Elastic Volume Service

API Reference

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Contents

1 Before You Start

1.1 Overview

Welcome to *Elastic Volume Service API Reference*. Elastic Volume Service (EVS) offers scalable block storage for cloud servers. With high reliability, high performance, and a variety of specifications, EVS disks can be used for distributed file systems, development and test environments, data warehouses, and high-performance computing (HPC) applications.

This document describes how to use application programming interfaces (APIs) to perform operations on EVS resources, such as creating, querying, deleting, and updating an EVS resource. For details about all supported operations, see **API Overview**.

Before calling an EVS API, ensure that you are familiar with the EVS concepts. For details, see **Service Overview**.

1.2 API Calling

EVS supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS. For details about API calling, see **Calling APIs**.

1.3 Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For the endpoint of the EVS service, see **Regions and Endpoints**.

1.4 Constraints

- The number of EVS resources that you can create is determined by your quota. To view or increase the quotas, see **Querying EVS Resource Quotas**.
- For detailed constraints, see the constraints described in specific APIs.

1.5 Concepts

- Account

  An account is created upon successful registration. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity, which should not be used directly to perform routine management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.

- User

  An IAM user is created by an account in IAM to use cloud services. Each IAM user has its own identity credentials (password and access keys).

  API authentication requires information such as the account name, username, and password.

- Region

  Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.

  For details, see **Region and AZ**.

- AZ

  An AZ comprises of one or more physical data centers equipped with independent ventilation, fire, water, and electricity facilities. Computing, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.

- Project

  A project corresponds to a region. Default projects are defined to group and physically isolate resources (including computing, storage, and network resources) across regions. Users can be granted permissions in a default project to access all resources under their accounts in the region associated with the project. If you need more refined access control, create subprojects under a default project and create resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

Figure 1-1 Project isolation model
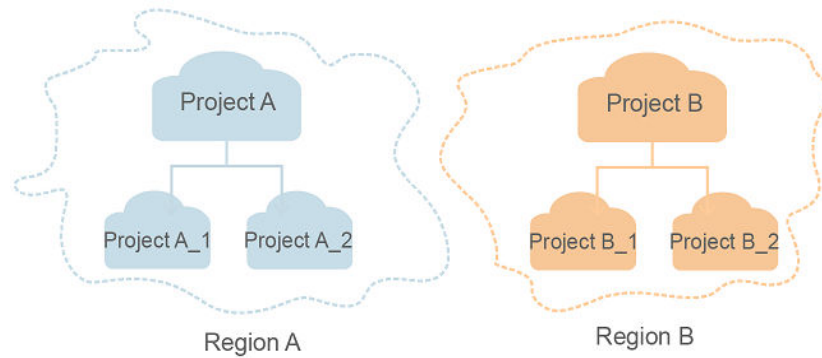
- Enterprise project

  Enterprise projects group and manage resources across regions. Resources in different enterprise projects are logically isolated. An enterprise project can contain resources of multiple regions, and resources can be added to or removed from enterprise projects.

  For details about enterprise projects and about how to obtain enterprise project IDs, see *Enterprise Management User Guide*.

1.6 API Types/Versions/Microversions

API Type Description

EVS APIs are classified as follows:

- APIs for EVS with customized specifications, which are also referred to as custom APIs
- Native OpenStack APIs that comply with OpenStack community specifications, which are also referred to as OpenStack Cinder APIs

The two types of APIs offer similar functions but are used in different scenarios. OpenStack Cinder APIs are used to meet open-source ecosystem requirements, while APIs for EVS with customized specifications are developed based on native OpenStack APIs with the following enhanced functions:

API Version Description

EVS custom APIs provide multiple versions. For APIs offering the same functions, you are recommended to use the v2 APIs.

2 API Overview

EVS APIs include custom APIs and OpenStack Cinder APIs.

Custom APIs do not depend on OpenStack, and OpenStack Cinder APIs depend on OpenStack. A combination of these two types of APIs allows you to use all EVS functions.

Table 2-1 API overview

Type	Subtype	Description
API	EVS disk	These APIs provide the functions, such as creating disks, deleting disks, and querying disk details.
	EVS snapshot	An EVS snapshot is a complete copy or image of the disk data at a specific time point. These APIs provide the function of rolling back the snapshot data to the disk.
	EVS tag	Tags are used to identify the cloud resources for purposes of easy categorization and quick search. These APIs provide the functions, such as adding, deleting, and querying tags.
OpenStack Cinder API	EVS disk	These APIs provide the functions, such as creating disks, updating disks, querying disks, querying images, and querying quotas.
	EVS disk action	These APIs provide the functions, such as expanding disks, reserving disks, exporting disk data as images, and setting the bootable attribute for disks.
	EVS snapshot	An EVS snapshot is a complete copy or image of the disk data at a specific time point. These APIs provide the functions, such as creating snapshots, querying snapshots, updating snapshot metadata, and querying snapshot metadata.

Type	Subtype	Description
	EVS disk transfer	Through the disk transfer function, disks can be transferred from one tenant to another. After the transfer succeeds, the ownerships of the disks belong to the target tenant only. These APIs provide the functions, such as creating, accepting, deleting, and querying disk transfers.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM API for **obtaining a user token** as an example to demonstrate how to call an API. The obtained token can then be used to authenticate the calling of other APIs.

Request URI

A request URI is in the following format:

{URI-scheme}://{Endpoint}/{resource-path}?{query-string}

Although a request URI is included in the request header, most programming languages or frameworks require the request URI to be transmitted separately.

Table 3-1 URI parameter description

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from **Regions and Endpoints**. For example, the endpoint of IAM in region **CN-Hong Kong** is **iam.ap-southeast-1.myhuaweicloud.com**.
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of *Parameter name*=*Parameter value*. For example, **? limit=10** indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the **CN-Hong Kong** region, obtain the endpoint of IAM (iam.ap-southeast-1.myhuaweicloud.com) for this region and the resource-path (/v3/auth/tokens) in the URI of the API used to **obtain a user token**. Then, construct the URI as follows:

https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens

Figure 3-1 Example URI
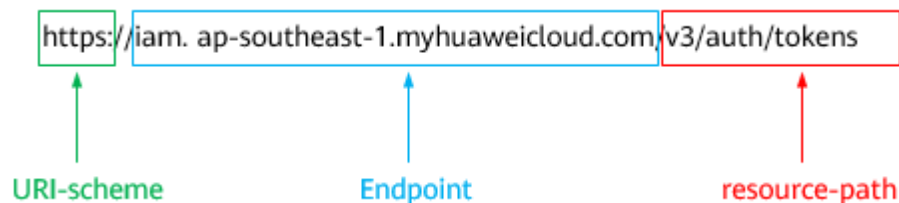
NOTE

To simplify the URI display in this document, each API is provided only with a **resource-path** and a request method. The **URI-scheme** of all APIs is **HTTPS**, and the endpoints of all APIs in the same region are identical.

Request Methods

The HTTP protocol defines the following request methods that can be used to send a request to the server.

Table 3-2 HTTP methods

Method	Description
GET	Requests the server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Requests the server to delete specified resources, for example, an object.
HEAD	Same as GET except that the server must return only the response header.
PATCH	Requests the server to update partial content of a specified resource. If the resource does not exist, a new resource will be created.

For example, in the case of the API used to **obtain a user token**, the request method is **POST**. The request is as follows:

POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens

Request Header

You can also add additional header fields to a request, such as the fields required by a specified URI or HTTP method. For example, to request for the authentication information, add **Content-Type**, which specifies the request body type.

Common request header fields are as follows.

Table 3-3 Common request header fields

Parameter	Description	Mandatory	Example Value
Host	Specifies the server domain name and port number of the resources being requested. The value can be obtained from the URL of the service API. The value is in the format of *Hostname:Port number*. If the port number is not specified, the default port is used. The default port number for **https** is **443**.	No This field is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the type (or format) of the message body. The default value **application/json** is recommended. Other values of this field will be provided for specific APIs if any.	Yes	application/json
Content-Length	Specifies the length of the request body. The unit is byte.	No	3495
X-Project-Id	Specifies the project ID. Obtain the project ID by following the instructions in **Obtaining a Project ID**.	No This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d94b6c886cbaa340f9c0f4

Parameter	Description	Mandatory	Example Value
X-Auth-Token	Specifies the user token. It is a response to the API for **obtaining a user token** (This is the only API that does not require authentication). After the request is processed, the value of **X-Subject-Token** in the response header is the token value.	No This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIhvc NAQcCo...ggg1B BIINPXsidG9rZ

NOTE

> In addition to supporting authentication using tokens, APIs support authentication using AK/SK, which uses SDKs to sign a request. During the signature, the **Authorization** (signature authentication) and **X-Sdk-Date** (time when a request is sent) headers are automatically added in the request.
>
> For more details, see "Authentication Using AK/SK" in **Authentication**.

The API used to **obtain a user token** does not require authentication. Therefore, only the **Content-Type** field needs to be added to requests for calling the API. An example of such requests is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

(Optional) Request Body

This part is optional. The body of a request is often sent in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The request body transfers content except the request header.

The request body varies between APIs. Some APIs do not require the request body, such as the APIs requested using the GET and DELETE methods.

In the case of the API used to **obtain a user token**, the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace *username*, *domainname*, ******** (login password), and *xxxxxxxxxxxxxxxx* (project name) with the actual values. Obtain a project name from **Regions and points**.

NOTE

> The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see **Obtaining a User Token**.

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

{
```

```
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "********",
                    "domain": {
                        "name": "domainname"
                    }
                }
            }
        },
        "scope": {
            "project": {
                "name": "xxxxxxxxxxxxxxxxxx"
            }
        }
    }
}
```

If all data required for the API request is available, you can send the request to call the API through **curl**, **Postman**, or coding. In the response to the API used to obtain a user token, **X-Subject-Token** is the desired user token. This token can then be used to authenticate the calling of other APIs.

3.2 Authentication

Requests for calling an API can be authenticated using either of the following methods:

- Token authentication: Requests are authenticated using tokens.
- AK/SK authentication: Requests are encrypted using AK/SK pairs. AK/SK authentication is recommended because it is more secure than token authentication.

Token Authentication

📖 NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API used to obtain a user token.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to requests to get permissions for calling the API. You can obtain a token by calling the **Obtaining User Token** API.

EVS is a project-level service. When you call the API, set **auth.scope** in the request body to **project**.

```
{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",   // IAM user name
                    "password": "********", // IAM user password
```

```
            "domain": {
                "name": "domainname"   // Name of the account to which the IAM user belongs
            }
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "xxxxxxxx"     // Project Name
      }
    }
  }
}
}
```

After a token is obtained, the **X-Auth-Token** header field must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

AK/SK Authentication

☐ NOTE

> AK/SK authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token authentication is recommended.

In AK/SK authentication, AK/SK is used to sign requests and the signature is then added to the requests for authentication.

- AK: access key ID, which is a unique identifier used in conjunction with a secret access key to sign requests cryptographically.

- SK: secret access key, which is used in conjunction with an AK to sign requests cryptographically. It identifies a request sender and prevents the request from being modified.

In AK/SK authentication, you can use an AK/SK to sign requests based on the signature algorithm or using the signing SDK. For details about how to sign requests and use the signing SDK, see **API Request Signing Guide**.

☐ NOTE

> The signing SDK is only used for signing requests and is different from the SDKs provided by services.

3.3 Response

Status Code

After sending a request, you will receive a response, including a status code, response header, and response body.

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a request. For more information, see **Status Codes**.

For example, if status code **201** is returned for calling the API used to **obtain a user token**, the request is successful.

Response Header

Similar to a request, a response also has a header, for example, **Content-Type**.

Figure 3-2 shows the response header fields for the API used to **obtain a user token**. The **X-Subject-Token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

📖 **NOTE**

For security purposes, you are advised to set the token in ciphertext in configuration files or environment variables and decrypt it when using it.

Figure 3-2 Header fields of the response to the request for obtaining a user token

(Optional) Response Body

The body of a response is often returned in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body for the API used to **obtain a user token**.

```
{
    "token": {
        "expires_at": "2019-02-13T06:52:13.855000Z",
        "methods": [
            "password"
        ],
        "catalog": [
            {
                "endpoints": [
                    {
                        "region_id": "az-01",
......
```

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

```
{
    "error_msg": "The request message format is invalid.",
```

```
    "error_code": "IMG.0001"
}
```

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

4 Getting Started

4.1 Creating an EVS Disk

Scenarios

This section describes how to create an EVS disk by calling APIs. For details about how to call APIs, see **Calling APIs**.

In the following example, APIs are called to create a disk from a snapshot.

Prerequisites

You have planned the region where you want to create the disk and obtained the endpoint required for API calls. For details, see **Endpoints**.

Procedure

Step 1 Query the snapshots and obtain information of the snapshot you desire.

API: Querying Details About EVS Snapshots

● Example request

https://{*endpoint*}/v2/ba546eb46e7247c9aadb566ed7a1d31f/snapshots/detail

● Example response

```
{
  "snapshots": [
    {
      "status": "available",
      "description": null,
      "updated_at": "2019-06-18T12:47:38.234689",
      "volume_id": "037cf89a-8cea-4d63-ac57-345c0ffccfc2",
      "id": "0b126d3b-f2af-404d-8d39-a42fce70065a",
      "size": 40,
      "os-extended-snapshot-attributes:progress": "100%",
      "name": "snapshot-test",
      "os-extended-snapshot-attributes:project_id": "ba546eb46e7247c9aadb566ed7a1d31f",
      "created_at": "2019-06-18T12:47:33.700070",
      "metadata": {}
    }
  ]
}
```

In the response, **id** indicates the snapshot ID.

Step 2 Create a disk from a snapshot.

API: Creating EVS Disks

- Example request

  POST https://*{endpoint}*/v2/ba546eb46e7247c9aadb566ed7a1d31f/
  cloudvolumes

```
{
    "volume": {
        "count": 1,
        "availability_zone": "az-dc-1",
        "description": "test_volume_1",
        "size": 120,
        "snapshot_id": "0b126d3b-f2af-404d-8d39-a42fce70065a",
        "name": "test_volume_1",
        "volume_type": "SATA"
    }
}
```

- Example response

```
{
  "job_id": "ff8080816b512df7016b6ab8982b496b"
}
```

----End

5 API Version Query

5.1 Querying Information of API Versions

Function

This API is used to query information of API versions.

URI

- URI format

  GET /

Request

- Example request

  ```
  GET https://{endpoint}/
  ```

Response

- Parameter description

Parameter	Type	Description
versions	Array of objects	The API versions. For details, see **Parameters in the versions field**.

- Parameters in the **versions** field

Parameter	Type	Description
min_version	String	The minimum microversion supported. If this version does not support microversions, the value is an empty string.
media-types	Array of objects	The request message type of the API version. For details, see **Parameters in the media-types field**.

Parameter	Type	Description
links	Array of objects	The URI of the API version. For details, see **Parameters in the links field**.
id	String	The ID of the API version.
updated	String	The last time when the API version was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
version	String	The maximum microversion supported. If this version does not support microversions, the value is an empty string.
status	String	The API version status. The value can be as follows: ● **CURRENT**: EVS custom APIs provide multiple versions. For APIs offering the same functions, you are recommended to use the v2 APIs. ● **SUPPORTED**: indicates an earlier version which is still supported. ● **DEPRECATED**: indicates a deprecated version that may be deleted later.

● Parameters in the **media-types** field

Parameter	Type	Description
type	String	The response type.
base	String	The text type.

● Parameters in the **links** field

Parameter	Type	Description
rel	String	The domain name description.
href	String	The domain name.
type	String	The response type.

● Example response

```
{
    "versions": [
        {
            "min_version": "",
            "media-types": [
                {
                    "type": "application/vnd.openstack.volume+json;version=1",
                    "base": "application/json"
                },
```

```
                                  {
                                     "type": "application/vnd.openstack.volume+xml;version=1",
                                     "base": "application/xml"
                                  }
                               ],
                               "links": [
                                  {
                                     "rel": "describedby",
                                     "href": "http://docs.openstack.org/",
                                     "type": "text/html"
                                  },
                                  {
                                     "rel": "self",
                                     "href": "https://evs.localdomain.com/v1"
                                  }
                               ],
                               "id": "v1.0",
                               "updated": "2014-06-28T12:20:21Z",
                               "version": "",
                               "status": "SUPPORTED"
                            },
                            {
                               "min_version": "",
                               "media-types": [
                                  {
                                     "type": "application/vnd.openstack.volume+json;version=1",
                                     "base": "application/json"
                                  },
                                  {
                                     "type": "application/vnd.openstack.volume+xml;version=1",
                                     "base": "application/xml"
                                  }
                               ],
                               "links": [
                                  {
                                     "rel": "describedby",
                                     "href": "http://docs.openstack.org/",
                                     "type": "text/html"
                                  },
                                  {
                                     "rel": "self",
                                     "href": "https://evs.localdomain.com/v2"
                                  }
                               ],
                               "id": "v2.0",
                               "updated": "2014-06-28T12:20:21Z",
                               "version": "",
                               "status": "SUPPORTED"
                            },
                            {
                               "min_version": "3.0",
                               "media-types": [
                                  {
                                     "type": "application/vnd.openstack.volume+json;version=1",
                                     "base": "application/json"
                                  },
                                  {
                                     "type": "application/vnd.openstack.volume+xml;version=1",
                                     "base": "application/xml"
                                  }
                               ],
                               "links": [
                                  {
                                     "rel": "describedby",
                                     "href": "http://docs.openstack.org/",
                                     "type": "text/html"
                                  },
                                  {
                                     "rel": "self",
```

```
          "href": "https://evs.localdomain.com/v3"
        }
      ],
      "id": "v3.0",
      "updated": "2016-02-08T12:20:21Z",
      "version": "3.0",
      "status": "CURRENT"
    }
  ]
}
```

Status Codes

- Normal

  300

Error Codes

See **Error Codes**.

5.2 Querying Information of an API Version

Function

This API is used to query information of an API version.

URI

- URI format

  GET /{api_version}

- Parameter description

Parameter	Type	Description
api_version	String	The target API version. The value can be **v1** or **v2**.

Request

- Example request

  GET https://{endpoint}/v2

Response

- Parameter description

Parameter	Type	Description
versions	Array of objects	The API version information. For details, see **Parameters in the versions field**.

- Parameters in the **versions** field

Parameter	Type	Description
min_version	String	The minimum microversion supported. If this version does not support microversions, the value is an empty string.
media-types	Array of objects	The request message type of the API version. For details, see **Parameters in the media-types field**.
links	Array of objects	The URI of the API version. For details, see **Parameters in the links field**.
id	String	The ID of the API version.
updated	String	The last time when the API version was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
version	String	The maximum microversion supported. If this version does not support microversions, the value is an empty string.
status	String	The API version status. The value can be as follows: **CURRENT**: EVS custom APIs provide multiple versions. For APIs offering the same functions, you are recommended to use the v2 APIs. **SUPPORTED**: indicates an earlier version which is still supported. **DEPRECATED**: indicates a deprecated version that may be deleted later.

● Parameters in the **media-types** field

Parameter	Type	Description
type	String	The response type.
base	String	The text type.

● Parameters in the **links** field

Parameter	Type	Description
rel	String	The domain name description.
href	String	The domain name.

Parameter	Type	Description
type	String	The response type.

- Example response

```
{
    "versions": [
        {
            "min_version": "",
            "media-types": [
                {
                    "type": "application/vnd.openstack.volume+json;version=1",
                    "base": "application/json"
                },
                {
                    "type": "application/vnd.openstack.volume+xml;version=1",
                    "base": "application/xml"
                }
            ],
            "links": [
                {
                    "rel": "describedby",
                    "href": "http://docs.openstack.org/",
                    "type": "text/html"
                },
                {
                    "rel": "self",
                    "href": "https://evs.localdomain.com/v2"
                }
            ],
            "id": "v2.0",
            "updated": "2014-06-28T12:20:21Z",
            "version": "",
            "status": "SUPPORTED"
        }
    ]
}
```

Error Codes

See **Error Codes**.

6 API

6.1 Disk Management

6.1.1 Creating EVS Disks

Function

This API is used to create a pay-per-use or yearly/monthly EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2.1/{project_id}/cloudvolumes

Table 6-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 6-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.
X-Client-Token	No	String	The idempotence identifier of a request. This parameter value is generated by the client and must be unique among requests. The value is a 36-digit character string in the UUID format and is valid for 8 hours. If multiple requests carry the same idempotent identifier, the requests are considered as an idempotent request and the same response body is returned.

Table 6-3 Request body parameters

Parameter	Mandatory	Type	Description
bssParam	No	**BssParamFor CreateVolum e** object	The extended parameter of pay-per-use and yearly/ monthly billing.
volume	Yes	**CreateVolum eOption** object	The information of the disk to be created.
server_id	No	String	The server to attach the disk. The billing mode of the created disk is the same as that of the server. Only ECSs are supported currently. BMSs are not supported.
OS-SCH-HNT:schedule r_hints	No	**CreateVolum eSchedulerHi nts** object	The disk scheduling parameter, which can be used to create the disk in a dedicated storage pool.

Table 6-4 BssParamForCreateVolume

Parameter	Mandatory	Type	Description
chargingMode	No	String	The billing mode. The default value is **postPaid**. Values: • **prePaid**: yearly/monthly • **postPaid**: pay-per-use Default: **postPaid** Enumeration values: • **postPaid** • **prePaid**
isAutoPay	No	String	Whether to pay immediately. This parameter is valid only when **chargingMode** is set to **prePaid**. The default value is **false**. Values: • **true**: An order is immediately paid from the account balance. • **false**: An order is not paid immediately after being created. Default: **false** Enumeration values: • **true** • **false**
isAutoRenew	No	String	Whether to automatically renew the subscription. This parameter is valid only when **chargingMode** is set to **prePaid**. The default value is **false**. Values: • **true**: automatically renews the subscription. The renewal term is the same as the subscription term. • **false**: does not automatically renew the subscription. Default: **false** Enumeration values: • **true** • **false**

Parameter	Mandatory	Type	Description
periodNum	No	Integer	The subscription term. This parameter is valid and mandatory only when **chargingMode** is set to **prePaid**. Values: ● If **periodType** is set to **month**, the parameter value ranges from **1** to **9**. ● If **periodType** is set to **year**, the parameter value is **1**.
periodType	No	String	The unit of the subscription term. This parameter is valid and mandatory only when **chargingMode** is set to **prePaid**. Values: ● **month** ● **year** Enumeration values: ● **month** ● **year**
cloudServiceConsoleURL	No	String	The URL used to switch to the cloud service console to view information after the subscription is complete.

Table 6-5 CreateVolumeOption

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	The AZ where you want to create the disk.
backup_id	No	String	The backup ID. This parameter is mandatory when you create the disk from a backup.

Parameter	Mandatory	Type	Description
count	No	Integer	The number of disks to be created in a batch. If this parameter is not specified, only one disk will be created. You can create a maximum of 100 disks in a batch. If the disk is created from a backup, batch creation is not possible, and this parameter must be set to **1**. If the specified value is a decimal number, the number part will be used by default.
description	No	String	The disk description. You can enter up to 85 characters.
enterprise_project_id	No	String	The enterprise project ID. This ID is associated with the disk during the disk creation.
imageRef	No	String	The image ID. If this parameter is specified, the disk is created from an image.

Parameter	Mandatory	Type	Description
metadata	No	Map<String,String>	The disk metadata information. The value can be as follows: __system__cmkid: The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. **NOTE** For details about how to obtain the key ID, see **Querying the Key List**. **__system__encrypted**: The encryption field in **metadata**. The value can be **0** (does not encrypt) or **1** (encrypts). If this parameter is not specified, the encryption attribute of the disk is the same as that of the data source. If the disk is not created from a data source, the disk is not encrypted by default. [full_clone] If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**. [hw:passthrough] ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media and supports SCSI reservation commands. ● If this parameter value is **false**, the disk device type is VBD, which supports only simple SCSI read/write commands. ● If this parameter is not specified, the disk device type is VBD.

Parameter	Mandatory	Type	Description
multiattach	No	Boolean	Whether the disk is shareable. The value can be **true** (shareable) or **false** (non-shareable).
name	No	String	The disk name. If you create one disk, the **name** value is the disk name. You can enter up to 64 characters. If you create multiple disks (the **count** value greater than **1**), the system automatically adds a hyphen followed by a four-digit incremental number, such as **-0000**, to the end of each disk name. For example, the disk names can be **volume-0001** and **volume-0002**.
size	Yes	Integer	The disk size, in GiB. The restrictions are as follows: ● System disk: 1 GiB to 1,024 GiB ● Data disk: 10 GiB to 32,768 GiB ● This parameter is mandatory when you create an empty disk or use an image or a snapshot to create a disk. If you use an image or a snapshot to create a disk, the disk size cannot be smaller than the image or snapshot size. ● This parameter is optional if you create the disk from a backup. If not specified, the disk size is the same as the backup size.
snapshot_id	No	String	The snapshot ID. If this parameter is specified, the disk is created from a snapshot.

Parameter	Mandatory	Type	Description
volume_type	Yes	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type (sold out) ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type If the specified disk type is not available in the AZ, the disk will fail to be created. **NOTE** When you create a disk from a snapshot, ensure that the disk type of the new disk is consistent with that of the snapshot's source disk. For details about disk types, see **Disk Types and Performance**. Enumeration values: ● **SATA** ● **SAS** ● **GPSSD** ● **SSD** ● **ESSD** ● **GPSSD2** ● **ESSD2**
tags	No	Map<String,String>	The disk tag information.
sys_tags	No	Map<String,String>	The disk system tag information.

Parameter	Mandatory	Type	Description
iops	No	Integer	The configured IOPS. This parameter is mandatory only when a general purpose SSD V2 or an extreme SSD V2 disk is created. **NOTE** To learn the IOPS ranges of the general purpose SSD V2 and extreme SSD V2 disks, see [[the table of EVS performance data in **Disk Types and Performance**. ● Only pay-per-use billing is supported.
throughput	No	Integer	The configured throughput, in the unit of MiB/s. This parameter is mandatory only when a general purpose SSD V2 disk is created. **NOTE** To learn the throughput range of the general purpose SSD V2 disks, see [[the table of EVS performance data in **Disk Types and Performance**. ● Only pay-per-use billing is supported.

Table 6-6 CreateVolumeSchedulerHints

Parameter	Mandatory	Type	Description
dedicated_storage_id	No	String	The dedicated storage pool ID. If this parameter is specified, the disks will be created in the specified storage pool.

Response Parameters

Status code: 202

Table 6-7 Response body parameters

Parameter	Type	Description
job_id	String	The task ID. This parameter is returned when the disk is billed on a pay-per-use basis. ● For details about how to query the task status, see **Querying Task Status**..
order_id	String	The order ID. This parameter is returned when the disk is billed on a yearly/monthly basis. ● If you add a disk to a yearly/monthly server, the system automatically attaches the disk to the server. In this case, this parameter is also returned. ● If you need to pay for the order, see **Paying Yearly/Monthly Product Orders**.
volume_ids	Array of strings	**The IDs of the disks to be created.** ● If 404 is returned when you query the details of a disk by disk ID, the disk is being created or has failed to be created. ● You can query whether the disk creation task is complete by task ID. For details, see **Querying Task Status**.

Status code: 400

Table 6-8 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-9 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

- Creating a shared, encrypted EVS disk in storage pool **1b6198f2-20a6-5dcc-aa21-58c1af5dc488** (Deploy the disk in AZ 1 of CN-Hong Kong. Set the disk name to **EVS-Test**, device type to SCSI, disk type to high I/O, and size to 10 GiB.)

  POST https://{endpoint}/v2.1/{project_id}/cloudvolumes

  ```
  {
    "volume" : {
      "availability_zone" : "ap-southeast-1a",
      "size" : 10,
      "name" : "EVS-Test",
      "volume_type" : "SAS",
      "metadata" : {
        "hw:passthrough" : "true",
        "__system__encrypted" : "1",
        "__system__cmkid" : "94257794-d7aa-462c-9eaa-9f32c05b9966",
        "region" : "ap-southeast-1"
      },
      "multiattach" : true,
      "enterprise_project_id" : "0"
    },
    "OS-SCH-HNT:scheduler_hints" : {
      "dedicated_storage_id" : "1b6198f2-20a6-5dcc-aa21-58c1af5dc488"
    }
  }
  ```

- Creating a shared EVS disk (Deploy the disk in AZ 1 of the CN-Hong Kong region. Set the disk name to **EVS-Test2**, type to general purpose SSD V2, IOPS to 5,000, throughput to 500 MiB/s, size to 100 GiB, and subscription period to three months. Add tags to the disk. Enable automatic subscription renewal. You will be billed for the disk immediately after the order is placed.)

  POST https://{endpoint}/v2.1/{project_id}/cloudvolumes

  ```
  {
    "volume": {
      "count": 1,
      "availability_zone": "ap-southeast-1",
      "size": 100,
      "name": "EVS-Test2",
      "volume_type": "GPSSD2",
      "metadata": {},
      "tags": {
        "key_string": "value_string"
      },
      "iops": 5000,
      "throughput": 500,
      "multiattach": 1
    },
    "bssParam": {
      "chargingMode": "prePaid",
      "periodType": "month",
      "periodNum": 3,
      "isAutoPay": true,
      "isAutoRenew": true,
    }
  }
  ```

Example Responses

Status code: 202

Accepted

```
{
  "job_id" : "70a599e0-31e7-49b7-b260-868f441e862b",
  "volume_ids" : [ "e1fa3e72-8c92-4871-9152-bf66fef0afe9" ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

- Creating a shared, encrypted EVS disk in storage pool **1b6198f2-20a6-5dcc-aa21-58c1af5dc488** (Deploy the disk in AZ 1 of CN-Hong Kong. Set the disk name to **EVS-Test**, device type to SCSI, disk type to high I/O, and size to 10 GiB.)

```java
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;

import java.util.Map;
import java.util.HashMap;

public class CreateVolumeSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before
running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateVolumeRequest request = new CreateVolumeRequest();
        CreateVolumeRequestBody body = new CreateVolumeRequestBody();
        CreateVolumeSchedulerHints osschhntschedulerhintsbody = new CreateVolumeSchedulerHints();
        osschhntschedulerhintsbody.withDedicatedStorageId("1b6198f2-20a6-5dcc-aa21-58c1af5dc488");
        Map<String, String> listVolumeMetadata = new HashMap<>();
        listVolumeMetadata.put("hw:passthrough", "true");
```

```
listVolumeMetadata.put("__system__encrypted", "1");
listVolumeMetadata.put("__system__cmkid", "94257794-d7aa-462c-9eaa-9f32c05b9966");
listVolumeMetadata.put("region", "ap-southeast-1");
CreateVolumeOption volumebody = new CreateVolumeOption();
volumebody.withAvailabilityZone("ap-southeast-1a")
    .withEnterpriseProjectId("0")
    .withMetadata(listVolumeMetadata)
    .withMultiattach(true)
    .withName("EVS-Test")
    .withSize(10)
    .withVolumeType(CreateVolumeOption.VolumeTypeEnum.fromValue("SAS"));
body.withOsSCHHNTSchedulerHints(osschhntschedulerhintsbody);
body.withVolume(volumebody);
request.withBody(body);
try {
    CreateVolumeResponse response = client.createVolume(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getHttpStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
    }
  }
}
```

- Creating a shared EVS disk (Deploy the disk in AZ 1 of the CN-Hong Kong region. Set the disk name to **EVS-Test2**, type to general purpose SSD V2, IOPS to 5,000, throughput to 500 MiB/s, size to 100 GiB, and subscription period to three months. Add tags to the disk. Enable automatic subscription renewal. You will be billed for the disk immediately after the order is placed.)

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;

import java.util.Map;
import java.util.HashMap;

public class CreateVolumeSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before
running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
```

```java
            .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
            .build();
    CreateVolumeRequest request = new CreateVolumeRequest();
    CreateVolumeRequestBody body = new CreateVolumeRequestBody();
    Map<String, String> listVolumeTags = new HashMap<>();
    listVolumeTags.put("key_string", "value_string");
    CreateVolumeOption volumebody = new CreateVolumeOption();
    volumebody.withAvailabilityZone("ap-southeast-1")
        .withCount(1)
        .withMultiattach(1)
        .withName("EVS-Test2")
        .withSize(100)
        .withVolumeType(CreateVolumeOption.VolumeTypeEnum.fromValue("GPSSD2"))
        .withTags(listVolumeTags)
        .withIops(5000)
        .withThroughput(500);
    BssParamForCreateVolume bssParambody = new BssParamForCreateVolume();

bssParambody.withChargingMode(BssParamForCreateVolume.ChargingModeEnum.fromValue("prePaid"))
        .withIsAutoPay(BssParamForCreateVolume.IsAutoPayEnum.fromValue("true"))
        .withIsAutoRenew(BssParamForCreateVolume.IsAutoRenewEnum.fromValue("true"))
        .withPeriodNum(3)
        .withPeriodType(BssParamForCreateVolume.PeriodTypeEnum.fromValue("month"));
    body.withVolume(volumebody);
    body.withBssParam(bssParambody);
    request.withBody(body);
    try {
        CreateVolumeResponse response = client.createVolume(request);
        System.out.println(response.toString());
    } catch (ConnectionException e) {
        e.printStackTrace();
    } catch (RequestTimeoutException e) {
        e.printStackTrace();
    } catch (ServiceResponseException e) {
        e.printStackTrace();
        System.out.println(e.getHttpStatusCode());
        System.out.println(e.getRequestId());
        System.out.println(e.getErrorCode());
        System.out.println(e.getErrorMsg());
    }
  }
}
```

Python

- Creating a shared, encrypted EVS disk in storage pool **1b6198f2-20a6-5dcc-aa21-58c1af5dc488** (Deploy the disk in AZ 1 of CN-Hong Kong. Set the disk name to **EVS-Test**, device type to SCSI, disk type to high I/O, and size to 10 GiB.)

```python
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before
running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \
```

```
client = EvsClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(EvsRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = CreateVolumeRequest()
    osschhntschedulerhintsbody = CreateVolumeSchedulerHints(
        dedicated_storage_id="1b6198f2-20a6-5dcc-aa21-58c1af5dc488"
    )
    listMetadataVolume = {
        "hw:passthrough": "true",
        "__system__encrypted": "1",
        "__system__cmkid": "94257794-d7aa-462c-9eaa-9f32c05b9966",
        "region": "ap-southeast-1"
    }
    volumebody = CreateVolumeOption(
        availability_zone="ap-southeast-1a",
        enterprise_project_id="0",
        metadata=listMetadataVolume,
        multiattach=True,
        name="EVS-Test",
        size=10,
        volume_type="SAS"
    )
    request.body = CreateVolumeRequestBody(
        os_sch_hn_tscheduler_hints=osschhntschedulerhintsbody,
        volume=volumebody
    )
    response = client.create_volume(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

- Creating a shared EVS disk (Deploy the disk in AZ 1 of the CN-Hong Kong region. Set the disk name to **EVS-Test2**, type to general purpose SSD V2, IOPS to 5,000, throughput to 500 MiB/s, size to 100 GiB, and subscription period to three months. Add tags to the disk. Enable automatic subscription renewal. You will be billed for the disk immediately after the order is placed.)

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before
running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
```

```
        request = CreateVolumeRequest()
        listTagsVolume = {
            "key_string": "value_string"
        }
        volumebody = CreateVolumeOption(
            availability_zone="ap-southeast-1",
            count=1,
            multiattach=1,
            name="EVS-Test2",
            size=100,
            volume_type="GPSSD2",
            tags=listTagsVolume,
            iops=5000,
            throughput=500
        )
        bssParambody = BssParamForCreateVolume(
            charging_mode="prePaid",
            is_auto_pay="true",
            is_auto_renew="true",
            period_num=3,
            period_type="month"
        )
        request.body = CreateVolumeRequestBody(
            volume=volumebody,
            bss_param=bssParambody
        )
        response = client.create_volume(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

- Creating a shared, encrypted EVS disk in storage pool **1b6198f2-20a6-5dcc-aa21-58c1af5dc488** (Deploy the disk in AZ 1 of CN-Hong Kong. Set the disk name to **EVS-Test**, device type to SCSI, disk type to high I/O, and size to 10 GiB.)

```go
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before
running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
```

```
        WithCredential(auth).
        Build())

    request := &model.CreateVolumeRequest{}
    dedicatedStorageIdOSSCHHNTschedulerHints:= "1b6198f2-20a6-5dcc-aa21-58c1af5dc488"
    osschhntschedulerhintsbody := &model.CreateVolumeSchedulerHints{
        DedicatedStorageId: &dedicatedStorageIdOSSCHHNTschedulerHints,
    }
    var listMetadataVolume = map[string]string{
        "hw:passthrough": "true",
        "__system__encrypted": "1",
        "__system__cmkid": "94257794-d7aa-462c-9eaa-9f32c05b9966",
        "region": "ap-southeast-1",
    }
    enterpriseProjectIdVolume:= "0"
    multiattachVolume:= true
    nameVolume:= "EVS-Test"
    volumebody := &model.CreateVolumeOption{
        AvailabilityZone: "ap-southeast-1a",
        EnterpriseProjectId: &enterpriseProjectIdVolume,
        Metadata: listMetadataVolume,
        Multiattach: &multiattachVolume,
        Name: &nameVolume,
        Size: int32(10),
        VolumeType: model.GetCreateVolumeOptionVolumeTypeEnum().SAS,
    }
    request.Body = &model.CreateVolumeRequestBody{
        OSSCHHNTschedulerHints: osschhntschedulerhintsbody,
        Volume: volumebody,
    }
    response, err := client.CreateVolume(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

- Creating a shared EVS disk (Deploy the disk in AZ 1 of the CN-Hong Kong region. Set the disk name to **EVS-Test2**, type to general purpose SSD V2, IOPS to 5,000, throughput to 500 MiB/s, size to 100 GiB, and subscription period to three months. Add tags to the disk. Enable automatic subscription renewal. You will be billed for the disk immediately after the order is placed.)

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before
running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()
```

```
    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateVolumeRequest{}
    var listTagsVolume = map[string]string{
        "key_string": "value_string",
    }
    countVolume:= int32(1)
    multiattachVolume:= 1
    nameVolume:= "EVS-Test2"
    iopsVolume:= int32(5000)
    throughputVolume:= int32(500)
    volumebody := &model.CreateVolumeOption{
        AvailabilityZone: "ap-southeast-1",
        Count: &countVolume,
        Multiattach: &multiattachVolume,
        Name: &nameVolume,
        Size: int32(100),
        VolumeType: model.GetCreateVolumeOptionVolumeTypeEnum().GPSSD2,
        Tags: listTagsVolume,
        Iops: &iopsVolume,
        Throughput: &throughputVolume,
    }
    chargingModeBssParam:= model.GetBssParamForCreateVolumeChargingModeEnum().PRE_PAID
    isAutoPayBssParam:= model.GetBssParamForCreateVolumeIsAutoPayEnum().TRUE
    isAutoRenewBssParam:= model.GetBssParamForCreateVolumeIsAutoRenewEnum().TRUE
    periodNumBssParam:= int32(3)
    periodTypeBssParam:= model.GetBssParamForCreateVolumePeriodTypeEnum().MONTH
    bssParambody := &model.BssParamForCreateVolume{
        ChargingMode: &chargingModeBssParam,
        IsAutoPay: &isAutoPayBssParam,
        IsAutoRenew: &isAutoRenewBssParam,
        PeriodNum: &periodNumBssParam,
        PeriodType: &periodTypeBssParam,
    }
    request.Body = &model.CreateVolumeRequestBody{
        Volume: volumebody,
        BssParam: bssParambody,
    }
    response, err := client.CreateVolume(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

6.1.2 Updating an EVS Disk

Function

This API is used to update the name and description of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v2/{project_id}/cloudvolumes/{volume_id}

Table 6-10 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-11 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-12 Request body parameters

Parameter	Mandatory	Type	Description
volume	Yes	**UpdateVolumeOption** object	The information of the disk to be modified.

Table 6-13 UpdateVolumeOption

Parameter	Mandatory	Type	Description
description	No	String	The new description of the disk. **name** and **description** cannot be null at the same time. You can enter up to 85 characters.
name	No	String	The new name of the disk. **name** and **description** cannot be null at the same time. You can enter up to 64 characters.

Response Parameters

Status code: 200

Table 6-14 Response body parameters

Parameter	Type	Description
attachments	Array of **Attachment** objects	Whether the disk is attached.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable.
created_at	String	The time when the disk was created.
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
metadata	**VolumeMetadata** object	The disk metadata.
multiattach	Boolean	Whether the disk is shareable.
name	String	The disk name.
os-vol-host-attr:host	String	The reserved field.
os-vol-tenant-attr:tenant_id	String	The ID of the project to which the disk belongs.
shareable	String	Whether the disk is shareable.
size	Integer	The disk size.

Parameter	Type	Description
snapshot_id	String	The snapshot ID.
source_volid	String	The reserved field.
status	String	The disk status.
volume_image_metadata	Object	The metadata of the disk image. **NOTE** For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
volume_type	String	The disk type.
description	String	The disk description.
os-volume-replication:extended_status	String	The reserved field.

Table 6-15 Attachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 6-16 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name.

Table 6-17 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. For details about how to obtain the key ID, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter is not specified, the encryption attribute of the disk is the same as that of the data source. If the disk is not created from a data source, the disk is not encrypted by default.
full_clone	String	The creation method when the disk is created from a snapshot. ● **0**: linked clone ● **1**: full clone
hw:passthrough	String	● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. ● If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. ● If this parameter is not specified, the disk device type is VBD.
orderID	String	The parameter that describes the disk billing mode in **metadata**. If this parameter has a value, the disk is billed on a yearly/monthly basis. If not, the disk is billed on a pay-per-use basis.

Status code: 400

Table 6-18 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-19 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Updating the EVS disk name and description

```
PUT https://{endpoint}/v2/{project_id}/cloudvolumes/{volume_id}

{
  "volume" : {
    "name" : "test_volume",
    "description" : "test"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "36ba39af-3579-4e6e-adfc-b764349c0f77",
  "links" : [ {
    "href" : "https://volume.region.xxx.xxx-tsi.de/v2/3cfb09080bd944d0b4cdd72ef26857bd/volumes/
36ba39af-3579-4e6e-adfc-b764349c0f77",
    "rel" : "self"
  }, {
    "href" : "https://volume.region.xxx.xxx-tsi.de/3cfb09080bd944d0b4cdd72ef26857bd/volumes/
36ba39af-3579-4e6e-adfc-b764349c0f77",
    "rel" : "bookmark"
  } ],
  "name" : "newVolume",
  "status" : "in-use",
  "attachments" : [ {
    "server_id" : "c3d3250c-7ce5-42cc-b620-dd2b63d19ca5",
    "attachment_id" : "011a2bdb-a033-4479-845b-50bd8ed7f4d4",
    "attached_at" : "2017-05-23T11:27:38.604815",
    "volume_id" : "36ba39af-3579-4e6e-adfc-b764349c0f77",
    "device" : "/dev/sdf",
    "id" : "36ba39af-3579-4e6e-adfc-b764349c0f77"
  } ],
  "description" : "new volume",
  "multiattach" : false,
  "shareable" : false,
  "size" : 10,
  "metadata" : {
    "hw:passthrough" : "false"
  },
  "bootable" : "false",
  "availability_zone" : "az-dc-1",
  "created_at" : "2017-05-23T09:49:44.481299",
  "volume_type" : "SATA"
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Updating the EVS disk name and description

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class UpdateVolumeSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        UpdateVolumeRequest request = new UpdateVolumeRequest();
        UpdateVolumeRequestBody body = new UpdateVolumeRequestBody();
        UpdateVolumeOption volumebody = new UpdateVolumeOption();
        volumebody.withDescription("test")
            .withName("test_volume");
        body.withVolume(volumebody);
        request.withBody(body);
        try {
            UpdateVolumeResponse response = client.updateVolume(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
```

```
        System.out.println(e.getErrorMsg());
    }
  }
}
```

Python

Updating the EVS disk name and description

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateVolumeRequest()
        volumebody = UpdateVolumeOption(
            description="test",
            name="test_volume"
        )
        request.body = UpdateVolumeRequestBody(
            volume=volumebody
        )
        response = client.update_volume(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Updating the EVS disk name and description

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
```

```
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateVolumeRequest{}
    descriptionVolume:= "test"
    nameVolume:= "test_volume"
    volumebody := &model.UpdateVolumeOption{
        Description: &descriptionVolume,
        Name: &nameVolume,
    }
    request.Body = &model.UpdateVolumeRequestBody{
        Volume: volumebody,
    }
    response, err := client.UpdateVolume(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.1.3 Querying Details About All EVS Disks

Function

This API is used to query details about all EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/cloudvolumes/detail

Table 6-20 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 6-21 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The pagination query by disk ID. Data on the first page is queried by default. When a disk ID is specified in **marker**, information of all disks following the specified disk is queried. (Information of the specified disk is not included in the query results.)
name	No	String	The disk name.
limit	No	Integer	The maximum number of query results that can be returned. The default value is **1000**. Minimum: **1** Maximum: **1000** Default: **1000**
sort_key	No	String	The keyword based on which the returned results are sorted. The value can be **id**, **status**, **size**, or **created_at**, and the default value is **created_at**.

Parameter	Mandatory	Type	Description
offset	No	Integer	The query offset. This parameter is used together with *limit* when you query EVS disks. For example, there are a total of 30 EVS disk. If you set **offset** to **11** and **limit** to **10**, the query starts from the twelfth disk, and a maximum of 10 disks can be queried at a time.
sort_dir	No	String	The result sorting order. The default value is **desc**. **desc**: the descending order **asc**: the ascending order
status	No	String	The disk status. For details, see **EVS Disk Status**.
metadata	No	String	The disk metadata.
availability_zone	No	String	The AZ information.
multiattach	No	Boolean	Whether the disk is shareable. **true**: The disk is shareable. **false**: The disk is not shareable.
service_type	No	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
dedicated_storage_id	No	String	The dedicated storage pool ID. All disks in the dedicated storage pool can be filtered by exact match.
dedicated_storage_name	No	String	The dedicated storage pool name. All disks in the dedicated storage pool can be filtered by fuzzy match.
volume_type_id	No	String	The disk type ID. To obtain the ID, see the value of **id** in the table for describing the **volume_types** parameter in **Querying EVS Disk Types**..
id	No	String	The disk ID.

Parameter	Mandatory	Type	Description
ids	No	String	The disk IDs. The value is in the *ids=['id1','id2',...,'idx']* format. In the response, the **ids** value contains valid disk IDs only. Invalid disk IDs are ignored. The details about a maximum of 60 disks can be queried. If **id** and **ids** are both specified in the request, **id** will be ignored.
enterprise_project_id	No	String	The enterprise project ID, which is used for filtering. If **all_granted_eps** is transferred, the disks in all enterprise projects that are within the permission scope will be queried. For details about how to obtain enterprise project IDs and enterprise project features, see **Overview**.
server_id	No	String	The server ID.
root_resource_type	No	String	The root resource type.
root_resource_id	No	String	The root resource ID.
parent_resource_type	No	String	The parent resource type.
parent_resource_id	No	String	The parent resource ID.
bootable	No	Boolean	Whether the disk is a boot disk or system disk. **true** indicates that the disk is a boot disk or system disk, and **false** indicates that the disk is a data disk.

Request Parameters

Table 6-22 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 6-23 Response body parameters

Parameter	Type	Description
count	Integer	The number of queried disks. This value is not affected by the pagination.
volumes_links	Array of **Link** objects	The query position marker in the disk list. If only some disks are returned in this query, the URL of the last disk queried is returned. You can use this URL to continue to query the remaining disks in the next query.
volumes	Array of **VolumeDetail** objects	The list of returned disks.

Table 6-24 VolumeDetail

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **Attachment** objects	The disk attachment information.

Parameter	Type	Description
availability_zone	String	The AZ to which the disk belongs.
os-vol-host-attr:host	String	The reserved field.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
description	String	The disk description.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.
volume_image_metadata	Map<String,Object>	The metadata of the disk image. **NOTE** For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type (sold out) ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type
size	Integer	The disk size, in GiB.
consistencygroup_id	String	The reserved field.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.

Parameter	Type	Description
metadata	Map<String,Object>	The disk metadata. **__system__cmkid**: The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of the CMK ID is fixed at 36 bytes. For details about how to obtain the key ID, see **Querying the Key List**. __system__encrypted The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter is not specified, the encryption attribute of the disk is the same as that of the data source. If the disk is not created from a data source, the disk is not encrypted by default. full_clone The creation method when the disk is created from a snapshot. ● **0**: linked clone ● **1**: full clone hw:passthrough ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media and supports SCSI reservation commands. ● If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. ● If this parameter is not specified, the disk device type is VBD. orderID The parameter that describes the disk billing mode in **metadata**. If this parameter has a value, the disk is billed on a yearly/monthly basis. If this parameter is not specified, the disk is billed on a pay-per-use basis.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
encrypted	Boolean	This field is currently not supported.
replication_status	String	The reserved field.

Parameter	Type	Description
os-volume-replication:extended_status	String	The reserved field.
os-vol-mig-status-attr:migstat	String	The reserved field.
os-vol-mig-status-attr:name_id	String	The reserved field.
shareable	String	Whether the disk is shareable. The value can be **true** (shareable) or **false** (non-shareable). This field has been deprecated. Use **multiattach**.
user_id	String	The reserved field.
service_type	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
multiattach	Boolean	Whether the disk is shareable.
dedicated_storage_id	String	The ID of the dedicated storage pool housing the disk.
dedicated_storage_name	String	The name of the dedicated storage pool housing the disk.
tags	Map<String,String>	The disk tags. This field has values if the disk has tags. Or, it is left empty.
wwn	String	The unique identifier used when attaching the disk.
enterprise_project_id	String	The ID of the enterprise project that the disk has been added to. For details about how to obtain enterprise project IDs and enterprise project features, see **Overview**.
serial_number	String	The disk serial number. This field is returned only for non-HyperMetro SCSI disks and is used for disk mapping in the VM.
iops	**iops** object	The disk IOPS information. This parameter appears only for a general purpose SSD V2 or an extreme SSD V2 disk.
throughput	**throughput** object	The disk throughput information. This parameter appears only for a general purpose SSD V2 disk.

Parameter	Type	Description
root_resource _type	String	The root resource type.
root_resource _id	String	The root resource ID.
parent_resour ce_type	String	The parent resource type.
parent_resour ce_id	String	The parent resource ID.

Table 6-25 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name.

Table 6-26 Attachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_i d	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 6-27 iops

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The ID of the disk IOPS.
total_val	Integer	The IOPS.

Table 6-28 throughput

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The throughput ID.
total_val	Integer	The throughput.

Status code: 400

Table 6-29 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-30 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

- Querying details of disks whose IDs are **e92ba908-82f8-4728-b8cc-82f2f56bd461**, **40g42920-4243-420f-8bb2-a0bd7660fbd8**, and **b1fd8dcc-dd67-4edf-b89e-87c3485112ec** (The disks are sorted by size.)

  ```
  GET https://{endpoint}/v2/{project_id}/cloudvolumes/detail?ids=['e92ba908-82f8-4728-
  b8cc-82f2f56bd461', '40g42920-4243-420f-8bb2-a0bd7660fbd8', 'b1fd8dcc-dd67-4edf-
  b89e-87c3485112ec']&offset=0&limit=100&sort_key=size&sort_dir=asc
  ```

● Query details of all shared data disks of an ECS (The ECS ID is **3ffcbe9d-e5bf-45f4-aa0a-670b54bda66c**. The returned results are sorted in ascending order.)

GET https://{endpoint}/v2/{project_id}/cloudvolumes/detail?server_id=3ffcbe9d-e5bf-45f4-aa0a-670b54bda66c&multiattach=true&sort_dir=asc

Example Responses

Status code: 200

OK

```
{
  "count" : 1,
  "volumes" : [ {
    "attachments" : [ ],
    "availability_zone" : "az-dc-1",
    "bootable" : "false",
    "created_at" : "2016-05-25T02:42:10.856332",
    "id" : "b104b8db-170d-441b-897a-3c8ba9c5a214",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "bookmark"
    } ],
    "metadata" : { },
    "name" : "zjb_u25_test",
    "os-vol-host-attr:host" : "pod01.xxx#SATA",
    "volume_image_metadata" : { },
    "os-vol-tenant-attr:tenant_id" : "dd14c6ac581f40059e27f5320b60bf2f",
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 1,
    "status" : "available",
    "updated_at" : "2016-05-25T02:42:22.341984",
    "user_id" : "b0524e8342084ef5b74f158f78fc3049",
    "volume_type" : "SATA",
    "service_type" : "EVS",
    "wwn" : " 688860300000d136fa16f48f05992360"
  } ],
  "volumes_links" : [ {
    "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/detail?
limit=1&marker=b104b8db-170d-441b-897a-3c8ba9c5a214",
    "rel" : "next"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class ListVolumesSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        ListVolumesRequest request = new ListVolumesRequest();
        request.withMarker("<marker>");
        request.withName("<name>");
        request.withLimit(<limit>);
        request.withSortKey("<sort_key>");
        request.withOffset(<offset>);
        request.withSortDir("<sort_dir>");
        request.withStatus("<status>");
        request.withMetadata("<metadata>");
        request.withAvailabilityZone("<availability_zone>");
        request.withMultiattach(<multiattach>);
        request.withServiceType("<service_type>");
        request.withDedicatedStorageId("<dedicated_storage_id>");
        request.withDedicatedStorageName("<dedicated_storage_name>");
        request.withVolumeTypeId("<volume_type_id>");
        request.withId("<id>");
        request.withIds("<ids>");
        request.withEnterpriseProjectId("<enterprise_project_id>");
        request.withServerId("<server_id>");
        try {
            ListVolumesResponse response = client.listVolumes(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListVolumesRequest()
        request.marker = "<marker>"
        request.name = "<name>"
        request.limit = <limit>
        request.sort_key = "<sort_key>"
        request.offset = <offset>
        request.sort_dir = "<sort_dir>"
        request.status = "<status>"
        request.metadata = "<metadata>"
        request.availability_zone = "<availability_zone>"
        request.multiattach = <Multiattach>
        request.service_type = "<service_type>"
        request.dedicated_storage_id = "<dedicated_storage_id>"
        request.dedicated_storage_name = "<dedicated_storage_name>"
        request.volume_type_id = "<volume_type_id>"
        request.id = "<id>"
        request.ids = "<ids>"
        request.enterprise_project_id = "<enterprise_project_id>"
        request.server_id = "<server_id>"
        response = client.list_volumes(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
```

```
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListVolumesRequest{}
    markerRequest:= "<marker>"
    request.Marker = &markerRequest
    nameRequest:= "<name>"
    request.Name = &nameRequest
    limitRequest:= int32(<limit>)
    request.Limit = &limitRequest
    sortKeyRequest:= "<sort_key>"
    request.SortKey = &sortKeyRequest
    offsetRequest:= int32(<offset>)
    request.Offset = &offsetRequest
    sortDirRequest:= "<sort_dir>"
    request.SortDir = &sortDirRequest
    statusRequest:= "<status>"
    request.Status = &statusRequest
    metadataRequest:= "<metadata>"
    request.Metadata = &metadataRequest
    availabilityZoneRequest:= "<availability_zone>"
    request.AvailabilityZone = &availabilityZoneRequest
    multiattachRequest:= <multiattach>
    request.Multiattach = &multiattachRequest
    serviceTypeRequest:= "<service_type>"
    request.ServiceType = &serviceTypeRequest
    dedicatedStorageIdRequest:= "<dedicated_storage_id>"
    request.DedicatedStorageId = &dedicatedStorageIdRequest
    dedicatedStorageNameRequest:= "<dedicated_storage_name>"
    request.DedicatedStorageName = &dedicatedStorageNameRequest
    volumeTypeIdRequest:= "<volume_type_id>"
    request.VolumeTypeId = &volumeTypeIdRequest
    idRequest:= "<id>"
    request.Id = &idRequest
    idsRequest:= "<ids>"
    request.Ids = &idsRequest
    enterpriseProjectIdRequest:= "<enterprise_project_id>"
    request.EnterpriseProjectId = &enterpriseProjectIdRequest
    serverIdRequest:= "<server_id>"
    request.ServerId = &serverIdRequest
    response, err := client.ListVolumes(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.1.4 Querying Details About an EVS Disk

Function

This API is used to query details about a single EVS disk. Enterprise project authorization is supported.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/cloudvolumes/{volume_id}

Table 6-31 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-32 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 6-33 Response body parameters

Parameter	Type	Description
volume	**VolumeDetail** object	The disk details.

Table 6-34 VolumeDetail

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **Attachment** objects	The disk attachment information.
availability_zone	String	The AZ to which the disk belongs.
os-vol-host-attr:host	String	The reserved field.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.

Parameter	Type	Description
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
description	String	The disk description.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.
volume_image_metadata	Map<String,Object>	The metadata of the disk image. **NOTE** For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type (sold out) ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type
size	Integer	The disk size, in GiB.
consistencygroup_id	String	The reserved field.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.

Parameter	Type	Description
metadata	Map<String,Object>	The disk metadata. **__system__cmkid**: The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of the CMK ID is fixed at 36 bytes. For details about how to obtain the key ID, see **Querying the Key List**. __system__encrypted The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter is not specified, the encryption attribute of the disk is the same as that of the data source. If the disk is not created from a data source, the disk is not encrypted by default. full_clone The creation method when the disk is created from a snapshot. ● **0**: linked clone ● **1**: full clone hw:passthrough ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media and supports SCSI reservation commands. ● If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. ● If this parameter is not specified, the disk device type is VBD. orderID The parameter that describes the disk billing mode in **metadata**. If this parameter has a value, the disk is billed on a yearly/monthly basis. If this parameter is not specified, the disk is billed on a pay-per-use basis.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
encrypted	Boolean	This field is currently not supported.
replication_status	String	The reserved field.

Parameter	Type	Description
os-volume-replication:extended_status	String	The reserved field.
os-vol-mig-status-attr:migstat	String	The reserved field.
os-vol-mig-status-attr:name_id	String	The reserved field.
shareable	String	Whether the disk is shareable. The value can be **true** (shareable) or **false** (non-shareable). This field has been deprecated. Use **multiattach**.
user_id	String	The reserved field.
service_type	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
multiattach	Boolean	Whether the disk is shareable.
dedicated_storage_id	String	The ID of the dedicated storage pool housing the disk.
dedicated_storage_name	String	The name of the dedicated storage pool housing the disk.
tags	Map<String,String>	The disk tags. This field has values if the disk has tags. Or, it is left empty.
wwn	String	The unique identifier used when attaching the disk.
enterprise_project_id	String	The ID of the enterprise project that the disk has been added to. For details about how to obtain enterprise project IDs and enterprise project features, see **Overview**.
serial_number	String	The disk serial number. This field is returned only for non-HyperMetro SCSI disks and is used for disk mapping in the VM.
iops	**iops** object	The disk IOPS information. This parameter appears only for a general purpose SSD V2 or an extreme SSD V2 disk.
throughput	**throughput** object	The disk throughput information. This parameter appears only for a general purpose SSD V2 disk.

Parameter	Type	Description
root_resource _type	String	The root resource type.
root_resource _id	String	The root resource ID.
parent_resour ce_type	String	The parent resource type.
parent_resour ce_id	String	The parent resource ID.

Table 6-35 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name.

Table 6-36 Attachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_i d	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 6-37 iops

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The ID of the disk IOPS.
total_val	Integer	The IOPS.

Table 6-38 throughput

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The throughput ID.
total_val	Integer	The throughput.

Status code: 400

Table 6-39 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-40 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/v2/{project_id}/cloudvolumes/{volume_id}
```

Example Responses

Status code: 200

The disk information is returned.

```json
{
  "volume" : {
    "attachments" : [ ],
    "links" : [ {
      "href" : "https://volume.az0.dc1.domainname.com/v2/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "self"
    }, {
      "href" : "https://volume.az0.dc1.domainname.com/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "bookmark"
    } ],
    "availability_zone" : "az-dc-1",
    "os-vol-host-attr:host" : "az-dc-1#SSD",
    "multiattach" : true,
    "updated_at" : "2016-02-03T02:19:29.895237",
    "replication_status" : "disabled",
    "id" : "591ac654-26d8-41be-bb77-4f90699d2d41",
    "size" : 40,
    "user_id" : "fd03ee73295e45478d88e15263d2ee4e",
    "os-vol-tenant-attr:tenant_id" : "40acc331ac784f34842ba4f08ff2be48",
    "metadata" : { },
    "tags" : {
      "key1" : "value1",
      "key2" : "value2"
    },
    "status" : "available",
    "description" : "auto-created_from_restore_from_backup",
    "name" : "restore_backup_0115efb3-678c-4a9e-bff6-d3cd278238b9",
    "bootable" : "false",
    "created_at" : "2016-02-03T02:19:11.723797",
    "service_type" : "EVS",
    "wwn" : " 688860300000d136fa16f48f05992360"
  }
}
```

Status code: 400

Bad Request

```json
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```java
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class ShowVolumeSolution {
```

```java
    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowVolumeRequest request = new ShowVolumeRequest();
        try {
            ShowVolumeResponse response = client.showVolume(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```python
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowVolumeRequest()
        response = client.show_volume(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
```

```
                print(e.error_code)
                print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowVolumeRequest{}
    response, err := client.ShowVolume(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab
in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The disk information is returned.
400	Bad Request

Error Codes

See **Error Codes**.

6.1.5 Expanding Capacity of an EVS Disk

Function

This API is used to expand the capacity of a pay-per-use or yearly/monthly disk.

Constraints

If the status of the to-be-expanded disk is **available**, there are no restrictions. If the status of the to-be-expanded disk is **in-use**, the restrictions are as follows:

- A shared disk cannot be expanded, which means that the value of **multiattach** must be **false**.

- The status of the server to which the disk attached must be **ACTIVE**, **PAUSED**, **SUSPENDED**, or **SHUTOFF**.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2.1/{project_id}/cloudvolumes/{volume_id}/action

Table 6-41 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-42 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-43 Request body parameters

Parameter	Mandatory	Type	Description
bssParam	No	**BssParamForResizeVolume** object	The extended parameter of pay-per-use and yearly/monthly billing.
os-extend	Yes	**OsExtend** object	The capacity expansion marker.

Table 6-44 BssParamForResizeVolume

Parameter	Mandatory	Type	Description
isAutoPay	No	String	Whether to pay immediately. This parameter is valid only when the disk is billed on a yearly/monthly basis. The default value is **false**. Values: ● **true**: An order is immediately paid from the account balance. ● **false**: An order is not paid immediately after being created. Default: **false** Enumeration values: ● **false** ● **true**
cloudServiceConsoleURL	No	String	The URL used to switch to the cloud service console to view information after the subscription is complete.

Table 6-45 OsExtend

Parameter	Mandatory	Type	Description
new_size	Yes	Integer	The new disk size, in GiB. This parameter value must be greater than the original disk size and less than the maximum size allowed for a disk. The maximum disk size: ● Data disk: 32,768 GiB ● System disk: 1,024 GiB

Response Parameters

Status code: 202

Table 6-46 Response body parameters

Parameter	Type	Description
job_id	String	The task ID. This parameter is returned when the disk is billed on a pay-per-use basis. **NOTE** To query the task status, see **Querying Task Status**.
order_id	String	The order ID. This parameter is returned when the disk is billed on a yearly/monthly basis. **NOTE** If you need to pay for the order, see **Paying Yearly/Monthly Product Orders**.

Status code: 400

Table 6-47 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-48 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Expanding the capacity of an EVS disk (Set the disk size to 100 GiB. You will be billed for the expansion immediately.)

```
POST https://{endpoint}/v2.1/{project_id}/cloudvolumes/{volume_id}/action

{
 "os-extend" : {
   "new_size" : 100
 },
 "bssParam" : {
   "isAutoPay" : "true"
```

```
 }
}
```

Example Responses

Status code: 202

Accepted

```
{
 "job_id" : "70a599e0-31e7-49b7-b260-868f441e862b"
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Expanding the capacity of an EVS disk (Set the disk size to 100 GiB. You will be billed for the expansion immediately.)

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class ResizeVolumeSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        ResizeVolumeRequest request = new ResizeVolumeRequest();
        ResizeVolumeRequestBody body = new ResizeVolumeRequestBody();
```

```
            OsExtend osextendbody = new OsExtend();
            osextendbody.withNewSize(100);
            BssParamForResizeVolume bssParambody = new BssParamForResizeVolume();
            bssParambody.withIsAutoPay(BssParamForResizeVolume.IsAutoPayEnum.fromValue("true"));
            body.withOsExtend(osextendbody);
            body.withBssParam(bssParambody);
            request.withBody(body);
            try {
                ResizeVolumeResponse response = client.resizeVolume(request);
                System.out.println(response.toString());
            } catch (ConnectionException e) {
                e.printStackTrace();
            } catch (RequestTimeoutException e) {
                e.printStackTrace();
            } catch (ServiceResponseException e) {
                e.printStackTrace();
                System.out.println(e.getHttpStatusCode());
                System.out.println(e.getRequestId());
                System.out.println(e.getErrorCode());
                System.out.println(e.getErrorMsg());
            }
        }
    }
}
```

Python

Expanding the capacity of an EVS disk (Set the disk size to 100 GiB. You will be
billed for the expansion immediately.)

```python
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ResizeVolumeRequest()
        osextendbody = OsExtend(
            new_size=100
        )
        bssParambody = BssParamForResizeVolume(
            is_auto_pay="true"
        )
        request.body = ResizeVolumeRequestBody(
            os_extend=osextendbody,
            bss_param=bssParambody
        )
        response = client.resize_volume(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
```

```
        print(e.error_code)
        print(e.error_msg)
```

Go

Expanding the capacity of an EVS disk (Set the disk size to 100 GiB. You will be billed for the expansion immediately.)

```go
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ResizeVolumeRequest{}
    osextendbody := &model.OsExtend{
        NewSize: int32(100),
    }
    isAutoPayBssParam:= model.GetBssParamForResizeVolumeIsAutoPayEnum().TRUE
    bssParambody := &model.BssParamForResizeVolume{
        IsAutoPay: &isAutoPayBssParam,
    }
    request.Body = &model.ResizeVolumeRequestBody{
        OsExtend: osextendbody,
        BssParam: bssParambody,
    }
    response, err := client.ResizeVolume(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

6.1.6 Deleting an EVS Disk

Function

This API is used to delete an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v2/{project_id}/cloudvolumes/{volume_id}

Table 6-49 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-50 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 6-51 Response body parameters

Parameter	Type	Description
job_id	String	The task ID returned in a normal response.

Status code: 400

Table 6-52 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-53 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v2/{project_id}/cloudvolumes/{volume_id}

Example Responses

Status code: 200

OK

```
{
  "job_id" : "70a599e0-31e7-49b7-b260-868f441e862b"
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class DeleteVolumeSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        DeleteVolumeRequest request = new DeleteVolumeRequest();
        try {
            DeleteVolumeResponse response = client.deleteVolume(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
```

```
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteVolumeRequest()
        response = client.delete_volume(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()
```

```
client := evs.NewEvsClient(
    evs.EvsClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.DeleteVolumeRequest{}
response, err := client.DeleteVolume(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.1.7 Creating EVS Disks (Deprecated)

Function

This API is used to create one or multiple EVS disks. This API call exists for compatibility reasons only and is not meant to be used. Use another API.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/cloudvolumes

Table 6-54 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.

Request Parameters

Table 6-55 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Table 6-56 Request body parameters

Parameter	Mandatory	Type	Description
volume	Yes	**CreateDiskOption** object	The information of the disk to be created.

Table 6-57 CreateDiskOption

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	The AZ where you want to create the disk.
backup_id	No	String	The backup ID. This parameter is mandatory when you create the disk from a backup.
count	No	Integer	The number of disks to be created in a batch. If this parameter is not specified, only one disk will be created. You can create a maximum of 100 disks in a batch. If the disk is created from a backup, batch creation is not possible, and this parameter must be set to **1**. If the specified value is a decimal number, the number part will be used by default.
description	No	String	The disk description. You can enter up to 85 characters.
enterprise_project_id	No	String	The enterprise project ID. This ID is associated with the disk during the disk creation.

Parameter	Mandatory	Type	Description
imageRef	No	String	The image ID. If this parameter is specified, the disk is created from an image.

Parameter	Mandatory	Type	Description
metadata	No	Map<String,String>	The disk metadata information. The value can be as follows: **__system__cmkid**: The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. **NOTE** For details about how to obtain the key ID, see **Querying the Key List**. **__system__encrypted**: The encryption field in **metadata**. The value can be **0** (does not encrypt) or **1** (encrypts). If this parameter is not specified, the encryption attribute of the disk is the same as that of the data source. If the disk is not created from a data source, the disk is not encrypted by default. [full_clone] If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**. [hw:passthrough] ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media and supports SCSI reservation commands. ● If this parameter value is **false**, the disk device type is VBD, which supports only simple SCSI read/write commands. ● If this parameter is not available, the disk device type is VBD.

Parameter	Mandatory	Type	Description
multiattach	No	Boolean	Whether the disk is shareable. The value can be **true** (shareable) or **false** (non-shareable).
name	No	String	The disk name. If you create one disk, the **name** value is the disk name, which can contain a maximum of 64 characters. If you create multiple disks (the **count** value greater than **1**), the system automatically adds a hyphen followed by a four-digit incremental number, such as **-0000**, to the end of each disk name. Example disk name: **volume-0001** or **volume-0002**
shareable	No	String	Whether the disk is shareable. The value can be **true** (shareable) or **false** (non-shareable). \n This field has been deprecated. Use **multiattach**.
size	Yes	Integer	The disk size, in GiB. The restrictions are as follows: ● System disk: 1 GiB to 1,024 GiB ● Data disk: 10 GiB to 32,768 GiB ● This parameter is mandatory when you create an empty disk or use an image or a snapshot to create a disk. If you use an image or a snapshot to create a disk, the disk size cannot be smaller than the image or snapshot size. ● This parameter is optional if you create the disk from a backup. If not specified, the disk size is the same as the backup size.

Parameter	Mandatory	Type	Description
snapshot_id	No	String	The snapshot ID. If this parameter is specified, the disk is created from a snapshot.
volume_type	Yes	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. • **SATA**: the common I/O type (sold out) • **SAS**: the high I/O type • **GPSSD**: the general purpose SSD type • **SSD**: the ultra-high I/O type • **ESSD**: the extreme SSD type • **GPSSD2**: the general purpose SSD V2 type • **ESSD2**: the extreme SSD V2 type If the specified disk type is not available in the AZ, the disk will fail to be created. **NOTE** When you create a disk from a snapshot, ensure that the disk type of the new disk is consistent with that of the snapshot's source disk. **NOTE** For details about disk types, see **Disk Types and Performance**. Enumeration values: • **SATA** • **SAS** • **GPSSD** • **SSD** • **ESSD** • **GPSSD2** • **ESSD2**
tags	No	Map<String,String>	The disk tag information.

Parameter	Mandatory	Type	Description
sys_tags	No	Map<String,String>	The disk system tag information.

Response Parameters

Status code: 202

Table 6-58 Response body parameters

Parameter	Type	Description
job_id	String	The task ID. This parameter is returned when the disk is billed on a pay-per-use basis. > > >You can query whether the disk creation task is complete by task ID. For details, see **Querying Task Status**.
volume_ids	Array of strings	The IDs of the disks to be created. >>If 404 is returned when you query the details of a disk by disk ID, the disk is being created or has failed to be created. >You can query whether the disk creation task is complete by task ID. For details, see **Querying Task Status**.

Status code: 400

Table 6-59 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-60 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
{
  "volume" : {
    "backup_id" : null,
    "count" : 1,
    "availability_zone" : "az1.dc1",
    "description" : "test_volume_1",
    "size" : 120,
    "name" : "test_volume_1",
    "imageRef" : null,
    "volume_type" : "SSD",
    "metadata" : {
      "__system__encrypted" : "0",
      "__system__cmkid" : null
    }
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "job_id" : "70a599e0-31e7-49b7-b260-868f441e862b"
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

6.1.8 Querying EVS Disks (Deprecated)

Function

This API is used to query all EVS disks. This API has been deprecated. Use another API.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/cloudvolumes

Table 6-61 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.

Table 6-62 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the last record on the previous page. The returned value is the value of the item after this one. The ID of the last record on the previous page. The returned value is the value of the item after this one.
name	No	String	The disk name.
status	No	String	The disk status.
limit	No	Integer	The maximum number of query results that can be returned. The default value is **1000**. Default: **1000**
availability_zone	No	String	The AZ information.
sort_key	No	String	The keyword based on which the returned results are sorted. The value can be **id**, **status**, **size**, or **created_at**, and the default value is **created_at**. Default: **created_at** Enumeration values: • **id** • **status** • **size** • **created_at**

Parameter	Mandatory	Type	Description
sort_dir	No	String	The result sorting order. The value can be **desc** (descending order) or **asc** (ascending order), and the default value is **desc**. Default: **desc**

Request Parameters

Table 6-63 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Response Parameters

Status code: 200

Table 6-64 Response body parameters

Parameter	Type	Description
volumes	Array of **DiskSummary** objects	The list of returned disks.

Table 6-65 DiskSummary

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name. You can enter up to 85 characters.

Table 6-66 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name.

Status code: 400

Table 6-67 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-68 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "volumes" : [ {
    "id" : "e6cf4401-15f6-44bd-ae2b-cff4dc9523e6",
    "links" : [ {
      "href" : "https://volume.az0.dc1.domainname.com/v2/cd631140887d4b6e9c786b67a6dd4c02/volumes/
e6cf4401-15f6-44bd-ae2b-cff4dc9523e6",
      "rel" : "self"
    }, {
      "href" : "https://volume.az0.dc1.domainname.com/cd631140887d4b6e9c786b67a6dd4c02/volumes/
e6cf4401-15f6-44bd-ae2b-cff4dc9523e6",
      "rel" : "bookmark"
    } ],
    "name" : "hallo5"
  }, {
    "id" : "4c5e8203-f70e-4717-90cd-4a8f636888d1",
    "links" : [ {
      "href" : "https://volume.az0.dc1.domainname.com/v2/cd631140887d4b6e9c786b67a6dd4c02/volumes/
```

```
4c5e8203-f70e-4717-90cd-4a8f636888d1",
     "rel" : "self"
   }, {
     "href" : "https://volume.az0.dc1.domainname.com/cd631140887d4b6e9c786b67a6dd4c02/volumes/
4c5e8203-f70e-4717-90cd-4a8f636888d1",
     "rel" : "bookmark"
   } ],
   "name" : "hallo4"
 } ]
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.1.9 Expanding Capacity of an EVS Disk (Deprecated)

Function

This API is used to expand the capacity of an EVS disk. If the status of the to-be-expanded disk is **available**, there are no restrictions. The expansion API uses asynchronous notification, and you need to confirm the expansion results on the VM. This API call exists for compatibility reasons only and is not meant to be used.

Constraints

If the status of the to-be-expanded disk is **in-use**, the restrictions are as follows:

● A shared disk cannot be expanded, which means that the value of **multiattach** must be **false**.

● The status of the server to which the disk attached must be **ACTIVE**, **PAUSED**, **SUSPENDED**, or **SHUTOFF**.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/cloudvolumes/{volume_id}/action

Table 6-69 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-70 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Table 6-71 Request body parameters

Parameter	Mandatory	Type	Description
os-extend	Yes	**ResizeDiskOption** object	The capacity expansion marker.

Table 6-72 ResizeDiskOption

Parameter	Mandatory	Type	Description
new_size	Yes	Integer	The new disk size, in GiB. This parameter value must be greater than the original disk size and less than the maximum size allowed for a disk. The maximum disk size: ● Data disk: 32,768 GiB ● System disk: 1,024 GiB

Response Parameters

Status code: 200

Table 6-73 Response body parameters

Parameter	Type	Description
job_id	String	The task ID returned in a normal response. **NOTE** To query the task status, see **Querying Task Status**.

Status code: 400

Table 6-74 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-75 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
{
 "os-extend" : {
   "new_size" : 200
 }
}
```

Example Responses

Status code: 200

OK

```
{
 "job_id" : "70a599e0-31e7-49b7-b260-868f441e862b"
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
```

```
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.1.10 Unsubscribing from Yearly/Monthly EVS Disks

Function

This API is used to unsubscribe from yearly/monthly EVS disks. It has the following constraints:

- It cannot be used to unsubscribe from system disks and bootable disks. They must be unsubscribed from together with their servers.

- A maximum of 60 disks can be unsubscribed from at the same time using this API.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/cloudvolumes/unsubscribe

Table 6-76 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 6-77 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. The token can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-78 Request body parameters

Parameter	Mandatory	Type	Description
volume_ids	Yes	Array of strings	The IDs of the disks to be unsubscribed from.

Response Parameters

Status code: 202

Table 6-79 Response body parameters

Parameter	Type	Description
[items]	Array of **UnsubscribeVolumeResponseBody** objects	The request is responded.

Table 6-80 UnsubscribeVolumeResponseBody

Parameter	Type	Description
results	Array of **UnsubscribeVolume** objects	The unsubscription result.

Table 6-81 UnsubscribeVolume

Parameter	Type	Description
volume_id	String	The disk ID.
order_id	String	The unsubscription order ID. This field does not appear if the disk is unsubscribed from because it is expired.
result	String	The unsubscription result. The value can be **SUCCESS** or **FAIL**.
fail_reason	String	The returned failure cause if **result** is **FAIL**. This field does not appear if **result** is **SUCCESS**.

Example Requests

Unsubscribing from yearly/monthly disks whose IDs are **8739ca48-1b86-46aa-9059-38623ee1346c** and **fc7d594d-e78f-49a8-ab6e-90ee6b560cb0**

```
POST /v2/{project_id}/cloudvolumes/unsubscribe

{
  "volume_ids" : [ "fc7d594d-e78f-49a8-ab6e-90ee6b560cb0", "8739ca48-1b86-46aa-9059-38623ee1346c" ]
}
```

Example Responses

Status code: 202

The request is responded.

```
{
 "results" : [ {
   "volume_id" : "8739ca48-1b86-46aa-9059-38623ee1346c",
   "order_id" : "CS23021116385NAOR",
   "result" : "SUCCESS"
 }, {
   "volume_id" : "fc7d594d-e78f-49a8-ab6e-90ee6b560cb0",
   "result" : "FAIL",
   "fail_reason" : "INTERNAL ERROR, please contact customer service"
 } ]
}
```

Status Codes

Status Code	Description
202	The request is responded.

Error Codes

See **Error Codes**.

6.1.11 Querying Details About All EVS Disks (Deprecated)

Function

This API is used to query details about all EVS disks. Note: This API has been deprecated. Use another API.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/os-vendor-volumes/detail

Table 6-82 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.

Table 6-83 Query Parameters

Parameter	Mandatory	Type	Description
availability_zone	No	String	The AZ information.
changessince	No	String	The time when the disk was updated, for example, 2016-01-08T09:41:18. This is an extended attribute. Only administrators can set this parameter.
dedicated_storage_id	No	String	The dedicated storage pool ID. All disks in the dedicated storage pool can be filtered by exact match.
dedicated_storage_name	No	String	The dedicated storage pool name. All disks in the dedicated storage pool can be filtered by fuzzy match.
id	No	String	The disk ID.

Parameter	Mandatory	Type	Description
ids	No	Array	The disk IDs. The value is in the *ids=['id1','id2',...,'idx']* format. In the response, the **ids** value contains valid disk IDs only. Invalid disk IDs are ignored. The details about a maximum of 60 disks can be queried. If **id** and **ids** are both specified in the request, **id** will be ignored.
limit	No	Integer	The maximum number of query results that can be returned. The value must be an integer greater than 0. The default value is **1000**.
marker	No	String	The ID of the last record on the previous page. The returned value is the value of the item after this one.
metadata	No	String	The disk metadata.
multiattach	No	Boolean	Whether the disk is shareable.
name	No	String	The disk name.
offset	No	Integer	The query offset. All disks after this offset are queried. The value must be an integer greater than 0 but less than the number of disks.
service_type	No	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
sort_dir	No	String	The result sorting order. The value can be **desc** (descending order) or **asc** (ascending order), and the default value is **desc**.
sort_key	No	String	The keyword based on which the returned results are sorted. The value can be **id**, **status**, **size**, or **created_at**, and the default value is **created_at**.
status	No	String	The disk status.
volume_type_id	No	String	The disk type ID.

Parameter	Mandatory	Type	Description
root_resource _type	No	String	The root resource type.
root_resource _id	No	String	The root resource ID.
parent_resour ce_type	No	String	The parent resource type.
parent_resour ce_id	No	String	The parent resource ID.

Request Parameters

Table 6-84 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Response Parameters

Status code: 200

Table 6-85 Response body parameters

Parameter	Type	Description
count	Integer	The number of queried disks. This value is not affected by the pagination.
volumes	Array of **DiskDetail** objects	The list of returned disks.
volumes_links	Array of **Link** objects	The query position marker in the disk list. If only some disks are returned in this query, the URL of the last disk queried is returned. You can use this URL to continue to query the remaining disks in the next query.

Table 6-86 DiskDetail

Parameter	Type	Description
attachments	Array of **DiskAttachment** objects	The disk attachment information.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable.
consistencygroup_id	String	The ID of the consistency group where the disk belongs.
count	String	The number of disks queried.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
dedicated_storage_id	String	The ID of the dedicated storage pool housing the disk.
dedicated_storage_name	String	The name of the dedicated storage pool housing the disk.
description	String	The disk description.
encrypted	Boolean	Whether the disk is encrypted.
enterprise_project_id	String	The ID of the enterprise project that the disk has been added to. This field is currently not supported.
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
metadata	**DiskMetadata** object	The metadata.
multiattach	Boolean	Whether the disk is shareable.
name	String	The disk name.
os-vendor-extended:lock_check_endpoint	String	The callback URL used to check the lock validity.
os-vendor-extended:lock_scene	String	The operation or service that locks the disk.

Parameter	Type	Description
os-vendor-extended:lock_source_id	String	The ID of resource to which the lock belongs.
os-vendor-extended:lock_source_servic e	String	The type of resource to which the lock belongs.
os-vol-host-attr:host	String	The host to which the disk belongs.
os-vol-mig-status-attr:migstat	String	The reserved field.
os-vol-mig-status-attr:name_id	String	The reserved field.
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs.
os-volume-replication:dri ver_data	String	The reserved field.
os-volume-replication:ext ended_status	String	The reserved field.
replication_st atus	String	The reserved field.
service_type	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
shareable	String	Whether the disk is shareable.
size	Integer	The disk size.
snapshot_id	String	The snapshot ID.
source_volid	String	The source disk ID.
status	String	The disk status. For details, see **EVS Disk Status**.
tags	Object	The disk tags. This field has values if the disk has tags. Or, it is left empty.
updated_at	String	The time when the disk was updated.
user_id	String	The reserved field.

Parameter	Type	Description
volume_image_metadata	Object	The image metadata. This field has a value if the disk is created from an image. Or, **null** is returned. **NOTE** For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, or **SSD**. ● **SATA**: the common I/O type ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type
wwn	String	The unique identifier used when attaching the disk.
root_resource_type	String	The root resource type.
root_resource_id	String	The root resource ID.
parent_resource_type	String	The parent resource type.
parent_resource_id	String	The parent resource ID.

Table 6-87 DiskAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.

Parameter	Type	Description
volume_id	String	The disk ID.

Table 6-88 DiskMetadata

Parameter	Type	Description
__system__cm kid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes.
__system__en crypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	The clone method. When the disk is created from a snapshot, value **0** indicates the linked cloning method.
hw:passthrou gh	String	The parameter that describes the disk device type in **metadata**. ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. ● If this parameter value is **false**, the disk device type is VBD, which supports only simple SCSI read/write commands. ● If this parameter does not appear, the disk device type is VBD.

Table 6-89 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name.

Status code: 400

Table 6-90 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-91 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/os-vendor-volumes/detail

https://{endpoint}/v2/{project_id}/os-vendor-volumes/detail

Example Responses

Status code: 200

OK

```
{
  "count" : 1,
  "volumes" : [ {
    "attachments" : [ ],
    "availability_zone" : "xxx",
    "bootable" : "false",
    "created_at" : "2016-05-25T02:42:10.856332",
    "encrypted" : false,
    "id" : "b104b8db-170d-441b-897a-3c8ba9c5a214",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "bookmark"
    } ],
    "metadata" : {
      "__openstack_region_name" : "pod01.xxx",
      "a" : "b",
      "quantityGB" : "1",
      "volInfoUrl" : "fusionstorage://172.30.64.10/0/FEFEEB07D3924CDEA93C612D4E16882D"
    },
    "name" : "zjb_u25_test",
    "os-vol-host-attr:host" : "pod01.xxx#SATA",
    "volume_image_metadata" : { },
    "os-vol-tenant-attr:tenant_id" : "dd14c6ac581f40059e27f5320b60bf2f",
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 1,
```

```
    "status" : "available",
    "updated_at" : "2016-05-25T02:42:22.341984",
    "user_id" : "b0524e8342084ef5b74f158f78fc3049",
    "volume_type" : "SATA",
    "service_type" : "EVS",
    "wwn" : " 688860300000d136fa16f48f05992360"
  } ],
  "volumes_links" : [ {
    "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/detail?
limit=1&marker=b104b8db-170d-441b-897a-3c8ba9c5a214",
    "rel" : "next"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.1.12 Querying Details About an EVS Disk (Deprecated)

Function

This API is used to query details about a single EVS disk. This API has been deprecated. Use another API.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/os-vendor-volumes/{volume_id}

Table 6-92 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-93 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Response Parameters

Status code: 200

Table 6-94 Response body parameters

Parameter	Type	Description
volume	**DiskDetail** object	The disk details.

Table 6-95 DiskDetail

Parameter	Type	Description
attachments	Array of **DiskAttachment** objects	The disk attachment information.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable.
consistencygroup_id	String	The ID of the consistency group where the disk belongs.
count	String	The number of disks queried.

Parameter	Type	Description
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
dedicated_storage_id	String	The ID of the dedicated storage pool housing the disk.
dedicated_storage_name	String	The name of the dedicated storage pool housing the disk.
description	String	The disk description.
encrypted	Boolean	Whether the disk is encrypted.
enterprise_project_id	String	The ID of the enterprise project that the disk has been added to. This field is currently not supported.
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
metadata	**DiskMetadata** object	The metadata.
multiattach	Boolean	Whether the disk is shareable.
name	String	The disk name.
os-vendor-extended:lock_check_endpoint	String	The callback URL used to check the lock validity.
os-vendor-extended:lock_scene	String	The operation or service that locks the disk.
os-vendor-extended:lock_source_id	String	The ID of resource to which the lock belongs.
os-vendor-extended:lock_source_service	String	The type of resource to which the lock belongs.
os-vol-host-attr:host	String	The host to which the disk belongs.
os-vol-mig-status-attr:migstat	String	The reserved field.

Parameter	Type	Description
os-vol-mig-status-attr:name_id	String	The reserved field.
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs.
os-volume-replication:driver_data	String	The reserved field.
os-volume-replication:extended_status	String	The reserved field.
replication_status	String	The reserved field.
service_type	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
shareable	String	Whether the disk is shareable.
size	Integer	The disk size.
snapshot_id	String	The snapshot ID.
source_volid	String	The source disk ID.
status	String	The disk status. For details, see **EVS Disk Status**.
tags	Object	The disk tags. This field has values if the disk has tags. Or, it is left empty.
updated_at	String	The time when the disk was updated.
user_id	String	The reserved field.
volume_image_metadata	Object	The image metadata. This field has a value if the disk is created from an image. Or, **null** is returned. **NOTE** For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.

Parameter	Type	Description
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, or **SSD**. ● **SATA**: the common I/O type ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type
wwn	String	The unique identifier used when attaching the disk.
root_resource _type	String	The root resource type.
root_resource _id	String	The root resource ID.
parent_resour ce_type	String	The parent resource type.
parent_resour ce_id	String	The parent resource ID.

Table 6-96 DiskAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_i d	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 6-97 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name.

Table 6-98 DiskMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	The clone method. When the disk is created from a snapshot, value **0** indicates the linked cloning method.
hw:passthrough	String	The parameter that describes the disk device type in **metadata**. ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. ● If this parameter value is **false**, the disk device type is VBD, which supports only simple SCSI read/write commands. ● If this parameter does not appear, the disk device type is VBD.

Status code: 400

Table 6-99 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-100 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/os-vendor-volumes/{volume_id}

https://{endpoint}/v2/{project_id}/os-vendor-volumes/{volume_id}

Example Responses

Status code: 200

OK

```
{
  "volume" : {
    "attachments" : [ ],
    "links" : [ {
      "href" : "https://volume.az0.dc1.domainname.com/v2/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "self"
    }, {
      "href" : "https://volume.az0.dc1.domainname.com/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "bookmark"
    } ],
    "availability_zone" : "az-dc-1",
    "os-vol-host-attr:host" : "az-dc-1#SSD",
    "encrypted" : false,
    "multiattach" : true,
    "updated_at" : "2016-02-03T02:19:29.895237",
    "replication_status" : "disabled",
    "id" : "591ac654-26d8-41be-bb77-4f90699d2d41",
    "size" : 40,
    "user_id" : "fd03ee73295e45478d88e15263d2ee4e",
    "os-vol-tenant-attr:tenant_id" : "40acc331ac784f34842ba4f08ff2be48",
    "metadata" : { },
    "tags" : {
      "key1" : "value1",
      "key2" : "value2"
    },
    "status" : "available",
    "description" : "auto-created_from_restore_from_backup",
    "name" : "restore_backup_0115efb3-678c-4a9e-bff6-d3cd278238b9",
    "bootable" : "false",
    "created_at" : "2016-02-03T02:19:11.723797",
    "service_type" : "EVS",
    "wwn" : " 688860300000d136fa16f48f05992360"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
```

```
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.1.13 Modifying QoS of an EVS Disk

Function

This API is used to change the IOPS or throughput of an EVS disk.

Constraints

The disk must be in the **available** or **in-use** state. For a General Purpose SSD V2 disk, both the IOPS and throughput can be changed. For an Extreme SSD V2 disk, only the IOPS can be changed. This API is not supported for other types of EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v5/{project_id}/cloudvolumes/{volume_id}/qos

Table 6-101 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-102 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-103 Request body parameters

Parameter	Mandatory	Type	Description
qos_modify	Yes	**ModifyVolumeQoSOption** object	The disk QoS change marker.

Table 6-104 ModifyVolumeQoSOption

Parameter	Mandatory	Type	Description
iops	Yes	Integer	The new maximum IOPS of the disk. This parameter is supported only for general purpose SSD V2 and extreme SSD V2 disks. **NOTE** To learn the IOPS ranges of the general purpose SSD V2 and extreme SSD V2 disks, see [[the table of EVS performance data in **Disk Types and Performance**.
throughput	No	Integer	The new maximum throughput of the disk, in the unit of MiB/s. This parameter is supported only for general purpose SSD V2 disks. **NOTE** To learn the throughput range of the general purpose SSD V2 disks, see [[the table of EVS performance data in **Disk Types and Performance**.

Response Parameters

Status code: 202

Table 6-105 Response body parameters

Parameter	Type	Description
job_id	String	The task ID returned in a normal response. **NOTE** To query the task status, see **Querying Task Status**.

Status code: 400

Table 6-106 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-107 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
PUT https://{endpoint}/v5/{project_id}/cloudvolumes/{volume_id}/qos

{
 "qos_modify" : {
   "iops" : 10000,
   "throughput" : 200
 }
}
```

Example Responses

Status code: 202

Accepted

```
{
 "job_id" : "70a599e0-31e7-49b7-b260-868f441e862b"
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "code" : "XXXX",
   "message" : "XXX"
 }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```java
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class ModifyVolumeQoSSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        ModifyVolumeQoSRequest request = new ModifyVolumeQoSRequest();
        ModifyVolumeQoSRequestBody body = new ModifyVolumeQoSRequestBody();
        ModifyVolumeQoSOption qosModifybody = new ModifyVolumeQoSOption();
        qosModifybody.withIops(10000)
            .withThroughput(200);
        body.withQosModify(qosModifybody);
        request.withBody(body);
        try {
            ModifyVolumeQoSResponse response = client.modifyVolumeQoS(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
```

```
        }
    }
```

Python

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ModifyVolumeQoSRequest()
        qosModifybody = ModifyVolumeQoSOption(
            iops=10000,
            throughput=200
        )
        request.body = ModifyVolumeQoSRequestBody(
            qos_modify=qosModifybody
        )
        response = client.modify_volume_qo_s(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
```

```
    Build()

client := evs.NewEvsClient(
    evs.EvsClientBuilder().
        WithRegion(region.ValueOf("<YOUR REGION>")).
        WithCredential(auth).
        Build())

request := &model.ModifyVolumeQoSRequest{}
throughputQosModify:= int32(200)
qosModifybody := &model.ModifyVolumeQoSOption{
    Iops: int32(10000),
    Throughput: &throughputQosModify,
}
request.Body = &model.ModifyVolumeQoSRequestBody{
    QosModify: qosModifybody,
}
response, err := client.ModifyVolumeQoS(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

6.2 Snapshot Management

6.2.1 Creating an EVS Snapshot

Function

This API is used to create an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/cloudsnapshots

Table 6-108 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 6-109 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-110 Request body parameters

Parameter	Mandatory	Type	Description
snapshot	Yes	**CreateSnapshotOption** object	The snapshot information.

Table 6-111 CreateSnapshotOption

Parameter	Mandatory	Type	Description
volume_id	Yes	String	The source disk ID.

Parameter	Mandatory	Type	Description
force	No	Boolean	The flag for forcibly creating the snapshot. The default value is **false**. If this parameter value is **false**, snapshots cannot be forcibly created when the disk status is **attaching**. If this parameter value is **true**, snapshots can be forcibly created even when the disk status is **attaching**.
metadata	No	Map<String,String>	The snapshot metadata.
description	No	String	The snapshot description, which can contain a maximum of 85 characters. Minimum: **0** Maximum: **255**
name	No	String	The snapshot name. You can enter up to 64 characters. When a disk backup is created, a snapshot will also be created and named with the **autobk_snapshot_** prefix. Operations cannot be performed on such snapshots. Therefore, you are advised not to use **autobk_snapshot_** as the prefix of snapshot names to avoid any inconvenience. Minimum: **0** Maximum: **255**

Response Parameters

Status code: 202

Table 6-112 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotDetails** object	The snapshot information.

Table 6-113 SnapshotDetails

Parameter	Type	Description
id	String	The snapshot ID.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
name	String	The snapshot name.
description	String	The snapshot description.
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
metadata	Object	The snapshot metadata.
volume_id	String	The ID of the snapshot's source disk.
size	Integer	The snapshot size, in GiB.
os-extended-snapshot-attributes:project_id	String	The reserved field.
os-extended-snapshot-attributes:progress	String	The reserved field.

Status code: 400

Table 6-114 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-115 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.

Parameter	Type	Description
message	String	The error message returned if an error occurs.

Example Requests

Creating a snapshot (If the source EVS disk is attached, the snapshot cannot be forcibly created.)

```
POST https://{endpoint}/v2/{project_id}/cloudsnapshots

{
  "snapshot" : {
    "name" : "snap-001",
    "description" : "Daily backup",
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "force" : false,
    "metadata" : {
      "key_string" : "value_string"
    }
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "snapshot" : {
    "status" : "creating",
    "description" : "Daily backup",
    "created_at" : "2013-02-25T03:56:53.081642",
    "metadata" : { },
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "size" : 1,
    "id" : "ffa9bc5e-1172-4021-acaf-cdcd78a9584d",
    "name" : "snap-001",
    "updated_at" : "2013-02-25T03:56:53.081642"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Creating a snapshot (If the source EVS disk is attached, the snapshot cannot be forcibly created.)

```java
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;

import java.util.Map;
import java.util.HashMap;

public class CreateSnapshotSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        CreateSnapshotRequest request = new CreateSnapshotRequest();
        CreateSnapshotRequestBody body = new CreateSnapshotRequestBody();
        Map<String, String> listSnapshotMetadata = new HashMap<>();
        listSnapshotMetadata.put("key_string", "value_string");
        CreateSnapshotOption snapshotbody = new CreateSnapshotOption();
        snapshotbody.withVolumeId("5aa119a8-d25b-45a7-8d1b-88e127885635")
            .withForce(false)
            .withMetadata(listSnapshotMetadata)
            .withDescription("Daily backup")
            .withName("snap-001");
        body.withSnapshot(snapshotbody);
        request.withBody(body);
        try {
            CreateSnapshotResponse response = client.createSnapshot(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Creating a snapshot (If the source EVS disk is attached, the snapshot cannot be forcibly created.)

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = CreateSnapshotRequest()
        listMetadataSnapshot = {
            "key_string": "value_string"
        }
        snapshotbody = CreateSnapshotOption(
            volume_id="5aa119a8-d25b-45a7-8d1b-88e127885635",
            force=False,
            metadata=listMetadataSnapshot,
            description="Daily backup",
            name="snap-001"
        )
        request.body = CreateSnapshotRequestBody(
            snapshot=snapshotbody
        )
        response = client.create_snapshot(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Creating a snapshot (If the source EVS disk is attached, the snapshot cannot be forcibly created.)

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
```

risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.

```
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.CreateSnapshotRequest{}
    var listMetadataSnapshot = map[string]string{
        "key_string": "value_string",
    }
    forceSnapshot:= false
    descriptionSnapshot:= "Daily backup"
    nameSnapshot:= "snap-001"
    snapshotbody := &model.CreateSnapshotOption{
        VolumeId: "5aa119a8-d25b-45a7-8d1b-88e127885635",
        Force: &forceSnapshot,
        Metadata: listMetadataSnapshot,
        Description: &descriptionSnapshot,
        Name: &nameSnapshot,
    }
    request.Body = &model.CreateSnapshotRequestBody{
        Snapshot: snapshotbody,
    }
    response, err := client.CreateSnapshot(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

6.2.2 Deleting an EVS Snapshot

Function

This API is used to delete an EVS snapshot.

Constraints

A snapshot can be deleted only when its status is **available** or **error**.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v2/{project_id}/cloudsnapshots/{snapshot_id}

Table 6-116 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 6-117 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 6-118 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-119 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v2/{project_id}/cloudsnapshots/{snapshot_id}

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class DeleteSnapshotSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
```

```
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        DeleteSnapshotRequest request = new DeleteSnapshotRequest();
        try {
            DeleteSnapshotResponse response = client.deleteSnapshot(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = DeleteSnapshotRequest()
        response = client.delete_snapshot(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```go
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.DeleteSnapshotRequest{}
    response, err := client.DeleteSnapshot(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab
in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

6.2.3 Updating an EVS Snapshot

Function

This API is used to update an EVS snapshot. Enterprise project authorization is supported.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v2/{project_id}/cloudsnapshots/{snapshot_id}

Table 6-120 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 6-121 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-122 Request body parameters

Parameter	Mandatory	Type	Description
snapshot	Yes	**UpdateSnapshotOption** object	The snapshot information.

Table 6-123 UpdateSnapshotOption

Parameter	Mandatory	Type	Description
description	No	String	The snapshot description. You can enter up to 85 characters.
name	No	String	The snapshot name. You can enter up to 64 characters.

Response Parameters

Status code: 200

Table 6-124 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotDetails** object	The snapshot information.

Table 6-125 SnapshotDetails

Parameter	Type	Description
id	String	The snapshot ID.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
name	String	The snapshot name.
description	String	The snapshot description.
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
metadata	Object	The snapshot metadata.
volume_id	String	The ID of the snapshot's source disk.
size	Integer	The snapshot size, in GiB.
os-extended-snapshot-attributes:project_id	String	The reserved field.

Parameter	Type	Description
os-extended-snapshot-attributes:progress	String	The reserved field.

Status code: 400

Table 6-126 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-127 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Updating the name and description of a snapshot

```
PUT https://{endpoint}/v2/{project_id}/cloudsnapshots/{snapshot_id}

{
 "snapshot" : {
   "name" : "test_volume_1",
   "description" : "121"
 }
}
```

Example Responses

Status code: 200

OK

```
{
 "snapshot" : {
   "status" : "available",
   "description" : "Daily backup",
   "created_at" : "2013-02-25T03:56:53.081642",
   "metadata" : { },
   "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
   "size" : 1,
```

```
    "id" : "f9faf7df-fdc1-4093-9ef3-5cba06eef995",
    "name" : "snap-001",
    "updated_at" : "2013-02-25T03:56:53.081642"
  }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Updating the name and description of a snapshot

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class UpdateSnapshotSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        UpdateSnapshotRequest request = new UpdateSnapshotRequest();
        UpdateSnapshotRequestBody body = new UpdateSnapshotRequestBody();
        UpdateSnapshotOption snapshotbody = new UpdateSnapshotOption();
        snapshotbody.withDescription("121")
            .withName("test_volume_1");
        body.withSnapshot(snapshotbody);
        request.withBody(body);
        try {
            UpdateSnapshotResponse response = client.updateSnapshot(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
```

```
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Updating the name and description of a snapshot

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = UpdateSnapshotRequest()
        snapshotbody = UpdateSnapshotOption(
            description="121",
            name="test_volume_1"
        )
        request.body = UpdateSnapshotRequestBody(
            snapshot=snapshotbody
        )
        response = client.update_snapshot(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Updating the name and description of a snapshot

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
```

```
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.UpdateSnapshotRequest{}
    descriptionSnapshot:= "121"
    nameSnapshot:= "test_volume_1"
    snapshotbody := &model.UpdateSnapshotOption{
        Description: &descriptionSnapshot,
        Name: &nameSnapshot,
    }
    request.Body = &model.UpdateSnapshotRequestBody{
        Snapshot: snapshotbody,
    }
    response, err := client.UpdateSnapshot(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.2.4 Querying Details About EVS Snapshots

Function

This API is used to query details about EVS snapshots.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/cloudsnapshots/detail

Table 6-128 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 6-129 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	The offset. This parameter is used when snapshots are queried by page and is used together with the **limit** parameter. For example, there are a total of 30 snapshots. If you set **offset** to **11** and **limit** to **10**, the query starts from the twelfth snapshot, and a maximum of 10 snapshots can be queried at a time.
limit	No	Integer	The maximum number of query results that can be returned. The value must be an integer greater than 0. The default value is **1000**.
name	No	String	The snapshot name. You can enter up to 64 characters.
status	No	String	The snapshot status. For details, see **EVS Snapshot Status**.

Parameter	Mandatory	Type	Description
volume_id	No	String	The ID of the snapshot's source disk.
availability_zone	No	String	The AZ of the snapshot's source disk.
id	No	String	The snapshot ID for filtering. Multiple IDs can be transferred for filtering. The format is *id=id1&id=id2&id=id3*.
dedicated_storage_name	No	String	The dedicated storage pool name.
dedicated_storage_id	No	String	The dedicated storage pool ID.
service_type	No	String	The service type. The value can be **EVS**, **DSS**, or **DESS**.
enterprise_project_id	No	String	The enterprise project ID, which is used for filtering. If **all_granted_eps** is transferred, the disks in all enterprise projects that are within the permission scope will be queried. **NOTE** For details about how to obtain enterprise project IDs and enterprise project features, see **Overview**.

Request Parameters

Table 6-130 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 6-131 Response body parameters

Parameter	Type	Description
count	Integer	The total number of snapshots. This value is not affected by the **limit** parameter.
snapshots	Array of **SnapshotList** objects	The snapshot information.
snapshots_links	Array of **Link** objects	The query position marker in the snapshot list. This field is returned only when **limit** is specified in the request, and this field indicates that only some snapshots are returned in this query.

Table 6-132 SnapshotList

Parameter	Type	Description
id	String	The snapshot ID.
status	String	The snapshot status.
name	String	The snapshot name.
description	String	The snapshot description.
created_at	String	The time when the snapshot was created.
updated_at	String	The time when the snapshot was updated.
metadata	Map<String,String>	The snapshot metadata.
volume_id	String	The snapshot's source disk.
size	Integer	The snapshot size.
os-extended-snapshot-attributes:project_id	String	The project ID.
os-extended-snapshot-attributes:progress	String	The snapshot creation progress.
dedicated_storage_id	String	The dedicated storage pool ID.
dedicated_storage_name	String	The dedicated storage pool name.

Parameter	Type	Description
service_type	String	The service type.

Table 6-133 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name.

Status code: 400

Table 6-134 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-135 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

- Querying details of snapshots (The snapshot IDs are **c311bb8d-17f1-4e99-aaf9-e132c0391a73** and **c7691083-15fa-4045-956c-2bcbfe1b9976**. The query starts from the first record. The number of records returned cannot exceed 100.)

  GET https://{endpoint}/v2/{project_id}/cloudsnapshots/detail?id=c311bb8d-17f1-4e99-aaf9-e132c0391a73&id=c7691083-15fa-4045-956c-2bcbfe1b9976&offset=0&limit=100

- Querying details of all snapshots of the EVS disk whose ID is **f8c7cce6-ec47-43ca-9297-b5604668b08f**

  GET https://{endpoint}/v2/{project_id}/cloudsnapshots/detail?volume_id=f8c7cce6-ec47-43ca-9297-b5604668b08f&service_type=EVS

Example Responses

Status code: 200

OK

```
{
  "count" : 3,
  "snapshots_links" : [ {
    "href" : "https://{endpoint}/v2/20a68d6b7a124ae2b6b8a22046ee5966/cloudsnapshots/detail?
limit=1&marker=fc05d5d7-7e99-42fb-b6f2-9ddd1b990e67",
    "rel" : "next"
  } ],
  "snapshots" : [ {
    "status" : "available",
    "updated_at" : "2018-06-06T10:58:47.349051",
    "volume_id" : "f687bd70-37b3-4f00-a900-0ba1cfaa5196",
    "id" : "fc05d5d7-7e99-42fb-b6f2-9ddd1b990e67",
    "size" : 1,
    "os-extended-snapshot-attributes:progress" : "100%",
    "name" : "test03",
    "os-extended-snapshot-attributes:project_id" : "20a68d6b7a124ae2b6b8a22046ee5966",
    "service_type" : "EVS",
    "created_at" : "2018-05-30T03:14:44.457975",
    "metadata" : { }
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class ListSnapshotsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);
```

```
        EvsClient client = EvsClient.newBuilder()
             .withCredential(auth)
             .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
             .build();
        ListSnapshotsRequest request = new ListSnapshotsRequest();
        request.withOffset(<offset>);
        request.withLimit(<limit>);
        request.withName("<name>");
        request.withStatus("<status>");
        request.withVolumeId("<volume_id>");
        request.withAvailabilityZone("<availability_zone>");
        request.withId("<id>");
        request.withDedicatedStorageName("<dedicated_storage_name>");
        request.withDedicatedStorageId("<dedicated_storage_id>");
        request.withServiceType("<service_type>");
        request.withEnterpriseProjectId("<enterprise_project_id>");
        try {
            ListSnapshotsResponse response = client.listSnapshots(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListSnapshotsRequest()
        request.offset = <offset>
        request.limit = <limit>
        request.name = "<name>"
        request.status = "<status>"
        request.volume_id = "<volume_id>"
        request.availability_zone = "<availability_zone>"
        request.id = "<id>"
        request.dedicated_storage_name = "<dedicated_storage_name>"
        request.dedicated_storage_id = "<dedicated_storage_id>"
```

```
        request.service_type = "<service_type>"
        request.enterprise_project_id = "<enterprise_project_id>"
        response = client.list_snapshots(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListSnapshotsRequest{}
    offsetRequest:= int32(<offset>)
    request.Offset = &offsetRequest
    limitRequest:= int32(<limit>)
    request.Limit = &limitRequest
    nameRequest:= "<name>"
    request.Name = &nameRequest
    statusRequest:= "<status>"
    request.Status = &statusRequest
    volumeIdRequest:= "<volume_id>"
    request.VolumeId = &volumeIdRequest
    availabilityZoneRequest:= "<availability_zone>"
    request.AvailabilityZone = &availabilityZoneRequest
    idRequest:= "<id>"
    request.Id = &idRequest
    dedicatedStorageNameRequest:= "<dedicated_storage_name>"
    request.DedicatedStorageName = &dedicatedStorageNameRequest
    dedicatedStorageIdRequest:= "<dedicated_storage_id>"
    request.DedicatedStorageId = &dedicatedStorageIdRequest
    serviceTypeRequest:= "<service_type>"
    request.ServiceType = &serviceTypeRequest
    enterpriseProjectIdRequest:= "<enterprise_project_id>"
    request.EnterpriseProjectId = &enterpriseProjectIdRequest
    response, err := client.ListSnapshots(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
```

```
      fmt.Println(err)
   }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.2.5 Querying Details About an EVS Snapshot

Function

This API is used to query details about an EVS snapshot. Enterprise project authorization is supported.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/cloudsnapshots/{snapshot_id}

Table 6-136 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 6-137 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 6-138 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotDetails** object	The snapshot information.

Table 6-139 SnapshotDetails

Parameter	Type	Description
id	String	The snapshot ID.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
name	String	The snapshot name.
description	String	The snapshot description.
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
metadata	Object	The snapshot metadata.
volume_id	String	The ID of the snapshot's source disk.
size	Integer	The snapshot size, in GiB.

Parameter	Type	Description
os-extended-snapshot-attributes:project_id	String	The reserved field.
os-extended-snapshot-attributes:progress	String	The reserved field.

Status code: 400

Table 6-140 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-141 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/cloudsnapshots/{snapshot_id}

Example Responses

Status code: 200

OK

```
{
  "snapshot" : {
    "status" : "available",
    "os-extended-snapshot-attributes:progress" : "100%",
    "description" : "daily backup",
    "created_at" : "2013-02-25t04:13:17.000000",
    "metadata" : { },
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "os-extended-snapshot-attributes:project_id" : "0c2eba2c5af04d3f9e9d0d410b371fde",
    "size" : 1,
    "id" : "2bb856e1-b3d8-4432-a858-09e4ce939389",
```

```
    "name" : "snap-001"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```java
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class ShowSnapshotSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowSnapshotRequest request = new ShowSnapshotRequest();
        try {
            ShowSnapshotResponse response = client.showSnapshot(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
```

```
    }
}
```

Python

```python
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowSnapshotRequest()
        response = client.show_snapshot(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```go
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())
```

```
        request := &model.ShowSnapshotRequest{}
        response, err := client.ShowSnapshot(request)
        if err == nil {
            fmt.Printf("%+v\n", response)
        } else {
            fmt.Println(err)
        }
    }
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

6.2.6 Rolling Back a Snapshot to an EVS Disk

Function

This API is used to roll back a snapshot to an EVS disk. Enterprise project authorization is supported.

Constraints

- A snapshot can be rolled back only to its source disk. Rollback to another disk is not possible.
- You can roll back a disk from a snapshot only when the disk is in the **available** or **error_rollbacking** state.
- Snapshots whose names started with the **autobk_snapshot_** prefix are automatically created by the system when backups are created. Such snapshots cannot be used to roll back data.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/cloudsnapshots/{snapshot_id}/rollback

Table 6-142 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 6-143 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-144 Request body parameters

Parameter	Mandatory	Type	Description
rollback	Yes	**RollbackSnapshotOption** object	The snapshot rollback information.

Table 6-145 RollbackSnapshotOption

Parameter	Mandatory	Type	Description
name	No	String	The name of the disk to be rolled back.
volume_id	Yes	String	The UUID of the disk to be rolled back.

Response Parameters

Status code: 202

Table 6-146 Response body parameters

Parameter	Type	Description
rollback	**RollbackInfo** object	The snapshot rollback information.

Table 6-147 RollbackInfo

Parameter	Type	Description
volume_id	String	The UUID of the disk to be rolled back.

Status code: 400

Table 6-148 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-149 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Rolling back a snapshot to an EVS disk (The target disk name is **test-001** and **UUID** is **5aa119a8-d25b-45a7-8d1b-88e127885635**.)

```
POST https://{endpoint}/v2/{project_id}/cloudsnapshots/{snapshot_id}/rollback

{
 "rollback" : {
   "name" : "test-001",
   "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635"
 }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "rollback" : {
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Rolling back a snapshot to an EVS disk (The target disk name is **test-001** and **UUID** is **5aa119a8-d25b-45a7-8d1b-88e127885635**.)

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class RollbackSnapshotSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        RollbackSnapshotRequest request = new RollbackSnapshotRequest();
        RollbackSnapshotRequestBody body = new RollbackSnapshotRequestBody();
        RollbackSnapshotOption rollbackbody = new RollbackSnapshotOption();
        rollbackbody.withName("test-001")
            .withVolumeId("5aa119a8-d25b-45a7-8d1b-88e127885635");
        body.withRollback(rollbackbody);
        request.withBody(body);
        try {
```

```
                RollbackSnapshotResponse response = client.rollbackSnapshot(request);
                System.out.println(response.toString());
            } catch (ConnectionException e) {
                e.printStackTrace();
            } catch (RequestTimeoutException e) {
                e.printStackTrace();
            } catch (ServiceResponseException e) {
                e.printStackTrace();
                System.out.println(e.getHttpStatusCode());
                System.out.println(e.getRequestId());
                System.out.println(e.getErrorCode());
                System.out.println(e.getErrorMsg());
            }
        }
    }
```

Python

Rolling back a snapshot to an EVS disk (The target disk name is **test-001** and **UUID** is **5aa119a8-d25b-45a7-8d1b-88e127885635**.)

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = RollbackSnapshotRequest()
        rollbackbody = RollbackSnapshotOption(
            name="test-001",
            volume_id="5aa119a8-d25b-45a7-8d1b-88e127885635"
        )
        request.body = RollbackSnapshotRequestBody(
            rollback=rollbackbody
        )
        response = client.rollback_snapshot(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Rolling back a snapshot to an EVS disk (The target disk name is **test-001** and **UUID** is **5aa119a8-d25b-45a7-8d1b-88e127885635**.)

```
package main
```

```
import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.RollbackSnapshotRequest{}
    nameRollback:= "test-001"
    rollbackbody := &model.RollbackSnapshotOption{
        Name: &nameRollback,
        VolumeId: "5aa119a8-d25b-45a7-8d1b-88e127885635",
    }
    request.Body = &model.RollbackSnapshotRequestBody{
        Rollback: rollbackbody,
    }
    response, err := client.RollbackSnapshot(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

6.2.7 Rolling Back a Snapshot to an EVS Disk (Deprecated)

Function

This API is used to roll back a snapshot to an EVS disk. This API has been deprecated. Use another API.

Constraints

- A snapshot can be rolled back only to its source disk. Rollback to another disk is not possible.
- You can roll back a disk from a snapshot only when the disk is in the **available** or **error_rollbacking** state.
- Snapshots whose names started with the **autobk_snapshot_** prefix are automatically created by the system when backups are created. Such snapshots cannot be used to roll back data.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/os-vendor-snapshots/{snapshot_id}/rollback

Table 6-150 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 6-151 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Table 6-152 Request body parameters

Parameter	Mandatory	Type	Description
rollback	Yes	**RollbackDisk SnapshotOpt ion** object	The snapshot rollback information.

Table 6-153 RollbackDiskSnapshotOption

Parameter	Mandatory	Type	Description
name	No	String	The name of the disk to be rolled back. You can enter up to 64 characters. For details about how to query the target disk name, see the **name** field in the response body by referring to **Querying Details About an EVS Disk (Deprecated)**. Do not use the **name** parameter alone. If **name** is going to be used, **volume_id** must also be specified.
volume_id	No	String	The ID of the disk to be rolled back. For details about how to query the target disk ID, see the **volume_id** field in the response body by referring to **Querying Details About an EVS Disk (Deprecated)**.

Response Parameters

Status code: 202

Table 6-154 Response body parameters

Parameter	Type	Description
rollback	**DiskRollback Option** object	The snapshot rollback information.

Table 6-155 DiskRollbackOption

Parameter	Type	Description
volume_id	String	The ID of the target disk for snapshot rollback.

Status code: 400

Table 6-156 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-157 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
{
  "rollback" : {
    "name" : "test-001",
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635"
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "rollback" : {
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
```

```
    }
  }
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

6.3 Tag Management

6.3.1 Batch Adding Tags for a Specified EVS Disk

Function

This API is used to batch add tags for a specified EVS disk.

When adding tags, if a tag key is consistent with an existing one, the new tag will overwrite the existing tag. A maximum of 10 tags can be created for a disk.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/cloudvolumes/{volume_id}/tags/action

Table 6-158 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-159 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-160 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	The operation. The value can be as follows: **create**: Add tags. Default: **create** Enumeration values: • **create**
tags	Yes	Array of **Tag** objects	The tag list.

Table 6-161 Tag

Parameter	Mandatory	Type	Description
key	Yes	String	The tag key. It can contain 1 to 64 characters, including only letters, digits, underscores (_), hyphens (-), and periods (.).
value	Yes	String	The tag key. It can contain 1 to 64 characters, including only letters, digits, underscores (_), hyphens (-), and periods (.).

Response Parameters

Status code: 400

Table 6-162 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-163 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Adding two tags **key1**,**value1** and **key2**,**value3** to a disk

```
POST https://{endpoint}/v2/{project_id}/cloudvolumes/{volume_id}/tags/action

{
  "action" : "create",
  "tags" : [ {
    "key" : "key1",
    "value" : "value1"
  }, {
    "key" : "key2",
    "value" : "value3"
  } ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

Adding two tags **key1**,**value1** and **key2**,**value3** to a disk

```
package com.huaweicloud.sdk.test;
```

```
import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;

import java.util.List;
import java.util.ArrayList;

public class BatchCreateVolumeTagsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        BatchCreateVolumeTagsRequest request = new BatchCreateVolumeTagsRequest();
        BatchCreateVolumeTagsRequestBody body = new BatchCreateVolumeTagsRequestBody();
        List<Tag> listbodyTags = new ArrayList<>();
        listbodyTags.add(
            new Tag()
                .withKey("key1")
                .withValue("value1")
        );
        listbodyTags.add(
            new Tag()
                .withKey("key2")
                .withValue("value3")
        );
        body.withTags(listbodyTags);
        body.withAction(BatchCreateVolumeTagsRequestBody.ActionEnum.fromValue("create"));
        request.withBody(body);
        try {
            BatchCreateVolumeTagsResponse response = client.batchCreateVolumeTags(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Adding two tags **key1**,**value1** and **key2**,**value3** to a disk

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = BatchCreateVolumeTagsRequest()
        listTagsbody = [
            Tag(
                key="key1",
                value="value1"
            ),
            Tag(
                key="key2",
                value="value3"
            )
        ]
        request.body = BatchCreateVolumeTagsRequestBody(
            tags=listTagsbody,
            action="create"
        )
        response = client.batch_create_volume_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Adding two tags **key1**,**value1** and **key2**,**value3** to a disk

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
```

```
    auth := basic.NewCredentialsBuilder().
       WithAk(ak).
       WithSk(sk).
       Build()

    client := evs.NewEvsClient(
       evs.EvsClientBuilder().
          WithRegion(region.ValueOf("<YOUR REGION>")).
          WithCredential(auth).
          Build())

    request := &model.BatchCreateVolumeTagsRequest{}
    var listTagsbody = []model.Tag{
       {
          Key: "key1",
          Value: "value1",
       },
       {
          Key: "key2",
          Value: "value3",
       },
    }
    request.Body = &model.BatchCreateVolumeTagsRequestBody{
       Tags: listTagsbody,
       Action: model.GetBatchCreateVolumeTagsRequestBodyActionEnum().CREATE,
    }
    response, err := client.BatchCreateVolumeTags(request)
    if err == nil {
       fmt.Printf("%+v\n", response)
    } else {
       fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	No Content
400	Bad Request

Error Codes

See **Error Codes**.

6.3.2 Batch Deleting Tags from a Specified EVS Disk

Function

This API is used to batch delete tags from a specified EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/cloudvolumes/{volume_id}/tags/action

Table 6-164 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-165 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-166 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	The operation. The value can be as follows: **delete**: Delete tags. Default: **delete** Enumeration values: ● **delete**
tags	Yes	Array of **DeleteTagsOption** objects	The tag list.

Table 6-167 DeleteTagsOption

Parameter	Mandatory	Type	Description
key	Yes	String	The tag key.

Response Parameters

Status code: 400

Table 6-168 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-169 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Deleting two tags of an EVS disk (The key of one tag is **key1**, and the key of the other tag is **key2**.)

```
POST https://{endpoint}/v2/{project_id}/cloudvolumes/{volume_id}/tags/action

{
  "action" : "delete",
  "tags" : [ {
    "key" : "key1"
  }, {
    "key" : "key2"
  } ]
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
```

```
    }
  }
```

SDK Sample Code

The SDK sample code is as follows.

Java

Deleting two tags of an EVS disk (The key of one tag is **key1**, and the key of the other tag is **key2**.)

```java
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;

import java.util.List;
import java.util.ArrayList;

public class BatchDeleteVolumeTagsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        BatchDeleteVolumeTagsRequest request = new BatchDeleteVolumeTagsRequest();
        BatchDeleteVolumeTagsRequestBody body = new BatchDeleteVolumeTagsRequestBody();
        List<DeleteTagsOption> listbodyTags = new ArrayList<>();
        listbodyTags.add(
            new DeleteTagsOption()
                .withKey("key1")
        );
        listbodyTags.add(
            new DeleteTagsOption()
                .withKey("key2")
        );
        body.withTags(listbodyTags);
        body.withAction(BatchDeleteVolumeTagsRequestBody.ActionEnum.fromValue("delete"));
        request.withBody(body);
        try {
            BatchDeleteVolumeTagsResponse response = client.batchDeleteVolumeTags(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
```

```
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Deleting two tags of an EVS disk (The key of one tag is **key1**, and the key of the other tag is **key2**.)

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = BatchDeleteVolumeTagsRequest()
        listTagsbody = [
            DeleteTagsOption(
                key="key1"
            ),
            DeleteTagsOption(
                key="key2"
            )
        ]
        request.body = BatchDeleteVolumeTagsRequestBody(
            tags=listTagsbody,
            action="delete"
        )
        response = client.batch_delete_volume_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Deleting two tags of an EVS disk (The key of one tag is **key1**, and the key of the other tag is **key2**.)

```
package main

import (
```

```
        "fmt"
        "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
        evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
        "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
        region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.BatchDeleteVolumeTagsRequest{}
    var listTagsbody = []model.DeleteTagsOption{
        {
            Key: "key1",
        },
        {
            Key: "key2",
        },
    }
    request.Body = &model.BatchDeleteVolumeTagsRequestBody{
        Tags: listTagsbody,
        Action: model.GetBatchDeleteVolumeTagsRequestBodyActionEnum().DELETE,
    }
    response, err := client.BatchDeleteVolumeTags(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
204	No Content
400	Bad Request

Error Codes

See **Error Codes**.

6.3.3 Obtaining Tags of All EVS Disks

Function

This API is used to query the details of all EVS disks of a tenant by tag.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/cloudvolumes/tags

Table 6-170 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 6-171 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 6-172 Response body parameters

Parameter	Type	Description
tags	Map<String,Array<String>>	The tag information of all disks.

Status code: 400

Table 6-173 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-174 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/cloudvolumes/tags

Example Responses

Status code: 200

The tag list is returned.

```
{
 "tags" : {
   "key_0" : [ "value_0" ],
   "key_1" : [ "value_1", "value_2", "value_3", "value_4" ]
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```java
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class ListVolumeTagsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        ListVolumeTagsRequest request = new ListVolumeTagsRequest();
        try {
            ListVolumeTagsResponse response = client.listVolumeTags(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```python
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
```

```
# In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListVolumeTagsRequest()
        response = client.list_volume_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListVolumeTagsRequest{}
    response, err := client.ListVolumeTags(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab
in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The tag list is returned.
400	Bad Request

Error Codes

See **Error Codes**.

6.3.4 Querying Tags of an EVS Disk

Function

This API is used to query the tags of a specified EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/cloudvolumes/{volume_id}/tags

Table 6-175 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 6-176 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 6-177 Response body parameters

Parameter	Type	Description
sys_tags	Array of **Tag** objects	The system tag list.
tags	Array of **Tag** objects	The tag list.

Table 6-178 Tag

Parameter	Type	Description
key	String	The tag key. It can contain 1 to 64 characters, including only letters, digits, underscores (_), hyphens (-), and periods (.).
value	String	The tag key. It can contain 1 to 64 characters, including only letters, digits, underscores (_), hyphens (-), and periods (.).

Status code: 400

Table 6-179 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-180 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/cloudvolumes/{volume_id}/tags

Example Responses

Status code: 200

The tag list is returned.

```
{
  "tags" : [ {
    "value" : "value1",
    "key" : "key1"
  }, {
    "value" : "value2",
    "key" : "key2"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

SDK Sample Code

The SDK sample code is as follows.

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;


public class ShowVolumeTagsSolution {

    public static void main(String[] args) {
```

```
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        ShowVolumeTagsRequest request = new ShowVolumeTagsRequest();
        try {
            ShowVolumeTagsResponse response = client.showVolumeTags(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ShowVolumeTagsRequest()
        response = client.show_volume_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

```go
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ShowVolumeTagsRequest{}
    response, err := client.ShowVolumeTags(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The tag list is returned.
400	Bad Request

Error Codes

See **Error Codes**.

6.3.5 Querying Details of EVS Disks by Tag

Function

This API is used to query the details of EVS disks by tag.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/cloudvolumes/resource_instances/action

Table 6-181 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 6-182 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 6-183 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	The operation identifier. To query the details of disks by tag, use **filter**. Default: **filter** Enumeration values: **filter**

Parameter	Mandatory	Type	Description
limit	No	Integer	The number of query records. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit. Minimum: **1** Maximum: **1000** Default: **1000**
matches	No	Array of **Match** objects	The search criteria supported by disks. Tag keys in a tag list must be unique.
offset	No	Integer	The index location. The minimum value is **0**, which is also the default value. The first record in the query result is the "offset+1" record that meets the query criteria. For example, there are a total of 30 EVS disk. If you set **offset** to **11** and **limit** to **10**, the query starts from the twelfth disk, and a maximum of 10 disks can be queried at a time. Default: **0**
tags	Yes	Array of **TagsForListVolumes** objects	The key-value pairs of tags. A tag list can contain a maximum of 10 keys. Tag keys in a tag list must be unique. When multiple keys are specified in a tag list, only the disks having all specified keys are queried.

Table 6-184 Match

Parameter	Mandatory	Type	Description
key	Yes	String	The key. Options are as follows: **resource_name service_type** Enumeration values: • **resource_name** • **service_type**

Parameter	Mandatory	Type	Description
value	Yes	String	The value, which can contain a maximum of 255 characters. If **resource_name** is specified for **key**, the tag value uses a fuzzy match.

Table 6-185 TagsForListVolumes

Parameter	Mandatory	Type	Description
key	Yes	String	The tag key.
values	Yes	Array of strings	The tag value. A tag list can contain a maximum of 10 values. Tag values in a tag list must be unique. If the tag value list is empty, disks that contain any key can be queried. When there are multiple values and the key requirements are met, disks that have any of the specified values are queried.

Response Parameters

Status code: 200

Table 6-186 Response body parameters

Parameter	Type	Description
total_count	Integer	The number of disks that meet the query criteria.
resources	Array of **Resource** objects	The list of disks that meet the query criteria.

Table 6-187 Resource

Parameter	Type	Description
resource_id	String	The resource ID.

Parameter	Type	Description
resource_name	String	The resource name.
resource_detail	**VolumeDetailForTag** object	The resource details.
tags	Array of Map<String,String> objects	The tag list.

Table 6-188 VolumeDetailForTag

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **Attachment** objects	The disk attachment information.
availability_zone	String	The AZ to which the disk belongs.
os-vol-host-attr:host	String	The reserved field.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
description	String	The disk description.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.

Parameter	Type	Description
volume_image_metadata	Map<String,Object>	The metadata of the disk image. **NOTE** For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
volume_type	String	The disk type. The value can be **SSD**, **SAS**, or **SATA**. ● **SSD**: the ultra-high I/O type ● **SAS**: the high I/O type ● **SATA**: the common I/O type
size	Integer	The disk size, in GiB.
consistencygroup_id	String	The reserved field.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
metadata	**VolumeMetadata** object	The disk metadata.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
encrypted	Boolean	This field is currently not supported.
replication_status	String	The reserved field.
os-volume-replication:extended_status	String	The reserved field.
os-vol-mig-status-attr:migstat	String	The reserved field.
os-vol-mig-status-attr:name_id	String	The reserved field.
shareable	Boolean	Whether the disk is shareable. The value can be **true** (shareable) or **false** (non-shareable). This field has been deprecated. Use **multiattach**.
user_id	String	The reserved field.
service_type	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
multiattach	Boolean	Whether the disk is shareable.

Parameter	Type	Description
dedicated_storage_id	String	The ID of the dedicated storage pool housing the disk.
dedicated_storage_name	String	The name of the dedicated storage pool housing the disk.
tags	Map<String,String>	The disk tags. This field has values if the disk has tags. Or, it is left empty.
wwn	String	The unique identifier used when attaching the disk.
enterprise_project_id	String	The ID of the enterprise project that the disk has been added to. For more details about enterprise projects and how to obtain enterprise project IDs, see . **Overview**..

Table 6-189 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name.

Table 6-190 Attachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 6-191 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. For details about how to obtain the key ID, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter is not specified, the encryption attribute of the disk is the same as that of the data source. If the disk is not created from a data source, the disk is not encrypted by default.
full_clone	String	The creation method when the disk is created from a snapshot. ● **0**: linked clone ● **1**: full clone
hw:passthrough	String	● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. ● If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. ● If this parameter is not specified, the disk device type is VBD.
orderID	String	The parameter that describes the disk billing mode in **metadata**. If this parameter has a value, the disk is billed on a yearly/monthly basis. If not, the disk is billed on a pay-per-use basis.

Status code: 400

Table 6-192 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-193 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Querying details of disk **shared01** using tags **key_string**,**value_string** and **key_string02**,**value_string02** (The query starts from the tenth record. The number of records returned cannot exceed 100.)

POST https://{endpoint}/v2/{project_id}/cloudvolumes/resource_instances/action

```
{
 "offset" : 9,
 "limit" : 100,
 "action" : "filter",
 "tags" : [ {
   "key" : "key_string",
   "values" : [ "value_string" ]
 }, {
   "key" : "key_string02",
   "values" : [ "value_string02" ]
 } ],
 "matches" : [ {
   "key" : "resource_name",
   "value" : "shared01"
 }, {
   "key" : "service_type",
   "value" : "EVS"
 } ]
}
```

Example Responses

Status code: 200

The disk information is returned.

```
{
 "total_count" : 1,
 "resources" : [ {
   "resource_name" : "resource1",
   "resource_detail" : {
     "attachments" : [ {
       "server_id" : "2080869e-ba46-4ea5-b45e-3191ac0f1d54",
       "attachment_id" : "1335f039-7a42-4d1e-be49-ac584db0ba0b",
       "attached_at" : "2019-08-06T07:00:21.842812",
       "volume_id" : "7fa6b592-ac75-460d-a28a-bb17429d1eb2",
       "device" : "/dev/vda",
       "id" : "7fa6b592-ac75-460d-a28a-bb17429d1eb2"
     } ],
     "links" : [ {
       "href" : "https://volume.Region.dc1.domainname.com/v2/051375756c80d5eb2ff0c014498645fb/
volumes/7fa6b592-ac75-460d-a28a-bb17429d1eb2",
       "rel" : "self"
     }, {
       "href" : "https://volume.Region.dc1.domainname.com/051375756c80d5eb2ff0c014498645fb/volumes/
```

```
7fa6b592-ac75-460d-a28a-bb17429d1eb2",
      "rel" : "bookmark"
    } ],
    "availability_zone" : "kvmxen.dc1",
    "os-vol-host-attr:host" : "az21.dc1#2",
    "enterprise_project_id" : "0",
    "updated_at" : "2019-08-09T06:19:35.874737",
    "replication_status" : "disabled",
    "id" : "7fa6b592-ac75-460d-a28a-bb17429d1eb2",
    "size" : 40,
    "user_id" : "75f26e17348643bfb7718578b04635c2",
    "os-vol-tenant-attr:tenant_id" : "051375756c80d5eb2ff0c014498645fb",
    "service_type" : "EVS",
    "metadata" : { },
    "status" : "in-use",
    "volume_image_metadata" : {
      "size" : "0",
      "__quick_start" : "False",
      "container_format" : "bare",
      "min_ram" : "0",
      "image_name" : "test-hua-centos7.3-0725",
      "image_id" : "c6c153a6-dde8-4bac-8e40-3d7619436934",
      "__os_type" : "Linux",
      "min_disk" : "20",
      "__support_kvm" : "true",
      "virtual_env_type" : "FusionCompute",
      "__description" : "",
      "__os_version" : "CentOS 7.3 64bit",
      "__os_bit" : "64",
      "__image_source_type" : "uds",
      "__support_xen" : "true",
      "file_format" : "zvhd2",
      "checksum" : "d41d8cd98f00b204e9800998ecf8427e",
      "__imagetype" : "gold",
      "disk_format" : "zvhd2",
      "__image_cache_type" : "Not_Cache",
      "__isregistered" : "true",
      "__image_location" : "192.149.46.200:5443:pcsimssouthchina:c6c153a6-
dde8-4bac-8e40-3d7619436934",
      "__image_size" : "911269888",
      "__platform" : "CentOS"
    },
    "description" : "",
    "multiattach" : false,
    "name" : "resource1",
    "bootable" : "true",
    "created_at" : "2019-08-06T06:59:03.056682",
    "volume_type" : "SAS",
    "shareable" : false
  },
  "tags" : [ {
    "key" : "key1",
    "value" : "value1"
  }, {
    "key" : "key1",
    "value" : "value2"
  } ],
  "resource_id" : "7fa6b592-ac75-460d-a28a-bb17429d1eb2"
 } ]
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
```

```
   }
  }
```

SDK Sample Code

The SDK sample code is as follows.

Java

Querying details of disk **shared01** using tags **key_string**,**value_string** and **key_string02**,**value_string02** (The query starts from the tenth record. The number of records returned cannot exceed 100.)

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.evs.v2.region.EvsRegion;
import com.huaweicloud.sdk.evs.v2.*;
import com.huaweicloud.sdk.evs.v2.model.*;

import java.util.List;
import java.util.ArrayList;

public class ListVolumesByTagsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");

        ICredential auth = new BasicCredentials()
                .withAk(ak)
                .withSk(sk);

        EvsClient client = EvsClient.newBuilder()
                .withCredential(auth)
                .withRegion(EvsRegion.valueOf("<YOUR REGION>"))
                .build();
        ListVolumesByTagsRequest request = new ListVolumesByTagsRequest();
        ListVolumesByTagsRequestBody body = new ListVolumesByTagsRequestBody();
        List<String> listTagsValues = new ArrayList<>();
        listTagsValues.add("value_string02");
        List<String> listTagsValues1 = new ArrayList<>();
        listTagsValues1.add("value_string");
        List<TagsForListVolumes> listbodyTags = new ArrayList<>();
        listbodyTags.add(
            new TagsForListVolumes()
                .withKey("key_string")
                .withValues(listTagsValues1)
        );
        listbodyTags.add(
            new TagsForListVolumes()
                .withKey("key_string02")
                .withValues(listTagsValues)
        );
        List<Match> listbodyMatches = new ArrayList<>();
        listbodyMatches.add(
            new Match()
                .withKey(Match.KeyEnum.fromValue("resource_name"))
```

```java
                .withValue("shared01")
            );
            listbodyMatches.add(
                new Match()
                    .withKey(Match.KeyEnum.fromValue("service_type"))
                    .withValue("EVS")
            );
            body.withTags(listbodyTags);
            body.withOffset(9);
            body.withMatches(listbodyMatches);
            body.withLimit(100);
            body.withAction(ListVolumesByTagsRequestBody.ActionEnum.fromValue("filter"));
            request.withBody(body);
            try {
                ListVolumesByTagsResponse response = client.listVolumesByTags(request);
                System.out.println(response.toString());
            } catch (ConnectionException e) {
                e.printStackTrace();
            } catch (RequestTimeoutException e) {
                e.printStackTrace();
            } catch (ServiceResponseException e) {
                e.printStackTrace();
                System.out.println(e.getHttpStatusCode());
                System.out.println(e.getRequestId());
                System.out.println(e.getErrorCode());
                System.out.println(e.getErrorMsg());
            }
        }
    }
}
```

Python

Querying details of disk **shared01** using tags **key_string**,**value_string** and **key_string02**,**value_string02** (The query starts from the tenth record. The number of records returned cannot exceed 100.)

```python
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkevs.v2.region.evs_region import EvsRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkevs.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

    client = EvsClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EvsRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = ListVolumesByTagsRequest()
        listValuesTags = [
            "value_string02"
        ]
        listValuesTags1 = [
            "value_string"
        ]
        listTagsbody = [
```

```
            TagsForListVolumes(
                key="key_string",
                values=listValuesTags1
            ),
            TagsForListVolumes(
                key="key_string02",
                values=listValuesTags
            )
        ]
        listMatchesbody = [
            Match(
                key="resource_name",
                value="shared01"
            ),
            Match(
                key="service_type",
                value="EVS"
            )
        ]
        request.body = ListVolumesByTagsRequestBody(
            tags=listTagsbody,
            offset=9,
            matches=listMatchesbody,
            limit=100,
            action="filter"
        )
        response = client.list_volumes_by_tags(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Querying details of disk **shared01** using tags **key_string**,**value_string** and **key_string02**,**value_string02** (The query starts from the tenth record. The number of records returned cannot exceed 100.)

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    evs "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/evs/v2/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()

    client := evs.NewEvsClient(
        evs.EvsClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
```

```
        Build())

    request := &model.ListVolumesByTagsRequest{}
    var listValuesTags = []string{
        "value_string02",
    }
    var listValuesTags1 = []string{
        "value_string",
    }
    var listTagsbody = []model.TagsForListVolumes{
        {
            Key: "key_string",
            Values: listValuesTags1,
        },
        {
            Key: "key_string02",
            Values: listValuesTags,
        },
    }
    var listMatchesbody = []model.Match{
        {
            Key: model.GetMatchKeyEnum().RESOURCE_NAME,
            Value: "shared01",
        },
        {
            Key: model.GetMatchKeyEnum().SERVICE_TYPE,
            Value: "EVS",
        },
    }
    offsetListVolumesByTagsRequestBody:= int32(9)
    limitListVolumesByTagsRequestBody:= int32(100)
    request.Body = &model.ListVolumesByTagsRequestBody{
        Tags: listTagsbody,
        Offset: &offsetListVolumesByTagsRequestBody,
        Matches: &listMatchesbody,
        Limit: &limitListVolumesByTagsRequestBody,
        Action: model.GetListVolumesByTagsRequestBodyActionEnum().FILTER,
    }
    response, err := client.ListVolumesByTags(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More

For SDK sample code of more programming languages, see the Sample Code tab in **API Explorer**. SDK sample code can be automatically generated.

Status Codes

Status Code	Description
200	The disk information is returned.
400	Bad Request

Error Codes

See **Error Codes**.

6.4 Task Management

6.4.1 Querying Task Status

Function

This API is used to query the execution status of a task. It can be used to query the execution status of a disk creation, capacity expansion, or deletion task.

Calling Method

For details, see **Calling APIs**.

URI

GET /v1/{project_id}/jobs/{job_id}

Table 6-194 Path Parameters

Parameter	Mandatory	Type	Description
job_id	Yes	String	The task ID.
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 6-195 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 6-196 Response body parameters

Parameter	Type	Description
status	String	The task status. **SUCCESS**: The task was successful. **RUNNING**: The task is in progress. **FAIL**: The task failed. **INIT**: The task is being initialized. Enumeration values: ● **SUCCESS** ● **RUNNING** ● **FAIL** ● **INIT** ● **WAITING_EXECUTE**
entities	**JobEntities** object	The task response information.
job_id	String	The task ID.
job_type	String	The task type. ● *createVolume*: Create a disk. ● **batchCreateVolume**: Batch create disks. ● **deleteVolume**: Delete a disk. ● **extendVolume**: Expand the capacity of a disk. ● **bulkDeleteVolume**: Batch delete disks. ● **deleteSingleVolume**: Delete disks one by one during a batch deletion. ● **retypeVolume**: Change the type of a disk.
begin_time	String	The start time.
end_time	String	The end time.
error_code	String	The error code returned if the task execution fails.
fail_reason	String	The cause of the task execution failure.

Table 6-197 JobEntities

Parameter	Type	Description
volume_type	String	The disk type.
size	Integer	The disk size, in GiB.
volume_id	String	The disk ID.

Parameter	Type	Description
name	String	The disk name.
sub_jobs	Array of **SubJob** objects	The information of a subtask. If there is a subtask, other fields in **entities** are not returned.

Table 6-198 SubJob

Parameter	Type	Description
status	String	The subtask status. **SUCCESS**: The task was successful. **RUNNING**: The task is in progress. **FAIL**: The task failed. **INIT**: The task is being initialized. Enumeration values: ● **SUCCESS** ● **RUNNING** ● **FAIL** ● **INIT**
entities	**SubJobEntities** object	The subtask response information.
job_id	String	The subtask ID.
job_type	String	The subtask type. ● *createVolume*: Create a disk. ● **batchCreateVolume**: Batch create disks. ● **deleteVolume**: Delete a disk. ● **extendVolume**: Expand the capacity of a disk. ● **bulkDeleteVolume**: Batch delete disks. ● **deleteSingleVolume**: Delete disks one by one during a batch deletion. ● **retypeVolume**: Change the type of a disk.
begin_time	String	The start time.
end_time	String	The end time.
error_code	String	The error code returned if the subtask execution fails.
fail_reason	String	The cause of the subtask execution failure.

Table 6-199 SubJobEntities

Parameter	Type	Description
volume_type	String	The disk type.
size	Integer	The disk size, in GiB.
volume_id	String	The disk ID.
name	String	The disk name.

Status code: 400

Table 6-200 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 6-201 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v1/{project_id}/jobs/{job_id}

https://{endpoint}/v1/{project_id}/jobs/{job_id}

Example Responses

Status code: 200

OK

```
{
  "status" : "RUNNING",
  "entities" : {
    "volume_id" : "bdf1bb37-f20f-4266-9a04-f43e0a127376"
  },
  "job_id" : "4010a32d535527910153552b492c0002",
  "job_type" : "createVolume",
  "begin_time" : "2016-03-08T07:40:13.219Z",
  "end_time" : ""
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7 Cinder API

7.1 Disk Management

7.1.1 Creating EVS Disks

Function

This API is used to create EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes

Table 7-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 7-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-3 Request body parameters

Parameter	Mandatory	Type	Description
volume	Yes	**CinderCreate VolumeOption** object	The information of the disk to be created. Note: Specifying any two of the **source_volid**, **snapshot_id**, and **imageRef** fields together is not supported.
OS-SCH-HNT:scheduler_hints	No	**CinderCreate VolumeScheduler Hints** object	The scheduling parameter. The **dedicated_storage_id** field is supported, indicating that disks can be created in DSS storage pools.

Table 7-4 CinderCreateVolumeOption

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	The AZ where you want to create the disk. If the specified AZ does not exist or is different from the AZ to which the backup belongs, the disk will fail to be created.
consistencygroup_id	No	String	The ID of the consistency group. If this parameter is specified, the disk belongs to this consistency group. This function is currently not available.
description	No	String	The disk description. You can enter up to 85 characters.

Parameter	Mandatory	Type	Description
imageRef	No	String	The image ID. If this parameter is specified, the disk is created from an image. **NOTE** Bare Metal Server (BMS) system disks cannot be created from BMS images. For details about how to obtain the image ID, see **Querying Images**.
metadata	No	**VolumeMeta data** object	The disk metadata. The length of **key** or **value** under **metadata** can contain no more than 255 bytes. The **metadata** field only shows some parameters. You can specify other parameters based on your requirements. **value** of a key-value pair in **metadata** cannot be null.
multiattach	No	Boolean	Whether the disk is shareable. The default value is **false**. **true**: The disk is shareable. **false**: The disk is not shareable. For details, see **Shared EVS Disks and Usage Instructions**.
name	No	String	The disk name. You can enter up to 64 characters.

Parameter	Mandatory	Type	Description
size	No	Integer	The disk size, in GiB. The restrictions are as follows: System disk: 1 GiB to 1,024 GiB Data disk: 10 GiB to 32,768 GiB This parameter is mandatory when you create an empty disk. If you create the disk from a snapshot, this parameter is mandatory, and the disk size must be greater than or equal to the snapshot size. If you create the disk from an image, this parameter is mandatory, and the disk size must be greater than or equal to the minimum capacity required by the **min_disk** image attribute.
snapshot_id	No	String	The snapshot ID. If this parameter is specified, the disk is created from a snapshot.
source_replica	No	String	This parameter indicates that the disk is cloned from another disk. This function is currently not available.
source_volid	No	String	The source disk ID. If this parameter is specified, the disk is cloned from an existing disk. This function is currently not supported.

Parameter	Mandatory	Type	Description
volume_type	Yes	String	The disk type.
			The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**.
			• **SATA**: the common I/O type
			• **SAS**: the high I/O type
			• **GPSSD**: the general purpose SSD type
			• **SSD**: the ultra-high I/O type
			• **ESSD**: the extreme SSD type
			• **GPSSD2**: the general purpose SSD V2 type
			• **ESSD2**: the extreme SSD V2 type If the specified disk type is not available in the AZ, the disk will fail to be created.
			NOTE When you create a disk from a snapshot, ensure that the disk type of the new disk is consistent with that of the snapshot's source disk. For details about disk types, see
			Disk Types and Performance.
			Enumeration values:
			• **ESSD2**
			• **GPSSD2**
			• **ESSD**
			• **SSD**
			• **GPSSD**
			• **SAS**
			• **SATA**

Parameter	Mandatory	Type	Description
iops	No	Integer	The configured IOPS. This parameter is mandatory only when a general purpose SSD V2 or an extreme SSD V2 disk is created. **NOTE** • To learn the IOPS ranges of general purpose SSD V2 and extreme SSD V2 disks, see the **EVS performance data** table in **Disk Types and Performance**. • Only pay-per-use billing is supported.
throughput	No	Integer	The configured throughput, in the unit of MiB/s. This parameter is mandatory only when a general purpose SSD V2 disk is created. **NOTE** -To learn the throughput range of general purpose SSD V2 disks, see the **EVS performance data** table in **Disk Types and Performance**. • Only pay-per-use billing is supported.

Table 7-5 VolumeMetadata

Parameter	Mandatory	Type	Description
__system__cmkid	No	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. **NOTE** Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	No	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.

Parameter	Mandatory	Type	Description
full_clone	No	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrough	No	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Table 7-6 CinderCreateVolumeSchedulerHints

Parameter	Mandatory	Type	Description
dedicated_storage_id	No	String	The dedicated storage pool ID.

Response Parameters

Status code: 202

Table 7-7 Response body parameters

Parameter	Type	Description
volume	**CreateVolumeDetail** object	The created disk information.

Table 7-8 CreateVolumeDetail

Parameter	Type	Description
id	String	The disk ID.

Parameter	Type	Description
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	The attachment information.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
encrypted	Boolean	This field is currently not supported.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The disk description.
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type If the specified disk type is not available in the AZ, the disk will fail to be created.
replication_status	String	The reserved field.
consistencygroup_id	String	The ID of the consistency group where the disk belongs.
source_volid	String	The source disk ID. This field is currently not supported.
snapshot_id	String	The snapshot ID.

Parameter	Type	Description
metadata	**VolumeMeta data** object	The metadata.
size	Integer	The disk size, in GiB.
user_id	String	The ID of the user that uses the disk.
updated_at	String	The time when the disk was updated.
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable. **true**: The disk is shareable. **false**: The disk is not shareable.
storage_cluste r_id	String	The reserved field.

Table 7-9 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 7-10 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_i d	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 7-11 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. NOTE Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrough	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Status code: 400

Table 7-12 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-13 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Creating an EVS disk (Use an image to create a non-shared EVS disk in the DSS storage pool. Set the disk type to common I/O, device type to SCSI, and disk size to 40 GiB.)

```
POST https://{endpoint}/v2/{project_id}/volumes

{
  "volume" : {
    "name" : "openapi_vol01",
    "imageRef" : "027cf713-45a6-45f0-ac1b-0ccc57ac12e2",
    "availability_zone" : "xxx",
    "description" : "create for api test",
    "volume_type" : "SATA",
    "metadata" : {
      "hw:passthrough" : "true"
    },
    "consistencygroup_id" : null,
    "source_volid" : null,
    "snapshot_id" : null,
    "multiattach" : false,
    "source_replica" : null,
    "size" : 40
  },
  "OS-SCH-HNT:scheduler_hints" : {
    "dedicated_storage_id" : "eddc1a3e-4145-45be-98d7-bf6f65af9767"
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "volume" : {
    "attachments" : [ ],
    "availability_zone" : "xxx",
    "bootable" : "false",
    "created_at" : "2016-05-25T02:38:40.392463",
    "description" : "create for api test",
    "encrypted" : false,
    "id" : "8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/5dd0b0056f3d47b6ab4121667d35621a/volumes/
8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/5dd0b0056f3d47b6ab4121667d35621a/volumes/
8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
      "rel" : "bookmark"
    } ],
    "metadata" : {
      "__system__encrypted" : 0
    },
    "name" : "openapi_vol01",
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 40,
    "status" : "creating",
    "user_id" : "39f6696ae23740708d0f358a253c2637",
    "volume_type" : "SATA"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.1.2 Deleting an EVS Disk

Function

This API is used to delete an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v2/{project_id}/volumes/{volume_id}

Table 7-14 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Table 7-15 Query Parameters

Parameter	Mandatory	Type	Description
cascade	No	Boolean	Whether to delete all the snapshots created for this disk. The default value is **false**. Default: **false**

Request Parameters

Table 7-16 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 7-17 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-18 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v2/{project_id}/volumes/{volume_id}?cascade=true

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.1.3 Updating an EVS Disk

Function

This API is used to update an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v2/{project_id}/volumes/{volume_id}

Table 7-19 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-20 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-21 Request body parameters

Parameter	Mandatory	Type	Description
volume	Yes	**CinderUpdateVolumeOption** object	The disk information to be updated.

Table 7-22 CinderUpdateVolumeOption

Parameter	Mandatory	Type	Description
name	No	String	The disk name. You can enter up to 64 characters.
description	No	String	The disk description. You can enter up to 85 characters.
metadata	No	Map<String,String>	The disk metadata. The length of **key** or **value** under **metadata** can contain no more than 255 bytes.
display_description	No	String	The disk description. You can specify either **description** or **display_description**. If they are both specified, the **description** value is used. You can enter up to 85 characters.
display_name	No	String	The disk name. You can specify either **name** or **display_name**. If they are both specified, the **name** value is used. You can enter up to 64 characters.

Response Parameters

Status code: 200

Table 7-23 Response body parameters

Parameter	Type	Description
volume	**CreateVolumeDetail** object	The created disk information.

Table 7-24 CreateVolumeDetail

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	The attachment information.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
encrypted	Boolean	This field is currently not supported.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The disk description.

Parameter	Type	Description
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. • **SATA**: the common I/O type • **SAS**: the high I/O type • **GPSSD**: the general purpose SSD type • **SSD**: the ultra-high I/O type • **ESSD**: the extreme SSD type • **GPSSD2**: the general purpose SSD V2 type • **ESSD2**: the extreme SSD V2 type If the specified disk type is not available in the AZ, the disk will fail to be created.
replication_status	String	The reserved field.
consistencygroup_id	String	The ID of the consistency group where the disk belongs.
source_volid	String	The source disk ID. This field is currently not supported.
snapshot_id	String	The snapshot ID.
metadata	**VolumeMetadata** object	The metadata.
size	Integer	The disk size, in GiB.
user_id	String	The ID of the user that uses the disk.
updated_at	String	The time when the disk was updated.
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable. **true**: The disk is shareable. **false**: The disk is not shareable.
storage_cluster_id	String	The reserved field.

Table 7-25 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.

Parameter	Type	Description
rel	String	The shortcut link marker name. Default: **next**

Table 7-26 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 7-27 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. NOTE Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.

Parameter	Type	Description
hw:passthrou gh	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported.
		If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands.
		If this parameter is not available, the disk device type is VBD.

Status code: 400

Table 7-28 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-29 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs.
		For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Updating the EVS disk name and description

```
PUT https://{endpoint}/v2/{project_id}/volumes/{volume_id}

{
 "volume" : {
   "name" : "test_volume",
   "description" : "test"
 }
}
```

Example Responses

Status code: 200

OK

```
{
  "volume" : {
    "attachments" : [ ],
    "availability_zone" : "az-dc-1",
    "bootable" : "false",
    "created_at" : "2016-05-25T02:38:40.392463",
    "description" : "create for api test",
    "encrypted" : false,
    "id" : "8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/5dd0b0056f3d47b6ab4121667d35621a/volumes/
8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/5dd0b0056f3d47b6ab4121667d35621a/volumes/
8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
      "rel" : "bookmark"
    } ],
    "metadata" : {
      "hw:passthrough" : true
    },
    "name" : "openapi_vol01",
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 40,
    "status" : "creating",
    "user_id" : "39f6696ae23740708d0f358a253c2637",
    "volume_type" : "SATA"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.1.4 Querying EVS Disk Types

Function

This API is used to query EVS disk types.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/types

Table 7-30 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 7-31 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	No	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-32 Response body parameters

Parameter	Type	Description
volume_types	Array of **VolumeType** objects	The list of returned disk types.

Table 7-33 VolumeType

Parameter	Type	Description
id	String	The disk type ID.

Parameter	Type	Description
name	String	The disk type name.
extra_specs	**VolumeTypeExtraSpecs** object	The disk type flavor.
description	String	The disk type description.
qos_specs_id	String	The reserved field.
is_public	Boolean	The reserved field.

Table 7-34 VolumeTypeExtraSpecs

Parameter	Type	Description
RESKEY:availability_zones	String	The list of AZs where the disk type is supported. Elements in the list are separated by commas (,). If this parameter is not specified, the disk type is supported in all AZs.
availability-zone	String	The reserved field.
os-vendor-extended:sold_out_availability_zones	String	The list of AZs where the disk type has been sold out. Elements in the list are separated by commas (,).
volume_backend_name	String	The reserved field.
HW:availability_zone	String	The reserved field.

Status code: 400

Table 7-35 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-36 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/types

Example Responses

Status code: 200

OK

```
{
  "volume_types" : [ {
    "extra_specs" : {
      "availability-zone" : "az-dc-1",
      "volume_backend_name" : "SAS",
      "RESKEY:availability_zones" : "az-dc-1,az-dc-2",
      "os-vendor-extended:sold_out_availability_zones" : "az-dc-2"
    },
    "description" : null,
    "name" : "SAS",
    "id" : "6c81c680-df58-4512-81e7-ecf66d160638",
    "is_public" : true
  }, {
    "extra_specs" : {
      "availability-zone" : "az-dc-1",
      "volume_backend_name" : "SATA",
      "RESKEY:availability_zones" : "az-dc-1,az-dc-2",
      "os-vendor-extended:sold_out_availability_zones" : "az-dc-2"
    },
    "description" : null,
    "name" : "SATA",
    "qos_specs_id" : "585f29d6-7147-42e7-bfb8-ca214f640f6f",
    "is_public" : true,
    "id" : "ea6e3c13-aac5-46e0-b280-745ed272e662"
  }, {
    "extra_specs" : {
      "availability-zone" : "az-dc-1",
      "volume_backend_name" : "SSD",
      "RESKEY:availability_zones" : "az-dc-1,az-dc-2",
      "os-vendor-extended:sold_out_availability_zones" : "az-dc-2"
    },
    "description" : null,
    "name" : "SSD",
    "qos_specs_id" : "39b0c29a-308b-4f86-b478-5d3d02a43837",
    "is_public" : true,
    "id" : "6f2dee9e-82f0-4be3-ad89-bae605a3d24f"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
```

```
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.1.5 Querying Details About an EVS Disk Type

Function

This API is used to query details about an EVS disk type.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/types/{type_id}

Table 7-37 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
type_id	Yes	String	The disk type ID.

Request Parameters

Table 7-38 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-39 Response body parameters

Parameter	Type	Description
volume_type	**VolumeType** object	The returned disk type.

Table 7-40 VolumeType

Parameter	Type	Description
id	String	The disk type ID.
name	String	The disk type name.
extra_specs	**VolumeTypeExtraSpecs** object	The disk type flavor.
description	String	The disk type description.
qos_specs_id	String	The reserved field.
is_public	Boolean	The reserved field.

Table 7-41 VolumeTypeExtraSpecs

Parameter	Type	Description
RESKEY:availability_zones	String	The list of AZs where the disk type is supported. Elements in the list are separated by commas (,). If this parameter is not specified, the disk type is supported in all AZs.
availability-zone	String	The reserved field.
os-vendor-extended:sold_out_availability_zones	String	The list of AZs where the disk type has been sold out. Elements in the list are separated by commas (,).
volume_backend_name	String	The reserved field.
HW:availability_zone	String	The reserved field.

Status code: 400

Table 7-42 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-43 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/types/{type_id}

Example Responses

Status code: 200

OK

```
{
  "volume_type" : {
    "extra_specs" : {
      "availability-zone" : "az-dc-1",
      "volume_backend_name" : "SATA",
      "RESKEY:availability_zones" : "az-dc-1,az-dc-2",
      "os-vendor-extended:sold_out_availability_zones" : "az-dc-2"
    },
    "name" : "SATA",
    "is_public" : true,
    "id" : "ea6e3c13-aac5-46e0-b280-745ed272e662",
    "description" : null
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.1.6 Querying EVS Disks

Function

This API is used to query EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/volumes

Table 7-44 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 7-45 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the resource from which the pagination query starts. It is the ID of the last resource on the previous page.
name	No	String	The disk name. You can enter up to 64 characters.
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit. If you have more than 50 disks in total, use this parameter and set it to **50** to improve the query efficiency. Examples are provided as follows: Querying 1–50 disks: GET /v2/*xxx*/volumes?limit=50 Querying 51–100 disks: GET /v2/*xxx*/volumes?offset=50&limit=50
sort_dir	No	String	The result sorting order. The default value is **desc**. **desc**: the descending order **asc**: the ascending order
sort_key	No	String	The keyword based on which the returned results are sorted. The value can be **id**, **status**, **size**, or **created_at**, and the default value is **created_at**.

Parameter	Mandatory	Type	Description
offset	No	Integer	The query offset. All disks after this offset will be queried. The value must be an integer greater than 0 but less than the number of disks.
status	No	String	The disk status. For details, see **EVS Disk Status**.
metadata	No	String	The disk metadata.
availability_zone	No	String	The AZ information.

Request Parameters

Table 7-46 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-47 Response body parameters

Parameter	Type	Description
volumes	Array of **VolumeBody** objects	The list of returned disks.
volumes_links	Array of **Link** objects	The query position marker in the disk list. If only some disks are returned in this query, the URL of the last disk queried is returned. You can use this URL to continue to query the remaining disks in the next query.

Table 7-48 VolumeBody

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.

Table 7-49 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 7-50 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-51 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/volumes

Example Responses

Status code: 200

OK

```
{
  "volumes" : [ {
```

```
    "id" : "6b604cef-9bd8-4f5a-ae56-45839e6e1f0a",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
6b604cef-9bd8-4f5a-ae56-45839e6e1f0a",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
6b604cef-9bd8-4f5a-ae56-45839e6e1f0a",
      "rel" : "bookmark"
    } ],
    "name" : "zjb_u25_test"
  }, {
    "id" : "2bce4552-9a7d-48fa-8484-abbbf64b206e",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
2bce4552-9a7d-48fa-8484-abbbf64b206e",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
2bce4552-9a7d-48fa-8484-abbbf64b206e",
      "rel" : "bookmark"
    } ],
    "name" : "zjb_u25_test"
  }, {
    "id" : "3f1b98ec-a8b5-4e92-a727-88def62d5ad3",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
3f1b98ec-a8b5-4e92-a727-88def62d5ad3",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/3f1b98ec-
a8b5-4e92-a727-88def62d5ad3",
      "rel" : "bookmark"
    } ],
    "name" : "zjb_u25_test"
  } ],
  "volumes_links" : [ {
    "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes?
limit=3&marker=3f1b98ec-a8b5-4e92-a727-88def62d5ad3",
    "rel" : "next"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.1.7 Querying Details About an EVS Disk

Function

This API is used to query details about an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/volumes/{volume_id}

Table 7-52 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-53 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-54 Response body parameters

Parameter	Type	Description
volume	**CinderVolumeDetail** object	The returned disk.

Table 7-55 CinderVolumeDetail

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	Whether the disk is attached.
availability_zone	String	The AZ to which the disk belongs.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
description	String	The disk description.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX

Parameter	Type	Description
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type (sold out) ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type
metadata	**VolumeMeta data** object	The disk metadata. If **metadata** does not contain the **hw:passthrough** field, the disk device type is VBD. If **metadata** does not contain the **__system__encrypted** field, the disk is not encrypted.
size	Integer	The disk size, in GiB.
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable.
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.
volume_image_metadata	Object	The metadata of the disk image. For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
os-vol-host-attr:host	String	The reserved field.
os-volume-replication:extended_status	String	The reserved field.
consistencygroup_id	String	The reserved field.
iops	**iops** object	The disk IOPS information. This parameter is returned only for a general purpose SSD V2 or an extreme SSD V2 disk.
throughput	**throughput** object	The disk throughput information. This parameter is returned only for a general purpose SSD V2 disk.
updated_at	String	The time when the disk was updated.

Parameter	Type	Description
replication_st atus	String	The reserved field.
user_id	String	The reserved field.
encrypted	Boolean	The reserved field.

Table 7-56 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 7-57 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_i d	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 7-58 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. NOTE Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrough	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Table 7-59 iops

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The ID of the disk IOPS.
total_val	Integer	The IOPS.
volume_id	String	The disk ID.

Table 7-60 throughput

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**

Parameter	Type	Description
id	String	The throughput ID.
total_val	Integer	The throughput.
volume_id	String	The disk ID.

Status code: 400

Table 7-61 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-62 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/volumes/{volume_id}

Example Responses

Status code: 200

OK

```
{
  "volume" : {
    "attachments" : [ ],
    "links" : [ {
      "href" : "https://volume.az0.dc1.domainname.com/v2/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "self"
    }, {
      "href" : "https://volume.az0.dc1.domainname.com/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "bookmark"
    } ],
    "availability_zone" : "az-dc-1",
    "os-vol-host-attr:host" : "az-dc-1#SSD",
    "encrypted" : false,
    "multiattach" : true,
    "updated_at" : "2016-02-03T02:19:29.895237",
    "replication_status" : "disabled",
```

```
    "id" : "591ac654-26d8-41be-bb77-4f90699d2d41",
    "size" : 40,
    "user_id" : "fd03ee73295e45478d88e15263d2ee4e",
    "os-vol-tenant-attr:tenant_id" : "40acc331ac784f34842ba4f08ff2be48",
    "os-volume-replication:extended_status" : null,
    "snapshot_id" : null,
    "volume_image_metadata" : null,
    "os-vol-mig-status-attr:migstat" : null,
    "metadata" : { },
    "status" : "error_restoring",
    "description" : "auto-created_from_restore_from_backup",
    "name" : "restore_backup_0115efb3-678c-4a9e-bff6-d3cd278238b9",
    "bootable" : "false",
    "created_at" : "2016-02-03T02:19:11.723797"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.1.8 Querying Details About All EVS Disks

Function

This API is used to query details about all EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/volumes/detail

Table 7-63 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 7-64 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the last record on the previous page. The returned value is the value of the item after this one.
name	No	String	The disk name. You can enter up to 85 characters.
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit. If you have more than 50 disks in total, use this parameter and set it to **50** to improve the query efficiency. Examples are provided as follows: Querying 1–50 disks: GET /v2/*xxx*/volumes/detail?limit=50 Querying 51–100 disks: GET /v2/*xxx*/volumes/detail?offset=50&limit=50
sort_key	No	String	The keyword based on which the returned results are sorted. The value can be **id**, **status**, **size**, or **created_at**, and the default value is **created_at**.
sort_dir	No	String	The result sorting order. The default value is **desc**. **desc**: the descending order **asc**: the ascending order

Parameter	Mandatory	Type	Description
offset	No	Integer	The query offset. All disks after this offset will be queried. The value must be an integer greater than 0 but less than the number of disks.
status	No	String	The disk status.
metadata	No	String	The disk metadata. This parameter is transferred in JSON format, for example, GET /v2/{project_id}/volumes/detail?metadata={"hw:passthrough": "true"}.
availability_zo ne	No	String	The AZ information.

Request Parameters

Table 7-65 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-66 Response body parameters

Parameter	Type	Description
volumes	Array of **VolumeDetail** objects	The list of returned disks.

Parameter	Type	Description
volumes_links	Array of **Link** objects	The query position marker in the disk list. If only some disks are returned in this query, the URL of the last disk queried is returned. You can use this URL to continue to query the remaining disks in the next query.

Table 7-67 VolumeDetail

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	Whether the disk is attached.
availability_zone	String	The AZ to which the disk belongs.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
description	String	The disk description.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
encrypted	Boolean	This field is currently not supported.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX

Parameter	Type	Description
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. • **SATA**: the common I/O type (sold out) • **SAS**: the high I/O type • **GPSSD**: the general purpose SSD type • **SSD**: the ultra-high I/O type • **ESSD**: the extreme SSD type • **GPSSD2**: the general purpose SSD V2 type • **ESSD2**: the extreme SSD V2 type
replication_status	String	The reserved field.
consistencygroup_id	String	The reserved field.
metadata	**VolumeMetadata** object	The disk metadata. If **metadata** does not contain the **hw:passthrough** field, the disk device type is VBD. If **metadata** does not contain the **__system__encrypted** field, the disk is not encrypted.
size	Integer	The disk size, in GiB.
user_id	String	The reserved field.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable.
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.
volume_image_metadata	Object	The metadata of the disk image. For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
os-vol-host-attr:host	String	The reserved field.
os-volume-replication:extended_status	String	The reserved field.

Parameter	Type	Description
os-vol-mig-status-attr:migstat	String	The reserved field.
os-vol-mig-status-attr:name_id	String	The reserved field.
iops	**iops** object	The disk IOPS information. This parameter is returned only for a general purpose SSD V2 or an extreme SSD V2 disk.
throughput	**throughput** object	The disk throughput information. This parameter is returned only for a general purpose SSD V2 disk.

Table 7-68 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 7-69 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. NOTE Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.

Parameter	Type	Description
__system__en crypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrou gh	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Table 7-70 iops

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The ID of the disk IOPS.
total_val	Integer	The IOPS.
volume_id	String	The disk ID.

Table 7-71 throughput

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The throughput ID.
total_val	Integer	The throughput.
volume_id	String	The disk ID.

Table 7-72 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 7-73 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-74 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/volumes/detail

Example Responses

Status code: 200

OK

```
{
  "volumes" : [ {
    "attachments" : [ ],
    "availability_zone" : "az-dc-1",
    "bootable" : "false",
    "created_at" : "2016-05-25T02:42:10.856332",
    "encrypted" : false,
    "id" : "b104b8db-170d-441b-897a-3c8ba9c5a214",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "bookmark"
    } ],
```

```
    "metadata" : { },
    "name" : "zjb_u25_test",
    "os-vol-host-attr:host" : "pod01.xxx#SATA",
    "volume_image_metadata" : { },
    "os-vol-tenant-attr:tenant_id" : "dd14c6ac581f40059e27f5320b60bf2f",
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 1,
    "status" : "available",
    "updated_at" : "2016-05-25T02:42:22.341984",
    "user_id" : "b0524e8342084ef5b74f158f78fc3049",
    "volume_type" : "SATA",
    "consistencygroup_id" : null,
    "os-vol-mig-status-attr:migstat" : null,
    "os-vol-mig-status-attr:name_id" : null,
    "snapshot_id" : null,
    "source_volid" : null
  } ],
  "volumes_links" : [ {
    "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/detail?
limit=1&marker=b104b8db-170d-441b-897a-3c8ba9c5a214",
    "rel" : "next"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.1.9 Querying Extension APIs

Function

This API is used to query extension APIs.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/extensions

Table 7-75 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 7-76 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-77 Response body parameters

Parameter	Type	Description
extensions	Array of **Extension** objects	The list of extended APIs.

Table 7-78 Extension

Parameter	Type	Description
alias	String	The alias of the extension.
description	String	The description.
links	Array of **Link** objects	The link of the disk transfer.

Parameter	Type	Description
name	String	The name of the disk transfer.
updated	String	The last update time. Time format: UTC YYYY-MM-DDTHH:MM:SS.+XX.XX, in which +XX.XX is the time zone.

Table 7-79 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 7-80 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-81 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/extensions

Example Responses

Status code: 200

OK

```
{
  "extensions" : [ {
```

```
    "updated" : "2013-04-18T00:00:00+00:00",
    "name" : "SchedulerHints",
    "links" : [ ],
    "alias" : "OS-SCH-HNT",
    "description" : "Pass arbitrary key/value pairs to the scheduler."
  }, {
    "updated" : "2011-06-29T00:00:00+00:00",
    "name" : "Hosts",
    "links" : [ ],
    "alias" : "os-hosts",
    "description" : "Admin-only host administration."
  }, {
    "updated" : "2011-11-03T00:00:00+00:00",
    "name" : "VolumeTenantAttribute",
    "links" : [ ],
    "alias" : "os-vol-tenant-attr",
    "description" : "Expose the internal project_id as an attribute of a volume."
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.1.10 Expanding Capacity of an EVS Disk

Function

This API is used to expand the capacity of an EVS disk.

Constraints

If the status of the to-be-expanded disk is **available**, there are no restrictions. If the status of the to-be-expanded disk is **in-use**, the restrictions are as follows:

- A shared disk cannot be expanded, which means that the value of **multiattach** must be **false**.
- The status of the server to which the disk attached must be **ACTIVE**, **PAUSED**, **SUSPENDED**, or **SHUTOFF**.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/action

Table 7-82 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The ID of a non-yearly/monthly disk.

Request Parameters

Table 7-83 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-84 Request body parameters

Parameter	Mandatory	Type	Description
os-extend	Yes	**CinderResize VolumeOption** object	The capacity expansion marker.

Table 7-85 CinderResizeVolumeOption

Parameter	Mandatory	Type	Description
new_size	Yes	Integer	The new disk size, in GiB. The new disk size ranges from the original size to the maximum size (**32768** GiB for a data disk and **1024** GiB for a system disk).

Response Parameters

Status code: 400

Table 7-86 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-87 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Expanding the capacity of a disk to 100 GiB

```
POST https://{endpoint}/v2/{project_id}/volumes/{volume_id}/action

{
 "os-extend" : {
   "new_size" : 100
 }
}
```

Example Responses

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
```

```
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.1.11 Setting Bootable Flag for an EVS Disk

Function

This API is used to set the bootable flag for an EVS disk.

Constraints

Even if this API was called to set a data disk to bootable, this data disk still cannot be used as a system disk for a cloud server.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/action

Table 7-88 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-89 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-90 Request body parameters

Parameter	Mandatory	Type	Description
os-set_bootable	Yes	**CinderUpdateVolumeBootableOption** object	The bootable setting marker.

Table 7-91 CinderUpdateVolumeBootableOption

Parameter	Mandatory	Type	Description
bootable	Yes	Boolean	Whether to set the bootable flag for the disk. The value can be **true** (bootable) or **false** (non-bootable). Default: **true**

Response Parameters

Status code: 400

Table 7-92 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-93 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Setting a disk as the boot disk

```
POST https://{endpoint}/v2/{project_id}/volumes/{volume_id}/action

{
 "os-set_bootable" : {
   "bootable" : true
 }
}
```

Example Responses

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.1.12 Setting Read-Only Flag for an EVS Disk

Function

This API is used to set the read-only flag for an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/action

Table 7-94 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-95 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-96 Request body parameters

Parameter	Mandatory	Type	Description
os-update_readonly_flag	Yes	**CinderUpdateVolumeReadonlyOption** object	The read-only setting marker.

Table 7-97 CinderUpdateVolumeReadonlyOption

Parameter	Mandatory	Type	Description
readonly	Yes	Boolean	Whether the disk is read-only. **true**: The disk is read-only. **false**: The disk is not read-only. Default: **true**

Response Parameters

Status code: 400

Table 7-98 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-99 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Setting the read-only flag for an EVS disk

```
POST https://{endpoint}/v2/{project_id}/volumes/{volume_id}/action

{
  "os-update_readonly_flag" : {
    "readonly" : true
  }
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
```

```
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.1.13 Exporting EVS Disk Data as an Image

Function

This API is used to export data of a system or data disk as an IMS image. The exported image will be displayed in the IMS private image list and can be viewed and used.

Constraints

The disk capacity must be less than or equal to 1 TiB.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/action

Table 7-100 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-101 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-102 Request body parameters

Parameter	Mandatory	Type	Description
os-volume_upload_image	Yes	**CinderExportToImageOption** object	The image export operation marker.

Table 7-103 CinderExportToImageOption

Parameter	Mandatory	Type	Description
container_format	No	String	The container type of the exported image. The value can be **ami**, **ari**, **aki**, **ovf**, or **bare**. The default value is **bare**. Default: **bare** Enumeration values: ● **ami** ● **ari** ● **aki** ● **ovf** ● **bare**

Parameter	Mandatory	Type	Description
disk_format	No	String	The format of the exported image. The value can be **vhd**, **zvhd**, **zvhd2**, **raw**, or **qcow2**. The default value is **vhd**. Default: **vhd** Enumeration values: ● **vhd** ● **zvhd** ● **zvhd2** ● **raw** ● **qcow2**
force	No	Boolean	Whether the image can be exported forcibly. The default value is **false**. If this parameter value is **false**, images cannot be forcibly exported when the disk status is **in-use**. If this parameter value is **true**, images can be forcibly exported even when the disk status is **in-use**.
image_name	Yes	String	The name of the exported image. It can contain 1 to 128 characters. It can contain letters, digits, hyphens (-), periods (.), underscores (_), and spaces.

Parameter	Mandatory	Type	Description
__os_type	No	String	The OS type of the image to be exported. Only **windows** and **linux** are supported. The default value is **linux**. This parameter setting takes effect only when the __**os_type** field is not included in **volume_image_metadata** and the disk status is **available**. If this parameter is not specified, the default value **linux** is used. Default: **linux** Enumeration values: ● **windows** ● **linux**

Response Parameters

Status code: 202

Table 7-104 Response body parameters

Parameter	Type	Description
os-volume_upload_image	**Image** object	The image export operation marker.

Table 7-105 Image

Parameter	Type	Description
container_format	String	The container type of the exported image. The value can be **ami**, **ari**, **aki**, **ovf**, or **bare**. The default value is **bare**.
disk_format	String	The format of the exported image. The value can be **vhd**, **zvhd**, **zvhd2**, **raw**, or **qcow2**. The default value is **vhd**.
display_description	String	The disk description.
id	String	The disk ID.

Parameter	Type	Description
image_id	String	The ID of the exported image.
image_name	String	The name of the exported image.
size	Integer	The disk capacity.
status	String	The disk status after the image is exported. The correct value is **uploading**.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_type	**VolumeType** object	The disk type.

Table 7-106 VolumeType

Parameter	Type	Description
id	String	The disk type ID.
name	String	The disk type name.
extra_specs	**VolumeTypeExtraSpecs** object	The disk type flavor.
description	String	The disk type description.
qos_specs_id	String	The reserved field.
is_public	Boolean	The reserved field.

Table 7-107 VolumeTypeExtraSpecs

Parameter	Type	Description
RESKEY:availability_zones	String	The list of AZs where the disk type is supported. Elements in the list are separated by commas (,). If this parameter is not specified, the disk type is supported in all AZs.
availability-zone	String	The reserved field.
os-vendor-extended:sold_out_availability_zones	String	The list of AZs where the disk type has been sold out. Elements in the list are separated by commas (,).

Parameter	Type	Description
volume_backe nd_name	String	The reserved field.
HW:availabilit y_zone	String	The reserved field.

Status code: 400

Table 7-108 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-109 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Exporting an EVS disk as an image (If the container type of the exported image is bare, the format of the exported image is VHD, the OS type of the exported image is Linux, and the EVS disk is in the in-use state, you can forcibly export the image.)

```
POST https://{endpoint}/v2/{project_id}/volumes/{volume_id}/action

{
  "os-volume_upload_image" : {
    "image_name" : "sxmatch2",
    "force" : true,
    "container_format" : "bare",
    "disk_format" : "vhd",
    "__os_type" : "linux"
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "os-volume_upload_image" : {
```

```
    "status" : "uploading",
    "size" : 40,
    "id" : "16369c5d-384d-4e64-b37a-56d898769362",
    "image_id" : "c5333daa-fbc8-4d1d-bf79-b0567bb45d15",
    "image_name" : "evs-ims-test1027",
    "volume_type" : {
      "description" : "None",
      "deleted" : false,
      "created_at" : "2015-05-24T14:47:22.132268",
      "updated_at" : "2017-07-29T11:29:33.730076",
      "extra_specs" : {
        "volume_backend_name" : "<or> FusionStorage_SATA <or> FusionStorage_SAS <or>
fusionstoragesata",
        "XX:availability_zone" : "kvmxen.dc1"
      },
      "is_public" : true,
      "id" : "8247b6ed-37f0-4c48-8ef1-f0027fb332bc",
      "name" : "SATA"
    },
    "container_format" : "bare",
    "disk_format" : "vhd",
    "display_description" : "",
    "updated_at" : "2018-01-11T01:50:25.800931"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.1.14 Attaching an EVS Disk (Deprecated)

Function

This API is only used to change the EVS disk status from **available** to **in-use**. Note: This API call exists for compatibility reasons only and is not meant to be used.

Constraints

Do not call this API to attach an EVS disk. If you need to attach a disk, call the ECS Attach Volume API.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/action

Table 7-110 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-111 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-112 Request body parameters

Parameter	Mandatory	Type	Description
os-attach	Yes	**CinderAttach VolumeOptio n** object	The disk attachment marker.

Table 7-113 CinderAttachVolumeOption

Parameter	Mandatory	Type	Description
host_name	No	String	The name of the host to which the disk will be attached. You can enter up to 64 characters.
instance_uuid	Yes	String	The host UUID.
mode	No	String	The mounting mode. The value can be **rw** (read/write) or **ro** (read-only).
mountpoint	Yes	String	The mount point.

Response Parameters

Status code: 400

Table 7-114 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-115 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

None

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.1.15 Detaching an EVS Disk (Deprecated)

Function

This API is only used to change the EVS disk status from **in-use** to **available**. Note: This API call exists for compatibility reasons only and is not meant to be used.

Constraints

Do not call this API to detach an EVS disk. If you need to detach a disk, call the ECS Detach Volume API.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/action

Table 7-116 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-117 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-118 Request body parameters

Parameter	Mandatory	Type	Description
os-detach	Yes	**CinderDetach VolumeOptio n** object	The disk detachment marker.

Table 7-119 CinderDetachVolumeOption

Parameter	Mandatory	Type	Description
attachment_i d	No	String	The attachment ID. If the disk has only one attachment, this parameter is optional. If it has multiple attachments, the parameter is mandatory.

Response Parameters

Status code: 400

Table 7-120 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-121 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
{
 "os-detach" : {
   "attachment_id" : "d8777f54-84cf-4809-a679-468ffed56cf1"
 }
}
```

Example Responses

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.1.16 Reserving an EVS Disk (Deprecated)

Function

This API is used to reserve an EVS disk. Note: This API call exists for compatibility reasons only and is not meant to be used.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/action

Table 7-122 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-123 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-124 Request body parameters

Parameter	Mandatory	Type	Description
os-reserve	Yes	Map<String,String>	The disk reservation marker. This parameter is not mandatory, and you are advised to leave it empty.

Response Parameters

Status code: 400

Table 7-125 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-126 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
{
 "os-reserve" : { }
}
```

Example Responses

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.1.17 Canceling Reservation of an EVS Disk (Deprecated)

Function

This API is used to cancel the reservation of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/action

Table 7-127 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-128 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-129 Request body parameters

Parameter	Mandatory	Type	Description
os-unreserve	Yes	Map<String,String>	The disk reservation canceling marker. This parameter is not mandatory, and you are advised to leave it empty.

Response Parameters

Status code: 400

Table 7-130 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-131 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
{
 "os-unreserve" : { } }
}
```

Example Responses

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.2 Snapshot Management

7.2.1 Creating an EVS Snapshot

Function

This API is used to create an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/snapshots

Table 7-132 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 7-133 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-134 Request body parameters

Parameter	Mandatory	Type	Description
snapshot	Yes	**CinderCreate SnapshotOpt ion** object	The information of the snapshot to be created.

Table 7-135 CinderCreateSnapshotOption

Parameter	Mandatory	Type	Description
volume_id	Yes	String	The ID of the snapshot's source disk. To obtain the disk ID, see **Querying Details About All Disks**.

Parameter	Mandatory	Type	Description
description	No	String	The snapshot description. The value can be **null**. You can enter up to 85 characters.
force	No	Boolean	The flag for forcibly creating the snapshot. The default value is **false**. If this parameter value is **false**, snapshots cannot be forcibly created when the disk status is **attaching**. If this parameter value is **true**, snapshots can be forcibly created even when the disk status is **attaching**.
metadata	No	Map<String,String>	The snapshot metadata.
name	No	String	The snapshot name. You can enter up to 64 characters. **NOTE** When a backup is created for a disk, a snapshot will also be created and named with the **autobk_snapshot_** prefix. Operations cannot be performed on such snapshots. Therefore, you are advised not to use **autobk_snapshot_** as the prefix of snapshot names to avoid any inconvenience.

Response Parameters

Status code: 202

Table 7-136 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotSummary** object	The snapshot information.

Table 7-137 SnapshotSummary

Parameter	Type	Description
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The snapshot description.
id	String	The snapshot ID.
metadata	Map<String,String>	The snapshot metadata. If **metadata** contains the **__system__enableActive** field, the snapshot is auto-generated snapshot created during a server backup.
name	String	The snapshot name.
size	Integer	The snapshot size, in GiB.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_id	String	The ID of the snapshot's source disk.

Status code: 400

Table 7-138 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-139 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Creating a snapshot (If the source EVS disk is attached, the snapshot cannot be forcibly created.)

```
POST https://{endpoint}/v2/{project_id}/snapshots

{
  "snapshot" : {
    "name" : "snap-001",
    "description" : "Daily backup",
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "force" : false,
    "metadata" : { }
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "snapshot" : {
    "status" : "creating",
    "description" : "Daily backup",
    "created_at" : "2013-02-25T03:56:53.081642",
    "metadata" : { },
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "size" : 1,
    "id" : "ffa9bc5e-1172-4021-acaf-cdcd78a9584d",
    "name" : "snap-001",
    "updated_at" : "2013-02-25T03:56:53.081642"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.2.2 Deleting an EVS Snapshot

Function

This API is used to delete an EVS snapshot.

Constraints

A snapshot can be deleted only when its status is **available** or **error**.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v2/{project_id}/snapshots/{snapshot_id}

Table 7-140 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 7-141 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 7-142 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-143 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.2.3 Updating an EVS Snapshot

Function

This API is used to update an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v2/{project_id}/snapshots/{snapshot_id}

Table 7-144 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 7-145 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-146 Request body parameters

Parameter	Mandatory	Type	Description
snapshot	Yes	**CinderUpdateSnapshotOption** object	The snapshot information to be updated.

Table 7-147 CinderUpdateSnapshotOption

Parameter	Mandatory	Type	Description
name	No	String	The snapshot name. You can enter up to 64 characters. **NOTE** 　When a backup is created for a disk, a snapshot will also be created and named with the **autobk_snapshot_** prefix. Operations cannot be performed on such snapshots. Therefore, you are advised not to use **autobk_snapshot_** as the prefix of snapshot names to avoid any inconvenience.
description	No	String	The snapshot description. You can enter up to 85 characters.

Response Parameters

Status code: 200

Table 7-148 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotSummary** object	The snapshot information.

Table 7-149 SnapshotSummary

Parameter	Type	Description
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The snapshot description.
id	String	The snapshot ID.
metadata	Map<String,String>	The snapshot metadata. If **metadata** contains the **__system__enableActive** field, the snapshot is auto-generated snapshot created during a server backup.
name	String	The snapshot name.

Parameter	Type	Description
size	Integer	The snapshot size, in GiB.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_id	String	The ID of the snapshot's source disk.

Status code: 400

Table 7-150 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-151 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Updating the EVS snapshot name and description

```
PUT https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}

{
  "snapshot" : {
    "name" : "name_xx3",
    "description" : "hello"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "snapshot" : {
```

```
      "status" : "available",
      "description" : "Daily backup",
      "created_at" : "2013-02-25T03:56:53.081642",
      "metadata" : { },
      "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
      "size" : 1,
      "id" : "f9faf7df-fdc1-4093-9ef3-5cba06eef995",
      "name" : "snap-001",
      "updated_at" : "2013-02-25T03:56:53.081642"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.2.4 Querying EVS Snapshots

Function

Querying EVS Snapshots

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/snapshots

Table 7-152 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 7-153 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the resource from which the pagination query starts. It is the ID of the last resource on the previous page.
offset	No	Integer	The offset. **NOTE** This parameter is used when snapshots are queried by page and is used together with the **limit** parameter. For example, there are a total of 30 snapshots. If you set **offset** to **11** and **limit** to **10**, the query starts from the twelfth snapshot, and a maximum of 10 snapshots can be queried at a time.
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit. If the tenant has more than 50 snapshots in total, you are advised to use this parameter and set its value to **50** to improve the query efficiency. Examples are provided as follows: Querying 1–50 snapshots: GET /v2/xxx/snapshots? limit=50; Querying 51–100 snapshots: GET /v2/xxx/ snapshots?offset=50&limit=50

Parameter	Mandatory	Type	Description
name	No	String	The snapshot name. This parameter does not support fuzzy match. You can enter up to 255 characters.
status	No	String	The snapshot status. For details, see **EVS Snapshot Status**.
volume_id	No	String	The ID of the snapshot's source disk.

Request Parameters

Table 7-154 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-155 Response body parameters

Parameter	Type	Description
snapshots_links	Array of **Link** objects	The query position marker in the snapshot list. This field is returned only when **limit** is specified in the request, and this field indicates that only some snapshots are returned in this query.
snapshots	Array of **SnapshotSummary** objects	The snapshot information.

Table 7-156 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 7-157 SnapshotSummary

Parameter	Type	Description
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The snapshot description.
id	String	The snapshot ID.
metadata	Map<String,String>	The snapshot metadata. If **metadata** contains the **__system__enableActive** field, the snapshot is auto-generated snapshot created during a server backup.
name	String	The snapshot name.
size	Integer	The snapshot size, in GiB.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_id	String	The ID of the snapshot's source disk.

Status code: 400

Table 7-158 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-159 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/snapshots

Example Responses

Status code: 200

OK

```
{
  "snapshots" : [ {
    "created_at" : "2016-02-16T16:54:14.981520",
    "description" : null,
    "id" : "b836dc3d-4e10-4ea4-a34c-8f6b0460a583",
    "metadata" : { },
    "name" : "test01",
    "size" : 1,
    "status" : "available",
    "volume_id" : "ba5730ea-8621-4ae8-b702-ff0ffc12c209",
    "updated_at" : null
  }, {
    "created_at" : "2016-02-16T16:54:19.475397",
    "description" : null,
    "id" : "83be494d-329e-4a78-8ac5-9af900f48b95",
    "metadata" : { },
    "name" : "test02",
    "size" : 1,
    "status" : "available",
    "volume_id" : "ba5730ea-8621-4ae8-b702-ff0ffc12c209",
    "updated_at" : null
  }, {
    "created_at" : "2016-02-16T16:54:24.367414",
    "description" : null,
    "id" : "dd360f46-7593-4d35-8f2c-5566fd0bd79e",
    "metadata" : { },
    "name" : "test03",
    "size" : 1,
    "status" : "available",
    "volume_id" : "ba5730ea-8621-4ae8-b702-ff0ffc12c209",
    "updated_at" : null
  }, {
    "created_at" : "2016-02-16T16:54:29.766740",
    "description" : null,
    "id" : "4c29796a-8cf4-4482-9afc-e66da9a81240",
    "metadata" : { },
    "name" : "test04",
    "size" : 1,
    "status" : "available",
    "volume_id" : "ba5730ea-8621-4ae8-b702-ff0ffc12c209",
    "updated_at" : null
  } ],
  "snapshots_links" : null
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.2.5 Querying Details About EVS Snapshots

Function

This API is used to query details about EVS snapshots.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/snapshots/detail

Table 7-160 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 7-161 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the resource from which the pagination query starts. It is the ID of the last resource on the previous page.
volume_id	No	String	The ID of the snapshot's source disk.
availability_zone	No	String	The AZ of the snapshot's source disk.
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit. If the tenant has more than 50 snapshots in total, you are advised to use this parameter and set its value to **50** to improve the query efficiency. Examples are provided as follows: Querying 1–50 snapshots: GET /v2/xxx/snapshots/detail?limit=50; Querying 51–100 snapshots: GET /v2/xxx/snapshots/detail?offset=50&limit=50
name	No	String	The snapshot name. You can enter up to 255 characters.
offset	No	Integer	The offset. **NOTE** This parameter is used when snapshots are queried by page and is used together with the **limit** parameter. For example, there are a total of 30 snapshots. If you set **offset** to **11** and **limit** to **10**, the query starts from the twelfth snapshot, and a maximum of 10 snapshots can be queried at a time.
status	No	String	The snapshot status. For details, see **EVS Snapshot Status**.

Request Parameters

Table 7-162 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-163 Response body parameters

Parameter	Type	Description
snapshots_links	Array of **Link** objects	The query position marker in the snapshot list. This field is returned only when **limit** is specified in the request, and this field indicates that only some snapshots are returned in this query.
snapshots	Array of **SnapshotDetail** objects	The snapshot information.

Table 7-164 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 7-165 SnapshotDetail

Parameter	Type	Description
id	String	The snapshot ID.

Parameter	Type	Description
name	String	The snapshot name. Snapshots whose names started with the **autobk_snapshot_** prefix are automatically created by the system when backups are created. Such snapshots cannot be deleted or used to roll back data.
description	String	The snapshot description.
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
updated_at	String	The time when the snapshot was updated.
metadata	Map<String,String>	The snapshot metadata.
volume_id	String	The ID of the snapshot's source disk.
size	String	The snapshot size, in GiB.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
os-extended-snapshot-attributes:progress	String	The reserved field.
os-extended-snapshot-attributes:project_id	String	The tenant ID. The tenant ID is the same as the project ID.

Status code: 400

Table 7-166 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-167 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/snapshots/detail

Example Responses

Status code: 200

OK

```
{
  "snapshots": [
    {
      "status": "available",
      "os-extended-snapshot-attributes:progress": "100%",
      "description": null,
      "created_at": "2013-06-19T07:15:29.000000",
      "metadata": {},
      "volume_id": "ae11e59c-bd56-434a-a00c-04757e1c066d",
      "os-extended-snapshot-attributes:project_id": "d6c277ba8820452e83df36f33c9fa561",
      "size": 5,
      "id": "6cd26877-3ca3-4f4e-ae2a-38cc3d6183fa",
      "name": "name_xx2-snap",
      "updated_at": null,
    },
    {
      "status": "available",
      "os-extended-snapshot-attributes:progress": "100%",
      "description": null,
      "created_at": "2013-06-19T09:08:08.000000",
      "metadata": {},
      "volume_id": "ae11e59c-bd56-434a-a00c-04757e1c066d",
      "os-extended-snapshot-attributes:project_id": "d6c277ba8820452e83df36f33c9fa561",
      "size": 5,
      "id": "b3253e26-5c37-48dd-8bf2-8795dd1e848f",
      "name": "name_xx2-snap",
      "updated_at": null,
    }
  ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.2.6 Querying Details About an EVS Snapshot

Function

This API is used to query details about an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/snapshots/{snapshot_id}

Table 7-168 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 7-169 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-170 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotDetail** object	The snapshot information.

Table 7-171 SnapshotDetail

Parameter	Type	Description
id	String	The snapshot ID.
name	String	The snapshot name. Snapshots whose names started with the **autobk_snapshot_** prefix are automatically created by the system when backups are created. Such snapshots cannot be deleted or used to roll back data.
description	String	The snapshot description.
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
updated_at	String	The time when the snapshot was updated.
metadata	Map<String,String>	The snapshot metadata.
volume_id	String	The ID of the snapshot's source disk.
size	String	The snapshot size, in GiB.

Parameter	Type	Description
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
os-extended-snapshot-attributes:progress	String	The reserved field.
os-extended-snapshot-attributes:project_id	String	The tenant ID. The tenant ID is the same as the project ID.

Status code: 400

Table 7-172 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-173 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}

Example Responses

Status code: 200

OK

```
{
  "snapshot": {
    "status": "available",
    "os-extended-snapshot-attributes:progress": "100%",
    "description": "daily backup",
    "created_at": "2013-02-25t04:13:17.000000",
    "metadata": {},
    "volume_id": "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "os-extended-snapshot-attributes:project_id": "0c2eba2c5af04d3f9e9d0d410b371fde",
```

```
    "size": 1,
    "id": "2bb856e1-b3d8-4432-a858-09e4ce939389",
    "name": "snap-001",
    "updated_at": null,
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.3 Quota Management

7.3.1 Querying Detailed Quotas of a Tenant

Function

This API is used to query the detailed quotas of a tenant.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/os-quota-sets/{target_project_id}

Table 7-174 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.

Parameter	Mandatory	Type	Description
target_project _id	Yes	String	The target project ID. Set this parameter to the value of **project_id**.

Table 7-175 Query Parameters

Parameter	Mandatory	Type	Description
usage	Yes	String	Whether to query quota details. Only value **True** is supported currently. Enumeration values: ● **True**

Request Parameters

Table 7-176 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-177 Response body parameters

Parameter	Type	Description
quota_set	**QuotaList** object	The returned quota information.

Table 7-178 QuotaList

Parameter	Type	Description
backup_gigabytes	**QuotaDetailBackupGigabytes** object	The backup size, in GiB. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
backups	**QuotaDetailBackups** object	The number of backups. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes	**QuotaDetailGigabytes** object	The total capacity, in GiB. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
id	String	The project ID.
snapshots	**QuotaDetailSnapshots** object	The number of snapshots. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
volumes	**QuotaDetailVolumes** object	The number of disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes_SATA	**QuotaDetailGigabytesSATA** object	The capacity (GiB) for common I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
snapshots_SATA	**QuotaDetailSnapshotsSATA** object	The number of snapshots for common I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
volumes_SATA	**QuotaDetailVolumesSATA** object	The number of common I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes_SAS	**QuotaDetailGigabytesSAS** object	The capacity (GiB) for high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.

Parameter	Type	Description
snapshots_SAS	**QuotaDetailSnapshotsSAS** object	The number of snapshots for high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
volumes_SAS	**QuotaDetailVolumesSAS** object	The number of high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes_SSD	**QuotaDetailGigabytesSSD** object	The capacity (GiB) for ultra-high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
snapshots_SSD	**QuotaDetailSnapshotsSSD** object	The number of snapshots for ultra-high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
volumes_SSD	**QuotaDetailVolumesSSD** object	The number of ultra-high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes_GPSSD	**QuotaDetailGigabytesGPSSD** object	The capacity (GiB) for general purpose SSD disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
snapshots_GPSSD	**QuotaDetailSnapshotsGPSSD** object	The number of snapshots for general purpose SSD disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
volumes_GPSSD	**QuotaDetailVolumesGPSSD** object	The number of general purpose SSD disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
per_volume_gigabytes	**QuotaDetailPerVolumeGigabytes** object	The capacity quota of a disk. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.

Table 7-179 QuotaDetailBackupGigabytes

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-180 QuotaDetailBackups

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-181 QuotaDetailGigabytes

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-182 QuotaDetailSnapshots

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-183 QuotaDetailVolumes

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-184 QuotaDetailGigabytesSATA

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-185 QuotaDetailSnapshotsSATA

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-186 QuotaDetailVolumesSATA

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-187 QuotaDetailGigabytesSAS

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-188 QuotaDetailSnapshotsSAS

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-189 QuotaDetailVolumesSAS

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-190 QuotaDetailGigabytesSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-191 QuotaDetailSnapshotsSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-192 QuotaDetailVolumesSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-193 QuotaDetailGigabytesGPSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-194 QuotaDetailSnapshotsGPSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-195 QuotaDetailVolumesGPSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 7-196 QuotaDetailPerVolumeGigabytes

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Status code: 400

Table 7-197 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-198 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/os-quota-sets/{target_project_id}?usage=True

Example Responses

Status code: 200

OK

```
{
  "quota_set" : {
    "gigabytes_SAS" : {
      "reserved" : 0,
      "limit" : -1,
      "in_use" : 21
    },
    "volumes_SATA" : {
      "reserved" : 0,
      "limit" : -1,
      "in_use" : 8
    },
    "gigabytes" : {
      "reserved" : 0,
      "limit" : 42790,
      "in_use" : 2792
    },
    "backup_gigabytes" : {
      "reserved" : 0,
      "limit" : 5120,
      "in_use" : 51
    },
    "snapshots_SAS" : {
      "reserved" : 0,
      "limit" : -1,
      "in_use" : 0
    },
    "volumes_SSD" : {
      "reserved" : 0,
      "limit" : -1,
      "in_use" : 28
    },
    "snapshots" : {
      "reserved" : 0,
      "limit" : 10,
      "in_use" : 6
    },
    "id" : "cd631140887d4b6e9c786b67a6dd4c02",
    "volumes_SAS" : {
      "reserved" : 0,
      "limit" : -1,
      "in_use" : 2
    },
    "snapshots_SSD" : {
      "reserved" : 0,
      "limit" : -1,
      "in_use" : 0
    },
    "volumes" : {
      "reserved" : 0,
      "limit" : -1,
      "in_use" : 108
    },
    "gigabytes_SATA" : {
      "reserved" : 0,
      "limit" : -1,
      "in_use" : 168
    },
    "backups" : {
```

```
    "reserved" : 0,
    "limit" : 100,
    "in_use" : 10
  },
  "gigabytes_SSD" : {
    "reserved" : 0,
    "limit" : -1,
    "in_use" : 1085
  },
  "snapshots_SATA" : {
    "reserved" : 0,
    "limit" : -1,
    "in_use" : 0
  }
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.4 Disk Transfer Management

7.4.1 Creating an EVS Disk Transfer

Function

This API is used to create an EVS disk transfer. After the transfer has been created, a transfer ID and an authentication key are returned. After a disk transfer is created, the disk status changes from **available** to *awaiting-transfer**. Once the transfer is accepted, the disk status changes to **available** again.

Constraints

A disk transfer can be created only when the disk status is **available**. The detailed constraints are as follows:

Yearly/Monthly disks cannot be transferred. Frozen disks cannot be transferred. Encrypted disks cannot be transferred. Disks having backups and snapshots cannot be transferred. Disks applied with backup policies cannot be transferred. DSS disks cannot be transferred. DESS disks cannot be transferred.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/os-volume-transfer

Table 7-199 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 7-200 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-201 Request body parameters

Parameter	Mandatory	Type	Description
transfer	Yes	**CreateVolumeTransferOption** object	The transfer creation marker.

Table 7-202 CreateVolumeTransferOption

Parameter	Mandatory	Type	Description
name	Yes	String	The transfer name. You can enter up to 64 characters.
volume_id	Yes	String	The disk ID. To obtain the disk ID, see **Querying Details About All Disks**.

Response Parameters

Status code: 202

Table 7-203 Response body parameters

Parameter	Type	Description
transfer	**CreateVolumeTransferDetail** object	The transfer information.

Table 7-204 CreateVolumeTransferDetail

Parameter	Type	Description
auth_key	String	The authentication key of the disk transfer.
created_at	String	The time when the transfer was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
id	String	The transfer ID.
links	Array of **Link** objects	The transfer links.
name	String	The transfer name.
volume_id	String	The disk ID.

Table 7-205 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 7-206 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-207 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Creating a disk transfer (The disk ID is **c86b9af4-151d-4ead-b62c-5fb967af0e37** and the transfer name is **first volume**.)

```
POST https://{endpoint}/v2/{project_id}/os-volume-transfer

{
 "transfer" : {
   "volume_id" : "c86b9af4-151d-4ead-b62c-5fb967af0e37",
   "name" : "first volume"
 }
}
```

Example Responses

Status code: 202

Accepted

```
{
 "transfer" : {
   "id" : "1a7059f5-8ed7-45b7-8d05-2811e5d09f24",
   "created_at" : "2015-02-25T03:56:53.081642",
   "name" : "first volume",
   "volume_id" : "c86b9af4-151d-4ead-b62c-5fb967af0e37",
   "auth_key" : "9266c59563c84664",
   "links" : [ {
     "href" : "https://localhost/v2/firstproject/os-volume-transfer/3",
     "rel" : "self"
   }, {
     "href" : "https://localhost/firstproject/os-volume-transfer/3",
     "rel" : "bookmark"
   } ]
 }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.4.2 Accepting an EVS Disk Transfer

Function

This API is used to accept an EVS disk transfer using a transfer ID and an authentication key.

Constraints

The constraints are as follows:

- Yearly/Monthly disks cannot be transferred.
- Frozen disks cannot be transferred.
- Encrypted disks cannot be transferred.
- Disks having backups and snapshots cannot be transferred.
- Disks applied with backup policies cannot be transferred.
- DSS disks cannot be transferred.
- DESS disks cannot be transferred.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/os-volume-transfer/{transfer_id}/accept

Table 7-208 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
transfer_id	Yes	String	The transfer ID.

Request Parameters

Table 7-209 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-210 Request body parameters

Parameter	Mandatory	Type	Description
accept	Yes	**CinderAccept VolumeTrans ferOption** object	The transfer acceptance marker.

Table 7-211 CinderAcceptVolumeTransferOption

Parameter	Mandatory	Type	Description
auth_key	Yes	String	The authentication key of the disk transfer. An authentication key will be returned after a disk transfer is created.

Response Parameters

Status code: 202

Table 7-212 Response body parameters

Parameter	Type	Description
transfer	**VolumeTransferSummary** object	The transfer information.

Table 7-213 VolumeTransferSummary

Parameter	Type	Description
id	String	The transfer ID.
links	Array of **Link** objects	The transfer links.
name	String	The transfer name.
volume_id	String	The disk ID.

Table 7-214 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 7-215 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-216 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Accepting a disk transfer (through the transfer ID and authentication key)

```
POST https://{endpoint}/v2/{project_id}/os-volume-transfer/{transfer_id}/accept

{
 "accept" : {
   "auth_key" : "9266c59563c84664"
 }
}
```

Example Responses

Status code: 202

Accepted

```
{
 "transfer" : {
   "id" : "cac5c677-73a9-4288-bb9c-b2ebfb547377",
   "name" : "first volume transfer",
   "volume_id" : "894623a6-e901-4312-aa06-4275e6321cce",
   "links" : [ {
     "href" : "https://localhost/v2/firstproject/os-volume-transfer/1",
     "rel" : "self"
   }, {
     "href" : "https://localhost/firstproject/os-volume-transfer/1",
     "rel" : "bookmark"
   } ]
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.4.3 Deleting an EVS Disk Transfer

Function

This API is used to delete a disk transfer. A disk transfer can be deleted if it is not accepted. Accepted disk transfers cannot be deleted.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v2/{project_id}/os-volume-transfer/{transfer_id}

Table 7-217 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
transfer_id	Yes	String	The transfer ID.

Request Parameters

Table 7-218 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 7-219 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-220 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
DELETE https://{endpoint}/v2/{project_id}/os-volume-transfer/{transfer_id}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

7.4.4 Querying Details of an EVS Disk Transfer

Function

This API is used to query the details of an EVS disk transfer, including the transfer creation time, transfer ID, and transfer name.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/os-volume-transfer/{transfer_id}

Table 7-221 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
transfer_id	Yes	String	The transfer ID.

Request Parameters

Table 7-222 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-223 Response body parameters

Parameter	Type	Description
transfer	**VolumeTransfer** object	The details of the disk transfer.

Table 7-224 VolumeTransfer

Parameter	Type	Description
created_at	String	The time when the transfer was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX

Parameter	Type	Description
id	String	The transfer ID.
links	Array of **Link** objects	The transfer links.
name	String	The transfer name.
volume_id	String	The disk ID.

Table 7-225 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 7-226 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-227 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/os-volume-transfer/{transfer_id}

https://{endpoint}/v2/{project_id}/os-volume-transfer/{transfer_id}

Example Responses

Status code: 200

OK

```
{
  "transfer" : {
    "id" : "cac5c677-73a9-4288-bb9c-b2ebfb547377",
    "created_at" : "2015-02-25T03:56:53.081642",
    "name" : "first volume transfer",
    "volume_id" : "894623a6-e901-4312-aa06-4275e6321cce",
    "links" : [ {
      "href" : "https://localhost/v2/firstproject/os-volume-transfer/1",
      "rel" : "self"
    }, {
      "href" : "https://localhost/firstproject/os-volume-transfer/1",
      "rel" : "bookmark"
    } ]
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.4.5 Querying All EVS Disk Transfers

Function

This API is used to query all EVS disk transfers of the current tenant.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/os-volume-transfer

Table 7-228 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 7-229 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	The maximum number of query results that can be returned. The value must be an integer greater than 0.
offset	No	Integer	The query offset. All disk transfers after this offset will be queried. The value must be an integer greater than 0 but less than the number of disk transfers.

Request Parameters

Table 7-230 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-231 Response body parameters

Parameter	Type	Description
transfers	Array of **VolumeTransferSummary** objects	The overview of disk transfers.

Table 7-232 VolumeTransferSummary

Parameter	Type	Description
id	String	The transfer ID.
links	Array of **Link** objects	The transfer links.
name	String	The transfer name.
volume_id	String	The disk ID.

Table 7-233 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 7-234 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-235 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.

Parameter	Type	Description
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/os-volume-transfer

Example Responses

Status code: 200

OK

```
{
 "transfers" : [ {
   "id" : "cac5c677-73a9-4288-bb9c-b2ebfb547377",
   "name" : "first volume transfer",
   "volume_id" : "894623a6-e901-4312-aa06-4275e6321cce",
   "links" : [ {
     "href" : "https://localhost/v2/firstproject/os-volume-transfer/1",
     "rel" : "self"
   }, {
     "href" : "https://localhost/firstproject/os-volume-transfer/1",
     "rel" : "bookmark"
   } ]
 }, {
   "id" : "f26c0dee-d20d-4e80-8dee-a8d91b9742a1",
   "name" : "second volume transfer",
   "volume_id" : "673db275-379f-41af-8371-e1652132b4c1",
   "links" : [ {
     "href" : "https://localhost/v2/firstproject/os-volume-transfer/2",
     "rel" : "self"
   }, {
     "href" : "https://localhost/firstproject/os-volume-transfer/2",
     "rel" : "bookmark"
   } ]
 } ]
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.4.6 Querying Details of All EVS Disk Transfers

Function

This API is used to query the details of all EVS disk transfers, including the transfer creation time, transfer IDs, and transfer names.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/os-volume-transfer/detail

Table 7-236 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 7-237 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit.
offset	No	Integer	The query offset. All disk transfers after this offset will be queried. The value must be an integer greater than 0 but less than the number of disk transfers.

Request Parameters

Table 7-238 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-239 Response body parameters

Parameter	Type	Description
transfers	Array of **VolumeTransfer** objects	The details of disk transfers.

Table 7-240 VolumeTransfer

Parameter	Type	Description
created_at	String	The time when the transfer was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
id	String	The transfer ID.
links	Array of **Link** objects	The transfer links.
name	String	The transfer name.
volume_id	String	The disk ID.

Table 7-241 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.

Parameter	Type	Description
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 7-242 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-243 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/os-volume-transfer/detail

Example Responses

Status code: 200

OK

```
{
  "transfers" : [ {
    "id" : "cac5c677-73a9-4288-bb9c-b2ebfb547377",
    "created_at" : "2015-02-25T03:56:53.081642",
    "name" : "first volume transfer",
    "volume_id" : "894623a6-e901-4312-aa06-4275e6321cce",
    "links" : [ {
      "href" : "https://localhost/v2/firstproject/os-volume-transfer/1",
      "rel" : "self"
    }, {
      "href" : "https://localhost/firstproject/os-volume-transfer/1",
      "rel" : "bookmark"
    } ]
  }, {
    "id" : "f26c0dee-d20d-4e80-8dee-a8d91b9742a1",
    "created_at" : "2015-03-25T03:56:53.081642",
    "name" : "second volume transfer",
    "volume_id" : "673db275-379f-41af-8371-e1652132b4c1",
    "links" : [ {
      "href" : "https://localhost/v2/firstproject/os-volume-transfer/2",
      "rel" : "self"
```

```
    }, {
      "href" : "https://localhost/firstproject/os-volume-transfer/2",
      "rel" : "bookmark"
    } ]
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.5 Disk Metadata Management

7.5.1 Adding Metadata of an EVS Disk

Function

This API is used to add the metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/volumes/{volume_id}/metadata

Table 7-244 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-245 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-246 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	Map<String,String>	The metadata to be updated. **key** or **value** under **metadata** can contain no more than 85 characters.

Response Parameters

Status code: 200

Table 7-247 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 7-248 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-249 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Adding the metadata of an EVS disk

```
POST https://{endpoint}/v2/{project_id}/volumes/{volume_id}/metadata

{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.5.2 Querying One Piece of Metadata of an EVS Disk

Function

This API is used to query one piece of metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/volumes/{volume_id}/metadata/{key}

Table 7-250 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.
key	Yes	String	The key of the metadata to be queried.

Request Parameters

Table 7-251 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-252 Response body parameters

Parameter	Type	Description
meta	Map<String,String>	A piece of snapshot metadata, which is made up of a key-value pair.

Status code: 400

Table 7-253 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-254 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/v2/{project_id}/volumes/{volume_id}/metadata/{key}
```

Example Responses

Status code: 200

OK

```
{
  "meta" : {
    "key1" : "value1"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.5.3 Updating One Piece of Metadata of an EVS Disk

Function

This API is used to update one piece of metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v2/{project_id}/volumes/{volume_id}/metadata/{key}

Table 7-255 Path Parameters

Parameter	Mandatory	Type	Description
key	Yes	String	The key of the metadata to be updated.
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-256 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-257 Request body parameters

Parameter	Mandatory	Type	Description
meta	Yes	Map<String,String>	The metadata to be updated.

Response Parameters

Status code: 200

Table 7-258 Response body parameters

Parameter	Type	Description
meta	Map<String,String>	A piece of snapshot metadata, which is made up of a key-value pair.

Status code: 400

Table 7-259 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-260 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Updating one piece of metadata of an EVS disk

```
PUT https://{endpoint}/v2/{project_id}/volumes/{volume_id}/metadata/{key}

{
 "meta" : {
  "key1" : "value1"
 }
}
```

Example Responses

Status code: 200

OK

```
{
 "meta" : {
  "key1" : "value1"
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
  "message" : "XXXX",
  "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.5.4 Updating Metadata of an EVS Disk

Function

This API is used to update the metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v2/{project_id}/volumes/{volume_id}/metadata

Table 7-261 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 7-262 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-263 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	Map<String,String>	The metadata to be updated.

Response Parameters

Status code: 200

Table 7-264 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 7-265 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-266 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Updating multiple pieces of metadata of an EVS disk

```
PUT https://{endpoint}/v2/{project_id}/volumes/{volume_id}/metadata

{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.5.5 Querying Metadata of an EVS Disk

Function

This API is used to query the metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/volumes/{volume_id}/metadata

Table 7-267 Path Parameters

Parameter	Mandatory	Type	Description
volume_id	Yes	String	The disk ID.
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 7-268 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-269 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 7-270 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-271 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/volumes/{volume_id}/metadata

Example Responses

Status code: 200

OK

```
{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.5.6 Deleting One Piece of Metadata of an EVS Disk

Function

This API is used to delete one piece of metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v2/{project_id}/volumes/{volume_id}/metadata/{key}

Table 7-272 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.
key	Yes	String	The key of the piece of metadata to be deleted. For details about how to obtain the value, see **Querying Metadata of an EVS Disk**.

Request Parameters

Table 7-273 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 7-274 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-275 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v2/{project_id}/volumes/{volume_id}/metadata/{key}

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.5.7 Querying Metadata of an EVS Disk

Function

This API is used to query the metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/volumes/{volume_id}/metadata

Table 7-276 Path Parameters

Parameter	Mandatory	Type	Description
volume_id	Yes	String	The disk ID.
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 7-277 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-278 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 7-279 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-280 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/v3/{project_id}/volumes/{volume_id}/metadata
```

Example Responses

Status code: 200

OK

```
{
 "metadata" : {
   "key1" : "value1",
   "key2" : "value2"
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.6 Snapshot Metadata Management

7.6.1 Adding the Metadata of an EVS Snapshot

Function

This API is used to add the metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

POST /v2/{project_id}/snapshots/{snapshot_id}/metadata

Table 7-281 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 7-282 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-283 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	Map<String,String>	The metadata information to be added.

Response Parameters

Status code: 200

Table 7-284 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 7-285 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-286 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Adding the metadata of an EVS snapshot

```
POST https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}/metadata

{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.6.2 Querying the Metadata of an EVS Snapshot

Function

This API is used to query the metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/snapshots/{snapshot_id}/metadata

Table 7-287 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 7-288 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-289 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 7-290 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-291 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}/metadata

Example Responses

Status code: 200

OK

```
{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.6.3 Updating One Piece of Metadata of an EVS Snapshot

Function

This API is used to update one piece of metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Table 7-292 Path Parameters

Parameter	Mandatory	Type	Description
key	Yes	String	The key of the metadata to be updated.
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 7-293 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-294 Request body parameters

Parameter	Mandatory	Type	Description
meta	Yes	Map<String,String>	The metadata to be updated.

Response Parameters

Status code: 200

Table 7-295 Response body parameters

Parameter	Type	Description
meta	Map<String,String>	A piece of snapshot metadata, which is made up of a key-value pair.

Status code: 400

Table 7-296 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-297 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Updating one piece of metadata of an EVS snapshot

```
PUT https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}

{
  "meta" : {
    "key1" : "value1"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "meta" : {
    "key1" : "value1"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.6.4 Updating the Metadata of an EVS Snapshot

Function

This API is used to update the metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v2/{project_id}/snapshots/{snapshot_id}/metadata

Table 7-298 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 7-299 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 7-300 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	Map<String,String>	The metadata to be updated.

Response Parameters

Status code: 200

Table 7-301 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 7-302 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-303 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

Updating multiple pieces of metadata of an EVS snapshot

```
PUT https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}/metadata

{
 "metadata" : {
   "key1" : "value1",
   "key2" : "value2"
 }
}
```

Example Responses

Status code: 200

OK

```
{
 "metadata" : {
   "key1" : "value1"
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.6.5 Querying One Piece of Metadata of an EVS Snapshot

Function

This API is used to query one piece of metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Table 7-304 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.
key	Yes	String	The key of the metadata to be queried.

Request Parameters

Table 7-305 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-306 Response body parameters

Parameter	Type	Description
meta	Map<String,String>	A piece of snapshot metadata, which is made up of a key-value pair.

Status code: 400

Table 7-307 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-308 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Example Responses

Status code: 200

OK

```
{
  "meta" : {
    "key1" : "value1"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.6.6 Deleting One Piece of Metadata of an EVS Snapshot

Function

This API is used to delete one piece of metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Table 7-309 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.
key	Yes	String	The key of the metadata to be deleted.

Request Parameters

Table 7-310 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 7-311 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-312 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

7.7 API Version Query

7.7.1 Querying Information of an API Version

Function

This API is used to query information of an API version.

Calling Method

For details, see **Calling APIs**.

URI

GET /{version}

Table 7-313 Path Parameters

Parameter	Mandatory	Type	Description
version	Yes	String	The API version to be queried. The value can be **v1**, **v2**, or **v3**. Enumeration values: • **v1** • **v2** • **v3**

Request Parameters

Table 7-314 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-315 Response body parameters

Parameter	Type	Description
versions	Array of **Versions** objects	The version information.

Table 7-316 Versions

Parameter	Type	Description
id	String	The API version ID.
links	Array of **Link** objects	The API version URI.
media-types	Array of **MediaTypes** objects	The request message type of the API version.
min_version	String	The minimum API version.
status	String	The API version status.
updated	String	The last time when the API version was updated.
version	String	The API version number.

Table 7-317 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 7-318 MediaTypes

Parameter	Type	Description
base	String	The text type.
type	String	The return type.

Status code: 400

Table 7-319 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-320 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/{version}

https://{endpoint}/{version}

Example Responses

Status code: 200

The version details.

```
{
  "versions" : [ {
    "min_version" : "",
```

```
    "media-types" : [ {
      "type" : "application/vnd.openstack.volume+json;version=1",
      "base" : "application/json"
    }, {
      "type" : "application/vnd.openstack.volume+xml;version=1",
      "base" : "application/xml"
    } ],
    "links" : [ {
      "rel" : "describedby",
      "href" : "http://docs.openstack.org/",
      "type" : "text/html"
    }, {
      "rel" : "self",
      "href" : "https://evs.localdomain.com/v2"
    } ],
    "id" : "v2.0",
    "updated" : "2014-06-28T12:20:21Z",
    "version" : "",
    "status" : "SUPPORTED"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "code" : "string",
    "message" : "string"
  }
}
```

Status Codes

Status Code	Description
200	The version details.
400	Bad Request

Error Codes

See **Error Codes**.

7.7.2 Querying Information of API Versions

Function

This API is used to query information of API versions.

Calling Method

For details, see **Calling APIs**.

URI

GET /

Request Parameters

None

Response Parameters

Status code: 300

Table 7-321 Response body parameters

Parameter	Type	Description
versions	Array of **Versions** objects	The version information.

Table 7-322 Versions

Parameter	Type	Description
id	String	The API version ID.
links	Array of **Link** objects	The API version URI.
media-types	Array of **MediaTypes** objects	The request message type of the API version.
min_version	String	The minimum API version.
status	String	The API version status.
updated	String	The last time when the API version was updated.
version	String	The API version number.

Table 7-323 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 7-324 MediaTypes

Parameter	Type	Description
base	String	The text type.
type	String	The return type.

Status code: 400

Table 7-325 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-326 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/

https://{endpoint}/
```

Example Responses

Status code: 300

The details of API versions are returned.

```json
{
 "versions" : [ {
   "min_version" : "",
   "media-types" : [ {
     "type" : "application/vnd.openstack.volume+json;version=1",
     "base" : "application/json"
   }, {
     "type" : "application/vnd.openstack.volume+xml;version=1",
     "base" : "application/xml"
   } ],
   "links" : [ {
     "rel" : "describedby",
     "href" : "http://docs.openstack.org/",
     "type" : "text/html"
   }, {
     "rel" : "self",
```

```
    "href" : "https://evs.localdomain.com/v1"
  } ],
  "id" : "v1.0",
  "updated" : "2014-06-28T12:20:21Z",
  "version" : "",
  "status" : "SUPPORTED"
}, {
  "min_version" : "",
  "media-types" : [ {
    "type" : "application/vnd.openstack.volume+json;version=1",
    "base" : "application/json"
  }, {
    "type" : "application/vnd.openstack.volume+xml;version=1",
    "base" : "application/xml"
  } ],
  "links" : [ {
    "rel" : "describedby",
    "href" : "http://docs.openstack.org/",
    "type" : "text/html"
  }, {
    "rel" : "self",
    "href" : "https://evs.localdomain.com/v2"
  } ],
  "id" : "v2.0",
  "updated" : "2014-06-28T12:20:21Z",
  "version" : "",
  "status" : "SUPPORTED"
}, {
  "min_version" : "3.0",
  "media-types" : [ {
    "type" : "application/vnd.openstack.volume+json;version=1",
    "base" : "application/json"
  }, {
    "type" : "application/vnd.openstack.volume+xml;version=1",
    "base" : "application/xml"
  } ],
  "links" : [ {
    "rel" : "describedby",
    "href" : "http://docs.openstack.org/",
    "type" : "text/html"
  }, {
    "rel" : "self",
    "href" : "https://evs.localdomain.com/v3"
  } ],
  "id" : "v3.0",
  "updated" : "2016-02-08T12:20:21Z",
  "version" : "3.0",
  "status" : "CURRENT"
} ]
}
```

Status code: 400

Bad Request

```
{
 "error" : {
  "code" : "string",
  "message" : "string"
 }
}
```

Status Codes

Status Code	Description
300	The details of API versions are returned.
400	Bad Request

Error Codes

See **Error Codes**.

7.8 AZ Query

7.8.1 Querying All AZs

Function

This API is used to query all AZs.

Calling Method

For details, see **Calling APIs**.

URI

GET /v2/{project_id}/os-availability-zone

Table 7-327 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 7-328 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 7-329 Response body parameters

Parameter	Type	Description
availabilityZoneInfo	Array of **AzInfo** objects	The returned list of AZs.

Table 7-330 AzInfo

Parameter	Type	Description
zoneName	String	The AZ name.
zoneState	**ZoneState** object	The AZ status.

Table 7-331 ZoneState

Parameter	Type	Description
available	Boolean	Whether the AZ is available.

Status code: 400

Table 7-332 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 7-333 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/v2/{project_id}/os-availability-zone
```

Example Responses

Status code: 200

AZ information returned.

```
{
  "availabilityZoneInfo" : [ {
    "zoneState" : {
      "available" : true
    },
    "zoneName" : "az-dc-1"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	AZ information returned.
400	Bad Request

Error Codes

See **Error Codes**.

8 Out-of-Date APIs

8.1 API

8.1.1 Disk Management

8.1.1.1 Querying Details About All EVS Disks (Deprecated)

Function

This API is used to query details about all EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/os-vendor-volumes/detail

Table 8-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 8-2 Query Parameters

Parameter	Mandatory	Type	Description
availability_zone	No	String	The AZ to which the disk belongs.

Parameter	Mandatory	Type	Description
dedicated_storage_id	No	String	The dedicated storage pool ID. All disks in the dedicated storage pool can be filtered by exact match.
dedicated_storage_name	No	String	The dedicated storage pool name. All disks in the dedicated storage pool can be filtered by fuzzy match.
id	No	String	The disk ID.
ids	No	Array	The disk IDs. The value is in the *ids=['id1','id2',...,'idx']* format. In the response, the **ids** value contains valid disk IDs only. Invalid disk IDs are ignored. The details about a maximum of 60 disks can be queried. If **id** and **ids** are both specified in the request, **id** will be ignored.
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit.
marker	No	String	The ID of the resource from which the pagination query starts. It is the ID of the last resource on the previous page.
metadata	No	String	The disk metadata.
multiattach	No	String	Whether the disk is shareable. **true**: The disk is shareable. **false**: The disk is not shareable.
name	No	String	The disk name. You can enter up to 64 characters.
offset	No	Integer	The query offset. All disks after this offset are queried. The value must be an integer greater than 0 but less than the number of disks.

Parameter	Mandatory	Type	Description
service_type	No	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
sort_dir	No	String	The result sorting order. The default value is **desc**. **desc**: the descending order **asc**: the ascending order
sort_key	No	String	The keyword based on which the returned results are sorted. The value can be **id**, **status**, **size**, or **created_at**, and the default value is **created_at**.
status	No	String	The disk status. For details, see **EVS Disk Status**.
volume_type_id	No	String	The disk type ID. For details, go to **Querying EVS Disk Types** and check the value of **id** in the table for parameters in the **volume_types** field..

Request Parameters

Table 8-3 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Response Parameters

Status code: 200

Table 8-4 Response body parameters

Parameter	Type	Description
count	Integer	The total number of disks queried.

Parameter	Type	Description
volumes	Array of **VolumeDetailV3** objects	The list of returned disks.
volumes_links	Array of **LinkV3** objects	The query position marker in the disk list. If only some disks are returned in this query, the URL of the last disk queried is returned. You can use this URL to query the remaining disks in the next query. For details, see **Parameters in the links field**.

Table 8-5 VolumeDetailV3

Parameter	Type	Description
attachments	Array of **AttachmentV3** objects	The disk attachment information. For details, see **Parameters in the attachments field**.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
consistencygroup_id	String	The reserved field.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
dedicated_storage_id	String	The ID of the dedicated storage pool housing the disk.
dedicated_storage_name	String	The name of the dedicated storage pool housing the disk.
description	String	The disk description.
encrypted	Boolean	This field is currently not supported.
enterprise_project_id	String	The ID of the enterprise project that the disk has been added to. For more information about enterprise projects and how to obtain enterprise project IDs, see **Enterprise Management User Guide**.
id	String	The disk ID.

Parameter	Type	Description
links	Array of **LinkV3** objects	The disk URI. For details, see **Parameters in the links field**.
metadata	**VolumeMetadataV3** object	The metadata.
multiattach	Boolean	Whether the disk is shareable. **true**: The disk is shareable. **false**: The disk is not shareable.
name	String	The disk name.
replication_status	String	The reserved field.
service_type	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.
shareable	Boolean	Whether the disk is shareable. **NOTE** This field has been deprecated. Use **multiattach**.
size	Integer	The disk size, in GiB.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
status	String	The disk status.
tags	Map<String,String>	The disk tags. This field has values if the disk has tags. Or, it is left empty.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
user_id	String	The reserved field.
volume_image_metadata	Object	The metadata of the disk image. **NOTE** For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.

Parameter	Type	Description
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, or **SSD**. ● **SATA**: the common I/O type ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type
wwn	String	The unique identifier used when attaching the disk.
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.
os-vol-mig-status-attr:migstat	String	The reserved field.
os-vol-mig-status-attr:name_id	String	The reserved field.
os-volume-replication:extended_status	String	The reserved field.
os-vol-host-attr:host	String	The reserved field.
storage_cluster_id	String	The reserved field.

Table 8-6 AttachmentV3

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.

Parameter	Type	Description
volume_id	String	The disk ID.

Table 8-7 VolumeMetadataV3

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes.
__system__encrypted	String	The encryption field in **metadata**. **0**: no encryption **1**: encryption If this parameter does not appear, the disk is not encrypted.
full_clone	String	The method of creation when the disk is created from a snapshot. ● **0**: linked clone ● **1**: full clone
hw:passthrough	String	The parameter that describes the disk device type in **metadata**. ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media and supports SCSI reservation commands. ● If this parameter value is **false**, the disk device type is VBD, which supports only simple SCSI read/write commands. ● If this parameter does not appear, the disk device type is VBD.
orderID	String	The parameter that describes the disk billing mode in **metadata**. If this parameter has a value, the disk is billed on a yearly/monthly basis. If not, the disk is billed on a pay-per-use basis.

Table 8-8 LinkV3

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 8-9 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see **Parameters in the error field**.

Table 8-10 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/os-vendor-volumes/detail

Example Responses

Status code: 200

OK

```
{
  "count" : 1,
  "volumes" : [ {
    "attachments" : [ ],
    "availability_zone" : "xxx",
    "bootable" : "false",
    "created_at" : "2016-05-25T02:42:10.856332",
    "encrypted" : false,
    "id" : "b104b8db-170d-441b-897a-3c8ba9c5a214",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v3/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "bookmark"
    } ],
    "metadata" : {
      "__openstack_region_name" : "pod01.xxx",
      "quantityGB" : "1",
      "volInfoUrl" : "fusionstorage://172.30.64.10/0/FEFEEB07D3924CDEA93C612D4E16882D"
    },
    "name" : "zjb_u25_test",
    "os-vol-host-attr:host" : "pod01.xxx#SATA",
    "volume_image_metadata" : { },
    "os-vol-tenant-attr:tenant_id" : "dd14c6ac581f40059e27f5320b60bf2f",
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 1,
```

```
    "status" : "available",
    "updated_at" : "2016-05-25T02:42:22.341984",
    "user_id" : "b0524e8342084ef5b74f158f78fc3049",
    "volume_type" : "SATA",
    "service_type" : "EVS",
    "wwn" : " 688860300000d136fa16f48f05992360"
  } ],
  "volumes_links" : [ {
    "href" : "https://volume.localdomain.com:8776/v3/dd14c6ac581f40059e27f5320b60bf2f/volumes/detail?
limit=1&marker=b104b8db-170d-441b-897a-3c8ba9c5a214",
    "rel" : "next"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.1.1.2 Creating EVS Disks (Deprecated)

Function

This API is used to create one or multiple EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/cloudvolumes

Table 8-11 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.

Request Parameters

Table 8-12 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.
X-Client-Token	No	String	The idempotence identifier of a request. This parameter value is generated by the client and must be unique among requests. The value is a 36-digit character string in the UUID format and is valid for 8 hours. If multiple requests carry the same idempotent identifier, the requests are considered as an idempotent request and the same response body is returned.

Table 8-13 Request body parameters

Parameter	Mandatory	Type	Description
volume	Yes	**CreateVolumeOptionV3** object	The disk to be created.

Table 8-14 CreateVolumeOptionV3

Parameter	Mandatory	Type	Description
backup_id	No	String	The backup ID. This parameter is mandatory when you create the disk from a backup. **NOTE** For details about how to obtain the backup ID, see **Querying All Backups**.
availability_zone	Yes	String	The AZ where you want to create the disk. If the specified AZ does not exist, the disk will fail to be created. **NOTE** For details about how to obtain the AZ, see **Querying All AZs**.
description	No	String	The disk description. You can enter up to 85 characters.
size	No	Integer	The disk size, in GiB. The restrictions are as follows: System disk: 1 GiB to 1,024 GiB Data disk: 10 GiB to 32,768 GiB This parameter is mandatory when you create an empty disk. If you create the disk from a snapshot, this parameter is mandatory, and the disk size must be greater than or equal to the snapshot size. If you create the disk from an image, this parameter is mandatory, and the disk size must be greater than or equal to the minimum capacity required by the **min_disk** image attribute. This parameter is optional if you create the disk from a backup. If not specified, the disk size is the same as the backup size. **NOTE** If the specified value is a decimal, the number part will be used by default.

Parameter	Mandatory	Type	Description
name	No	String	The disk name. If you create one disk, the **name** value is the disk name. You can enter up to 85 characters. If you create multiple disks (the **count** value greater than **1**), the system automatically adds a hyphen followed by a four-digit incremental number, such as **-0000**, to the end of each disk name. For example, the disk names can be **volume-0001** and **volume-0002**.
snapshot_id	No	String	The snapshot ID. If this parameter is specified, the disk is created from a snapshot. **NOTE** For details about how to obtain the snapshot ID, see **Query Details About EVS Snapshots**.
imageRef	No	String	The image ID. If this parameter is specified, the disk is created from an image. **NOTE** Bare Metal Server (BMS) system disks cannot be created from BMS images. For details about how to obtain the image ID, see **Querying Images**.

Parameter	Mandatory	Type	Description
volume_type	Yes	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, or **SSD**. • **SATA**: the common I/O type (sold out) • **SAS**: the high I/O type • **GPSSD**: the general purpose SSD type • **SSD**: the ultra-high I/O type. If the specified disk type is not available in the AZ, the disk will fail to be created. **NOTE** When you create a disk from a snapshot, ensure that the disk type of the new disk is consistent with that of the snapshot's source disk. For details about disk types, see **Disk Types and Performance**.
count	No	Integer	The number of disks to be created in a batch. If this parameter is not specified, only one disk will be created. You can create a maximum of 100 disks in a batch. If disks are created from backups, batch creation is not supported, and this parameter must be set to **1**. **NOTE** If the specified value is a decimal, the number part will be used by default.
shareable	No	String	Whether the disk is shareable. The value can be **true** (shareable) or **false** (non-shareable). **NOTE** This field has been deprecated. Use **multiattach**.
metadata	No	**VolumeMetadataV3** object	The information of the disk to be created.

Parameter	Mandatory	Type	Description
multiattach	No	String	Whether the disk is shareable. The default value is **false**. **true**: The disk is shareable. **false**: The disk is not shareable. For details, see **Shared EVS Disks and Usage Instructions**.
tags	No	Map<String,String>	The tags added to the disk during the disk creation. A maximum of 10 tags can be added to a disk. A tag key must be unique. Deduplication will be performed for duplicate keys. So only one key among duplicate keys of a tag is valid. Tag key: A tag key can contain a maximum of 36 characters. It can contain letters, digits, underscores (_), hyphens (-), and Unicode characters (\u4E00-\u9FFF). Tag value: A tag value can be 43 characters long and can be an empty string. It can contain letters, digits, underscores (_), periods (.), hyphens (-), and Unicode characters (\u4E00-\u9FFF).
enterprise_project_id	No	String	The enterprise project ID. This ID is associated with the disk during the disk creation. If this parameter is not transferred or its value is set to **0**, the disk will be associated with the **default** enterprise project. For details, see **Enterprise Management User Guide**.

Table 8-15 VolumeMetadataV3

Parameter	Mandatory	Type	Description
__system__cmkid	No	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes.
__system__encrypted	No	String	The encryption field in **metadata**. **0**: no encryption **1**: encryption If this parameter does not appear, the disk is not encrypted.
full_clone	No	String	The method of creation when the disk is created from a snapshot. ● **0**: linked clone ● **1**: full clone
hw:passthrough	No	String	The parameter that describes the disk device type in **metadata**. ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media and supports SCSI reservation commands. ● If this parameter value is **false**, the disk device type is VBD, which supports only simple SCSI read/write commands. ● If this parameter does not appear, the disk device type is VBD.
orderID	No	String	The parameter that describes the disk billing mode in **metadata**. If this parameter has a value, the disk is billed on a yearly/monthly basis. If not, the disk is billed on a pay-per-use basis.

Response Parameters

Status code: 200

Table 8-16 Response body parameters

Parameter	Type	Description
job_id	String	The task ID returned in a normal response. **NOTE** To query the task status, see section "Querying Task Status".

Example Requests

```
POST https://{endpoint}/v3/{project_id}/cloudvolumes

{
 "volume" : {
   "count" : 1,
   "availability_zone" : "az-dc-1",
   "description" : "test_volume_1",
   "size" : 120,
   "name" : "test_volume_1",
   "volume_type" : "SSD",
   "metadata" : {
     "__system__encrypted" : "1",
     "__system__cmkid" : "37b0d52e-c249-40d6-83cb-2b93f22445bd"
   }
 }
}
```

Example Responses

None

Status Codes

Status Code	Description
200	OK

Error Codes

See **Error Codes**.

8.1.1.3 Querying Details About an EVS Disk (Deprecated)

Function

This API is used to query details about a single EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/os-vendor-volumes/{volume_id}

Table 8-17 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-18 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Response Parameters

Status code: 200

Table 8-19 Response body parameters

Parameter	Type	Description
volume	**VolumeDetailV3** object	The information of the returned disk. For details, see **Parameters in the volume field**.

Table 8-20 VolumeDetailV3

Parameter	Type	Description
attachments	Array of **AttachmentV3** objects	The disk attachment information. For details, see **Parameters in the attachments field**.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
consistencygroup_id	String	The reserved field.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
dedicated_storage_id	String	The ID of the dedicated storage pool housing the disk.
dedicated_storage_name	String	The name of the dedicated storage pool housing the disk.
description	String	The disk description.
encrypted	Boolean	This field is currently not supported.
enterprise_project_id	String	The ID of the enterprise project that the disk has been added to. For more information about enterprise projects and how to obtain enterprise project IDs, see **Enterprise Management User Guide**.
id	String	The disk ID.
links	Array of **LinkV3** objects	The disk URI. For details, see •**Parameters in the links field**.
metadata	**VolumeMetadataV3** object	The metadata.
multiattach	Boolean	Whether the disk is shareable. **true**: The disk is shareable. **false**: The disk is not shareable.
name	String	The disk name.
replication_status	String	The reserved field.
service_type	String	The service type. Supported services are **EVS**, **DSS**, and **DESS**.

Parameter	Type	Description
shareable	Boolean	Whether the disk is shareable. **NOTE** This field has been deprecated. Use **multiattach**.
size	Integer	The disk size, in GiB.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
status	String	The disk status.
tags	Map<String,String>	The disk tags. This field has values if the disk has tags. Or, it is left empty.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
user_id	String	The reserved field.
volume_image_metadata	Object	The metadata of the disk image. **NOTE** For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, or **SSD**. • **SATA**: the common I/O type • **SAS**: the high I/O type • **GPSSD**: the general purpose SSD type • **SSD**: the ultra-high I/O type
wwn	String	The unique identifier used when attaching the disk.
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.
os-vol-mig-status-attr:migstat	String	The reserved field.
os-vol-mig-status-attr:name_id	String	The reserved field.

Parameter	Type	Description
os-volume-replication:extended_status	String	The reserved field.
os-vol-host-attr:host	String	The reserved field.
storage_cluster_id	String	The reserved field.

Table 8-21 AttachmentV3

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 8-22 LinkV3

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 8-23 VolumeMetadataV3

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes.
__system__encrypted	String	The encryption field in **metadata**. **0**: no encryption **1**: encryption If this parameter does not appear, the disk is not encrypted.
full_clone	String	The method of creation when the disk is created from a snapshot. ● **0**: linked clone ● **1**: full clone
hw:passthrough	String	The parameter that describes the disk device type in **metadata**. ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media and supports SCSI reservation commands. ● If this parameter value is **false**, the disk device type is VBD, which supports only simple SCSI read/write commands. ● If this parameter does not appear, the disk device type is VBD.
orderID	String	The parameter that describes the disk billing mode in **metadata**. If this parameter has a value, the disk is billed on a yearly/monthly basis. If not, the disk is billed on a pay-per-use basis.

Status code: 400

Table 8-24 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 8-25 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/os-vendor-volumes/{volume_id}

Example Responses

Status code: 200

OK

```
{
  "volume" : {
    "attachments" : [ ],
    "links" : [ {
      "href" : "https://volume.az0.dc1.domainname.com/v3/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "self"
    }, {
      "href" : "https://volume.az0.dc1.domainname.com/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "bookmark"
    } ],
    "availability_zone" : "az-dc-1",
    "os-vol-host-attr:host" : "az-dc-1#SSD",
    "encrypted" : false,
    "multiattach" : true,
    "updated_at" : "2016-02-03T02:19:29.895237",
    "replication_status" : "disabled",
    "id" : "591ac654-26d8-41be-bb77-4f90699d2d41",
    "size" : 40,
    "user_id" : "fd03ee73295e45478d88e15263d2ee4e",
    "os-vol-tenant-attr:tenant_id" : "40acc331ac784f34842ba4f08ff2be48",
    "metadata" : { },
    "tags" : {
      "key1" : "value1",
      "key2" : "value2"
    },
    "enterprise_project_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "status" : "error_restoring",
    "description" : "auto-created_from_restore_from_backup",
    "name" : "restore_backup_0115efb3-678c-4a9e-bff6-d3cd278238b9",
    "bootable" : "false",
    "created_at" : "2016-02-03T02:19:11.723797",
    "service_type" : "EVS",
    "wwn" : "688860300000d136fa16f48f05992360",
    "backup_id" : "null"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
```

```
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.1.2 Snapshot Management

8.1.2.1 Rolling Back a Snapshot to an EVS Disk (Deprecated)

Function

This API is used to roll back a snapshot to an EVS disk.

Note: This API has been deprecated. Use another API.

Constraints

- A snapshot can be rolled back only to its source disk. Rollback to another disk is not possible.

- You can roll back a disk from a snapshot only when the disk is in the **available** or **error_rollbacking** state.

- Snapshots whose names started with the **autobk_snapshot_** prefix are automatically created by the system when backups are created. Such snapshots cannot be used to roll back data.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/os-vendor-snapshots/{snapshot_id}/rollback

Table 8-26 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.

Parameter	Mandatory	Type	Description
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 8-27 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	A token obtained from IAM is valid for 24 hours. When using a token for authentication, cache it to avoid frequently calling the API.

Table 8-28 Request body parameters

Parameter	Mandatory	Type	Description
rollback	Yes	**RollbackSnapshotOptionV3** object	The snapshot rollback information. For details, see **Parameters in the rollback field**.

Table 8-29 RollbackSnapshotOptionV3

Parameter	Mandatory	Type	Description
name	No	String	The name of the disk to be rolled back. You can enter up to 64 characters. For details about how to query the target disk name, see the "name" field in the response in **Querying Details About a Disk**. **NOTE** Do not use the **name** parameter alone. If **name** is going to be used, **volume_id** must also be specified.

Parameter	Mandatory	Type	Description
volume_id	Yes	String	The ID of the disk to be rolled back. For details about how to query the target disk ID, see the "volume_id" field in the response of **Querying Details About an EVS Snapshot**.

Response Parameters

Status code: 202

Table 8-30 Response body parameters

Parameter	Type	Description
rollback	**RollbackBody** object	The snapshot rollback information. For details, see·**Parameters in the rollback field**.

Table 8-31 RollbackBody

Parameter	Type	Description
volume_id	String	The ID of the target disk for snapshot rollback.

Status code: 400

Table 8-32 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs. For details, see**Parameters in the error field**.

Table 8-33 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For the error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST https://{endpoint}/v3/{project_id}/os-vendor-snapshots/{snapshot_id}/rollback

{
 "rollback" : {
   "name" : "test-001",
   "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635"
 }
}
```

Example Responses

Status code: 202

Accepted

```
{
 "rollback" : {
   "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635"
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

8.2 Cinder API

8.2.1 Disk Management

8.2.1.1 Querying Details About an EVS Disk (Deprecated)

Function

This API is used to query details about a single EVS disk. This API has been deprecated. Use another API.

Calling Method

For details, see **Calling APIs**.

URI

GET /v1/{project_id}/volumes/{volume_id}

Table 8-34 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.
volume_id	Yes	String	The disk ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 8-35 Response body parameters

Parameter	Type	Description
volume	**CinderVolumeDetail** object	The returned disk.

Table 8-36 CinderVolumeDetail

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.

Parameter	Type	Description
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	Whether the disk is attached.
availability_zone	String	The AZ to which the disk belongs.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
description	String	The disk description.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type (sold out) ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type
metadata	**VolumeMetadata** object	The disk metadata. If **metadata** does not contain the **hw:passthrough** field, the disk device type is VBD. If **metadata** does not contain the **__system__encrypted** field, the disk is not encrypted.
size	Integer	The disk size, in GiB.
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable.
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.

Parameter	Type	Description
volume_image_metadata	Object	The metadata of the disk image. For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
os-vol-host-attr:host	String	The reserved field.
os-volume-replication:extended_status	String	The reserved field.
consistencygroup_id	String	The reserved field.
iops	**iops** object	The disk IOPS information. This parameter is returned only for a general purpose SSD V2 or an extreme SSD V2 disk.
throughput	**throughput** object	The disk throughput information. This parameter is returned only for a general purpose SSD V2 disk.
updated_at	String	The time when the disk was updated.
replication_status	String	The reserved field.
user_id	String	The reserved field.
encrypted	Boolean	The reserved field.

Table 8-37 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 8-38 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX

Parameter	Type	Description
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 8-39 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. NOTE Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrough	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Table 8-40 iops

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The ID of the disk IOPS.
total_val	Integer	The IOPS.
volume_id	String	The disk ID.

Table 8-41 throughput

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The throughput ID.
total_val	Integer	The throughput.
volume_id	String	The disk ID.

Status code: 400

Table 8-42 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-43 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "volume" : {
    "attachments" : [ ],
    "availability_zone" : "az-dc-1",
    "os-vol-host-attr:host" : "db-rabbitmq201#LVM_iSCSI",
    "encrypted" : false,
    "id" : "da4f9c7a-c275-4bc9-80c4-76c7d479a218",
    "size" : 1,
    "os-vol-tenant-attr:tenant_id" : "3dab0aaf682849678a94ec7b5a3af2ce",
    "metadata" : { },
    "status" : "available",
    "display_name" : "test",
    "bootable" : "false",
    "created_at" : "2014-12-18T17:14:38.000000",
    "volume_type" : "SATA",
    "multiattach" : false
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.2 Creating EVS Disks

Function

This API is used to create EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/volumes

Table 8-44 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 8-45 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-46 Request body parameters

Parameter	Mandatory	Type	Description
volume	Yes	**CinderCreateVolumeOption** object	The information of the disk to be created. Note: Specifying any two of the **source_volid**, **snapshot_id**, and **imageRef** fields together is not supported.
OS-SCH-HNT:scheduler_hints	No	**CinderCreateVolumeSchedulerHints** object	The scheduling parameter. The **dedicated_storage_id** field is supported, indicating that disks can be created in DSS storage pools.

Table 8-47 CinderCreateVolumeOption

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	The AZ where you want to create the disk. If the specified AZ does not exist or is different from the AZ to which the backup belongs, the disk will fail to be created.
consistencygroup_id	No	String	The ID of the consistency group. If this parameter is specified, the disk belongs to this consistency group. This function is currently not available.
description	No	String	The disk description. You can enter up to 85 characters.
imageRef	No	String	The image ID. If this parameter is specified, the disk is created from an image. **NOTE** Bare Metal Server (BMS) system disks cannot be created from BMS images. For details about how to obtain the image ID, see **Querying Images**.
metadata	No	**VolumeMetadata** object	The disk metadata. The length of **key** or **value** under **metadata** can contain no more than 255 bytes. The **metadata** field only shows some parameters. You can specify other parameters based on your requirements. **value** of a key-value pair in **metadata** cannot be null.
multiattach	No	Boolean	Whether the disk is shareable. The default value is **false**. **true**: The disk is shareable. **false**: The disk is not shareable. For details, see **Shared EVS Disks and Usage Instructions**.
name	No	String	The disk name. You can enter up to 64 characters.

Parameter	Mandatory	Type	Description
size	No	Integer	The disk size, in GiB. The restrictions are as follows: System disk: 1 GiB to 1,024 GiB Data disk: 10 GiB to 32,768 GiB This parameter is mandatory when you create an empty disk. If you create the disk from a snapshot, this parameter is mandatory, and the disk size must be greater than or equal to the snapshot size. If you create the disk from an image, this parameter is mandatory, and the disk size must be greater than or equal to the minimum capacity required by the **min_disk** image attribute.
snapshot_id	No	String	The snapshot ID. If this parameter is specified, the disk is created from a snapshot.
source_replica	No	String	This parameter indicates that the disk is cloned from another disk. This function is currently not available.
source_volid	No	String	The source disk ID. If this parameter is specified, the disk is cloned from an existing disk. This function is currently not supported.

Parameter	Mandatory	Type	Description
volume_type	Yes	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type If the specified disk type is not available in the AZ, the disk will fail to be created. **NOTE** When you create a disk from a snapshot, ensure that the disk type of the new disk is consistent with that of the snapshot's source disk. For details about disk types, see **Disk Types and Performance**. Enumeration values: ● **ESSD2** ● **GPSSD2** ● **ESSD** ● **SSD** ● **GPSSD** ● **SAS** ● **SATA**

Parameter	Mandatory	Type	Description
iops	No	Integer	The configured IOPS. This parameter is mandatory only when a general purpose SSD V2 or an extreme SSD V2 disk is created. **NOTE** ● To learn the IOPS ranges of general purpose SSD V2 and extreme SSD V2 disks, see the **EVS performance data** table in **Disk Types and Performance**. ● Only pay-per-use billing is supported.
throughput	No	Integer	The configured throughput, in the unit of MiB/s. This parameter is mandatory only when a general purpose SSD V2 disk is created. **NOTE** -To learn the throughput range of general purpose SSD V2 disks, see the **EVS performance data** table in **Disk Types and Performance**. ● Only pay-per-use billing is supported.

Table 8-48 VolumeMetadata

Parameter	Mandatory	Type	Description
__system__cmkid	No	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. **NOTE** Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	No	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.

Parameter	Mandatory	Type	Description
full_clone	No	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrough	No	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Table 8-49 CinderCreateVolumeSchedulerHints

Parameter	Mandatory	Type	Description
dedicated_storage_id	No	String	The dedicated storage pool ID.

Response Parameters

Status code: 202

Table 8-50 Response body parameters

Parameter	Type	Description
volume	**CreateVolumeDetail** object	The created disk information.

Table 8-51 CreateVolumeDetail

Parameter	Type	Description
id	String	The disk ID.

Parameter	Type	Description
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	The attachment information.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
encrypted	Boolean	This field is currently not supported.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The disk description.
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type If the specified disk type is not available in the AZ, the disk will fail to be created.
replication_status	String	The reserved field.
consistencygroup_id	String	The ID of the consistency group where the disk belongs.
source_volid	String	The source disk ID. This field is currently not supported.
snapshot_id	String	The snapshot ID.

Parameter	Type	Description
metadata	**VolumeMeta data** object	The metadata.
size	Integer	The disk size, in GiB.
user_id	String	The ID of the user that uses the disk.
updated_at	String	The time when the disk was updated.
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable. **true**: The disk is shareable. **false**: The disk is not shareable.
storage_cluste r_id	String	The reserved field.

Table 8-52 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 8-53 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_i d	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 8-54 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. NOTE Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrough	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Status code: 400

Table 8-55 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-56 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST https://{endpoint}/v3/{project_id}/volumes

{
  "volume" : {
    "name" : "openapi_vol01",
    "imageRef" : "027cf713-45a6-45f0-ac1b-0ccc57ac12e2",
    "availability_zone" : "az-dc-1",
    "description" : "create for api test",
    "volume_type" : "SATA",
    "metadata" : {
      "volume_owner" : "openapi"
    },
    "multiattach" : false,
    "size" : 40
  },
  "OS-SCH-HNT:scheduler_hints" : {
    "dedicated_storage_id" : "eddc1a3e-4145-45be-98d7-bf6f65af9767"
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "volume" : {
    "attachments" : [ ],
    "availability_zone" : "az-dc-1",
    "bootable" : "false",
    "consistencygroup_id" : null,
    "created_at" : "2016-05-25T02:38:40.392463",
    "description" : "create for api test",
    "encrypted" : false,
    "id" : "8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/5dd0b0056f3d47b6ab4121667d35621a/volumes/
8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/5dd0b0056f3d47b6ab4121667d35621a/volumes/
8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
      "rel" : "bookmark"
    } ],
    "metadata" : {
      "volume_owner" : "openapi"
    },
    "name" : "openapi_vol01",
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 40,
    "snapshot_id" : null,
    "source_volid" : null,
    "status" : "creating",
    "updated_at" : null,
    "user_id" : "39f6696ae23740708d0f358a253c2637",
    "volume_type" : "SATA"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
```

```
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.3 Querying Details About All EVS Disks

Function

This API is used to query details about all EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/volumes/detail

Table 8-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 8-58 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the last record on the previous page. The returned value is the value of the item after this one.

Parameter	Mandatory	Type	Description
name	No	String	The disk name. You can enter up to 64 characters.
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit. If you have more than 50 disks in total, use this parameter and set it to **50** to improve the query efficiency. Examples are provided as follows: Querying 1–50 disks: GET /v2/*xxx*/volumes/detail?limit=50 Querying 51–100 disks: GET /v2/*xxx*/volumes/detail?offset=50&limit=50
sort_key	No	String	The keyword based on which the returned results are sorted. The value can be **id**, **status**, **size**, or **created_at**, and the default value is **created_at**.
sort_dir	No	String	The result sorting order. The default value is **desc**. **desc**: the descending order **asc**: the ascending order
offset	No	Integer	The query offset. All disks after this offset will be queried. The value must be an integer greater than 0 but less than the number of disks.
status	No	String	The disk status.
metadata	No	String	The disk metadata. This parameter is transferred in JSON format, for example, GET /v3/{project_id}/volumes/detail?metadata={"hw:passthrough": "true"}.
availability_zone	No	String	The AZ information.

Request Parameters

Table 8-59 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-60 Response body parameters

Parameter	Type	Description
volumes	Array of **VolumeDetail** objects	The list of returned disks.
volumes_links	Array of **Link** objects	The query position marker in the disk list. If only some disks are returned in this query, the URL of the last disk queried is returned. You can use this URL to continue to query the remaining disks in the next query.

Table 8-61 VolumeDetail

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	Whether the disk is attached.

Parameter	Type	Description
availability_zone	String	The AZ to which the disk belongs.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
description	String	The disk description.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
encrypted	Boolean	This field is currently not supported.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type (sold out) ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type
replication_status	String	The reserved field.
consistencygroup_id	String	The reserved field.
metadata	**VolumeMetadata** object	The disk metadata. If **metadata** does not contain the **hw:passthrough** field, the disk device type is VBD. If **metadata** does not contain the **__system__encrypted** field, the disk is not encrypted.
size	Integer	The disk size, in GiB.
user_id	String	The reserved field.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX

Parameter	Type	Description
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable.
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.
volume_image_metadata	Object	The metadata of the disk image. For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
os-vol-host-attr:host	String	The reserved field.
os-volume-replication:extended_status	String	The reserved field.
os-vol-mig-status-attr:migstat	String	The reserved field.
os-vol-mig-status-attr:name_id	String	The reserved field.
iops	**iops** object	The disk IOPS information. This parameter is returned only for a general purpose SSD V2 or an extreme SSD V2 disk.
throughput	**throughput** object	The disk throughput information. This parameter is returned only for a general purpose SSD V2 disk.

Table 8-62 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.

Parameter	Type	Description
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 8-63 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. **NOTE** Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrough	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Table 8-64 iops

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The ID of the disk IOPS.
total_val	Integer	The IOPS.

Parameter	Type	Description
volume_id	String	The disk ID.

Table 8-65 throughput

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The throughput ID.
total_val	Integer	The throughput.
volume_id	String	The disk ID.

Table 8-66 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 8-67 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-68 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/v3/{project_id}/volumes/detail?status=available
```

Example Responses

Status code: 200

OK

```
{
  "volumes" : [ {
    "attachments" : [ ],
    "availability_zone" : "az-dc-1",
    "bootable" : "false",
    "consistencygroup_id" : null,
    "created_at" : "2016-05-25T02:42:10.856332",
    "description" : null,
    "encrypted" : false,
    "id" : "b104b8db-170d-441b-897a-3c8ba9c5a214",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
b104b8db-170d-441b-897a-3c8ba9c5a214",
      "rel" : "bookmark"
    } ],
    "metadata" : { },
    "name" : "zjb_u25_test",
    "os-vol-host-attr:host" : "pod01.xxx#SATA",
    "volume_image_metadata" : { },
    "os-vol-mig-status-attr:migstat" : null,
    "os-vol-mig-status-attr:name_id" : null,
    "os-vol-tenant-attr:tenant_id" : "dd14c6ac581f40059e27f5320b60bf2f",
    "os-volume-replication:extended_status" : null,
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 1,
    "snapshot_id" : null,
    "source_volid" : null,
    "status" : "available",
    "updated_at" : "2016-05-25T02:42:22.341984",
    "user_id" : "b0524e8342084ef5b74f158f78fc3049",
    "volume_type" : "SATA"
  } ],
  "volumes_links" : [ {
    "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/detail?
limit=1&marker=b104b8db-170d-441b-897a-3c8ba9c5a214",
    "rel" : "next"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.4 Deleting an EVS Disk

Function

This API is used to delete an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v3/{project_id}/volumes/{volume_id}

Table 8-69 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Table 8-70 Query Parameters

Parameter	Mandatory	Type	Description
cascade	No	Boolean	Whether to delete all the snapshots created for this disk. The default value is **false**. Default: **false**

Request Parameters

Table 8-71 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 8-72 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-73 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v3/{project_id}/volumes/{volume_id}?cascade=true

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.5 Updating an EVS Disk

Function

This API is used to update an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v3/{project_id}/volumes/{volume_id}

Table 8-74 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-75 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-76 Request body parameters

Parameter	Mandatory	Type	Description
volume	Yes	**CinderUpdateVolumeOption** object	The disk information to be updated.

Table 8-77 CinderUpdateVolumeOption

Parameter	Mandatory	Type	Description
name	No	String	The disk name. You can enter up to 64 characters.
description	No	String	The disk description. You can enter up to 85 characters.
metadata	No	Map<String,String>	The disk metadata. The length of **key** or **value** under **metadata** can contain no more than 255 bytes.
display_description	No	String	The disk description. You can specify either **description** or **display_description**. If they are both specified, the **description** value is used. You can enter up to 85 characters.
display_name	No	String	The disk name. You can specify either **name** or **display_name**. If they are both specified, the **name** value is used. You can enter up to 64 characters.

Response Parameters

Status code: 200

Table 8-78 Response body parameters

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	The attachment information.
availability_zone	String	The AZ to which the disk belongs.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
encrypted	Boolean	This field is currently not supported.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The disk description.
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. **SATA**: the common I/O type **SAS**: the high I/O type **GPSSD**: the general purpose SSD type **SSD**: the ultra-high I/O type **ESSD**: the extreme SSD type **GPSSD2**: the general purpose SSD V2 type **ESSD2**: the extreme SSD V2 type If the specified disk type is not available in the AZ, the disk will fail to be created.
replication_status	String	The reserved field.

Parameter	Type	Description
consistencygroup_id	String	The ID of the consistency group where the disk belongs.
source_volid	String	The source disk ID. This field is currently not supported.
snapshot_id	String	The snapshot ID.
metadata	**VolumeMetadata** object	The metadata.
size	Integer	The disk size, in GiB.
user_id	String	The ID of the user that uses the disk.
updated_at	String	The time when the disk was updated.
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable. **true**: The disk is shareable. **false**: The disk is not shareable.
storage_cluster_id	String	The reserved field.

Table 8-79 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 8-80 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.

Parameter	Type	Description
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 8-81 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. NOTE Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.
hw:passthrough	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported. If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands. If this parameter is not available, the disk device type is VBD.

Status code: 400

Table 8-82 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-83 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
PUT https://{endpoint}/v3/{project_id}/volumes/{volume_id}

{
  "volume" : {
    "name" : "test_volume",
    "description" : "test"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "volume" : {
    "attachments" : [ ],
    "availability_zone" : "az-dc-1",
    "bootable" : "false",
    "consistencygroup_id" : null,
    "created_at" : "2016-05-25T02:38:40.392463",
    "description" : "create for api test",
    "encrypted" : false,
    "id" : "8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/5dd0b0056f3d47b6ab4121667d35621a/volumes/
8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/5dd0b0056f3d47b6ab4121667d35621a/volumes/
8dd7c486-8e9f-49fe-bceb-26aa7e312b66",
      "rel" : "bookmark"
    } ],
    "metadata" : {
      "volume_owner" : "openapi"
    },
    "name" : "openapi_vol01",
    "replication_status" : "disabled",
    "multiattach" : false,
    "size" : 40,
    "snapshot_id" : null,
    "source_volid" : null,
    "status" : "creating",
    "updated_at" : null,
    "user_id" : "39f6696ae23740708d0f358a253c2637",
    "volume_type" : "SATA"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.6 Querying EVS Disk Types

Function

This API is used to query EVS disk types.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/types

Table 8-84 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 8-85 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	No	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-86 Response body parameters

Parameter	Type	Description
volume_types	Array of **VolumeType** objects	The list of returned disk types.

Table 8-87 VolumeType

Parameter	Type	Description
id	String	The disk type ID.
name	String	The disk type name.
extra_specs	**VolumeTypeExtraSpecs** object	The disk type flavor.
description	String	The disk type description.
qos_specs_id	String	The reserved field.
is_public	Boolean	The reserved field.

Table 8-88 VolumeTypeExtraSpecs

Parameter	Type	Description
RESKEY:availability_zones	String	The list of AZs where the disk type is supported. Elements in the list are separated by commas (,). If this parameter is not specified, the disk type is supported in all AZs.
availability-zone	String	The reserved field.
os-vendor-extended:sold_out_availability_zones	String	The list of AZs where the disk type has been sold out. Elements in the list are separated by commas (,).
volume_backend_name	String	The reserved field.
HW:availability_zone	String	The reserved field.

Status code: 400

Table 8-89 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-90 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/v3/{project_id}/types
```

Example Responses

Status code: 200

OK

```
{
  "volume_types" : [ {
    "extra_specs" : {
      "volume_backend_name" : "SAS",
      "availability-zone" : "az-dc-1",
      "RESKEY:availability_zones" : "az-dc-1,az-dc-2",
      "os-vendor-extended:sold_out_availability_zones" : "az-dc-2"
    },
    "name" : "SAS",
    "qos_specs_id" : null,
    "id" : "6c81c680-df58-4512-81e7-ecf66d160638",
    "is_public" : true,
    "description" : null
  }, {
    "extra_specs" : {
      "volume_backend_name" : "SATA",
      "availability-zone" : "az-dc-1",
      "RESKEY:availability_zones" : "az-dc-1,az-dc-2",
      "os-vendor-extended:sold_out_availability_zones" : "az-dc-2"
    },
    "name" : "SATA",
    "qos_specs_id" : "585f29d6-7147-42e7-bfb8-ca214f640f6f",
    "is_public" : true,
    "id" : "ea6e3c13-aac5-46e0-b280-745ed272e662",
    "description" : null
  }, {
    "extra_specs" : {
      "volume_backend_name" : "SSD",
      "availability-zone" : "az-dc-1",
      "RESKEY:availability_zones" : "az-dc-1,az-dc-2",
      "os-vendor-extended:sold_out_availability_zones" : "az-dc-2"
    },
    "name" : "SSD",
    "qos_specs_id" : "39b0c29a-308b-4f86-b478-5d3d02a43837",
    "is_public" : true,
    "id" : "6f2dee9e-82f0-4be3-ad89-bae605a3d24f",
    "description" : null
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.7 Querying Details About an EVS Disk Type

Function

This API is used to query details about an EVS disk type.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/types/{type_id}

Table 8-91 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
type_id	Yes	String	The disk type ID.

Request Parameters

Table 8-92 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-93 Response body parameters

Parameter	Type	Description
volume_type	**VolumeType** object	The returned disk type.

Table 8-94 VolumeType

Parameter	Type	Description
id	String	The disk type ID.
name	String	The disk type name.
extra_specs	**VolumeTypeExtraSpecs** object	The disk type flavor.
description	String	The disk type description.
qos_specs_id	String	The reserved field.
is_public	Boolean	The reserved field.

Table 8-95 VolumeTypeExtraSpecs

Parameter	Type	Description
RESKEY:availability_zones	String	The list of AZs where the disk type is supported. Elements in the list are separated by commas (,). If this parameter is not specified, the disk type is supported in all AZs.
availability-zone	String	The reserved field.
os-vendor-extended:sold_out_availability_zones	String	The list of AZs where the disk type has been sold out. Elements in the list are separated by commas (,).
volume_backend_name	String	The reserved field.
HW:availability_zone	String	The reserved field.

Status code: 400

Table 8-96 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-97 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/types/{type_id}

Example Responses

Status code: 200

OK

```
{
  "volume_type" : {
    "extra_specs" : {
      "volume_backend_name" : "SATA",
      "availability-zone" : "az-dc-1",
      "RESKEY:availability_zones" : "az-dc-1,az-dc-2",
      "os-vendor-extended:sold_out_availability_zones" : "az-dc-2"
    },
    "name" : "SATA",
    "qos_specs_id" : null,
    "is_public" : true,
    "id" : "ea6e3c13-aac5-46e0-b280-745ed272e662",
    "description" : null
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.8 Querying EVS Disks

Function

This API is used to query EVS disks.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/volumes

Table 8-98 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 8-99 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the resource from which the pagination query starts. It is the ID of the last resource on the previous page.
name	No	String	The disk name. You can enter up to 64 characters.

Parameter	Mandatory	Type	Description
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit. If you have more than 50 disks in total, use this parameter and set it to **50** to improve the query efficiency. Examples are provided as follows: Querying 1–50 disks: GET /v2/*xxx*/volumes?limit=50 Querying 51–100 disks: GET /v2/*xxx*/volumes? offset=50&limit=50
sort_dir	No	String	The result sorting order. The default value is **desc**. **desc**: the descending order **asc**: the ascending order
sort_key	No	String	The keyword based on which the returned results are sorted. The value can be **id**, **status**, **size**, or **created_at**, and the default value is **created_at**.
offset	No	Integer	The query offset. All disks after this offset will be queried. The value must be an integer greater than 0 but less than the number of disks.
status	No	String	The disk status. For details, see **EVS Disk Status**.
metadata	No	String	The disk metadata.
availability_zone	No	String	The AZ information.

Request Parameters

Table 8-100 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-101 Response body parameters

Parameter	Type	Description
volumes	Array of **VolumeBody** objects	The list of returned disks.
volumes_links	Array of **Link** objects	The query position marker in the disk list. If only some disks are returned in this query, the URL of the last disk queried is returned. You can use this URL to continue to query the remaining disks in the next query.

Table 8-102 VolumeBody

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.
name	String	The disk name.

Table 8-103 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.

Parameter	Type	Description
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 8-104 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-105 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/volumes?status=available

Example Responses

Status code: 200

OK

```
{
  "volumes" : [ {
    "id" : "6b604cef-9bd8-4f5a-ae56-45839e6e1f0a",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
6b604cef-9bd8-4f5a-ae56-45839e6e1f0a",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
6b604cef-9bd8-4f5a-ae56-45839e6e1f0a",
      "rel" : "bookmark"
    } ],
    "name" : "zjb_u25_test"
  }, {
    "id" : "2bce4552-9a7d-48fa-8484-abbbf64b206e",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
2bce4552-9a7d-48fa-8484-abbbf64b206e",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/
```

```
2bce4552-9a7d-48fa-8484-abbbf64b206e",
      "rel" : "bookmark"
    } ],
    "name" : "zjb_u25_test"
  }, {
    "id" : "3f1b98ec-a8b5-4e92-a727-88def62d5ad3",
    "links" : [ {
      "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes/
3f1b98ec-a8b5-4e92-a727-88def62d5ad3",
      "rel" : "self"
    }, {
      "href" : "https://volume.localdomain.com:8776/dd14c6ac581f40059e27f5320b60bf2f/volumes/3f1b98ec-
a8b5-4e92-a727-88def62d5ad3",
      "rel" : "bookmark"
    } ],
    "name" : "zjb_u25_test"
  } ],
  "volumes_links" : [ {
    "href" : "https://volume.localdomain.com:8776/v2/dd14c6ac581f40059e27f5320b60bf2f/volumes?
limit=3&marker=3f1b98ec-a8b5-4e92-a727-88def62d5ad3",
    "rel" : "next"
  } ]
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.9 Querying Details About an EVS Disk

Function

This API is used to query details about an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/volumes/{volume_id}

Table 8-106 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-107 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-108 Response body parameters

Parameter	Type	Description
volume	**CinderVolumeDetail** object	The returned disk.

Table 8-109 CinderVolumeDetail

Parameter	Type	Description
id	String	The disk ID.
links	Array of **Link** objects	The disk URI.

Parameter	Type	Description
name	String	The disk name.
status	String	The disk status. For details, see **EVS Disk Status**.
attachments	Array of **VolumeAttachment** objects	Whether the disk is attached.
availability_zone	String	The AZ to which the disk belongs.
source_volid	String	The source disk ID. This parameter has a value if the disk is created from a source disk. This field is currently not supported.
snapshot_id	String	The snapshot ID. This parameter has a value if the disk is created from a snapshot.
description	String	The disk description.
bootable	String	Whether the disk is bootable. **true**: The disk is bootable. **false**: The disk is not bootable.
created_at	String	The time when the disk was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_type	String	The disk type. The value can be **SATA**, **SAS**, **GPSSD**, **SSD**, **ESSD**, **GPSSD2**, or **ESSD2**. ● **SATA**: the common I/O type (sold out) ● **SAS**: the high I/O type ● **GPSSD**: the general purpose SSD type ● **SSD**: the ultra-high I/O type ● **ESSD**: the extreme SSD type ● **GPSSD2**: the general purpose SSD V2 type ● **ESSD2**: the extreme SSD V2 type
metadata	**VolumeMetadata** object	The disk metadata. If **metadata** does not contain the **hw:passthrough** field, the disk device type is VBD. If **metadata** does not contain the **__system__encrypted** field, the disk is not encrypted.
size	Integer	The disk size, in GiB.
shareable	Boolean	Whether the disk is shareable. Note: This field has been deprecated. Use **multiattach**.
multiattach	Boolean	Whether the disk is shareable.

Parameter	Type	Description
os-vol-tenant-attr:tenant_id	String	The ID of the tenant to which the disk belongs. The tenant ID is the same as the project ID.
volume_image_metadata	Object	The metadata of the disk image. For details about the **volume_image_metadata** field, see **Querying Image Details (Native OpenStack API)**.
os-vol-host-attr:host	String	The reserved field.
os-volume-replication:extended_status	String	The reserved field.
consistencygroup_id	String	The reserved field.
iops	**iops** object	The disk IOPS information. This parameter is returned only for a general purpose SSD V2 or an extreme SSD V2 disk.
throughput	**throughput** object	The disk throughput information. This parameter is returned only for a general purpose SSD V2 disk.
updated_at	String	The time when the disk was updated.
replication_status	String	The reserved field.
user_id	String	The reserved field.
encrypted	Boolean	The reserved field.

Table 8-110 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 8-111 VolumeAttachment

Parameter	Type	Description
attached_at	String	The time when the disk was attached. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
attachment_id	String	The attachment ID.
device	String	The device name.
host_name	String	The name of the physical host housing the cloud server to which the disk is attached.
id	String	The ID of the attached disk.
server_id	String	The ID of the server to which the disk is attached.
volume_id	String	The disk ID.

Table 8-112 VolumeMetadata

Parameter	Type	Description
__system__cmkid	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes. **NOTE** Use an HTTPS request to obtain the key ID. For details, see **Querying the Key List**.
__system__encrypted	String	The encryption field in **metadata**. The value can be **0** (no encryption) or **1** (encryption). If this parameter does not appear, the disk is not encrypted.
full_clone	String	If the disk is created from a snapshot and linked cloning needs to be used, set this parameter to **0**.

Parameter	Type	Description
hw:passthrou gh	String	If this parameter is set to **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media. SCSI reservation commands are supported.
		If this parameter is set to **false**, the disk device type is VBD, which is also the default type. VBD supports only simple SCSI read/write commands.
		If this parameter is not available, the disk device type is VBD.

Table 8-113 iops

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The ID of the disk IOPS.
total_val	Integer	The IOPS.
volume_id	String	The disk ID.

Table 8-114 throughput

Parameter	Type	Description
frozened	Boolean	The frozen tag. Default: **false**
id	String	The throughput ID.
total_val	Integer	The throughput.
volume_id	String	The disk ID.

Status code: 400

Table 8-115 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-116 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/volumes/{volume_id}

https://{endpoint}/v3/{project_id}/volumes/{volume_id}

Example Responses

Status code: 200

OK

```
{
  "volume" : {
    "attachments" : [ ],
    "links" : [ {
      "href" : "https://volume.az0.dc1.domainname.com/v2/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "self"
    }, {
      "href" : "https://volume.az0.dc1.domainname.com/40acc331ac784f34842ba4f08ff2be48/volumes/
591ac654-26d8-41be-bb77-4f90699d2d41",
      "rel" : "bookmark"
    } ],
    "availability_zone" : "az-dc-1",
    "os-vol-host-attr:host" : "az-dc-1#SSD",
    "encrypted" : false,
    "multiattach" : true,
    "updated_at" : "2016-02-03T02:19:29.895237",
    "os-volume-replication:extended_status" : null,
    "replication_status" : "disabled",
    "snapshot_id" : null,
    "id" : "591ac654-26d8-41be-bb77-4f90699d2d41",
    "size" : 40,
    "user_id" : "fd03ee73295e45478d88e15263d2ee4e",
    "os-vol-tenant-attr:tenant_id" : "40acc331ac784f34842ba4f08ff2be48",
    "volume_image_metadata" : null,
    "os-vol-mig-status-attr:migstat" : null,
    "metadata" : { },
    "status" : "error_restoring",
    "description" : "auto-created_from_restore_from_backup",
    "source_volid" : null,
    "consistencygroup_id" : null,
    "os-vol-mig-status-attr:name_id" : null,
    "name" : "restore_backup_0115efb3-678c-4a9e-bff6-d3cd278238b9",
    "bootable" : "false",
    "created_at" : "2016-02-03T02:19:11.723797",
    "volume_type" : null
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.10 Querying Extension APIs

Function

This API is used to query extension APIs.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/extensions

Table 8-117 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 8-118 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-119 Response body parameters

Parameter	Type	Description
extensions	Array of **Extension** objects	The list of extended APIs.

Table 8-120 Extension

Parameter	Type	Description
alias	String	The alias of the extension.
description	String	The description.
links	Array of **Link** objects	The link of the disk transfer.
name	String	The name of the disk transfer.
updated	String	The last update time. Time format: UTC YYYY-MM-DDTHH:MM:SS.+XX.XX, in which +XX.XX is the time zone.

Table 8-121 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.

Parameter	Type	Description
rel	String	The shortcut link marker name. Default: **next**

Status code: 400

Table 8-122 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-123 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/extensions

Example Responses

Status code: 200

OK

```
{
  "extensions" : [ {
    "updated" : "2013-04-18T00:00:00+00:00",
    "name" : "SchedulerHints",
    "links" : [ ],
    "alias" : "OS-SCH-HNT",
    "description" : "Pass arbitrary key/value pairs to the scheduler."
  }, {
    "updated" : "2011-06-29T00:00:00+00:00",
    "name" : "Hosts",
    "links" : [ ],
    "alias" : "os-hosts",
    "description" : "Admin-only host administration."
  }, {
    "updated" : "2011-11-03T00:00:00+00:00",
    "name" : "VolumeTenantAttribute",
    "links" : [ ],
    "alias" : "os-vol-tenant-attr",
    "description" : "Expose the internal project_id as an attribute of a volume."
  }, {
    "updated" : "2011-08-08T00:00:00+00:00",
```

```
    "name" : "Quotas",
    "links" : [ ],
    "alias" : "os-quota-sets",
    "description" : "Quota management support."
}, {
    "updated" : "2011-08-24T00:00:00+00:00",
    "name" : "TypesManage",
    "links" : [ ],
    "alias" : "os-types-manage",
    "description" : "Types manage support."
}, {
    "updated" : "2013-07-10T00:00:00+00:00",
    "name" : "VolumeEncryptionMetadata",
    "links" : [ ],
    "alias" : "os-volume-encryption-metadata",
    "description" : "Volume encryption metadata retrieval support."
}, {
    "updated" : "2012-12-12T00:00:00+00:00",
    "name" : "Backups",
    "links" : [ ],
    "alias" : "backups",
    "description" : "Backups support."
}, {
    "updated" : "2013-07-16T00:00:00+00:00",
    "name" : "SnapshotActions",
    "links" : [ ],
    "alias" : "os-snapshot-actions",
    "description" : "Enable snapshot manager actions."
}, {
    "updated" : "2012-05-31T00:00:00+00:00",
    "name" : "VolumeActions",
    "links" : [ ],
    "alias" : "os-volume-actions",
    "description" : "Enable volume actions"
}, {
    "updated" : "2013-10-03T00:00:00+00:00",
    "name" : "UsedLimits",
    "links" : [ ],
    "alias" : "os-used-limits",
    "description" : "Provide data on limited resources that are being used."
}, {
    "updated" : "2012-05-31T00:00:00+00:00",
    "name" : "VolumeUnmanage",
    "links" : [ ],
    "alias" : "os-volume-unmanage",
    "description" : "Enable volume unmanage operation."
}, {
    "updated" : "2011-11-03T00:00:00+00:00",
    "name" : "VolumeHostAttribute",
    "links" : [ ],
    "alias" : "os-vol-host-attr",
    "description" : "Expose host as an attribute of a volume."
}, {
    "updated" : "2013-07-01T00:00:00+00:00",
    "name" : "VolumeTypeEncryption",
    "links" : [ ],
    "alias" : "encryption",
    "description" : "Encryption support for volume types."
}, {
    "updated" : "2013-06-27T00:00:00+00:00",
    "name" : "AvailabilityZones",
    "links" : [ ],
    "alias" : "os-availability-zone",
    "description" : "Describe Availability Zones."
}, {
    "updated" : "2013-08-02T00:00:00+00:00",
    "name" : "Qos_specs_manage",
    "links" : [ ],
    "alias" : "qos-specs",
```

```
      "description" : "QoS specs support."
    }, {
      "updated" : "2011-08-24T00:00:00+00:00",
      "name" : "TypesExtraSpecs",
      "links" : [ ],
      "alias" : "os-types-extra-specs",
      "description" : "Type extra specs support."
    }, {
      "updated" : "2013-08-08T00:00:00+00:00",
      "name" : "VolumeMigStatusAttribute",
      "links" : [ ],
      "alias" : "os-vol-mig-status-attr",
      "description" : "Expose migration_status as an attribute of a volume."
    }, {
      "updated" : "2012-08-13T00:00:00+00:00",
      "name" : "CreateVolumeExtension",
      "links" : [ ],
      "alias" : "os-image-create",
      "description" : "Allow creating a volume from an image in the Create Volume v1 API."
    }, {
      "updated" : "2014-01-10T00:00:00-00:00",
      "name" : "ExtendedServices",
      "links" : [ ],
      "alias" : "os-extended-services",
      "description" : "Extended services support."
    }, {
      "updated" : "2012-06-19T00:00:00+00:00",
      "name" : "ExtendedSnapshotAttributes",
      "links" : [ ],
      "alias" : "os-extended-snapshot-attributes",
      "description" : "Extended SnapshotAttributes support."
    }, {
      "updated" : "2012-12-07T00:00:00+00:00",
      "name" : "VolumeImageMetadata",
      "links" : [ ],
      "alias" : "os-vol-image-meta",
      "description" : "Show image metadata associated with the volume."
    }, {
      "updated" : "2012-03-12T00:00:00+00:00",
      "name" : "QuotaClasses",
      "links" : [ ],
      "alias" : "os-quota-class-sets",
      "description" : "Quota classes management support."
    }, {
      "updated" : "2013-05-29T00:00:00+00:00",
      "name" : "VolumeTransfer",
      "links" : [ ],
      "alias" : "os-volume-transfer",
      "description" : "Volume transfer management support."
    }, {
      "updated" : "2014-02-10T00:00:00+00:00",
      "name" : "VolumeManage",
      "links" : [ ],
      "alias" : "os-volume-manage",
      "description" : "Allows existing backend storage to be 'managed' by Cinder."
    }, {
      "updated" : "2012-08-25T00:00:00+00:00",
      "name" : "AdminActions",
      "links" : [ ],
      "alias" : "os-admin-actions",
      "description" : "Enable admin actions."
    }, {
      "updated" : "2012-10-28T00:00:00-00:00",
      "name" : "Services",
      "links" : [ ],
      "alias" : "os-services",
      "description" : "Services support."
    } ]
  }
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.11 Expanding Capacity of an EVS Disk

Function

This API is used to expand the capacity of an EVS disk.

Constraints

If the status of the to-be-expanded disk is **available**, there are no restrictions. If the status of the to-be-expanded disk is **in-use**, the restrictions are as follows:

- A shared disk cannot be expanded, which means that the value of **multiattach** must be **false**.
- The status of the server to which the disk attached must be **ACTIVE**, **PAUSED**, **SUSPENDED**, or **SHUTOFF**.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/volumes/{volume_id}/action

Table 8-124 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The ID of a non-yearly/monthly disk.

Request Parameters

Table 8-125 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-126 Request body parameters

Parameter	Mandatory	Type	Description
os-extend	Yes	**CinderResize VolumeOption** object	The capacity expansion marker.

Table 8-127 CinderResizeVolumeOption

Parameter	Mandatory	Type	Description
new_size	Yes	Integer	The new disk size, in GiB. The new disk size ranges from the original size to the maximum size (**32768** GiB for a data disk and **1024** GiB for a system disk).

Response Parameters

Status code: 400

Table 8-128 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-129 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST https://{endpoint}/v3/{project_id}/volumes/{volume_id}/action

{
 "os-extend" : {
   "new_size" : 100
  }
}
```

Example Responses

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.12 Setting Bootable Flag for an EVS Disk

Function

This API is used to set the bootable flag for an EVS disk.

Constraints

Even if this API was called to set a data disk to bootable, this data disk still cannot be used as a system disk for a cloud server.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/volumes/{volume_id}/action

Table 8-130 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-131 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-132 Request body parameters

Parameter	Mandatory	Type	Description
os-set_bootable	Yes	**CinderUpdateVolumeBootableOption** object	The bootable setting marker.

Table 8-133 CinderUpdateVolumeBootableOption

Parameter	Mandatory	Type	Description
bootable	Yes	Boolean	Whether to set the bootable flag for the disk. The value can be **true** (bootable) or **false** (non-bootable). Default: **true**

Response Parameters

Status code: 400

Table 8-134 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-135 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST https://{endpoint}/v3/{project_id}/volumes/{volume_id}/action

{
  "os-set_bootable" : {
    "bootable" : true
  }
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.13 Exporting EVS Disk Data as an Image

Function

This API is used to export data of a system or data disk as an IMS image. The exported image will be displayed in the IMS private image list and can be viewed and used.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/volumes/{volume_id}/action

Table 8-136 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-137 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-138 Request body parameters

Parameter	Mandatory	Type	Description
os-volume_upload_image	Yes	**CinderExportToImageOption** object	The image export operation marker.

Table 8-139 CinderExportToImageOption

Parameter	Mandatory	Type	Description
container_format	No	String	The container type of the exported image. The value can be **ami**, **ari**, **aki**, **ovf**, or **bare**. The default value is **bare**. Default: **bare** Enumeration values: • **ami** • **ari** • **aki** • **ovf** • **bare**

Parameter	Mandatory	Type	Description
disk_format	No	String	The format of the exported image. The value can be **vhd**, **zvhd**, **zvhd2**, **raw**, or **qcow2**. The default value is **vhd**. Default: **vhd** Enumeration values: ● **vhd** ● **zvhd** ● **zvhd2** ● **raw** ● **qcow2**
force	No	Boolean	Whether the image can be exported forcibly. The default value is **false**. If this parameter value is **false**, images cannot be forcibly exported when the disk status is **in-use**. If this parameter value is **true**, images can be forcibly exported even when the disk status is **in-use**.
image_name	Yes	String	The name of the exported image. It can contain 1 to 128 characters. It can contain letters, digits, hyphens (-), periods (.), underscores (_), and spaces.

Parameter	Mandatory	Type	Description
__os_type	No	String	The OS type of the image to be exported. Only **windows** and **linux** are supported. The default value is **linux**. This parameter setting takes effect only when the **__os_type** field is not included in **volume_image_metadata** and the disk status is **available**. If this parameter is not specified, the default value **linux** is used. Default: **linux** Enumeration values: ● **windows** ● **linux**

Response Parameters

Status code: 202

Table 8-140 Response body parameters

Parameter	Type	Description
os-volume_upload_image	**Image** object	The image export operation marker.

Table 8-141 Image

Parameter	Type	Description
container_format	String	The container type of the exported image. The value can be **ami**, **ari**, **aki**, **ovf**, or **bare**. The default value is **bare**.
disk_format	String	The format of the exported image. The value can be **vhd**, **zvhd**, **zvhd2**, **raw**, or **qcow2**. The default value is **vhd**.
display_description	String	The disk description.
id	String	The disk ID.

Parameter	Type	Description
image_id	String	The ID of the exported image.
image_name	String	The name of the exported image.
size	Integer	The disk capacity.
status	String	The disk status after the image is exported. The correct value is **uploading**.
updated_at	String	The time when the disk was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_type	**VolumeType** object	The disk type.

Table 8-142 VolumeType

Parameter	Type	Description
id	String	The disk type ID.
name	String	The disk type name.
extra_specs	**VolumeTypeExtraSpecs** object	The disk type flavor.
description	String	The disk type description.
qos_specs_id	String	The reserved field.
is_public	Boolean	The reserved field.

Table 8-143 VolumeTypeExtraSpecs

Parameter	Type	Description
RESKEY:availability_zones	String	The list of AZs where the disk type is supported. Elements in the list are separated by commas (,). If this parameter is not specified, the disk type is supported in all AZs.
availability-zone	String	The reserved field.
os-vendor-extended:sold_out_availability_zones	String	The list of AZs where the disk type has been sold out. Elements in the list are separated by commas (,).

Parameter	Type	Description
volume_backend_name	String	The reserved field.
HW:availability_zone	String	The reserved field.

Status code: 400

Table 8-144 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-145 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST https://{endpoint}/v3/{project_id}/volumes/{volume_id}/action

{
  "os-volume_upload_image" : {
    "image_name" : "sxmatch2",
    "force" : true,
    "container_format" : "bare",
    "disk_format" : "vhd",
    "__os_type" : "linux"
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "os-volume_upload_image" : {
    "status" : "uploading",
    "size" : 40,
    "id" : "16369c5d-384d-4e64-b37a-56d898769362",
    "image_id" : "c5333daa-fbc8-4d1d-bf79-b0567bb45d15",
    "image_name" : "evs-ims-test1027",
    "volume_type" : {
```

```
      "description" : "None",
      "deleted" : false,
      "created_at" : "2015-05-24T14:47:22.132268",
      "updated_at" : "2017-07-29T11:29:33.730076",
      "extra_specs" : {
        "volume_backend_name" : "<or> FusionStorage_SATA <or> FusionStorage_SAS <or>
fusionstoragesata",
        "XX:availability_zone" : "kvmxen.dc1"
      },
      "is_public" : true,
      "deleted_at" : null,
      "id" : "8247b6ed-37f0-4c48-8ef1-f0027fb332bc",
      "name" : "SATA"
    },
    "container_format" : "bare",
    "disk_format" : "vhd",
    "display_description" : "",
    "updated_at" : "2018-01-11T01:50:25.800931"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

8.2.1.14 Setting Read-Only Flag for an EVS Disk

Function

This API is used to set the read-only flag for an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/volumes/{volume_id}/action

Table 8-146 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-147 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-148 Request body parameters

Parameter	Mandatory	Type	Description
os-update_readonly_flag	Yes	**CinderUpdateVolumeReadonlyOption** object	The read-only setting marker.

Table 8-149 CinderUpdateVolumeReadonlyOption

Parameter	Mandatory	Type	Description
readonly	Yes	Boolean	Whether the disk is read-only. **true**: The disk is read-only. **false**: The disk is not read-only. Default: **true**

Response Parameters

Status code: 400

Table 8-150 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-151 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST https://{endpoint}/v3/{project_id}/volumes/{volume_id}/action

{
 "os-update_readonly_flag" : {
   "readonly" : true
 }
}
```

Example Responses

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

8.2.2 Snapshot Management

8.2.2.1 Creating an EVS Snapshot

Function

This API is used to create an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/snapshots

Table 8-152 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 8-153 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-154 Request body parameters

Parameter	Mandatory	Type	Description
snapshot	Yes	**CinderCreate SnapshotOption** object	The information of the snapshot to be created.

Table 8-155 CinderCreateSnapshotOption

Parameter	Mandatory	Type	Description
volume_id	Yes	String	The ID of the snapshot's source disk. To obtain the disk ID, see **Querying Details About All Disks**.
description	No	String	The snapshot description. The value can be **null**. You can enter up to 85 characters.
force	No	Boolean	The flag for forcibly creating the snapshot. The default value is **false**. If this parameter value is **false**, snapshots cannot be forcibly created when the disk status is **attaching**. If this parameter value is **true**, snapshots can be forcibly created even when the disk status is **attaching**.
metadata	No	Map<String,String>	The snapshot metadata.
name	No	String	The snapshot name. You can enter up to 64 characters. **NOTE** When a backup is created for a disk, a snapshot will also be created and named with the **autobk_snapshot_** prefix. Operations cannot be performed on such snapshots. Therefore, you are advised not to use **autobk_snapshot_** as the prefix of snapshot names to avoid any inconvenience.

Response Parameters

Status code: 202

Table 8-156 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotSummary** object	The snapshot information.

Table 8-157 SnapshotSummary

Parameter	Type	Description
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The snapshot description.
id	String	The snapshot ID.
metadata	Map<String,String>	The snapshot metadata. If **metadata** contains the **__system__enableActive** field, the snapshot is auto-generated snapshot created during a server backup.
name	String	The snapshot name.
size	Integer	The snapshot size, in GiB.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_id	String	The ID of the snapshot's source disk.

Status code: 400

Table 8-158 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-159 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST https://{endpoint}/v3/{project_id}/snapshots

{
  "snapshot" : {
    "name" : "snap-001",
    "description" : "Daily backup",
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "force" : false,
    "metadata" : { }
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "snapshot" : {
    "status" : "creating",
    "description" : "Daily backup",
    "created_at" : "2013-02-25T03:56:53.081642",
    "metadata" : { },
    "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "size" : 1,
    "id" : "ffa9bc5e-1172-4021-acaf-cdcd78a9584d",
    "name" : "snap-001",
    "updated_at" : "2013-02-25T03:56:53.081642"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

8.2.2.2 Querying Details About an EVS Snapshot

Function

This API is used to query details about an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/snapshots/{snapshot_id}

Table 8-160 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 8-161 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-162 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotDetail** object	The snapshot information.

Table 8-163 SnapshotDetail

Parameter	Type	Description
id	String	The snapshot ID.
name	String	The snapshot name. Snapshots whose names started with the **autobk_snapshot_** prefix are automatically created by the system when backups are created. Such snapshots cannot be deleted or used to roll back data.
description	String	The snapshot description.
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
updated_at	String	The time when the snapshot was updated.
metadata	Map<String,String>	The snapshot metadata.
volume_id	String	The ID of the snapshot's source disk.
size	String	The snapshot size, in GiB.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
os-extended-snapshot-attributes:progress	String	The reserved field.
os-extended-snapshot-attributes:project_id	String	The tenant ID. The tenant ID is the same as the project ID.

Status code: 400

Table 8-164 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-165 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}

Example Responses

Status code: 200

OK

```
{
  "snapshot": {
    "status": "available",
    "os-extended-snapshot-attributes:progress": "100%",
    "description": "daily backup",
    "created_at": "2013-02-25t04:13:17.000000",
    "metadata": {},
    "volume_id": "5aa119a8-d25b-45a7-8d1b-88e127885635",
    "os-extended-snapshot-attributes:project_id": "0c2eba2c5af04d3f9e9d0d410b371fde",
    "size": 1,
    "id": "2bb856e1-b3d8-4432-a858-09e4ce939389",
    "name": "snap-001",
    "updated_at": null,
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.2.3 Querying EVS Snapshots

Function

Querying EVS Snapshots

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/snapshots

Table 8-166 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 8-167 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the resource from which the pagination query starts. It is the ID of the last resource on the previous page.
offset	No	Integer	The offset. **NOTE** Note: This parameter is used when snapshots are queried by page and is used together with the **limit** parameter. For example, there are a total of 30 snapshots. If you set **offset** to **11** and **limit** to **10**, the query starts from the twelfth snapshot, and a maximum of 10 snapshots can be queried at a time.

Parameter	Mandatory	Type	Description
limit	No	Integer	The maximum number of query results that can be returned.

The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit.

If the tenant has more than 50 snapshots in total, you are advised to use this parameter and set its value to **50** to improve the query efficiency. Examples are provided as follows:

Querying 1–50 snapshots: GET /v2/xxx/snapshots? limit=50; Querying 51–100 snapshots: GET /v2/xxx/ snapshots?offset=50&limit=50 |
name	No	String	The snapshot name. This parameter does not support fuzzy match. You can enter up to 255 characters.
status	No	String	The snapshot status. For details, see **EVS Snapshot Status**.
volume_id	No	String	The ID of the snapshot's source disk.

Request Parameters

Table 8-168 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-169 Response body parameters

Parameter	Type	Description
snapshots_links	Array of **Link** objects	The query position marker in the snapshot list. This field is returned only when **limit** is specified in the request, and this field indicates that only some snapshots are returned in this query.
snapshots	Array of **SnapshotSummary** objects	The snapshot information.

Table 8-170 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 8-171 SnapshotSummary

Parameter	Type	Description
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The snapshot description.
id	String	The snapshot ID.
metadata	Map<String,String>	The snapshot metadata. If **metadata** contains the **__system__enableActive** field, the snapshot is auto-generated snapshot created during a server backup.
name	String	The snapshot name.
size	Integer	The snapshot size, in GiB.

Parameter	Type	Description
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_id	String	The ID of the snapshot's source disk.

Status code: 400

Table 8-172 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-173 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/snapshots?status=available

Example Responses

Status code: 200

OK

```
{
  "snapshots" : [ {
    "created_at" : "2016-02-16T16:54:14.981520",
    "description" : null,
    "id" : "b836dc3d-4e10-4ea4-a34c-8f6b0460a583",
    "metadata" : { },
    "name" : "test01",
    "size" : 1,
    "status" : "available",
    "volume_id" : "ba5730ea-8621-4ae8-b702-ff0ffc12c209",
    "updated_at" : null
  }, {
    "created_at" : "2016-02-16T16:54:19.475397",
    "description" : null,
```

```
    "id" : "83be494d-329e-4a78-8ac5-9af900f48b95",
    "metadata" : { },
    "name" : "test02",
    "size" : 1,
    "status" : "available",
    "volume_id" : "ba5730ea-8621-4ae8-b702-ff0ffc12c209",
    "updated_at" : null
  }, {
    "created_at" : "2016-02-16T16:54:24.367414",
    "description" : null,
    "id" : "dd360f46-7593-4d35-8f2c-5566fd0bd79e",
    "metadata" : { },
    "name" : "test03",
    "size" : 1,
    "status" : "available",
    "volume_id" : "ba5730ea-8621-4ae8-b702-ff0ffc12c209",
    "updated_at" : null
  }, {
    "created_at" : "2016-02-16T16:54:29.766740",
    "description" : null,
    "id" : "4c29796a-8cf4-4482-9afc-e66da9a81240",
    "metadata" : { },
    "name" : "test04",
    "size" : 1,
    "status" : "available",
    "volume_id" : "ba5730ea-8621-4ae8-b702-ff0ffc12c209",
    "updated_at" : null
  } ],
  "snapshots_links" : null
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.2.4 Querying Details About EVS Snapshots

Function

This API is used to query details about EVS snapshots.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/snapshots/detail

Table 8-174 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Table 8-175 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	The ID of the resource from which the pagination query starts. It is the ID of the last resource on the previous page.
volume_id	No	String	The ID of the snapshot's source disk.
limit	No	Integer	The maximum number of query results that can be returned. The value ranges from **1** to **1000**, and the default value is **1000**. The returned value cannot exceed this limit. If the tenant has more than 50 snapshots in total, you are advised to use this parameter and set its value to **50** to improve the query efficiency. Examples are provided as follows: Querying 1–50 snapshots: GET /v2/xxx/snapshots/detail?limit=50; Querying 51–100 snapshots: GET /v2/xxx/snapshots/detail?offset=50&limit=50

Parameter	Mandatory	Type	Description
name	No	String	The snapshot name. You can enter up to 255 characters.
offset	No	Integer	The offset. **NOTE** Note: This parameter is used when snapshots are queried by page and is used together with the **limit** parameter. For example, there are a total of 30 snapshots. If you set **offset** to **11** and **limit** to **10**, the query starts from the twelfth snapshot, and a maximum of 10 snapshots can be queried at a time.
status	No	String	The snapshot status. For details, see **EVS Snapshot Status**.

Request Parameters

Table 8-176 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-177 Response body parameters

Parameter	Type	Description
snapshots_links	Array of **Link** objects	The query position marker in the snapshot list. This field is returned only when **limit** is specified in the request, and this field indicates that only some snapshots are returned in this query.

Parameter	Type	Description
snapshots	Array of **SnapshotDetail** objects	The snapshot information.

Table 8-178 Link

Parameter	Type	Description
href	String	The corresponding shortcut link.
rel	String	The shortcut link marker name. Default: **next**

Table 8-179 SnapshotDetail

Parameter	Type	Description
id	String	The snapshot ID.
name	String	The snapshot name. Snapshots whose names started with the **autobk_snapshot_** prefix are automatically created by the system when backups are created. Such snapshots cannot be deleted or used to roll back data.
description	String	The snapshot description.
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
updated_at	String	The time when the snapshot was updated.
metadata	Map<String,String>	The snapshot metadata.
volume_id	String	The ID of the snapshot's source disk.
size	String	The snapshot size, in GiB.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
os-extended-snapshot-attributes:progress	String	The reserved field.

Parameter	Type	Description
os-extended-snapshot-attributes:project_id	String	The tenant ID. The tenant ID is the same as the project ID.

Status code: 400

Table 8-180 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-181 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/snapshots/detail?status=available

Example Responses

Status code: 200

OK

```
{
  "snapshots": [
    {
      "status": "available",
      "os-extended-snapshot-attributes:progress": "100%",
      "description": null,
      "created_at": "2013-06-19T07:15:29.000000",
      "metadata": {},
      "volume_id": "ae11e59c-bd56-434a-a00c-04757e1c066d",
      "os-extended-snapshot-attributes:project_id": "d6c277ba8820452e83df36f33c9fa561",
      "size": 5,
      "id": "6cd26877-3ca3-4f4e-ae2a-38cc3d6183fa",
      "name": "name_xx2-snap",
      "updated_at": null,
    },
    {
      "status": "available",
      "os-extended-snapshot-attributes:progress": "100%",
      "description": null,
```

```
      "created_at": "2013-06-19T09:08:08.000000",
      "metadata": {},
      "volume_id": "ae11e59c-bd56-434a-a00c-04757e1c066d",
      "os-extended-snapshot-attributes:project_id": "d6c277ba8820452e83df36f33c9fa561",
      "size": 5,
      "id": "b3253e26-5c37-48dd-8bf2-8795dd1e848f",
      "name": "name_xx2-snap",
      "updated_at": null,
    }
  ]
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.2.5 Updating an EVS Snapshot

Function

This API is used to update an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v3/{project_id}/snapshots/{snapshot_id}

Table 8-182 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 8-183 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-184 Request body parameters

Parameter	Mandatory	Type	Description
snapshot	Yes	**CinderUpdateSnapshotOption** object	The snapshot information to be updated.

Table 8-185 CinderUpdateSnapshotOption

Parameter	Mandatory	Type	Description
name	No	String	The snapshot name. You can enter up to 64 characters. **NOTE** When a backup is created for a disk, a snapshot will also be created and named with the **autobk_snapshot_** prefix. Operations cannot be performed on such snapshots. Therefore, you are advised not to use **autobk_snapshot_** as the prefix of snapshot names to avoid any inconvenience.

Parameter	Mandatory	Type	Description
description	No	String	The snapshot description. You can enter up to 85 characters.

Response Parameters

Status code: 200

Table 8-186 Response body parameters

Parameter	Type	Description
snapshot	**SnapshotSummary** object	The snapshot information.

Table 8-187 SnapshotSummary

Parameter	Type	Description
created_at	String	The time when the snapshot was created. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
description	String	The snapshot description.
id	String	The snapshot ID.
metadata	Map<String,String>	The snapshot metadata. If **metadata** contains the **__system__enableActive** field, the snapshot is auto-generated snapshot created during a server backup.
name	String	The snapshot name.
size	Integer	The snapshot size, in GiB.
status	String	The snapshot status. For details, see **EVS Snapshot Status**.
updated_at	String	The time when the snapshot was updated. Time format: UTC YYYY-MM-DDTHH:MM:SS.XXXXXX
volume_id	String	The ID of the snapshot's source disk.

Status code: 400

Table 8-188 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-189 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
PUT https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}

{
 "snapshot" : {
   "name" : "name_xx3",
   "description" : "hello"
 }
}
```

Example Responses

Status code: 200

OK

```
{
 "snapshot" : {
   "status" : "available",
   "description" : "Daily backup",
   "created_at" : "2013-02-25T03:56:53.081642",
   "metadata" : { },
   "volume_id" : "5aa119a8-d25b-45a7-8d1b-88e127885635",
   "size" : 1,
   "id" : "f9faf7df-fdc1-4093-9ef3-5cba06eef995",
   "name" : "snap-001",
   "updated_at" : "2013-02-25T03:56:53.081642"
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.2.6 Deleting an EVS Snapshot

Function

This API is used to delete an EVS snapshot.

Constraints

A snapshot can be deleted only when its status is **available** or **error**.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v3/{project_id}/snapshots/{snapshot_id}

Table 8-190 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 8-191 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 8-192 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-193 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad Request

Error Codes

See **Error Codes**.

8.2.3 Quota Management

8.2.3.1 Querying Detailed Quotas of a Tenant

Function

This API is used to query the detailed quotas of a tenant.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/os-quota-sets/{target_project_id}

Table 8-194 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID.
target_project_id	Yes	String	The target project ID. Set this parameter to the value of **project_id**.

Table 8-195 Query Parameters

Parameter	Mandatory	Type	Description
usage	Yes	String	Whether to query quota details. Only value **True** is supported currently. Enumeration values: • **True**

Request Parameters

Table 8-196 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-197 Response body parameters

Parameter	Type	Description
quota_set	**QuotaList** object	The returned quota information.

Table 8-198 QuotaList

Parameter	Type	Description
backup_gigab ytes	**QuotaDetailB ackupGigaby tes** object	The backup size, in GiB. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
backups	**QuotaDetailB ackups** object	The number of backups. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes	**QuotaDetail Gigabytes** object	The total capacity, in GiB. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
id	String	The project ID.
snapshots	**QuotaDetailS napshots** object	The number of snapshots. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.

Parameter	Type	Description
volumes	**QuotaDetail Volumes** object	The number of disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes_SATA	**QuotaDetail GigabytesSATA** object	The capacity (GiB) for common I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
snapshots_SATA	**QuotaDetailSnapshotsSATA** object	The number of snapshots for common I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
volumes_SATA	**QuotaDetail VolumesSATA** object	The number of common I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes_SAS	**QuotaDetail GigabytesSAS** object	The capacity (GiB) for high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
snapshots_SAS	**QuotaDetailSnapshotsSAS** object	The number of snapshots for high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
volumes_SAS	**QuotaDetail VolumesSAS** object	The number of high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes_SSD	**QuotaDetail GigabytesSSD** object	The capacity (GiB) for ultra-high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
snapshots_SSD	**QuotaDetailSnapshotsSSD** object	The number of snapshots for ultra-high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.

Parameter	Type	Description
volumes_SSD	**QuotaDetail VolumesSSD** object	The number of ultra-high I/O disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
gigabytes_GP SSD	**QuotaDetail GigabytesGP SSD** object	The capacity (GiB) for general purpose SSD disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
snapshots_GP SSD	**QuotaDetailS napshotsGPS SD** object	The number of snapshots for general purpose SSD disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
volumes_GPS SD	**QuotaDetail VolumesGPS SD** object	The number of general purpose SSD disks. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.
per_volume_g igabytes	**QuotaDetailP erVolumeGig abytes** object	The capacity quota of a disk. Sub-parameters include **reserved** (reserved quota), **limit** (maximum quota), and **in_use** (used quota). They are all made up of key-value pairs.

Table 8-199 QuotaDetailBackupGigabytes

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-200 QuotaDetailBackups

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-201 QuotaDetailGigabytes

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-202 QuotaDetailSnapshots

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-203 QuotaDetailVolumes

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-204 QuotaDetailGigabytesSATA

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-205 QuotaDetailSnapshotsSATA

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-206 QuotaDetailVolumesSATA

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-207 QuotaDetailGigabytesSAS

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-208 QuotaDetailSnapshotsSAS

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-209 QuotaDetailVolumesSAS

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-210 QuotaDetailGigabytesSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-211 QuotaDetailSnapshotsSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-212 QuotaDetailVolumesSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-213 QuotaDetailGigabytesGPSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-214 QuotaDetailSnapshotsGPSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-215 QuotaDetailVolumesGPSSD

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Table 8-216 QuotaDetailPerVolumeGigabytes

Parameter	Type	Description
in_use	Integer	The used quota.
limit	Integer	The maximum quota.
reserved	Integer	The reserved field.

Status code: 400

Table 8-217 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-218 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/v3/{project_id}/os-quota-sets/{target_project_id}?usage=True

https://{endpoint}/v3/{project_id}/os-quota-sets/{target_project_id}?usage=True
```

Example Responses

Status code: 200

OK

```
{
  "quota_set" : {
    "gigabytes_SAS" : {
      "reserved" : 0,
      "allocated" : 0,
      "limit" : -1,
      "in_use" : 21
    },
    "volumes_SATA" : {
      "reserved" : 0,
      "allocated" : 0,
      "limit" : -1,
      "in_use" : 8
    },
```

```
  "gigabytes" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : 42790,
   "in_use" : 2792
  },
  "backup_gigabytes" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : 5120,
   "in_use" : 51
  },
  "snapshots_SAS" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : -1,
   "in_use" : 0
  },
  "volumes_SSD" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : -1,
   "in_use" : 28
  },
  "snapshots" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : 10,
   "in_use" : 6
  },
  "id" : "cd631140887d4b6e9c786b67a6dd4c02",
  "volumes_SAS" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : -1,
   "in_use" : 2
  },
  "snapshots_SSD" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : -1,
   "in_use" : 0
  },
  "volumes" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : -1,
   "in_use" : 108
  },
  "gigabytes_SATA" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : -1,
   "in_use" : 168
  },
  "backups" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : 100,
   "in_use" : 10
  },
  "gigabytes_SSD" : {
   "reserved" : 0,
   "allocated" : 0,
   "limit" : -1,
   "in_use" : 1085
  },
  "snapshots_SATA" : {
   "reserved" : 0,
```

```
    "allocated" : 0,
    "limit" : -1,
    "in_use" : 0
  }
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.4 Disk Metadata Management

8.2.4.1 Adding Metadata of an EVS Disk

Function

This API is used to add the metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/volumes/{volume_id}/metadata

Table 8-219 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-220 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-221 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	**Metadata** object	The metadata to be updated. For details, see **Parameter in the metadata field**. **key** or **value** under **metadata** can contain no more than 255 bytes.

Table 8-222 Metadata

Parameter	Mandatory	Type	Description
__system__encrypted	No	String	The encryption field in **metadata**. **0**: no encryption **1**: encryption If this parameter does not appear, the disk is not encrypted.

Parameter	Mandatory	Type	Description
__system__cmkid	No	String	The encryption CMK ID in **metadata**. This parameter is used together with **__system__encrypted** for encryption. The length of **cmkid** is fixed at 36 bytes.
hw:passthrough	No	String	The parameter that describes the disk device type in **metadata**. ● If this parameter value is **true**, the disk device type is SCSI, which allows ECS OSs to directly access the underlying storage media and supports SCSI reservation commands. ● If this parameter value is **false**, the disk device type is VBD, which supports only simple SCSI read/write commands. ● If this parameter does not appear, the disk device type is VBD.
full_clone	No	String	The clone method. When the disk is created from a snapshot, value **0** indicates the linked cloning method.

Response Parameters

Status code: 200

Table 8-223 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 8-224 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-225 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST https://{endpoint}/v3/{project_id}/volumes/{volume_id}/metadata

{
 "metadata" : {
   "key1" : "value1",
   "key2" : "value2"
 }
}
```

Example Responses

Status code: 200

OK

```
{
 "metadata" : {
   "key1" : "value1",
   "key2" : "value2"
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.4.2 Querying One Piece of Metadata of an EVS Disk

Function

This API is used to query one piece of metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/volumes/{volume_id}/metadata/{key}

Table 8-226 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.
key	Yes	String	The key of the metadata to be queried.

Request Parameters

Table 8-227 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-228 Response body parameters

Parameter	Type	Description
meta	Map<String,String>	A piece of snapshot metadata, which is made up of a key-value pair.

Status code: 400

Table 8-229 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-230 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/volumes/{volume_id}/metadata/{key}

Example Responses

Status code: 200

OK

```
{
  "meta" : {
    "key1" : "value1"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.4.3 Updating One Piece of Metadata of an EVS Disk

Function

This API is used to update one piece of metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v3/{project_id}/volumes/{volume_id}/metadata/{key}

Table 8-231 Path Parameters

Parameter	Mandatory	Type	Description
key	Yes	String	The key of the metadata to be updated.
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-232 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-233 Request body parameters

Parameter	Mandatory	Type	Description
meta	Yes	Map<String,String>	The metadata to be updated.

Response Parameters

Status code: 200

Table 8-234 Response body parameters

Parameter	Type	Description
meta	Map<String,String>	A piece of snapshot metadata, which is made up of a key-value pair.

Status code: 400

Table 8-235 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-236 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
PUT https://{endpoint}/v3/{project_id}/volumes/{volume_id}/metadata/{key}

{
  "meta" : {
    "key1" : "value1"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "meta" : {
    "key1" : "value1"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK

Status Code	Description
400	Bad Request

Error Codes

See **Error Codes**.

8.2.4.4 Updating Metadata of an EVS Disk

Function

This API is used to update the metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v3/{project_id}/volumes/{volume_id}/metadata

Table 8-237 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.

Request Parameters

Table 8-238 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-239 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	Map<String,String>	The metadata to be updated. For details, see **Parameter in the metadata field**. **key** or **value** under **metadata** can contain no more than 255 bytes.

Response Parameters

Status code: 200

Table 8-240 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 8-241 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-242 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
PUT https://{endpoint}/v3/{project_id}/volumes/{volume_id}/metadata

{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
```

```
  }
 }
```

Example Responses

Status code: 200

OK

```
{
 "metadata" : {
   "key1" : "value1",
   "key2" : "value2"
 }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.4.5 Deleting One Piece of Metadata of an EVS Disk

Function

This API is used to delete one piece of metadata of an EVS disk.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v3/{project_id}/volumes/{volume_id}/metadata/{key}

Table 8-243 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
volume_id	Yes	String	The disk ID.
key	Yes	String	The key of the metadata to be deleted. For details about how to obtain the value, see [Querying Metadata of an EVS Disk] (https://support.huaweicloud.com/intl/en-us/api-evs/evs_04_3039.html).

Request Parameters

Table 8-244 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 8-245 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-246 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v3/{project_id}/volumes/{volume_id}/metadata/{key}

Example Responses

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.5 Snapshot Metadata Management

8.2.5.1 Deleting One Piece of Metadata of an EVS Snapshot

Function

This API is used to delete one piece of metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

DELETE /v3/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Table 8-247 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.
key	Yes	String	The key of the metadata to be deleted.

Request Parameters

Table 8-248 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 400

Table 8-249 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-250 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

DELETE https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Example Responses

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.5.2 Adding the Metadata of an EVS Snapshot

Function

This API is used to add the metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

POST /v3/{project_id}/snapshots/{snapshot_id}/metadata

Table 8-251 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 8-252 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-253 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	Map<String,String>	The metadata information to be added.

Response Parameters

Status code: 200

Table 8-254 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 8-255 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-256 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
POST  https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}/metadata

{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.5.3 Querying One Piece of Metadata of an EVS Snapshot

Function

This API is used to query one piece of metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Table 8-257 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.
key	Yes	String	The key of the metadata to be queried.

Request Parameters

Table 8-258 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-259 Response body parameters

Parameter	Type	Description
meta	Map<String,String>	A piece of snapshot metadata, which is made up of a key-value pair.

Status code: 400

Table 8-260 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-261 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
GET https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}/metadata/{key}
```

Example Responses

Status code: 200

OK

```
{
  "meta" : {
    "key1" : "value1"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.5.4 Querying the Metadata of an EVS Snapshot

Function

This API is used to query the metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/snapshots/{snapshot_id}/metadata

Table 8-262 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 8-263 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-264 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 8-265 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-266 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}/metadata

Example Responses

Status code: 200

OK

```
{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.5.5 Updating the Metadata of an EVS Snapshot

Function

This API is used to update the metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v3/{project_id}/snapshots/{snapshot_id}/metadata

Table 8-267 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 8-268 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-269 Request body parameters

Parameter	Mandatory	Type	Description
metadata	Yes	Map<String,String>	The metadata to be updated. For details, see **Parameter in the metadata field**.

Response Parameters

Status code: 200

Table 8-270 Response body parameters

Parameter	Type	Description
metadata	Map<String,String>	The snapshot metadata, which is made up of key-value pairs.

Status code: 400

Table 8-271 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-272 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
PUT  https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}/metadata

{
  "metadata" : {
    "key1" : "value1",
    "key2" : "value2"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "metadata" : {
    "key1" : "value1"
  }
}
```

Status code: 400

Bad Request

```
{
 "error" : {
   "message" : "XXXX",
   "code" : "XXX"
 }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.5.6 Updating One Piece of Metadata of an EVS Snapshot

Function

This API is used to update one piece of metadata of an EVS snapshot.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v3/{project_id}/snapshots/{snapshot_id}/metadata/{key}

Table 8-273 Path Parameters

Parameter	Mandatory	Type	Description
key	Yes	String	The key of the metadata to be updated.
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.
snapshot_id	Yes	String	The snapshot ID.

Request Parameters

Table 8-274 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Table 8-275 Request body parameters

Parameter	Mandatory	Type	Description
meta	Yes	Map<String,String>	The metadata to be updated.

Response Parameters

Status code: 200

Table 8-276 Response body parameters

Parameter	Type	Description
meta	Map<String,String>	A piece of snapshot metadata, which is made up of a key-value pair.

Status code: 400

Table 8-277 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-278 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

```
PUT  https://{endpoint}/v3/{project_id}/snapshots/{snapshot_id}/metadata/{key}

{
  "meta" : {
    "key1" : "value1"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "meta" : {
    "key1" : "value1"
  }
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

8.2.6 Querying AZs

8.2.6.1 Querying All AZs

Function

This API is used to query all AZs.

Calling Method

For details, see **Calling APIs**.

URI

GET /v3/{project_id}/os-availability-zone

Table 8-279 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	The project ID. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request Parameters

Table 8-280 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	The user token. It can be obtained by calling the IAM API used to obtain a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Parameters

Status code: 200

Table 8-281 Response body parameters

Parameter	Type	Description
availabilityZoneInfo	Array of **AzInfo** objects	The returned list of AZs.

Table 8-282 AzInfo

Parameter	Type	Description
zoneName	String	The AZ name.
zoneState	**ZoneState** object	The AZ status.

Table 8-283 ZoneState

Parameter	Type	Description
available	Boolean	Whether the AZ is available.

Status code: 400

Table 8-284 Response body parameters

Parameter	Type	Description
error	**Error** object	The error message returned if an error occurs.

Table 8-285 Error

Parameter	Type	Description
code	String	The error code returned if an error occurs. For details about error codes and their meanings, see **Error Codes**.
message	String	The error message returned if an error occurs.

Example Requests

GET https://{endpoint}/v3/{project_id}/os-availability-zone

Example Responses

Status code: 200

OK

```
{
  "availabilityZoneInfo" : [ {
    "zoneState" : {
      "available" : true
    },
    "zoneName" : "az-dc-1"
  } ]
}
```

Status code: 400

Bad Request

```
{
  "error" : {
    "message" : "XXXX",
    "code" : "XXX"
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request

Error Codes

See **Error Codes**.

9 Permissions and Supported Actions

9.1 Introduction

You can use Identity and Access Management (IAM) for fine-grained permissions management of your EVS resources. If your Huawei Cloud account does not need individual IAM users, you can skip this section.

New IAM users do not have any permissions assigned by default. You need to first add them to one or more groups and attach policies or roles to these groups. The users then inherit permissions from the groups and can perform specified operations on cloud services based on the permissions they have been assigned.

You can grant users permissions using **roles** and **policies**. Roles are provided by IAM to define service-based permissions that match user's job responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

> **NOTE**
>
> If you want to allow or deny the access to an API, use policy-based authorization.

Each account has all the permissions required to call all APIs, but IAM users must be granted the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user wants to query EVS disks using an API, the user must have been granted permissions that allow the **evs:volumes:list** action.

Supported Actions

EVS provides system-defined policies that can be directly used in IAM. You can also create custom policies to supplement system-defined policies for more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: statements in a policy that allow or deny certain operations
- APIs: REST APIs that can be called by a user who has been granted specific permissions

- Actions: specific operations that are allowed or denied
- Dependencies: actions which a specific action depends on. When allowing an action for a user, you also need to allow any existing action dependencies for that user.
- IAM projects/Enterprise projects: the authorization scope of a custom policy. A custom policy can be applied to IAM projects or enterprise projects or both. Policies that contain actions for both IAM and enterprise projects can be used and applied for both IAM and Enterprise Management. Policies that contain actions only for IAM projects can be used and applied to IAM only. For details about the differences between IAM and enterprise management, see **Differences Between IAM and Enterprise Management**

EVS supports the following actions that can be defined in custom policies:

- API version query actions (**API Version Query**), including actions supported by EVS version query APIs, such as the APIs for querying API versions.
- Disk actions (**Disk**), including actions supported by EVS disk APIs, such as the APIs for creating a disk, querying disks, deleting a disk, and updating a disk.
- Actions of disk actions (**Disk Action**), including actions supported by EVS disk actions, such as the APIs for expanding the capacity of a disk, exporting a disk as an image, and setting read-only flag for a disk.
- Snapshot actions (**Snapshot**), including actions supported by EVS snapshot APIs, such as the APIs for creating a snapshot, querying snapshots, updating a snapshot, and deleting a snapshot.
- Tag actions (**Tag**), including actions supported by EVS tag APIs, such as the APIs for deleting tags by key, batch adding tags, batch deleting tags, and querying tags.
- Disk transfer actions (**Disk Transfer**), including actions supported by EVS disk transfer APIs, such as the APIs for creating a disk transfer, querying disk transfers, accepting a disk transfer, and deleting a disk transfer.

9.2 API Version Query

In the following tables, √ indicates that the item is supported, and × indicates that the item is not supported.

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Query API versions (OpenStack Cinder API).	GET /	None	√	×
Query the API version (OpenStack Cinder API).	GET / {api_version}	None	√	×

☐ NOTE

If **Action** is **None**, no authorization is required.

9.3 Disk

In the following tables, √ indicates that the item is supported, and × indicates that the item is not supported.

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Create EVS disks.	POST /v2/{project_id}/cloudvolumes	evs:volumes:create	√	√
Create EVS disks (OpenStack Cinder API).	POST /v2/{project_id}/volumes	● Create empty EVS disks. evs:volumes:create evs:volumes:get ● Create EVS disks from images. evs:volumes:create ims:images:get evs:volumes:get ● Create EVS disks from snapshots. evs:volumes:create evs:snapshots:get evs:volumes:get	√	×
Expand the capacity of an EVS disk.	POST /v2/{project_id}/cloudvolumes/{volume_id}/action	evs:volumes:extend	√	√

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Query EVS disks.	GET /v2/{project_id}/cloudvolumes	evs:volumes:list	√	×
Query EVS disks (OpenStack Cinder API).	GET /v2/{project_id}/volumes	evs:volumes:list	√	×
Query details of all EVS disks.	GET /v2/{project_id}/cloudvolumes/detail	evs:volumes:list	√	√
Querying Details About All Disks	GET /v2/{project_id}/os-vendor-volumes/detail	evs:volumes:list	√	×
Query details of all EVS disks (OpenStack Cinder API).	GET /v2/{project_id}/volumes/detail	evs:volumes:list	√	×
Query details of an EVS disk.	GET /v2/{project_id}/os-vendor-volumes/{volume_id}	evs:volumes:get	√	×
Query details of an EVS disk (OpenStack Cinder API).	GET /v2/{project_id}/volumes/{volume_id}	evs:volumes:get	√	×
Delete an EVS disk.	DELETE /v2/{project_id}/cloudvolumes/{volume_id}	evs:volumes:delete	√	√
Delete an EVS disk (OpenStack Cinder API).	DELETE /v2/{project_id}/volumes/{volume_id}	evs:volumes:delete evs:volumes:get	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Update EVS disk information.	PUT /v2/{project_id}/cloudvolumes/{volume_id}	evs:volumes:update	√	√
Update EVS disk information (OpenStack Cinder API).	PUT /v2/{project_id}/volumes/{volume_id}	evs:volumes:update evs:volumes:get	√	×
Update one piece of EVS disk metadata (OpenStack Cinder API).	PUT /v2/{project_id}/volumes/{volume_id}/metadata/{key}	evs:volumes:update evs:volumes:get	√	×
Update the metadata of an EVS disk (OpenStack Cinder API).	PUT /v2/{project_id}/volumes/{volume_id}/metadata	evs:volumes:update evs:volumes:get	√	×
Query one piece of EVS disk metadata (OpenStack Cinder API).	GET /v2/{project_id}/volumes/{volume_id}/metadata/{key}	evs:volumes:get	√	×
Delete one piece of EVS disk metadata (OpenStack Cinder API).	DELETE /v2/{project_id}/volumes/{volume_id}/metadata/{key}	evs:volumes:delete evs:volumes:get	√	×
Query the metadata of an EVS disk (OpenStack Cinder API).	GET /v2/{project_id}/volumes/{volume_id}/metadata/{key}	evs:volumes:get	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Add the metadata of an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/metadata	evs:volumes:update evs:volumes:get	√	×
Query EVS disk types (OpenStack Cinder API).	GET /v2/{project_id}/types	evs:types:get	√	×
Query details of an EVS disk type (OpenStack Cinder API).	GET /v2/{project_id}/types/{type_id}	evs:types:get	√	×
Query tenant quotas (OpenStack Cinder API).	GET /v2/{project_id}/os-quota-sets/{project_id}	evs:quotas:get	√	×
Query extension APIs (OpenStack Cinder API).	GET /v2/{project_id}/extensions	None	√	×
Query information of all AZs (OpenStack Cinder API).	GET /v2/{project_id}/os-availability-zone	None	√	×

□ NOTE

If **Action** is **None**, no authorization is required.

9.4 Disk Action

In the following tables, √ indicates that the item is supported, and × indicates that the item is not supported.

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Expand the capacity of an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-extend"	evs:volumes:extend evs:volumes:get	√	×
Export the EVS disk data as an image (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-volume_upload_image"	evs:volumes:uploadImage	√	×
Attach an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-attach"	evs:volumes:attach evs:volumes:get	√	×
Detach an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-detach"	evs:volumes:detach evs:volumes:get	√	×
Reserve an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-reserve"	evs:volumes:attach	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Cancel reservation of an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-unreserve"	evs:volumes:attach	√	×
Set the bootable flag for an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-set_bootable"	evs:volumes:update	√	×
Set the read-only attribute for an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-update_readonly_flag"	evs:volumes:update	√	×

9.5 Snapshot

In the following tables, √ indicates that the item is supported, and × indicates that the item is not supported.

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Create an EVS snapshot (OpenStack Cinder API).	POST /v2/{project_id}/snapshots	evs:snapshots:create evs:volumes:get	√	×
Query EVS snapshots (OpenStack Cinder API).	GET /v2/{project_id}/snapshots	evs:snapshots:list	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Query details of EVS snapshots (OpenStack Cinder API).	GET /v2/ {project_id}/ snapshots/ detail	evs:snapshots: list	√	×
Update an EVS snapshot (OpenStack Cinder API).	PUT /v2/ {project_id}/ snapshots/ {snapshot_id}	evs:snapshots: update evs:snapshots: get	√	×
Query details about a single EVS snapshot (OpenStack Cinder API).	GET /v2/ {project_id}/ snapshots/ {snapshot_id}	evs:snapshots: get	√	×
Delete an EVS snapshot (OpenStack Cinder API).	DELETE /v2/ {project_id}/ snapshots/ {snapshot_id}	evs:snapshots: delete evs:snapshots: get evs:volumes:g et	√	×
Roll back a snapshot to an EVS disk.	POST /v2/ {project_id}/o s-vendor-snapshots/ {snapshot_id} /rollback	evs:snapshots: rollback evs:snapshots: get evs:volumes:g et	√	×
Add the metadata of an EVS snapshot (OpenStack Cinder API).	POST /v2/ {project_id}/ snapshots/ {snapshot_id} /metadata	evs:snapshots: update evs:snapshots: get	√	×
Query the metadata of an EVS snapshot (OpenStack Cinder API).	GET /v2/ {project_id}/ snapshots/ {snapshot_id} /metadata	evs:snapshots: get	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Update one piece of EVS snapshot metadata (OpenStack Cinder API).	PUT /v2/ {project_id}/ snapshots/ {snapshot_id} /metadata/ {key}	evs:snapshots: update evs:snapshots: get	√	×
Update the metadata of an EVS snapshot (OpenStack Cinder API).	PUT /v2/ {project_id}/ snapshots/ {snapshot_id} /metadata	evs:snapshots: update evs:snapshots: get	√	×
Query one piece of EVS snapshot metadata (OpenStack Cinder API).	GET /v2/ {project_id}/ snapshots/ {snapshot_id} /metadata/ {key}	evs:snapshots: get	√	×
Delete one piece of EVS snapshot metadata (OpenStack Cinder API).	DELETE /v2/ {project_id}/ snapshots/ {snapshot_id} /metadata/ {key}	evs:snapshots: delete evs:snapshots: get	√	×

9.6 Tag

In the following tables, √ indicates that the item is supported, and × indicates that the item is not supported.

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Obtain all EVS tags of a tenant.	GET /v2/ {project_id}/ cloudvolumes /tags	● EVS disk: evs:volume Tags:list ● Backup: evs:backup Tags:list	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Batch add tags for a specified EVS disk.	POST /v2/{project_id}/cloudvolumes/{volume_id}/tags/action	evs:volumeTags:create	√	×
Batch delete tags for a specified EVS disk.	POST /v2/{project_id}/cloudvolumes/{volume_id}/tags/action	evs:volumeTags:delete	√	×
Query the tags of an EVS disk.	GET /v2/{project_id}/cloudvolumes/{volume_id}/tags	evs:volumeTags:getById	√	×
Query details of EVS disks by tag.	POST /v2/{project_id}/cloudvolumes/resource_instances/action	evs:volumeTags:get	√	×

9.7 Disk Transfer

In the following tables, √ indicates that the item is supported, and × indicates that the item is not supported.

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Create an EVS disk transfer (OpenStack Cinder API).	POST /v2/{project_id}/os-volume-transfer	evs:transfers:create	√	×
Query all EVS disk transfers of a tenant (OpenStack Cinder API).	GET /v2/{project_id}/os-volume-transfer	evs:transfers:list	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Query details of all EVS disk transfers of a tenant (OpenStack Cinder API).	GET /v2/{project_id}/os-volume-transfer/detail	evs:transfers:list	√	×
Query details of an EVS disk transfer (OpenStack Cinder API).	GET /v2/{project_id}/os-volume-transfer/{transfer_id}	evs:transfers:get	√	×
Accept an EVS disk transfer (OpenStack Cinder API).	POST /v2/{project_id}/os-volume-transfer/{transfer_id}/accept	evs:transfers:accept	√	×
Delete an EVS disk transfer (OpenStack Cinder API).	DELETE /v2/{project_id}/os-volume-transfer/{transfer_id}	evs:transfers:delete	√	×

A Appendix

A.1 Error Codes

If an error code starting with APIGW is returned after you call an API, rectify the fault by referring to the instructions provided in **API Gateway Error Codes**.

Status Code	Error Codes	Error Message	Description	Solution
400	Common.0011	query job fail.	Incorrect tenant ID. The tenant ID is actually the project ID.	Use the correct tenant ID and ensure that the tenant has desired permissions. The tenant ID is actually the project ID.
400	Common.0011	No jobs found.	jobId is empty.	Enter the correct jobId value.

Status Code	Error Codes	Error Message	Description	Solution
400	Common.0011	query job fail.	Failed to query JobVO using jobId.	Check whether the jobId value is correct. If the jobId value is correct, check whether the request is delivered to the target EVS service node. If the request has been delivered, contact customer service to locate the fault. If the request has not been delivered, contact customer service to deliver the request to the target EVS service node.
400	Common.0013	Invalid token in the header.	Failed to parse the token because the token expires or the token string is incomplete.	Obtain the token again and ensure that the token string is complete.
400	Common.0018	Invalid token in the header	The project ID in the URI is different from the project ID in the token.	Ensure that the project ID in the URI is the same as that in the token and try again.
400	EVS.0001	invalid tenant id!	Incorrect tenant ID in the URI. The tenant ID is actually the project ID.	Use the correct tenant ID.
400	EVS.0002	invalid token!	Header parameters in the HTTP request are incorrect.	Use the correct token.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.1001	null volume!	The name and description formats set in the request to update the disk are incorrect.	Enter the disk name and description in the correct format.
400	EVS.1002	invalid volume id!	Incorrect disk ID.	Enter the disk ID in the correct format.
400	EVS.1003	invalid volume name!	Incorrect disk name format.	Enter the disk name in the correct format.
400	EVS.1004	invalid volume description!	Incorrect disk description format.	Enter the disk description in the correct format.
400	EVS.1005	size of metadata is too large!	The size of the metadata set in the request to create the disk exceeds the upper limit.	Check whether the metadata is too large. The metadata size must be smaller than 1048576 bytes.
400	EVS.1006	invalid backup id!	The ID of the backup used to create the disk is incorrect.	Enter the correct backup ID.
400	EVS.1007	volume name and description can not both be empty!	Parameters name and description are incorrect.	Enter the correct disk name and description.
400	EVS.1008	null createVolume Req!	The format of the request to create the disk is incorrect.	Use the correct request format.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.1009	invalid volumeForCreate!	The body of the request to create the disk is incorrect.	Check the body of the request used to create the disk.
400	EVS.1010	invalid volume size!	Parameter size set in the request to create the disk is invalid.	Enter a valid size value.
400	EVS.1011	null extendVolumeReq!	The format of the request to expand the disk capacity is incorrect.	Use the correct request format.
400	EVS.1012	temporary volume!	You do not have the permission to access this disk.	Do not perform operations for a temporary disk as it does not allow any operation.
400	EVS.1013	request transforming failed!	Request conversion error.	Check whether the request body is correct.
400	EVS.1014	volume can not be extended!	Failed to meet the capacity expansion requirements.	Ensure that the disk meets the expansion requirements.
400	EVS.1015	new volume Size must be greater than old Size!	The new size of the disk is incorrect.	Ensure that the new disk capacity is larger than the original disk capacity.
400	EVS.1016	Invalid input received: May specify only one of imageRef, snapshot_id, backup_id!	Only one data source among image, snapshot, and backup can be selected when creating a disk from a data source.	Select one data source.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.1017	when administrator, orderId must not be empty!	Parameter orderId set in the request to expand the yearly/monthly-billed disk is incorrect.	Enter the correct orderId value.
400	EVS.1018	Type conversion error , parameter type is unexpected	Type conversion error. The parameter type is unexpected.	Check whether the input parameters are correct. For details about the parameter requirements, see the Elastic Volume Service API Reference.
400	EVS.1020	invalid volume type!	The disk type set in the request to create the disk is incorrect.	Enter a valid disk type.
400	EVS.1021	the quantity of volume is invalid!	The disk quantity set in the request to batch create disks is incorrect.	Enter a valid disk quantity.
400	EVS.1022	the size param is less than backup size!	Parameter size set in the request to create the disk using a backup is incorrect.	Ensure that the entered disk size is larger than the backup size.
400	EVS.1023	invalid filter limit!	Parameter limit in the URL for querying the disk is incorrect.	Ensure that the limit value ranges from 1 to 1000. The default value is 1000.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.1024	invalid filter marker!	Parameter marker in the URL for querying the disk is incorrect.	Ensure that the marker value is in the UUID format.
400	EVS.1025	url encoding failed!	Metadata decoding error.	Check whether parameter metadata is correctly specified.
400	EVS.1031	invalid resources status!	Input value of parameter resources status is invalid.	Specify a valid value for resources status.
400	EVS.1032	invalid resources ID!	Parameter resources id cannot be left empty.	Specify a valid value for resources id.
400	EVS.1033	query quota failed!	Failed to query the tenant quota.	Check whether the tenant quota is configured.
400	EVS.1034	volume count exceeded volume count quota!	Insufficient disk quantity quota assigned to the tenant.	Apply for a higher disk quantity quota.
400	EVS.1035	periodic volume can not be deleted!	Disks billed in yearly/ monthly mode cannot be deleted.	Try again later or contact customer service.
400	EVS.1036	invalid availability zone!	Parameter availability_zone set in the request to create the disk is incorrect.	Enter the correct AZ.
400	EVS.1039	invalid sort_key!	Input parameter sort_key is incorrect.	Check whether parameter sort_key is correctly specified.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.1040	invalid sort_dir!	Parameter sort_dir in the URL for querying the disk is incorrect.	Ensure that the sort_dir value is desc or asc.
400	EVS.1041	invalid filter availablity-zone!	Parameter availability-zone in the URL for querying the disk is incorrect.	Check whether the AZ specified in the request is valid.
400	EVS.1042	volume gigabytes exceeded volume gigabytes quota!	Insufficient disk capacity quota assigned to the tenant.	Increase the disk capacity quota.
400	EVS.1043	encrypt and cmk and passthrougth in metadata is not support when create volume from snapshot or image!	Parameters __system__encrypted, __system__cmkid, and hw:passthrough are not supported when a disk is created from an image or a snapshot.	Check whether the request body is correct. For details, see the metadata field description for creating disks.
400	EVS.1044	backup status must be available when create a volume from it!	The backup cannot be used to create a disk.	The backup is unavailable.
400	EVS.1045	backupDetail returned by FSP is null!	Failed to query the backup details.	Contact customer service.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.1046	volume status must be available, error, error_extending, error_restoring, error_rollbacking when delete volume!	Failed to delete the disk because the disk status is incorrect.	Contact customer service.
400	EVS.1047	snapshot status must be available or error when delete snapshot!	Failed to delete the snapshot because the snapshot status is incorrect.	Contact customer service.
400	EVS.1048	volume status must be available when extend volume!	Failed to expand the disk capacity because the disk status is incorrect.	Ensure that the disk status meets the expansion requirements.
400	EVS.1049	available-zone is not equal to backup available-zone!	The backup used to create the disk is in the incorrect AZ.	The backup and the disk to be created must in the same AZ.
400	EVS.1051	can not batch create volume from backup!	Batch creating disks from a backup is not available.	Batch creating disks from a backup is not available.
400	EVS.1052	invalid http body!	Request conversion error.	Check whether the request body is correct.
400	EVS.1053	the size of volumes to be deleted is too large!	Too many disks are specified in the request for batch deleting disks.	Reduce the number of disks specified in the batch.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.1054	invalid shareable parameter!	Input parameter shareable is invalid.	Check whether parameter shareable is correctly specified.
400	EVS.1057	invalid hw:passthrough in metadata!	Input parameter hw:passthrough under metadata is invalid.	Check whether parameter hw:passthrough is correctly specified.
400	EVS.1058	invalid metadata filter!	Metadata decoding error.	Check whether parameter metadata is correctly specified.
400	EVS.1061	The Volume Tags is Exceed Max Limit Num.	The tag quantity of this EVS disk exceeds the upper limit.	Ensure that the tag quantity of the disk is within the upper limit.
400	EVS.1062	invalid tag!	Invalid tag.	Check the formats of the tag key and tag value and ensure that the formats are correct.
400	EVS.1063	invalid full_clone in metadata!	Input parameter full_clone under metadata is invalid.	Check whether parameter full_clone in metadata is correctly specified.
400	EVS.1064	volume status must be available or in-use when extending!	A disk can be expanded only when its status is available or in-use.	Ensure that the disk is in the available or in-use state before expansion.
400	EVS.1065	multiattach volume status must be available when extending!	A shared disk can be expanded only when its status is available.	Ensure that the shared disk is in the available state before expansion.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.1066	status of ECS or BMS does not support volume online extension!	The ECS or BMS status fails to meet the requirement of online disk expansion.	Ensure that the ECS or BMS status meets the requirement.
400	EVS.1067	Querying products info from partners failed !	Failed to purchase yearly/ monthly-billed disks.	Try again later or contact customer service.
400	EVS.1068	resize period volume failed	Failed to change the specification of a yearly/ monthly-billed disk.	Try again later or contact customer service.
400	EVS.1070	invalid request.	Request conversion error.	Check whether the request body is correct.
400	EVS.2040	The status of encrypt Key is not enable!	Incorrect key status.	Ensure that the key status is correct.
400	EVS.2041	The encrypt Param is invalid!	The input encryption parameter is invalid.	Check whether the encryption parameter in the request body is correct.
400	EVS.2043	The status of snapshot is not available or backing-up.	The snapshot status is in correct.	Ensure that the snapshot status is available or backing-up.
400	EVS.2045	invalid snapshot_id!	Input parameter snapshot_id is invalid.	Ensure that the input snapshot_id value is correct.
400	EVS.2046	invalid imageRef!	Input parameter imageRef is invalid.	Ensure that the input imageRef value is correct.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.2047	the metadata Param is not allowed to be updated!	The metadata field cannot be modified.	Ensure that the input metadata value is correct.
400	EVS.2052	the job result using order id to query is invalid!	The job corresponding to the order ID is not unique.	Try again later or contact customer service.
400	EVS.2053	The az information from request is invalid!	Input parameter availability_zone is invalid.	Ensure that the input availability_zone value is correct.
400	EVS.2054	Cannot create volume from snapshot as the az is invalid!	When the disk is created from a snapshot, the input availability_zone value of the disk is inconsistent with that of the snapshot.	Ensure that the availability_zone value of the disk is consistent with that of the snapshot.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.2055	can not create encrypt volume because hasn't xrole.	KMS access rights have not been granted to EVS.	Before you use the disk encryption function, KMS access rights need to be granted to EVS. Grant the KMS access rights to EVS on the management console. After the rights have been granted, EVS can obtain KMS keys to encrypt or decrypt EVS disks. For details about how to grant the KMS access rights, see EVS Disk Encryption in the Elastic Volume Service User Guide.
400	EVS.2059	invalid enterpriseProjectID	Invalid enterprise project ID.	Check whether the enterprise project ID is valid.
400	EVS.2068	operation failed because of volume be locked	Operations cannot be performed on locked resources.	Unlock the resource and then perform the operation.
400	EVS.2070	VolumeTypes are not supported !	Disk type does not exist.	Try again later or contact customer service.
400	EVS.2071	Invalid input received: Availability zone [%s] do not have volume type [%s]	This type of disks in the current AZ is sold out.	Try again later or contact customer service.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.2072	Volume type [SSD] in availability zone [AZ1] is sold out !	Disks of the ultra-high I/O type in AZ1 are sold out. The ultra-high I/O disk type and AZ1 are used as the sample disk type and AZ. The disk type and AZ vary depending on the actual condition.	Select another disk type or contact customer service.
400	EVS.2078	checkQuotaCapacity request body is invalid.	Request conversion error.	Check whether the request body is empty.
400	EVS.2083	AZ and volume type must not be empty or null!	The AZ or disk type parameter in the request is invalid.	Ensure that the input AZ and disk type parameters are correct.
400	EVS.2084	resource size must greater than zero!	The disk size parameter in the request is invalid.	Check whether the disk size specified in the request body is correct.
400	EVS.2085	when operation type is SPEC_CHG, resource id must not be empty or null!	The disk ID is invalid during expansion.	Check whether the disk ID specified in the request body is correct.
400	EVS.2087	retype failed. please make sure that type is supported and the new one is higher then origin	Invalid request parameter.	Ensure that the new type has higher specifications than the old type.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.2089	operation failed because the volume is belong to SDRS	The disk is used by the SDRS service.	Free the disk from SDRS or select another disk.
400	EVS.2093	operation failed because the volume is not EVS	The disk is not an EVS disk.	This operation cannot be performed because the disk is not an EVS disk.
400	EVS.2094	system image is not support to create Multiattach/ shareable volume !	A shared disk cannot be created from a system disk image.	A shared disk cannot be created from a system disk image.
400	EVS.2096	Target volumeType[%s] is not matched with snapshot[%s] !	When a disk is created from a snapshot, the disk type of the snapshot's source disk is inconsistent with that of the new disk.	Ensure that the disk type of the snapshot's source disk is consistent with that of the new disk.
400	EVS.2108	Request body is invalid.	Request conversion error.	Check whether the request body is correct.
400	EVS.2130	Volume is backing-up, forbidden deleting!	Failed to delete the disk because the snapshot is in the backing-up state when a disk backup is being created.	Wait until the backup is created or contact customer service.
400	EVS.2131	Query server info from ecs fail	Failed to query the server details.	Try again later or contact customer service.
400	EVS.2133	Server has order info, but CBC has no order info.	Failed to find the server's order information.	Try again later or contact customer service.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.2134	call ecs api - attach volume fail.	Failed to attach the disk.	Try again later or contact customer service.
400	EVS.2142	invalid filter limit, can not greater than 1000.	Request parameter limit cannot be greater than 1000.	Ensure that the limit value ranges from 1 to 1000. The default value is 1000.
400	EVS.2147	invalid bssParam.	Input parameter bssParam is invalid.	Check whether parameter bssParam is correctly specified.
400	EVS.5400	Malformed request body.	Incorrect request body parameter and format.	Check whether the parameters and format of the request body are correct.
400	EVS.5400	Malformed request url.	Incorrect request URL parameter and format.	Check whether the parameters and format of the request URL are correct.
400	EVS.5400	Request body and URI mismatch.	Request body and URI mismatch.	Check whether the request body and URI belong to the same API.
400	EVS.5400	Invalid imageRef provided.	The image is unavailable.	Select another image.
400	EVS.5400	Must specify a valid status.	The disk status is incorrect.	Specify a disk that is in the correct state.
400	EVS.5400	offset param must be an integer.	The value of parameter offset must be an integer.	Set the value of parameter offset to an integer.
400	EVS.5400	limit param must be an integer.	The value of parameter limit must be set to an integer.	Set the value of parameter limit to an integer.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.5400	limit param must be positive.	The value of parameter limit must be a positive number.	Ensure that the limit value is an integer ranging from 1 to 1000. The default value is 1000.
401	EVS.2143	You need to create an agency for this project for the first time ever	The account does not have the encryption permission.	Create an agency.
401	EVS.5401	Authentication required.	This operation is unauthorized.	Call the API after authorization.
403	EVS.0003	invalid token roles!	The token used is incorrect.	The account permission set is empty. Add the required permissions to this account.
403	EVS.1027	user role is not allowed for this action!	You do not have the rights to perform the operation.	Check whether the account has relevant permissions, or the account is in arrears, does not pass real-name authentication, or has violations.
403	EVS.2056	action in pdp check deny!	Fine-grained PDP authentication failed.	Check whether the account has relevant permissions, or the account is in arrears, does not pass real-name authentication, or has violations.

Status Code	Error Codes	Error Message	Description	Solution
403	EVS.2144	Your account is frozen and resources cannot be used.	Insufficient permission because the account is frozen.	Check whether either of the following conditions exists: (If no such condition exists, contact customer service.) The account does not pass real-name authentication. The account is in arrears.
403	EVS.2145	Your account is suspended and resources cannot be used.	Insufficient permission because the account is suspended.	Check whether one of the following conditions exists: (If no such condition exists, contact customer service.) The account payment method is not complete. The account does not pass real-name authentication. The account is in arrears.
403	EVS.5403	Policy check failed.	Insufficient permission.	Add the permission and try again.
403	EVS.5403	metadata can not be operated.	No operation permission.	Modifying parameter metadata is forbidden.
404	EVS.2044	Failed to check the role of kms.	Failed to check KMS.	Try again later or contact customer service.
404	EVS.5404	Resource(Volume, Snapshot, Backup .etc) cound not be found.	Resources, such as the disk, snapshot, and backup, do not exist.	Check whether the resources are available.

Status Code	Error Codes	Error Message	Description	Solution
413	EVS.5413	Insufficient volume quota.	Insufficient disk quotas.	Check whether the disk capacity and quantity quotas are sufficient.
500	EVS.2001	submit job failed!	Failed to submit the task.	Contact customer service.
500	EVS.2002	internal error!	The system is currently unavailable.	Contact customer service.
500	EVS.2005	client exception!	A connection exception occurs.	Contact customer service.
500	EVS.2007	update volume timeout!	Updating the metadata of the disk timed out.	Try again later or contact customer service.
500	EVS.2010	exchange token failed!	Failed to obtain the token for the tenant.	Check the user permissions.
500	EVS.2011	delete orderId and productId timeout!	Deleting order information from the disk metadata timed out.	Try again later or contact customer service.
500	EVS.2013	assume role error!	Failed to elevate the permissions.	Contact customer service.
500	EVS.2014	thread is interrupted when sleep!	Failed to escalate rights.	Try again later or contact customer service.
500	EVS.2019	snapshot is error_deleting!	Failed to delete the snapshot because the snapshot is in the error_deleting status.	Contact customer service.

Status Code	Error Codes	Error Message	Description	Solution
500	EVS.2020	volume is error_deleting !	Failed to delete the disk because the disk is in the error_deleting status.	Contact customer service.
500	EVS.2021	volume is error_detaching!	The disk status is error_detaching.	Try again later or contact customer service.
500	EVS.2023	ConnectException happened!	Network connection timed out.	Try again. If the network fails, check the network status. If the network status is abnormal, contact customer service.
500	EVS.2024	volume is error!	The status of the created disk is error.	Contact customer service.
500	EVS.2025	volume is error_restoring!	The status of the created disk is error_restoring.	Contact customer service.
500	EVS.2026	volume is error_extending!	Failed to expand the disk capacity because the disk is in the error_extending state.	Contact customer service.
500	EVS.2029	The size of joIdList and resultList are mismatched!	Incorrect subtask quantity.	Contact customer service.
500	EVS.2030	query context based on parent jobId exception!	Failed to submit the subtask again.	Contact customer service.
500	EVS.2031	result queried from context is null!	Failed to query the context.	Contact customer service.

Status Code	Error Codes	Error Message	Description	Solution
500	EVS.2032	some volume count quota usage params are null!	Failed to query the disk quantity quota assigned to the tenant.	Try again later or contact customer service.
500	EVS.2033	some volume gigabytes quota usage params are null!	Failed to query the disk capacity quota assigned to the tenant.	Try again later or contact customer service.
500	EVS.2034	domainId decoded from token is null or empty!	Token resolution failure.	Check whether the account information is correct.
500	EVS.2035	domainName decoded from token is null or empty!	Token resolution failure.	Check whether the account information is correct.
500	EVS.2036	the result of decode token is null!	Empty token.	Check whether the account information is correct.
500	EVS.2042	Failed to create cmk.	Failed to create the CMK.	Try again later or contact customer service.
500	EVS.2050	set volume Qos failed!	Failed to set the disk QoS.	Ensure that the input qos value is correct.
500	EVS.2051	failed use order id to query job!	Failed to create yearly/monthly-billed resources.	Try again later or contact customer service.
500	EVS.2105	Volume can not be reverted, because the encrypt volume's __system__cmkid is not exist!	The ID of the CMK used to encrypt the disk does not exist, or has been deleted and cannot be restored.	Contact customer service.

Status Code	Error Codes	Error Message	Description	Solution
500	EVS.5500	Internal server error.	Internal server error.	Try again later or contact customer service.
503	EVS.5503	Service unavailable.	The service is unavailable.	Try again later or contact customer service.
400	EVS.2218	invalid X-Client-Token in header	The X-Client-Token value transferred is not in the UUID format.	Convert the X-Client-Token value to the UUID format.
400	EVS.2219	url/project id/ body conflict with X-Client-Token	Inconsistent X-Client-Token value in the body, URL, and project ID.	Conflict X-Client-Token values in the body, URL, or project ID. Change them to the same value.
400	EVS.2220	idempotent request over 8 hours from the first reqeust.	Idempotent requests timed out.	The first idempotent request was sent more than 8 hours ago.
400	EVS.2221	idempotent request wait timeout, because of another same request is processing.	Idempotent request wait timed out.	Wait until earlier idempotent requests are processed.
400	EVS.2222	idempotent request query resource error.	Idempotent request query resource error.	Check whether the resource is invalid or the system is abnormal.
400	EVS.2223	idempotent request is not supprted yet.	Idempotent requests are not supported because the idempotence switch is disabled.	Enable the evs.supported.new .idempotent switch.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.2226	volume have mutil attachements, must contain server id in body.	Parameter server_id is required when a shared disk is changed to yearly/ monthly billing.	Ensure that the server_id parameter is transferred in the request body.
400	EVS.2227	volume status must be in-use when volume operate under server.	Only in-use disks can have their billing modes changed.	Ensure that the disk status is in-use.
400	EVS.2228	input volume ids must not be over 60.	More than 60 disk IDs are transferred.	Specify no more than 60 disk IDs for the volume_ids parameter in the request body.
400	EVS.2229	input server id not found at ECS.	ECS not found.	Specify a valid ECS ID.
400	EVS.2230	server is not periodic	This ECS is not a yearly/ monthly ECS.	Specify a yearly/ monthly ECS.
400	EVS.2231	invalid iops value, iops must between [%s, %s] invalid throughput value, throughput must between [%s, %s]	Unsupported IOPS and throughput values in the request.	Transfer supported IOPS and throughput values.
400	EVS.2232	ESSD2 type must input iops and not input throughput.	Only the iops parameter can be transferred for Extreme SSD V2 disks.	Do not transfer the throughput parameter.

Status Code	Error Codes	Error Message	Description	Solution
400	EVS.2233	GPSSD2 type must input iops and throughput.	Both IOPS and throughput are required for General Purpose SSD V2 disks.	Specify both IOPS and throughput for General Purpose SSD V2 disks.
400	EVS.2234	only ESSD2 and GPSSD2 can modify qos.	This API can be called to modify QoS for Extreme SSD V2 and General Purpose SSD V2 disks only.	This API can be called to modify QoS for Extreme SSD V2 and General Purpose SSD V2 disks only.
400	EVS.2235	only ESSD2 and GPSSD2 can set iops or throughput	Parameters iops and throughput are only supported for Extreme SSD V2 and General Purpose SSD V2 disks.	Transfer the iops and throughput parameters only for Extreme SSD V2 and General Purpose SSD V2 disks.
400	EVS.2236	there have volume is already periodic, can not be change.	This disk is already a yearly/monthly disk.	Transfer a pay-per-use disk.
400	EVS.2238	The maximum number of batch extend volume is 50	Maximum number of disks allowed is a batch expansion reached.	Remove some disks and try again.

A.2 Status Codes

- Normal

Status Code	Description
200	OK

Status Code	Description
201	Created
202	Accepted
204	No Content

- Abnormal

Status Code	Description
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
405	Method Not Allowed
406	Not Acceptable
407	Proxy Authentication Required
408	Request Timeout
409	Conflict
413	overLimit
415	badMediaType
500	Internal Server Error
501	Not Implemented
502	Bad Gateway
503	Service Unavailable
504	Gateway Timeout

A.3 EVS Disk Status

EVS Disk Status (API)	EVS Disk Status (Console)	Description
creating	Creating	The EVS disk is being created.
available	Available	The EVS disk has not been attached to any server, so you can attach it.

EVS Disk Status (API)	EVS Disk Status (Console)	Description
in-use	In-use	The EVS disk has been attached to a server and is in use.
error	Error	An error occurs when you try to create an EVS disk.
attaching	Attaching	The EVS disk is being attached.
detaching	Detaching	The EVS disk is being detached.
restoring-backup	Restoring	The EVS disk is being restored from a backup.
backing-up	Backing up	A backup is being created for the EVS disk.
error_restoring	Restoration failed	An error occurs when you try to restore the EVS disk from a backup.
uploading	Uploading	Data on the EVS disk is being uploaded to an image. This status occurs when you create an image from a server.
downloading	Downloading	Data is being downloaded from an image to the EVS disk. This status occurs when you create a server.
extending	Expanding	The capacity of the EVS disk is being expanded.
error_extending	Expansion failed	An error occurs when you try to expand the capacity of the EVS disk.
deleting	Deleting	The EVS disk is being deleted.
error_deleting	Deletion failed	An error occurs when you try to delete the EVS disk.

EVS Disk Status (API)	EVS Disk Status (Console)	Description
rollbacking	Rolling back	Data on the EVS disk is being restored from a snapshot. **NOTE** • When you roll back a snapshot, you can only restore the data to the original disk. Data restoration to a specific disk is not possible. • A snapshot can only be rolled back when the original disk is in the **available** or **error_rollbacking** state.
error_rollbacking	Rollback failed	An error occurs when a snapshot is being rolled back.
awaiting-transfer	Awaiting transfer	The EVS disk is awaiting for a transfer.

A.4 EVS Snapshot Status

EVS Snapshot Status	Description
creating	The EVS snapshot is being created.
available	The EVS snapshot is successfully created.
error	An error occurs when you try to create an EVS snapshot.
deleting	The EVS snapshot is being deleted.
error_deleting	An error occurs when you try to delete an EVS snapshot.
rollbacking	The EVS snapshot is rolling back data. **NOTE** • When you roll back a snapshot, you can only restore the data to the original disk. Data restoration to a specific disk is not possible. • A snapshot can only be rolled back when the original disk is in the **available** or **error_rollbacking** state.

EVS Snapshot Status	Description
backing-up	The EVS snapshot is being created from a backup via a native OpenStack API. The system is automatically creating the EVS snapshot when an EVS disk is created from a backup via an API.

A.5 API Actions

In the following tables, √ indicates that the item is supported, and × indicates that the item is not supported.

API Version Query

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Query API versions (OpenStack Cinder API).	GET /	None	√	×
Query the API version (OpenStack Cinder API).	GET / {api_version}	None	√	×

EVS Disk

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Create EVS disks.	POST /v2/ {project_id}/ cloudvolumes	evs:volumes:create	√	√

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Create EVS disks (OpenStack Cinder API).	POST /v2/{project_id}/volumes	• Create empty EVS disks. evs:volumes:create evs:volumes:get • Create EVS disks from images. evs:volumes:create ims:images:get evs:volumes:get • Create EVS disks from snapshots. evs:volumes:create evs:snapshots:get evs:volumes:get	√	×
Expand the capacity of an EVS disk.	POST /v2/{project_id}/cloudvolumes/{volume_id}/action	evs:volumes:extend	√	√
Query EVS disks.	GET /v2/{project_id}/cloudvolumes	evs:volumes:list	√	×
Query EVS disks (OpenStack Cinder API).	GET /v2/{project_id}/volumes	evs:volumes:list	√	×
Query details of all EVS disks.	GET /v2/{project_id}/cloudvolumes/detail	evs:volumes:list	√	√

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Querying Details About All Disks	GET /v2/{project_id}/os-vendor-volumes/detail	evs:volumes:list	√	×
Query details of all EVS disks (OpenStack Cinder API).	GET /v2/{project_id}/volumes/detail	evs:volumes:list	√	×
Query details of an EVS disk.	GET /v2/{project_id}/os-vendor-volumes/{volume_id}	evs:volumes:get	√	×
Query details of an EVS disk (OpenStack Cinder API).	GET /v2/{project_id}/volumes/{volume_id}	evs:volumes:get	√	×
Delete an EVS disk.	DELETE /v2/{project_id}/cloudvolumes/{volume_id}	evs:volumes:delete	√	√
Delete an EVS disk (OpenStack Cinder API).	DELETE /v2/{project_id}/volumes/{volume_id}	evs:volumes:delete evs:volumes:get	√	×
Update EVS disk information.	PUT /v2/{project_id}/cloudvolumes/{volume_id}	evs:volumes:update	√	√
Update EVS disk information (OpenStack Cinder API).	PUT /v2/{project_id}/volumes/{volume_id}	evs:volumes:update evs:volumes:get	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Update one piece of EVS disk metadata (OpenStack Cinder API).	PUT /v2/ {project_id}/ volumes/ {volume_id}/ metadata/ {key}	evs:volumes:update evs:volumes:get	√	×
Update the metadata of an EVS disk (OpenStack Cinder API).	PUT /v2/ {project_id}/ volumes/ {volume_id}/ metadata	evs:volumes:update evs:volumes:get	√	×
Query one piece of EVS disk metadata (OpenStack Cinder API).	GET /v2/ {project_id}/ volumes/ {volume_id}/ metadata/ {key}	evs:volumes:get	√	×
Delete one piece of EVS disk metadata (OpenStack Cinder API).	DELETE /v2/ {project_id}/ volumes/ {volume_id}/ metadata/ {key}	evs:volumes:delete evs:volumes:get	√	×
Query the metadata of an EVS disk (OpenStack Cinder API).	GET /v2/ {project_id}/ volumes/ {volume_id}/ metadata/ {key}	evs:volumes:get	√	×
Add the metadata of an EVS disk (OpenStack Cinder API).	POST /v2/ {project_id}/ volumes/ {volume_id}/ metadata	evs:volumes:update evs:volumes:get	√	×
Query EVS disk types (OpenStack Cinder API).	GET /v2/ {project_id}/ types	evs:types:get	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Query details of an EVS disk type (OpenStack Cinder API).	GET /v2/ {project_id}/ types/ {type_id}	evs:types:get	√	×
Query tenant quotas (OpenStack Cinder API).	GET /v2/ {project_id}/o s-quota-sets/ {project_id}	evs:quotas:get	√	×
Query extension APIs (OpenStack Cinder API).	GET /v2/ {project_id}/ extensions	None	√	×
Query information of all AZs (OpenStack Cinder API).	GET /v2/ {project_id}/o s-availability- zone	None	√	×

EVS Disk Actions

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Expand the capacity of an EVS disk (OpenStack Cinder API).	POST /v2/ {project_id}/ volumes/ {volume_id}/ action action="os- extend"	evs:volumes:e xtend evs:volumes:g et	√	×
Export the EVS disk data as an image (OpenStack Cinder API).	POST /v2/ {project_id}/ volumes/ {volume_id}/ action action="os- volume_uploa d_image"	evs:volumes:u ploadImage	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Attach an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-attach"	evs:volumes:attach evs:volumes:get	√	×
Detach an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-detach"	evs:volumes:detach evs:volumes:get	√	×
Reserve an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-reserve"	evs:volumes:attach	√	×
Cancel reservation of an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-unreserve"	evs:volumes:attach	√	×
Set the bootable flag for an EVS disk (OpenStack Cinder API).	POST /v2/{project_id}/volumes/{volume_id}/action action="os-set_bootable"	evs:volumes:update	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Set the read-only attribute for an EVS disk (OpenStack Cinder API).	POST /v2/ {project_id}/ volumes/ {volume_id}/ action action="os-update_readonly_flag"	evs:volumes:update	√	×

EVS Snapshot

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Create an EVS snapshot (OpenStack Cinder API).	POST /v2/ {project_id}/ snapshots	evs:snapshots:create evs:volumes:get	√	×
Query EVS snapshots (OpenStack Cinder API).	GET /v2/ {project_id}/ snapshots	evs:snapshots:list	√	×
Query details of EVS snapshots (OpenStack Cinder API).	GET /v2/ {project_id}/ snapshots/ detail	evs:snapshots:list	√	×
Update an EVS snapshot (OpenStack Cinder API).	PUT /v2/ {project_id}/ snapshots/ {snapshot_id}	evs:snapshots:update evs:snapshots:get	√	×
Query details about a single EVS snapshot (OpenStack Cinder API).	GET /v2/ {project_id}/ snapshots/ {snapshot_id}	evs:snapshots:get	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Delete an EVS snapshot (OpenStack Cinder API).	DELETE /v2/{project_id}/snapshots/{snapshot_id}	evs:snapshots:delete evs:snapshots:get evs:volumes:get	√	×
Roll back a snapshot to an EVS disk.	POST /v2/{project_id}/os-vendor-snapshots/{snapshot_id}/rollback	evs:snapshots:rollback evs:snapshots:get evs:volumes:get	√	×
Add the metadata of an EVS snapshot (OpenStack Cinder API).	POST /v2/{project_id}/snapshots/{snapshot_id}/metadata	evs:snapshots:update evs:snapshots:get	√	×
Query the metadata of an EVS snapshot (OpenStack Cinder API).	GET /v2/{project_id}/snapshots/{snapshot_id}/metadata	evs:snapshots:get	√	×
Update one piece of EVS snapshot metadata (OpenStack Cinder API).	PUT /v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}	evs:snapshots:update evs:snapshots:get	√	×
Update the metadata of an EVS snapshot (OpenStack Cinder API).	PUT /v2/{project_id}/snapshots/{snapshot_id}/metadata	evs:snapshots:update evs:snapshots:get	√	×
Query one piece of EVS snapshot metadata (OpenStack Cinder API).	GET /v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}	evs:snapshots:get	√	×

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Delete one piece of EVS snapshot metadata (OpenStack Cinder API).	DELETE /v2/{project_id}/snapshots/{snapshot_id}/metadata/{key}	evs:snapshots:delete evs:snapshots:get	√	×

EVS Tag

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Obtain all EVS tags of a tenant.	GET /v2/{project_id}/cloudvolumes/tags	● EVS disk: evs:volumeTags:list ● Backup: evs:backupTags:list	√	×
Batch add tags for a specified EVS disk.	POST /v2/{project_id}/cloudvolumes/{volume_id}/tags/action	evs:volumeTags:create	√	×
Batch delete tags for a specified EVS disk.	POST /v2/{project_id}/cloudvolumes/{volume_id}/tags/action	evs:volumeTags:delete	√	×
Query the tags of an EVS disk.	GET /v2/{project_id}/cloudvolumes/{volume_id}/tags	evs:volumeTags:getById	√	×
Query details of EVS disks by tag.	POST /v2/{project_id}/cloudvolumes/resource_instances/action	evs:volumeTags:get	√	×

EVS Disk Transfer

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Create an EVS disk transfer (OpenStack Cinder API).	POST /v2/ {project_id}/os-volume-transfer	evs:transfers:create	√	×
Query all EVS disk transfers of a tenant (OpenStack Cinder API).	GET /v2/ {project_id}/os-volume-transfer	evs:transfers:list	√	×
Query details of all EVS disk transfers of a tenant (OpenStack Cinder API).	GET /v2/ {project_id}/os-volume-transfer/detail	evs:transfers:list	√	×
Query details of an EVS disk transfer (OpenStack Cinder API).	GET /v2/ {project_id}/os-volume-transfer/ {transfer_id}	evs:transfers:get	√	×
Accept an EVS disk transfer (OpenStack Cinder API).	POST /v2/ {project_id}/os-volume-transfer/ {transfer_id}/ accept	evs:transfers:accept	√	×
Delete an EVS disk transfer (OpenStack Cinder API).	DELETE /v2/ {project_id}/os-volume-transfer/ {transfer_id}	evs:transfers:delete	√	×

A.6 Obtaining a Project ID

Scenarios

A project ID is required for some URLs when an API is called. Therefore, you need to obtain a project ID in advance. Two methods are available:

- **Obtain the Project ID by Calling an API**

- **Obtain the Project ID from the Console**

Obtain the Project ID by Calling an API

You can obtain a project ID by calling the API used to **query projects based on specified criteria**.

The API used to obtain a project ID is GET https://{Endpoint}/v3/projects. {Endpoint} is the IAM endpoint and can be obtained from **Regions and Endpoints**. For details about API authentication, see **Authentication**.

The following is an example response. The value of **id** is the project ID.

```
{
  "projects": [
    {
      "domain_id": "65ewtrgaggshhk1223245sghjlse684b",
      "is_domain": false,
      "parent_id": "65ewtrgaggshhk1223245sghjlse684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4adasfjljaaaakla12334jklga9sasfg"
      },
      "id": "a4adasfjljaaaakla12334jklga9sasfg",
      "enabled": true
    }
  ],
  "links": {
    "next": null,
    "previous": null,
    "self": "https://www.example.com/v3/projects"
  }
}
```

Obtain a Project ID from the Console

To obtain a project ID from the console, perform the following operations:

1. Log in to the management console.
2. Click the username and select **My Credentials** from the drop-down list.

   On the **API Credentials** page, view the project ID in the project list.
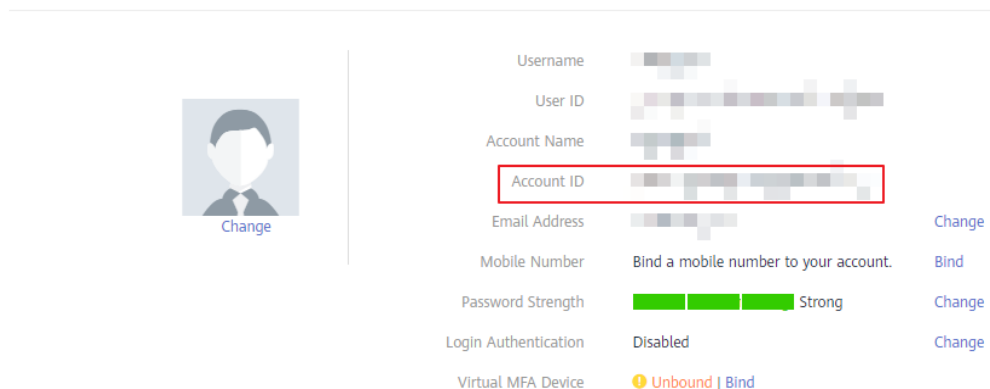
Figure A-1 Viewing the project ID
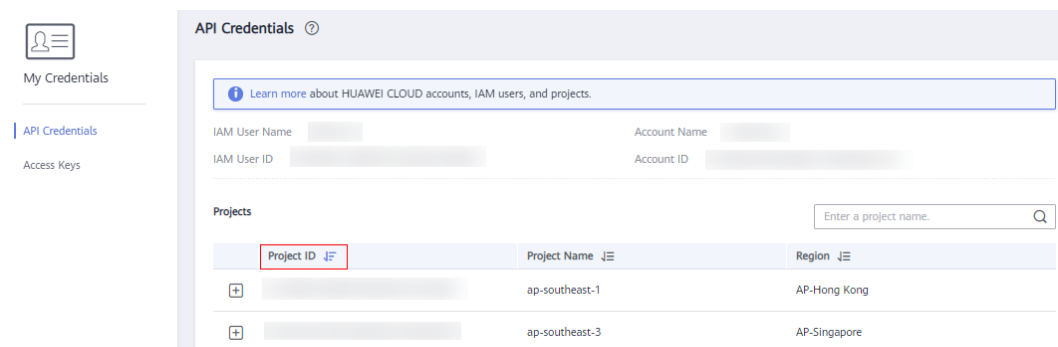
A.7 Obtaining an Account ID

An account ID is required for some URLs when an API is called. To obtain an account ID, perform the following operations:

1. Log in to the management console.

2. Click the username and choose **My Credentials** from the drop-down list.

   On the **My Credentials** page, view **Account ID**.

Figure A-2 Obtaining an account ID

B Change History

Released On	Description
2023-02-15	This issue is the eighth official release, which incorporates the following change: ● Modified the description of parameter **marker** in section **Querying Details About All Disks**.
2022-06-22	This issue is the seventh official release, which incorporates the following change: ● Optimized the descriptions.
2019-08-13	This issue is the sixth official release, which incorporates the following change: ● Added support for TMS APIs.
2018-11-19	This issue is the fifth official release, which incorporates the following change: ● Added section **API Actions**.
2018-08-30	This issue is the fourth official release, which incorporates the following change: ● Deprecated the APIs in sections **Reserving an EVS Disk (Native OpenStack API)** and **Canceling Reservation of an EVS Disk (Native OpenStack API)**.
2018-06-30	This issue is the third official release, which incorporates the following changes: ● Deleted the constraints in section **Exporting EVS Disk as an Image**. ● Added chapter **EVS Disk Transfer**.

Released On	Description
2018-01-22	This issue is the second official release, which incorporates the following changes: • Added the disk sharing function and the description for the **multiattach** parameter. • Added the SCSI feature and added the parameter description for the **hw:passthrough** parameter.
2017-12-31	This issue is the first official release.