

Scalable File Service

API Reference (Paris)

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1 Before You Start

1.1 Overview

Welcome to *Scalable File Service API Reference*. Scalable File Service (SFS) is a network attached storage (NAS) service that provides scalable, high-performance file storage. With SFS, you can enjoy shared file access spanning multiple Elastic Cloud Servers (ECSs), Bare Metal Servers (BMSs), and containers created on Cloud Container Engine (CCE).

This document describes how to use application programming interfaces (APIs) to perform operations on SFS resources, such as creating, querying, deleting, and updating a file system. For details about all supported operations, see [API Overview](#).

If you plan to access SFS through an API, ensure that you are familiar with SFS concepts. For details, see section "Service Overview" in the *Scalable File Service User Guide*.

1.2 API Calling

SFS supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS requests. 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 SFS, see [Regions and Endpoints](#).

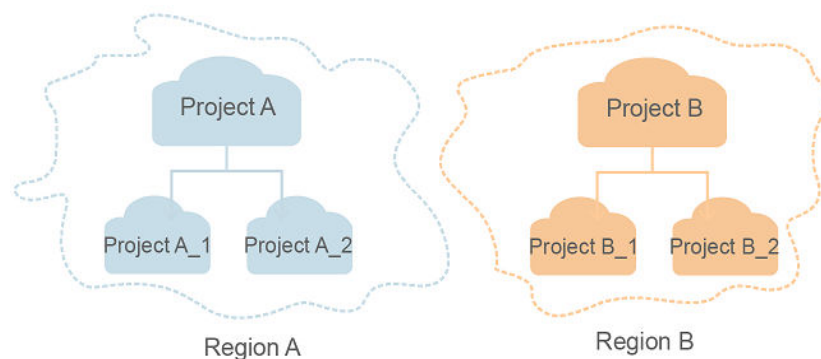
1.4 Constraints

- The numbers of file systems that you can create and their capacities are determined by your quotas. To view or increase the quotas, see the "Quotas" section in the *Scalable File Service User Guide*.
- For more constraints, see API description.

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**
A region is a geographic area in which cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other. Deploying cloud resources in different regions can better suit certain user requirements or comply with local laws or regulations.
- **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



2 API Overview

APIs provided by SFS include SFS APIs, SFS Turbo APIs, and native OpenStack APIs.

The call frequency limit of SFS Capacity-Oriented APIs is 400 calls/minute. If you call a large number of APIs at a time, some APIs may fail to be called. You are advised to evenly arrange API calls.

Some SFS Capacity-Oriented APIs are the same as those provided by OpenStack Manila of the Mitaka version. For details about how to use them, visit the community:

<https://docs.openstack.org/api-ref/shared-file-system/>

If the description about an API in this document differs from that in the community, the description in this document is used.

SFS Capacity-Oriented APIs

Table 2-1 API overview

File System Type	Type	Subtype	Description
SFS	Native OpenStack API	API version queries	You can use APIs in this category to query the versions and details of all APIs.
		File systems	You can use APIs in this category to create shared file systems and obtain detailed information about them, such as the shared paths.
		File system access rules	You can use APIs in this category to add, modify, and delete file system access rules, such as configuring VPC.
		Quota management	If the number of created shared file systems reaches the upper limit, you can increase quota by using APIs in this category.

File System Type	Type	Subtype	Description
		Capacity expansion and reduction	If you want to change the capacity of a created shared file system, you can use APIs in this category to expand or reduce the capacity.

SFS Turbo APIs

By using the SFS Turbo APIs, you can create, delete, query SFS Turbo file systems as well as expanding the capacity of an SFS Turbo file system.

Table 2-2 API overview

Type	Subtype	Description
SFS Turbo API	Lifecycle management	Include creating file systems, deleting file systems, querying file system lists, and querying file system details.
SFS Turbo API	Storage capacity management	Expand the capacity of a specified file system.
SFS Turbo API	Connection management	Change the security group bound to an SFS Turbo file system.

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 .
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 <i>Parameter name=Parameter value</i> . For example, ?limit=10 indicates that a maximum of 10 data records will be displayed.

 **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://{{endpoint}}/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 <i>Hostname:Port number</i> . 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	<p>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).</p> <p>After the request is processed, the value of X-Subject-Token in the response header is the token value.</p>	<p>No</p> <p>This field is mandatory for token authentication.</p>	<p>The following is part of an example token:</p> <p>MIIPAgYJKoZlhvcNAQcCo...ggg1BBIINPXsidG9rZ</p>

 **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://{{endpoint}}/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 *xxxxxxxxxxxxxxxxxxxx* (project name) with the actual values. Obtain a project name from [Regions and Endpoints](#).

 **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://{{endpoint}}/v3/auth/tokens
Content-Type: application/json
```

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

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.

IMS 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": "xxxxxxx" // 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://{{endpoint}}/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 3-1 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 3-1 Header fields of the response to the request for obtaining a user token

```
connection → keep-alive
content-type → application/json
date → Tue, 12 Feb 2019 06:52:13 GMT
server → Web Server
strict-transport-security → max-age=31536000; includeSubdomains;
transfer-encoding → chunked
via → proxy A
x-content-type-options → nosniff
x-download-options → noopen
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → [REDACTED]
x-xss-protection → 1; mode=block
```

(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 (SFS Capacity-Oriented)

Scenarios

SFS provides high-performance network-attached storage (NAS) that is scalable on demand. A shared file system can be shared with multiple Elastic Cloud Servers (ECSs) and Bare Metal Servers (BMSs). If you need a fully hosted shared file storage and want to access a file system on multiple ECSs, SFS is perfect for you.

The following describes how to call the API for [Creating a Shared File System](#). For details, see [Making an API Request](#).

Prerequisites

You need to plan the region where a file system resides and determine the endpoint for calling an API based on the region. It can be obtained from [Regions and Endpoints](#).

Creating a Shared File System

The following is the sample code about how to create a shared file system with the simplest configurations:

```
{
  "share": {
    "description": "test description",
    "share_type": "default",
    "name": "share_London",
    "metadata": {
      "key1": "value1",
      "key2": "value2"
    },
    "share_proto": "NFS",
    "size": 10,
    "is_public": false
  }
}
```

- **description:** Specifies the description of the shared file system, which adds remarks to the shared file system.
- **share_type:** Specifies the name of a share type. A share type is used to specify the type of the storage service to be allocated.
- **share_proto:** Specifies the protocol types of the shared file system.

- **name:** Specifies the custom name of the shared file system. For example, **share_London**.
- **size:** Specifies the size (in GB) of the shared file system.
- **is_public:** Specifies the visibility level of the shared file system. If it is set to **true**, the file system can be seen publicly. If it is set to **false**, the file system can be seen privately. The default value is **false**.
- **metadata:** Specifies the metadata information of the shared file system. The value consists of one or more key and value pairs organized as a dictionary of strings.

5 SFS Capacity-Oriented APIs

5.1 API Version Queries

5.1.1 Querying All API Versions

Function

This API is used to query all available versions of APIs provided by SFS.

To support function extension, SFS APIs can be distinguished by version. SFS has two types API version IDs:

Major version: Independent URL. For example: **v1** and **v2**.

Microversion: with the HTTP request header **X-Openstack-Manila-API-Version: *Microversion ID***. For example: **X-Openstack-Manila-API-Version: 2.4**.

NOTE

This API does not require authentication.

URI

- GET /
- Parameter description

None

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
- None

- Example request
GET https://{endpoint}/

Response

- Parameter description

Parameter	Type	Description
versions	Array of objects	Lists objects of all available API versions, including v1 and v2 .

- Description of the **version** field

Parameter	Type	Description
id	String	Specifies the common name of the version.
updated	String	Specifies the UTC time when the API is last modified. The format is YYYY-MM-DDTHH:MM:SSZ.
status	String	Specifies the API version status, including: <ul style="list-style-type: none"> • CURRENT: indicates that the current API is the preferred version. • SUPPORTED: indicates that the current version is an earlier version which is still supported. • DEPRECATED: indicates that the current version is a deprecated version that may be deleted later.
links	Array of objects	Specifies the links of shared file systems. For details, see the description of the links field.
media-types	Array of objects	Specifies the media types supported by the API. For details, see the description of the media-types field.
version	String	If the API in the current version supports microversions, this parameter is the latest microversion. If microversions are not supported, this parameter is an empty string.
min_version	String	If the API in the current version supports microversions, this parameter is the earliest microversion. If microversions are not supported, this parameter is an empty string.

- Description of the **links** field

Parameter	Type	Description
href	String	Specifies the API access path, which is used as a reference.
type	String	Specifies the type of the text returned by the reference API.
rel	String	Specifies the additional description on links.

- Description of the **media-types** field

Parameter	Type	Description
base	String	Specifies the basic text type.
type	String	Specifies the text type.

- Example response

```
{
  "versions": [
    {
      "status": "CURRENT",
      "updated": "2015-08-27T11:33:21Z",
      "links": [
        {
          "href": "http://docs.openstack.org/",
          "type": "text/html",
          "rel": "describedby"
        },
        {
          "href": "https://sfs.region.www.t-systems.com/v2/",
          "rel": "self"
        }
      ],
      "min_version": "2.0",
      "version": "2.28",
      "media-types": [
        {
          "base": "application/json",
          "type": "application/vnd.openstack.share+json;version=1"
        }
      ],
      "id": "v2.0"
    }
  ]
}
```

Status Codes

- Normal
300
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.

Status Code	Description
400 Bad Request	Invalid input: The post-deduction capacity must be larger than 0 and smaller than the current capacity. (Current capacity: <i>XX</i> ; post-deduction capacity: <i>XX</i>)
400 Bad Request	Invalid input: The post-expansion capacity must be larger than the current capacity. (Current capacity: <i>XX</i> ; post-expansion capacity: <i>XX</i>)
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	The request is not completed because of a service error.
501 Not Implemented	The request is not completed because the server does not support the requested function.
502 Bad Gateway	The request is not completed because the request is invalid.
503 Service Unavailable	The request is not completed because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.1.2 Querying Details About an API Version

Function

This API is used for querying details about an API version.

URI

- GET `/api_version/`
- Parameter description

Parameter	Mandatory	Type	Description
api_version	Yes	String	Specifies the API version, which can be v1 or v2 .

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None
- Example request
GET `https://{endpoint}/v2/`

Response

- Parameter description

Parameter	Type	Description
versions	Object	List objects of all available API versions

- Description of the **version** field

Parameter	Type	Description
id	String	Specifies the common name of the version.
updated	String	Specifies the UTC time when the API is last modified. The format is YYYY-MM-DDTHH:MM:SSZ.

Parameter	Type	Description
status	String	Specifies the API version status, including: <ul style="list-style-type: none"> • CURRENT: indicates that the current API is the preferred version. • SUPPORTED: indicates that the current version is an earlier version which is still supported. • DEPRECATED: indicates that the current version is a deprecated version that may be deleted later.
links	Array of objects	Specifies the links of shared file systems. For details, see the description of the links field.
media-types	Array of objects	Specifies the media types supported by the API. For details, see the description of the media-types field.
version	String	If the API in the current version supports microversions, this parameter is the latest microversion. If microversions are not supported, this parameter is an empty string.
min_version	String	If the API in the current version supports microversions, this parameter is the earliest microversion. If microversions are not supported, this parameter is an empty string.

– Description of the **links** field

Parameter	Type	Description
href	String	Specifies the API access path, which is used as a reference.
type	String	Specifies the type of the text returned by the reference API.
rel	String	Specifies the additional description on links.

– Description of the **media-types** field

Parameter	Type	Description
base	String	Specifies the basic text type.
type	String	Specifies the text type.

- Example response

```
{
  "versions": [
    {
      "status": "CURRENT",
      "updated": "2015-08-27T11:33:21Z",
      "links": [
        {
          "href": "http://docs.openstack.org/",
          "type": "text/html",
          "rel": "describedby"
        },
        {
          "href": "https://sfs.region.www.t-systems.com/v2/",
          "rel": "self"
        }
      ],
      "min_version": "2.0",
      "version": "2.28",
      "media-types": [
        {
          "base": "application/json",
          "type": "application/vnd.openstack.share+json;version=1"
        }
      ],
      "id": "v2.0"
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
400 Bad Request	Invalid input: The post-deduction capacity must be larger than 0 and smaller than the current capacity. (Current capacity: <i>XX</i> ; post-deduction capacity: <i>XX</i>)
400 Bad Request	Invalid input: The post-expansion capacity must be larger than the current capacity. (Current capacity: <i>XX</i> ; post-expansion capacity: <i>XX</i>)
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.

Status Code	Description
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	The request is not completed because of a service error.
501 Not Implemented	The request is not completed because the server does not support the requested function.
502 Bad Gateway	The request is not completed because the request is invalid.
503 Service Unavailable	The request is not completed because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.2 File Systems

5.2.1 Creating a Shared File System

Function

This API is used to create a shared file system. After the file system is created, you need to mount the file system to ECSs to achieve shared file storage.

NOTE

This API is an asynchronous API. If the returned status code is **200**, the API request is successfully delivered and received. Later, you can query the status and path of the shared file system by referring to [Querying Details About a Shared File System](#) to identify whether the creation is complete and successful. If the status of the shared file system becomes **available** or the shared path is generated, the creation is successful.

NOTICE

After a shared file system is created successfully, it can be used only after you add share access rules by referring to [Adding a File System Access Rule](#).

URI

- POST /v2/{project_id}/shares
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
share	Yes	Object	For details, see the description of the share field.

- Description of the **share** field

Parameter	Mandatory	Type	Description
share_proto	Yes	String	Specifies the file sharing protocol. The value can be NFS (for Linux OS).
size	Yes	Integer	Specifies the size (GB) of the shared file system. The applied capacity of the shared file system cannot be larger than the allowed quota. To view the allowed quota, see Quota Management .
name	No	String	Specifies the name of the shared file system, which contains 0 to 255 characters and can contain only letters, digits, hyphens (-), and underscores (_).
description	No	String	Specifies the description of the shared file system, which contains 0 to 255 characters and can contain only letters, digits, hyphens (-), and underscores (_).

Parameter	Mandatory	Type	Description
is_public	No	Boolean	(Supported by API versions from v2.8 to v2.42). Specifies whether a file system can be publicly seen. If it is set to true , the file system can be seen publicly. If it is set to false , the file system can be seen privately. The default value is false .
availability_zone	No	String	Specifies the availability zone name. If this parameter is left blank, the default availability zone will be used. If the default availability zone contains no storage resources, the creation of the shared file system fails. The value contains 0 to 255 characters.
metadata	No	Object	Specifies the metadata information used to create the shared file system. The value consists of one or more key and value pairs organized as a dictionary of strings. For details, see the description of the metadata field.

- Example request: POST `https://{endpoint}/v2/16e1ab15c35a457e9c2b2aa189f544e1/shares`

Creating a 1-GB NFS file system that can only be seen privately

```
{
  "share": {
    "name": "test",
    "description": "test description",
    "share_proto": "NFS",
    "share_network_id": null,
    "size": 1,
    "is_public": false
  }
}
```

- Example request (with Enterprise Project enabled): POST `https://{endpoint}/v2/16e1ab15c35a457e9c2b2aa189f544e1/shares`

Creating a 1-GB NFS file system that can only be seen privately and adding it to an enterprise project

```
{
  "share": {
    "share_type": null,
    "name": "test",
    "snapshot_id": null,
    "description": "test description",
    "metadata": {
      "enterprise_project_id": "9130c90d-73b8-4203-b790-d49f98d503df"
    }
  },
}
```

```

"share_proto": "NFS",
"share_network_id": null,
"size": 1,
"is_public": false
}

```

Response

- Parameter description

Parameter	Type	Description
share	Object	For details, see the description of the share field.

- Description of the **share** field

Parameter	Type	Description
links	Array	Specifies the links of shared file systems.
availability_zone	String	Specifies the availability zone.
share_server_id	String	Specifies the ID for managing share services.
id	String	Specifies the ID of the shared file system.
size	Integer	Specifies the size (GB) of the shared file system.
project_id	String	Specifies the ID of the project to which the shared file system belongs.
metadata	Object	Sets one or more metadata key and value pairs as a dictionary of strings. The value of the share_used key indicates the file system used capacity, in bytes.
status	String	Specifies the status of the shared file system.
description	String	Describes the shared file system.
host	String	Specifies the name of the host.
name	String	Specifies the name of the shared file system.
created_at	String	Specifies the date and time stamp when the shared file system was created.
share_proto	String	Specifies the protocol for sharing file systems.

Parameter	Type	Description
share_type_name	String	Specifies the storage service type assigned for the shared file system, such as high-performance storage (composed of SSDs) and large-capacity storage (composed of SATA disks). This field is supported by API v2.6 and later versions.
share_type	String	Specifies the ID of the file system type.
volume_type	String	Specifies the volume type. The definition of this parameter is the same as that of share_type .
export_locations	Array	Lists the mount locations. Currently, only a single mount location is supported. This parameter exists only when X-Openstack-Manila-API-Version specified in the request header is smaller than 2.9 .
export_location	String	Specifies the mount location. This parameter exists only when X-Openstack-Manila-API-Version specified in the request header is smaller than 2.9 .
is_public	Boolean	Specifies the visibility level of the shared file system. If true is returned, the file system can be seen publicly. If false is returned, the file system can be seen privately. The default value is false .

- Example response

```
{
  "share": {
    "status": "creating",
    "project_id": "16e1ab15c35a457e9c2b2aa189f544e1",
    "name": "share_London",
    "share_type": "25747776-08e5-494f-ab40-a64b9d20d8f7",
    "availability_zone": "az1.dc1",
    "created_at": "2015-09-18T10:25:24.533287",
    "export_location": null,
    "links": [
      {
        "href": "http://192.168.198.54:8786/v2/16e1ab15c35a457e9c2b2aa189f544e1/shares/011d21e2-fbc3-4e4a-9993-9ea223f73264",
        "rel": "self"
      },
      {
        "href": "http://192.168.198.54:8786/16e1ab15c35a457e9c2b2aa189f544e1/shares/011d21e2-fbc3-4e4a-9993-9ea223f73264",
        "rel": "bookmark"
      }
    ],
    "share_network_id": null,
    "export_locations": [],
    "share_proto": "NFS",
    "host": null,
    "volume_type": "default",
    "snapshot_id": null,
  }
}
```



```

    "is_public": true,
    "metadata": {
      "project": "my_app",
      "aim": "doc"
    },
    "id": "011d21e2-fbc3-4e4a-9993-9ea223f73264",
    "size": 1,
    "description": "My custom share London"
  }
}

```

 **NOTE**

When the client receives the system response, the shared file system is still being created. For this reason, the shared path cannot be queried immediately. You can use the API of [Querying Mount Locations of a Shared File System](#) to query the shared path after the creation is complete.

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
413 Quota Exceeded	Insufficient user quota.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.

Status Code	Description
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.2.2 Querying All Shared File Systems

Function

This API is used to list the basic information of all shared file systems.

URI

- GET /v2/{project_id}/shares?
all_tenants={all_tenants}&status={status}&limit={limit}&offset={offset}&sort_key={sort_key}&sort_dir={sort_dir}&project_id={project_id}&is_public={is_public}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID of the operator.
all_tenants	No (query parameter)	Boolean	This parameter is available only to users with administrator permissions. Specifies whether to list shared file systems of all tenants. To list shared file systems of all tenants, set it to 1 . To list shared file systems only of the current tenant, set it to 0 .
project_id	No (query parameter)	String	This parameter is available only to users with administrator permissions. Specifies the ID of the project to which the shared file system belongs. This parameter needs to be used together with all_tenants .

Parameter	Mandatory	Type	Description
status	No (query parameter)	String	<p>Filters shared file systems by status. Possible values are:</p> <ul style="list-style-type: none"> ● creating: The shared file system is being created. ● error: The shared file system fails to be created. ● available: The shared file system is available. ● deleting: The shared file system is being deleted. ● error_deleting: The shared file system fails to be deleted. ● extending: The shared file system is being expanded. ● extending_error: The shared file system fails to be expanded. ● shrinking: The shared file system is being shrunk. ● shrinking_error: The shared file system fails to be shrunk. ● shrinking_possible_data_loss_error: The shared file system fails to be shrunk due to data loss. ● manage_starting: Shared file system management starts. ● manage_error: The shared file system fails to be managed. ● unmanage_starting: Canceling shared file system management starts. ● unmanage_error: Failed to cancel shared file system management. ● unmanaged: The shared file system is not managed.
limit	No (query parameter)	Integer	<p>Specifies the maximum number of shared file systems that can be returned. If this parameter is not specified, all the shared file systems are returned by default.</p>

Parameter	Mandatory	Type	Description
offset	No (query parameter)	Integer	Specifies the offset to define the start point of shared file system listing. The value must be greater than or equal to 0 .
sort_key	No (query parameter)	String	Specifies the keyword for sorting the queried shared file systems. Possible values are id , status , size , host , share_proto , availability_zone_id , user_id , project_id , created_at , updated_at , display_name , name , share_type_id , share_network_id , and snapshot_id . By default, the value is sorted by created_at .
sort_dir	No (query parameter)	String	Specifies the direction to sort shared file systems. Possible values are asc (ascending) and desc (descending).
is_public	No (query parameter)	String	When this parameter is set to true , the current tenant can query all its own shared file systems and other tenants' shared file systems whose is_public is set to true . When this parameter is set to false , the current tenant can query only the shared file systems owned by the tenant.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None
- Example request
GET https://{endpoint}/v2/16e1ab15c35a457e9c2b2aa189f544e1/shares

Response

- Parameter description

Parameter	Type	Description
shares	Array of objects	For details, see the description of the share field.

- Description of the **share** field

Parameter	Type	Description
id	String	Specifies the ID of the shared file system.
links	Array of objects	Specifies the request link information of the shared file system.
name	String	Specifies the name of the shared file system.

- Example response

```
{
  "shares": [
    {
      "id": "1390cb29-539b-4926-8953-d8d6b106071a",
      "links": [
        {
          "href": "https://192.168.196.47:8796/v2/f24555bfcf3146ca936d21bcb548687e/shares/1390cb29-539b-4926-8953-d8d6b106071a",
          "rel": "self"
        },
        {
          "href": "https://192.168.196.47:8796/f24555bfcf3146ca936d21bcb548687e/shares/1390cb29-539b-4926-8953-d8d6b106071a",
          "rel": "bookmark"
        }
      ],
      "name": null
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.

Status Code	Description
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.2.3 Querying Details About All Shared File Systems

Function

This API is used to query the details about all shared file systems.

URI

- GET /v2/{project_id}/shares/detail?
all_tenants={all_tenants}&project_id={project_id}&status={status}&limit={limit}&offset={offset}&sort_key={sort_key}&sort_dir={sort_dir}&is_public={is_public}&name={name}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID of the operator.

Parameter	Mandatory	Type	Description
all_tenants	No (query parameter)	Integer	(Administrators only) Specifies whether to list shared file systems of all tenants. To list shared file systems of all tenants, set it to 1 . To list shared file systems only of the current tenant, set it to 0 .
project_id	No (query parameter)	String	Specifies the ID of the tenant who creates the shared file system. This parameter is used together with all_tenants .
status	No (query parameter)	String	Filters shared file systems by status. Possible values are creating, error, available, deleting, error_deleting, manage_starting, manage_error, unmanage_starting, unmanage_error, unmanaged, extending, extending_error, shrinking, shrinking_error, and shrinking_possible_data_loss_error .
limit	No (query parameter)	Integer	Specifies the maximum number of shared file systems that can be returned.
offset	No (query parameter)	Integer	Specifies the offset to define the start point of shared file system listing.
sort_key	No (query parameter)	String	Specifies the keyword for sorting the queried shared file systems. Possible values are id, status, size, host, share_proto, availability_zone_id, user_id, project_id, created_at, updated_at, display_name, name, share_type_id, share_network_id, and snapshot_id .
sort_dir	No (query parameter)	String	Specifies the direction to sort shared file systems. Possible values are asc (ascending) and desc (descending).

Parameter	Mandatory	Type	Description
is_public	No (query parameter)	String	When this parameter is set to true , the current tenant can query all its own shared file systems and other tenants' shared file systems whose is_public is set to true . When this parameter is set to false , the current tenant can query only the shared file systems owned by the tenant.
name	No (query parameter)	String	Specifies the field used for fuzzy filtering based on the name of a shared file system. This field is supported by API v2.36 and later versions.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None
- Example request
None

Response

- Parameter description

Parameter	Type	Description
shares	Array of objects	Specifies the list of the share objects.

- Description of the **share** field

Parameter	Type	Description
links	Array	Specifies the links of shared file systems.
availability_zone	String	Specifies the availability zone.
share_server_id	String	Specifies the ID for managing share services.

Parameter	Type	Description
share_network_id	String	Specifies the ID of the share network. This parameter is reserved, because share network management is not supported currently.
snapshot_id	String	Specifies the ID of the source snapshot that is used to create the shared file system. This parameter is reserved, because snapshots are not supported currently.
snapshot_support	Boolean	Specifies whether snapshots are supported. This parameter is reserved, because snapshots are not supported currently. This field is supported by API v2.2 and later versions.
id	String	Specifies the ID of the shared file system.
size	Integer	Specifies the size (GB) of the shared file system.
consistency_group_id	String	Specifies the ID of the consistency group. This parameter is reserved, because consistency groups are not supported currently. This field is supported by API versions from v2.31 to v2.42.
project_id	String	Specifies the ID of the project to which the shared file system belongs.
metadata	Object	Sets one or more metadata key and value pairs as a dictionary of strings. The value of the share_used key indicates the file system used capacity, in bytes.
status	String	Specifies the status of the shared file system.
task_state	String	Specifies the data migration status. This parameter is reserved, because data migration is not supported currently. This field is supported by API v2.5 and later versions.
has_replicas	Boolean	Specifies whether replicas exist. This parameter is reserved, because replication is not supported currently. This field is supported by API versions from v2.11 to v2.42.

Parameter	Type	Description
replication_type	String	Specifies the replication type. This parameter is reserved, because replication is not supported currently. This field is supported by API versions from v2.11 to v2.42.
description	String	Describes the shared file system.
host	String	Specifies the name of the host.
name	String	Specifies the name of the shared file system.
created_at	String	Specifies the date and time stamp when the shared file system was created.
share_proto	String	Specifies the protocol for sharing file systems.
share_type_name	String	Specifies the storage service type assigned for the shared file system, such as high-performance storage (composed of SSDs) and large-capacity storage (composed of SATA disks). This field is supported by API v2.6 and later versions.
share_type	String	Specifies the ID of the file system type.
volume_type	String	Specifies the volume type. The definition of this parameter is the same as that of share_type .
export_locations	Array	Lists the mount locations. Currently, only a single mount location is supported. This parameter exists only when X-Openstack-Manila-API-Version specified in the request header is smaller than 2.9 .
export_location	String	Specifies the mount location. This parameter exists only when X-Openstack-Manila-API-Version specified in the request header is smaller than 2.9 .
is_public	Boolean	Specifies the visibility level of the shared file system. If true is returned, the file system can be seen publicly. If false is returned, the file system can be seen privately. The default value is false .

- Example response

```
{
  "shares": [
    {
      "links": [
        {
```

```

        "href": "https://192.168.170.97:8796/v2/61b01a94b84448cfac2424e46553d7e7/shares/
54d0bac6-45c8-471c-bf0d-16ffd81ef88a",
        "rel": "self"
    },
    {
        "href": "https://192.168.170.97:8796/61b01a94b84448cfac2424e46553d7e7/shares/
54d0bac6-45c8-471c-bf0d-16ffd81ef88a",
        "rel": "bookmark"
    }
],
"export_location": "sfs.dong.com:/share-e1c2d35e",
"availability_zone": "az1.dc1",
"share_network_id": null,
"snapshot_id": null,
"id": "54d0bac6-45c8-471c-bf0d-16ffd81ef88a",
"size": 1,
"share_type": "default",
"consistency_group_id": null,
"project_id": "da0f615c35eb4d72812d1547a77b5394",
"metadata": {
    "share_used": "1048576000000",
},
"status": "available",
"description": "test description",
"export_locations": ["sfs.dong.com:/share-e1c2d35e"],
"host": "DJ01@9656beb1-7ce2-4c46-9911-eed51ab632bf#9656beb1-7ce2-4c46-9911-
eccd51ab632bf",
"is_public": false,
"name": "cl01",
"created_at": "2017-07-07T03:15:06.858662",
"share_proto": "NFS",
"volume_type": "default"
}
}
}

```

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.

Status Code	Description
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.2.4 Querying Details About a Shared File System

Function

This API is used to query the details about a shared file system.

URI

- GET /v2/{project_id}/shares/{share_id}
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None

- Example request
None

Response

- Parameter description

Parameter	Type	Description
share	Object	Specifies the share objects.

- Description of the **share** field

Parameter	Type	Description
links	Array	Specifies the links of shared file systems.
availability_zone	String	Specifies the availability zone.
share_server_id	String	Specifies the ID for managing share services.
share_network_id	String	Specifies the ID of the share network. This parameter is reserved, because share network management is not supported currently.
snapshot_id	String	Specifies the ID of the source snapshot that is used to create the shared file system. This parameter is reserved, because snapshots are not supported currently.
snapshot_support	Boolean	Specifies whether snapshots are supported. This parameter is reserved, because snapshots are not supported currently. This field is supported by API v2.2 and later versions.
id	String	Specifies the ID of the shared file system.
size	Integer	Specifies the size (GB) of the shared file system.
consistency_group_id	String	Specifies the ID of the consistency group. This parameter is reserved, because consistency groups are not supported currently. This field is supported by API versions from v2.31 to v2.42.
project_id	String	Specifies the ID of the project to which the shared file system belongs.

Parameter	Type	Description
metadata	Object	Sets one or more metadata key and value pairs as a dictionary of strings. The value of the share_used key indicates the file system used capacity, in bytes.
status	String	Specifies the status of the shared file system.
task_state	String	Specifies the data migration status. This parameter is reserved, because data migration is not supported currently. This field is supported by API v2.5 and later versions.
has_replicas	Boolean	Specifies whether replicas exist. This parameter is reserved, because replication is not supported currently. This field is supported by API versions from v2.11 to v2.42.
replication_type	String	Specifies the replication type. This parameter is reserved, because replication is not supported currently. This field is supported by API versions from v2.11 to v2.42.
description	String	Describes the shared file system.
host	String	Specifies the name of the host.
name	String	Specifies the name of the shared file system.
created_at	String	Specifies the date and time stamp when the shared file system was created.
share_proto	String	Specifies the protocol for sharing file systems.
share_type_name	String	Specifies the storage service type assigned for the shared file system, such as high-performance storage (composed of SSDs) and large-capacity storage (composed of SATA disks). This field is supported by API v2.6 and later versions.
share_type	String	Specifies the ID of the file system type.
volume_type	String	Specifies the volume type. The definition of this parameter is the same as that of share_type .

Parameter	Type	Description
export_locations	Array	Lists the mount locations. Currently, only a single mount location is supported. This parameter exists only when X-Openstack-Manila-API-Version specified in the request header is smaller than 2.9 .
export_location	String	Specifies the mount location. This parameter exists only when X-Openstack-Manila-API-Version specified in the request header is smaller than 2.9 .
is_public	Boolean	Specifies the visibility level of the shared file system. If true is returned, the file system can be seen publicly. If false is returned, the file system can be seen privately. The default value is false .

- Example response

```
{
  "share": {
    "status": "available",
    "share_type_name": "sla",
    "description": "My custom share London",
    "links": [
      {
        "href": "https://192.168.196.47:8796/v2/07412155bf474db9a2f697fd978593d7/shares/f26d867f-9876-433d-8db2-25d210f29309",
        "rel": "self"
      },
      {
        "href": "https://192.168.196.47:8796/07412155bf474db9a2f697fd978593d7/shares/f26d867f-9876-433d-8db2-25d210f29309",
        "rel": "bookmark"
      }
    ],
    "availability_zone": "az1.dc1",
    "share_network_id": null,
    "share_server_id": null,
    "share_group_id": null,
    "host": "DJ38@a4588256-3880-4136-b3c9-4c3aade8a84b#a4588256-3880-4136-b3c9-4c3aade8a84b",
    "revert_to_snapshot_support": null,
    "access_rules_status": "active",
    "snapshot_id": null,
    "create_share_from_snapshot_support": null,
    "is_public": false,
    "task_state": null,
    "snapshot_support": true,
    "id": "f26d867f-9876-433d-8db2-25d210f29309",
    "size": 1,
    "source_share_group_snapshot_member_id": null,
    "user_id": "daa3f8f8d7254465841da769298a76f6",
    "name": "luzhongguo_1",
    "share_type": "8ae4e74e-83f4-4980-8ab8-e637f9294e0b",
    "has_replicas": false,
    "replication_type": null,
    "created_at": "2018-12-25T08:45:22.525899",
    "share_proto": "NFS",
    "volume_type": "sla",
    "mount_snapshot_support": null,
    "project_id": "07412155bf474db9a2f697fd978593d7",
  }
}
```

```

"metadata": {
  "share_key": "test",
  "share_used": "1",
}
}
}

```

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.2.5 Querying Mount Locations of a Shared File System

Function

This API is used to query mount locations of a shared file system.

NOTE

This API exists only when **X-Openstack-Manila-API-Version** in the request header is greater than or equal to 2.9. The following is an example request sent by the **curl** command: `curl -k -i -X GET https://192.168.196.47:8786/v2/13c7ff9a479c4e3599f4331d9e4a1835/shares/2a8c5470-d5d9-4fe1-b9fc-66a15a162e41/export_locations -H "X-Openstack-Manila-API-Version: 2.9" -H "X-Auth-Token: $token" -H "Accept: application/json"`

URI

- GET /v2/{project_id}/shares/{share_id}/export_locations
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None
- Example request
None

Response

- Parameter description

Parameter	Type	Description
export_locations	Array of strings	Specifies the export_location objects.

- Description of field **export_location**

Parameter	Type	Description
id	String	Specifies the ID of the mount location of the shared file system.
share_instance_id	String	Specifies the ID of the shared file system.
path	String	Specifies the path that will be used when the shared file system is mounted.
is_admin_only	Boolean	Specifies whether the shared file system is only visible to administrators and its owner. Possible values are true (only visible to administrators and its owner) and false (visible to all users).
preferred	Boolean	Identifies which mount locations are most efficient and are used preferentially when multiple mount locations exist.

- Example response

NFS file system:

```
{
  "export_locations": [
    {
      "path": "NFS:sfs-nas1.dong.com:/share-236b936a",
      "id": "b03d2aac-aeed-409a-af07-5d1b9024241c",
      "preferred": false
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.

5.2.6 Modifying a Shared File System

Function

This API is used to modify the name and description of a shared file system.

URI

- PUT /v2/{project_id}/shares/{share_id}
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
share	Yes	Object	Specifies the share objects.

- Description of the **share** field

Parameter	Mandatory	Type	Description
display_name	No	String	Specifies the new name of the shared file system. The value consists of 0 to 255 characters.
display_description	No	String	Describes the shared file system. The value contains 0 to 255 characters.
is_public	No	Boolean	(Supported by API v2.8 and later versions.) Specifies whether a file system can be publicly seen. If it is set to true , the file system can be seen publicly. If it is set to false , the file system can be seen privately. The default value is false .

- Example request

Modifying a shared file system (with the file system name changed to **testshare** and description to **test**):

```
{
  "share": {
    "display_name": "testshare",
    "display_description": "test"
  }
}
```

Response

- Parameter description

Parameter	Type	Description
share	Object	Specifies the share objects.

- Description of the **share** field

Parameter	Type	Description
links	Array	Specifies the links of shared file systems.
availability_zone	String	Specifies the availability zone.
share_server_id	String	Specifies the ID for managing share services.
share_network_id	String	Specifies the ID of the share network. This parameter is reserved, because share network management is not supported currently.
snapshot_id	String	Specifies the ID of the source snapshot that is used to create the shared file system. This parameter is reserved, because snapshots are not supported currently.
snapshot_support	Boolean	Specifies whether snapshots are supported. This parameter is reserved, because snapshots are not supported currently.
id	String	Specifies the ID of the shared file system.
size	Integer	Specifies the size (GB) of the shared file system.
consistency_group_id	String	(Supported by API versions from v2.31 to v2.42.) Specifies the ID of a consistency group. This parameter is reserved, because consistency groups are not supported currently.
project_id	String	Specifies the ID of the project to which the shared file system belongs.

Parameter	Type	Description
metadata	Object	Sets one or more metadata key and value pairs as a dictionary of strings. The value of the share_used key indicates the file system used capacity, in bytes.
status	String	Specifies the status of the shared file system.
task_state	String	Specifies the data migration status. This parameter is reserved, because data migration is not supported currently.
has_replicas	Boolean	(Supported by API versions from v2.11 to v2.42.) Specifies whether any replication exists. This parameter is reserved, because replication is not supported currently.
replication_type	String	(Supported by API versions from v2.11 to v2.42.) Specifies the replication type. This parameter is reserved, because replication is not supported currently.
description	String	Describes the shared file system.
host	String	Specifies the name of the host.
name	String	Specifies the name of the shared file system.
created_at	String	Specifies the date and time stamp when the shared file system was created.
access_rules_status	String	(Supported by API versions from v2.10 to v2.27.) Specifies the configuration status of the access rule. Possible values are active (effective), error (configuration failed), and syncing (configuration in progress).
share_proto	String	Specifies the protocol for sharing file systems.
volume_type	String	Specifies the volume type. The definition of this parameter is the same as that of share_type .
share_type_name	String	Specifies the storage service type assigned for the shared file system, such as high-performance storage (composed of SSDs) and large-capacity storage (composed of SATA disks).
share_type	String	Specifies the ID of the file system type.

Parameter	Type	Description
export_locations	Array	Lists the mount locations. Currently, only a single mount location is supported. This parameter exists only when X-Openstack-Manila-API-Version specified in the request header is smaller than 2.8 .
export_location	String	Specifies the mount location. This parameter exists only when X-Openstack-Manila-API-Version specified in the request header is smaller than 2.8 .
is_public	Boolean	(Supported by API versions from v2.8 to v2.42.) Specifies whether a file system can be publicly seen. If it is set to true , the file system can be seen publicly. If it is set to false , the file system can be seen privately. The default value is false .
source_share_group_snapshot_member_id	String	(Supported by API v2.31 and later versions.) Specifies the ID of a consistency snapshot source. Currently, the consistency group is not supported. This field is reserved.
revert_to_snapshot_support	Boolean	(Supported by API v2.27 and later versions.) Specifies whether reversion to snapshot is supported. Currently, snapshot is not supported. This field is reserved.
create_share_from_snapshot_support	Boolean	(Supported by API v2.24 and later versions.) Specifies whether creating file systems from snapshot is supported. Currently, snapshot is not supported. This field is reserved.
mount_snapshot_support	Boolean	(Supported by API v2.32 and later versions.) Specifies whether snapshot mounting is supported. Currently, snapshot is not supported. This field is reserved.
user_id	String	(Supported by API v2.16 and later versions.) Specifies the user ID.

- Example response

```
{
  "share": {
    "status": "available",
    "share_type_name": "sla",
    "description": "test",
    "links": [
      {
        "href": "https://192.168.196.47:8796/v2/07412155bf474db9a2f697fd978593d7/shares/f26d867f-9876-433d-8db2-25d210f29309",
        "rel": "self"
      }
    ]
  }
}
```

```

    {
      "href": "https://192.168.196.47:8796/07412155bf474db9a2f697fd978593d7/shares/
f26d867f-9876-433d-8db2-25d210f29309",
      "rel": "bookmark"
    }
  ],
  "availability_zone": "az1.dc1",
  "share_network_id": null,
  "share_server_id": null,
  "share_group_id": null,
  "host": "DJ38@a4588256-3880-4136-b3c9-4c3aade8a84b#a4588256-3880-4136-
b3c9-4c3aade8a84b",
  "revert_to_snapshot_support": null,
  "access_rules_status": "active",
  "snapshot_id": null,
  "create_share_from_snapshot_support": null,
  "is_public": true,
  "task_state": null,
  "snapshot_support": true,
  "id": "f26d867f-9876-433d-8db2-25d210f29309",
  "size": 1,
  "source_share_group_snapshot_member_id": null,
  "user_id": "daa3f8f8d7254465841da769298a76f6",
  "name": "manila share",
  "share_type": "8ae4e74e-83f4-4980-8ab8-e637f9294e0b",
  "has_replicas": false,
  "replication_type": null,
  "created_at": "2018-12-25T08:45:22.525899",
  "share_proto": "NFS",
  "volume_type": "sla",
  "mount_snapshot_support": null,
  "project_id": "07412155bf474db9a2f697fd978593d7",
  "metadata": {
    "share_key": "test",
    "share_used": "1",
  }
}
}
}

```

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.

Status Code	Description
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.2.7 Deleting a Shared File System

Function

This API is used to delete a shared file system.

NOTE

This API is an asynchronous API. If the returned status code is **202**, the API request is successfully delivered and received. Later, you can query the shared file system by referring to [Querying Details About a Shared File System](#) to identify whether the deletion is complete and successful.

URI

- DELETE /v2/{project_id}/shares/{share_id}
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None
- Example request
None

Response

- Example response
None

Status Codes

- Normal
202
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.

Status Code	Description
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.3 File System Access Rules

5.3.1 Adding a File System Access Rule

Function

This API is used to add a file system access rule.

NOTE

- This API is an asynchronous API. If the returned status code is **200**, the API request is successfully delivered and received. Later, you can refer to [Querying File System Access Rules](#) to check whether the access rule is added successfully.

URI

- POST /v2/{project_id}/shares/{share_id}/action
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
os-allow_access	Yes	Object	Specifies the os-allow_access objects.

- Description of field **os-allow_access**

Parameter	Mandatory	Type	Description
access_level	No	String	Specifies the access level of the file system. Possible values are ro (read-only) and rw (read-write). The default value is rw (read-write).
access_type	Yes	String	Specifies the storage access method. <ul style="list-style-type: none"> • If the NFS protocol is used, specify cert. • If multiple protocols are used, specify cert. <p>Note</p> <ol style="list-style-type: none"> 1. Value user indicates storage access using username. 2. Value cert indicates storage access using VPC ID and IP address.

Response

- Parameter description

Parameter	Type	Description
access	Object	Specifies the access objects. If the access rule is not updated, this value is null .

- Description of the **access** field

Parameter	Type	Description
share_id	String	Specifies the ID of the shared file system to which the access rule is added.
access_type	String	Specifies the type of the access rule.
access_to	String	Specifies the object that the backend grants or denies access.
access_level	String	Specifies the level of the access rule.

Parameter	Type	Description
id	String	Specifies the ID of the access rule.
state	String	Specifies the status of the access rule. If the API version is earlier than 2.28, the status of the access rule is new , active , or error . In versions from 2.28 to 2.42, the status of the access rule is queued_to_apply , applying , active , error , queued_to_deny , or denying .

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.

Status Code	Description
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.3.2 Deleting a File System Access Rule

Function

This API is used to delete a file system access rule.

NOTE

This API is an asynchronous API. If the returned status code is **202**, the API request is successfully delivered and received. Later, you can refer to [Querying File System Access Rules](#) to identify whether the access rule is deleted successfully.

URI

- POST /v2/{project_id}/shares/{share_id}/action
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
os-deny_access	Yes	Object	Specifies the os-deny_access object.

- Description of field **os-deny_access**

Parameter	Mandatory	Type	Description
access_id	Yes	String	Specifies the ID of the access rule of the shared file system. The value contains 1 to 36 characters.

- Example request

Deleting a file system access rule (rule ID: **418e3cf4-08c3-4ed2-a29a-ceffa346b3b8**):

```
{
  "os-deny_access": {
    "access_id": "418e3cf4-08c3-4ed2-a29a-ceffa346b3b8"
  }
}
```

Response

- Parameter description

None

- Example response

None

Status Codes

- Normal
202
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.

Status Code	Description
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.3.3 Querying File System Access Rules

Function

This API is used to query the access rules of a shared file system.

URI

- POST /v2/{project_id}/shares/{share_id}/action
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
os-access_list	Yes	Object	Specifies the os-access_list object. To view access rules, set this value to null .

- Example request

```
{
  "os-access_list": null
}
```

Response

- Description

Parameter	Type	Description
access_list	Array of objects	Lists the access rules.

- Description of field `access_list`

Parameter	Type	Description
access_type	String	Specifies the type of the access rule.
access_to	String	Specifies the object that the backend grants or denies access.
access_level	String	Specifies the level of the access rule.
state	String	Specifies the status of the access rule. If the API version is earlier than 2.28, the status of the access rule is new , active , or error . In versions from 2.28 to 2.42, the status of the access rule is queued_to_apply , applying , active , error , queued_to_deny , or denying .
id	String	Specifies the ID of the access rule.

- Example response

```
{
  "access_list": [
    {
      "access_level": "rw",
      "state": "active",
      "id": "85417bed-5e26-4c99-8c0c-92c95b5c640e",
      "access_type": "cert",
      "access_to": "a91556b7-c7c8-4273-915e-2729e04cdb01",
    },
    {
      "access_level": "rw",
      "state": "active",
      "id": "2ecbeb0b-b2ba-41f1-ba63-0666548925b9",
      "access_type": "cert",
      "access_to": "0560a527-0e77-40a6-aa3b-110beecad368#0.0.0.0/0#0#all_squash,root_squash",
      "created_at": "2017-07-07T03:15:06.858662",
      "updated_at": "2018-07-07T03:15:06.858662"
    },
    {
      "access_level": "rw",
      "state": "active",
      "id": "24615391-d58d-4a74-ac5a-520233c9c396",
      "access_type": "cert",
      "access_to": "0560a527-0e77-40a6-"
    }
  ]
}
```



```
aa3b-110beecad368#192.168.196.47#1#all_squash,root_squash",
}
]
}
```

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.4 Quota Management

Function

This API is used to query quota information.

URI

- GET /v2/{project_id}/os-quota-sets/{project_id}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID of the operator.
project_id	Yes	String	Specifies the ID of the tenant whose quotas are to be queried, updated, or deleted. This ID differs from the first project ID (the administrative tenant ID) contained in the URI.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None
- Example request
None

Response

- Parameter description

Parameter	Type	Description
quota_set	Object	Specifies the quota_set objects.

- Description of field **quota_set**

Parameter	Type	Description
gigabytes	Integer	Specifies the capacity in gigabytes allowed for each tenant.

Parameter	Type	Description
snapshots	Integer	Specifies the number of snapshots allowed for each tenant.
shares	Integer	Specifies the number of shared file systems allowed for each tenant.
snapshot_gigabytes	Integer	Specifies the snapshot capacity in gigabytes allowed for each tenant.
id	String	Specifies the ID of the tenant for which you manage quotas.
share_networks	Integer	Specifies the number of share networks allowed for each tenant.

- Example response

```
{
  "quota_set": {
    "gigabytes": -1,
    "snapshots": -1,
    "snapshot_gigabytes": -1,
    "shares": -1,
    "id": "da0f615c35eb4d72812d1547a77b5394",
    "share_networks": 10
  }
}
```

Status Codes

- Normal
200
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.

Status Code	Description
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.5 Expansion and Shrinking

5.5.1 Expanding a Shared File System

Function

This API is used to expand the capacity of a shared file system.

NOTE

This API is an asynchronous API. If the returned status code is **202**, the API request is successfully delivered and received. Later, you can refer to [Querying Details About a Shared File System](#) to identify whether the shared file system is expanded successfully.

URI

- POST /v2/{project_id}/shares/{share_id}/action
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
os-extend	Yes	Object	Specifies the os-extend object.

- Description of field **os-extend**

Parameter	Mandatory	Type	Description
new_size	Yes	Integer	Specifies the new capacity (GB) of the shared file system.

- Example request

Expanding the capacity of a shared file system to 2 GB:

```
{
  "os-extend": {
    "new_size": 2
  }
}
```

Response

- Parameter description

None

- Example response

None

Status Codes

- Normal

202

- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
400 Bad Request	Invalid input: The post-deduction capacity must be larger than 0 and smaller than the current capacity. (Current capacity: <i>XX</i> ; post-deduction capacity: <i>XX</i>)

Status Code	Description
400 Bad Request	Invalid input: The post-expansion capacity must be larger than the current capacity. (Current capacity: <i>XX</i> ; post-expansion capacity: <i>XX</i>)
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

5.5.2 Shrinking a Shared File System

Function

This API is used to shrink the capacity of a shared file system.

NOTE

This API is an asynchronous API. If the returned status code is **202**, the API request is successfully delivered and received. Later, you can refer to [Querying Details About a Shared File System](#) to identify whether the shared file system is shrunk successfully.

URI

- POST /v2/{project_id}/shares/{share_id}/action
- Parameter description

Parameter	Mandatory	Type	Description
share_id	Yes	String	Specifies the ID of the shared file system.
project_id	Yes	String	Specifies the project ID of the operator.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
os-shrink	Yes	Object	Specifies the os-shrink object.

- Description of field **os-shrink**

Parameter	Mandatory	Type	Description
new_size	Yes	Integer	Specifies the new capacity (GB) of the shared file system.

- Example request

Reducing the capacity of a shared file system to 1 GB:

```
{
  "os-shrink": {
    "new_size": 1
  }
}
```

Response

- Parameter description
None
- Example response
None

Status Codes

- Normal
202
- Abnormal

Status Code	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of an internal service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

6 SFS Turbo APIs

6.1 Lifecycle Management

6.1.1 Creating a File System

Function

This API is used to create an SFS Turbo file system.

URI

- URI format
POST /v1/{project_id}/sfs-turbo/shares
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain the project ID, see .

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
share	Yes	Object	Specifies the SFS Turbo file system information. For details about the parameters, see the description of the share field .

- Description of the **share** field

Parameter	Mandatory	Type	Description
name	Yes	String	Specifies the name of the SFS Turbo file system. The value contains 4 to 64 characters and must start with a letter. This value can contain letters (case insensitive), digits, hyphens (-), and underscores (_), and cannot contain other special characters.
share_protocol	Yes	String	Specifies the protocol of the file system. The valid value is NFS . Network File System (NFS) is a distributed file system protocol that allows different computers and operating systems to share data over a network.
share_type	Yes	String	Specifies the file system type. The valid values are STANDARD and PERFORMANCE STANDARD : Standard file system, corresponding to the media of SAS disks. PERFORMANCE : Performance file system, corresponding to the media of SSD disks.
size	Yes	Int	For a common file system, the value of capacity ranges from 500 to 32768 (in the unit of GB).
availability_zone	Yes	String	Specifies the code of the AZ where the file system is located. For details about the code, see .
vpc_id	Yes	String	Specifies the VPC ID of a tenant in a region. You can obtain the VPC ID from the console or by following the instructions provided in "Querying VPCs" in .

Parameter	Mandatory	Type	Description
subnet_id	Yes	String	Specifies the network ID of the subnet of a tenant in a VPC. You can obtain the network ID from the VPC console or by following the instructions provided in "Querying Subnets" in .
security_group_id	Yes	String	Specifies the security group ID of a tenant in a region. You can obtain the security group ID from the console or by following the instructions provided in "Querying Security Groups" in .
backup_id	No	String	Specifies the backup ID. This parameter is mandatory when you create a file system from a backup. This is not supported by the current version.
description	No	String	Specifies the file system description. The length is 0-255 characters. This is not supported by the current version.

 **NOTE**

- The regions mentioned above are the same region. Currently, cross-region configuration is not supported.
- SFS Turbo will create two private IP addresses and one virtual IP address under the subnet you specified.
- To ensure normal use, SFS Turbo will enable the inbound rules for ports **111**, **445**, **2049**, **2051**, **2052**, and **20048** in the security group you specified.
- An ECS cannot access file systems on VPCs other than the one where the ECS resides. Make sure that you enter the ID of the VPC when creating a file system to be the VPC where the ECS resides for mounting the file system.

- **Example request**

```
{
  "share": {
    "name": "sfs-turbo-test",
    "share_proto": "NFS",
    "share_type": "STANDARD",
    "size": 100,
    "availability_zone": "az1",
    "vpc_id": "d651ea2b-2b20-4c6d-8bbf-2adcec18dac9",
    "subnet_id": "b8884abe-f47b-4917-9f6c-f64825c365db",
    "security_group_id": "8c4ebbd0-6edf-4aae-8353-81ce6d06e1f4"
  }
}
```

Response

- Parameter description

Parameter	Type	Description
id	String	Specifies the ID of the SFS Turbo file system.
name	String	Specifies the name of the SFS Turbo file system.
status	String	Specifies the status of the SFS Turbo file system. For details, see SFS Turbo File System Statuses .

- Example response

```
{
  "id": "708c017c-54b5-429a-a098-7692e23fa518",
  "name": "sfs-turbo-test",
  "status": "100"
}
```

Status Codes

- Normal

202

- Abnormal

For details, see [Status Codes](#).

6.1.2 Deleting a File System

Function

This API is used to delete an SFS Turbo file system.

URI

- URI format
DELETE /v1/{project_id}/sfs-turbo/shares/{share_id}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain the project ID, see .
share_id	Yes	String	Specifies the ID of the SFS Turbo file system.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- None

Response

- None

Status Codes

- Normal

202

- Abnormal

For details, see [Status Codes](#).

6.1.3 Querying Details About All File Systems

Function

This API is used to query details about all SFS Turbo file systems.

URI

- URI format
GET /v1/{project_id}/sfs-turbo/shares/detail?limit={limit}&offset={offset}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain the project ID, see .
limit	No (query parameter)	Int	Specifies the number of returned file systems. This parameter takes effect when both limit and offset are used.
offset	No (query parameter)	Int	Specifies the offset of the number of queried file systems. This parameter takes effect when both limit and offset are used.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None
- Example request
None

Response

- Parameter description

Parameter	Type	Description
shares	Array of objects	Specifies the list of SFS Turbo file systems. For details, see the description of the share field .
count	Int	Specifies the number of SFS Turbo file systems.

- Description of the **share** field

Parameter	Type	Description
id	String	Specifies the ID of the SFS Turbo file system.
name	String	Specifies the name of the SFS Turbo file system.
status	String	Specifies the status of the SFS Turbo file system. For details, see SFS Turbo File System Statuses .
sub_status	String	Specifies the sub-status of the SFS Turbo file system. For details, see SFS Turbo File System Substatuses .
version	String	Specifies the version ID of the SFS Turbo file system.
created_at	String	Specifies the creation time. UTC time, for example: 2018-11-19T04:02:03
export_location	String	Specifies the mount point of the SFS Turbo file system.
action_progress	Object	Specifies the creation progress of the SFS Turbo file system. For details, see Description of field action_progress .
share_type	String	Specifies the type of the SFS Turbo file system. The value can be STANDARD or PERFORMANCE .
region	String	Specifies the region of the SFS Turbo file system.

Parameter	Type	Description
availability_zone	String	Specifies the code of the AZ where the SFS Turbo file system is located.
az_name	String	Specifies the name of the AZ where the SFS Turbo file system is located.
vpc_id	String	Specifies the VPC ID specified by the user.
subnet_id	String	Specifies the network ID of the subnet specified by the user.
security_group_id	String	Specifies the ID of a security group specified by the user.
size	String	Specifies the total capacity of the SFS Turbo file system in the unit of GB.
pay_model	String	Billing mode of the SFS Turbo file system.
avail_capacity	String	Specifies the available capacity of the SFS Turbo file system in the unit of GB.
share_proto	String	Specifies the protocol type of the SFS Turbo file system. The current value is NFS .

- Description of field **action_progress**

Parameter	Type	Description
CREATING	String	Specifies the file system creation progress.

- Example response

```
{
  "shares": [
    {
      "id": "8fba8253-c914-439d-ae8b-d5c89d0bf5e8",
      "name": "sfs-turbo-8468",
      "status": "200",
      "version": "1.0.0",
      "region": "north-1",
      "created_at": "2018-11-19T04:02:03",
      "export_location": "192.168.0.90:/",
      "action_progress": {},
      "share_type": "STANDARD",
      "sub_status": "230",
      "availability_zone": "az1.dc1",
      "az_name": "az1",
      "vpc_id": "b24e39e1-bc0c-475b-ae0c-ae9cf240af3",
      "subnet_id": "86fc01ea-8ec8-409d-ba7a-e0ea16d4fd97",
      "security_group_id": "50586458-aec9-442c-bb13-e08ddc6f1b7a",
      "size": "500.00",
      "pay_model": "0",
      "avail_capacity": "500.00",
      "share_proto": "NFS"
    },
    {
      "id": "65f2d30b-7b4e-4786-9608-4324faef6646",
```

```

    "name": "sfs-turbo-df12",
    "status": "200",
    "version": "1.0.0",
    "actions": [],
    "region": "north-1",
    "created_at": "2018-11-15T02:32:10",
    "export_location": "192.168.0.197:/",
    "action_progress": {},
    "share_type": "STANDARD",
    "availability_zone": "az1.dc1",
    "az_name": "az1",
    "vpc_id": "b24e39e1-bc0c-475b-ae0c-ae9cf240af3",
    "subnet_id": "86fc01ea-8ec8-409d-ba7a-e0ea16d4fd97",
    "security_group_id": "50586458-aec9-442c-bb13-e08ddc6f1b7a",
    "size": "500.00",
    "pay_model": "0",
    "avail_capacity": "500.00",
    "share_proto": "NFS"
  }
]
"count": 2
}

```

Status Codes

- Normal

200

- Abnormal

For details, see [Status Codes](#).

6.1.4 Querying Details About a Single File System

Function

This API is used to query details about an SFS Turbo file system.

URI

- URI format
GET /v1/{project_id}/sfs-turbo/shares/{share_id}
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain the project ID, see .
share_id	Yes	String	Specifies the ID of the SFS Turbo file system.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description
None
- Example request
None

Response

- Parameter description

Parameter	Type	Description
id	String	Specifies the ID of the SFS Turbo file system.
name	String	Specifies the name of the SFS Turbo file system.
status	String	Specifies the status of the SFS Turbo file system. For details, see SFS Turbo File System Statuses .
sub_status	String	Specifies the sub-status of the SFS Turbo file system. For details, see SFS Turbo File System Substatuses .
version	String	Specifies the version ID of the SFS Turbo file system.
created_at	String	Specifies the creation time. UTC time, for example: 2018-11-19T04:02:03
export_location	String	Specifies the mount point of the SFS Turbo file system.
action_progress	Object	Specifies the creation progress of the SFS Turbo file system. For details, see Description of field action_progress .
share_type	String	Specifies the type of the SFS Turbo file system. The value can be STANDARD or PERFORMANCE .
region	String	Specifies the region of the SFS Turbo file system.
availability_zone	String	Specifies the code of the AZ where the SFS Turbo file system is located.
az_name	String	Specifies the name of the AZ where the SFS Turbo file system is located.
vpc_id	String	Specifies the VPC ID specified by the user.
subnet_id	String	Specifies the network ID of the subnet specified by the user.

Parameter	Type	Description
security_group_id	String	Specifies the ID of a security group specified by the user.
size	String	Specifies the total capacity of the SFS Turbo file system in the unit of GB.
avail_capacity	String	Specifies the available capacity of the SFS Turbo file system in the unit of GB.
pay_model	String	Billing mode of the SFS Turbo file system.
share_protocol	String	Specifies the protocol type of the SFS Turbo file system. The current value is NFS .

- Description of field **action_progress**

Parameter	Type	Description
CREATING	String	Specifies the file system creation progress.

- Example response

```
{
  "id": "8fba8253-c914-439d-ae8b-d5c89d0bf5e8",
  "name": "sfs-turbo-8468",
  "status": "200",
  "version": "1.0.0",
  "region": "north-1",
  "created_at": "2018-11-19T04:02:03",
  "export_location": "192.168.0.90:/",
  "action_progress": {},
  "share_type": "STANDARD",
  "sub_status": "330",
  "availability_zone": "az1.dc1",
  "az_name": "az1",
  "vpc_id": "b24e39e1-bc0c-475b-ae0c-aef9cf240af3",
  "subnet_id": "86fc01ea-8ec8-409d-ba7a-e0ea16d4fd97",
  "security_group_id": "50586458-aec9-442c-bb13-e08ddc6f1b7a",
  "size": "500.00",
  "avail_capacity": "500.00",
  "share_protocol": "NFS"
}
```

Status Codes

- Normal

200

- Abnormal

For details, see [Status Codes](#).

6.2 Storage Capacity Management

6.2.1 Expanding the Capacity of a File System

Function

This API is used to expand the capacity of an SFS Turbo file system. Capacity expansion is an asynchronous operation. You can check whether the expansion is successful by checking field **sub_status** returned by [Querying Details About a Single File System](#). If the value of the sub-status is **221**, the expansion is successful.

URI

- URI format
POST /v1/{project_id}/sfs-turbo/shares/{share_id}/action
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain the project ID, see .
share_id	Yes	String	Specifies the ID of the SFS Turbo file system.

Request Header

The operation message header is the same as that of a common request. For details, see [Table 3-3](#).

Request

- Parameter description

Parameter	Mandatory	Type	Description
extend	Yes	Object	Specifies the extend object. For details, see the parameter in the extend field .

- Parameter in the **extend** field

Parameter	Mandatory	Type	Description
new_size	Yes	Int	Specifies the new capacity (GB) of the shared file system. The capacity expansion step is greater than or equal to 100 GB. For a common file system, the value of capacity ranges from 500 to 32768.

- Example request

```
{
  "extend": {
    "new_size": 500
  }
}
```

Response

- Parameter description

Parameter	Type	Description
id	String	Specifies the ID of the SFS Turbo file system.
name	String	Specifies the name of the SFS Turbo file system.

- Example response

```
{
  "id": "67d4bd5e-7b2f-4c24-9a0b-c0038940c6f8",
  "name": "sfs-turbo-cts"
}
```

Status Codes

- Normal

202

- Abnormal

For details, see [Status Codes](#).

6.3 Connection Management

6.3.1 Changing a Security Group

Function

This API is used to change the security group bound to an SFS Turbo file system. Security group change is an asynchronous task. You can determine whether the security group status is changed based on the **sub_status** field returned in [Querying Details About a Single File System](#). If the **sub_status** field is **232**, the security group has been successfully modified.

URI

- URI format
POST /v1/{project_id}/sfs-turbo/shares/{share_id}/action
- Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain the project ID, see .
share_id	Yes	String	Specifies the ID of the SFS Turbo file system.

Request

- Parameter description

Parameter	Mandatory	Type	Description
change_security_group	Yes	Object	Specifies the change_security_group object. For details, see the change_security_group parameter description .

- change_security_group parameter description

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	Specifies the ID of the security group to be modified.

- Example request

```
{
  "change_security_group": {
    "security_group_id": "26f6b565-240e-43c3-8867-03f0bd975433"
  }
}
```

Response

- Parameter description

Parameter	Type	Description
id	String	Specifies the ID of the SFS Turbo file system.

- Example response

```
{
  "id": "67d4bd5e-7b2f-4c24-9a0b-c0038940c6f8"
}
```

Status Codes

- Normal

202

- Abnormal

For details, see [Status Codes](#).

7 Common Parameters

7.1 SFS Turbo File System Statuses

- SFS Turbo file system status elements

Returned Value	Description
100	CREATING: The file system is being created.
200	ACTIVE: The file system is active. An SFS Turbo file system can be mounted in this status.
300	FAILED: The job failed.
303	CREATE_FAILED: The cluster failed to be created.
400	DELETED: The cluster has been deleted.
800	FROZEN: The cluster has been frozen.

7.2 SFS Turbo File System Substatuses

- SFS Turbo file system substatus elements

Returned Value	Description
121	Expanding the capacity online.
221	Online capacity expansion succeeded.
321	Failed to perform online capacity expansion.

8 Appendix

8.1 Status Codes

- Normal

Returned Value	Description
200 OK	Specifies the normal response for the GET and PUT operations.
201 Created	Specifies the normal response for the POST operation.
202 Accepted	The request has been accepted for processing.
204 No Content	Specifies the normal response for the DELETE operation.

- Abnormal

Returned Value	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and the password to access the requested page.
403 Forbidden	Access to the requested page is forbidden.
404 Not Found	The requested page was not found.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server could not be accepted by the client.

Returned Value	Description
407 Proxy Authentication Required	You must use the proxy server for authentication. Then the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	The request is not completed because of a service error.
501 Not Implemented	The request is not completed because the server does not support the requested function.
502 Bad Gateway	The request is not completed because the server receives an invalid response from an upstream server.
503 Service Unavailable	The request is not completed because the service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

8.2 SFS Turbo Error Codes

Status Code	Error Code	Error Message	Description	Solution
400/404	SFS.TURBO.0001	Parameter error	Invalid parameters.	Use valid parameters and try again.
400/404	SFS.TURBO.0002	Cluster not found	The requested object is not found or you do not have permissions to access it.	Use valid parameters and try again.
400	SFS.TURBO.0003	Invalid name	Invalid name.	Use valid parameters and try again.
400	SFS.TURBO.0004	Invalid vpc	Invalid VPC.	Use valid parameters and try again.

Status Code	Error Code	Error Message	Description	Solution
400/500	SFS.TURBO.0005	Internal server error	Internal error.	Contact technical support.
400	SFS.TURBO.0006	Invalid subnet	Invalid subnet.	Use valid parameters and try again.
400	SFS.TURBO.0007	Invalid share type	Invalid file system type.	Use valid parameters and try again.
400	SFS.TURBO.0008	Invalid size	Unsupported file system size.	Use valid parameters and try again.
409	SFS.TURBO.0009	Name has existed	File system name already exists.	Use valid parameters and try again.
400	SFS.TURBO.0010	Quota exceeds	Insufficient quota.	Submit a service order to increase quota.
400/403	SFS.TURBO.0011	Cluster is doing something	Another operation is being performed on the file system.	Wait until that operation is complete and try again.
400	SFS.TURBO.0015	do not have the operation permission	Insufficient permissions.	Apply for the required permissions.
400	SFS.TURBO.0016	Res tag count already reach max value	The maximum number of tags has been reached for the resource.	Delete unnecessary tags.
400	SFS.TURBO.0017	Invalid tag key param	The length of the resource tag key is invalid.	Use valid parameters and try again.
400	SFS.TURBO.0018	Invalid tag value param	The length of the resource tag value is invalid.	Use valid parameters and try again.

Status Code	Error Code	Error Message	Description	Solution
404	SFS.TURBO.0019	Invalid Job Id	Invalid job ID.	Use a valid job ID.
400	SFS.TURBO.0020	Invalid flavor	Invalid flavor.	Use a valid flavor.
400	SFS.TURBO.0021	file system not match	Unmatched type. The background disk type is not supported by this file system type.	Ensure that the background disk type is supported by the file system type.
400	SFS.TURBO.0022	backup name already exists	The backup name already exists.	Change the backup name.
400	SFS.TURBO.0023	Invalid flavor ref	Invalid specification code.	Use a valid specification code.
400	SFS.TURBO.0024	Operation is not allowed	Unsupported operation.	Contact technical support.
400	SFS.TURBO.0025	Invalid tag key param	The resource tag key contains invalid characters.	Use valid parameters and try again.
400	SFS.TURBO.0026	Invalid tag value param	The resource tag value contains invalid characters.	Use valid parameters and try again.
400	SFS.TURBO.0027	Invalid security group	Invalid security group.	Use valid parameters and try again.
400	SFS.TURBO.0028	Invalid crypt key	Invalid KMS key.	Use valid parameters and try again.
400	SFS.TURBO.0029	Subnet has not enough ips	Insufficient IP addresses in the subnet.	Use valid parameters and try again.

Status Code	Error Code	Error Message	Description	Solution
400	SFS.TURBO.0030	Ecs resource not enough	The ECS specification is sold out in the selected AZ.	Change the AZ and try again.
400	SFS.TURBO.0031	cache type not exist	The cache type is not found.	Use a valid cache type.
400	SFS.TURBO.0032	EVS Resource Not Enough	Insufficient EVS resources.	Enlarge EVS resources.
500	SFS.TURBO.0033	Get Client Ips Error	Failed to obtain client IP addresses.	Try again. If the fault persists, contact technical support.
400	SFS.TURBO.0034	dedicated storage resource not enough	Insufficient resources in the dedicated storage pool.	Expand the storage pool.
400	SFS.TURBO.0035	The current type does not support backup.	Unsupported type for backup.	Unsupported type for backup.
500	SFS.TURBO.0036	Failed to obtain the used capacity of the directory	Failed to obtain the used capacity of the directory.	Try again. If the fault persists, contact technical support.
400	SFS.TURBO.0037	Operation conflict, client retry	Operation conflict.	Try again with valid operations.
400	SFS.TURBO.0038	unknown error	Unknown error.	Contact technical support.
400	SFS.TURBO.0039	The VIP quota is insufficient	Insufficient virtual IP address quota.	Apply for a higher quota.

Status Code	Error Code	Error Message	Description	Solution
400	SFS.TURBO.0040	Insufficient Security Group Quota	Insufficient security group quota.	Apply for a higher quota.
400	SFS.TURBO.0041	Operation is not allowed	File system version too early.	Contact technical support.
404	SFS.TURBO.0042	Invalid NIC ID	The specified NIC ID is not found or is empty.	Use valid parameters and try again.
400	SFS.TURBO.0100	Invalid file system path	Invalid file system path.	Use a valid file system path.
404	SFS.TURBO.0101	The file system path does not exist	The file system path is not found.	Select a valid file system path.
400	SFS.TURBO.0102	The file system path is not a directory	The file system path is not a directory.	Select a valid file system path.
400	SFS.TURBO.0103	The file system is being processed	The file system is being processed.	Wait until the processing is complete.
500	SFS.TURBO.0104	Failed to import or export OBS data	Failed to import or export OBS data.	Try again. If the fault persists, contact technical support.
500	SFS.TURBO.0105	Failed to obtain OBS import and export task data	Failed to obtain the OBS import and export data.	Try again. If the fault persists, contact technical support.
400	SFS.TURBO.0106	The OBS task does not exist	The OBS task is not found.	Select an existing OBS task or create an OBS task.

Status Code	Error Code	Error Message	Description	Solution
400	SFS.TURBO.0107	OBS protocol error	Backend parameter type is incorrectly configured.	Contact technical support.
400	SFS.TURBO.0108	The OBS endpoint name is incorrect	Incorrect OBS domain name.	Contact technical support.
400	SFS.TURBO.0109	The OBS bucket name is incorrect	Incorrect OBS bucket name.	Use the correct OBS bucket name.
400	SFS.TURBO.0110	OBS agent error	The import or export task failed.	Contact technical support.
400	SFS.TURBO.0111	The OBS configuration list is empty	The OBS configuration list is empty.	Use valid OBS configuration information.

8.3 Obtaining a Project ID

A project ID is required for some URLs when an API is called. Therefore, you need to obtain a project ID in advance. The steps are as follows:

1. Obtain the token.

For details, see [Token Authentication](#).

2. Obtain a project ID.

The API for obtaining the project ID is **GET https://iam.eu-west-0.myhuaweicloud.com/v3/projects**.

Add **X-Auth-Token** to the request header and set its value to the token obtained in the preceding step.

The following is an example response. The value of **id** is the project ID to be obtained.

```
{
  "links": {},
  "projects": [
    {
      "is_domain": ,
      "description": "",
      "links": {},
      "enabled": true,
      "id": "", // Project ID
      "parent_id": "",
      "domain_id": "",
      "name": ""
    }
  ]
}
```

```
    },  
    ...  
  ]  
}
```

A Change History

Released On	Description
2020-12-11	This issue is the second official release. Updated the following content: Updated the entire document based on the version.
2018-12-30	This issue is the first official release.