

- CIDR/IP
- EC2 security group
- Snapshot
- Cluster security group
- Subnet group
- HSM connection
- HSM certificate
- Parameter group
- Snapshot copy grant

For more information about Amazon Redshift resource types and constructing ARNs, go to Specifying Policy Elements: Actions, Effects, Resources, and Principals in the Amazon Redshift Cluster Management Guide.

Type: String

Required: No

TagKeys.TagKey.N

A tag key or keys for which you want to return all matching resources that are associated with the specified key or keys. For example, suppose that you have resources tagged with keys called `owner` and `environment`. If you specify both of these tag keys in the request, Amazon Redshift returns a response with all resources that have either or both of these tag keys associated with them.

Type: Array of strings

Required: No

TagValues.TagValue.N

A tag value or values for which you want to return all matching resources that are associated with the specified value or values. For example, suppose that you have resources tagged with values called `admin` and `test`. If you specify both of these tag values in the request, Amazon Redshift returns a response with all resources that have either or both of these tag values associated with them.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

TaggedResources.TaggedResource.N

A list of tags with their associated resources.

Type: Array of TaggedResource (p. 271) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidTagFault

The tag is invalid.

HTTP Status Code: 400

ResourceNotFoundFault

The resource could not be 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisableLogging

Stops logging information, such as queries and connection attempts, for the specified Amazon Redshift cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The identifier of the cluster on which logging is to be stopped.

Example: `examplecluster`

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

BucketName

The name of the S3 bucket where the log files are stored.

Type: String

LastFailureMessage

The message indicating that logs failed to be delivered.

Type: String

LastFailureTime

The last time when logs failed to be delivered.

Type: Timestamp

LastSuccessfulDeliveryTime

The last time that logs were delivered.

Type: Timestamp

LoggingEnabled

`true` if logging is on, `false` if logging is off.

Type: Boolean

S3KeyPrefix

The prefix applied to the log file names.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisableSnapshotCopy

Disables the automatic copying of snapshots from one region to another region for a specified cluster.

If your cluster and its snapshots are encrypted using a customer master key (CMK) from AWS KMS, use DeleteSnapshotCopyGrant (p. 65) to delete the grant that grants Amazon Redshift permission to the CMK in the destination region.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of the source cluster that you want to disable copying of snapshots to a destination region.

Constraints: Must be the valid name of an existing cluster that has cross-region snapshot copy enabled.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

SnapshotCopyAlreadyDisabledFault

The cluster already has cross-region snapshot copy disabled.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

EnableLogging

Starts logging information, such as queries and connection attempts, for the specified Amazon Redshift cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

BucketName

The name of an existing S3 bucket where the log files are to be stored.

Constraints:

- Must be in the same region as the cluster
- The cluster must have read bucket and put object permissions

Type: String

Required: Yes

ClusterIdentifier

The identifier of the cluster on which logging is to be started.

Example: `examplecluster`

Type: String

Required: Yes

S3KeyPrefix

The prefix applied to the log file names.

Constraints:

- Cannot exceed 512 characters
- Cannot contain spaces( ), double quotes ("), single quotes ('), a backslash (\), or control characters. The hexadecimal codes for invalid characters are:
  - x00 to x20
  - x22
  - x27
  - x5c
  - x7f or larger

Type: String

Required: No

Response Elements

The following elements are returned by the service.

BucketName

The name of the S3 bucket where the log files are stored.

Type: String

LastFailureMessage

The message indicating that logs failed to be delivered.

Type: String

LastFailureTime

The last time when logs failed to be delivered.

Type: Timestamp

LastSuccessfulDeliveryTime

The last time that logs were delivered.

Type: Timestamp

LoggingEnabled

`true` if logging is on, `false` if logging is off.

Type: Boolean

S3KeyPrefix

The prefix applied to the log file names.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

BucketNotFoundFault

Could not find the specified S3 bucket.

HTTP Status Code: 400

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

InsufficientS3BucketPolicyFault

The cluster does not have read bucket or put object permissions on the S3 bucket specified when enabling logging.

HTTP Status Code: 400

InvalidS3BucketNameFault

The S3 bucket name is invalid. For more information about naming rules, go to Bucket Restrictions and Limitations in the Amazon Simple Storage Service (S3) Developer Guide.

HTTP Status Code: 400

InvalidS3KeyPrefixFault

The string specified for the logging S3 key prefix does not comply with the documented constraints.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

EnableSnapshotCopy

Enables the automatic copy of snapshots from one region to another region for a specified cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of the source cluster to copy snapshots from.

Constraints: Must be the valid name of an existing cluster that does not already have cross-region snapshot copy enabled.

Type: String

Required: Yes

DestinationRegion

The destination region that you want to copy snapshots to.

Constraints: Must be the name of a valid region. For more information, see Regions and Endpoints in the Amazon Web Services General Reference.

Type: String

Required: Yes

RetentionPeriod

The number of days to retain automated snapshots in the destination region after they are copied from the source region.

Default: 7.

Constraints: Must be at least 1 and no more than 35.

Type: Integer

Required: No

SnapshotCopyGrantName

The name of the snapshot copy grant to use when snapshots of an AWS KMS-encrypted cluster are copied to the destination region.

Type: String

Required: No

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

CopyToRegionDisabledFault

Cross-region snapshot copy was temporarily disabled. Try your request again.

HTTP Status Code: 400

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

IncompatibleOrderableOptions

The specified options are incompatible.

HTTP Status Code: 400

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

LimitExceededFault

The encryption key has exceeded its grant limit in AWS KMS.

HTTP Status Code: 400

SnapshotCopyAlreadyEnabledFault

The cluster already has cross-region snapshot copy enabled.

HTTP Status Code: 400

SnapshotCopyGrantNotFoundFault

The specified snapshot copy grant can't be found. Make sure that the name is typed correctly and that the grant exists in the destination region.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

UnknownSnapshotCopyRegionFault

The specified region is incorrect or does not 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
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetClusterCredentials

Returns a database user name and temporary password with temporary authorization to log on to an Amazon Redshift database. The action returns the database user name prefixed with `IAM:` if `AutoCreate` is `False` or `IAMA:` if `AutoCreate` is `True`. You can optionally specify one or more database user groups that the user will join at log on. By default, the temporary credentials expire in 900 seconds. You can optionally specify a duration between 900 seconds (15 minutes) and 3600 seconds (60 minutes). For more information, see Using IAM Authentication to Generate Database User Credentials in the Amazon Redshift Cluster Management Guide.

The AWS Identity and Access Management (IAM)user or role that executes GetClusterCredentials must have an IAM policy attached that allows access to all necessary actions and resources. For more information about permissions, see Resource Policies for GetClusterCredentials in the Amazon Redshift Cluster Management Guide.

If the `DbGroups` parameter is specified, the IAM policy must allow the `redshift:JoinGroup` action with access to the listed `dbgroups`.

In addition, if the `AutoCreate` parameter is set to `True`, then the policy must include the `redshift:CreateClusterUser` privilege.

If the `DbName` parameter is specified, the IAM policy must allow access to the resource `dbname` for the specified database name.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of the cluster that contains the database for which your are requesting credentials. This parameter is case sensitive.

Type: String

Required: Yes

DbUser

The name of a database user. If a user name matching `DbUser` exists in the database, the temporary user credentials have the same permissions as the existing user. If `DbUser` doesn't exist in the database and `Autocreate` is `True`, a new user is created using the value for `DbUser` with PUBLIC permissions. If a database user matching the value for `DbUser` doesn't exist and `Autocreate` is `False`, then the command succeeds but the connection attempt will fail because the user doesn't exist in the database.

For more information, see CREATE USER in the Amazon Redshift Database Developer Guide.

Constraints:

- Must be 1 to 64 alphanumeric characters or hyphens. The user name can't be `PUBLIC`.
- Must contain only lowercase letters, numbers, underscore, plus sign, period (dot), at symbol (@), or hyphen.
- First character must be a letter.
- Must not contain a colon (:) or slash (/).
- Cannot be a reserved word. A list of reserved words can be found in Reserved Words in the Amazon Redshift Database Developer Guide.

Type: String

Required: Yes

AutoCreate

Create a database user with the name specified for the user named in `DbUser` if one does not exist.

Type: Boolean

Required: No

DbGroups.DbGroup.N

A list of the names of existing database groups that the user named in `DbUser` will join for the current session, in addition to any group memberships for an existing user. If not specified, a new user is added only to PUBLIC.

Database group name constraints

- Must be 1 to 64 alphanumeric characters or hyphens
- Must contain only lowercase letters, numbers, underscore, plus sign, period (dot), at symbol (@), or hyphen.
- First character must be a letter.
- Must not contain a colon (:) or slash (/).
- Cannot be a reserved word. A list of reserved words can be found in Reserved Words in the Amazon Redshift Database Developer Guide.

Type: Array of strings

Required: No

DbName

The name of a database that `DbUser` is authorized to log on to. If `DbName` is not specified, `DbUser` can log on to any existing database.

Constraints:

- Must be 1 to 64 alphanumeric characters or hyphens
- Must contain only lowercase letters, numbers, underscore, plus sign, period (dot), at symbol (@), or hyphen.
- First character must be a letter.
- Must not contain a colon (:) or slash (/).
- Cannot be a reserved word. A list of reserved words can be found in Reserved Words in the Amazon Redshift Database Developer Guide.

Type: String

Required: No

DurationSeconds

The number of seconds until the returned temporary password expires.

Constraint: minimum 900, maximum 3600.

Default: 900

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

DbPassword

A temporary password that authorizes the user name returned by `DbUser` to log on to the database `DbName`.

Type: String

DbUser

A database user name that is authorized to log on to the database `DbName` using the password `DbPassword`. If the specified DbUser exists in the database, the new user name has the same database privileges as the the user named in DbUser. By default, the user is added to PUBLIC. If the `DbGroups` parameter is specifed, `DbUser` is added to the listed groups for any sessions created using these credentials.

Type: String

Expiration

The date and time the password in `DbPassword` expires.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

Example

The following example shows a request to get cluster credentials.

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=GetClusterCredentials
   &ClusterIdentifier=examplecluster
   &DbUser=tempuser
   &DbName=exampledb
   &DurationSeconds=1800
&Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20160123/us-east-1/redshift/aws4_request
```

```
    &x-amz-date=20160123T000452Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<GetClusterCredentialsResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <GetClusterCredentialsResults>
     <DBUsername>IAM:tempuser</DBUsername>
     <Expiration>2016-11-08T21:12:53Z</Expiration>
     <DBPassword>EXAMPLEAbCdEf1234567890aBcDeFgHiJkLmNoPqRsTuVwXyZwXVPyJYBDm/
gqX2Eeaq6P3==</DBPassword>
     </GetClusterCredentialsResult>
  <ResponseMetadata>
    <RequestId>fa337bb4-6a4d-11e2-a12a-cb8076a904bd</RequestId>
  </ResponseMetadata>
</GetClusterCredentialsResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetReservedNodeExchangeOfferings

Returns an array of DC2 ReservedNodeOfferings that matches the payment type, term, and usage price of the given DC1 reserved node.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ReservedNodeId

A string representing the node identifier for the DC1 Reserved Node to be exchanged.

Type: String

Required: Yes

Marker

A value that indicates the starting point for the next set of ReservedNodeOfferings.

Type: String

Required: No

MaxRecords

An integer setting the maximum number of ReservedNodeOfferings to retrieve.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

Marker

An optional parameter that specifies the starting point for returning a set of response records. When the results of a `GetReservedNodeExchangeOfferings` request exceed the value specified in MaxRecords, Amazon Redshift returns a value in the marker field of the response. You can retrieve the next set of response records by providing the returned marker value in the marker parameter and retrying the request.

Type: String

ReservedNodeOfferings.ReservedNodeOffering.N

Returns an array of ReservedNodeOffering (p. 254) objects.

Type: Array of ReservedNodeOffering (p. 254) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

DependentServiceUnavailableFault

Your request cannot be completed because a dependent internal service is temporarily unavailable. Wait 30 to 60 seconds and try again.

HTTP Status Code: 400

InvalidReservedNodeState

Indicates that the Reserved Node being exchanged is not in an active state.

HTTP Status Code: 400

ReservedNodeAlreadyMigrated

Indicates that the reserved node has already been exchanged.

HTTP Status Code: 400

ReservedNodeNotFound

The specified reserved compute node not found.

HTTP Status Code: 404

ReservedNodeOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

UnsupportedOperation

The requested operation isn't supported.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyCluster

Modifies the settings for a cluster. For example, you can add another security or parameter group, update the preferred maintenance window, or change the master user password. Resetting a cluster password or modifying the security groups associated with a cluster do not need a reboot. However, modifying a parameter group requires a reboot for parameters to take effect. For more information about managing clusters, go to Amazon Redshift Clusters in the *Amazon Redshift Cluster Management Guide*.

You can also change node type and the number of nodes to scale up or down the cluster. When resizing a cluster, you must specify both the number of nodes and the node type even if one of the parameters does not change.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of the cluster to be modified.

Example: `examplecluster`

Type: String

Required: Yes

AllowVersionUpgrade

If `true`, major version upgrades will be applied automatically to the cluster during the maintenance window.

Default: `false`

Type: Boolean

Required: No

AutomatedSnapshotRetentionPeriod

The number of days that automated snapshots are retained. If the value is 0, automated snapshots are disabled. Even if automated snapshots are disabled, you can still create manual snapshots when you want with CreateClusterSnapshot (p. 31).

If you decrease the automated snapshot retention period from its current value, existing automated snapshots that fall outside of the new retention period will be immediately deleted.

Default: Uses existing setting.

Constraints: Must be a value from 0 to 35.

Type: Integer

Required: No

ClusterParameterGroupName

The name of the cluster parameter group to apply to this cluster. This change is applied only after the cluster is rebooted. To reboot a cluster use RebootCluster (p. 181).

Default: Uses existing setting.

Constraints: The cluster parameter group must be in the same parameter group family that matches the cluster version.

Type: String

Required: No

ClusterSecurityGroups.ClusterSecurityGroupName.N

A list of cluster security groups to be authorized on this cluster. This change is asynchronously applied as soon as possible.

Security groups currently associated with the cluster, and not in the list of groups to apply, will be revoked from the cluster.

Constraints:

- Must be 1 to 255 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: Array of strings

Required: No

ClusterType

The new cluster type.

When you submit your cluster resize request, your existing cluster goes into a read-only mode. After Amazon Redshift provisions a new cluster based on your resize requirements, there will be outage for a period while the old cluster is deleted and your connection is switched to the new cluster. You can use DescribeResize (p. 127) to track the progress of the resize request.

Valid Values: `multi-node | single-node`

Type: String

Required: No

ClusterVersion

The new version number of the Amazon Redshift engine to upgrade to.

For major version upgrades, if a non-default cluster parameter group is currently in use, a new cluster parameter group in the cluster parameter group family for the new version must be specified. The new cluster parameter group can be the default for that cluster parameter group family. For more information about parameters and parameter groups, go to Amazon Redshift Parameter Groups in the *Amazon Redshift Cluster Management Guide*.

Example: `1.0`

Type: String

Required: No

ElasticIp

The Elastic IP (EIP) address for the cluster.

Constraints: The cluster must be provisioned in EC2-VPC and publicly-accessible through an Internet gateway. For more information about provisioning clusters in EC2-VPC, go to Supported Platforms to Launch Your Cluster in the Amazon Redshift Cluster Management Guide.

Type: String

Required: No

Encrypted

Type: Boolean

Required: No

EnhancedVpcRouting

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see Enhanced VPC Routing in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: false

Type: Boolean

Required: No

HsmClientCertificateIdentifier

Specifies the name of the HSM client certificate the Amazon Redshift cluster uses to retrieve the data encryption keys stored in an HSM.

Type: String

Required: No

HsmConfigurationIdentifier

Specifies the name of the HSM configuration that contains the information the Amazon Redshift cluster can use to retrieve and store keys in an HSM.

Type: String

Required: No

KmsKeyId

Type: String

Required: No

MaintenanceTrackName

The name for the maintenance track that you want to assign for the cluster. This name change is asynchronous. The new track name stays in the `PendingModifiedValues` for the cluster until the next maintenance window. When the maintenance track changes, the cluster is switched to the latest cluster release available for the maintenance track. At this point, the maintenance track name is applied.

Type: String

Required: No

MasterUserPassword

The new password for the cluster master user. This 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.

Note
Operations never return the password, so this operation provides a way to regain access to the master user account for a cluster if the password is lost.

Default: Uses existing setting.

Constraints:

- Must be between 8 and 64 characters in length.
- Must contain at least one uppercase letter.
- Must contain at least one lowercase letter.
- Must contain one number.
- Can be any printable ASCII character (ASCII code 33 to 126) except ' (single quote), " (double quote), \, /, @, or space.

Type: String

Required: No

NewClusterIdentifier

The new identifier for the cluster.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens.
- Alphabetic characters must be lowercase.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique for all clusters within an AWS account.

Example: `examplecluster`

Type: String

Required: No

NodeType

The new node type of the cluster. If you specify a new node type, you must also specify the number of nodes parameter.

When you submit your request to resize a cluster, Amazon Redshift sets access permissions for the cluster to read-only. After Amazon Redshift provisions a new cluster according to your resize requirements, there will be a temporary outage while the old cluster is deleted and your connection is switched to the new cluster. When the new connection is complete, the original access permissions for the cluster are restored. You can use DescribeResize (p. 127) to track the progress of the resize request.

Valid Values: `ds2.xlarge` | `ds2.8xlarge` | `dc1.large` | `dc1.8xlarge` | `dc2.large` | `dc2.8xlarge`

Type: String

Required: No

NumberOfNodes

The new number of nodes of the cluster. If you specify a new number of nodes, you must also specify the node type parameter.

When you submit your request to resize a cluster, Amazon Redshift sets access permissions for the cluster to read-only. After Amazon Redshift provisions a new cluster according to your resize requirements, there will be a temporary outage while the old cluster is deleted and your connection is switched to the new cluster. When the new connection is complete, the original access permissions

for the cluster are restored. You can use DescribeResize (p. 127) to track the progress of the resize request.

Valid Values: Integer greater than `0`.

Type: Integer

Required: No

PreferredMaintenanceWindow

The weekly time range (in UTC) during which system maintenance can occur, if necessary. If system maintenance is necessary during the window, it may result in an outage.

This maintenance window change is made immediately. If the new maintenance window indicates the current time, there must be at least 120 minutes between the current time and end of the window in order to ensure that pending changes are applied.

Default: Uses existing setting.

Format: ddd:hh24:mi-ddd:hh24:mi, for example `wed:07:30-wed:08:00`.

Valid Days: Mon | Tue | Wed | Thu | Fri | Sat | Sun

Constraints: Must be at least 30 minutes.

Type: String

Required: No

PubliclyAccessible

If `true`, the cluster can be accessed from a public network. Only clusters in VPCs can be set to be publicly available.

Type: Boolean

Required: No

VpcSecurityGroupIds.VpcSecurityGroupId.N

A list of virtual private cloud (VPC) security groups to be associated with the cluster. This change is asynchronously applied as soon as possible.

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterAlreadyExists

The account already has a cluster with the given identifier.

HTTP Status Code: 400

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

HsmClientCertificateNotFoundFault

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

HsmConfigurationNotFoundFault

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

InsufficientClusterCapacity

The number of nodes specified exceeds the allotted capacity of the cluster.

HTTP Status Code: 400

InvalidClusterSecurityGroupState

The state of the cluster security group is not `available`.

HTTP Status Code: 400

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

InvalidClusterTrack

The provided cluster track name is not valid.

HTTP Status Code: 400

InvalidElasticIpFault

The Elastic IP (EIP) is invalid or cannot be found.

HTTP Status Code: 400

LimitExceededFault

The encryption key has exceeded its grant limit in AWS KMS.

HTTP Status Code: 400

NumberOfNodesPerClusterLimitExceeded

The operation would exceed the number of nodes allowed for a cluster.

HTTP Status Code: 400

NumberOfNodesQuotaExceeded

The operation would exceed the number of nodes allotted to the account. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

TableLimitExceeded

The number of tables in the cluster exceeds the limit for the requested new cluster node type.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

UnsupportedOptionFault

A request option was specified that is not supported.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=ModifyCluster
    &AllowVersionUpgrade=true
    &AutomatedSnapshotRetentionPeriod=2
    &ClusterIdentifier=examplecluster
    &ClusterParameterGroupName=parametergroup1
    &PreferredMaintenanceWindow=wed:07:30-wed:08:00
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T022911Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<ModifyClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyClusterResult>
    <Cluster>
```

```
      <PendingModifiedValues/>
      <ClusterVersion>1.0</ClusterVersion>
      <VpcSecurityGroups/>
      <Endpoint>
        <Port>5439</Port>
        <Address>examplecluster.coqoarplqhsn.us-east-1.redshift.amazonaws.com</Address>
      </Endpoint>
      <ClusterStatus>available</ClusterStatus>
      <NumberOfNodes>2</NumberOfNodes>
      <AutomatedSnapshotRetentionPeriod>2</AutomatedSnapshotRetentionPeriod>
      <PubliclyAccessible>true</PubliclyAccessible>
      <Encrypted>false</Encrypted>
      <EnhancedVpcRouting>false</EnhancedVpcRouting>
      <DBName>dev</DBName>
      <PreferredMaintenanceWindow>wed:07:30-wed:08:00</PreferredMaintenanceWindow>
      <ClusterParameterGroups>
        <ClusterParameterGroup>
          <ParameterApplyStatus>applying</ParameterApplyStatus>
          <ParameterGroupName>parametergroup1</ParameterGroupName>
        </ClusterParameterGroup>
      </ClusterParameterGroups>
      <ClusterCreateTime>2013-01-22T19:23:59.368Z</ClusterCreateTime>
      <ClusterSecurityGroups>
        <ClusterSecurityGroup>
          <Status>active</Status>
          <ClusterSecurityGroupName>default</ClusterSecurityGroupName>
        </ClusterSecurityGroup>
      </ClusterSecurityGroups>
      <AvailabilityZone>us-east-1c</AvailabilityZone>
      <NodeType>ds2.xlarge</NodeType>
      <ClusterIdentifier>examplecluster</ClusterIdentifier>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <MasterUsername>adminuser</MasterUsername>
    </Cluster>
  </ModifyClusterResult>
  <ResponseMetadata>
    <RequestId>acbc43d5-6504-11e2-bea9-49e0ce183f07</RequestId>
  </ResponseMetadata>
</ModifyClusterResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyClusterDbRevision

Modifies the database revision of a cluster. The database revision is a unique revision of the database running in a cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of a cluster whose database revision you want to modify.

Example: `examplecluster`

Type: String

Required: Yes

RevisionTarget

The identifier of the database revision. You can retrieve this value from the response to the DescribeClusterDbRevisions (p. 68) request.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

ClusterOnLatestRevision

Cluster is already on the latest database revision.

HTTP Status Code: 400

InvalidClusterState

The specified cluster is not in the `available` 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyClusterIamRoles

Modifies the list of AWS Identity and Access Management (IAM) roles that can be used by the cluster to access other AWS services.

A cluster can have up to 10 IAM roles associated at any time.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of the cluster for which you want to associate or disassociate IAM roles.

Type: String

Required: Yes

AddIamRoles.IamRoleArn.N

Zero or more IAM roles to associate with the cluster. The roles must be in their Amazon Resource Name (ARN) format. You can associate up to 10 IAM roles with a single cluster in a single request.

Type: Array of strings

Required: No

RemoveIamRoles.IamRoleArn.N

Zero or more IAM roles in ARN format to disassociate from the cluster. You can disassociate up to 10 IAM roles from a single cluster in a single request.

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=ModifyClusterIamRoles
    &ClusterIdentifier=my-redshift-cluster
    &AddIamRoles.member.1=arn:aws:iam::123456789012:role/RedshiftCopyUnload
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20160208/us-east-1/redshift/aws4_request
    &x-amz-date=20160208T022525Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<ModifyClusterIamRolesResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyClusterIamRolesResult>
    <Cluster>
      <PendingModifiedValues/>
      <ClusterVersion>1.0</ClusterVersion>
      <VpcSecurityGroups/>
      <Endpoint>
        <Port>5439</Port>
        <Address>examplecluster.cobaosmlqshn.us-east-1.redshift.amazonaws.com</Address>
      </Endpoint>
      <ClusterStatus>rebooting</ClusterStatus>
      <NumberOfNodes>2</NumberOfNodes>
      <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
      <PubliclyAccessible>true</PubliclyAccessible>
      <Encrypted>false</Encrypted>
      <DBName>dev</DBName>
      <IamRoles>
        <ClusterIamRole>
          <IamRoleArn>arn:aws:iam::123456789012:role/RedshiftCopyUnload</IamRoleArn>
          <ApplyStatus>adding</ApplyStatus>
        </ClusterIamRole>
      </IamRoles>
      <PreferredMaintenanceWindow>sun:06:30-sun:07:00</PreferredMaintenanceWindow>
      <ClusterParameterGroups>
        <ClusterParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        </ClusterParameterGroup>
      </ClusterParameterGroups>
      <ClusterCreateTime>2013-01-22T19:23:59.368Z</ClusterCreateTime>
      <ClusterSecurityGroups>
        <ClusterSecurityGroup>
          <Status>active</Status>
          <ClusterSecurityGroupName>default</ClusterSecurityGroupName>
        </ClusterSecurityGroup>
      </ClusterSecurityGroups>
      <AvailabilityZone>us-east-1c</AvailabilityZone>
      <NodeType>ds2.xlarge</NodeType>
```

```
      <ClusterIdentifier>examplecluster</ClusterIdentifier>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <MasterUsername>adminuser</MasterUsername>
    </Cluster>
  </ModifyClusterIamRolesResult>
  <ResponseMetadata>
    <RequestId>46e64043-40de-15b2-8a25-eb010998cc4e</RequestId>
  </ResponseMetadata>
</ModifyClusterIamRolesResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyClusterParameterGroup

Modifies the parameters of a parameter group.

For more information about parameters and parameter groups, go to Amazon Redshift Parameter Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ParameterGroupName

The name of the parameter group to be modified.

Type: String

Required: Yes

Parameters.Parameter.N

An array of parameters to be modified. A maximum of 20 parameters can be modified in a single request.

For each parameter to be modified, you must supply at least the parameter name and parameter value; other name-value pairs of the parameter are optional.

For the workload management (WLM) configuration, you must supply all the name-value pairs in the wlm_json_configuration parameter.

Type: Array of Parameter (p. 246) objects

Required: Yes

Response Elements

The following elements are returned by the service.

ParameterGroupName

The name of the cluster parameter group.

Type: String

ParameterGroupStatus

The status of the parameter group. For example, if you made a change to a parameter group name-value pair, then the change could be pending a reboot of an associated cluster.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

InvalidClusterParameterGroupState

The cluster parameter group action can not be completed because another task is in progress that involves the parameter group. Wait a few moments and try the operation again.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=ModifyClusterParameterGroup
    &ParameterGroupName=parametergroup1
    &Parameters.member.1.ParameterName=extra_float_digits
    &Parameters.member.1.ParameterValue=2
    &Parameters.member.2.ParameterName=wlm_json_configuration
    &Parameters.member.2.ParameterValue=[{"user_group":
["example_user_group1"],"query_group":["example_query_group1"],"query_concurrency":7},
{"query_concurrency":5}]
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121208/us-east-1/redshift/aws4_request
    &x-amz-date=20121208T022525Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<ModifyClusterParameterGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ModifyClusterParameterGroupResult>
    <ParameterGroupStatus>Your parameter group has been updated. Updates to dynamic
 parameters will be applied immediately. Updates to static parameters will be applied when
 you reboot the associated Clusters.</ParameterGroupStatus>
    <ParameterGroupName>parametergroup1</ParameterGroupName>
  </ModifyClusterParameterGroupResult>
  <ResponseMetadata>
    <RequestId>86e64043-40de-11e2-8a25-eb010998df4e</RequestId>
  </ResponseMetadata>
</ModifyClusterParameterGroupResponse>
```

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
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyClusterSubnetGroup

Modifies a cluster subnet group to include the specified list of VPC subnets. The operation replaces the existing list of subnets with the new list of subnets.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSubnetGroupName

The name of the subnet group to be modified.

Type: String

Required: Yes

SubnetIds.SubnetIdentifier.N

An array of VPC subnet IDs. A maximum of 20 subnets can be modified in a single request.

Type: Array of strings

Required: Yes

Description

A text description of the subnet group to be modified.

Type: String

Required: No

Response Elements

The following element is returned by the service.

ClusterSubnetGroup

Describes a subnet group.

Type: ClusterSubnetGroup (p. 226) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterSubnetGroupNotFoundFault

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

ClusterSubnetQuotaExceededFault

The request would result in user exceeding the allowed number of subnets in a cluster subnet groups. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is not valid, or not all of the subnets are in the same VPC.

HTTP Status Code: 400

SubnetAlreadyInUse

A specified subnet is already in use by another cluster.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyEventSubscription

Modifies an existing Amazon Redshift event notification subscription.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

SubscriptionName

The name of the modified Amazon Redshift event notification subscription.

Type: String

Required: Yes

Enabled

A Boolean value indicating if the subscription is enabled. `true` indicates the subscription is enabled

Type: Boolean

Required: No

EventCategories.EventCategory.N

Specifies the Amazon Redshift event categories to be published by the event notification subscription.

Values: configuration, management, monitoring, security

Type: Array of strings

Required: No

Severity

Specifies the Amazon Redshift event severity to be published by the event notification subscription.

Values: ERROR, INFO

Type: String

Required: No

SnsTopicArn

The Amazon Resource Name (ARN) of the SNS topic to be used by the event notification subscription.

Type: String

Required: No

SourceIds.SourceId.N

A list of one or more identifiers of Amazon Redshift source objects. All of the objects must be of the same type as was specified in the source type parameter. The event subscription will return only events generated by the specified objects. If not specified, then events are returned for all objects within the source type specified.

Example: my-cluster-1, my-cluster-2

Example: my-snapshot-20131010

Type: Array of strings

Required: No

SourceType

The type of source that will be generating the events. For example, if you want to be notified of events generated by a cluster, you would set this parameter to cluster. If this value is not specified, events are returned for all Amazon Redshift objects in your AWS account. You must specify a source type in order to specify source IDs.

Valid values: cluster, cluster-parameter-group, cluster-security-group, and cluster-snapshot.

Type: String

Required: No

Response Elements

The following element is returned by the service.

EventSubscription

Describes event subscriptions.

Type: EventSubscription (p. 237) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

InvalidSubscriptionStateFault

The subscription request is invalid because it is a duplicate request. This subscription request is already in progress.

HTTP Status Code: 400

SNSInvalidTopic

Amazon SNS has responded that there is a problem with the specified Amazon SNS topic.

HTTP Status Code: 400

SNSNoAuthorization

You do not have permission to publish to the specified Amazon SNS topic.

HTTP Status Code: 400

SNSTopicArnNotFound

An Amazon SNS topic with the specified Amazon Resource Name (ARN) does not exist.

HTTP Status Code: 404

SourceNotFound

The specified Amazon Redshift event source could not be found.

HTTP Status Code: 404

SubscriptionCategoryNotFound

The value specified for the event category was not one of the allowed values, or it specified a category that does not apply to the specified source type. The allowed values are Configuration, Management, Monitoring, and Security.

HTTP Status Code: 404

SubscriptionEventIdNotFound

An Amazon Redshift event with the specified event ID does not exist.

HTTP Status Code: 404

SubscriptionNotFound

An Amazon Redshift event notification subscription with the specified name does not exist.

HTTP Status Code: 404

SubscriptionSeverityNotFound

The value specified for the event severity was not one of the allowed values, or it specified a severity that does not apply to the specified source type. The allowed values are ERROR and INFO.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifySnapshotCopyRetentionPeriod

Modifies the number of days to retain automated snapshots in the destination region after they are copied from the source region.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of the cluster for which you want to change the retention period for automated snapshots that are copied to a destination region.

Constraints: Must be the valid name of an existing cluster that has cross-region snapshot copy enabled.

Type: String

Required: Yes

RetentionPeriod

The number of days to retain automated snapshots in the destination region after they are copied from the source region.

If you decrease the retention period for automated snapshots that are copied to a destination region, Amazon Redshift will delete any existing automated snapshots that were copied to the destination region and that fall outside of the new retention period.

Constraints: Must be at least 1 and no more than 35.

Type: Integer

Required: Yes

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

SnapshotCopyDisabledFault

Cross-region snapshot copy was temporarily disabled. Try your request again.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

PurchaseReservedNodeOffering

Allows you to purchase reserved nodes. Amazon Redshift offers a predefined set of reserved node offerings. You can purchase one or more of the offerings. You can call the DescribeReservedNodeOfferings (p. 121) API to obtain the available reserved node offerings. You can call this API by providing a specific reserved node offering and the number of nodes you want to reserve.

For more information about reserved node offerings, go to Purchasing Reserved Nodes in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ReservedNodeOfferingId

The unique identifier of the reserved node offering you want to purchase.

Type: String

Required: Yes

NodeCount

The number of reserved nodes that you want to purchase.

Default: `1`

Type: Integer

Required: No

Response Elements

The following element is returned by the service.

ReservedNode

Describes a reserved node. You can call the DescribeReservedNodeOfferings (p. 121) API to obtain the available reserved node offerings.

Type: ReservedNode (p. 251) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ReservedNodeAlreadyExists

User already has a reservation with the given identifier.

HTTP Status Code: 404

ReservedNodeOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

ReservedNodeQuotaExceeded

Request would exceed the user's compute node quota. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

UnsupportedOperation

The requested operation isn't supported.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
   ?Action=PurchaseReservedNodeOffering
   &ReservedNodeOfferingId=3a98bf7d-979a-49cc-b568-18f24315baf0
   &NodeCount=2
   &Version=2012-12-01
   &x-amz-algorithm=AWS4-HMAC-SHA256
   &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130117/us-east-1/redshift/aws4_request
   &x-amz-date=20130117T232351Z
   &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<PurchaseReservedNodeOfferingResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <PurchaseReservedNodeOfferingResult>
    <ReservedNode>
      <StartTime>2013-01-18T21:42:44.402Z</StartTime>
      <OfferingType>Heavy Utilization</OfferingType>
      <Duration>94608000</Duration>
      <RecurringCharges>
        <RecurringCharge>
          <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
          <RecurringChargeAmount>0.21</RecurringChargeAmount>
        </RecurringCharge>
      </RecurringCharges>
      <FixedPrice>12452.0</FixedPrice>
      <UsagePrice>0.0</UsagePrice>
      <State>payment-pending</State>
      <NodeType>ds2.8xlarge</NodeType>
      <NodeCount>2</NodeCount>
      <ReservedNodeOfferingType>regular</ReservedNodeOfferingType>
      <ReservedNodeId>1ba8e2e3-dacf-48d9-841f-cc675182a8a6</ReservedNodeId>
    </ReservedNode>
  </PurchaseReservedNodeOfferingResult>
  <ResponseMetadata>
    <RequestId>fcb117cc-61b7-11e2-b6e9-87e586e4ca38</RequestId>
  </ResponseMetadata>
</PurchaseReservedNodeOfferingResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RebootCluster

Reboots a cluster. This action is taken as soon as possible. It results in a momentary outage to the cluster, during which the cluster status is set to `rebooting`. A cluster event is created when the reboot is completed. Any pending cluster modifications (see ModifyCluster (p. 155)) are applied at this reboot. For more information about managing clusters, go to Amazon Redshift Clusters in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The cluster identifier.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=RebootCluster
```

```
    &ClusterIdentifier=examplecluster
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T021951Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<RebootClusterResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <RebootClusterResult>
    <Cluster>
      <PendingModifiedValues/>
      <ClusterVersion>1.0</ClusterVersion>
      <VpcSecurityGroups/>
      <Endpoint>
        <Port>5439</Port>
        <Address>examplecluster.cobaosmlqshn.us-east-1.redshift.amazonaws.com</Address>
      </Endpoint>
      <ClusterStatus>rebooting</ClusterStatus>
      <NumberOfNodes>2</NumberOfNodes>
      <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
      <PubliclyAccessible>true</PubliclyAccessible>
      <Encrypted>false</Encrypted>
      <DBName>dev</DBName>
      <PreferredMaintenanceWindow>sun:06:30-sun:07:00</PreferredMaintenanceWindow>
      <ClusterParameterGroups>
        <ClusterParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        </ClusterParameterGroup>
      </ClusterParameterGroups>
      <ClusterCreateTime>2013-01-22T19:23:59.368Z</ClusterCreateTime>
      <ClusterSecurityGroups>
        <ClusterSecurityGroup>
          <Status>active</Status>
          <ClusterSecurityGroupName>default</ClusterSecurityGroupName>
        </ClusterSecurityGroup>
      </ClusterSecurityGroups>
      <AvailabilityZone>us-east-1c</AvailabilityZone>
      <NodeType>ds2.xlarge</NodeType>
      <ClusterIdentifier>examplecluster</ClusterIdentifier>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <MasterUsername>adminuser</MasterUsername>
    </Cluster>
  </RebootClusterResult>
  <ResponseMetadata>
    <RequestId>5edee79e-6503-11e2-9e70-918437dd236d</RequestId>
  </ResponseMetadata>
</RebootClusterResponse>
```

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

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ResetClusterParameterGroup

Sets one or more parameters of the specified parameter group to their default values and sets the source values of the parameters to "engine-default". To reset the entire parameter group specify the *ResetAllParameters* parameter. For parameter changes to take effect you must reboot any associated clusters.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ParameterGroupName

The name of the cluster parameter group to be reset.

Type: String

Required: Yes

Parameters.Parameter.N

An array of names of parameters to be reset. If *ResetAllParameters* option is not used, then at least one parameter name must be supplied.

Constraints: A maximum of 20 parameters can be reset in a single request.

Type: Array of Parameter (p. 246) objects

Required: No

ResetAllParameters

If `true`, all parameters in the specified parameter group will be reset to their default values.

Default: `true`

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

ParameterGroupName

The name of the cluster parameter group.

Type: String

ParameterGroupStatus

The status of the parameter group. For example, if you made a change to a parameter group name-value pair, then the change could be pending a reboot of an associated cluster.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

InvalidClusterParameterGroupState

The cluster parameter group action can not be completed because another task is in progress that involves the parameter group. Wait a few moments and try the operation again.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=ResetClusterParameterGroup
    &ParameterGroupName=parametergroup1
    &Parameters.member.1.ParameterName=extra_float_digits
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20121208/us-east-1/redshift/aws4_request
    &x-amz-date=20121208T020847Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<ResetClusterParameterGroupResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <ResetClusterParameterGroupResult>
    <ParameterGroupStatus>Your parameter group has been updated. Updates to dynamic
 parameters will be applied immediately. Updates to static parameters will be applied when
 you reboot the associated Clusters.</ParameterGroupStatus>
    <ParameterGroupName>parametergroup1</ParameterGroupName>
  </ResetClusterParameterGroupResult>
  <ResponseMetadata>
    <RequestId>625d23c1-40dc-11e2-8a25-eb010998df4e</RequestId>
  </ResponseMetadata>
</ResetClusterParameterGroupResponse>
```

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
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RestoreFromClusterSnapshot

Creates a new cluster from a snapshot. By default, Amazon Redshift creates the resulting cluster with the same configuration as the original cluster from which the snapshot was created, except that the new cluster is created with the default cluster security and parameter groups. After Amazon Redshift creates the cluster, you can use the ModifyCluster (p. 155) API to associate a different security group and different parameter group with the restored cluster. If you are using a DS node type, you can also choose to change to another DS node type of the same size during restore.

If you restore a cluster into a VPC, you must provide a cluster subnet group where you want the cluster restored.

For more information about working with snapshots, go to Amazon Redshift Snapshots in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The identifier of the cluster that will be created from restoring the snapshot.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens.
- Alphabetic characters must be lowercase.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.
- Must be unique for all clusters within an AWS account.

Type: String

Required: Yes

SnapshotIdentifier

The name of the snapshot from which to create the new cluster. This parameter isn't case sensitive.

Example: `my-snapshot-id`

Type: String

Required: Yes

AdditionalInfo

Reserved.

Type: String

Required: No

AllowVersionUpgrade

If `true`, major version upgrades can be applied during the maintenance window to the Amazon Redshift engine that is running on the cluster.

Default: `true`

Type: Boolean

Required: No

AutomatedSnapshotRetentionPeriod

The number of days that automated snapshots are retained. If the value is 0, automated snapshots are disabled. Even if automated snapshots are disabled, you can still create manual snapshots when you want with CreateClusterSnapshot (p. 31).

Default: The value selected for the cluster from which the snapshot was taken.

Constraints: Must be a value from 0 to 35.

Type: Integer

Required: No

AvailabilityZone

The Amazon EC2 Availability Zone in which to restore the cluster.

Default: A random, system-chosen Availability Zone.

Example: `us-east-1a`

Type: String

Required: No

ClusterParameterGroupName

The name of the parameter group to be associated with this cluster.

Default: The default Amazon Redshift cluster parameter group. For information about the default parameter group, go to Working with Amazon Redshift Parameter Groups.

Constraints:

- Must be 1 to 255 alphanumeric characters or hyphens.
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

ClusterSecurityGroups.ClusterSecurityGroupName.N

A list of security groups to be associated with this cluster.

Default: The default cluster security group for Amazon Redshift.

Cluster security groups only apply to clusters outside of VPCs.

Type: Array of strings

Required: No

ClusterSubnetGroupName

The name of the subnet group where you want to cluster restored.

A snapshot of cluster in VPC can be restored only in VPC. Therefore, you must provide subnet group name where you want the cluster restored.

Type: String

Required: No

ElasticIp

The elastic IP (EIP) address for the cluster.

Type: String

Required: No

EnhancedVpcRouting

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see Enhanced VPC Routing in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: false

Type: Boolean

Required: No

HsmClientCertificateIdentifier

Specifies the name of the HSM client certificate the Amazon Redshift cluster uses to retrieve the data encryption keys stored in an HSM.

Type: String

Required: No

HsmConfigurationIdentifier

Specifies the name of the HSM configuration that contains the information the Amazon Redshift cluster can use to retrieve and store keys in an HSM.

Type: String

Required: No

IamRoles.IamRoleArn.N

A list of AWS Identity and Access Management (IAM) roles that can be used by the cluster to access other AWS services. You must supply the IAM roles in their Amazon Resource Name (ARN) format. You can supply up to 10 IAM roles in a single request.

A cluster can have up to 10 IAM roles associated at any time.

Type: Array of strings

Required: No

KmsKeyId

The AWS Key Management Service (KMS) key ID of the encryption key that you want to use to encrypt data in the cluster that you restore from a shared snapshot.

Type: String

Required: No

MaintenanceTrackName

The name of the maintenance track for the restored cluster. When you take a snapshot, the snapshot inherits the `MaintenanceTrack` value from the cluster. The snapshot might be on a different track than the cluster that was the source for the snapshot. For example, suppose that you take a snapshot of a cluster that is on the current track and then change the cluster to be on the trailing track. In this case, the snapshot and the source cluster are on different tracks.

Type: String

Required: No

NodeType

The node type that the restored cluster will be provisioned with.

Default: The node type of the cluster from which the snapshot was taken. You can modify this if you are using any DS node type. In that case, you can choose to restore into another DS node type of the same size. For example, you can restore ds1.8xlarge into ds2.8xlarge, or ds1.xlarge into ds2.xlarge. If you have a DC instance type, you must restore into that same instance type and size. In other words, you can only restore a dc1.large instance type into another dc1.large instance type or dc2.large instance type. You can't restore dc1.8xlarge to dc2.8xlarge. First restore to a dc1.8xlareg cluster, then resize to a dc2.8large cluster. For more information about node types, see About Clusters and Nodes in the *Amazon Redshift Cluster Management Guide*.

Type: String

Required: No

OwnerAccount

The AWS customer account used to create or copy the snapshot. Required if you are restoring a snapshot you do not own, optional if you own the snapshot.

Type: String

Required: No

Port

The port number on which the cluster accepts connections.

Default: The same port as the original cluster.

Constraints: Must be between `1115` and `65535`.

Type: Integer

Required: No

PreferredMaintenanceWindow

The weekly time range (in UTC) during which automated cluster maintenance can occur.

Format: `ddd:hh24:mi-ddd:hh24:mi`

Default: The value selected for the cluster from which the snapshot was taken. For more information about the time blocks for each region, see Maintenance Windows in Amazon Redshift Cluster Management Guide.

Valid Days: Mon | Tue | Wed | Thu | Fri | Sat | Sun

Constraints: Minimum 30-minute window.

Type: String

Required: No

PubliclyAccessible

If `true`, the cluster can be accessed from a public network.

Type: Boolean

Required: No

SnapshotClusterIdentifier

The name of the cluster the source snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than * for the cluster name.

Type: String

Required: No

VpcSecurityGroupIds.VpcSecurityGroupId.N

A list of Virtual Private Cloud (VPC) security groups to be associated with the cluster.

Default: The default VPC security group is associated with the cluster.

VPC security groups only apply to clusters in VPCs.

Type: Array of strings

Required: No

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

AccessToSnapshotDenied

The owner of the specified snapshot has not authorized your account to access the snapshot.

HTTP Status Code: 400

ClusterAlreadyExists

The account already has a cluster with the given identifier.

HTTP Status Code: 400

ClusterParameterGroupNotFound

The parameter group name does not refer to an existing parameter group.

HTTP Status Code: 404

ClusterQuotaExceeded

The request would exceed the allowed number of cluster instances for this account. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

ClusterSubnetGroupNotFoundFault

The cluster subnet group name does not refer to an existing cluster subnet group.

HTTP Status Code: 400

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

HsmClientCertificateNotFoundFault

There is no Amazon Redshift HSM client certificate with the specified identifier.

HTTP Status Code: 400

HsmConfigurationNotFoundFault

There is no Amazon Redshift HSM configuration with the specified identifier.

HTTP Status Code: 400

InsufficientClusterCapacity

The number of nodes specified exceeds the allotted capacity of the cluster.

HTTP Status Code: 400

InvalidClusterSnapshotState

The specified cluster snapshot is not in the `available` state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

InvalidClusterSubnetGroupStateFault

The cluster subnet group cannot be deleted because it is in use.

HTTP Status Code: 400

InvalidClusterTrack

The provided cluster track name is not valid.

HTTP Status Code: 400

InvalidElasticIpFault

The Elastic IP (EIP) is invalid or cannot be found.

HTTP Status Code: 400

InvalidRestore

The restore is invalid.

HTTP Status Code: 406

InvalidSubnet

The requested subnet is not valid, or not all of the subnets are in the same VPC.

HTTP Status Code: 400

InvalidVPCNetworkStateFault

The cluster subnet group does not cover all Availability Zones.

HTTP Status Code: 400

LimitExceededFault

The encryption key has exceeded its grant limit in AWS KMS.

HTTP Status Code: 400

NumberOfNodesPerClusterLimitExceeded

The operation would exceed the number of nodes allowed for a cluster.

HTTP Status Code: 400

NumberOfNodesQuotaExceeded

The operation would exceed the number of nodes allotted to the account. For information about increasing your quota, go to Limits in Amazon Redshift in the *Amazon Redshift Cluster Management Guide*.

HTTP Status Code: 400

UnauthorizedOperation

Your account is not authorized to perform the requested operation.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=RestoreFromClusterSnapshot
    &ClusterIdentifier=examplecluster-restored
    &SnapshotIdentifier=cm:examplecluster-2013-01-22-19-27-58
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T023350Z
```

```
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<RestoreFromClusterSnapshotResponse xmlns="http://redshift.amazonaws.com/doc/2012-12-01/">
  <RestoreFromClusterSnapshotResult>
    <Cluster>
      <PendingModifiedValues/>
      <ClusterVersion>1.0</ClusterVersion>
      <VpcSecurityGroups/>
      <ClusterStatus>creating</ClusterStatus>
      <NumberOfNodes>2</NumberOfNodes>
      <AutomatedSnapshotRetentionPeriod>1</AutomatedSnapshotRetentionPeriod>
      <PubliclyAccessible>true</PubliclyAccessible>
      <Encrypted>false</Encrypted>
      <EnhancedVpcRouting>false</EnhancedVpcRouting>
      <DBName>dev</DBName>
      <PreferredMaintenanceWindow>sun:06:30-sun:07:00</PreferredMaintenanceWindow>
      <ClusterParameterGroups>
        <ClusterParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <ParameterGroupName>default.redshift-1.0</ParameterGroupName>
        </ClusterParameterGroup>
      </ClusterParameterGroups>
      <ClusterSecurityGroups>
        <ClusterSecurityGroup>
          <Status>active</Status>
          <ClusterSecurityGroupName>default</ClusterSecurityGroupName>
        </ClusterSecurityGroup>
      </ClusterSecurityGroups>
      <NodeType>ds2.xlarge</NodeType>
      <ClusterIdentifier>examplecluster-restored</ClusterIdentifier>
      <AllowVersionUpgrade>true</AllowVersionUpgrade>
      <MasterUsername>adminuser</MasterUsername>
    </Cluster>
  </RestoreFromClusterSnapshotResult>
  <ResponseMetadata>
    <RequestId>52a9aee8-6505-11e2-bec0-17624ad140dd</RequestId>
  </ResponseMetadata>
</RestoreFromClusterSnapshotResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RestoreTableFromClusterSnapshot

Creates a new table from a table in an Amazon Redshift cluster snapshot. You must create the new table within the Amazon Redshift cluster that the snapshot was taken from.

You cannot use `RestoreTableFromClusterSnapshot` to restore a table with the same name as an existing table in an Amazon Redshift cluster. That is, you cannot overwrite an existing table in a cluster with a restored table. If you want to replace your original table with a new, restored table, then rename or drop your original table before you call `RestoreTableFromClusterSnapshot`. When you have renamed your original table, then you can pass the original name of the table as the `NewTableName` parameter value in the call to `RestoreTableFromClusterSnapshot`. This way, you can replace the original table with the table created from the snapshot.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The identifier of the Amazon Redshift cluster to restore the table to.

Type: String

Required: Yes

NewTableName

The name of the table to create as a result of the current request.

Type: String

Required: Yes

SnapshotIdentifier

The identifier of the snapshot to restore the table from. This snapshot must have been created from the Amazon Redshift cluster specified by the `ClusterIdentifier` parameter.

Type: String

Required: Yes

SourceDatabaseName

The name of the source database that contains the table to restore from.

Type: String

Required: Yes

SourceTableName

The name of the source table to restore from.

Type: String

Required: Yes

SourceSchemaName

The name of the source schema that contains the table to restore from. If you do not specify a `SourceSchemaName` value, the default is `public`.

Type: String

Required: No

TargetDatabaseName

The name of the database to restore the table to.

Type: String

Required: No

TargetSchemaName

The name of the schema to restore the table to.

Type: String

Required: No

Response Elements

The following element is returned by the service.

TableRestoreStatus

Describes the status of a RestoreTableFromClusterSnapshot (p. 195) operation.

Type: TableRestoreStatus (p. 267) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

HTTP Status Code: 404

InProgressTableRestoreQuotaExceededFault

You have exceeded the allowed number of table restore requests. Wait for your current table restore requests to complete before making a new request.

HTTP Status Code: 400

InvalidClusterSnapshotState

The specified cluster snapshot is not in the `available` state, or other accounts are authorized to access the snapshot.

HTTP Status Code: 400

InvalidClusterState

The specified cluster is not in the `available` state.

HTTP Status Code: 400

InvalidTableRestoreArgument

The value specified for the `sourceDatabaseName`, `sourceSchemaName`, or `sourceTableName` parameter, or a combination of these, doesn't exist in the snapshot.

HTTP Status Code: 400

UnsupportedOperation

The requested operation isn't supported.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RevokeClusterSecurityGroupIngress

Revokes an ingress rule in an Amazon Redshift security group for a previously authorized IP range or Amazon EC2 security group. To add an ingress rule, see AuthorizeClusterSecurityGroupIngress (p. 6). For information about managing security groups, go to Amazon Redshift Cluster Security Groups in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterSecurityGroupName

The name of the security Group from which to revoke the ingress rule.

Type: String

Required: Yes

CIDRIP

The IP range for which to revoke access. This range must be a valid Classless Inter-Domain Routing (CIDR) block of IP addresses. If `CIDRIP` is specified, `EC2SecurityGroupName` and `EC2SecurityGroupOwnerId` cannot be provided.

Type: String

Required: No

EC2SecurityGroupName

The name of the EC2 Security Group whose access is to be revoked. If `EC2SecurityGroupName` is specified, `EC2SecurityGroupOwnerId` must also be provided and `CIDRIP` cannot be provided.

Type: String

Required: No

EC2SecurityGroupOwnerId

The AWS account number of the owner of the security group specified in the `EC2SecurityGroupName` parameter. The AWS access key ID is not an acceptable value. If `EC2SecurityGroupOwnerId` is specified, `EC2SecurityGroupName` must also be provided. and `CIDRIP` cannot be provided.

Example: `111122223333`

Type: String

Required: No

Response Elements

The following element is returned by the service.

ClusterSecurityGroup

Describes a security group.

Type: ClusterSecurityGroup (p. 222) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

AuthorizationNotFound

The specified CIDR IP range or EC2 security group is not authorized for the specified cluster security group.

HTTP Status Code: 404

ClusterSecurityGroupNotFound

The cluster security group name does not refer to an existing cluster security group.

HTTP Status Code: 404

InvalidClusterSecurityGroupState

The state of the cluster security group is not `available`.

HTTP Status Code: 400

Example

Sample Request

```
https://redshift.us-east-1.amazonaws.com/
    ?Action=RevokeClusterSecurityGroupIngress
    &ClusterSecurityGroupName=securitygroup1
    &CIDRIP=192.168.40.3/32
    &Version=2012-12-01
    &x-amz-algorithm=AWS4-HMAC-SHA256
    &x-amz-credential=AKIAIOSFODNN7EXAMPLE/20130123/us-east-1/redshift/aws4_request
    &x-amz-date=20130123T021606Z
    &x-amz-signedheaders=content-type;host;x-amz-date
```

Sample Response

```
<RevokeClusterSecurityGroupIngressResponse xmlns="http://redshift.amazonaws.com/
doc/2012-12-01/">
  <RevokeClusterSecurityGroupIngressResult>
    <ClusterSecurityGroup>
      <EC2SecurityGroups/>
      <IPRanges/>
      <Description>my security group</Description>
      <ClusterSecurityGroupName>securitygroup1</ClusterSecurityGroupName>
    </ClusterSecurityGroup>
  </RevokeClusterSecurityGroupIngressResult>
  <ResponseMetadata>
    <RequestId>d8eff363-6502-11e2-a8da-655adc216806</RequestId>
  </ResponseMetadata>
</RevokeClusterSecurityGroupIngressResponse>
```

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RevokeSnapshotAccess

Removes the ability of the specified AWS customer account to restore the specified snapshot. If the account is currently restoring the snapshot, the restore will run to completion.

For more information about working with snapshots, go to Amazon Redshift Snapshots in the *Amazon Redshift Cluster Management Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

AccountWithRestoreAccess

The identifier of the AWS customer account that can no longer restore the specified snapshot.

Type: String

Required: Yes

SnapshotIdentifier

The identifier of the snapshot that the account can no longer access.

Type: String

Required: Yes

SnapshotClusterIdentifier

The identifier of the cluster the snapshot was created from. This parameter is required if your IAM user has a policy containing a snapshot resource element that specifies anything other than * for the cluster name.

Type: String

Required: No

Response Elements

The following element is returned by the service.

Snapshot

Describes a snapshot.

Type: Snapshot (p. 259) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

AccessToSnapshotDenied

The owner of the specified snapshot has not authorized your account to access the snapshot.

HTTP Status Code: 400

AuthorizationNotFound

The specified CIDR IP range or EC2 security group is not authorized for the specified cluster security group.

HTTP Status Code: 404

ClusterSnapshotNotFound

The snapshot identifier does not refer to an existing cluster snapshot.

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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RotateEncryptionKey

Rotates the encryption keys for a cluster.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 275).

ClusterIdentifier

The unique identifier of the cluster that you want to rotate the encryption keys for.

Constraints: Must be the name of valid cluster that has encryption enabled.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Cluster

Describes a cluster.

Type: Cluster (p. 209) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 277).

ClusterNotFound

The `ClusterIdentifier` parameter does not refer to an existing cluster.

HTTP Status Code: 404

DependentServiceRequestThrottlingFault

The request cannot be completed because a dependent service is throttling requests made by Amazon Redshift on your behalf. Wait and retry the request.

HTTP Status Code: 400

InvalidClusterState

The specified cluster is not in the `available` 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
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

Data Types

The Amazon Redshift 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:

AccountWithRestoreAccess

Describes an AWS customer account authorized to restore a snapshot.

Contents

Note
In the following list, the required parameters are described first.

AccountAlias

The identifier of an AWS support account authorized to restore a snapshot. For AWS support, the identifier is `amazon-redshift-support`.

Type: String

Required: No

AccountId

The identifier of an AWS customer account authorized to restore a 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
- AWS SDK for Ruby V2

AvailabilityZone

Describes an availability zone.

Contents

Note
In the following list, the required parameters are described first.

Name

The name of the availability zone.

Type: String

Required: No

SupportedPlatforms.SupportedPlatform.N

Type: Array of SupportedPlatform (p. 266) 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
- AWS SDK for Ruby V2

Cluster

Describes a cluster.

Contents

Note
In the following list, the required parameters are described first.

AllowVersionUpgrade

A Boolean value that, if `true`, indicates that major version upgrades will be applied automatically to the cluster during the maintenance window.

Type: Boolean

Required: No

AutomatedSnapshotRetentionPeriod

The number of days that automatic cluster snapshots are retained.

Type: Integer

Required: No

AvailabilityZone

The name of the Availability Zone in which the cluster is located.

Type: String

Required: No

ClusterCreateTime

The date and time that the cluster was created.

Type: Timestamp

Required: No

ClusterIdentifier

The unique identifier of the cluster.

Type: String

Required: No

ClusterNodes.member.N

The nodes in the cluster.

Type: Array of ClusterNode (p. 217) objects

Required: No

ClusterParameterGroups.ClusterParameterGroup.N

The list of cluster parameter groups that are associated with this cluster. Each parameter group in the list is returned with its status.

Type: Array of ClusterParameterGroupStatus (p. 219) objects

Required: No

ClusterPublicKey

The public key for the cluster.

Type: String

Required: No

ClusterRevisionNumber

The specific revision number of the database in the cluster.

Type: String

Required: No

ClusterSecurityGroups.ClusterSecurityGroup.N

A list of cluster security group that are associated with the cluster. Each security group is represented by an element that contains `ClusterSecurityGroup.Name` and `ClusterSecurityGroup.Status` subelements.

Cluster security groups are used when the cluster is not created in an Amazon Virtual Private Cloud (VPC). Clusters that are created in a VPC use VPC security groups, which are listed by the **VpcSecurityGroups** parameter.

Type: Array of ClusterSecurityGroupMembership (p. 224) objects

Required: No

ClusterSnapshotCopyStatus

A value that returns the destination region and retention period that are configured for cross-region snapshot copy.

Type: ClusterSnapshotCopyStatus (p. 225) object

Required: No

ClusterStatus

The current state of the cluster. Possible values are the following:

- `available`
- `creating`
- `deleting`
- `final-snapshot`
- `hardware-failure`
- `incompatible-hsm`
- `incompatible-network`
- `incompatible-parameters`
- `incompatible-restore`
- `modifying`
- `rebooting`
- `renaming`
- `resizing`
- `rotating-keys`
- `storage-full`
- `updating-hsm`

Type: String

Required: No

ClusterSubnetGroupName

The name of the subnet group that is associated with the cluster. This parameter is valid only when the cluster is in a VPC.

Type: String

Required: No

ClusterVersion

The version ID of the Amazon Redshift engine that is running on the cluster.

Type: String

Required: No

DBName

The name of the initial database that was created when the cluster was created. This same name is returned for the life of the cluster. If an initial database was not specified, a database named `dev`dev was created by default.

Type: String

Required: No

ElasticIpStatus

The status of the elastic IP (EIP) address.

Type: ElasticIpStatus (p. 231) object

Required: No

Encrypted

A Boolean value that, if `true`, indicates that data in the cluster is encrypted at rest.

Type: Boolean

Required: No

Endpoint

The connection endpoint.

Type: Endpoint (p. 232) object

Required: No

EnhancedVpcRouting

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see Enhanced VPC Routing in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: false

Type: Boolean

Required: No

HsmStatus

A value that reports whether the Amazon Redshift cluster has finished applying any hardware security module (HSM) settings changes specified in a modify cluster command.

Values: active, applying

Type: HsmStatus (p. 242) object

Required: No

IamRoles.ClusterIamRole.N

A list of AWS Identity and Access Management (IAM) roles that can be used by the cluster to access other AWS services.

Type: Array of ClusterIamRole (p. 216) objects

Required: No

KmsKeyId

The AWS Key Management Service (AWS KMS) key ID of the encryption key used to encrypt data in the cluster.

Type: String

Required: No

MaintenanceTrackName

The name of the maintenance track for the cluster.

Type: String

Required: No

MasterUsername

The master user name for the cluster. This name is used to connect to the database that is specified in the **DBName** parameter.

Type: String

Required: No

ModifyStatus

The status of a modify operation, if any, initiated for the cluster.

Type: String

Required: No

NodeType

The node type for the nodes in the cluster.

Type: String

Required: No

NumberOfNodes

The number of compute nodes in the cluster.

Type: Integer

Required: No

PendingActions.member.N

Cluster operations that are waiting to be started.

Type: Array of strings

Required: No

PendingModifiedValues

A value that, if present, indicates that changes to the cluster are pending. Specific pending changes are identified by subelements.

Type: PendingModifiedValues (p. 248) object

Required: No

PreferredMaintenanceWindow

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

Type: String

Required: No

PubliclyAccessible

A Boolean value that, if `true`, indicates that the cluster can be accessed from a public network.

Type: Boolean

Required: No

RestoreStatus

A value that describes the status of a cluster restore action. This parameter returns null if the cluster was not created by restoring a snapshot.

Type: RestoreStatus (p. 256) object

Required: No

Tags.Tag.N

The list of tags for the cluster.

Type: Array of Tag (p. 270) objects

Required: No

VpcId

The identifier of the VPC the cluster is in, if the cluster is in a VPC.

Type: String

Required: No

VpcSecurityGroups.VpcSecurityGroup.N

A list of Amazon Virtual Private Cloud (Amazon VPC) security groups that are associated with the cluster. This parameter is returned only if the cluster is in a VPC.

Type: Array of VpcSecurityGroupMembership (p. 274) 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
- AWS SDK for Ruby V2

ClusterDbRevision

Describes a `ClusterDbRevision`.

Contents

Note
In the following list, the required parameters are described first.

ClusterIdentifier

The unique identifier of the cluster.

Type: String

Required: No

CurrentDatabaseRevision

A string representing the current cluster version.

Type: String

Required: No

DatabaseRevisionReleaseDate

The date on which the database revision was released.

Type: Timestamp

Required: No

RevisionTargets.RevisionTarget.N

A list of `RevisionTarget` objects, where each object describes the database revision that a cluster can be updated to.

Type: Array of RevisionTarget (p. 258) 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
- AWS SDK for Ruby V2

ClusterIamRole

An AWS Identity and Access Management (IAM) role that can be used by the associated Amazon Redshift cluster to access other AWS services.

Contents

Note
In the following list, the required parameters are described first.

ApplyStatus

A value that describes the status of the IAM role's association with an Amazon Redshift cluster.

The following are possible statuses and descriptions.

- `in-sync`: The role is available for use by the cluster.
- `adding`: The role is in the process of being associated with the cluster.
- `removing`: The role is in the process of being disassociated with the cluster.

Type: String

Required: No

IamRoleArn

The Amazon Resource Name (ARN) of the IAM role, for example, `arn:aws:iam::123456789012:role/RedshiftCopyUnload`.

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
- AWS SDK for Ruby V2

ClusterNode

The identifier of a node in a cluster.

Contents

Note
In the following list, the required parameters are described first.

NodeRole

Whether the node is a leader node or a compute node.

Type: String

Required: No

PrivateIPAddress

The private IP address of a node within a cluster.

Type: String

Required: No

PublicIPAddress

The public IP address of a node within a 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
- AWS SDK for Ruby V2

ClusterParameterGroup

Describes a parameter group.

Contents

Note
In the following list, the required parameters are described first.

Description

The description of the parameter group.

Type: String

Required: No

ParameterGroupFamily

The name of the cluster parameter group family that this cluster parameter group is compatible with.

Type: String

Required: No

ParameterGroupName

The name of the cluster parameter group.

Type: String

Required: No

Tags.Tag.N

The list of tags for the cluster parameter group.

Type: Array of Tag (p. 270) 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
- AWS SDK for Ruby V2

ClusterParameterGroupStatus

Describes the status of a parameter group.

Contents

Note
In the following list, the required parameters are described first.

ClusterParameterStatusList.member.N

The list of parameter statuses.

For more information about parameters and parameter groups, go to Amazon Redshift Parameter Groups in the *Amazon Redshift Cluster Management Guide*.

Type: Array of ClusterParameterStatus (p. 220) objects

Required: No

ParameterApplyStatus

The status of parameter updates.

Type: String

Required: No

ParameterGroupName

The name of the 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
- AWS SDK for Ruby V2

ClusterParameterStatus

Describes the status of a parameter group.

Contents

Note
In the following list, the required parameters are described first.

ParameterApplyErrorDescription

The error that prevented the parameter from being applied to the database.

Type: String

Required: No

ParameterApplyStatus

The status of the parameter that indicates whether the parameter is in sync with the database, waiting for a cluster reboot, or encountered an error when being applied.

The following are possible statuses and descriptions.

- `in-sync`: The parameter value is in sync with the database.
- `pending-reboot`: The parameter value will be applied after the cluster reboots.
- `applying`: The parameter value is being applied to the database.
- `invalid-parameter`: Cannot apply the parameter value because it has an invalid value or syntax.
- `apply-deferred`: The parameter contains static property changes. The changes are deferred until the cluster reboots.
- `apply-error`: Cannot connect to the cluster. The parameter change will be applied after the cluster reboots.
- `unknown-error`: Cannot apply the parameter change right now. The change will be applied after the cluster reboots.

Type: String

Required: No

ParameterName

The name of the parameter.

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
- AWS SDK for Ruby V2

ClusterSecurityGroup

Describes a security group.

Contents

Note
In the following list, the required parameters are described first.

ClusterSecurityGroupName

The name of the cluster security group to which the operation was applied.

Type: String

Required: No

Description

A description of the security group.

Type: String

Required: No

EC2SecurityGroups.EC2SecurityGroup.N

A list of EC2 security groups that are permitted to access clusters associated with this cluster security group.

Type: Array of EC2SecurityGroup (p. 230) objects

Required: No

IPRanges.IPRange.N

A list of IP ranges (CIDR blocks) that are permitted to access clusters associated with this cluster security group.

Type: Array of IPRange (p. 243) objects

Required: No

Tags.Tag.N

The list of tags for the cluster security group.

Type: Array of Tag (p. 270) 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
- AWS SDK for Ruby V2

ClusterSecurityGroupMembership

Describes a cluster security group.

Contents

Note
In the following list, the required parameters are described first.

ClusterSecurityGroupName

The name of the cluster security group.

Type: String

Required: No

Status

The status of the cluster 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
- AWS SDK for Ruby V2

ClusterSnapshotCopyStatus

Returns the destination region and retention period that are configured for cross-region snapshot copy.

Contents

Note
In the following list, the required parameters are described first.

DestinationRegion

The destination region that snapshots are automatically copied to when cross-region snapshot copy is enabled.

Type: String

Required: No

RetentionPeriod

The number of days that automated snapshots are retained in the destination region after they are copied from a source region.

Type: Long

Required: No

SnapshotCopyGrantName

The name of the snapshot copy grant.

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
- AWS SDK for Ruby V2

ClusterSubnetGroup

Describes a subnet group.

Contents

Note
In the following list, the required parameters are described first.

ClusterSubnetGroupName

The name of the cluster subnet group.

Type: String

Required: No

Description

The description of the cluster subnet group.

Type: String

Required: No

SubnetGroupStatus

The status of the cluster subnet group. Possible values are `Complete`, `Incomplete` and `Invalid`.

Type: String

Required: No

Subnets.Subnet.N

A list of the VPC Subnet (p. 265) elements.

Type: Array of Subnet (p. 265) objects

Required: No

Tags.Tag.N

The list of tags for the cluster subnet group.

Type: Array of Tag (p. 270) objects

Required: No

VpcId

The VPC ID of the cluster 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
- AWS SDK for Ruby V2

ClusterVersion

Describes a cluster version, including the parameter group family and description of the version.

Contents

Note
In the following list, the required parameters are described first.

ClusterParameterGroupFamily

The name of the cluster parameter group family for the cluster.

Type: String

Required: No

ClusterVersion

The version number used by the cluster.

Type: String

Required: No

Description

The description of the cluster version.

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
- AWS SDK for Ruby V2

DefaultClusterParameters

Describes the default cluster parameters for a parameter group family.

Contents

Note
In the following list, the required parameters are described first.

Marker

A value that indicates the starting point for the next set of response records in a subsequent request. If a value is returned in a response, you can retrieve the next set of records by providing this returned marker value in the `Marker` parameter and retrying the command. If the `Marker` field is empty, all response records have been retrieved for the request.

Type: String

Required: No

ParameterGroupFamily

The name of the cluster parameter group family to which the engine default parameters apply.

Type: String

Required: No

Parameters.Parameter.N

The list of cluster default parameters.

Type: Array of Parameter (p. 246) 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
- AWS SDK for Ruby V2

EC2SecurityGroup

Describes an Amazon EC2 security group.

Contents

Note
In the following list, the required parameters are described first.

EC2SecurityGroupName

The name of the EC2 Security Group.

Type: String

Required: No

EC2SecurityGroupOwnerId

The AWS ID of the owner of the EC2 security group specified in the `EC2SecurityGroupName` field.

Type: String

Required: No

Status

The status of the EC2 security group.

Type: String

Required: No

Tags.Tag.N

The list of tags for the EC2 security group.

Type: Array of Tag (p. 270) 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
- AWS SDK for Ruby V2

ElasticIpStatus

Describes the status of the elastic IP (EIP) address.

Contents

Note
In the following list, the required parameters are described first.

ElasticIp

The elastic IP (EIP) address for the cluster.

Type: String

Required: No

Status

The status of the elastic IP (EIP) address.

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
- AWS SDK for Ruby V2

Endpoint

Describes a connection endpoint.

Contents

Note
In the following list, the required parameters are described first.

Address

The DNS address of the Cluster.

Type: String

Required: No

Port

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
- AWS SDK for Ruby V2

Event

Describes an event.

Contents

Note
In the following list, the required parameters are described first.

Date

The date and time of the event.

Type: Timestamp

Required: No

EventCategories.EventCategory.N

A list of the event categories.

Values: Configuration, Management, Monitoring, Security

Type: Array of strings

Required: No

EventId

The identifier of the event.

Type: String

Required: No

Message

The text of this event.

Type: String

Required: No

Severity

The severity of the event.

Values: ERROR, INFO

Type: String

Required: No

SourceIdentifier

The identifier for the source of the event.

Type: String

Required: No

SourceType

The source type for this event.

Type: String

Valid Values: `cluster | cluster-parameter-group | cluster-security-group | cluster-snapshot`

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
- AWS SDK for Ruby V2

EventCategoriesMap

Describes event categories.

Contents

Note
In the following list, the required parameters are described first.

Events.EventInfoMap.N

The events in the event category.

Type: Array of EventInfoMap (p. 236) objects

Required: No

SourceType

The source type, such as cluster or cluster-snapshot, 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
- AWS SDK for Ruby V2

EventInfoMap

Describes event information.

Contents

Note
In the following list, the required parameters are described first.

EventCategories.EventCategory.N

The category of an Amazon Redshift event.

Type: Array of strings

Required: No

EventDescription

The description of an Amazon Redshift event.

Type: String

Required: No

EventId

The identifier of an Amazon Redshift event.

Type: String

Required: No

Severity

The severity of the event.

Values: ERROR, INFO

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
- AWS SDK for Ruby V2

EventSubscription

Describes event subscriptions.

Contents

Note
In the following list, the required parameters are described first.

CustomerAwsId

The AWS customer account associated with the Amazon Redshift event notification subscription.

Type: String

Required: No

CustSubscriptionId

The name of the Amazon Redshift event notification subscription.

Type: String

Required: No

Enabled

A Boolean value indicating whether the subscription is enabled. `true` indicates the subscription is enabled.

Type: Boolean

Required: No

EventCategoriesList.EventCategory.N

The list of Amazon Redshift event categories specified in the event notification subscription.

Values: Configuration, Management, Monitoring, Security

Type: Array of strings

Required: No

Severity

The event severity specified in the Amazon Redshift event notification subscription.

Values: ERROR, INFO

Type: String

Required: No

SnsTopicArn

The Amazon Resource Name (ARN) of the Amazon SNS topic used by the event notification subscription.

Type: String

Required: No

SourceIdsList.SourceId.N

A list of the sources that publish events to the Amazon Redshift event notification subscription.

Type: Array of strings

Required: No

SourceType

The source type of the events returned the Amazon Redshift event notification, such as cluster, or cluster-snapshot.

Type: String

Required: No

Status

The status of the Amazon Redshift event notification subscription.

Constraints:

- Can be one of the following: active | no-permission | topic-not-exist
- The status "no-permission" indicates that Amazon Redshift no longer has permission to post to the Amazon SNS topic. The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.

Type: String

Required: No

SubscriptionCreationTime

The date and time the Amazon Redshift event notification subscription was created.

Type: Timestamp

Required: No

Tags.Tag.N

The list of tags for the event subscription.

Type: Array of Tag (p. 270) 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
- AWS SDK for Ruby V2

HsmClientCertificate

Returns information about an HSM client certificate. The certificate is stored in a secure Hardware Storage Module (HSM), and used by the Amazon Redshift cluster to encrypt data files.

Contents

Note
In the following list, the required parameters are described first.

HsmClientCertificateIdentifier

The identifier of the HSM client certificate.

Type: String

Required: No

HsmClientCertificatePublicKey

The public key that the Amazon Redshift cluster will use to connect to the HSM. You must register the public key in the HSM.

Type: String

Required: No

Tags.Tag.N

The list of tags for the HSM client certificate.

Type: Array of Tag (p. 270) 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
- AWS SDK for Ruby V2

HsmConfiguration

Returns information about an HSM configuration, which is an object that describes to Amazon Redshift clusters the information they require to connect to an HSM where they can store database encryption keys.

Contents

Note
In the following list, the required parameters are described first.

Description

A text description of the HSM configuration.

Type: String

Required: No

HsmConfigurationIdentifier

The name of the Amazon Redshift HSM configuration.

Type: String

Required: No

HsmIpAddress

The IP address that the Amazon Redshift cluster must use to access the HSM.

Type: String

Required: No

HsmPartitionName

The name of the partition in the HSM where the Amazon Redshift clusters will store their database encryption keys.

Type: String

Required: No

Tags.Tag.N

The list of tags for the HSM configuration.

Type: Array of Tag (p. 270) 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
- AWS SDK for Ruby V2

HsmStatus

Describes the status of changes to HSM settings.

Contents

Note
In the following list, the required parameters are described first.

HsmClientCertificateIdentifier

Specifies the name of the HSM client certificate the Amazon Redshift cluster uses to retrieve the data encryption keys stored in an HSM.

Type: String

Required: No

HsmConfigurationIdentifier

Specifies the name of the HSM configuration that contains the information the Amazon Redshift cluster can use to retrieve and store keys in an HSM.

Type: String

Required: No

Status

Reports whether the Amazon Redshift cluster has finished applying any HSM settings changes specified in a modify cluster command.

Values: active, applying

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
- AWS SDK for Ruby V2

IPRange

Describes an IP range used in a security group.

Contents

Note
In the following list, the required parameters are described first.

CIDRIP

The IP range in Classless Inter-Domain Routing (CIDR) notation.

Type: String

Required: No

Status

The status of the IP range, for example, "authorized".

Type: String

Required: No

Tags.Tag.N

The list of tags for the IP range.

Type: Array of Tag (p. 270) 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
- AWS SDK for Ruby V2

MaintenanceTrack

Defines a maintenance track that determines which Amazon Redshift version to apply during a maintenance window. If the value for `MaintenanceTrack` is `current`, the cluster is updated to the most recently certified maintenance release. If the value is `trailing`, the cluster is updated to the previously certified maintenance release.

Contents

Note
In the following list, the required parameters are described first.

DatabaseVersion

The version number for the cluster release.

Type: String

Required: No

MaintenanceTrackName

The name of the maintenance track. Possible values are `current` and `trailing`.

Type: String

Required: No

UpdateTargets.UpdateTarget.N

An array of UpdateTarget (p. 273) objects to update with the maintenance track.

Type: Array of UpdateTarget (p. 273) 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
- AWS SDK for Ruby V2

OrderableClusterOption

Describes an orderable cluster option.

Contents

Note
In the following list, the required parameters are described first.

AvailabilityZones.AvailabilityZone.N

A list of availability zones for the orderable cluster.

Type: Array of AvailabilityZone (p. 208) objects

Required: No

ClusterType

The cluster type, for example `multi-node`.

Type: String

Required: No

ClusterVersion

The version of the orderable cluster.

Type: String

Required: No

NodeType

The node type for the orderable 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
- AWS SDK for Ruby V2

Parameter

Describes a parameter in a cluster parameter group.

Contents

Note
In the following list, the required parameters are described first.

AllowedValues

The valid range of values for the parameter.

Type: String

Required: No

ApplyType

Specifies how to apply the WLM configuration parameter. Some properties can be applied dynamically, while other properties require that any associated clusters be rebooted for the configuration changes to be applied. For more information about parameters and parameter groups, go to Amazon Redshift Parameter Groups in the *Amazon Redshift Cluster Management Guide*.

Type: String

Valid Values: `static | dynamic`

Required: No

DataType

The data type of the parameter.

Type: String

Required: No

Description

A description of the parameter.

Type: String

Required: No

IsModifiable

If `true`, 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

The name of the parameter.

Type: String

Required: No

ParameterValue

The value of the parameter.

Type: String

Required: No

Source

The source of the parameter value, such as "engine-default" or "user".

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
- AWS SDK for Ruby V2

PendingModifiedValues

Describes cluster attributes that are in a pending state. A change to one or more the attributes was requested and is in progress or will be applied.

Contents

Note
In the following list, the required parameters are described first.

AutomatedSnapshotRetentionPeriod

The pending or in-progress change of the automated snapshot retention period.

Type: Integer

Required: No

ClusterIdentifier

The pending or in-progress change of the new identifier for the cluster.

Type: String

Required: No

ClusterType

The pending or in-progress change of the cluster type.

Type: String

Required: No

ClusterVersion

The pending or in-progress change of the service version.

Type: String

Required: No

EncryptionType

Type: String

Required: No

EnhancedVpcRouting

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see Enhanced VPC Routing in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: false

Type: Boolean

Required: No

MaintenanceTrackName

The name of the maintenance track that the cluster will change to during the next maintenance window.

Type: String

Required: No

MasterUserPassword

The pending or in-progress change of the master user password for the cluster.

Type: String

Required: No

NodeType

The pending or in-progress change of the cluster's node type.

Type: String

Required: No

NumberOfNodes

The pending or in-progress change of the number of nodes in the cluster.

Type: Integer

Required: No

PubliclyAccessible

The pending or in-progress change of the ability to connect to the cluster from the public network.

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
- AWS SDK for Ruby V2

RecurringCharge

Describes a recurring charge.

Contents

Note
In the following list, the required parameters are described first.

RecurringChargeAmount

The amount charged per the period of time specified by the recurring charge frequency.

Type: Double

Required: No

RecurringChargeFrequency

The frequency at which the recurring charge amount is applied.

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
- AWS SDK for Ruby V2

ReservedNode

Describes a reserved node. You can call the DescribeReservedNodeOfferings (p. 121) API to obtain the available reserved node offerings.

Contents

Note
In the following list, the required parameters are described first.

CurrencyCode

The currency code for the reserved cluster.

Type: String

Required: No

Duration

The duration of the node reservation in seconds.

Type: Integer

Required: No

FixedPrice

The fixed cost Amazon Redshift charges you for this reserved node.

Type: Double

Required: No

NodeCount

The number of reserved compute nodes.

Type: Integer

Required: No

NodeType

The node type of the reserved node.

Type: String

Required: No

OfferingType

The anticipated utilization of the reserved node, as defined in the reserved node offering.

Type: String

Required: No

RecurringCharges.RecurringCharge.N

The recurring charges for the reserved node.

Type: Array of RecurringCharge (p. 250) objects

Required: No

ReservedNodeId

The unique identifier for the reservation.

Type: String

Required: No

ReservedNodeOfferingId

The identifier for the reserved node offering.

Type: String

Required: No

ReservedNodeOfferingType

Type: String

Valid Values: `Regular | Upgradable`

Required: No

StartTime

The time the reservation started. You purchase a reserved node offering for a duration. This is the start time of that duration.

Type: Timestamp

Required: No

State

The state of the reserved compute node.

Possible Values:

- pending-payment-This reserved node has recently been purchased, and the sale has been approved, but payment has not yet been confirmed.
- active-This reserved node is owned by the caller and is available for use.
- payment-failed-Payment failed for the purchase attempt.
- retired-The reserved node is no longer available.
- exchanging-The owner is exchanging the reserved node for another reserved node.

Type: String

Required: No

UsagePrice

The hourly rate Amazon Redshift charges you for this reserved node.

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
- AWS SDK for Ruby V2

ReservedNodeOffering

Describes a reserved node offering.

Contents

Note
In the following list, the required parameters are described first.

CurrencyCode

The currency code for the compute nodes offering.

Type: String

Required: No

Duration

The duration, in seconds, for which the offering will reserve the node.

Type: Integer

Required: No

FixedPrice

The upfront fixed charge you will pay to purchase the specific reserved node offering.

Type: Double

Required: No

NodeType

The node type offered by the reserved node offering.

Type: String

Required: No

OfferingType

The anticipated utilization of the reserved node, as defined in the reserved node offering.

Type: String

Required: No

RecurringCharges.RecurringCharge.N

The charge to your account regardless of whether you are creating any clusters using the node offering. Recurring charges are only in effect for heavy-utilization reserved nodes.

Type: Array of RecurringCharge (p. 250) objects

Required: No

ReservedNodeOfferingId

The offering identifier.

Type: String

Required: No

ReservedNodeOfferingType

Type: String

Valid Values: `Regular | Upgradable`

Required: No

UsagePrice

The rate you are charged for each hour the cluster that is using the offering is running.

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
- AWS SDK for Ruby V2

RestoreStatus

Describes the status of a cluster restore action. Returns null if the cluster was not created by restoring a snapshot.

Contents

Note
In the following list, the required parameters are described first.

CurrentRestoreRateInMegaBytesPerSecond

The number of megabytes per second being transferred from the backup storage. Returns the average rate for a completed backup.

Type: Double

Required: No

ElapsedTimeInSeconds

The amount of time an in-progress restore has been running, or the amount of time it took a completed restore to finish.

Type: Long

Required: No

EstimatedTimeToCompletionInSeconds

The estimate of the time remaining before the restore will complete. Returns 0 for a completed restore.

Type: Long

Required: No

ProgressInMegaBytes

The number of megabytes that have been transferred from snapshot storage.

Type: Long

Required: No

SnapshotSizeInMegaBytes

The size of the set of snapshot data used to restore the cluster.

Type: Long

Required: No

Status

The status of the restore action. Returns starting, restoring, completed, or 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
- AWS SDK for Ruby V2

RevisionTarget

Describes a `RevisionTarget`.

Contents

Note
In the following list, the required parameters are described first.

DatabaseRevision

A unique string that identifies the version to update the cluster to. You can use this value in ModifyClusterDbRevision (p. 163).

Type: String

Required: No

DatabaseRevisionReleaseDate

The date on which the database revision was released.

Type: Timestamp

Required: No

Description

A string that describes the changes and features that will be applied to the cluster when it is updated to the corresponding ClusterDbRevision (p. 215).

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
- AWS SDK for Ruby V2

Snapshot

Describes a snapshot.

Contents

Note
In the following list, the required parameters are described first.

AccountsWithRestoreAccess.AccountWithRestoreAccess.N

A list of the AWS customer accounts authorized to restore the snapshot. Returns `null` if no accounts are authorized. Visible only to the snapshot owner.

Type: Array of AccountWithRestoreAccess (p. 207) objects

Required: No

ActualIncrementalBackupSizeInMegaBytes

The size of the incremental backup.

Type: Double

Required: No

AvailabilityZone

The Availability Zone in which the cluster was created.

Type: String

Required: No

BackupProgressInMegaBytes

The number of megabytes that have been transferred to the snapshot backup.

Type: Double

Required: No

ClusterCreateTime

The time (UTC) when the cluster was originally created.

Type: Timestamp

Required: No

ClusterIdentifier

The identifier of the cluster for which the snapshot was taken.

Type: String

Required: No

ClusterVersion

The version ID of the Amazon Redshift engine that is running on the cluster.

Type: String

Required: No

CurrentBackupRateInMegaBytesPerSecond

The number of megabytes per second being transferred to the snapshot backup. Returns `0` for a completed backup.

Type: Double

Required: No

DBName

The name of the database that was created when the cluster was created.

Type: String

Required: No

ElapsedTimeInSeconds

The amount of time an in-progress snapshot backup has been running, or the amount of time it took a completed backup to finish.

Type: Long

Required: No

Encrypted

If `true`, the data in the snapshot is encrypted at rest.

Type: Boolean

Required: No

EncryptedWithHSM

A boolean that indicates whether the snapshot data is encrypted using the HSM keys of the source cluster. `true` indicates that the data is encrypted using HSM keys.

Type: Boolean

Required: No

EnhancedVpcRouting

An option that specifies whether to create the cluster with enhanced VPC routing enabled. To create a cluster that uses enhanced VPC routing, the cluster must be in a VPC. For more information, see Enhanced VPC Routing in the Amazon Redshift Cluster Management Guide.

If this option is `true`, enhanced VPC routing is enabled.

Default: false

Type: Boolean

Required: No

EstimatedSecondsToCompletion

The estimate of the time remaining before the snapshot backup will complete. Returns `0` for a completed backup.

Type: Long

Required: No

KmsKeyId

The AWS Key Management Service (KMS) key ID of the encryption key that was used to encrypt data in the cluster from which the snapshot was taken.

Type: String

Required: No

MaintenanceTrackName

The name of the maintenance track for the snapshot.

Type: String

Required: No

MasterUsername

The master user name for the cluster.

Type: String

Required: No

NodeType

The node type of the nodes in the cluster.

Type: String

Required: No

NumberOfNodes

The number of nodes in the cluster.

Type: Integer

Required: No

OwnerAccount

For manual snapshots, the AWS customer account used to create or copy the snapshot. For automatic snapshots, the owner of the cluster. The owner can perform all snapshot actions, such as sharing a manual snapshot.

Type: String

Required: No

Port

The port that the cluster is listening on.

Type: Integer

Required: No

RestorableNodeTypes.NodeType.N

The list of node types that this cluster snapshot is able to restore into.

Type: Array of strings

Required: No

SnapshotCreateTime

The time (UTC) when Amazon Redshift began the snapshot. A snapshot contains a copy of the cluster data as of this exact time.

Type: Timestamp

Required: No

SnapshotIdentifier

The snapshot identifier that is provided in the request.

Type: String

Required: No

SnapshotType

The snapshot type. Snapshots created using CreateClusterSnapshot (p. 31) and CopyClusterSnapshot (p. 11) will be of type "manual".

Type: String

Required: No

SourceRegion

The source region from which the snapshot was copied.

Type: String

Required: No

Status

The snapshot status. The value of the status depends on the API operation used.

- CreateClusterSnapshot (p. 31) and CopyClusterSnapshot (p. 11) returns status as "creating".
- DescribeClusterSnapshots (p. 85) returns status as "creating", "available", "final snapshot", or "failed".
- DeleteClusterSnapshot (p. 57) returns status as "deleted".

Type: String

Required: No

Tags.Tag.N

The list of tags for the cluster snapshot.

Type: Array of Tag (p. 270) objects

Required: No

TotalBackupSizeInMegaBytes

The size of the complete set of backup data that would be used to restore the cluster.

Type: Double

Required: No

VpcId

The VPC identifier of the cluster if the snapshot is from a cluster in a VPC. Otherwise, this field is not in the output.

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
- AWS SDK for Ruby V2

SnapshotCopyGrant

The snapshot copy grant that grants Amazon Redshift permission to encrypt copied snapshots with the specified customer master key (CMK) from AWS KMS in the destination region.

For more information about managing snapshot copy grants, go to Amazon Redshift Database Encryption in the *Amazon Redshift Cluster Management Guide*.

Contents

Note
In the following list, the required parameters are described first.

KmsKeyId

The unique identifier of the customer master key (CMK) in AWS KMS to which Amazon Redshift is granted permission.

Type: String

Required: No

SnapshotCopyGrantName

The name of the snapshot copy grant.

Type: String

Required: No

Tags.Tag.N

A list of tag instances.

Type: Array of Tag (p. 270) 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
- AWS SDK for Ruby V2

Subnet

Describes a subnet.

Contents

Note
In the following list, the required parameters are described first.

SubnetAvailabilityZone

Describes an availability zone.

Type: AvailabilityZone (p. 208) object

Required: No

SubnetIdentifier

The identifier of the subnet.

Type: String

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
- AWS SDK for Ruby V2

SupportedPlatform

A list of supported platforms for orderable clusters.

Contents

Note
In the following list, the required parameters are described first.

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
- AWS SDK for Ruby V2

TableRestoreStatus

Describes the status of a RestoreTableFromClusterSnapshot (p. 195) operation.

Contents

Note
In the following list, the required parameters are described first.

ClusterIdentifier

The identifier of the Amazon Redshift cluster that the table is being restored to.

Type: String

Required: No

Message

A description of the status of the table restore request. Status values include `SUCCEEDED`, `FAILED`, `CANCELED`, `PENDING`, `IN_PROGRESS`.

Type: String

Required: No

NewTableName

The name of the table to create as a result of the table restore request.

Type: String

Required: No

ProgressInMegaBytes

The amount of data restored to the new table so far, in megabytes (MB).

Type: Long

Required: No

RequestTime

The time that the table restore request was made, in Universal Coordinated Time (UTC).

Type: Timestamp

Required: No

SnapshotIdentifier

The identifier of the snapshot that the table is being restored from.

Type: String

Required: No

SourceDatabaseName

The name of the source database that contains the table being restored.

Type: String

Required: No

SourceSchemaName

The name of the source schema that contains the table being restored.

Type: String

Required: No

SourceTableName

The name of the source table being restored.

Type: String

Required: No

Status

A value that describes the current state of the table restore request.

Valid Values: `SUCCEEDED`, `FAILED`, `CANCELED`, `PENDING`, `IN_PROGRESS`

Type: String

Valid Values: `PENDING | IN_PROGRESS | SUCCEEDED | FAILED | CANCELED`

Required: No

TableRestoreRequestId

The unique identifier for the table restore request.

Type: String

Required: No

TargetDatabaseName

The name of the database to restore the table to.

Type: String

Required: No

TargetSchemaName

The name of the schema to restore the table to.

Type: String

Required: No

TotalDataInMegaBytes

The total amount of data to restore to the new table, in megabytes (MB).

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
- AWS SDK for Ruby V2

Tag

A tag consisting of a name/value pair for a resource.

Contents

Note
In the following list, the required parameters are described first.

Key

The key, or name, for the resource tag.

Type: String

Required: No

Value

The value for the resource tag.

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
- AWS SDK for Ruby V2

TaggedResource

A tag and its associated resource.

Contents

Note
In the following list, the required parameters are described first.

ResourceName

The Amazon Resource Name (ARN) with which the tag is associated. For example, `arn:aws:redshift:us-east-1:123456789:cluster:t1`.

Type: String

Required: No

ResourceType

The type of resource with which the tag is associated. Valid resource types are:

- Cluster
- CIDR/IP
- EC2 security group
- Snapshot
- Cluster security group
- Subnet group
- HSM connection
- HSM certificate
- Parameter group

For more information about Amazon Redshift resource types and constructing ARNs, go to Constructing an Amazon Redshift Amazon Resource Name (ARN) in the Amazon Redshift Cluster Management Guide.

Type: String

Required: No

Tag

The tag for the resource.

Type: Tag (p. 270) 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
- AWS SDK for Ruby V2

UpdateTarget

A maintenance track that you can switch the current track to.

Contents

Note
In the following list, the required parameters are described first.

DatabaseVersion

The cluster version for the new maintenance track.

Type: String

Required: No

MaintenanceTrackName

The name of the new maintenance track.

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
- AWS SDK for Ruby V2

VpcSecurityGroupMembership

Describes the members of a VPC security group.

Contents

Note
In the following list, the required parameters are described first.

Status

The status of the VPC security group.

Type: String

Required: No

VpcSecurityGroupId

The identifier 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
- AWS SDK for Ruby V2

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.

For more information, see Task 2: Create a String to Sign 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

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

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

ValidationError

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400