

Scalable File Service

API Reference

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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 [Service Overview](#).

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 [Quotas](#).
- 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**

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

For details, see [Region and AZ](#).
- **AZ**

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

A project corresponds to a region. Default projects are defined. 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.
- **Enterprise project**

Enterprise projects group and manage resources across regions. Resources in different enterprise projects are logically isolated.

For details about enterprise projects and about how to obtain enterprise project IDs, see [Enterprise Management User Guide](#).

2 API Overview

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 2-1 API overview

Type	Category	Description
SFS Turbo API	Lifecycle management	You can use APIs in this category to create file systems, delete file systems, list file systems, and query file system details.
SFS Turbo API	Storage capacity management	You can use APIs in this category to expand the capacity of a specified file system.
SFS Turbo API	Connection management	You can use APIs in this category to change the security group of 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. For example, the endpoint of IAM in region Dublin is iam.myhuaweicloud.eu .
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 .

Parameter	Description
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.

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

`https://iam.myhuaweicloud.eu/v3/auth/tokens`

 **NOTE**

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

Request Methods

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

Table 3-2 HTTP methods

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

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

`POST https://iam.myhuaweicloud.eu/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://iam.myhuaweicloud.eu/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 *xxxxxxxxxxxxxxxxxxx* (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://iam.myhuaweicloud.eu/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://iam.myhuaweicloud.eu/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.

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 → MIIYXQVJKoZihvcNAQcCoIIYJCCGEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0B8wGgghacBIIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjwMTktMDItMTNUMC
fj3Ks6YgKnpVNRbW2eZ5eb78SZOkqjACgklqO1wi4JlGzrpd18LGXK5bldfq4lqHCYb8P4NaY0NYejcAgzJVeFYtLWT1GSO0zxKZmlQHQj82HBqHdgIZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jipPEGA270g1FruooL6jqglFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxJECknoH3HRozv0vN--n5d6Nbxg==
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 format of message is error",

```

```
"error_code": "AS.0001"  
}
```

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

4 Getting Started with SFS Turbo

This section describes how to use APIs by calling an API to create an SFS Turbo file system.

NOTE

The token obtained from IAM is valid for only 24 hours. If you want to use one token for authentication, you can cache it to avoid frequently calling.

Involved APIs

If you use a token for authentication, you must obtain the token and add **X-Auth-Token** to the request header of the API when making a call. The following APIs are involved in the request for creating an SFS Turbo file system:

- API for obtaining tokens from IAM
- For details about how to create an SFS Turbo file system, see [Creating a File System](#).

Procedure

Step 1 Obtain the token by following instructions in [Authentication](#).

Step 2 Add **X-Auth-Token** to the request header.

Step 3 Specify the following parameters in the request body:

```
{
  "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"
  }
}
```

Step 4 Send the request **POST** https://Endpoint of SFS Turbo/v1/{project_id}/sfs-turbo/shares.

Step 5 After the request is successfully responded, the ID and name of the SFS Turbo file system are returned.

If the request fails, an error code and error information are returned. For details about the error codes, see the abnormal return values of the corresponding API.

Query SFS Turbo file system details based on the returned file system ID. For details, see [Querying Details About a File System](#).

If the returned status of the file system is **200**, the SFS Turbo file system is successfully created. For details about the return values of request exceptions, see the abnormal return values of the corresponding API. For other statuses, see [SFS Turbo File System Statuses](#).

You can query and delete an SFS Turbo file system based on the file system ID.

----End

Configuration Example

If the token has been obtained, you can run the following **curl** command to create an SFS Turbo file system:

```
curl -k -i -X POST -H "X-Auth-Token: token_value" -H "Content-Type: application/json" -d '{"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"}}' "https://127.0.0.1:8979/v1/xxxboxbex5cfx41f0a08ay915fd79240d/sfs-turbo/shares"
```

5 SFS Turbo APIs

5.1 Lifecycle Management

5.1.1 Creating a File System

Function

This API is used to create a file system.

URI

POST /v1/{project_id}/sfs-turbo/shares

Table 5-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

Table 5-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Table 5-3 Request body parameters

Parameter	Mandatory	Type	Description
share	Yes	Share object	Request body for creating a file system

Table 5-4 Share

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	Code of the AZ where the file system resides
description	No	String	Description of the file system, which can contain 0 to 255 characters. This parameter is not supported by the current version.
enterprise_project_id	No	String	ID of the enterprise project to which the file system will be added
metadata	No	Metadata object	Metadata of the file system. The value consists of key and value pairs as a directory of strings.
name	Yes	String	Name of the SFS Turbo file system. The name contains 4 to 64 characters and must start with a letter. It can contain letters (case insensitive), digits, hyphens (-), and underscores (_), and cannot contain other special characters.
security_group_id	Yes	String	Security group ID of a tenant in a region
share_protocol	Yes	String	File sharing protocol. 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.

Parameter	Mandatory	Type	Description
share_type	Yes	String	<p>File system type. Valid values are STANDARD and PERFORMANCE. This field is not returned when the file system is being created.</p> <ul style="list-style-type: none"> For a previous-generation SFS Turbo file system, specify STANDARD for a Standard or Standard-Enhanced file system, and PERFORMANCE for a Performance or Performance-Enhanced file system. For a 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, or 20 MB/s/TiB file system, this field is not verified. Specify either STANDARD or PERFORMANCE.

Parameter	Mandatory	Type	Description
size	Yes	Integer	<ul style="list-style-type: none"> For a previous-generation SFS Turbo file system, the capacity ranges from 500 to 32768, in GiB. For a previous-generation SFS Turbo file system with expand_type="bandwidth" configured under metadata, the capacity ranges from 10240 to 3276800, in GiB. For a 20 MB/s/TiB file system with expand_type="hpc" and hpc_bw="20M" configured under metadata, the capacity ranges from 3686 to 1048576 (in GiB) and must be a multiple of 1.2 TiB. The desired capacity must be converted to GiB and rounded down to the nearest integer. For example, specify 3686 GiB for a 3.6 TiB file system, 4915 GiB for a 4.8 TiB file system, and 8601 GiB for a 8.4 TiB file system. For a 40 MB/s/TiB file system with expand_type="hpc" and hpc_bw="40M" configured under metadata, the capacity ranges from 1228 to 1048576 (in GiB) and must be a multiple of 1.2 TiB. The desired capacity must be converted to GiB and rounded down to the nearest integer. For example, specify 3686 GiB for a 3.6 TiB file system, 4915 GiB for a 4.8 TiB file system, and 8601 GiB for a 8.4 TiB file system. For a 125 MB/s/TiB file system with expand_type="hpc" and hpc_bw="125M"

Parameter	Mandatory	Type	Description
			<p>configured under metadata, the capacity ranges from 1228 to 1048576 (in GiB) and must be a multiple of 1.2 TiB. The desired capacity must be converted to GiB and rounded down to the nearest integer. For example, specify 3686 GiB for a 3.6 TiB file system, 4915 GiB for a 4.8 TiB file system, and 8601 GiB for a 8.4 TiB file system.</p> <ul style="list-style-type: none"> For a 250 MB/s/TiB file system with expand_type="hpc" and hpc_bw="250M" configured under metadata, the capacity ranges from 1228 to 1048576 (in GiB) and must be a multiple of 1.2 TiB. The desired capacity must be converted to GiB and rounded down to the nearest integer. For example, specify 3686 GiB for a 3.6 TiB file system, 4915 GiB for a 4.8 TiB file system, and 8601 GiB for a 8.4 TiB file system. - For a 500 MB/s/TiB file system with expand_type="hpc" and hpc_bw="500M" configured under metadata, the capacity ranges from 1228 to 1048576 (in GiB) and must be a multiple of 1.2 TiB. The desired capacity must be converted to GiB and rounded down to the nearest integer. For example, specify 3686 GiB for a 3.6 TiB file system, 4915 GiB for a 4.8 TiB file system, and 8601 GiB for a 8.4 TiB file system. - For a 1,000 MB/s/TiB file system with

Parameter	Mandatory	Type	Description
			expand_type="hpc" and hpc_bw="1000M" configured under metadata , the capacity ranges from 1228 to 1048576 (in GiB) and must be a multiple of 1.2 TiB. The desired capacity must be converted to GiB and rounded down to the nearest integer. For example, specify 3686 GiB for a 3.6 TiB file system, 4915 GiB for a 4.8 TiB file system, and 8601 GiB for a 8.4 TiB file system.
subnet_id	Yes	String	Subnet ID of a tenant in a VPC
vpc_id	Yes	String	VPC ID of a tenant in a region
backup_id	No	String	Backup ID. This parameter is mandatory if you create a file system from a backup.
tags	No	Array of ResourceTag objects	Tag list

Table 5-5 Metadata

Parameter	Mandatory	Type	Description
crypt_key_id	No	String	ID of a KMS professional key. This parameter is used if you want to create an encrypted file system.
dedicated_flavor	No	String	VM flavor used for creating a dedicated file system
dedicated_storage_id	No	String	ID of the dedicated distributed storage used when creating a dedicated file system

Parameter	Mandatory	Type	Description
expand_type	No	String	<p>Extension type. This parameter is not returned when the file system is being created.</p> <p>This parameter is mandatory when you are creating an SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, 20 MB/s/TiB, or Enhanced file system.</p> <ul style="list-style-type: none"> Specify bandwidth when you are creating a Standard-Enhanced or Performance-Enhanced file system. Specify hpc when you are creating a 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, or 20 MB/s/TiB file system.
hpc_bw	No	String	<p>File system bandwidth.</p> <p>This parameter is mandatory when you are creating an SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, or 20 MB/s/TiB file system.</p> <p>Specify 20M for a 20 MB/s/TiB file system, 40M for a 40 MB/s/TiB file system, 125M for a 125 MB/s/TiB file system, and 250M for a 250 MB/s/TiB file system. Specify 500M for a 500 MB/s/TiB file system and 1000M for a 1,000 MB/s/TiB file system.</p>

Table 5-6 ResourceTag

Parameter	Mandatory	Type	Description
key	Yes	String	<p>Tag key.</p> <p>It can contain a maximum of 128 characters.</p> <p>It cannot be left empty and cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).</p>
value	Yes	String	<p>Tag value.</p> <p>Each tag value can contain a maximum of 255 characters and can be an empty string.</p> <p>It cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).</p>

Table 5-7 BssInfo

Parameter	Mandatory	Type	Description
is_auto_renew	No	Long	Whether to enable automatic renewal
period_num	Yes	Long	Yearly/Monthly subscription terms
period_type	Yes	Long	Yearly/Monthly subscription type. The value can be 2 (monthly subscription) or 3 (yearly subscription).
is_auto_pay	No	Long	Whether to automatically pay for the order

Response Parameters

Status code: 202

Table 5-8 Response body parameters

Parameter	Type	Description
id	String	ID of the created SFS Turbo file system
name	String	Name of the created SFS Turbo file system
status	String	Status of the SFS Turbo file system

Example Requests

- Previous-generation SFS Turbo file system:

This example creates an SFS Turbo Standard file system in the AZ whose AZ code is **example**, with the file system name set to **sfs-turbo-test**, protocol type to NFS, capacity to 500 GB. The security group ID is **8c4ebbd0-6edf-4aae-8353-xxx**, the subnet ID is **b8884abe-f47b-4917-9f6c-xxx**, and the VPC ID is **d651ea2b-2b20-4c6d-8bbf-xxx**.

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares
```

```
{
  "share": {
    "name": "sfs-turbo-test",
    "availability_zone": "example",
    "security_group_id": "8c4ebbd0-6edf-4aae-8353-xxx",
    "share_proto": "NFS",
    "share_type": "STANDARD",
    "size": 500,
    "subnet_id": "b8884abe-f47b-4917-9f6c-xxx",
    "vpc_id": "d651ea2b-2b20-4c6d-8bbf-xxx"
  }
}
```

- Previous-generation SFS Turbo file system in a dedicated scenario:

This example creates an SFS Turbo Standard file system in the AZ whose AZ code is **example**, with the file system name set to **sfs-turbo-dedicated-test**, protocol type to NFS, capacity to 500 GB. The dedicated storage pool ID is **198f0704-xxx-4d85-xxx-c25caa4d3264**, the dedicated ECS flavor is **c6.xlarge.2**, the security group ID is **8c4ebbd0-6edf-4aae-8353-xxx**, the subnet ID is **b8884abe-f47b-4917-9f6c-xxx**, and the VPC ID is **d651ea2b-2b20-4c6d-8bbf-xxx**.

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares
```

```
{
  "share": {
    "name": "sfs-turbo-dedicated-test",
    "availability_zone": "example",
    "security_group_id": "8c4ebbd0-6edf-4aae-8353-xxx",
    "share_proto": "NFS",
    "share_type": "STANDARD",
    "size": 500,
    "subnet_id": "b8884abe-f47b-4917-9f6c-xxx",
    "vpc_id": "d651ea2b-2b20-4c6d-8bbf-xxx",
    "metadata": {
      "dedicated_flavor": "c6.xlarge.2",
    }
  }
}
```

```

        "dedicated_storage_id" : "198f0704-xxx-4d85-xxx-c25caa4d3264"
    }
}

```

- 125 MB/s/TiB:

This example creates an SFS Turbo 125 MB/s/TiB file system in the AZ whose AZ code is **example**, with the file system name set to **sfs-turbo-test**, protocol type to NFS, capacity to 3686 GB. The security group ID is **8c4ebbd0-6edf-4aae-8353-xxx**, the subnet ID is **b8884abe-f47b-4917-9f6c-xxx**, and the VPC ID is **d651ea2b-2b20-4c6d-8bbf-xxx**.

POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares

```

{
  "share" : {
    "name" : "sfs-turbo-test",
    "availability_zone" : "example",
    "security_group_id" : "8c4ebbd0-6edf-4aae-8353-xxx",
    "share_proto" : "NFS",
    "share_type" : "STANDARD",
    "size" : 3686,
    "subnet_id" : "b8884abe-f47b-4917-9f6c-xxx",
    "vpc_id" : "d651ea2b-2b20-4c6d-8bbf-xxx",
    "metadata" : {
      "expand_type" : "hpc",
      "hpc_bw" : "125M"
    }
  }
}

```

Example Responses

Status code: 202

Response body for creating a file system

```

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

```

Status Codes

Status Code	Description
202	Response body for creating a file system

Error Codes

See [Error Codes](#).

5.1.2 Querying Details About a File System

Function

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

URI

GET /v1/{project_id}/sfs-turbo/shares/{share_id}

Table 5-9 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-10 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

Status code: 200

Table 5-11 Response body parameters

Parameter	Type	Description
action_progress	ActionProgress object	Creation progress of the SFS Turbo file system. This field is only returned when the file system is being created.
version	String	Version of the SFS Turbo file system
avail_capacity	String	Available capacity of the SFS Turbo file system, in GB
availability_zone	String	Code of the AZ where the SFS Turbo file system resides
az_name	String	Name of the AZ where the SFS Turbo file system resides
created_at	String	Time when the file system was created. UTC time, for example: 2018-11-19T04:02:03
crypt_key_id	String	ID of the encryption key specified by the user. This parameter is not returned for non-encrypted file systems.

Parameter	Type	Description
expand_type	String	For an Enhanced file system, bandwidth is returned. For a 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, or 20 MB/s/TiB file system, hpc is returned. For other types of file systems, this field is not returned.
export_location	String	Location where the SFS Turbo file system is mounted. For example, 192.168.0.90:/. If the file system is being created, this parameter is not returned.
id	String	ID of the SFS Turbo file system
name	String	Name of the SFS Turbo file system specified during creation
pay_model	String	Billing mode of the SFS Turbo file system. Value 0 indicates pay-per-use. If the file system is being created, this field is not returned.
region	String	Region where the SFS Turbo file system resides
security_group_id	String	ID of the security group specified by the user
share_proto	String	Protocol used by the SFS Turbo file system. The valid value is NFS .
share_type	String	Storage class of the SFS Turbo file system. Valid values are STANDARD and PERFORMANCE .
size	String	Total capacity of the SFS Turbo file system, in GB
status	String	SFS Turbo file system status. The value can be as follows: 100 (creating), 200 (available), 303 (creation failed), and 800 (frozen)

Parameter	Type	Description
sub_status	String	<p>Sub-status of the SFS Turbo file system. The value can be as follows: This field is not returned if no modification is made to the file system.</p> <p>121 (expanding capacity), 132 (changing security group), 137 (adding authorized VPC), 138 (removing authorized VPC), 150* (adding storage backend), 151 (removing storage backend)</p> <p>221 (expansion succeeded), 232 (security group changed), 237 (authorized VPC added), 238 (authorized VPC removed), 250 (storage backend added), 257* (storage backend removed)</p> <p>321 (expansion failed), 332 (changing security group failed), 337 (adding authorized VPC failed), 338 (removing authorized VPC failed), 350 (adding storage backend failed), 351 (removing storage backend failed)</p>
subnet_id	String	ID of the subnet specified by the user
vpc_id	String	ID of the VPC specified by the user
enterprise_project_id	String	ID of the enterprise project to which the SFS Turbo file system is added
tags	Array of ResourceTag objects	Tag list
optional_endpoint	String	Alternative IP addresses that can be used for mounting. This field is not returned for previous-generation file systems.
hpc_bw	String	<p>File system bandwidth.</p> <ul style="list-style-type: none"> ● "20M": 20 MB/s/TiB ● "40M": 40 MB/s/TiB ● "125M": 125 MB/s/TiB ● "250M": 250 MB/s/TiB - "500M": 500 MB/s/TiB - "1000M": 1,000 MB/s/TiB
instanceId	String	Node ID of the file system type. This is a reserved field.
instanceType	String	Node type of the file system type. This is a reserved field.

Parameter	Type	Description
statusDetail	String	Request ID of the file system. This is a reserved field.
features	String	Whether backup is supported for SFS turbo file systems.

Table 5-12 ActionProgress

Parameter	Type	Description
CREATING	String	File system creation progress

Table 5-13 ResourceTag

Parameter	Type	Description
key	String	Tag key. It can contain a maximum of 128 characters. It cannot be left empty and cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).
value	String	Tag value. Each tag value can contain a maximum of 255 characters and can be an empty string. It cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).

Example Requests

Querying the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
GET HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4dde
```

Example Responses

Status code: 200

Response body for querying a file system

```
{
  "id": "8fba8253-c914-439d-ae8b-d5c89d0bf5e8",
  "name": "sfs-turbo-8468",
  "status": "200",
  "version": "1.0.0",
  "region": "example",
  "availability_zone": "example",
  "az_name": "example",
  "created_at": "2018-11-19T04:02:03",
  "export_location": "192.168.xx.xx:/",
  "action_progress": { },
  "share_type": "STANDARD",
  "sub_status": "221",
  "vpc_id": "b24e39e1-bc0c-475b-ae0c-ae9cf240af3",
  "subnet_id": "86fc01ea-8ec8-409d-ba7a-e0ea16d4fd97",
  "security_group_id": "50586458-aec9-442c-bb13-e08ddc6f1b7a",
  "size": "600.00",
  "avail_capacity": "600.00",
  "pay_model": "0",
  "share_proto": "NFS"
}
```

Status Codes

Status Code	Description
200	Response body for querying a file system

Error Codes

See [Error Codes](#).

5.1.3 Deleting a File System

Function

This API is used to delete a file system.

URI

DELETE /v1/{project_id}/sfs-turbo/shares/{share_id}

Table 5-14 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-15 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

None

Example Requests

Deleting the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
DELETE HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4dde
```

Example Responses

None

Status Codes

Status Code	Description
202	File system deletion request delivered.

Error Codes

See [Error Codes](#).

5.1.4 Obtaining the File System List

Function

This API is used to obtain the file system list.

URI

```
GET /v1/{project_id}/sfs-turbo/shares/detail
```

Table 5-16 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Table 5-17 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Long	Specifies the maximum number of returned file systems. If this parameter is not specified, the default value 1000 is used.
offset	No	Long	Sets the offset of the returned file system.

Request Parameters

Table 5-18 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

Status code: 200

Table 5-19 Response body parameters

Parameter	Type	Description
shares	Array of ShareInfo objects	List of SFS Turbo file systems
count	Integer	Number of SFS Turbo file systems

Table 5-20 ShareInfo

Parameter	Type	Description
action_progress	ActionProgress object	Creation progress of the SFS Turbo file system. This field is only returned when the file system is being created.
version	String	Version of the SFS Turbo file system
avail_capacity	String	Available capacity of the SFS Turbo file system, in GB
availability_zone	String	Code of the AZ where the SFS Turbo file system resides
az_name	String	Name of the AZ where the SFS Turbo file system resides
created_at	String	Time when the file system was created. UTC time, for example: 2018-11-19T04:02:03
crypt_key_id	String	ID of the encryption key specified by the user. This parameter is not returned for non-encrypted file systems.
expand_type	String	For an Enhanced file system, bandwidth is returned. For a 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, or 20 MB/s/TiB file system, hpc is returned. For other types of file systems, this field is not returned.
export_location	String	Location where the SFS Turbo file system is mounted. For example, 192.168.0.90:/. If the file system is being created, this parameter is not returned.
id	String	ID of the SFS Turbo file system
name	String	Name of the SFS Turbo file system specified during creation
pay_model	String	Billing mode of the SFS Turbo file system. Value 0 indicates pay-per-use. If the file system is being created, this field is not returned.
region	String	Region where the SFS Turbo file system resides
security_group_id	String	ID of the security group specified by the user
share_proto	String	Protocol used by the SFS Turbo file system. The valid value is NFS .
share_type	String	Storage class of the SFS Turbo file system. Valid values are STANDARD and PERFORMANCE .

Parameter	Type	Description
size	String	Total capacity of the SFS Turbo file system, in GB
status	String	SFS Turbo file system status. The value can be as follows: 100 (creating), 200 (available), 303 (creation failed), and 800 (frozen)
sub_status	String	Sub-status of the SFS Turbo file system. The value can be as follows: This field is not returned if no modification is made to the file system. 121 (expanding capacity), 132 (changing security group), 137 (adding authorized VPC), 138 (removing authorized VPC), 150* (adding storage backend), 151 (removing storage backend) 221 (expansion succeeded), 232 (security group changed), 237 (authorized VPC added), 238 (authorized VPC removed), 250 (storage backend added), 257* (storage backend removed) 321 (expansion failed), 332 (changing security group failed), 337 (adding authorized VPC failed), 338 (removing authorized VPC failed), 350 (adding storage backend failed), 351 (removing storage backend failed)
subnet_id	String	ID of the subnet specified by the user
vpc_id	String	ID of the VPC specified by the user
enterprise_project_id	String	ID of the enterprise project to which the SFS Turbo file system is added
tags	Array of ResourceTag objects	Tag list
optional_endpoint	String	Alternative IP addresses that can be used for mounting. This field is not returned for previous-generation file systems.
hpc_bw	String	File system bandwidth. <ul style="list-style-type: none"> • "20M": 20 MB/s/TiB • "40M": 40 MB/s/TiB • "125M": 125 MB/s/TiB • "250M": 250 MB/s/TiB - "500M": 500 MB/s/TiB - "1000M": 1,000 MB/s/TiB

Parameter	Type	Description
instanceId	String	Node ID of the file system type. This is a reserved field.
instanceType	String	Node type of the file system type. This is a reserved field.
statusDetail	String	Request ID of the file system. This is a reserved field.
features	String	Whether backup is supported for SFS turbo file systems.

Table 5-21 ActionProgress

Parameter	Type	Description
CREATING	String	File system creation progress

Table 5-22 ResourceTag

Parameter	Type	Description
key	String	Tag key. It can contain a maximum of 128 characters. It cannot be left empty and cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).
value	String	Tag value. Each tag value can contain a maximum of 255 characters and can be an empty string. It cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).

Example Requests

Querying file systems in the project whose ID
e1e45b08f3ea4480ab4655ef9c7160ba

GET [HTTPS://\[endpoint\]/v1/e1e45b08f3ea4480ab4655ef9c7160ba/sfs-turbo/shares/detail](https://[endpoint]/v1/e1e45b08f3ea4480ab4655ef9c7160ba/sfs-turbo/shares/detail)

Example Responses

Status code: 200

Response body for querying the file system list

```
{
  "shares" : [ {
    "id" : "8fba8253-c914-439d-ae8b-d5c89d0bf5e8",
    "name" : "sfs-turbo-8468",
    "status" : "100",
    "version" : "1.0.0",
    "region" : "example",
    "created_at" : "2018-11-19T04:02:03",
    "action_progress" : {
      "CREATING" : "22%"
    }
  },
  "share_type" : "STANDARD",
  "sub_status" : "",
  "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",
  "region" : "example",
  "created_at" : "2018-11-15T02:32:10",
  "export_location" : "192.168.xx.xx:/",
  "optional_endpoint" : "192.168.xx.xx 192.168.xx.xx",
  "share_type" : "HPC_PERFORMANCE_250M",
  "expand_type" : "hpc",
  "sub_status" : "",
  "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" : "3686.00",
  "pay_model" : "0",
  "avail_capacity" : "3686.00",
  "share_proto" : "NFS"
} ]
}
```

Status Codes

Status Code	Description
200	Response body for querying the file system list

Error Codes

See [Error Codes](#).

5.1.5 Expanding the Capacity of a File System

Function

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

URI

POST /v1/{project_id}/sfs-turbo/shares/{share_id}/action

Table 5-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-24 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Table 5-25 Request body parameters

Parameter	Mandatory	Type	Description
extend	Yes	Extend object	Object of extend

Table 5-26 Extend

Parameter	Mandatory	Type	Description
new_size	Yes	Integer	<p>New capacity of the file system, in GiB</p> <p>For a previous-generation Standard or Performance file system, the capacity ranges from 500 to 32768 (in GiB), and the expansion increment is 100 GiB.</p> <p>For a previous-generation Standard-Enhanced or Performance-Enhanced file system, the capacity ranges from 10240 to 327680 (in GiB), and the expansion increment is 100 GiB.</p> <p>For a 20 MB/s/TiB file system, the capacity ranges from 3686 to 1048576 (in GiB) and must be a multiple of 1.2 TiB. The desired capacity must be converted to GiB and rounded down to the nearest integer. For example, use 4915 GiB for a 4.8 TiB file system and 8601 GiB for a 8.4 TiB file system. The expansion increment is 1.2 TiB.</p> <p>For a 40 MB/s/TiB file system, the capacity ranges from 1228 to 1048576 (in GiB) and must be a multiple of 1.2 TiB. The desired capacity must be converted to GiB and rounded down to the nearest integer. For example, use 4915 GiB for a 4.8 TiB file system and 8601 GiB for a 8.4 TiB file system. The expansion increment is 1.2 TiB.</p> <p>The capacity range and expansion increment of 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB and 125 MB/s/TiB file systems are the same as those of 40 MB/s/TiB file systems.</p>

Table 5-27 BssInfoExtend

Parameter	Mandatory	Type	Description
is_auto_pay	No	Long	Whether to enable automatic payment

Response Parameters

Status code: 202

Table 5-28 Response body parameters

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

Example Requests

Expanding the capacity of a file system to 1,000 GB

```
{
  "extend": {
    "new_size": 1000
  }
}
```

Example Responses

Status code: 202

Response body for expanding the capacity of a file system

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

Status Codes

Status Code	Description
202	Response body for expanding the capacity of a file system

Error Codes

See [Error Codes](#).

5.2 Connection Management

5.2.1 Changing the Security Group Associated with a File System

Function

This API is used to change the security group associated with an SFS Turbo file system. Security group change is an asynchronous task. You can check whether the security group is changed based on the value of **sub_status** returned after calling the API to query details of a file system. If value **232** is returned, the security group has been changed.

URI

POST /v1/{project_id}/sfs-turbo/shares/{share_id}/action

Table 5-29 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-30 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Table 5-31 Request body parameters

Parameter	Mandatory	Type	Description
change_security_group	Yes	ChangeSecurityGroup object	Object of change_security_group

Table 5-32 ChangeSecurityGroup

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	ID of the security group to be changed

Response Parameters

Status code: 202

Table 5-33 Response body parameters

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

Example Requests

Changing the security group of a file system (target security group ID **26f6b565-240e-43c3-8867-03f0bd975433**)

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

Example Responses

Status code: 202

ID of the SFS Turbo file system

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

Status Codes

Status Code	Description
202	ID of the SFS Turbo file system

Error Codes

See [Error Codes](#).

5.3 Tag Management

5.3.1 Adding a Tag for a File System

Function

This API is used to add a tag to a specified file system.

A maximum of 20 tags can be added to a file system.

Tag keys added to the same file system must be unique.

This API is idempotent. If the file system already has the key you want to add, the tag will be updated.

URI

POST /v1/{project_id}/sfs-turbo/{share_id}/tags

Table 5-34 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-35 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Table 5-36 Request body parameters

Parameter	Mandatory	Type	Description
tag	Yes	ResourceTag object	Description of the resource_tag field

Table 5-37 ResourceTag

Parameter	Mandatory	Type	Description
key	Yes	String	<p>Tag key.</p> <p>It can contain a maximum of 128 characters.</p> <p>It cannot be left empty and cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).</p>
value	Yes	String	<p>Tag value.</p> <p>Each tag value can contain a maximum of 255 characters and can be an empty string.</p> <p>It cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).</p>

Response Parameters

None

Example Requests

Creating a file system tag, with tag value set to **key1** and tag key **value1**

```
{
  "tag": {
    "key": "key1",
    "value": "value1"
  }
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Tag adding request delivered.

Error Codes

See [Error Codes](#).

5.3.2 Querying Tags of a File System

Function

This API is used to query all tags of a specified file system.

URI

GET /v1/{project_id}/sfs-turbo/{share_id}/tags

Table 5-38 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-39 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

Status code: 200

Table 5-40 Response body parameters

Parameter	Type	Description
tags	Array of ResourceTag objects	Tag list
sys_tags	Array of ResourceTag objects	<p>Only users with the op_service permission can obtain this field.</p> <ol style="list-style-type: none"> 1. This field currently contains only one resource_tag structure key, _sys_enterprise_project_id. 2. The key contains only value 0 currently, which indicates the default enterprise project. <p>This field is not returned for users without the op_service permission.</p>

Table 5-41 ResourceTag

Parameter	Type	Description
key	String	<p>Tag key.</p> <p>It can contain a maximum of 128 characters. It cannot be left empty and cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).</p>
value	String	<p>Tag value.</p> <p>Each tag value can contain a maximum of 255 characters and can be an empty string. It cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).</p>

Example Requests

Querying tags of the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
GET HTTPS://{endpoint}/v1/v1/{project_id}/sfs-turbo/77ba6f4b-6365-4895-8dda-bc7142af4dde/tags
```

Example Responses

Status code: 200

Response body for query all tags of a specified file system

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

Status Codes

Status Code	Description
200	Response body for query all tags of a specified file system

Error Codes

See [Error Codes](#).

5.3.3 Deleting a Tag of a File System

Function

This API is used to delete a tag of a specified file system. If the key to be deleted does not exist, error 404 will be returned.

URI

DELETE /v1/{project_id}/sfs-turbo/{share_id}/tags/{key}

Table 5-42 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Parameter	Mandatory	Type	Description
key	Yes	String	<p>Tag key, which can contain a maximum of 128 characters.</p> <p>It cannot be left blank and cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).</p> <p>When this API is called to delete a tag, if the tag key contains special characters that cannot be directly resolved by the URL, the key needs to be escaped.</p>

Request Parameters

Table 5-43 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

None

Example Requests

Deleting tags whose key is **test** for the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
DELETE HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/77ba6f4b-6365-4895-8dda-bc7142af4dde/tags/test
```

Example Responses

None

Status Codes

Status Code	Description
204	File system tag deleted.

Error Codes

See [Error Codes](#).

5.3.4 Batch Adding Tags to a File System

Function

This API is used to batch add tags for a specified file system.

A maximum of 20 tags can be added to a file system.

Tag keys added to the same file system must be unique.

This API is idempotent. If the file system already has the key you want to add, the tag will be updated.

URI

POST /v1/{project_id}/sfs-turbo/{share_id}/tags/action

Table 5-44 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-45 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Table 5-46 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Operation identifier. The value is create . Use create if you want to batch add tags to a file system.
tags	No	Array of ResourceTag objects	Tag list. This field is mandatory for users. For users with the op_service permission, choose either this field or sys_tags .
sys_tags	No	Array of ResourceTag objects	System tag list. This field is available only to users with the op_service permission. Choose either this field or tags . Only one resource_tag structure key, _sys_enterprise_project_id , is used in TMS calls.

Table 5-47 ResourceTag

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. It can contain a maximum of 128 characters. It cannot be left empty and cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).

Parameter	Mandatory	Type	Description
value	Yes	String	Tag value. Each tag value can contain a maximum of 255 characters and can be an empty string. It cannot contain the following characters: ASCII (0-31), equal signs (=), asterisks (*), left angle brackets (<), right angle brackets (>), backslashes (\), commas (,), vertical bars (), and slashes (/). It can contain only letters, digits, hyphens (-), and underscores (_).

Response Parameters

None

Example Requests

Batch adding tags for a file system, with tag key of the first tag set to **key1**, tag value of the first tag **value1**, tag key of the second tag **key2**, and tag value of the second tag **value1**

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

Example Responses

None

Status Codes

Status Code	Description
204	File system tags added.

Error Codes

See [Error Codes](#).

5.3.5 Querying Tags of All File Systems of a Tenant

Function

This API is used to query the tags of all file systems of a tenant.

URI

GET /v1/{project_id}/sfs-turbo/tags

Table 5-48 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Table 5-49 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of returned tags
offset	No	Integer	Tag query offset

Request Parameters

Table 5-50 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

Status code: 200

Table 5-51 Response body parameters

Parameter	Type	Description
tags	Array of Tag objects	Tag list

Table 5-52 Tag

Parameter	Type	Description
key	String	Tag key. A key can contain a maximum of 128 characters and cannot be left blank.
values	Array of strings	Tag values. Each value can contain a maximum of 255 characters. An empty list of values can match with any value. All values of a tag key are in the OR relationship.

Example Requests

Query tags of all file systems in the project whose ID is **e1e45b08f3ea4480ab4655ef9c7160ba**

```
GET HTTPS://{endpoint}/v1/e1e45b08f3ea4480ab4655ef9c7160ba/sfs-turbo/tags
```

Example Responses

Status code: 200

Response body for querying a file system

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

Status Codes

Status Code	Description
200	Response body for querying a file system

Error Codes

See [Error Codes](#).

5.4 Name Management

5.4.1 Changing the Name of a File System

Function

This API is used to change the name of an SFS Turbo file system.

URI

POST /v1/{project_id}/sfs-turbo/shares/{share_id}/action

Table 5-53 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-54 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Table 5-55 Request body parameters

Parameter	Mandatory	Type	Description
change_name	Yes	ShareName object	SFS Turbo file system to be modified

Table 5-56 ShareName

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the SFS Turbo file system to be modified

Response Parameters

None

Example Requests

Changing the name of an SFS Turbo file system to **sfs-turbo-test1**

```
{
  "change_name" : {
    "name" : "sfs-turbo-test1"
  }
}
```

Example Responses

None

Status Codes

Status Code	Description
204	Request successful
400	Invalid parameter
409	The file system name already exists.
500	Internal error

Error Codes

See [Error Codes](#).

5.5 Permissions Management

5.5.1 Creating a Permission Rule

Function

This API is used to create a permission rule.

Constraints

A maximum of 64 permissions rules can be configured for a file system.

URI

POST /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/perm-rules

Table 5-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Request Parameters

Table 5-58 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Table 5-59 Request body parameters

Parameter	Mandatory	Type	Description
rules	Yes	Array of OnePermRuleRequestInfo objects	Permission rule details. A maximum of five rules can be created at a time.

Table 5-60 OnePermRuleRequestInfo

Parameter	Mandatory	Type	Description
ip_cidr	No	String	IP address or IP address range of the object to be authorized. Once configured, this parameter cannot be modified.
rw_type	No	String	Read/write permission of the object to be authorized. <ul style="list-style-type: none"> rw: read and write permission, which is the default option ro: read-only permission none: no permission

Parameter	Mandatory	Type	Description
user_type	No	String	System user's permission to access the file system. The value can be any of the following: <ul style="list-style-type: none"> no_root_squash: default option. The client uses any user, including the root user. The NFS server retains the user used by the client and does not map the user. root_squash: When the client uses the root user, the user mapped to the NFS server is the NFS anonymous user (nfsnobody). If the client uses a non-root user, the NFS server retains the user used by the client and does not map the user. all_squash: All users of clients that access the NFS server are mapped as anonymous users.

Response Parameters

Status code: 200

Table 5-61 Response body parameters

Parameter	Type	Description
rules	Array of OnePermRuleResponseInfo objects	Permission rule details

Table 5-62 OnePermRuleResponseInfo

Parameter	Type	Description
id	String	Permission rule ID
ip_cidr	String	IP address or IP address range of the authorized object

Parameter	Type	Description
rw_type	String	Read/write permission of the authorized object. <ul style="list-style-type: none"> • rw: read and write permission, which is the default option • ro: read-only permission • none: no permission
user_type	String	File system access permission granted to the user of the authorized object. Supported values are: <ul style="list-style-type: none"> • no_root_squash: allows the root user on the client to access the file system as root. • root_squash: allows the root user on the client to access the file system as nfsnobody. • all_squash: allows any user on the client to access the file system as nfsnobody. It is the default value.

Status code: 400

Table 5-63 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-64 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

```
{
  "rules": [ {
    "ip_cidr": "192.168.xx.xx/16",
    "rw_type": "rw",
    "user_type": "no_root_squash"
  }
]
```

```
}, {  
  "ip_cidr": "192.32.xx.xx/16",  
  "rw_type": "rw",  
  "user_type": "no_root_squash"  
}]  
}
```

Example Responses

Status code: 200

Successful creation

```
{  
  "rules": [ {  
    "id": "1131ed520xxxxxbedb6e57xxxxxxx",  
    "ip_cidr": "192.32.0.0/16",  
    "rw_type": "rw",  
    "user_type": "no_root_squash"  
  }, {  
    "id": "1131ed520xxxxxbedb6e57xxxxxxx",  
    "ip_cidr": "192.32.0.1",  
    "rw_type": "rw",  
    "user_type": "no_root_squash"  
  } ]  
}
```

Status code: 400

Error response

```
{  
  "errCode": "SFS.TURBO.0001",  
  "errMsg": "Rules not allowed empty"  
}
```

Status code: 500

Error response

```
{  
  "errCode": "SFS.TURBO.0005",  
  "errMsg": "Internal server error"  
}
```

Status Codes

Status Code	Description
200	Successful creation
400	Error response
500	Error response

Error Codes

See [Error Codes](#).

5.5.2 Querying Permission Rules of a File System

Function

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

URI

GET /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/perm-rules

Table 5-65 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Table 5-66 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Long	Number of returned permission rules.
offset	No	Long	Offset of the returned permission rule.

Request Parameters

Table 5-67 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

Status code: 200

Table 5-68 Response body parameters

Parameter	Type	Description
rules	Array of OnePermRuleResponseInfo objects	Permission rule information

Table 5-69 OnePermRuleResponseInfo

Parameter	Type	Description
id	String	Permission rule ID
ip_cidr	String	IP address or IP address range of the authorized object
rw_type	String	Read/write permission of the authorized object. <ul style="list-style-type: none"> • rw: read and write permission, which is the default option • ro: read-only permission • none: no permission
user_type	String	File system access permission granted to the user of the authorized object. Supported values are: <ul style="list-style-type: none"> • no_root_squash: allows the root user on the client to access the file system as root. • root_squash: allows the root user on the client to access the file system as nfsnobody. • all_squash: allows any user on the client to access the file system as nfsnobody. It is the default value.

Status code: 500

Table 5-70 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Querying the permission rules of the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
GET HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4dde/fs/perm-rules
```

Example Responses

Status code: 200

Successful query

```
{
  "rules": [ {
    "id": "1131ed520xxxxxbedb6e57xxxxxxx",
    "ip_cidr": "192.168.xx.xx/16",
    "rw_type": "rw",
    "user_type": "no_root_squash"
  }, {
    "id": "1231ed520xxxxxbedb6e57xxxxxxx",
    "ip_cidr": "192.32.xx.xx/16",
    "rw_type": "rw",
    "user_type": "no_root_squash"
  } ]
}
```

Status code: 500

Error response

```
{
  "errCode": "SFS.TURBO.0005",
  "errMsg": "Internal server error"
}
```

Status Codes

Status Code	Description
200	Successful query
500	Error response

Error Codes

See [Error Codes](#).

5.5.3 Querying a Permission Rule of a File System

Function

This API is used to query a specific permission rule of a file system.

URI

```
GET /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/perm-rules/{rule_id}
```

Table 5-71 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID
rule_id	Yes	String	Permission rule ID

Request Parameters

Table 5-72 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

Status code: 200

Table 5-73 Response body parameters

Parameter	Type	Description
id	String	Permission rule ID
ip_cidr	String	IP address or IP address range of the authorized object
rw_type	String	Read/write permission of the authorized object. <ul style="list-style-type: none">• rw: read and write permission, which is the default option• ro: read-only permission• none: no permission

Parameter	Type	Description
user_type	String	File system access permission granted to the user of the authorized object. Supported values are: <ul style="list-style-type: none"> • no_root_squash: allows the root user on the client to access the file system as root. • root_squash: allows the root user on the client to access the file system as nfsnobody. • all_squash: allows any user on the client to access the file system as nfsnobody. It is the default value.

Status code: 400

Table 5-74 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-75 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Querying details about the permission rule whose ID is **11abef677ac40f46644d1d5cfc2424a4** for the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
GET HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4dde/fs/perm-rules/11abef677ac40f46644d1d5cfc2424a4
```

Example Responses

Status code: 200

Successful query

```
{
  "id" : "1131ed520xxxxxxeb6e57xxxxxxx",
  "ip_cidr" : "192.168.xx.xx/16",
  "rw_type" : "rw",
  "user_type" : "no_root_squash"
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0001",
  "errMsg" : "Invalid rule id"
}
```

Status code: 500

Error response

```
{
  "errCode" : "SFS.TURBO.0005",
  "errMsg" : "Internal server error"
}
```

Status Codes

Status Code	Description
200	Successful query
400	Error response
500	Error response

Error Codes

See [Error Codes](#).

5.5.4 Modifying a Permission Rule

Function

This API is used to modify a permission rule.

URI

PUT /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/perm-rules/{rule_id}

Table 5-76 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID

Parameter	Mandatory	Type	Description
rule_id	Yes	String	Permission rule ID

Request Parameters

Table 5-77 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Table 5-78 Request body parameters

Parameter	Mandatory	Type	Description
ip_cidr	No	String	IP address or IP address range of the object to be authorized. Once configured, this parameter cannot be modified.
rw_type	No	String	Read/write permission of the object to be authorized. <ul style="list-style-type: none"> • rw: read and write permission, which is the default option • ro: read-only permission • none: no permission

Parameter	Mandatory	Type	Description
user_type	No	String	<p>System user's permission to access the file system. The value can be any of the following:</p> <ul style="list-style-type: none"> • no_root_squash: default option. The client uses any user, including the root user. The NFS server retains the user used by the client and does not map the user. • root_squash: When the client uses the root user, the user mapped to the NFS server is the NFS anonymous user (nfsnobody). If the client uses a non-root user, the NFS server retains the user used by the client and does not map the user. • all_squash: All users of clients that access the NFS server are mapped as anonymous users.

Response Parameters

Status code: 200

Table 5-79 Response body parameters

Parameter	Type	Description
id	String	Permission rule ID
ip_cidr	String	IP address or IP address range of the authorized object
rw_type	String	<p>Read/write permission of the authorized object.</p> <ul style="list-style-type: none"> • rw: read and write permission, which is the default option • ro: read-only permission • none: no permission

Parameter	Type	Description
user_type	String	File system access permission granted to the user of the authorized object. Supported values are: <ul style="list-style-type: none"> • no_root_squash: allows the root user on the client to access the file system as root. • root_squash: allows the root user on the client to access the file system as nfsnobody. • all_squash: allows any user on the client to access the file system as nfsnobody. It is the default value.

Status code: 400

Table 5-80 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-81 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

```
{
  "rw_type": "rw",
  "user_type": "no_root_squash"
}
```

Example Responses

Status code: 200

Successful creation

```
{
  "id": "1131ed520xxxxxbedb6e57xxxxxxx",
  "ip_cidr": "192.32.0.0/16",
}
```

```
"rw_type" : "rw",
"user_type" : "no_root_squash"
}
```

Status code: 400

Error response

```
{
"errCode" : "SFS.TURBO.0001",
"errMsg" : "Invalid rule id"
}
```

Status code: 500

Error response

```
{
"errCode" : "SFS.TURBO.0005",
"errMsg" : "Internal server error"
}
```

Status Codes

Status Code	Description
200	Successful creation
400	Error response
500	Error response

Error Codes

See [Error Codes](#).

5.5.5 Deleting a Permissions Rule

Function

This API is used to delete a permission rule.

URI

DELETE /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/perm-rules/{rule_id}

Table 5-82 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID
rule_id	Yes	String	Permission rule ID

Request Parameters

Table 5-83 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

Status code: 400

Table 5-84 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-85 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Deleting the permission rule whose ID is **11abef677ac40f46644d1d5cfc2424a4** for the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
DELETE HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4dde/fs/perm-rules/11abef677ac40f46644d1d5cfc2424a4
```

Example Responses

Status code: 500

Error response

```
{
  "errCode" : "SFS.TURBO.0005",
  "errMsg" : "Internal server error"
}
```

Status Codes

Status Code	Description
204	Successful deletion
400	Error response
500	Error response

Error Codes

See [Error Codes](#).

5.6 Task Management

5.6.1 Querying Details About a Task

Function

This API is used to query the execution status of an SFS Turbo asynchronous task.

URI

GET /v1/{project_id}/sfs-turbo/jobs/{job_id}

Table 5-86 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
job_id	Yes	String	job ID

Request Parameters

Table 5-87 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type

Response Parameters

Status code: 200

Table 5-88 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-89 Response body parameters

Parameter	Type	Description
status	String	Task status, which can be success , running , failed , or waiting
job_id	String	Task ID
job_type	String	Task type
begin_time	String	Task start time in UTC format, for example, '2016-01-02 15:04:05'
end_time	String	Task end time in UTC format, for example, '2016-01-02 15:04:05'
error_code	String	Error code returned if the task execution fails
fail_reason	String	Cause of the task execution failure
sub_jobs	Array of GetSubJobDetail objects	List of subtasks

Table 5-90 GetSubJobDetail

Parameter	Type	Description
status	String	Subtask status, which can be success , running , failed , or waiting
job_id	String	Task ID
job_type	String	Subtask type
begin_time	String	Task start time in UTC format, for example, '2016-01-02 15:04:05'
end_time	String	Task end time in UTC format, for example, '2016-01-02 15:04:05'
error_code	String	Error code returned if the task execution fails

Parameter	Type	Description
fail_reason	String	Cause of the task execution failure

Status code: 400

Table 5-91 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 404

Table 5-92 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-93 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

None

Example Responses

Status code: 200

Response body parameters

```
{
  "job_id" : "26f6b565-xxxx-XXXX-xxxx-03f0bd975433",
  "status" : "success",
  "job_type" : "bind_ldap",
```

```
"begin_time" : "2023-07-26 09:33:58",  
"end_time" : "2023-07-26 09:33:58"  
}
```

Status code: 400

Client error

```
{  
  "errCode" : "SFS.TURBO.0001",  
  "errMsg" : "parameter error"  
}
```

Status code: 404

Resource not found

```
{  
  "errCode" : "SFS.TURBO.0001",  
  "errMsg" : "parameter error"  
}
```

Status code: 500

Internal error

```
{  
  "errCode" : "SFS.TURBO.0005",  
  "errMsg" : "Internal server error"  
}
```

Status Codes

Status Code	Description
200	Response body parameters
400	Client error
404	Resource not found
500	Internal error

Error Codes

See [Error Codes](#).

6 Permissions Policies and Supported Actions

6.1 Introduction

This section describes fine-grained permissions management for your SFS resources. If your Huawei Cloud account does not need individual IAM users, then you may skip over this section.

By default, new IAM users do not have permissions assigned. You need to add a user to one or more groups, and attach permissions policies or roles to these groups. Users inherit permissions from the groups to which they are added and can perform specified operations on cloud services based on the permissions.

You can grant users permissions by using roles and policies. Roles are a type of coarse-grained authorization mechanism that defines permissions related to user responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

NOTE

- Policy-based authorization is useful if you want to allow or deny the access to an API.

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user wants to query ECSs using an API, the user must have been granted permissions that allow the **ecs:servers:list** action.

Supported Actions

SFS provides system-defined policies that can be directly used in IAM. You can also create custom policies and use them to supplement system-defined policies, implementing more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: Statements in a policy that allow or deny certain operations.
- APIs: REST APIs that can be called by a user who has been granted specific permissions.
- Actions: Specific operations that are allowed or denied.
- Related actions: Actions on which a specific action depends to take effect. When assigning permissions for the action to a user, you also need to assign permissions for the related actions.
- IAM projects/Enterprise projects: Authorization scope of a custom policy. A custom policy can be applied to IAM projects or enterprise projects or both. Policies that contain actions for both IAM and enterprise projects can be used and applied for both IAM and Enterprise Management. Policies that only contain actions for IAM projects can be used and applied to IAM only.

-  **NOTE**

The check mark (✓) and cross symbol (x) indicate that an action takes effect or does not take effect for the corresponding type of projects.

SFS supports the following actions that can be defined in custom policies:

- **SFS Turbo Actions**, including actions supported by all SFS Turbo file system APIs, such as the APIs for creating file systems, querying file system lists, querying details about a single file system, and deleting file systems.

6.2 Supported Actions

6.2.1 SFS Turbo Actions

File System

Permission	API	Action	Dependencies	IAM Project (Project)	Enterprise Project (Enterprise Project)
Creating a File System	POST /v1/{project_id}/sfs-turbo/shares	sfsturbo:shares:createShare	<ul style="list-style-type: none"> Creating an SFS Turbo file system requires VPC-related permissions, including the permissions for verifying VPCs, subnets, and security groups, creating virtual IP addresses and ports, and creating security group rules. <ul style="list-style-type: none"> "vpc:*:*" Creating an encrypted SFS Turbo file system requires the KMS Administrator permissions. Creating an SFS Turbo file system that uses DSS <ul style="list-style-type: none"> "dss:*:get", "dss:*:list", "dss:*:count" 	√	√

Permission	API	Action	Dependencies	IAM Project (Project)	Enterprise Project (Enterprise Project)
Querying Details About All File Systems	GET /v1/{project_id}/sfs-turbo/shares/detail	sfsturbo:shares:getAllShares	-	√	√
Querying Details About a File System	GET /v1/{project_id}/sfs-turbo/shares/{share_id}	sfsturbo:shares:getShare	-	√	√
Deleting a File System	DELETE /v1/{project_id}/sfs-turbo/shares/{share_id}	sfsturbo:shares:deleteShare	<ul style="list-style-type: none"> Deleting an SFS Turbo file system requires VPC-related permissions, including the permissions for deleting virtual IP addresses and ports and deleting security group rules. <ul style="list-style-type: none"> "vpc:*:*" Deleting an SFS Turbo file system that uses DSS <ul style="list-style-type: none"> "dss:*:get", "dss:*:list", "dss:*:count" 	√	√
Adding a Storage Backend	POST /v1/{project_id}/sfs-turbo/shares/{share_id}/targets	sfsturbo:shares:createBackendTarget	You must have the OBS Administrator permissions.	√	√

Permission	API	Action	Dependencies	IAM Project (Project)	Enterprise Project (Enterprise Project)
Listing Storage Backends	GET /v1/{project_id}/sfs-turbo/shares/{share_id}/targets	sfsturbo:share s:listBackendTargets	-	√	√
Querying Details of a Storage Backend	GET /v1/{project_id}/sfs-turbo/shares/{share_id}/targets/{target_id}	sfsturbo:share s:showBackendTargetInfo	-	√	√
Removing a Storage Backend	DELETE /v1/{project_id}/sfs-turbo/shares/{share_id}/targets/{target_id}	sfsturbo:share s:deleteBackendTarget	-	√	√
Creating an Import or Export Task	POST /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task	sfsturbo:share s:createDataRepositoryTask	-	√	√
Querying Details About an Import or Export Task	GET /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task/{task_id}	sfsturbo:share s:getDataRepositoryTask	-	√	√
Listing Import and Export Tasks	GET /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/tasks	sfsturbo:share s:getAllDataRepositoryTasks	-	√	√

File System Expansion

Permission	API	Action	IAM Project (Project)	Enterprise Project (Enterprise Project)
Expanding the Capacity of a File System	POST /v1/{project_id}/sfs-turbo/shares/{share_id}/action	sfsturbo:shares:shareAction	√	√

Console Reference

Permission	API	Action	Dependencies	IAM Project (Project)	Enterprise Project (Enterprise Project)
Changing a Security Group	Console reference	sfsturbo:shares:shareAction	Changing a security group <ul style="list-style-type: none"> vpc:securityGroups:* vpc:securityGroupRules:* 	√	√
Querying the SFS Turbo Quota	Console reference	sfsturbo:shares:getQuota	-	√	√
Obtaining the AZ Information	Console reference	sfsturbo:shares:getAZInfo	-	√	√
Obtaining SFS Turbo Specifications	Console reference	sfsturbo:shares:getFlavors	-	√	√
Checking the Name of a File System	Console reference	sfsturbo:shares:checkShareName	-	√	√

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.0012	Operation is not allowed	A yearly/ monthly file system cannot be resized or deleted via API.	Manage yearly/ monthly file systems on the console.
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.

Status Code	Error Code	Error Message	Description	Solution
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.
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.

Status Code	Error Code	Error Message	Description	Solution
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.
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.

Status Code	Error Code	Error Message	Description	Solution
400	SFS.TURBO.0039	The VIP quota is insufficient	Insufficient virtual IP address quota.	Apply for a higher quota.
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.

Status Code	Error Code	Error Message	Description	Solution
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.
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

Scenarios

A project ID is required for some URLs when an API is called. Therefore, you need to obtain a project ID in advance. Two methods are available:

- [Obtain the Project ID by Calling an API](#)
- [Obtain the Project ID from the Console](#)

Obtain the Project ID by Calling an API

You can obtain a project ID by calling the API used to [query projects based on specified criteria](#).

The API used to obtain a project ID is GET <https://{Endpoint}/v3/projects>. {Endpoint} is the IAM endpoint and can be obtained from Regions and Endpoints. For details about API authentication, see [Authentication](#).

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

```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
      },
      "id": "a4a5d4098fb4474fa22cd05f897d6b99",
      "enabled": true
    }
  ],
  "links": {
    "next": null,
    "previous": null,
    "self": "https://www.example.com/v3/projects"
  }
}
```

Obtain the Project ID from the Console

To obtain a project ID from the console, perform the following operations:

1. Log in to the management console.
2. Click the username and select **My Credentials** from the drop-down list.
On the **API Credentials** page, view the project ID in the project list.