



API Reference

# AWS CloudHSM



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# AWS CloudHSM: API Reference

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# Welcome

Welcome to the AWS CloudHSM API Reference.

For more information about AWS CloudHSM, see [AWS CloudHSM](#) and the [AWS CloudHSM User Guide](#).

This document was last published on April 5, 2026.

# Actions

The following actions are supported:

- [CopyBackupToRegion](#)
- [CreateCluster](#)
- [CreateHsm](#)
- [DeleteBackup](#)
- [DeleteCluster](#)
- [DeleteHsm](#)
- [DeleteResourcePolicy](#)
- [DescribeBackups](#)
- [DescribeClusters](#)
- [GetResourcePolicy](#)
- [InitializeCluster](#)
- [ListTags](#)
- [ModifyBackupAttributes](#)
- [ModifyCluster](#)
- [PutResourcePolicy](#)
- [RestoreBackup](#)
- [TagResource](#)
- [UntagResource](#)

# CopyBackupToRegion

Copy an AWS CloudHSM cluster backup to a different region.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM backup in a different AWS account.

## Request Syntax

```
{
  "BackupId": "string",
  "DestinationRegion": "string",
  "TagList": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### BackupId

The ID of the backup that will be copied to the destination region.

Type: String

Pattern: backup-[2-7a-zA-Z]{11,16}

Required: Yes

### DestinationRegion

The AWS region that will contain your copied AWS CloudHSM cluster backup.

Type: String

Pattern: `[a-z]{2}(-gov)?-(east|west|north|south|central){1,2}-\d`

Required: Yes

### [TagList](#)

Tags to apply to the destination backup during creation. If you specify tags, only these tags will be applied to the destination backup. If you do not specify tags, the service copies tags from the source backup to the destination backup.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Required: No

## Response Syntax

```
{
  "DestinationBackup": {
    "CreateTimestamp": number,
    "SourceBackup": "string",
    "SourceCluster": "string",
    "SourceRegion": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### [DestinationBackup](#)

Information on the backup that will be copied to the destination region, including CreateTimestamp, SourceBackup, SourceCluster, and Source Region. CreateTimestamp of the destination backup will be the same as that of the source backup.

You will need to use the sourceBackupID returned in this operation to use the [DescribeBackups](#) operation on the backup that will be copied to the destination region.

Type: [DestinationBackup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

HTTP Status Code: 400

### **CloudHsmTagException**

The request was rejected because of a tagging failure. Verify the tag conditions in all applicable policies, and then retry the request.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateCluster

Creates a new AWS CloudHSM cluster.

**Cross-account use:** Yes. To perform this operation with an AWS CloudHSM backup in a different AWS account, specify the full backup ARN in the value of the `SourceBackupId` parameter.

## Request Syntax

```
{
  "BackupRetentionPolicy": {
    "Type": "string",
    "Value": "string"
  },
  "HsmType": "string",
  "Mode": "string",
  "NetworkType": "string",
  "SourceBackupId": "string",
  "SubnetIds": [ "string" ],
  "TagList": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### [BackupRetentionPolicy](#)

A policy that defines how the service retains backups.

Type: [BackupRetentionPolicy](#) object

Required: No

## HsmType

The type of HSM to use in the cluster. The allowed values are `hsm1.medium` and `hsm2m.medium`.

Type: String

Length Constraints: Maximum length of 32.

Pattern: `((p|)hsm[0-9][a-z.]*\.[a-zA-Z]+)`

Required: Yes

## Mode

The mode to use in the cluster. The allowed values are `FIPS` and `NON_FIPS`.

Type: String

Valid Values: `FIPS` | `NON_FIPS`

Required: No

## NetworkType

The `NetworkType` to create a cluster with. The allowed values are `IPV4` and `DUALSTACK`.

Type: String

Valid Values: `IPV4` | `DUALSTACK`

Required: No

## SourceBackupId

The identifier (ID) or the Amazon Resource Name (ARN) of the cluster backup to restore. Use this value to restore the cluster from a backup instead of creating a new cluster. To find the backup ID or ARN, use [DescribeBackups](#). *If using a backup in another account, the full ARN must be supplied.*

Type: String

Pattern: `^(arn:aws(-(us-gov))?:cloudhsm:([a-z]{2}(-(gov|isob|iso)))?-(east|west|north|south|central){1,2}-[0-9]{1}):[0-9]{12}:backup/)?backup-[2-7a-zA-Z]{11,16}`

Required: No

### SubnetIds

The identifiers (IDs) of the subnets where you are creating the cluster. You must specify at least one subnet. If you specify multiple subnets, they must meet the following criteria:

- All subnets must be in the same virtual private cloud (VPC).
- You can specify only one subnet per Availability Zone.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

Pattern: subnet-[0-9a-fA-F]{8,17}

Required: Yes

### TagList

Tags to apply to the AWS CloudHSM cluster during creation.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Required: No

## Response Syntax

```
{
  "Cluster": {
    "BackupPolicy": "string",
    "BackupRetentionPolicy": {
      "Type": "string",
      "Value": "string"
    },
    "Certificates": {
      "AwsHardwareCertificate": "string",
      "ClusterCertificate": "string",
      "ClusterCsr": "string",
      "HsmCertificate": "string",
      "ManufacturerHardwareCertificate": "string"
    },
  },
}
```

```

    "ClusterId": "string",
    "CreateTimestamp": number,
    "Hsms": [
      {
        "AvailabilityZone": "string",
        "ClusterId": "string",
        "EniId": "string",
        "EniIp": "string",
        "EniIpV6": "string",
        "HsmId": "string",
        "HsmType": "string",
        "State": "string",
        "StateMessage": "string",
        "SubnetId": "string"
      }
    ],
    "HsmType": "string",
    "HsmTypeRollbackExpiration": number,
    "Mode": "string",
    "NetworkType": "string",
    "PreCoPassword": "string",
    "SecurityGroup": "string",
    "SourceBackupId": "string",
    "State": "string",
    "StateMessage": "string",
    "SubnetMapping": {
      "string" : "string"
    },
    "TagList": [
      {
        "Key": "string",
        "Value": "string"
      }
    ],
    "VpcId": "string"
  }
}

```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## Cluster

Information about the cluster that was created.

Type: [Cluster](#) object

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

HTTP Status Code: 400

### **CloudHsmTagException**

The request was rejected because of a tagging failure. Verify the tag conditions in all applicable policies, and then retry the request.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# CreateHsm

Creates a new hardware security module (HSM) in the specified AWS CloudHSM cluster.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM cluster in a different Amazon Web Service account.

## Request Syntax

```
{
  "AvailabilityZone": "string",
  "ClusterId": "string",
  "IpAddress": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### [AvailabilityZone](#)

The Availability Zone where you are creating the HSM. To find the cluster's Availability Zones, use [DescribeClusters](#).

Type: String

Pattern: `[a-z]{2}(-(gov))?-(east|west|north|south|central){1,2}-\d[a-z]`

Required: Yes

### [ClusterId](#)

The identifier (ID) of the HSM's cluster. To find the cluster ID, use [DescribeClusters](#).

Type: String

Pattern: `cluster-[2-7a-zA-Z]{11,16}`

Required: Yes

## IpAddress

The HSM's IP address. If you specify an IP address, use an available address from the subnet that maps to the Availability Zone where you are creating the HSM. If you don't specify an IP address, one is chosen for you from that subnet.

Type: String

Pattern: \d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3}

Required: No

## Response Syntax

```
{
  "Hsm": {
    "AvailabilityZone": "string",
    "ClusterId": "string",
    "EniId": "string",
    "EniIp": "string",
    "EniIpV6": "string",
    "HsmId": "string",
    "HsmType": "string",
    "State": "string",
    "StateMessage": "string",
    "SubnetId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Hsm

Information about the HSM that was created.

Type: [Hsm](#) object

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### CloudHsmAccessDeniedException

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### CloudHsmInternalFailureException

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### CloudHsmInvalidRequestException

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### CloudHsmResourceNotFoundException

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### CloudHsmServiceException

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteBackup

Deletes a specified AWS CloudHSM backup. A backup can be restored up to 7 days after the DeleteBackup request is made. For more information on restoring a backup, see [RestoreBackup](#).

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM backup in a different AWS account.

## Request Syntax

```
{
  "BackupId": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### [BackupId](#)

The ID of the backup to be deleted. To find the ID of a backup, use the [DescribeBackups](#) operation.

Type: String

Pattern: backup-[2-7a-zA-Z]{11,16}

Required: Yes

## Response Syntax

```
{
  "Backup": {
    "BackupArn": "string",
    "BackupId": "string",
    "BackupState": "string",
    "ClusterId": "string",
    "CopyTimestamp": number,
    "CreateTimestamp": number,
  }
}
```

```
"DeleteTimestamp": number,
"HsmType": "string",
"Mode": "string",
"NeverExpires": boolean,
"SourceBackup": "string",
"SourceCluster": "string",
"SourceRegion": "string",
"TagList": [
  {
    "Key": "string",
    "Value": "string"
  }
]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Backup

Information on the Backup object deleted.

Type: [Backup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteCluster

Deletes the specified AWS CloudHSM cluster. Before you can delete a cluster, you must delete all HSMs in the cluster. To see if the cluster contains any HSMs, use [DescribeClusters](#). To delete an HSM, use [DeleteHsm](#).

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM cluster in a different AWS account.

## Request Syntax

```
{
  "ClusterId": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### [ClusterId](#)

The identifier (ID) of the cluster that you are deleting. To find the cluster ID, use [DescribeClusters](#).

Type: String

Pattern: `cluster-[2-7a-zA-Z]{11,16}`

Required: Yes

## Response Syntax

```
{
  "Cluster": {
    "BackupPolicy": "string",
    "BackupRetentionPolicy": {
      "Type": "string",
      "Value": "string"
    }
  },
}
```

```

    "Certificates": {
      "AwsHardwareCertificate": "string",
      "ClusterCertificate": "string",
      "ClusterCsr": "string",
      "HsmCertificate": "string",
      "ManufacturerHardwareCertificate": "string"
    },
    "ClusterId": "string",
    "CreateTimestamp": number,
    "Hsms": [
      {
        "AvailabilityZone": "string",
        "ClusterId": "string",
        "EniId": "string",
        "EniIp": "string",
        "EniIpV6": "string",
        "HsmId": "string",
        "HsmType": "string",
        "State": "string",
        "StateMessage": "string",
        "SubnetId": "string"
      }
    ],
    "HsmType": "string",
    "HsmTypeRollbackExpiration": number,
    "Mode": "string",
    "NetworkType": "string",
    "PreCoPassword": "string",
    "SecurityGroup": "string",
    "SourceBackupId": "string",
    "State": "string",
    "StateMessage": "string",
    "SubnetMapping": {
      "string" : "string"
    },
    "TagList": [
      {
        "Key": "string",
        "Value": "string"
      }
    ],
    "VpcId": "string"
  }

```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Cluster

Information about the cluster that was deleted.

Type: [Cluster](#) object

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

## CloudHsmServiceException

The request was rejected because an error occurred.

HTTP Status Code: 400

## CloudHsmTagException

The request was rejected because of a tagging failure. Verify the tag conditions in all applicable policies, and then retry the request.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteHsm

Deletes the specified HSM. To specify an HSM, you can use its identifier (ID), the IP address of the HSM's elastic network interface (ENI), or the ID of the HSM's ENI. You need to specify only one of these values. To find these values, use [DescribeClusters](#).

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM hsm in a different AWS account.

## Request Syntax

```
{
  "ClusterId": "string",
  "EniId": "string",
  "EniIp": "string",
  "HsmId": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### ClusterId

The identifier (ID) of the cluster that contains the HSM that you are deleting.

Type: String

Pattern: `cluster-[2-7a-zA-Z]{11,16}`

Required: Yes

### EniId

The identifier (ID) of the elastic network interface (ENI) of the HSM that you are deleting.

Type: String

Pattern: `eni-[0-9a-fA-F]{8,17}`

Required: No

### EniIp

The IP address of the elastic network interface (ENI) of the HSM that you are deleting.

Type: String

Pattern: `\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3}`

Required: No

### HsmId

The identifier (ID) of the HSM that you are deleting.

Type: String

Pattern: `hsm-[2-7a-zA-Z]{11,16}`

Required: No

## Response Syntax

```
{  
  "HsmId": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### HsmId

The identifier (ID) of the HSM that was deleted.

Type: String

Pattern: `hsm-[2-7a-zA-Z]{11,16}`

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### CloudHsmAccessDeniedException

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### CloudHsmInternalFailureException

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### CloudHsmInvalidRequestException

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### CloudHsmResourceNotFoundException

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### CloudHsmServiceException

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DeleteResourcePolicy

Deletes an AWS CloudHSM resource policy. Deleting a resource policy will result in the resource being unshared and removed from any AWS RAM resource shares. Deleting the resource policy attached to a backup will not impact any clusters created from that backup.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM resource in a different AWS account.

## Request Syntax

```
{  
  "ResourceArn": "string"  
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### ResourceArn

Amazon Resource Name (ARN) of the resource from which the policy will be removed.

Type: String

Pattern: `arn:aws(-(us-gov))?:cloudhsm:([a-z]{2}(-(gov|isob|iso))?)-(east|west|north|south|central){1,2}-[0-9]{1}:[0-9]{12}:(backup/backup|cluster/cluster|hsm/hsm)-[2-7a-zA-Z]{11,16}`

Required: No

## Response Syntax

```
{  
  "Policy": "string",  
  "ResourceArn": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Policy

The policy previously attached to the resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 20000.

### ResourceArn

Amazon Resource Name (ARN) of the resource from which the policy was deleted.

Type: String

Pattern: `arn:aws(-(us-gov))?:cloudhsm:([a-z]{2}(-(gov|isob|iso))?)-(east|west|north|south|central){1,2}-[0-9]{1}:[0-9]{12}:(backup/backup|cluster/cluster|hsm/hsm)-[2-7a-zA-Z]{11,16}`

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeBackups

Gets information about backups of AWS CloudHSM clusters. Lists either the backups you own or the backups shared with you when the `Shared` parameter is true.

This is a paginated operation, which means that each response might contain only a subset of all the backups. When the response contains only a subset of backups, it includes a `NextToken` value. Use this value in a subsequent `DescribeBackups` request to get more backups. When you receive a response with no `NextToken` (or an empty or null value), that means there are no more backups to get.

**Cross-account use:** Yes. Customers can describe backups in other AWS accounts that are shared with them.

## Request Syntax

```
{
  "Filters": {
    "string" : [ "string" ]
  },
  "MaxResults": number,
  "NextToken": "string",
  "Shared": boolean,
  "SortAscending": boolean
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### Filters

One or more filters to limit the items returned in the response.

Use the `backupIds` filter to return only the specified backups. Specify backups by their backup identifier (ID).

Use the `sourceBackupIds` filter to return only the backups created from a source backup. The `sourceBackupID` of a source backup is returned by the [CopyBackupToRegion](#) operation.

Use the `clusterIds` filter to return only the backups for the specified clusters. Specify clusters by their cluster identifier (ID).

Use the `states` filter to return only backups that match the specified state.

Use the `neverExpires` filter to return backups filtered by the value in the `neverExpires` parameter. `True` returns all backups exempt from the backup retention policy. `False` returns all backups with a backup retention policy defined at the cluster.

Type: String to array of strings map

Map Entries: Maximum number of 30 items.

Key Pattern: `[a-zA-Z0-9_-]+`

Required: No

### MaxResults

The maximum number of backups to return in the response. When there are more backups than the number you specify, the response contains a `NextToken` value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50.

Required: No

### NextToken

The `NextToken` value that you received in the previous response. Use this value to get more backups.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `.*`

Required: No

### Shared

Describe backups that are shared with you.

**Note**

By default when using this option, the command returns backups that have been shared using a standard AWS Resource Access Manager resource share. In order for a backup that was shared using the `PutResourcePolicy` command to be returned, the share must be promoted to a standard resource share using the AWS RAM [PromoteResourceShareCreatedFromPolicy](#) API operation. For more information about sharing backups, see [Working with shared backups](#) in the AWS CloudHSM User Guide.

Type: Boolean

Required: No

**SortAscending**

Designates whether or not to sort the return backups by ascending chronological order of generation.

Type: Boolean

Required: No

**Response Syntax**

```
{
  "Backups": [
    {
      "BackupArn": "string",
      "BackupId": "string",
      "BackupState": "string",
      "ClusterId": "string",
      "CopyTimestamp": number,
      "CreateTimestamp": number,
      "DeleteTimestamp": number,
      "HsmType": "string",
      "Mode": "string",
      "NeverExpires": boolean,
      "SourceBackup": "string",
      "SourceCluster": "string",
      "SourceRegion": "string",
```

```
    "TagList": [  
      {  
        "Key": "string",  
        "Value": "string"  
      }  
    ],  
    "NextToken": "string"  
  }  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Backups

A list of backups.

Type: Array of [Backup](#) objects

### NextToken

An opaque string that indicates that the response contains only a subset of backups. Use this value in a subsequent `DescribeBackups` request to get more backups.

Type: String

Length Constraints: Maximum length of 256.

Pattern: .\*

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

HTTP Status Code: 400

### **CloudHsmTagException**

The request was rejected because of a tagging failure. Verify the tag conditions in all applicable policies, and then retry the request.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# DescribeClusters

Gets information about AWS CloudHSM clusters.

This is a paginated operation, which means that each response might contain only a subset of all the clusters. When the response contains only a subset of clusters, it includes a `NextToken` value. Use this value in a subsequent `DescribeClusters` request to get more clusters. When you receive a response with no `NextToken` (or an empty or null value), that means there are no more clusters to get.

**Cross-account use:** No. You cannot perform this operation on AWS CloudHSM clusters in a different AWS account.

## Request Syntax

```
{
  "Filters": {
    "string" : [ "string" ]
  },
  "MaxResults": number,
  "NextToken": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### Filters

One or more filters to limit the items returned in the response.

Use the `clusterIds` filter to return only the specified clusters. Specify clusters by their cluster identifier (ID).

Use the `vpcIds` filter to return only the clusters in the specified virtual private clouds (VPCs). Specify VPCs by their VPC identifier (ID).

Use the `states` filter to return only clusters that match the specified state.

Type: String to array of strings map

Map Entries: Maximum number of 30 items.

Key Pattern: [a-zA-Z0-9\_-]+

Required: No

### MaxResults

The maximum number of clusters to return in the response. When there are more clusters than the number you specify, the response contains a NextToken value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 25.

Required: No

### NextToken

The NextToken value that you received in the previous response. Use this value to get more clusters.

Type: String

Length Constraints: Maximum length of 256.

Pattern: .\*

Required: No

## Response Syntax

```
{
  "Clusters": [
    {
      "BackupPolicy": "string",
      "BackupRetentionPolicy": {
        "Type": "string",
        "Value": "string"
      },
      "Certificates": {
        "AwsHardwareCertificate": "string",
        "ClusterCertificate": "string",
        "ClusterCsr": "string",
        "HsmCertificate": "string",

```

```
    "ManufacturerHardwareCertificate": "string"
  },
  "ClusterId": "string",
  "CreateTimestamp": number,
  "Hsms": [
    {
      "AvailabilityZone": "string",
      "ClusterId": "string",
      "EniId": "string",
      "EniIp": "string",
      "EniIpV6": "string",
      "HsmId": "string",
      "HsmType": "string",
      "State": "string",
      "StateMessage": "string",
      "SubnetId": "string"
    }
  ],
  "HsmType": "string",
  "HsmTypeRollbackExpiration": number,
  "Mode": "string",
  "NetworkType": "string",
  "PreCoPassword": "string",
  "SecurityGroup": "string",
  "SourceBackupId": "string",
  "State": "string",
  "StateMessage": "string",
  "SubnetMapping": {
    "string" : "string"
  },
  "TagList": [
    {
      "Key": "string",
      "Value": "string"
    }
  ],
  "VpcId": "string"
}
],
"NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Clusters

A list of clusters.

Type: Array of [Cluster](#) objects

### NextToken

An opaque string that indicates that the response contains only a subset of clusters. Use this value in a subsequent `DescribeClusters` request to get more clusters.

Type: String

Length Constraints: Maximum length of 256.

Pattern: .\*

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

HTTP Status Code: 400

### **CloudHsmTagException**

The request was rejected because of a tagging failure. Verify the tag conditions in all applicable policies, and then retry the request.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# GetResourcePolicy

Retrieves the resource policy document attached to a given resource.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM resource in a different AWS account.

## Request Syntax

```
{  
  "ResourceArn": "string"  
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### ResourceArn

Amazon Resource Name (ARN) of the resource to which a policy is attached.

Type: String

Pattern: `arn:aws(-(us-gov))?:cloudhsm:([a-z]{2}(-(gov|isob|iso))?)-(east|west|north|south|central){1,2}-[0-9]{1}:[0-9]{12}:(backup/backup|cluster/cluster|hsm/hsm)-[2-7a-zA-Z]{11,16}`

Required: No

## Response Syntax

```
{  
  "Policy": "string"  
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## Policy

The policy attached to a resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 20000.

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# InitializeCluster

Claims an AWS CloudHSM cluster by submitting the cluster certificate issued by your issuing certificate authority (CA) and the CA's root certificate. Before you can claim a cluster, you must sign the cluster's certificate signing request (CSR) with your issuing CA. To get the cluster's CSR, use [DescribeClusters](#).

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM cluster in a different AWS account.

## Request Syntax

```
{
  "ClusterId": "string",
  "SignedCert": "string",
  "TrustAnchor": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### [ClusterId](#)

The identifier (ID) of the cluster that you are claiming. To find the cluster ID, use [DescribeClusters](#).

Type: String

Pattern: `cluster-[2-7a-zA-Z]{11,16}`

Required: Yes

### [SignedCert](#)

The cluster certificate issued (signed) by your issuing certificate authority (CA). The certificate must be in PEM format and can contain a maximum of 5000 characters.

Type: String

Length Constraints: Maximum length of 20000.

Pattern: `[a-zA-Z0-9+ -/=\s]*`

Required: Yes

### TrustAnchor

The issuing certificate of the issuing certificate authority (CA) that issued (signed) the cluster certificate. You must use a self-signed certificate. The certificate used to sign the HSM CSR must be directly available, and thus must be the root certificate. The certificate must be in PEM format and can contain a maximum of 5000 characters.

Type: String

Length Constraints: Maximum length of 20000.

Pattern: `[a-zA-Z0-9+ -/=\s]*`

Required: Yes

## Response Syntax

```
{
  "State": "string",
  "StateMessage": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### State

The cluster's state.

Type: String

Valid Values: CREATE\_IN\_PROGRESS | UNINITIALIZED | INITIALIZE\_IN\_PROGRESS  
| INITIALIZED | ACTIVE | UPDATE\_IN\_PROGRESS | MODIFY\_IN\_PROGRESS |

ROLLBACK\_IN\_PROGRESS | PENDING\_ROLLBACK | DELETE\_IN\_PROGRESS | DELETED | DEGRADED

### StateMessage

A description of the cluster's state.

Type: String

Length Constraints: Maximum length of 300.

Pattern: .\*

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ListTags

Gets a list of tags for the specified AWS CloudHSM cluster.

This is a paginated operation, which means that each response might contain only a subset of all the tags. When the response contains only a subset of tags, it includes a `NextToken` value. Use this value in a subsequent `ListTags` request to get more tags. When you receive a response with no `NextToken` (or an empty or null value), that means there are no more tags to get.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM resource in a different AWS account.

## Request Syntax

```
{
  "MaxResults": number,
  "NextToken": "string",
  "ResourceId": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### [MaxResults](#)

The maximum number of tags to return in the response. When there are more tags than the number you specify, the response contains a `NextToken` value.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### [NextToken](#)

The `NextToken` value that you received in the previous response. Use this value to get more tags.

Type: String

Length Constraints: Maximum length of 256.

Pattern: .\*

Required: No

### ResourceId

The cluster identifier (ID) for the cluster whose tags you are getting. To find the cluster ID, use [DescribeClusters](#).

Type: String

Pattern: (?:(?:cluster|backup)-[2-7a-zA-Z]{11,16})

Required: Yes

## Response Syntax

```
{
  "NextToken": "string",
  "TagList": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

An opaque string that indicates that the response contains only a subset of tags. Use this value in a subsequent `ListTags` request to get more tags.

Type: String

Length Constraints: Maximum length of 256.

Pattern: .\*

## TagList

A list of tags.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

HTTP Status Code: 400

## CloudHsmTagException

The request was rejected because of a tagging failure. Verify the tag conditions in all applicable policies, and then retry the request.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ModifyBackupAttributes

Modifies attributes for AWS CloudHSM backup.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM backup in a different AWS account.

## Request Syntax

```
{
  "BackupId": "string",
  "NeverExpires": boolean
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### BackupId

The identifier (ID) of the backup to modify. To find the ID of a backup, use the [DescribeBackups](#) operation.

Type: String

Pattern: backup-[2-7a-zA-Z]{11,16}

Required: Yes

### NeverExpires

Specifies whether the service should exempt a backup from the retention policy for the cluster. `True` exempts a backup from the retention policy. `False` means the service applies the backup retention policy defined at the cluster.

Type: Boolean

Required: Yes

## Response Syntax

```
{
  "Backup": {
    "BackupArn": "string",
    "BackupId": "string",
    "BackupState": "string",
    "ClusterId": "string",
    "CopyTimestamp": number,
    "CreateTimestamp": number,
    "DeleteTimestamp": number,
    "HsmType": "string",
    "Mode": "string",
    "NeverExpires": boolean,
    "SourceBackup": "string",
    "SourceCluster": "string",
    "SourceRegion": "string",
    "TagList": [
      {
        "Key": "string",
        "Value": "string"
      }
    ]
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Backup

Contains information about a backup of an AWS CloudHSM cluster. All backup objects contain the BackupId, BackupState, ClusterId, and CreateTimestamp parameters. Backups that were copied into a destination region additionally contain the CopyTimestamp, SourceBackup, SourceCluster, and SourceRegion parameters. A backup that is pending deletion will include the DeleteTimestamp parameter.

Type: [Backup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### CloudHsmAccessDeniedException

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### CloudHsmInternalFailureException

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### CloudHsmInvalidRequestException

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### CloudHsmResourceNotFoundException

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### CloudHsmServiceException

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)

- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# ModifyCluster

Modifies AWS CloudHSM cluster.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM cluster in a different AWS account.

## Request Syntax

```
{
  "BackupRetentionPolicy": {
    "Type": "string",
    "Value": "string"
  },
  "ClusterId": "string",
  "HsmType": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### BackupRetentionPolicy

A policy that defines how the service retains backups.

Type: [BackupRetentionPolicy](#) object

Required: No

### ClusterId

The identifier (ID) of the cluster that you want to modify. To find the cluster ID, use [DescribeClusters](#).

Type: String

Pattern: cluster-[2-7a-zA-Z]{11,16}

Required: Yes

## HsmType

The desired HSM type of the cluster.

Type: String

Length Constraints: Maximum length of 32.

Pattern: ((p|)hsm[0-9][a-z.]\*\.[a-zA-Z]+)

Required: No

## Response Syntax

```
{
  "Cluster": {
    "BackupPolicy": "string",
    "BackupRetentionPolicy": {
      "Type": "string",
      "Value": "string"
    },
    "Certificates": {
      "AwsHardwareCertificate": "string",
      "ClusterCertificate": "string",
      "ClusterCsr": "string",
      "HsmCertificate": "string",
      "ManufacturerHardwareCertificate": "string"
    },
    "ClusterId": "string",
    "CreateTimestamp": number,
    "Hsms": [
      {
        "AvailabilityZone": "string",
        "ClusterId": "string",
        "EniId": "string",
        "EniIp": "string",
        "EniIpV6": "string",
        "HsmId": "string",
        "HsmType": "string",
        "State": "string",
        "StateMessage": "string",
        "SubnetId": "string"
      }
    ]
  }
}
```

```
    ],
    "HsmType": "string",
    "HsmTypeRollbackExpiration": number,
    "Mode": "string",
    "NetworkType": "string",
    "PreCoPassword": "string",
    "SecurityGroup": "string",
    "SourceBackupId": "string",
    "State": "string",
    "StateMessage": "string",
    "SubnetMapping": {
      "string" : "string"
    },
    "TagList": [
      {
        "Key": "string",
        "Value": "string"
      }
    ],
    "VpcId": "string"
  }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Cluster

Contains information about an AWS CloudHSM cluster.

Type: [Cluster](#) object

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

# PutResourcePolicy

Creates or updates an AWS CloudHSM resource policy. A resource policy helps you to define the IAM entity (for example, an AWS account) that can manage your AWS CloudHSM resources. The following resources support AWS CloudHSM resource policies:

- Backup - The resource policy allows you to describe the backup and restore a cluster from the backup in another AWS account.

In order to share a backup, it must be in a 'READY' state and you must own it.

## Important

While you can share a backup using the AWS CloudHSM PutResourcePolicy operation, we recommend using AWS Resource Access Manager (AWS RAM) instead. Using AWS RAM provides multiple benefits as it creates the policy for you, allows multiple resources to be shared at one time, and increases the discoverability of shared resources. If you use PutResourcePolicy and want consumers to be able to describe the backups you share with them, you must promote the backup to a standard AWS RAM Resource Share using the AWS RAM PromoteResourceShareCreatedFromPolicy API operation. For more information, see [Working with shared backups](#) in the AWS CloudHSM User Guide

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM resource in a different AWS account.

## Request Syntax

```
{  
  "Policy": "string",  
  "ResourceArn": "string"  
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

## Policy

The policy you want to associate with a resource.

For an example policy, see [Working with shared backups](#) in the AWS CloudHSM User Guide

Type: String

Length Constraints: Minimum length of 1. Maximum length of 20000.

Required: No

## ResourceArn

Amazon Resource Name (ARN) of the resource to which you want to attach a policy.

Type: String

Pattern: `arn:aws(-(us-gov))?:cloudhsm:([a-z]{2}(-(gov|isob|iso))?)-(east|west|north|south|central){1,2}-[0-9]{1}:[0-9]{12}:(backup/backup|cluster/cluster|hsm/hsm)-[2-7a-zA-Z]{11,16}`

Required: No

## Response Syntax

```
{
  "Policy": "string",
  "ResourceArn": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

## Policy

The policy attached to a resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 20000.

### ResourceArn

Amazon Resource Name (ARN) of the resource to which a policy is attached.

Type: String

Pattern: `arn:aws(-(us-gov))?:cloudhsm:([a-z]{2}(-(gov|isob|iso))?)-(east|west|north|south|central){1,2}-[0-9]{1}:[0-9]{12}:(backup/backup|cluster/cluster|hsm/hsm)-[2-7a-zA-Z]{11,16}`

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# RestoreBackup

Restores a specified AWS CloudHSM backup that is in the PENDING\_DELETION state. For more information on deleting a backup, see [DeleteBackup](#).

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM backup in a different AWS account.

## Request Syntax

```
{
  "BackupId": "string"
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### [BackupId](#)

The ID of the backup to be restored. To find the ID of a backup, use the [DescribeBackups](#) operation.

Type: String

Pattern: backup-[2-7a-zA-Z]{11,16}

Required: Yes

## Response Syntax

```
{
  "Backup": {
    "BackupArn": "string",
    "BackupId": "string",
    "BackupState": "string",
    "ClusterId": "string",
    "CopyTimestamp": number,
    "CreateTimestamp": number,
  }
}
```

```
"DeleteTimestamp": number,
"HsmType": "string",
"Mode": "string",
"NeverExpires": boolean,
"SourceBackup": "string",
"SourceCluster": "string",
"SourceRegion": "string",
"TagList": [
  {
    "Key": "string",
    "Value": "string"
  }
]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Backup

Information on the Backup object created.

Type: [Backup](#) object

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### **CloudHsmAccessDeniedException**

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### **CloudHsmInternalFailureException**

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### **CloudHsmInvalidRequestException**

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### **CloudHsmResourceNotFoundException**

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### **CloudHsmServiceException**

The request was rejected because an error occurred.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# TagResource

Adds or overwrites one or more tags for the specified AWS CloudHSM cluster.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM resource in a different AWS account.

## Request Syntax

```
{
  "ResourceId": "string",
  "TagList": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### ResourceId

The cluster identifier (ID) for the cluster that you are tagging. To find the cluster ID, use [DescribeClusters](#).

Type: String

Pattern: (? : cluster | backup) - [2-7a-zA-Z]{11,16}

Required: Yes

### TagList

A list of one or more tags.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### CloudHsmAccessDeniedException

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### CloudHsmInternalFailureException

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### CloudHsmInvalidRequestException

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### CloudHsmResourceLimitExceededException

The request was rejected because it exceeds an AWS CloudHSM limit.

HTTP Status Code: 400

### CloudHsmResourceNotFoundException

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### CloudHsmServiceException

The request was rejected because an error occurred.

HTTP Status Code: 400

## CloudHsmTagException

The request was rejected because of a tagging failure. Verify the tag conditions in all applicable policies, and then retry the request.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# UntagResource

Removes the specified tag or tags from the specified AWS CloudHSM cluster.

**Cross-account use:** No. You cannot perform this operation on an AWS CloudHSM resource in a different AWS account.

## Request Syntax

```
{
  "ResourceId": "string",
  "TagKeyList": [ "string" ]
}
```

## Request Parameters

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

The request accepts the following data in JSON format.

### ResourceId

The cluster identifier (ID) for the cluster whose tags you are removing. To find the cluster ID, use [DescribeClusters](#).

Type: String

Pattern: (? :cluster|backup)-[2-7a-zA-Z]{11,16}

Required: Yes

### TagKeyList

A list of one or more tag keys for the tags that you are removing. Specify only the tag keys, not the tag values.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^([\p{L}\p{Z}\p{N}_ . : / = + \ - @] * )$`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

### CloudHsmAccessDeniedException

The request was rejected because the requester does not have permission to perform the requested operation.

HTTP Status Code: 400

### CloudHsmInternalFailureException

The request was rejected because of an AWS CloudHSM internal failure. The request can be retried.

HTTP Status Code: 500

### CloudHsmInvalidRequestException

The request was rejected because it is not a valid request.

HTTP Status Code: 400

### CloudHsmResourceNotFoundException

The request was rejected because it refers to a resource that cannot be found.

HTTP Status Code: 400

### CloudHsmServiceException

The request was rejected because an error occurred.

HTTP Status Code: 400

## CloudHsmTagException

The request was rejected because of a tagging failure. Verify the tag conditions in all applicable policies, and then retry the request.

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 V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# Data Types

The AWS CloudHSM V2 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:

- [Backup](#)
- [BackupRetentionPolicy](#)
- [Certificates](#)
- [Cluster](#)
- [DestinationBackup](#)
- [Hsm](#)
- [Tag](#)

# Backup

Contains information about a backup of an AWS CloudHSM cluster. All backup objects contain the `BackupId`, `BackupState`, `ClusterId`, and `CreateTimestamp` parameters. Backups that were copied into a destination region additionally contain the `CopyTimestamp`, `SourceBackup`, `SourceCluster`, and `SourceRegion` parameters. A backup that is pending deletion will include the `DeleteTimestamp` parameter.

## Contents

### BackupId

The identifier (ID) of the backup.

Type: String

Pattern: `backup-[2-7a-zA-Z]{11,16}`

Required: Yes

### BackupArn

The Amazon Resource Name (ARN) of the backup.

Type: String

Pattern: `^(arn:aws(-(us-gov))?:cloudhsm:([a-z]{2}(-(gov|isob|iso))?)-(east|west|north|south|central){1,2}-[0-9]{1}):[0-9]{12}:backup/)?backup-[2-7a-zA-Z]{11,16}`

Required: No

### BackupState

The state of the backup.

Type: String

Valid Values: `CREATE_IN_PROGRESS` | `READY` | `DELETED` | `PENDING_DELETION`

Required: No

### ClusterId

The identifier (ID) of the cluster that was backed up.

Type: String

Pattern: `cluster-[2-7a-zA-Z]{11,16}`

Required: No

### **CopyTimestamp**

The date and time when the backup was copied from a source backup.

Type: Timestamp

Required: No

### **CreateTimestamp**

The date and time when the backup was created.

Type: Timestamp

Required: No

### **DeleteTimestamp**

The date and time when the backup will be permanently deleted.

Type: Timestamp

Required: No

### **HsmType**

The HSM type used to create the backup.

Type: String

Length Constraints: Maximum length of 32.

Pattern: `((p|hsm)[0-9][a-z.]*\.[a-zA-Z]+)`

Required: No

### **Mode**

The mode of the cluster that was backed up.

Type: String

Valid Values: FIPS | NON\_FIPS

Required: No

### NeverExpires

Specifies whether the service should exempt a backup from the retention policy for the cluster. `True` exempts a backup from the retention policy. `False` means the service applies the backup retention policy defined at the cluster.

Type: Boolean

Required: No

### SourceBackup

The identifier (ID) of the source backup from which the new backup was copied.

Type: String

Pattern: `backup-[2-7a-zA-Z]{11,16}`

Required: No

### SourceCluster

The identifier (ID) of the cluster containing the source backup from which the new backup was copied.

Type: String

Pattern: `cluster-[2-7a-zA-Z]{11,16}`

Required: No

### SourceRegion

The AWS Region that contains the source backup from which the new backup was copied.

Type: String

Pattern: `[a-z]{2}(-(gov))?-(east|west|north|south|central){1,2}-\d`

Required: No

## TagList

The list of tags for the backup.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

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 Java V2](#)
- [AWS SDK for Ruby V3](#)

# BackupRetentionPolicy

A policy that defines the number of days to retain backups.

## Contents

### Type

The type of backup retention policy. For the DAYS type, the value is the number of days to retain backups.

Type: String

Valid Values: DAYS

Required: No

### Value

Use a value between 7 - 379.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 3.

Pattern: [0-9]+

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 Java V2](#)
- [AWS SDK for Ruby V3](#)

# Certificates

Contains one or more certificates or a certificate signing request (CSR).

## Contents

### **AwsHardwareCertificate**

The HSM hardware certificate issued (signed) by AWS CloudHSM.

Type: String

Length Constraints: Maximum length of 20000.

Pattern: `[a-zA-Z0-9+ -/=\s]*`

Required: No

### **ClusterCertificate**

The cluster certificate issued (signed) by the issuing certificate authority (CA) of the cluster's owner.

Type: String

Length Constraints: Maximum length of 20000.

Pattern: `[a-zA-Z0-9+ -/=\s]*`

Required: No

### **ClusterCsr**

The cluster's certificate signing request (CSR). The CSR exists only when the cluster's state is UNINITIALIZED.

Type: String

Length Constraints: Maximum length of 20000.

Pattern: `[a-zA-Z0-9+ -/=\s]*`

Required: No

## HsmCertificate

The HSM certificate issued (signed) by the HSM hardware.

Type: String

Length Constraints: Maximum length of 20000.

Pattern: `[a-zA-Z0-9+ -/=\s]*`

Required: No

## ManufacturerHardwareCertificate

The HSM hardware certificate issued (signed) by the hardware manufacturer.

Type: String

Length Constraints: Maximum length of 20000.

Pattern: `[a-zA-Z0-9+ -/=\s]*`

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 Java V2](#)
- [AWS SDK for Ruby V3](#)

# Cluster

Contains information about an AWS CloudHSM cluster.

## Contents

### BackupPolicy

The cluster's backup policy.

Type: String

Valid Values: DEFAULT

Required: No

### BackupRetentionPolicy

A policy that defines how the service retains backups.

Type: [BackupRetentionPolicy](#) object

Required: No

### Certificates

Contains one or more certificates or a certificate signing request (CSR).

Type: [Certificates](#) object

Required: No

### ClusterId

The cluster's identifier (ID).

Type: String

Pattern: `cluster-[2-7a-zA-Z]{11,16}`

Required: No

### CreateTimestamp

The date and time when the cluster was created.

Type: Timestamp

Required: No

## Hsms

Contains information about the HSMs in the cluster.

Type: Array of [Hsm](#) objects

Required: No

## HsmType

The type of HSM that the cluster contains.

Type: String

Length Constraints: Maximum length of 32.

Pattern: ((p|)hsm[0-9][a-z.]\*\.[a-zA-Z]+)

Required: No

## HsmTypeRollbackExpiration

The timestamp until when the cluster can be rolled back to its original HSM type.

Type: Timestamp

Required: No

## Mode

The mode of the cluster.

Type: String

Valid Values: FIPS | NON\_FIPS

Required: No

## NetworkType

The cluster's NetworkType can be IPv4 (the default) or DUALSTACK. The IPv4 NetworkType restricts communication between your application and the hardware security modules (HSMs) to the IPv4 protocol only. The DUALSTACK NetworkType enables communication over both IPv4

and IPv6 protocols. To use DUALSTACK, configure your virtual private cloud (VPC) and subnets to support both IPv4 and IPv6. This configuration involves adding IPv6 Classless Inter-Domain Routing (CIDR) blocks to the existing IPv4 CIDR blocks in your subnets. The NetworkType you choose affects the network addressing options for your cluster. DUALSTACK provides more flexibility by supporting both IPv4 and IPv6 communication.

Type: String

Valid Values: IPV4 | DUALSTACK

Required: No

### **PreCoPassword**

The default password for the cluster's Pre-Crypto Officer (PRECO) user.

Type: String

Length Constraints: Minimum length of 7. Maximum length of 32.

Required: No

### **SecurityGroup**

The identifier (ID) of the cluster's security group.

Type: String

Pattern: sg-[0-9a-fA-F]{8,17}

Required: No

### **SourceBackupId**

The identifier (ID) of the backup used to create the cluster. This value exists only when the cluster was created from a backup.

Type: String

Pattern: backup-[2-7a-zA-Z]{11,16}

Required: No

### **State**

The cluster's state.

Type: String

Valid Values: CREATE\_IN\_PROGRESS | UNINITIALIZED | INITIALIZE\_IN\_PROGRESS | INITIALIZED | ACTIVE | UPDATE\_IN\_PROGRESS | MODIFY\_IN\_PROGRESS | ROLLBACK\_IN\_PROGRESS | PENDING\_ROLLBACK | DELETE\_IN\_PROGRESS | DELETED | DEGRADED

Required: No

### StateMessage

A description of the cluster's state.

Type: String

Length Constraints: Maximum length of 300.

Pattern: .\*

Required: No

### SubnetMapping

A map from availability zone to the cluster's subnet in that availability zone.

Type: String to string map

Key Pattern: [a-z]{2}(-gov)?-(east|west|north|south|central){1,2}-\d[a-z]

Value Pattern: subnet-[0-9a-fA-F]{8,17}

Required: No

### TagList

The list of tags for the cluster.

Type: Array of [Tag](#) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Required: No

### VpcId

The identifier (ID) of the virtual private cloud (VPC) that contains the cluster.

Type: String

Pattern: vpc-[0-9a-fA-F]

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 Java V2](#)
- [AWS SDK for Ruby V3](#)

# DestinationBackup

Contains information about the backup that will be copied and created by the [CopyBackupToRegion](#) operation.

## Contents

### CreateTimestamp

The date and time when both the source backup was created.

Type: Timestamp

Required: No

### SourceBackup

The identifier (ID) of the source backup from which the new backup was copied.

Type: String

Pattern: backup-[2-7a-zA-Z]{11,16}

Required: No

### SourceCluster

The identifier (ID) of the cluster containing the source backup from which the new backup was copied.

Type: String

Pattern: cluster-[2-7a-zA-Z]{11,16}

Required: No

### SourceRegion

The AWS region that contains the source backup from which the new backup was copied.

Type: String

Pattern: [a-z]{2}(-(gov))?-(east|west|north|south|central){1,2}-\d

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 Java V2](#)
- [AWS SDK for Ruby V3](#)

# Hsm

Contains information about a hardware security module (HSM) in an AWS CloudHSM cluster.

## Contents

### HsmId

The HSM's identifier (ID).

Type: String

Pattern: `hsm-[2-7a-zA-Z]{11,16}`

Required: Yes

### AvailabilityZone

The Availability Zone that contains the HSM.

Type: String

Pattern: `[a-z]{2}(-gov)?-(east|west|north|south|central){1,2}-\d[a-z]`

Required: No

### ClusterId

The identifier (ID) of the cluster that contains the HSM.

Type: String

Pattern: `cluster-[2-7a-zA-Z]{11,16}`

Required: No

### EniId

The identifier (ID) of the HSM's elastic network interface (ENI).

Type: String

Pattern: `eni-[0-9a-fA-F]{8,17}`

Required: No

## EniIp

The IP address of the HSM's elastic network interface (ENI).

Type: String

Pattern: `\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3}`

Required: No

## EniIpV6

The IPv6 address (if any) of the HSM's elastic network interface (ENI).

Type: String

Length Constraints: Maximum length of 100.

Required: No

## HsmType

The type of HSM.

Type: String

Length Constraints: Maximum length of 32.

Pattern: `((p|hsm)[0-9][a-z.]*\.[a-zA-Z]+)`

Required: No

## State

The HSM's state.

Type: String

Valid Values: CREATE\_IN\_PROGRESS | ACTIVE | DEGRADED | DELETE\_IN\_PROGRESS | DELETED

Required: No

## StateMessage

A description of the HSM's state.

Type: String

Required: No

### **SubnetId**

The subnet that contains the HSM's elastic network interface (ENI).

Type: String

Pattern: subnet-[0-9a-fA-F]{8,17}

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 Java V2](#)
- [AWS SDK for Ruby V3](#)

# Tag

Contains a tag. A tag is a key-value pair.

## Contents

### Key

The key of the tag.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern:  $^([\p{L}\p{Z}\p{N}_\cdot :/=+\-@]^*)\$$

Required: Yes

### Value

The value of the tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Pattern:  $^([\p{L}\p{Z}\p{N}_\cdot :/=+\-@]^*)\$$

Required: Yes

## See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

# Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see [Signing AWS API requests](#) in the *IAM User Guide*.

## 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 [Create a signed AWS API request](#) in the *IAM User Guide*.

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 [Elements of an AWS API request signature](#) in the *IAM User Guide*.

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 STS, see [AWS services that work with IAM](#) in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, 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 [Create a signed AWS API request](#) in the *IAM User Guide*.

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 Error Types

This section lists common error types that this AWS service may return. Not all services return all error types listed here. For errors specific to an API action for this service, see the topic for that API action.

## **AccessDeniedException**

You don't have permission to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 403

## **ExpiredTokenException**

The security token included in the request has expired. Request a new security token and try again.

HTTP Status Code: 403

## **IncompleteSignature**

The request signature doesn't conform to AWS standards. Verify that you're using valid AWS credentials and that your request is properly formatted. If you're using an SDK, ensure it's up to date.

HTTP Status Code: 403

## **InternalFailure**

The request can't be processed right now because of an internal server issue. Try again later. If the problem persists, contact AWS Support.

HTTP Status Code: 500

## **MalformedHttpRequestException**

The request body can't be processed. This typically happens when the request body can't be decompressed using the specified content encoding algorithm. Verify that the content encoding header matches the compression format used.

HTTP Status Code: 400

**NotAuthorized**

You don't have permissions to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 401

**OptInRequired**

Your AWS account needs a subscription for this service. Verify that you've enabled the service in your account.

HTTP Status Code: 403

**RequestAbortedException**

The request was aborted before a response could be returned. This typically happens when the client closes the connection.

HTTP Status Code: 400

**RequestEntityTooLargeException**

The request entity is too large. Reduce the size of the request body and try again.

HTTP Status Code: 413

**RequestTimeoutException**

The request timed out. The server didn't receive the complete request within the expected time frame. Try again.

HTTP Status Code: 408

**ServiceUnavailable**

The service is temporarily unavailable. Try again later.

HTTP Status Code: 503

**ThrottlingException**

Your request rate is too high. The AWS SDKs automatically retry requests that receive this exception. Reduce the frequency of requests.

HTTP Status Code: 400

### **UnknownOperationException**

The action or operation isn't recognized. Verify that the action name is spelled correctly and that it's supported by the API version you're using.

HTTP Status Code: 404

### **UnrecognizedClientException**

The X.509 certificate or AWS access key ID you provided doesn't exist in our records. Verify that you're using valid credentials and that they haven't expired.

HTTP Status Code: 403

### **ValidationError**

The input doesn't meet the required format or constraints. Check that all required parameters are included and that values are valid.

HTTP Status Code: 400