
AWS CloudHSM

API Reference

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AWS CloudHSM: API Reference

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Table of Contents

Welcome	1
What Is AWS CloudHSM?	2
Actions	3
AddTagsToResource	4
Request Syntax	4
Request Parameters	4
Response Syntax	4
Response Elements	4
Errors	5
CreateHapg	6
Request Syntax	6
Request Parameters	6
Response Syntax	6
Response Elements	6
Errors	6
CreateHsm	7
Request Syntax	7
Request Parameters	7
Response Syntax	8
Response Elements	8
Errors	8
CreateLunaClient	10
Request Syntax	10
Request Parameters	10
Response Syntax	10
Response Elements	10
Errors	10
DeleteHapg	12
Request Syntax	12
Request Parameters	12
Response Syntax	12
Response Elements	12
Errors	12
DeleteHsm	13
Request Syntax	13
Request Parameters	13
Response Syntax	13
Response Elements	13
Errors	13
DeleteLunaClient	14
Request Syntax	14
Request Parameters	14
Response Syntax	14
Response Elements	14
Errors	14
DescribeHapg	15
Request Syntax	15
Request Parameters	15
Response Syntax	15
Response Elements	15
Errors	16
DescribeHsm	17
Request Syntax	17
Request Parameters	17
Response Syntax	17

Response Elements	18
Errors	20
DescribeLunaClient	21
Request Syntax	21
Request Parameters	21
Response Syntax	21
Response Elements	21
Errors	22
GetConfig	23
Request Syntax	23
Request Parameters	23
Response Syntax	23
Response Elements	23
Errors	24
ListAvailableZones	25
Response Syntax	25
Response Elements	25
Errors	25
ListHapps	26
Request Syntax	26
Request Parameters	26
Response Syntax	26
Response Elements	26
Errors	26
ListHsms	28
Request Syntax	28
Request Parameters	28
Response Syntax	28
Response Elements	28
Errors	28
ListLunaClients	30
Request Syntax	30
Request Parameters	30
Response Syntax	30
Response Elements	30
Errors	31
ListTagsForResource	32
Request Syntax	32
Request Parameters	32
Response Syntax	32
Response Elements	32
Errors	32
ModifyHapg	34
Request Syntax	34
Request Parameters	34
Response Syntax	34
Response Elements	34
Errors	35
ModifyHsm	36
Request Syntax	36
Request Parameters	36
Response Syntax	37
Response Elements	37
Errors	37
ModifyLunaClient	38
Request Syntax	38
Request Parameters	38
Response Syntax	38

Response Elements	38
Errors	38
RemoveTagsFromResource	40
Request Syntax	40
Request Parameters	40
Response Syntax	40
Response Elements	40
Errors	41
Data Types	42
Tag	43
Contents	43
Common Errors	44
Document History	46

Welcome to the AWS CloudHSM API Reference

This is the *AWS CloudHSM API Reference*. This guide provides detailed information about the AWS CloudHSM HTTP API.

To read about AWS CloudHSM concepts and features including how to set up an AWS CloudHSM environment, how to get started using a hardware security module (HSM), best practices, and more, see the [AWS CloudHSM User Guide](#).

What Is AWS CloudHSM?

A hardware security module (HSM) is a hardware appliance that provides secure key storage and cryptographic operations within a tamper-resistant hardware module. HSMs are designed to securely store cryptographic key material and use the key material without exposing it outside the cryptographic boundary of the appliance.

AWS CloudHSM helps you meet corporate, contractual and regulatory compliance requirements for data security by using dedicated HSM appliances within the AWS cloud. AWS and AWS Marketplace partners offer a variety of solutions for protecting sensitive data within the AWS platform, but additional protection is necessary for some applications and data that are subject to strict contractual or regulatory requirements for managing cryptographic keys.

Until now, your only options were to maintain the sensitive data or the encryption keys protecting the sensitive data in your on-premises data centers. However, those options either prevented you from migrating these applications to the cloud or significantly slowed application performance. AWS CloudHSM allows you to protect your encryption keys within HSMs that are designed and validated to government standards for secure key management. You can securely generate, store, and manage the cryptographic keys used for data encryption in a way that ensures that only you have access to the keys. AWS CloudHSM helps you comply with strict key management requirements within the AWS cloud without sacrificing application performance.

AWS CloudHSM works with Amazon Virtual Private Cloud (Amazon VPC). HSM appliances are provisioned inside your VPC with an IP address that you specify, providing simple and private network connectivity to your EC2 instances. Placing HSM appliances near your EC2 instances decreases network latency, which can improve application performance. Your HSM appliances are dedicated exclusively to you and are isolated from other AWS customers. Available in multiple regions and Availability Zones, AWS CloudHSM can be used to build highly available and durable applications.

For more information about Amazon VPC, see [What Is Amazon VPC?](#) in the *Amazon VPC User Guide*.

Actions

The following actions are supported:

- [AddTagsToResource](#) (p. 4)
- [CreateHapg](#) (p. 6)
- [CreateHsm](#) (p. 7)
- [CreateLunaClient](#) (p. 10)
- [DeleteHapg](#) (p. 12)
- [DeleteHsm](#) (p. 13)
- [DeleteLunaClient](#) (p. 14)
- [DescribeHapg](#) (p. 15)
- [DescribeHsm](#) (p. 17)
- [DescribeLunaClient](#) (p. 21)
- [GetConfig](#) (p. 23)
- [ListAvailableZones](#) (p. 25)
- [ListHapgs](#) (p. 26)
- [ListHsms](#) (p. 28)
- [ListLunaClients](#) (p. 30)
- [ListTagsForResource](#) (p. 32)
- [ModifyHapg](#) (p. 34)
- [ModifyHsm](#) (p. 36)
- [ModifyLunaClient](#) (p. 38)
- [RemoveTagsFromResource](#) (p. 40)

AddTagsToResource

Adds or overwrites one or more tags for the specified AWS CloudHSM resource. Each tag consists of a key and a value. Tag keys must be unique to each resource.

Request Syntax

```
{
  "ResourceArn (p. 4)": "string",
  "TagList (p. 4)": [
    {
      "Key (p. 43)": "string",
      "Value (p. 43)": "string"
    }
  ]
}
```

Request Parameters

The request requires the following data in JSON format.

ResourceArn (p. 4)

The Amazon Resource Name (ARN) of the AWS CloudHSM resource to tag.

Type: String

Pattern: `[\w :+=.\/\-\]*`

Required: Yes

TagList (p. 4)

One or more tags.

Type: array of [Tag \(p. 43\)](#) objects

Required: Yes

Response Syntax

```
{
  "Status (p. 4)": "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.

Status (p. 4)

The status of the operation.

Type: String

Pattern: `[\w :+=.\/\-\]*`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

CreateHapg

Creates a high-availability partition group. A high-availability partition group is a group of partitions that spans multiple physical HSMs.

Request Syntax

```
{  
  "Label (p. 6)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

Label (p. 6)

The label of the new high-availability partition group.

Type: String

Pattern: [a-zA-Z0-9_.-]{1,64}

Required: Yes

Response Syntax

```
{  
  "HapgArn (p. 6)": "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.

HapgArn (p. 6)

The ARN of the high-availability partition group.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\-]*:[0-9]{12}:hapg-[0-9a-f]{8}

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

CreateHsm

Creates an uninitialized HSM instance.

There is an upfront fee charged for each HSM instance that you create with the `CreateHsm` operation. If you accidentally provision an HSM and want to request a refund, delete the instance using the [DeleteHsm \(p. 13\)](#) operation, go to the [AWS Support Center](#), create a new case, and select **Account and Billing Support**.

Important

It can take up to 20 minutes to create and provision an HSM. You can monitor the status of the HSM with the [DescribeHsm \(p. 17\)](#) operation. The HSM is ready to be initialized when the status changes to `RUNNING`.

Request Syntax

```
{
  "ClientToken (p. 7)": "string",
  "EniIp (p. 7)": "string",
  "ExternalId (p. 7)": "string",
  "IamRoleArn (p. 7)": "string",
  "SshKey (p. 8)": "string",
  "SubnetId (p. 8)": "string",
  "SubscriptionType (p. 8)": "string",
  "SyslogIp (p. 8)": "string"
}
```

Request Parameters

The request requires the following data in JSON format.

ClientToken (p. 7)

A user-defined token to ensure idempotence. Subsequent calls to this operation with the same token will be ignored.

Type: String

Pattern: `[a-zA-Z0-9]{1,64}`

Required: No

EniIp (p. 7)

The IP address to assign to the HSM's ENI.

If an IP address is not specified, an IP address will be randomly chosen from the CIDR range of the subnet.

Type: String

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

Required: No

ExternalId (p. 7)

The external ID from `IamRoleArn`, if present.

Type: String

Pattern: `[\w :+=./-]*`

Required: No

IamRoleArn (p. 7)

The ARN of an IAM role to enable the AWS CloudHSM service to allocate an ENI on your behalf.

Type: String

Pattern: `arn:aws(-iso)?:iam::[0-9]{12}:role/[a-zA-Z0-9_+=,\.\-@]{1,64}`

Required: Yes

SshKey (p. 7)

The SSH public key to install on the HSM.

Type: String

Pattern: [a-zA-Z0-9+/\= ._\:\@-]*

Required: Yes

SubnetId (p. 7)

The identifier of the subnet in your VPC in which to place the HSM.

Type: String

Pattern: subnet-[0-9a-f]{8}

Required: Yes

SubscriptionType (p. 7)

Specifies the type of subscription for the HSM.

- **PRODUCTION** - The HSM is being used in a production environment.
- **TRIAL** - The HSM is being used in a product trial.

Type: String

Valid Values: PRODUCTION

Required: Yes

SyslogIp (p. 7)

The IP address for the syslog monitoring server. The AWS CloudHSM service only supports one syslog monitoring server.

Type: String

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

Required: No

Response Syntax

```
{  
  "HsmArn (p. 8)": "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.

HsmArn (p. 8)

The ARN of the HSM.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hsm-[0-9a-f]{8}

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

CreateLunaClient

Creates an HSM client.

Request Syntax

```
{  
  "Certificate (p. 10)": "string",  
  "Label (p. 10)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

Certificate (p. 10)

The contents of a Base64-Encoded X.509 v3 certificate to be installed on the HSMs used by this client.

Type: String

Length Constraints: Minimum length of 600. Maximum length of 2400.

Pattern: `[\w :+=.\n-]*`

Required: Yes

Label (p. 10)

The label for the client.

Type: String

Pattern: `[a-zA-Z0-9_.-]{2,64}`

Required: No

Response Syntax

```
{  
  "ClientArn (p. 10)": "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.

ClientArn (p. 10)

The ARN of the client.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\-]*:[0-9]{12}:client-[0-9a-f]{8}`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

DeleteHapg

Deletes a high-availability partition group.

Request Syntax

```
{  
  "HapgArn (p. 12)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

HapgArn (p. 12)

The ARN of the high-availability partition group to delete.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\-]*:[0-9]{12}:hapg-[0-9a-f]{8}`

Required: Yes

Response Syntax

```
{  
  "Status (p. 12)": "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.

Status (p. 12)

The status of the action.

Type: String

Pattern: `[\w :+=. /\\-]*`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

DeleteHsm

Deletes an HSM. After completion, this operation cannot be undone and your key material cannot be recovered.

Request Syntax

```
{  
  "HsmArn (p. 13)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

HsmArn (p. 13)

The ARN of the HSM to delete.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hsm-[0-9a-f]{8}`

Required: Yes

Response Syntax

```
{  
  "Status (p. 13)": "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.

Status (p. 13)

The status of the operation.

Type: String

Pattern: `[\w :+=. / \ -]*`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

DeleteLunaClient

Deletes a client.

Request Syntax

```
{  
  "ClientArn (p. 14)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

ClientArn (p. 14)

The ARN of the client to delete.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:client-[0-9a-f]{8}

Required: Yes

Response Syntax

```
{  
  "Status (p. 14)": "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.

Status (p. 14)

The status of the action.

Type: String

Pattern: [\w :+=. /\\-]*

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

DescribeHapg

Retrieves information about a high-availability partition group.

Request Syntax

```
{  
  "HapgArn (p. 15)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

HapgArn (p. 15)

The ARN of the high-availability partition group to describe.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hapg-[0-9a-f]{8}`

Required: Yes

Response Syntax

```
{  
  "HapgArn (p. 15)": "string",  
  "HapgSerial (p. 15)": "string",  
  "HsmsLastActionFailed (p. 15)": [ "string" ],  
  "HsmsPendingDeletion (p. 16)": [ "string" ],  
  "HsmsPendingRegistration (p. 16)": [ "string" ],  
  "Label (p. 16)": "string",  
  "LastModifiedTimestamp (p. 16)": "string",  
  "PartitionSerialList (p. 16)": [ "string" ],  
  "State (p. 16)": "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.

HapgArn (p. 15)

The ARN of the high-availability partition group.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hapg-[0-9a-f]{8}`

HapgSerial (p. 15)

The serial number of the high-availability partition group.

Type: String

Pattern: `[\w :+.\/\-\]*`

HsmsLastActionFailed (p. 15)

Contains a list of ARNs that identify the HSMs.

Type: array of Strings

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hsm-[0-9a-f]{8}`

HsmsPendingDeletion (p. 15)

Contains a list of ARNs that identify the HSMs.

Type: array of Strings

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hsm-[0-9a-f]{8}`

HsmsPendingRegistration (p. 15)

Contains a list of ARNs that identify the HSMs.

Type: array of Strings

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hsm-[0-9a-f]{8}`

Label (p. 15)

The label for the high-availability partition group.

Type: String

Pattern: `[a-zA-Z0-9_.-]{1,64}`

LastModifiedTimestamp (p. 15)

The date and time the high-availability partition group was last modified.

Type: String

Pattern: `\d*`

PartitionSerialList (p. 15)

The list of partition serial numbers that belong to the high-availability partition group.

Type: array of Strings

Pattern: `\d{6,12}`

State (p. 15)

The state of the high-availability partition group.

Type: String

Valid Values: `READY | UPDATING | DEGRADED`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

DescribeHsm

Retrieves information about an HSM. You can identify the HSM by its ARN or its serial number.

Request Syntax

```
{  
  "HsmArn (p. 17)": "string",  
  "HsmSerialNumber (p. 17)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

HsmArn (p. 17)

The ARN of the HSM. Either the `HsmArn` or the `SerialNumber` parameter must be specified.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hsm-[0-9a-f]{8}`

Required: No

HsmSerialNumber (p. 17)

The serial number of the HSM. Either the `HsmArn` or the `HsmSerialNumber` parameter must be specified.

Type: String

Pattern: `\d{1,16}`

Required: No

Response Syntax

```
{  
  "AvailabilityZone (p. 18)": "string",  
  "EniId (p. 18)": "string",  
  "EniIp (p. 18)": "string",  
  "HsmArn (p. 18)": "string",  
  "HsmType (p. 18)": "string",  
  "IamRoleArn (p. 18)": "string",  
  "Partitions (p. 18)": [ "string" ],  
  "SerialNumber (p. 18)": "string",  
  "ServerCertLastUpdated (p. 18)": "string",  
  "ServerCertUri (p. 18)": "string",  
  "SoftwareVersion (p. 19)": "string",  
  "SshKeyLastUpdated (p. 19)": "string",  
  "SshPublicKey (p. 19)": "string",  
  "Status (p. 19)": "string",  
  "StatusDetails (p. 19)": "string",  
  "SubnetId (p. 19)": "string",  
  "SubscriptionEndDate (p. 19)": "string",  
  "SubscriptionStartDate (p. 19)": "string",  
  "SubscriptionType (p. 19)": "string",  
  "VendorName (p. 19)": "string",  
}
```

```
"VpcId (p. 19)": "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.

AvailabilityZone (p. 17)

The Availability Zone that the HSM is in.

Type: String

Pattern: [a-zA-Z0-9\-*]

EniId (p. 17)

The identifier of the elastic network interface (ENI) attached to the HSM.

Type: String

Pattern: eni-[0-9a-f]{8}

EniIp (p. 17)

The IP address assigned to the HSM's ENI.

Type: String

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

HsmArn (p. 17)

The ARN of the HSM.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-*]:[0-9]{12}:hsm-[0-9a-f]{8}

HsmType (p. 17)

The HSM model type.

Type: String

Pattern: [\w :+=.\/\-_]*

IamRoleArn (p. 17)

The ARN of the IAM role assigned to the HSM.

Type: String

Pattern: arn:aws(-iso)?:iam::[0-9]{12}:role/[a-zA-Z0-9_\+=,.\-_@]{1,64}

Partitions (p. 17)

The list of partitions on the HSM.

Type: array of Strings

Pattern:

arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-*]:[0-9]{12}:hsm-[0-9a-f]{8}/partition-[0-9]{6,12}

SerialNumber (p. 17)

The serial number of the HSM.

Type: String

Pattern: \d{1,16}

ServerCertLastUpdated (p. 17)

The date and time that the server certificate was last updated.

Type: String

Pattern: \d*

ServerCertUri (p. 17)

The URI of the certificate server.

Type: String

Pattern: [\w :+=.\/\-_]*

SoftwareVersion (p. 17)

The HSM software version.

Type: String

Pattern: [\w :+=. /\\-]*

SshKeyLastUpdated (p. 17)

The date and time that the SSH key was last updated.

Type: String

Pattern: \d*

SshPublicKey (p. 17)

The public SSH key.

Type: String

Pattern: [a-zA-Z0-9+/= ._:\\@-]*

Status (p. 17)

The status of the HSM.

Type: String

Valid Values: PENDING | RUNNING | UPDATING | SUSPENDED | TERMINATING | TERMINATED
| DEGRADED

StatusDetails (p. 17)

Contains additional information about the status of the HSM.

Type: String

Pattern: [\w :+=. /\\-]*

SubnetId (p. 17)

The identifier of the subnet that the HSM is in.

Type: String

Pattern: subnet-[0-9a-f]{8}

SubscriptionEndDate (p. 17)

The subscription end date.

Type: String

Pattern: \d*

SubscriptionStartDate (p. 17)

The subscription start date.

Type: String

Pattern: \d*

SubscriptionType (p. 17)

Specifies the type of subscription for the HSM.

- **PRODUCTION** - The HSM is being used in a production environment.
- **TRIAL** - The HSM is being used in a product trial.

Type: String

Valid Values: PRODUCTION

VendorName (p. 17)

The name of the HSM vendor.

Type: String

Pattern: [\w :+=. /\\-]*

VpcId (p. 17)

The identifier of the VPC that the HSM is in.

Type: String

Pattern: vpc-[0-9a-f]{8}

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

DescribeLunaClient

Retrieves information about an HSM client.

Request Syntax

```
{
  "CertificateFingerprint (p. 21)": "string",
  "ClientArn (p. 21)": "string"
}
```

Request Parameters

The request requires the following data in JSON format.

CertificateFingerprint (p. 21)

The certificate fingerprint.

Type: String

Pattern: ([0-9a-fA-F][0-9a-fA-F]){15}[0-9a-fA-F][0-9a-fA-F]

Required: No

ClientArn (p. 21)

The ARN of the client.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:client-[0-9a-f]{8}

Required: No

Response Syntax

```
{
  "Certificate (p. 21)": "string",
  "CertificateFingerprint (p. 21)": "string",
  "ClientArn (p. 22)": "string",
  "Label (p. 22)": "string",
  "LastModifiedTimestamp (p. 22)": "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.

Certificate (p. 21)

The certificate installed on the HSMs used by this client.

Type: String

Length Constraints: Minimum length of 600. Maximum length of 2400.

Pattern: [\w :+=.\n-]*

CertificateFingerprint (p. 21)

The certificate fingerprint.

Type: String

Pattern: ([0-9a-fA-F][0-9a-fA-F]){15}[0-9a-fA-F][0-9a-fA-F]

ClientArn (p. 21)

The ARN of the client.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:client-[0-9a-f]{8}`

Label (p. 21)

The label of the client.

Type: String

Pattern: `[a-zA-Z0-9_.-]{1,64}`

LastModifiedTimestamp (p. 21)

The date and time the client was last modified.

Type: String

Pattern: `\d*`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

GetConfig

Gets the configuration files necessary to connect to all high availability partition groups the client is associated with.

Request Syntax

```
{
  "ClientArn (p. 23)": "string",
  "ClientVersion (p. 23)": "string",
  "HapgList (p. 23)": [ "string" ]
}
```

Request Parameters

The request requires the following data in JSON format.

ClientArn (p. 23)

The ARN of the client.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:client-[0-9a-f]{8}`

Required: Yes

ClientVersion (p. 23)

The client version.

Type: String

Valid Values: 5.1 | 5.3

Required: Yes

HapgList (p. 23)

A list of ARNs that identify the high-availability partition groups that are associated with the client.

Type: array of Strings

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hapg-[0-9a-f]{8}`

Required: Yes

Response Syntax

```
{
  "ConfigCred (p. 23)": "string",
  "ConfigFile (p. 24)": "string",
  "ConfigType (p. 24)": "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.

ConfigCred (p. 23)

The certificate file containing the server.pem files of the HSMs.

Type: String

Pattern: `[\w :+.=./\-\]*`

ConfigFile (p. 23)

The chrystoki.conf configuration file.

Type: String

Pattern: [\w :+=. /\\-]*

ConfigType (p. 23)

The type of credentials.

Type: String

Pattern: [\w :+=. /\\-]*

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

ListAvailableZones

Lists the Availability Zones that have available AWS CloudHSM capacity.

Response Syntax

```
{  
  "AZList (p. 25)": [ "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.

AZList (p. 25)

The list of Availability Zones that have available AWS CloudHSM capacity.

Type: array of Strings

Pattern: [a-zA-Z0-9\-\]*

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

ListHapgs

Lists the high-availability partition groups for the account.

This operation supports pagination with the use of the `NextToken` member. If more results are available, the `NextToken` member of the response contains a token that you pass in the next call to `ListHapgs` to retrieve the next set of items.

Request Syntax

```
{  
  "NextToken (p. 26)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

NextToken (p. 26)

The `NextToken` value from a previous call to `ListHapgs`. Pass null if this is the first call.

Type: String

Pattern: [a-zA-Z0-9+/*]

Required: No

Response Syntax

```
{  
  "HapgList (p. 26)": [ "string" ],  
  "NextToken (p. 26)": "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.

HapgList (p. 26)

The list of high-availability partition groups.

Type: array of Strings

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-_]*:[0-9]{12}:hapg-[0-9a-f]{8}

NextToken (p. 26)

If not null, more results are available. Pass this value to `ListHapgs` to retrieve the next set of items.

Type: String

Pattern: [a-zA-Z0-9+/*]

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

ListHsms

Retrieves the identifiers of all of the HSMs provisioned for the current customer.

This operation supports pagination with the use of the `NextToken` member. If more results are available, the `NextToken` member of the response contains a token that you pass in the next call to `ListHsms` to retrieve the next set of items.

Request Syntax

```
{  
  "NextToken (p. 28)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

NextToken (p. 28)

The `NextToken` value from a previous call to `ListHsms`. Pass null if this is the first call.

Type: String

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

Required: No

Response Syntax

```
{  
  "HsmList (p. 28)": [ "string" ],  
  "NextToken (p. 28)": "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.

HsmList (p. 28)

The list of ARNs that identify the HSMs.

Type: array of Strings

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hsm-[0-9a-f]{8}`

NextToken (p. 28)

If not null, more results are available. Pass this value to `ListHsms` to retrieve the next set of items.

Type: String

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

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

ListLunaClients

Lists all of the clients.

This operation supports pagination with the use of the `NextToken` member. If more results are available, the `NextToken` member of the response contains a token that you pass in the next call to `ListLunaClients` to retrieve the next set of items.

Request Syntax

```
{  
  "NextToken (p. 30)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

NextToken (p. 30)

The `NextToken` value from a previous call to `ListLunaClients`. Pass null if this is the first call.

Type: String

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

Required: No

Response Syntax

```
{  
  "ClientList (p. 30)": [ "string" ],  
  "NextToken (p. 30)": "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.

ClientList (p. 30)

The list of clients.

Type: array of Strings

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:client-[0-9a-f]{8}`

NextToken (p. 30)

If not null, more results are available. Pass this to `ListLunaClients` to retrieve the next set of items.

Type: String

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

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

ListTagsForResource

Returns a list of all tags for the specified AWS CloudHSM resource.

Request Syntax

```
{  
  "ResourceArn (p. 32)": "string"  
}
```

Request Parameters

The request requires the following data in JSON format.

ResourceArn (p. 32)

The Amazon Resource Name (ARN) of the AWS CloudHSM resource.

Type: String

Pattern: [\w :+=.\/\-\]*

Required: Yes

Response Syntax

```
{  
  "TagList (p. 32)": [  
    {  
      "Key (p. 43)": "string",  
      "Value (p. 43)": "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.

TagList (p. 32)

One or more tags.

Type: array of [Tag \(p. 43\)](#) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.
HTTP Status Code: 400

ModifyHapg

Modifies an existing high-availability partition group.

Request Syntax

```
{  
  "HapgArn (p. 34)": "string",  
  "Label (p. 34)": "string",  
  "PartitionSerialList (p. 34)": [ "string" ]  
}
```

Request Parameters

The request requires the following data in JSON format.

HapgArn (p. 34)

The ARN of the high-availability partition group to modify.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hapg-[0-9a-f]{8}`

Required: Yes

Label (p. 34)

The new label for the high-availability partition group.

Type: String

Pattern: `[a-zA-Z0-9_.-]{1,64}`

Required: No

PartitionSerialList (p. 34)

The list of partition serial numbers to make members of the high-availability partition group.

Type: array of Strings

Pattern: `\d{6,12}`

Required: No

Response Syntax

```
{  
  "HapgArn (p. 34)": "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.

HapgArn (p. 34)

The ARN of the high-availability partition group.

Type: String

Pattern: `arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:hapg-[0-9a-f]{8}`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

ModifyHsm

Modifies an HSM.

Important

This operation can result in the HSM being offline for up to 15 minutes while the AWS CloudHSM service is reconfigured. If you are modifying a production HSM, you should ensure that your AWS CloudHSM service is configured for high availability, and consider executing this operation during a maintenance window.

Request Syntax

```
{
  "EniIp (p. 36)": "string",
  "ExternalId (p. 36)": "string",
  "HsmArn (p. 36)": "string",
  "IamRoleArn (p. 36)": "string",
  "SubnetId (p. 36)": "string",
  "SyslogIp (p. 37)": "string"
}
```

Request Parameters

The request requires the following data in JSON format.

EniIp (p. 36)

The new IP address for the elastic network interface (ENI) attached to the HSM.

If the HSM is moved to a different subnet, and an IP address is not specified, an IP address will be randomly chosen from the CIDR range of the new subnet.

Type: String

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

Required: No

ExternalId (p. 36)

The new external ID.

Type: String

Pattern: [\w :+=./-]*

Required: No

HsmArn (p. 36)

The ARN of the HSM to modify.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9-]*:[0-9]{12}:hsm-[0-9a-f]{8}

Required: Yes

IamRoleArn (p. 36)

The new IAM role ARN.

Type: String

Pattern: arn:aws(-iso)?:iam::[0-9]{12}:role/[a-zA-Z0-9_+=,\.\-@]{1,64}

Required: No

SubnetId (p. 36)

The new identifier of the subnet that the HSM is in. The new subnet must be in the same Availability Zone as the current subnet.

Type: String

Pattern: subnet-[0-9a-f]{8}

Required: No

SyslogIp (p. 36)

The new IP address for the syslog monitoring server. The AWS CloudHSM service only supports one syslog monitoring server.

Type: String

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

Required: No

Response Syntax

```
{  
  "HsmArn (p. 37)": "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.

HsmArn (p. 37)

The ARN of the HSM.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\-]*:[0-9]{12}:hsm-[0-9a-f]{8}

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

ModifyLunaClient

Modifies the certificate used by the client.

This action can potentially start a workflow to install the new certificate on the client's HSMs.

Request Syntax

```
{
  "Certificate (p. 38)": "string",
  "ClientArn (p. 38)": "string"
}
```

Request Parameters

The request requires the following data in JSON format.

Certificate (p. 38)

The new certificate for the client.

Type: String

Length Constraints: Minimum length of 600. Maximum length of 2400.

Pattern: [\w :+=. / \n -] *

Required: Yes

ClientArn (p. 38)

The ARN of the client.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:client-[0-9a-f]{8}

Required: Yes

Response Syntax

```
{
  "ClientArn (p. 38)": "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.

ClientArn (p. 38)

The ARN of the client.

Type: String

Pattern: arn:aws(-iso)?:cloudhsm:[a-zA-Z0-9\-\]*:[0-9]{12}:client-[0-9a-f]{8}

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

RemoveTagsFromResource

Removes one or more tags from the specified AWS CloudHSM resource.

To remove a tag, specify only the tag key to remove (not the value). To overwrite the value for an existing tag, use [AddTagsToResource](#) (p. 4).

Request Syntax

```
{
  "ResourceArn (p. 40)": "string",
  "TagKeyList (p. 40)": [ "string" ]
}
```

Request Parameters

The request requires the following data in JSON format.

ResourceArn (p. 40)

The Amazon Resource Name (ARN) of the AWS CloudHSM resource.

Type: String

Pattern: [\w :+=. /\\-]*

Required: Yes

TagKeyList (p. 40)

The tag key or keys to remove.

Specify only the tag key to remove (not the value). To overwrite the value for an existing tag, use [AddTagsToResource](#) (p. 4).

Type: array of Strings

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

Required: Yes

Response Syntax

```
{
  "Status (p. 40)": "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.

Status (p. 40)

The status of the operation.

Type: String

Pattern: [\w :+=. /\\-]*

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 44\)](#).

CloudHsmInternalException

Indicates that an internal error occurred.

HTTP Status Code: 500

CloudHsmServiceException

Indicates that an exception occurred in the AWS CloudHSM service.

HTTP Status Code: 400

InvalidRequestException

Indicates that one or more of the request parameters are not valid.

HTTP Status Code: 400

Data Types

The AWS CloudHSM API contains several data types that various actions use. This section describes each data type in detail.

Note

The order of each element in the response is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- [Tag \(p. 43\)](#)

Tag

A key-value pair that identifies or specifies metadata about an AWS CloudHSM resource.

Contents

Key

The key of the tag.

Type: String

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

Required: Yes

Value

The value of the tag.

Type: String

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

Required: Yes

Common Errors

This section lists the common errors that all actions return. Any action-specific errors are listed in the topic for the action.

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

InvalidQueryStringParameter

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

Throttling

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

Document History

The following table describes the important changes to the documentation in this release of the AWS CloudHSM API.

- **Latest documentation update:** January 8th, 2015

Change	Description	Date Changed
Initial Release	Initial release of the AWS CloudHSM API.	January 8th, 2015