Scalable File Service Turbo

API Reference

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1 Before You Start

1.1 Overview

Welcome to *Scalable File Service Turbo API Reference*. Scalable File Service Turbo (SFS Turbo) is a network-attached storage (NAS) service that provides scalable, high-performance file storage. With SFS Turbo, 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 Turbo through an API, ensure that you are familiar with SFS Turbo concepts. For details, see **Service Overview**.

1.2 API Calling

SFS Turbo 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 Turbo, 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**.

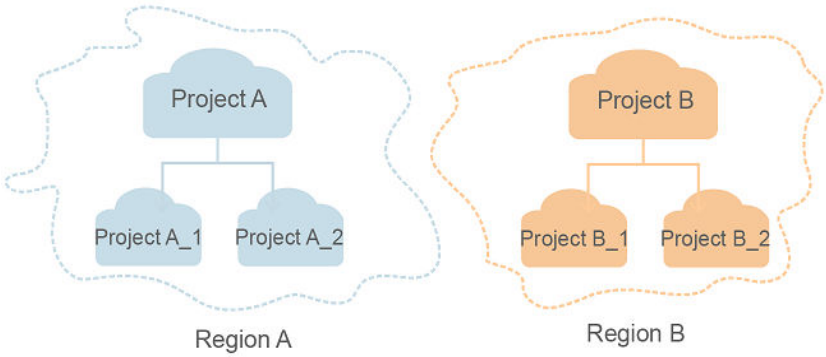
- AZ

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

Figure 1-1 Project isolation model



- Enterprise project

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

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

2 API Overview

These APIs allow you to use all SFS Turbo functions.

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

Lifecycle Management APIs

Table 2-1 Lifecycle management APIs

API	Description
Creating a File System	This API is used to create a file system.
Querying Details About a File System	This API is used to query details about an SFS Turbo file system.
Deleting a File System	This API is used to delete a file system.
Listing File Systems	This API is used to list file systems.
Expanding the Capacity of a File System	This API is used to expand the capacity of a file system.

Connection Management APIs

Table 2-2 Connection management APIs

API	Description
Changing the Security Group Associated with a File System	This API is used to change the security group associated with an SFS Turbo file system.

Tag Management APIs

Table 2-3 Tag management APIs

API	Description
Adding a Tag to a File System	This API is used to add a tag to a specified file system.
Querying Tags of a File System	This API is used to query all tags of a specified file system.
Deleting a Tag from a File System	This API is used to delete a tag from a specified file system.
Batch Adding Tags to a File System	This API is used to batch add tags to a specified file system.
Querying Tags of All File Systems of a Tenant	This API is used to query the tags of all file systems of a tenant.

Name Management APIs

Table 2-4 Name management APIs

API	Description
Changing the Name of a File System	This API is used to change the name of a file system.

File System Management APIs

Table 2-5 File system management APIs

API	Description
Creating an Asynchronous Task for a File System	This API is used to create an asynchronous task for a file system.
Listing Asynchronous Tasks of a File System	This API is used to list asynchronous tasks of a file system.
Obtaining Details About Asynchronous Tasks of a File System	This API is used to obtain the details about the asynchronous tasks of a file system.
Canceling or Deleting an Asynchronous Task of a File System	This API is used to cancel or delete an asynchronous task of a file system.
Configuring a Storage Backend for an HPC Cache File System	This API is used to configure a storage backend for an HPC Cache file system.

Storage Interworking Management APIs

Table 2-6 Storage interworking management APIs

API	Description
Adding a Storage Backend	This API is used to add a storage backend for an SFS Turbo file system.
Listing Storage Backends	This API is used to list storage backends.
Querying Details of a Storage Backend	This API is used to obtain details about a storage backend.
Removing a Storage Backend	This API is used to remove a storage backend.
Creating an Import or Export Task	This API is used to create an import or export task.
Querying Details About an Import or Export Task	This API is used to query details about an import or export task.
Listing Import and Export Tasks	This API is used to list import or export tasks.
Updating a File System	This API is used to update the cold data eviction duration of a file system.

Directory Management APIs

Table 2-7 Directory management APIs

API	Description
Creating Quota Limits for a Directory	This API is used to configure quota limits for a directory.
Updating Quota Limits of a Directory	This API is used to update the quota limits of a directory.
Querying Quota Limits of a Directory	This API is used to query the quota limits of a directory.
Removing Quota Limits from a Directory	This API is used to remove the quota limits from a directory.
Creating Directories	This API is used to create directories.
Checking Whether a Directory Exists	This API is used to check whether a directory exists.

API	Description
Deleting a Directory from a File System	This API is used to delete a directory from a file system.
Querying the Resource Usage of a Directory	This API is used to query the resource usage of a file system directory (including usages of subdirectories).

Permissions Management APIs

Table 2-8 Permissions management APIs

API	Description
Creating a Permissions Rule	This API is used to create a permissions rule.
Querying Permissions Rules of a File System	This API is used to query the permissions rules of a file system.
Querying a Specific Permissions Rule of a File System	This API is used to query a specific permissions rule of a file system.
Modifying a Permissions Rule	This API is used to modify a permissions rule.
Deleting a Permissions Rule	This API is used to delete a permissions rule.
Creating and Binding the LDAP Configuration	This API is used to create and bind the LDAP configuration.
Querying the LDAP Configuration	This API is used to query the LDAP configuration.
Modifying the LDAP Configuration	This API is used to modify the LDAP configuration.
Deleting the LDAP Configuration	This API is used to delete the LDAP configuration.

Task Management APIs

Table 2-9 Task management APIs

API	Description
Querying Task Status Details	This API is used to query the details of a task status.

3 Calling APIs

3.1 Making an API Request

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

Request URI

A request URI is in the following format:

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

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

Table 3-1 URI parameter description

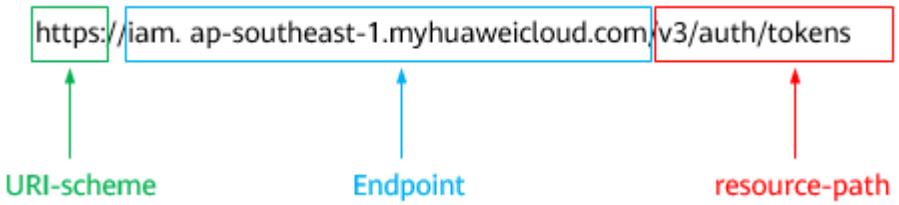
Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from **Regions and Endpoints**. For example, the endpoint of IAM in region **CN-Hong Kong** is **iam.ap-southeast-1.myhuaweicloud.com**.
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.

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

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

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

Figure 3-1 Example URI



NOTE

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

Request Methods

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

Table 3-2 HTTP methods

Method	Description
GET	Requests the server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Requests the server to delete specified resources, for example, an object.
HEAD	Same as GET except that the server must return only the response header.

Method	Description
PATCH	Requests the server to update partial content of a specified resource. If the resource does not exist, a new resource will be created.

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

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

Request Header

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

Common request header fields are as follows.

Table 3-3 Common request header fields

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

Parameter	Description	Mandatory	Example Value
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
X-Auth-Token	Specifies the user token. It is a response to the API for **obtaining a user token** (This is the only API that does not require authentication). After the request is processed, the value of **X-Subject-Token** in the response header is the token value.	No This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIhvcNAQcCo...ggg1BBIINPXsidG9rZ

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 "AK/SK Authentication" in **Authentication**.

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

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

(Optional) Request Body

This part is optional. The body of a request is often sent in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The request body transfers content except the request header. If the request body contains full-width characters, these characters must be coded in UTF-8.

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 *xxxxxxxxxxxxxxxxx* (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.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

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

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": "xxxxxxxx"    // Project name
            }
        }
    }
}
```

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

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

AK/SK Authentication

NOTE

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

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

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

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

NOTE

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

3.3 Response

Status Code

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

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

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

Response Header

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

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

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

(Optional) Response Body

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

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

```
{
    "token": {
```



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

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

```
{
    "error_msg": "The 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

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
- API for creating an SFS Turbo file system. For details, For details about how to create an SFS Turbo file system, see section "Creating a File System" in the *Scalable File Service Turbo (SFS Turbo)*.

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/xxxbxbex5cfx41f0a08ay915fd79240d/sfs-turbo/shares"
```


5 API

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
bss_param	No	**BssInfo** object	Yearly/Monthly billing mode. This parameter is mandatory.

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_proto	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	File system type. Valid values are **STANDARD** and **PERFORMANCE**. This field is not returned when the file system is being created. • 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	• 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
			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 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	Extension type. This parameter is not returned when the file system is being created. 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. • 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	File system bandwidth. 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. 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.

Table 5-6 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 (_).
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 (_).

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	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), *251** (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. • "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-aef9cf240af3",
  "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), *251** (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. • "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
```

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-aef9cf240af3",
    "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-aef9cf240af3",
    "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	New capacity of the file system, in GiB 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. 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. 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. 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. 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.

Parameter	Mandatory	Type	Description
new_bandwidth	No	Long	New bandwidth, in GB. Only HPC Cache file systems support bandwidth change. The following bandwidths are supported: **2G**, **4G**, **8G**, **16G**, **24G**, **32G** and **48G**.
bss_param	No	**BssInfoExtend** object	Expansion billing details of yearly/monthly resources

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	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	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

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	Only users with the op_service permission can obtain this field. 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. This field is not returned for users without the op_service permission.

Table 5-41 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 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	Tag key, which can contain a maximum of 128 characters. 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 (_). 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.

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 File System Management

5.5.1 Creating an Asynchronous Task for a File System

Function

This API is used to create an asynchronous task for a file system. Only tasks for querying directory usage can be created. Such tasks are also referred to as DU tasks. The value of **feature** in the API request path is **dir-usage**.

Constraints

This API is only supported for file systems created after August 1, 2023. If there are 10 tasks being executed, no more task can be created. You are advised not to submit five or more requests at a time, or the file system performance may be affected. It takes a long time to query an oversized directory. Do not submit the request repeatedly. The value of **feature** in the API request path can only be the following:

- dir-usage

This API is only supported for the following types of file systems:

- 20 MB/s/TiB
- 40 MB/s/TiB
- 125 MB/s/TiB
- 250 MB/s/TiB
- 500 MB/s/TiB
- 1,000 MB/s/TiB

For SFS Turbo Standard, Standard-Enhanced, Performance, Performance-Enhanced file systems, use the API for querying the file system directory usage.

URI

POST /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/{feature}/tasks

Table 5-57 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID
feature	Yes	String	Task type. Only **dir-usage** is supported currently.

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, which can be **application** or **json**

Table 5-59 Request body parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Valid full path of a directory in the file system. The length of a single-level directory cannot exceed 255 characters, and that of a full path cannot exceed 4,096 characters.

Response Parameters

Status code: 202

Table 5-60 Response body parameters

Parameter	Type	Description
task_id	String	Task ID

Status code: 400

Table 5-61 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-62 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

DU task:

Creating a DU task for querying the usage of a directory. **path** is used to specify the full path of a valid directory. The length of a single-level directory cannot exceed 255 characters, and that of a full path cannot exceed 4,096 characters.

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/{share_id}/fs/dir-usage/tasks

{
  "path" : "/path"
}
```

Example Responses

Status code: 202

Accepted


```
{
  "task_id" : "d651ea2b-2b20-4c6d-8bbf-2adcec18dac9"
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0123",
  "errMsg" : "feature invalid"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
202	Accepted
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.5.2 Obtaining Asynchronous Tasks of a File System

Function

This API is used to obtain the asynchronous tasks of a file system. Only tasks for querying directory usage can be obtained. Such tasks are also referred to as DU tasks. The value of **feature** in the API request path is **dir-usage**.

Constraints

This API is only supported for file systems created after August 1, 2023. The obtained data may not be the latest as there is a 5-minute delay between the frontend and backend. The value of **feature** in the API request path can only be the following:

- dir-usage

This API is only supported for the following types of file systems:

- 20 MB/s/TiB

- 40 MB/s/TiB
- 125 MB/s/TiB
- 250 MB/s/TiB
- 500 MB/s/TiB
- 1,000 MB/s/TiB

For SFS Turbo Standard, Standard-Enhanced, Performance, Performance-Enhanced file systems, use the API for querying the file system directory usage.

URI

GET /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/{feature}/tasks

Table 5-63 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID
feature	Yes	String	Task type. For example, the value for DU tasks is **dir-usage**.

Table 5-64 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	Marker. The value is the task ID.
limit	No	Integer	Limit. The value must be a positive integer. The default value is **20** and the maximum value is **100**.

Request Parameters

Table 5-65 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type, which can be **application** or **json**

Response Parameters

Status code: 200

Table 5-66 Response body parameters

Parameter	Type	Description
tasks	Array of **OneFsTaskResp** objects	Task list

Table 5-67 OneFsTaskResp

Parameter	Type	Description
task_id	String	Task ID
status	String	Task status, which can be **SUCCESS**, **DOING**, or **FAIL**.
dir_usage	**FsDuInfo** object	Resource usages of a directory (subdirectories included)
begin_time	String	Task start time in UTC format, for example, **2006-01-02 15:04:05**
end_time	String	Task end time in UTC format, for example, **2006-01-02 15:04:06**

Table 5-68 FsDuInfo

Parameter	Type	Description
path	String	Valid full path of a directory in the file system
used_capacity	Long	Used capacity, in byte
file_count	**FsFileCount** object	Total number of files in this directory
message	String	Error message

Table 5-69 FsFileCount

Parameter	Type	Description
dir	Long	Number of directories
regular	Long	Number of common files

Parameter	Type	Description
pipe	Long	Number of pipe files
char	Long	Number of character devices
block	Long	Number of block devices
socket	Long	Number of sockets
symlink	Long	Number of symbolic links

Status code: 400

Table 5-70 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 404

Table 5-71 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-72 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Obtaining 50 tasks starting from the task 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/dir-usage/tasks?marker=11abef677ac40f46644d1d5cfc2424a4&limit=50
```

Example Responses

Status code: 200

Successful

```
{
  "tasks" : [ {
    "task_id" : "2b31ed520xxxxxxebedb6e57xxxxxxxx",
    "status" : "SUCCESS",
    "dir_usage" : {
      "path" : "/path",
      "used_capacity" : 0,
      "file_count" : {
        "dir" : 0,
        "regular" : 0,
        "pipe" : 0,
        "char" : 0,
        "block" : 0,
        "socket" : 0,
        "symlink" : 0
      },
      "message" : ""
    },
    "begin_time" : "2023-03-01 11:46:01",
    "end_time" : "2023-03-01 11:46:01"
  } ]
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0123",
  "errMsg" : "feature invalid"
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0124",
  "errMsg" : "task_id not found"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Successful

Status Code	Description
400	Error response
404	Error response
500	Error response

Error Codes

See **Error Codes**.

5.5.3 Obtaining Details About a File System Asynchronous Task

Function

This API is used to obtain details about a file system asynchronous task. Only tasks for querying directory usage can be obtained. Such tasks are also referred to as DU tasks. The value of **feature** in the API request path is **dir-usage**.

Constraints

This API is only supported for file systems created after August 1, 2023. The obtained data may not be the latest as there is a 5-minute delay between the frontend and backend. The value of **feature** in the API request path can only be the following:

- dir-usage

This API is only supported for the following types of file systems:

- 20 MB/s/TiB
- 40 MB/s/TiB
- 125 MB/s/TiB
- 250 MB/s/TiB
- 500 MB/s/TiB
- 1,000 MB/s/TiB

For SFS Turbo Standard, Standard-Enhanced, Performance, Performance-Enhanced file systems, use the API for querying the file system directory usage.

URI

GET /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/{feature}/tasks/{task_id}

Table 5-73 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID
feature	Yes	String	Task type. For example, the value for DU tasks is **dir-usage**.
task_id	Yes	String	Task ID

Request Parameters

Table 5-74 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type, which can be **application** or **json**

Response Parameters

Status code: 200

Table 5-75 Response body parameters

Parameter	Type	Description
task_id	String	Task ID
status	String	Task status, which can be **SUCCESS**, **DOING**, or **FAIL**.
dir_usage	**FsDuInfo** object	Resource usages of a directory (subdirectories included)
begin_time	String	Task start time in UTC format, for example, **2006-01-02 15:04:05**
end_time	String	Task end time in UTC format, for example, **2006-01-02 15:04:06**

Table 5-76 FsDuInfo

Parameter	Type	Description
path	String	Valid full path of a directory in the file system
used_capacity	Long	Used capacity, in byte
file_count	**FsFileCount** object	Total number of files in this directory
message	String	Error message

Table 5-77 FsFileCount

Parameter	Type	Description
dir	Long	Number of directories
regular	Long	Number of common files
pipe	Long	Number of pipe files
char	Long	Number of character devices
block	Long	Number of block devices
socket	Long	Number of sockets
symlink	Long	Number of symbolic links

Status code: 400

Table 5-78 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 404

Table 5-79 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-80 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Obtaining details of the task whose ID is **11abef677ac40f46644d1d5cfc2424a4** for the file system whose ID is **630509b1-ded4-476e-8d06-dbbc3dc23900**

```
GET HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/630509b1-ded4-476e-8d06-dbbc3dc23900/fs/dir-usage/tasks/11abef677ac40f46644d1d5cfc2424a4
```

Example Responses

Status code: 200

Successful

```
{
  "task_id" : "2b31ed520xxxxxxebedb6e57xxxxxxxx",
  "status" : "SUCCESS",
  "dir_usage" : {
    "path" : "/path",
    "used_capacity" : 0,
    "file_count" : {
      "dir" : 0,
      "regular" : 0,
      "pipe" : 0,
      "char" : 0,
      "block" : 0,
      "socket" : 0,
      "symlink" : 0
    },
    "message" : ""
  },
  "begin_time" : "2023-03-01 11:46:01",
  "end_time" : "2023-03-01 11:46:01"
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0123",
  "errMsg" : "feature invalid"
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0124",
  "errMsg" : "task_id not found"
}
```


Status code: 500

Error response

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

Status Codes

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

Error Codes

See **Error Codes**.

5.5.4 Canceling or Deleting an Asynchronous Task of a File System

Function

If the asynchronous task is being executed, this API is used to cancel and then delete the task. Otherwise, this API is used to delete the task. Only tasks for querying directory usage can be deleted. Such tasks are also referred to as DU tasks. The value of **feature** in the API request path is **dir-usage**.

Constraints

This API is only supported for file systems created after August 1, 2023. The value of **feature** in the API request path can only be the following:

- dir-usage

This API is only supported for the following types of file systems:

- 20 MB/s/TiB
- 40 MB/s/TiB
- 125 MB/s/TiB
- 250 MB/s/TiB
- 500 MB/s/TiB
- 1,000 MB/s/TiB

For SFS Turbo Standard, Standard-Enhanced, Performance, Performance-Enhanced file systems, use the API for querying the file system directory usage.

URI

DELETE /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/{feature}/tasks/{task_id}

Table 5-81 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID
feature	Yes	String	Task type. For example, the value for DU tasks is **dir-usage**.
task_id	Yes	String	Task ID

Request Parameters

Table 5-82 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type, which can be **application** or **json**

Response Parameters

Status code: 400

Table 5-83 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 404

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 task 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/dir-usage/tasks/11abef677ac40f46644d1d5cfc2424a4
```

Example Responses

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0123",
  "errMsg" : "feature invalid"
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0124",
  "errMsg" : "task_id not found"
}
```

Status code: 500

Error response

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


Status Codes

Status Code	Description
202	Accepted
400	Error response
404	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6 Storage Interworking Management

5.6.1 Adding a Backend Target

Function

This API is used to add a storage backend for an SFS Turbo file system.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems. Request body parameter **file_system_path** must be the name of a directory that cannot be found in the root directory of the file system.

URI

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

Table 5-86 Path Parameters

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

Table 5-88 Request body parameters

Parameter	Mandatory	Type	Description
file_system_path	Yes	String	Name of the linkage directory. SFS Turbo creates a subdirectory with this name in the root directory of the file system. The directory is used to bind the backend storage. The value must be a directory name that does not exist in the root directory of the file system. The value contains a maximum of 63 characters. The subdirectory name cannot be a period (.) or two consecutive periods (..). Multi-level directories are not supported, and slashes (/) are not allowed.
obs	Yes	**ObsDataRepository** object	OBS target

Table 5-89 ObsDataRepository

Parameter	Mandatory	Type	Description
bucket	Yes	String	OBS bucket name
endpoint	Yes	String	Name of the region where the bucket belongs
policy	No	**ObsDataRepositoryPolicy** object	Auto synchronization policy of the storage backend

Parameter	Mandatory	Type	Description
attributes	No	**ObsTargetAttributes** object	Properties of the storage backend. This parameter is not supported for file systems that are created on or before June 30, 2024 and have not been upgraded. Submit a service ticket if you need it.

Table 5-90 ObsDataRepositoryPolicy

Parameter	Mandatory	Type	Description
auto_export_policy	No	**AutoExportPolicy** object	Auto export policy of the storage backend. If enabled, all updates made on the file system will be automatically exported to the OBS bucket.

Table 5-91 AutoExportPolicy

Parameter	Mandatory	Type	Description
events	No	Array of strings	Type of data automatically exported to the OBS bucket. • **NEW**: Files created and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **CHANGED**: Files previously imported from the OBS bucket and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **DELETED**: Files deleted from the SFS Turbo interworking directory. Deletions will be automatically synchronized to the OBS bucket, and only such files that were previously exported to the bucket will be deleted.

Table 5-92 ObsTargetAttributes

Parameter	Mandatory	Type	Description
file_mode	No	Integer	Permissions on the imported file. Value range: **0** to **777** The first digit indicates the permissions of the file owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the file belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The file owner is specified by UID, and the user group to which the file belongs is specified by GID. Users who are not the file owner and not in the user group to which the file belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the file owner has the read, write, and execute permissions on the file, the second digit 5 indicates that the user group to which the file belongs has the read and execute permissions on the file, and the third digit 0 indicates that other users have no permission on the file.

Parameter	Mandatory	Type	Description
dir_mode	No	Integer	Permissions on the imported directory. Value range: **0** to **777** The first digit indicates the permissions of the directory owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the directory belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the directory owner has the read, write, and execute permissions on the directory, the second digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the third digit 0 indicates that other users have no permission on the directory.
uid	No	Integer	ID of the user who imports the object. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Parameter	Mandatory	Type	Description
gid	No	Integer	ID of the user group to which the imported object belongs. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Response Parameters

Status code: 202

Table 5-93 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-94 Response body parameters

Parameter	Type	Description
target_id	String	Target ID
creation_time	String	Time when the target was created
failure_details	**FailureDetailsMessage** object	Error information
file_system_path	String	Name of the interworking directory
lifecycle	String	Binding status. If the returned status is CREATING, you need to call the API for obtaining backend storage details to poll the binding completion status. If the returned status is AVAILABLE, the backend storage is successfully bound. If the status is MISCONFIGURED, the backend storage fails to be bound. The DELETING state is not supported currently.
obs	**ObsDataRepository** object	OBS target

Table 5-95 FailureDetailsMessage

Parameter	Type	Description
message	String	Error message

Table 5-96 ObsDataRepository

Parameter	Type	Description
bucket	String	OBS bucket name
endpoint	String	Name of the region where the bucket belongs
policy	**ObsDataRepositoryPolicy** object	Auto synchronization policy of the storage backend
attributes	**ObsTargetAttributes** object	Properties of the storage backend. This parameter is not supported for file systems that are created on or before June 30, 2024 and have not been upgraded. Submit a service ticket if you need it.

Table 5-97 ObsDataRepositoryPolicy

Parameter	Type	Description
auto_export_policy	**AutoExportPolicy** object	Auto export policy of the storage backend. If enabled, all updates made on the file system will be automatically exported to the OBS bucket.

Table 5-98 AutoExportPolicy

Parameter	Type	Description
events	Array of strings	Type of data automatically exported to the OBS bucket. • **NEW**: Files created and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **CHANGED**: Files previously imported from the OBS bucket and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **DELETED**: Files deleted from the SFS Turbo interworking directory. Deletions will be automatically synchronized to the OBS bucket, and only such files that were previously exported to the bucket will be deleted.

Table 5-99 ObsTargetAttributes

Parameter	Type	Description
file_mode	Integer	Permissions on the imported file. Value range: **0** to **777** The first digit indicates the permissions of the file owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the file belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The file owner is specified by UID, and the user group to which the file belongs is specified by GID. Users who are not the file owner and not in the user group to which the file belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the file owner has the read, write, and execute permissions on the file, the second digit 5 indicates that the user group to which the file belongs has the read and execute permissions on the file, and the third digit 0 indicates that other users have no permission on the file.

Parameter	Type	Description
dir_mode	Integer	Permissions on the imported directory. Value range: **0** to **777** The first digit indicates the permissions of the directory owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the directory belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the directory owner has the read, write, and execute permissions on the directory, the second digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the third digit 0 indicates that other users have no permission on the directory.
uid	Integer	ID of the user who imports the object. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).
gid	Integer	ID of the user group to which the imported object belongs. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Status code: 400

Table 5-100 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-101 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

- This example adds a storage backend for the file system whose ID is **630509b1-ded4-476e-8d06-dbbc3dc23900**. The OBS bucket name is **myBucket**, the OBS bucket endpoint is **obs.region.example.com**, and the name of the interworking directory is **sfsturboDirName**.

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/630509b1-ded4-476e-8d06-dbbc3dc23900/targets

{
  "file_system_path" : "sfsturboDirName",
  "obs" : {
    "bucket" : "myBucket",
    "endpoint" : "obs.region.example.com"
  }
}
```

- This example adds a storage backend for the file system whose ID is **630509b1-ded4-476e-8d06-dbbc3dc23900**. The OBS bucket name is **myBucket**, the OBS bucket endpoint is **obs.region.example.com**, and the name of the interworking directory is **sfsturboDirName**. The permissions of imported files are set to **750**, and the permissions of imported directories are set to **640**.

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/630509b1-ded4-476e-8d06-dbbc3dc23900/targets

{
  "file_system_path" : "sfsturboDirName",
  "obs" : {
    "bucket" : "myBucket",
    "endpoint" : "obs.region.example.com",
    "attributes" : {
      "file_mode" : 750,
      "dir_mode" : 640
    }
  }
}
```

- This example adds a storage backend for the file system whose ID is **630509b1-ded4-476e-8d06-dbbc3dc23900**. The OBS bucket name is **myBucket**, the OBS bucket endpoint is **obs.region.example.com**, and the name of the interworking directory is **sfsturboDirName**. The permissions of imported files are set to **750**, the permissions of imported directories are set to **640**, and both the UIDs and GIDs of the imported files and directories are set to **0**.

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/630509b1-ded4-476e-8d06-dbbc3dc23900/targets

{
  "file_system_path" : "sfsturboDirName",
  "obs" : {
    "bucket" : "myBucket",
    "endpoint" : "obs.region.example.com",
```



```
    "attributes" : {
      "file_mode" : 750,
      "dir_mode" : 640,
      "uid" : 0,
      "gid" : 0
    }
  }
}
```

- This example adds a storage backend for the file system whose ID is **630509b1-ded4-476e-8d06-dbbc3dc23900**. The OBS bucket name is **myBucket**, the OBS bucket endpoint is **obs.region.example.com**, and the name of the interworking directory is **sfsturboDirName**. The type of the auto export policy is set to **NEW**, **CHANGED**, and **DELETED**.

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/630509b1-ded4-476e-8d06-dbbc3dc23900/
targets

{
  "file_system_path" : "sfsturboDirName",
  "obs" : {
    "bucket" : "myBucket",
    "endpoint" : "obs.region.example.com",
    "policy" : {
      "auto_export_policy" : {
        "events" : [ "NEW", "CHANGED", "DELETED" ]
      }
    }
  }
}
```

Example Responses

Status code: 202

Task submitted

```
{
  "target_id" : "00000334-xxxx-402d-a5d4-bxxxxx87b939",
  "creation_time" : "2023-11-19T04:02:03",
  "file_system_path" : "sfsturboDirName",
  "lifecycle" : "CREATING",
  "obs" : {
    "bucket" : "myBucket",
    "endpoint" : "obs.region.example.com"
  }
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0001",
  "errMsg" : "request path/body parameters invalid"
}
```

Status code: 500

Error response

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


Status Codes

Status Code	Description
202	Task submitted
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6.2 Querying Backend Targets

Function

This API is used to query backend targets of a file system.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

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

Table 5-102 Path Parameters

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

Table 5-103 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of targets returned in the list
marker	No	String	Query offset

Request Parameters

Table 5-104 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 5-105 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-106 Response body parameters

Parameter	Type	Description
count	Integer	Number of backend targets
targets	Array of **ShowBackendTargetInfoResponseBody** objects	List of backend targets

Table 5-107 ShowBackendTargetInfoResponseBody

Parameter	Type	Description
target_id	String	Target ID
creation_time	String	Time when the target was created
file_system_path	String	Name of the interworking directory
failure_details	**FailureDetailsMessage** object	Error information
lifecycle	String	Target status

Parameter	Type	Description
obs	**ObsDataRepository** object	OBS target

Table 5-108 FailureDetailsMessage

Parameter	Type	Description
message	String	Error message

Table 5-109 ObsDataRepository

Parameter	Type	Description
bucket	String	OBS bucket name
endpoint	String	Name of the region where the bucket belongs
policy	**ObsDataRepositoryPolicy** object	Auto synchronization policy of the storage backend
attributes	**ObsTargetAttributes** object	Properties of the storage backend. This parameter is not supported for file systems that are created on or before June 30, 2024 and have not been upgraded. Submit a service ticket if you need it.

Table 5-110 ObsDataRepositoryPolicy

Parameter	Type	Description
auto_export_policy	**AutoExportPolicy** object	Auto export policy of the storage backend. If enabled, all updates made on the file system will be automatically exported to the OBS bucket.

Table 5-111 AutoExportPolicy

Parameter	Type	Description
events	Array of strings	Type of data automatically exported to the OBS bucket. • **NEW**: Files created and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **CHANGED**: Files previously imported from the OBS bucket and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **DELETED**: Files deleted from the SFS Turbo interworking directory. Deletions will be automatically synchronized to the OBS bucket, and only such files that were previously exported to the bucket will be deleted.

Table 5-112 ObsTargetAttributes

Parameter	Type	Description
file_mode	Integer	Permissions on the imported file. Value range: **0** to **777** The first digit indicates the permissions of the file owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the file belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The file owner is specified by UID, and the user group to which the file belongs is specified by GID. Users who are not the file owner and not in the user group to which the file belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the file owner has the read, write, and execute permissions on the file, the second digit 5 indicates that the user group to which the file belongs has the read and execute permissions on the file, and the third digit 0 indicates that other users have no permission on the file.

Parameter	Type	Description
dir_mode	Integer	Permissions on the imported directory. Value range: **0** to **777** The first digit indicates the permissions of the directory owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the directory belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the directory owner has the read, write, and execute permissions on the directory, the second digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the third digit 0 indicates that other users have no permission on the directory.
uid	Integer	ID of the user who imports the object. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).
gid	Integer	ID of the user group to which the imported object belongs. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Status code: 404

Table 5-113 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-114 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Listing 10 storage backends starting from the one whose ID is **11abef677ac40f46644d1d5cfc2424a4** for the file system whose ID is **630509b1-ded4-476e-8d06-dbbc3dc23900**

```
GET HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/630509b1-ded4-476e-8d06-dbbc3dc23900/targets?marker=11abef677ac40f46644d1d5cfc2424a4&limit=10
```

Example Responses

Status code: 200

Task submitted

```
{
  "count" : 1,
  "targets" : [ {
    "target_id" : "00000334-xxxx-402d-a5d4-bxxxxx87b939",
    "creation_time" : "2023-10-10T12:02:03",
    "file_system_path" : "sfsturboDirName",
    "obs" : {
      "bucket" : "myBucket",
      "endpoint" : "obs.region.example.com"
    }
  } ]
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0002",
  "errMsg" : "share not exist"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Task submitted

Status Code	Description
404	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6.3 Obtaining Details About a Backend Target

Function

This API is used to obtain details about a backend target.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

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

Table 5-115 Path Parameters

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

Request Parameters

Table 5-116 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 5-117 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-118 Response body parameters

Parameter	Type	Description
target_id	String	Target ID
creation_time	String	Time when the target was created
file_system_path	String	Name of the interworking directory
failure_details	**FailureDetailsMessage** object	Error information
lifecycle	String	Target status
obs	**ObsDataRepository** object	OBS target

Table 5-119 FailureDetailsMessage

Parameter	Type	Description
message	String	Error message

Table 5-120 ObsDataRepository

Parameter	Type	Description
bucket	String	OBS bucket name
endpoint	String	Name of the region where the bucket belongs
policy	**ObsDataRepositoryPolicy** object	Auto synchronization policy of the storage backend

Parameter	Type	Description
attributes	**ObsTargetAttributes** object	Properties of the storage backend. This parameter is not supported for file systems that are created on or before June 30, 2024 and have not been upgraded. Submit a service ticket if you need it.

Table 5-121 ObsDataRepositoryPolicy

Parameter	Type	Description
auto_export_policy	**AutoExportPolicy** object	Auto export policy of the storage backend. If enabled, all updates made on the file system will be automatically exported to the OBS bucket.

Table 5-122 AutoExportPolicy

Parameter	Type	Description
events	Array of strings	Type of data automatically exported to the OBS bucket. • **NEW**: Files created and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **CHANGED**: Files previously imported from the OBS bucket and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **DELETED**: Files deleted from the SFS Turbo interworking directory. Deletions will be automatically synchronized to the OBS bucket, and only such files that were previously exported to the bucket will be deleted.

Table 5-123 ObsTargetAttributes

Parameter	Type	Description
file_mode	Integer	Permissions on the imported file. Value range: **0** to **777** The first digit indicates the permissions of the file owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the file belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The file owner is specified by UID, and the user group to which the file belongs is specified by GID. Users who are not the file owner and not in the user group to which the file belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the file owner has the read, write, and execute permissions on the file, the second digit 5 indicates that the user group to which the file belongs has the read and execute permissions on the file, and the third digit 0 indicates that other users have no permission on the file.

Parameter	Type	Description
dir_mode	Integer	Permissions on the imported directory. Value range: **0** to **777** The first digit indicates the permissions of the directory owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the directory belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the directory owner has the read, write, and execute permissions on the directory, the second digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the third digit 0 indicates that other users have no permission on the directory.
uid	Integer	ID of the user who imports the object. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).
gid	Integer	ID of the user group to which the imported object belongs. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Status code: 404

Table 5-124 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-125 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Obtaining details of the storage backend 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/targets/11abef677ac40f46644d1d5cfc2424a4
```

Example Responses

Status code: 200

Task submitted

```
{
  "target_id" : "00000334-xxxx-402d-a5d4-bxxxxx87b939",
  "creation_time" : "2023-10-10T12:02:03",
  "file_system_path" : "sfsturboDirName",
  "lifecycle" : "CREATING",
  "obs" : {
    "bucket" : "myBucket",
    "endpoint" : "obs.region.example.com"
  }
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0126",
  "errMsg" : "target not found, not bound yet"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Task submitted
404	Error response

Status Code	Description
500	Error response

Error Codes

See **Error Codes**.

5.6.4 Deleting a Backend Target

Function

This API is used to delete a backend target.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

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

Table 5-126 Path Parameters

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

Table 5-127 Query Parameters

Parameter	Mandatory	Type	Description
delete_data_in_file_system	No	Boolean	Whether to delete the corresponding file system interworking directory and data files in it. The default value is **false**. Deleted data cannot be recovered.

Request Parameters

Table 5-128 Request header parameters

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

Response Parameters

Status code: 202

Table 5-129 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-130 Response body parameters

Parameter	Type	Description
target_id	String	Target ID
delete_data_in_file_system	Boolean	Whether to delete the corresponding file system interworking directory and data files in it.
lifecycle	String	Target status returned. Only **DELETING** and **FAILED** are supported.

Status code: 404

Table 5-131 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-132 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Deleting the backend target 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/
targets/11abef677ac40f46644d1d5cfc2424a4
```

Example Responses

Status code: 202

Task submitted

```
{
  "target_id" : "00000334-xxxx-402d-a5d4-bxxxxx87b939",
  "delete_data_in_file_system" : false,
  "life_cycle" : "DELETING"
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0126",
  "errMsg" : "target not found, not bound yet"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
202	Task submitted
404	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6.5 Updating the Properties of a Storage Backend

Function

This API is used to update the properties of a storage backend.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

PUT /v1/{project_id}/sfs-turbo/shares/{share_id}/targets/{target_id}/attributes

Table 5-133 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID
share_id	Yes	String	File system ID
target_id	Yes	String	ID of the storage backend

Request Parameters

Table 5-134 Request header parameters

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

Table 5-135 Request body parameters

Parameter	Mandatory	Type	Description
attributes	Yes	**ObsTargetAttributes** object	Properties of the storage backend

Table 5-136 ObsTargetAttributes

Parameter	Mandatory	Type	Description
file_mode	No	Integer	Permissions on the imported file. Value range: **0** to **777** The first digit indicates the permissions of the file owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the file belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The file owner is specified by UID, and the user group to which the file belongs is specified by GID. Users who are not the file owner and not in the user group to which the file belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the file owner has the read, write, and execute permissions on the file, the second digit 5 indicates that the user group to which the file belongs has the read and execute permissions on the file, and the third digit 0 indicates that other users have no permission on the file.

Parameter	Mandatory	Type	Description
dir_mode	No	Integer	Permissions on the imported directory. Value range: **0** to **777** The first digit indicates the permissions of the directory owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the directory belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the directory owner has the read, write, and execute permissions on the directory, the second digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the third digit 0 indicates that other users have no permission on the directory.
uid	No	Integer	ID of the user who imports the object. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Parameter	Mandatory	Type	Description
gid	No	Integer	ID of the user group to which the imported object belongs. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Response Parameters

Status code: 200

Table 5-137 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-138 Response body parameters

Parameter	Type	Description
target_id	String	ID of the storage backend
attributes	**ObsTargetAttributes** object	Properties of the storage backend

Table 5-139 ObsTargetAttributes

Parameter	Type	Description
file_mode	Integer	Permissions on the imported file. Value range: **0** to **777** The first digit indicates the permissions of the file owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the file belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The file owner is specified by UID, and the user group to which the file belongs is specified by GID. Users who are not the file owner and not in the user group to which the file belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the file owner has the read, write, and execute permissions on the file, the second digit 5 indicates that the user group to which the file belongs has the read and execute permissions on the file, and the third digit 0 indicates that other users have no permission on the file.

Parameter	Type	Description
dir_mode	Integer	Permissions on the imported directory. Value range: **0** to **777** The first digit indicates the permissions of the directory owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the directory belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the directory owner has the read, write, and execute permissions on the directory, the second digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the third digit 0 indicates that other users have no permission on the directory.
uid	Integer	ID of the user who imports the object. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).
gid	Integer	ID of the user group to which the imported object belongs. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Status code: 404

Table 5-140 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-141 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Updating the properties of the storage backend whose ID is **11abef677ac40f46644d1d5cfc2424a4** for the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
PUT HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4dde/targets/11abef677ac40f46644d1d5cfc2424a4/attributes

{
  "attributes" : {
    "file_mode" : 750,
    "dir_mode" : 640,
    "uid" : 0,
    "gid" : 0
  }
}
```

Example Responses

Status code: 200

Success

```
{
  "target_id" : "00000334-xxxx-402d-a5d4-bxxxxx87b939",
  "attributes" : {
    "file_mode" : 750,
    "dir_mode" : 640,
    "uid" : 0,
    "gid" : 0
  }
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0126",
  "errMsg" : "target not found, not bound yet"
}
```

Status code: 500

Error response

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


Status Codes

Status Code	Description
200	Success
404	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6.6 Updating the Auto Synchronization Policy of a Storage Backend

Function

This API is used to update the auto synchronization policy of a storage backend.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

PUT /v1/{project_id}/sfs-turbo/shares/{share_id}/targets/{target_id}/policy

Table 5-142 Path Parameters

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

Request Parameters

Table 5-143 Request header parameters

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

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type

Table 5-144 Request body parameters

Parameter	Mandatory	Type	Description
policy	Yes	**ObsDataRepositoryPolicy** object	Auto synchronization policy of the storage backend

Table 5-145 ObsDataRepositoryPolicy

Parameter	Mandatory	Type	Description
auto_export_policy	No	**AutoExportPolicy** object	Auto export policy of the storage backend. If enabled, all updates made on the file system will be automatically exported to the OBS bucket.

Table 5-146 AutoExportPolicy

Parameter	Mandatory	Type	Description
events	No	Array of strings	Type of data automatically exported to the OBS bucket. • **NEW**: Files created and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **CHANGED**: Files previously imported from the OBS bucket and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **DELETED**: Files deleted from the SFS Turbo interworking directory. Deletions will be automatically synchronized to the OBS bucket, and only such files that were previously exported to the bucket will be deleted.

Response Parameters

Status code: 200

Table 5-147 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-148 Response body parameters

Parameter	Type	Description
target_id	String	Storage backend ID

Parameter	Type	Description
policy	**ObsDataRepositoryPolicy** object	Auto synchronization policy of the storage backend

Table 5-149 ObsDataRepositoryPolicy

Parameter	Type	Description
auto_export_policy	**AutoExportPolicy** object	Auto export policy of the storage backend. If enabled, all updates made on the file system will be automatically exported to the OBS bucket.

Table 5-150 AutoExportPolicy

Parameter	Type	Description
events	Array of strings	Type of data automatically exported to the OBS bucket. • **NEW**: Files created and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **CHANGED**: Files previously imported from the OBS bucket and then modified in the SFS Turbo interworking directory. Any data or metadata modifications made will be automatically synchronized to the OBS bucket. • **DELETED**: Files deleted from the SFS Turbo interworking directory. Deletions will be automatically synchronized to the OBS bucket, and only such files that were previously exported to the bucket will be deleted.

Status code: 404

Table 5-151 Response body parameters

Parameter	Type	Description
errCode	String	Error code

Parameter	Type	Description
errMsg	String	Error description

Status code: 500

Table 5-152 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Updating the auto synchronization policy of the storage backend whose ID is **11abef677ac40f46644d1d5cfc2424a4** for the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
PUT HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4dde/targets/11abef677ac40f46644d1d5cfc2424a4/policy

{
  "policy" : {
    "auto_export_policy" : {
      "events" : [ "NEW", "CHANGED", "DELETED" ]
    }
  }
}
```

Example Responses

Status code: 200

Successful

```
{
  "target_id" : "xxxxxx-xxx-xxxx-xxxxxxx",
  "policy" : {
    "auto_export_policy" : {
      "events" : [ "NEW", "CHANGED", "DELETED" ]
    }
  }
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0126",
  "errMsg" : "target not found, not bound yet"
}
```

Status code: 500

Error response


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

Status Codes

Status Code	Description
200	Successful
404	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6.7 Creating an Import or Export Task

Function

This API is used to create an import or export task.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

POST /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task

Table 5-153 Path Parameters

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

Request Parameters

Table 5-154 Request header parameters

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

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	MIME type

Table 5-155 Request body parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Task type, which can be **import** (additional metadata import), **import_metadata** (quick import), **preload** (data preload), or **export** (export). **import**: Object metadata, including the name, size, and last modified time, as well as the additional metadata like uid, gid, and mode previously exported from SFS Turbo will all be imported. **import_metadata**: Only the object metadata, including the name, size, and last modified time will be imported. After the import, SFS Turbo will, by default, generate the additional metadata. **preload**: Both the metadata and data will be imported. The metadata includes only the object metadata. Additional metadata like uid, gid, and mode will not be imported. **export**: SFS Turbo will export to the OBS bucket the files created in the interworking directory as well as the data previously imported from OBS and then modified in SFS Turbo.
src_target	Yes	String	Name of the interworking directory

Parameter	Mandatory	Type	Description
src_prefix	No	String	Prefix of the source path of an import or export task. The OBS bucket name does not need to be included during import, and the linkage directory name does not need to be included during export. For data preheating import, the source path prefix must be a directory or an object that ends with a slash (/). If this field is not specified, all objects in the bound OBS bucket are imported, and all files in the linkage directory are exported.
dest_target	Yes	String	Keep the same as **src_target**.
dest_prefix	No	String	Keep the same as **src_prefix**.
attributes	No	**ObsTargetAttributes** object	Properties of the storage backend

Table 5-156 ObsTargetAttributes

Parameter	Mandatory	Type	Description
file_mode	No	Integer	Permissions on the imported file. Value range: **0** to **777** The first digit indicates the permissions of the file owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the file belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The file owner is specified by UID, and the user group to which the file belongs is specified by GID. Users who are not the file owner and not in the user group to which the file belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the file owner has the read, write, and execute permissions on the file, the second digit 5 indicates that the user group to which the file belongs has the read and execute permissions on the file, and the third digit 0 indicates that other users have no permission on the file.

Parameter	Mandatory	Type	Description
dir_mode	No	Integer	Permissions on the imported directory. Value range: **0** to **777** The first digit indicates the permissions of the directory owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the directory belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. Values 4, 2, and 1 indicate the read, write, and execute permissions respectively. The total value between 1 and 7 represents the access permissions. For example, the first digit 7 in 750 indicates that the directory owner has the read, write, and execute permissions on the directory, the second digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the third digit 0 indicates that other users have no permission on the directory.
uid	No	Integer	ID of the user who imports the object. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Parameter	Mandatory	Type	Description
gid	No	Integer	ID of the user group to which the imported object belongs. The default value is 0. The value ranges from 0 to 4,294,967,294 (2^32 - 2).

Response Parameters

Status code: 202

Table 5-157 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-158 Response body parameters

Parameter	Type	Description
task_id	String	Task ID

Status code: 400

Table 5-159 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-160 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-161 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-162 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

- Creating an import task and choosing to import the metadata (with the interworking directory name set to **sfs-link-directory** and prefix of the source path in the OBS bucket set to **input/datasets/**)

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task

{
  "type" : "import_metadata",
  "src_target" : "sfs-link-directory",
  "src_prefix" : "input/datasets/",
  "dest_target" : "sfs-link-directory",
  "dest_prefix" : "input/datasets/"
}
```

- Creating an import task and choosing to import the metadata (with the interworking directory name set to **sfs-link-directory**, the prefix of the source path in the OBS bucket set to **input/datasets/**, the permissions of the imported files set to **755**, and the permissions of the imported directories set to **755**)

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task

{
  "type" : "import_metadata",
  "src_target" : "sfs-link-directory",
  "src_prefix" : "input/datasets/",
  "dest_target" : "sfs-link-directory",
  "dest_prefix" : "input/datasets/",
  "attributes" : {
    "file_mode" : 755,
    "dir_mode" : 755
  }
}
```

- Creating an import task and choosing to preload data (with the interworking directory name set to **sfs-link-directory**, the prefix of the source path in the OBS bucket set to **input/datasets/**, the permissions of the imported files set to **755**, the permissions of the imported directories set to **755**, and the UID and GID both set to **0**)

```
POST HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task

{
  "type" : "preload",
  "src_target" : "sfs-link-directory",
```



```
  "src_prefix" : "input/datasets/",
  "dest_target" : "sfs-link-directory",
  "dest_prefix" : "input/datasets/",
  "attributes" : {
    "file_mode" : 755,
    "dir_mode" : 755,
    "uid" : 0,
    "gid" : 0
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "task_id" : "7bd2a9b6-xxxx-4605-xxxx-512d636001b0"
}
```

Status code: 400

Client error

```
{
  "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
202	Accepted
400	Client error
500	Internal error

Error Codes

See **Error Codes**.

5.6.8 Querying Details About an Import or Export Task

Function

This API is used to query details about an import or export task.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

GET /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task/{task_id}

Table 5-163 Path Parameters

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

Request Parameters

Table 5-164 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 5-165 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-166 Response body parameters

Parameter	Type	Description
task_id	String	Task ID
type	String	Task type
status	String	Task status

Parameter	Type	Description
src_target	String	Name of the interworking directory
src_prefix	String	Source path prefix specified in an import or export task
dest_target	String	Keep it the same as **src_target**.
dest_prefix	String	Keep it the same as **src_prefix**.
start_time	String	Task start time
end_time	String	Task end time
message	String	Task execution results

Status code: 400

Table 5-167 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-168 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-169 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-170 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Query details about a task, with the file system ID **77ba6f4b-6365-4895-8dda-bc7142af4dde** and task ID **11abef677ac40f46644d1d5cfc2424a4**

```
"GET HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/77ba6f4b-6365-4895-8dda-bc7142af4dde/hpc-cache/task/11abef677ac40f46644d1d5cfc2424a4"
```

Example Responses

Status code: 200

Success

```
{
  "task_id" : "7bd2a9b6-xxxx-4605-xxxx-512d636001b0",
  "type" : "import_metadata",
  "status" : "DOING",
  "src_target" : "sfs-link-directory",
  "src_prefix" : "input/datasets/",
  "dest_target" : "sfs-link-directory",
  "dest_prefix" : "input/datasets/",
  "message" : "",
  "start_time" : "2023-09-02T15:04:05",
  "end_time" : ""
}
```

Status code: 400

Error response

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

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Success
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6.9 Listing Import and Export Tasks

Function

This API is used to list import and export tasks.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

GET /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/tasks

Table 5-171 Path Parameters

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

Table 5-172 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	Task type
status	No	String	Task status
offset	No	Long	Offset. The default value is **0**.
limit	No	Long	Limit. The default value is **20**.
start_time	No	String	start_time
end_time	No	String	end_time

Request Parameters

Table 5-173 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 5-174 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-175 Response body parameters

Parameter	Type	Description
tasks	Array of **OneHpcCacheTaskInfoResp** objects	Task details
count	Long	Number of tasks

Table 5-176 OneHpcCacheTaskInfoResp

Parameter	Type	Description
task_id	String	Task ID
type	String	Task type
status	String	Task status
src_target	String	Name of the interworking directory
src_prefix	String	Source path prefix specified in an import or export task
dest_target	String	Keep it the same as **src_target**.
dest_prefix	String	Keep it the same as **src_prefix**.
start_time	String	Task start time
end_time	String	Task end time
message	String	Task execution results

Status code: 400

Table 5-177 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-178 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-179 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-180 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Listing import and export tasks for the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**

```
GET /v1/{project_id}/sfs-turbo/77ba6f4b-6365-4895-8dda-bc7142af4dde/hpc-cache/tasks
```

Example Responses

Status code: 200

Success

```
{
  "tasks" : [ {
    "task_id" : "7bd2a9b6-xxxx-4605-xxxx-512d636001b0",
    "type" : "import",
    "status" : "DOING",
    "src_target" : "sfs-link-directory",
    "src_prefix" : "input/datasets/",
    "dest_target" : "sfs-link-directory",
```



```
    "dest_prefix" : "input/datasets/",
    "message" : "",
    "start_time" : "2023-09-02T15:04:05",
    "end_time" : ""
  } ],
  "count" : 1
}
```

Status code: 400

Error response

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

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Success
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6.10 Deleting an Import or Export Task

Function

This API is used to delete an import or export task.

Constraints

This API is only supported for SFS Turbo 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

URI

DELETE /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task/{task_id}

Table 5-181 Path Parameters

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

Request Parameters

Table 5-182 Request header parameters

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

Response Parameters

Status code: 202

Table 5-183 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Status code: 400

Table 5-184 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-185 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-186 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-187 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Deleting a task whose ID is **11abef677ac40f46644d1d5cfc2424a4** 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/hpc-cache/task/11abef677ac40f46644d1d5cfc2424a4"
```

Example Responses

Status code: 400

Error response

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

Status code: 500

Error response

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

Status Codes

Status Code	Description
202	Success
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.6.11 Updating a File System

Function

This API is used to update the cold data eviction period of a file system.

Constraints

This API is only supported for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems that already have storage backends added.

URI

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

Table 5-188 Path Parameters

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

Request Parameters

Table 5-189 Request header parameters

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

Table 5-190 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Type of operation for updating a file system Only **config_gc_time** is supported currently.

Parameter	Mandatory	Type	Description
gc_time	Yes	Integer	Cold data eviction duration. The unit is hour. The value ranges from **1** to **100000000**. The default value is 60 hours.

Response Parameters

Status code: 200

Table 5-191 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-192 Response body parameters

Parameter	Type	Description
gc_time	Integer	File system cold data eviction duration

Status code: 404

Table 5-193 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-194 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

```
{
  "action" : "config_gc_time",
  "gc_time" : 5
}
```

Example Responses

Status code: 200

Task submitted

```
{
  "gc_time" : 10
}
```

Status code: 404

Error response

```
{
  "errCode" : "SFS.TURBO.0002",
  "errMsg" : "share not exist"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Task submitted
404	Error response
500	Error response

Error Codes

See **Error Codes**.

5.7 Directory Management

5.7.1 Creating Quotas for a Directory

Function

This API is used to create quotas for a directory.

Constraints

You can only configure directory quotas on empty directories.

URI

POST /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/dir-quota

Table 5-195 Path Parameters

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

Request Parameters

Table 5-196 Request header parameters

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

Table 5-197 Request body parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Valid full path of an existing directory
capacity	No	Integer	Size of the directory, in MB. If it is set to **0**, data cannot be written to the directory. Use either **capacity** or **quota**.
inode	No	Integer	Quantity limit of inodes. If it is set to **0**, data cannot be written to the directory. Use either **capacity** or **quota**.

Response Parameters

Status code: 200

Table 5-198 Response body parameters

Parameter	Type	Description
path	String	Valid full path of an existing directory
capacity	Integer	Size of the directory, in MB
inode	Integer	Maximum number of inodes allowed in the directory
used_capacity	Integer	Used space of the directory, in MB. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.
used_inode	Integer	Number of inodes used in the directory. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

Status code: 400

Table 5-199 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 409

Table 5-200 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-201 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Creating quotas for the **/data/test** directory, with the capacity quota set to **1024** MB and number of inodes set to **100000**.

```
{
  "path" : "/data/test",
  "capacity" : 1024,
  "inode" : 100000
}
```

Example Responses

Status code: 200

Directory quotas created

```
{
  "path" : "/data/test",
  "capacity" : 1024,
  "inode" : 100000
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0102",
  "errMsg" : "Path is not directory"
}
```

Status code: 409

Error response

```
{
  "errCode" : "SFS.TURBO.0112",
  "errMsg" : "quota alreay exist"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Directory quotas created
400	Error response
409	Error response

Status Code	Description
500	Error response

Error Codes

See **Error Codes**.

5.7.2 Updating Quotas of a Directory

Function

This API is used to update quotas of a directory.

URI

PUT /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/dir-quota

Table 5-202 Path Parameters

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

Request Parameters

Table 5-203 Request header parameters

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

Table 5-204 Request body parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Valid full path of an existing directory

Parameter	Mandatory	Type	Description
capacity	No	Integer	Size of the directory, in MB. If it is set to **0**, data cannot be written to the directory. Use either **capacity** or **quota**.
inode	No	Integer	Quantity limit of inodes. If it is set to **0**, data cannot be written to the directory. Use either **capacity** or **quota**.

Response Parameters

Status code: 200

Table 5-205 Response body parameters

Parameter	Type	Description
path	String	Valid full path of an existing directory
capacity	Integer	Size of the directory, in MB
inode	Integer	Maximum number of inodes allowed in the directory
used_capacity	Integer	Used space of the directory, in MB. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.
used_inode	Integer	Number of inodes used in the directory. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

Status code: 400

Table 5-206 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 403

Table 5-207 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-208 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Updating quotas of the **/data/test** directory, with the capacity quota set to **1024** MB and number of inodes set to **100000**.

```
{
  "path" : "/data/test",
  "capacity" : 1024,
  "inode" : 100000
}
```

Example Responses

Status code: 200

Directory quotas updated

```
{
  "path" : "/data/test",
  "capacity" : 1024,
  "inode" : 100000
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0102",
  "errMsg" : "Path is not directory"
}
```

Status code: 403

Error response

```
{
  "errCode" : "SFS.TURBO.0113",
  "errMsg" : "dir not create quota"
}
```


Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Directory quotas updated
400	Error response
403	Error response
500	Error response

Error Codes

See **Error Codes**.

5.7.3 Querying Quotas of a Directory

Function

This API is used to update quotas of a directory. The **used_capacity** and **used_inode** obtained may not be the latest.

URI

GET /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/dir-quota

Table 5-209 Path Parameters

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

Table 5-210 Query Parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Valid full path of an existing directory

Request Parameters

Table 5-211 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 5-212 Response body parameters

Parameter	Type	Description
path	String	Valid full path of an existing directory
capacity	Integer	Size of the directory, in MB
inode	Integer	Maximum number of inodes allowed in the directory
used_capacity	Integer	Used space of the directory, in MB. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems. The returned data may not be the latest.
used_inode	Integer	Number of inodes used in the directory. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems. The returned data may not be the latest.

Status code: 400

Table 5-213 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-214 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Querying the quotas of the directory **/data/test** in the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4ddw**

```
GET HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4ddw/fs/dir-quota?path=/data/test
```

Example Responses

Status code: 200

Directory quotas queried

```
{
  "path" : "/data/test",
  "capacity" : 1024,
  "inode" : 100000
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0102",
  "errMsg" : "Path is not directory"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Directory quotas queried
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.7.4 Deleting Quotas of a Directory

Function

This API is used to delete quotas of a directory.

Constraints

Only empty directories can have their quotas deleted.

URI

DELETE /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/dir-quota

Table 5-215 Path Parameters

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

Request Parameters

Table 5-216 Request header parameters

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

Table 5-217 Request body parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Valid full path of an existing directory

Response Parameters

Status code: 400

Table 5-218 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-219 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Deleting the quotas of the directory **/data/test** in the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4ddw**

```
DELETE HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/77ba6f4b-6365-4895-8dda-bc7142af4ddw/fs/dir-quota

{
  "path" : "/data/test"
}
```

Example Responses

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0102",
  "errMsg" : "Path is not directory"
}
```

Status code: 500

Error response

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


Status Codes

Status Code	Description
204	Directory quotas deleted
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.7.5 Creating a Directory

Function

This API is used to create a directory.

URI

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

Table 5-220 Path Parameters

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

Request Parameters

Table 5-221 Request header parameters

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

Table 5-222 Request body parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Valid full path of an existing directory
mode	No	Long	Directory permissions, which range from **0** to **777***. The default value is **755**. The first digit indicates the permissions of the directory owner, and its value ranges from **0** to **7**. The second digit indicates the permissions of the user group to which the directory belongs, and its value ranges from **0** to **7**. The third digit indicates the permissions of other users, and its value ranges from **0** to **7**. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. For example, in 755, the first digit 7 indicates that the directory owner has the read, write, and execute permissions on the directory, the second digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the third digit 5 indicates that other users have the read and execute permissions on the directory.
uid	No	Long	ID of the directory owner. The default value is **0**. The value ranges from **0** to **4,294,967,294** (2^32-2).
gid	No	Long	ID of the user group to which the directory belongs. The default value is **0**. The value ranges from **0** to **4,294,967,294** (2^32-2).

Response Parameters

Status code: 400

Table 5-223 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 409

Table 5-224 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-225 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Creating a directory whose full path is **/date/test**

```
{
  "path" : "/date/test"
}
```

Example Responses

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0122",
  "errMsg" : "invalid mode"
}
```

Status code: 409

Conflict directory

```
{
  "errCode" : "SFS.TURBO.0114",
  "errMsg" : "path already exist"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
204	Directory created
400	Error response
409	Conflict directory
500	Error response

Error Codes

See **Error Codes**.

5.7.6 Checking Whether a Directory Exists

Function

This API is used to query whether a directory exists.

URI

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

Table 5-226 Path Parameters

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

Table 5-227 Query Parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Full path of the directory to be queried

Request Parameters

Table 5-228 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 5-229 Response body parameters

Parameter	Type	Description
path	String	Full path of the directory
mode	Long	Permissions of the directory. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems. The third digit indicates the permissions of the directory owner, the fourth digit indicates the permissions of the user group to which the directory belongs, and the fifth digit indicates the permissions of other users. The directory owner is specified by UID, and the user group to which the directory belongs is specified by GID. Users who are not the directory owner and not in the user group to which the directory belongs are other users. For example, in 40755, the third digit 7 indicates that the directory owner has the read, write, and execute permissions on the directory, the fourth digit 5 indicates that the user group to which the directory belongs has the read and execute permissions on the directory, and the fifth digit 5 indicates that other users have the read and execute permissions on the directory.

Parameter	Type	Description
uid	Long	ID of the user who owns the directory. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.
gid	Long	ID of the user group to which the directory belongs. This field is returned only for 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems.

Status code: 400

Table 5-230 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 404

Table 5-231 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-232 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Querying whether the directory **/date/test** can be found in the file system whose ID is **77ba6f4b-6365-4895-8dda-bc7142af4dde**


```
GET HTTPS://{endpoint}/v1/{project_id}/sfs-turbo/shares/{share_id}/fs/dir?path=/date/test
```

Example Responses

Status code: 200

Query results

```
{
  "path" : "/date/test"
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0100",
  "errMsg" : "invalid path"
}
```

Status code: 404

Directory not found

```
{
  "errCode" : "SFS.TURBO.0101",
  "errMsg" : "path not exist"
}
```

Status code: 500

Error response

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

Status Codes

Status Code	Description
200	Query results
400	Error response
404	Directory not found
500	Error response

Error Codes

See **Error Codes**.

5.7.7 Deleting a Directory

Function

This API is used to delete a directory.

Constraints

This API is only supported for file systems created after June 1, 2023.

Deleting a directory from a file system is a risky operation. Once deleted, the directory cannot be recovered. Ensure that the directory you specify is the one you want to delete.

URI

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

Table 5-233 Path Parameters

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

Request Parameters

Table 5-234 Request header parameters

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

Table 5-235 Request body parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Valid full path of an existing directory

Response Parameters

Status code: 400

Table 5-236 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-237 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Deleting the **/test** directory

```
{
  "path" : "/test"
}
```

Example Responses

Status code: 500

Error response

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

Status Codes

Status Code	Description
202	Deletion request accepted
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.7.8 Querying the Usage of a File System Directory

Function

This API is used to query the usage of a file system directory (including usages of subdirectories). The obtained data may not be the latest as there is a 5-minute delay between the frontend and backend.

Constraints

This API is only supported for file systems created after August 1, 2023. This API is only supported for previous-generation file system types (Standard, Standard-Enhanced, Performance, and Performance-Enhanced). For 1,000 MB/s/TiB, 500 MB/s/TiB, 250 MB/s/TiB, 125 MB/s/TiB, 40 MB/s/TiB, and 20 MB/s/TiB file systems, use the API for creating asynchronous tasks. You are advised not to submit five or more requests at a time, or the file system performance may be affected. It takes a long time to query an oversized directory. Do not submit the request repeatedly.

URI

GET /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/dir-usage

Table 5-238 Path Parameters

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

Table 5-239 Query Parameters

Parameter	Mandatory	Type	Description
path	Yes	String	Valid full path of a directory in the file system

Request Parameters

Table 5-240 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Account token
Content-Type	Yes	String	MIME type, which can be **application** or **json**

Response Parameters

Status code: 200

Table 5-241 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-242 Response body parameters

Parameter	Type	Description
dir_usage	**FsDirUasge** object	Message description

Table 5-243 FsDirUasge

Parameter	Type	Description
used_capacity	Long	Used capacity, in byte

Status code: 400

Table 5-244 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-245 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-246 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-247 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Querying the directory usage of a Standard 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/dir-usage
```

Example Responses

Status code: 200

Directory resource usages

```
{
  "dir_usage" : {
    "used_capacity" : 1024000
  }
}
```

Status code: 400

Error response

```
{
  "errCode" : "SFS.TURBO.0102",
  "errMsg" : "Path is not directory"
}
```

Status code: 500

Error response

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


Status Codes

Status Code	Description
200	Directory resource usages
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.8 Permissions Management

5.8.1 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 5-248 Path Parameters

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

Request Parameters

Table 5-249 Request header parameters

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

Table 5-250 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 5-251 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. • **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: • 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 5-252 Response body parameters

Parameter	Type	Description
rules	Array of **OnePermRuleResponseInfo** objects	Permission rule details

Table 5-253 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. • **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: • **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 5-254 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-255 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" : "1131ed520xxxxxxebedb6e57xxxxxxxx",
    "ip_cidr" : "192.32.0.0/16",
    "rw_type" : "rw",
    "user_type" : "no_root_squash"
  }, {
    "id" : "1131ed520xxxxxxebedb6e57xxxxxxxx",
    "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**.

5.8.2 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 5-256 Path Parameters

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

Table 5-257 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 5-258 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 5-259 Response body parameters

Parameter	Type	Description
rules	Array of **OnePermRuleResponseInfo** objects	Permission rule information

Table 5-260 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. • **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: • **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 5-261 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" : "1131ed520xxxxxxebedb6e57xxxxxxxx",
    "ip_cidr" : "192.168.xx.xx/16",
    "rw_type" : "rw",
    "user_type" : "no_root_squash"
  }, {
    "id" : "1231ed520xxxxxxebedb6e57xxxxxxxx",
    "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**.

5.8.3 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 5-262 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 5-263 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 5-264 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. • **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: • **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 5-265 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-266 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" : "1131ed520xxxxxxebedb6e57xxxxxxxx",
  "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**.

5.8.4 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 5-267 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 5-268 Request header parameters

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

Table 5-269 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. • **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: • 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 5-270 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. • **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: • **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 5-271 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-272 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" : "1131ed520xxxxxxebedb6e57xxxxxxxx",
  "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**.

5.8.5 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 5-273 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 5-274 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 5-275 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-276 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**.

5.8.6 Creating and Binding the LDAP Configuration

Function

This API is used to create and bind the LDAP configuration. Lightweight Directory Access Protocol (LDAP) is a standard protocol used for accessing and controlling directory servers. An LDAP server can centrally manage the relationship between users and groups. After an LDAP server is bound, when a user accesses a file in your file system, SFS Turbo accesses your LDAP server for user authentication and obtains the relationship between users and groups. In this way, standards Linux file UGO permissions are checked. To use this function, you need to first set up an LDAP server. SFS Turbo only supports LDAP v3 currently. Common directory servers that provide LDAP access include OpenLDAP (Linux) and Active Directory (Windows). The implementation varies depending on the directory server. When binding an LDAP server, you need to specify the corresponding schema. If the configured schema is incorrect, SFS Turbo cannot obtain the correct user and group information. As a result, users may fail to access files in the file system. Schemas that SFS Turbo supports include:

1. RFC2307 (Usually selected for OpenLDAP)
2. MS-AD-BIS (Usually selected for Active Directory. It supports RFC2307bis and nested groups.)

SFS Turbo also supports active and standby LDAP servers. If one LDAP server fails and cannot be accessed, SFS Turbo automatically switches to the standby LDAP server. In addition, if you set **allow_local_user** to **Yes** (default value is **No**), when both LDAP servers fail, SFS Turbo will use your local user and group information instead of the information configured on the LDAP server for identity authentication and UGO permissions check to minimize the fault impact.

Constraints

base_dn and **url** cannot be empty.

URI

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

Table 5-277 Path Parameters

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

Request Parameters

Table 5-278 Request header parameters

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

Table 5-279 Request body parameters

Parameter	Mandatory	Type	Description
url	Yes	String	URL of the LDAP server. The format is *ldap://{ip_address}:{port_number}* or *ldaps://{ip_address}:{port_number}*, for example, **ldap://192.168.xx.xx:60000**.
base_dn	Yes	String	Base DN
user_dn	No	String	User DN
password	No	String	LDAP authentication password
vpc_id	No	String	ID of the VPC which the specified LDAP server can be connected to. This parameter is required only when the SFS Turbo file system is used across VPCs.
filter_condition	No	String	Filter criteria. This is a reserved field and is not supported currently.
backup_url	No	String	URL of the standby LDAP server. The format is *ldap://{ip_address}:{port_number}* or *ldaps://{ip_address}:{port_number}*, for example, **ldap://192.168.xx.xx:60000**.

Parameter	Mandatory	Type	Description
schema	No	String	LDAP schema. If it is not specified, **RFC2307** is used by default.
search_timeout	No	Integer	LDAP search timeout interval, in seconds. If it is not specified, 3 seconds is used by default.
allow_local_user	No	String	Whether to allow local user authentication after access to the LDAP server failed.

Response Parameters

Status code: 200

Table 5-280 Response body parameters

Parameter	Type	Description
jobId	String	ID of an asynchronous LDAP task. You can query the task execution status by calling the API for querying details about a task.

Status code: 400

Table 5-281 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-282 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

Creating and binding an LDAP server

```
{
  "url" : "ldap://192.168.xx.xx:60000",
  "base_dn" : "dc=example,dc=com",
  "user_dn" : "cn=admin,dc=example,dc=com",
  "password" : "pwdxxxxxx",
  "backup_url" : "ldap://192.168.xx.xx:60000",
  "schema" : "RFC2307",
  "search_timeout" : 10,
  "allow_local_user" : "Yes"
}
```

Example Responses

Status code: 200

Request accepted

```
{
  "jobId" : "72362dxxxxa04d419dbd5e6d9fe5xxxx"
}
```

Status code: 400

Client error

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

Status code: 500

Internal error

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

Status Codes

Status Code	Description
200	Request accepted
400	Client error
500	Internal error

Error Codes

See **Error Codes**.

5.8.7 Querying the LDAP Configuration

Function

This API is used to query the LDAP configuration. Lightweight Directory Access Protocol (LDAP) is a standard protocol used for accessing and controlling directory servers. An LDAP server can centrally manage the relationship between users and groups. After an LDAP server is bound, when a user accesses a file in your file system, SFS Turbo accesses your LDAP server for user authentication and obtains the relationship between users and groups. In this way, standards Linux file UGO permissions are checked. To use this function, you need to first set up an LDAP server. SFS Turbo only supports LDAP v3 currently. Common directory servers that provide LDAP access include OpenLDAP (Linux) and Active Directory (Windows). The implementation varies depending on the directory server. When binding an LDAP server, you need to specify the corresponding schema. If the configured schema is incorrect, SFS Turbo cannot obtain the correct user and group information. As a result, users may fail to access files in the file system. Schemas that SFS Turbo supports include:

1. RFC2307 (Usually selected for OpenLDAP)
2. MS-AD-BIS (Usually selected for Active Directory. It supports RFC2307bis and nested groups.)

SFS Turbo also supports active and standby LDAP servers. If one LDAP server fails and cannot be accessed, SFS Turbo automatically switches to the standby LDAP server. In addition, if you set **allow_local_user** to **Yes** (default value is **No**), when both LDAP servers fail, SFS Turbo will use your local user and group information instead of the information configured on the LDAP server for identity authentication and UGO permissions check to minimize the fault impact.

URI

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

Table 5-283 Path Parameters

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

Request Parameters

Table 5-284 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 5-285 Response body parameters

Parameter	Type	Description
url	String	URL of the LDAP server
base_dn	String	Base DN
user_dn	String	User DN
filter_condition	String	Filter criteria. This is a reserved field and is not supported currently.
backup_url	String	URL of the standby LDAP server.
schema	String	LDAP schema. If it is not specified, **RFC2307** is used by default.
search_timeout	Integer	LDAP search timeout interval, in seconds. If it is not specified, 3 seconds is used by default.
allow_local_user	String	Whether to allow local user authentication after access to the LDAP server failed.

Status code: 500

Table 5-286 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

None

Example Responses

Status code: 200

Successful query

```
{
  "url" : "ldap://192.168.xx.xx:60000",
  "base_dn" : "dc=example,dc=com",
  "user_dn" : "cn=admin,dc=example,dc=com",
  "backup_url" : "ldap://192.168.xx.xx:60000",
  "schema" : "RFC2307",
  "search_timeout" : 10,
```



```
  "allow_local_user" : "Yes"
}
```

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**.

5.8.8 Modifying the LDAP Configuration

Function

This API is used to modify the LDAP configuration. Lightweight Directory Access Protocol (LDAP) is a standard protocol used for accessing and controlling directory servers. An LDAP server can centrally manage the relationship between users and groups. After an LDAP server is bound, when a user accesses a file in your file system, SFS Turbo accesses your LDAP server for user authentication and obtains the relationship between users and groups. In this way, standards Linux file UGO permissions are checked. To use this function, you need to first set up an LDAP server. SFS Turbo only supports LDAP v3 currently. Common directory servers that provide LDAP access include OpenLDAP (Linux) and Active Directory (Windows). The implementation varies depending on the directory server. When binding an LDAP server, you need to specify the corresponding schema. If the configured schema is incorrect, SFS Turbo cannot obtain the correct user and group information. As a result, users may fail to access files in the file system. Schemas that SFS Turbo supports include:

1. RFC2307 (Usually selected for OpenLDAP)
2. MS-AD-BIS (Usually selected for Active Directory. It supports RFC2307bis and nested groups.)

SFS Turbo also supports active and standby LDAP servers. If one LDAP server fails and cannot be accessed, SFS Turbo automatically switches to the standby LDAP server. In addition, if you set **allow_local_user** to **Yes** (default value is **No**), when both LDAP servers fail, SFS Turbo will use your local user and group information instead of the information configured on the LDAP server for identity authentication and UGO permissions check to minimize the fault impact.

URI

PUT /v1/{project_id}/sfs-turbo/shares/{share_id}/fs/ldap

Table 5-287 Path Parameters

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

Request Parameters

Table 5-288 Request header parameters

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

Table 5-289 Request body parameters

Parameter	Mandatory	Type	Description
url	No	String	URL of the LDAP server. The format is *ldap://{ip_address}:{port_number}* or *ldaps://{ip_address}:{port_number}*, for example, **ldap://192.168.xx.xx:60000**.
base_dn	No	String	Base DN
user_dn	No	String	User DN
password	No	String	LDAP authentication password
vpc_id	No	String	ID of the VPC
filter_condition	No	String	Filter criteria. This is a reserved field and is not supported currently.
backup_url	No	String	URL of the standby LDAP server. The format is *ldap://{ip_address}:{port_number}* or *ldaps://{ip_address}:{port_number}*, for example, **ldap://192.168.xx.xx:60000**.

Parameter	Mandatory	Type	Description
schema	No	String	LDAP schema. If it is not specified, **RFC2307** is used by default.
search_timeout	No	Integer	LDAP search timeout interval, in seconds. If it is not specified, 3 seconds is used by default.
allow_local_user	No	String	Whether to allow local user authentication after access to the LDAP server failed.

Response Parameters

Status code: 200

Table 5-290 Response body parameters

Parameter	Type	Description
jobId	String	ID of an asynchronous LDAP task. You can query the task execution status by calling the API for querying details about a task.

Status code: 400

Table 5-291 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-292 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

```
{
  "url" : "ldap://192.168.xx.xx:60000",
  "base_dn" : "dc=example,dc=com",
  "user_dn" : "cn=admin,dc=example,dc=com",
  "password" : "pwdxxxxxx",
  "vpc_id" : "26f6b565-xxxx-XXXX-xxxx-03f0bd975433",
  "backup_url" : "ldap://192.168.xx.xx:60000",
  "schema" : "RFC2307",
  "search_timeout" : 10,
  "allow_local_user" : "Yes"
}
```

Example Responses

Status code: 200

Updating

```
{
  "jobId" : "72362dxxxxa04d419dbd5e6d9fe5xxxx"
}
```

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	Updating
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.8.9 Deleting the LDAP Configuration

Function

This API is used to delete the LDAP configuration. Lightweight Directory Access Protocol (LDAP) is a standard protocol used for accessing and controlling directory servers. An LDAP server can centrally manage the relationship between users and groups. After an LDAP server is bound, when a user accesses a file in your file system, SFS Turbo accesses your LDAP server for user authentication and obtains the relationship between users and groups. In this way, standards Linux file UGO permissions are checked. To use this function, you need to first set up an LDAP server. SFS Turbo only supports LDAP v3 currently. Common directory servers that provide LDAP access include OpenLDAP (Linux) and Active Directory (Windows). The implementation varies depending on the directory server. When binding an LDAP server, you need to specify the corresponding schema. If the configured schema is incorrect, SFS Turbo cannot obtain the correct user and group information. As a result, users may fail to access files in the file system. Schemas that SFS Turbo supports include:

1. RFC2307 (Usually selected for OpenLDAP)
2. MS-AD-BIS (Usually selected for Active Directory. It supports RFC2307bis and nested groups.)

SFS Turbo also supports active and standby LDAP servers. If one LDAP server fails and cannot be accessed, SFS Turbo automatically switches to the standby LDAP server. In addition, if you set **allow_local_user** to **Yes** (default value is **No**), when both LDAP servers fail, SFS Turbo will use your local user and group information instead of the information configured on the LDAP server for identity authentication and UGO permissions check to minimize the fault impact.

URI

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

Table 5-293 Path Parameters

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

Request Parameters

Table 5-294 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 5-295 Response body parameters

Parameter	Type	Description
jobId	String	ID of an asynchronous LDAP task. You can query the task execution status by calling the API for querying details about a task.

Status code: 400

Table 5-296 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-297 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Example Requests

None

Example Responses

Status code: 200

Deleting

```
{
  "job_Id" : "72362dxxxxa04d419dbd5e6d9fe5xxxx"
}
```

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	Deleting
400	Error response
500	Error response

Error Codes

See **Error Codes**.

5.9 Task Management

5.9.1 Querying Details About a Task

Function

This API is used to query the execution status of an SFS Turbo asynchronous task. For example, you can query the task execution status using the **jobId** returned after you call the API for creating and binding the LDAP configuration.

URI

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

Table 5-298 Path Parameters

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

Request Parameters

Table 5-299 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 5-300 Response header parameters

Parameter	Type	Description
X-request-id	String	Request ID

Table 5-301 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 5-302 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
fail_reason	String	Cause of the task execution failure

Status code: 400

Table 5-303 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 404

Table 5-304 Response body parameters

Parameter	Type	Description
errCode	String	Error code
errMsg	String	Error description

Status code: 500

Table 5-305 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 Turbo 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. For details about the differences between IAM and enterprise projects, see **Differences Between IAM and Enterprise Management**.
- 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 Turbo supports the following actions that can be defined in custom policies:

- **File System**, 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, modifying file systems, and deleting file systems.
- **File System Expansion**, including actions supported by the SFS file system expansion APIs, such as the APIs for expanding the capacity of a file system.
- **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 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	• 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. – "vpc:*:*" • Creating an encrypted SFS Turbo file system requires the KMS Administrator permissions. • Creating an SFS Turbo file system that uses DSS – "dss:*:get", – "dss:*:list",	√	√

Permission	API	Action	Dependencies	IAM Project (Project)	Enterprise Project (Enterprise Project)
			– "dss:*:count"		
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	• 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. – "vpc:*:*" • Deleting an SFS Turbo file system that uses DSS – "dss:*:get", – "dss:*:list", – "dss:*:count"	√	√

Permission	API	Action	Dependencies	IAM Project (Project)	Enterprise Project (Enterprise Project)
Adding a Storage Backend	POST /v1/{project_id}/sfs-turbo/shares/{share_id}/targets	sfsturbo:shares:createBackendTarget	You must have the OBS Administrator permissions.	√	√
Listing Storage Backends	GET /v1/{project_id}/sfs-turbo/shares/{share_id}/targets	sfsturbo:shares:listBackendTargets	-	√	√
Querying Details of a Storage Backend	GET /v1/{project_id}/sfs-turbo/shares/{share_id}/targets/{target_id}	sfsturbo:shares:showBackendTargetInfo	-	√	√
Removing a Storage Backend	DELETE /v1/{project_id}/sfs-turbo/shares/{share_id}/targets/{target_id}	sfsturbo:shares:deleteBackendTarget	-	√	√
Creating an Import or Export Task	POST /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task	sfsturbo:shares:createDataRepositoryTask	-	√	√
Querying Details About an Import or Export Task	GET /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/task/{task_id}	sfsturbo:shares:getDataRepositoryTask	-	√	√

Permission	API	Action	Dependencies	IAM Project (Project)	Enterprise Project (Enterprise Project)
Listing Import and Export Tasks	GET /v1/{project_id}/sfs-turbo/{share_id}/hpc-cache/tasks	sfsturbo:shares: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 • vpc:securityGroups:* • vpc:securityGroupRules:*	√	√

Permission	API	Action	Dependencies	IAM Project (Project)	Enterprise Project (Enterprise Project)
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

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in **API Gateway Error Codes**.

- 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.

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

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in **API Gateway Error Codes**.

Status Code	Error 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.

Status Code	Error Code	Error Message	Description	Solution
400	SFS.TURBO.0004	Invalid vpc	Invalid VPC.	Use valid parameters and try again.
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.

Status Code	Error Code	Error Message	Description	Solution
400	SFS.TURBO.0016	Res tag count already reach max value	The maximum number of tags has been reached for the resource.	Delete unnecessary tags.
400	SFS.TURBO.0017	Invalid tag key param	The length of the resource tag key is invalid.	Use valid parameters and try again.
400	SFS.TURBO.0018	Invalid tag value param	The length of the resource tag value is invalid.	Use valid parameters and try again.
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.

Status Code	Error Code	Error Message	Description	Solution
400	SFS.TURBO.0026	Invalid tag value param	The resource tag value contains invalid characters.	Use valid parameters and try again.
400	SFS.TURBO.0027	Invalid security group	Invalid security group.	Use valid parameters and try again.
400	SFS.TURBO.0028	Invalid crypt key	Invalid KMS key.	Use valid parameters and try again.
400	SFS.TURBO.0029	Subnet has not enough ips	Insufficient IP addresses in the subnet.	Use valid parameters and try again.
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.

Status Code	Error Code	Error Message	Description	Solution
500	SFS.TURBO.0036	Failed to obtain the used capacity of the directory	Failed to obtain the used capacity of the directory.	Try again. If the fault persists, contact technical support.
400	SFS.TURBO.0037	Operation conflict, client retry	Operation conflict.	Try again with valid operations.
400	SFS.TURBO.0038	unknown error	Unknown error.	Contact technical support.
400	SFS.TURBO.0039	The VIP quota is insufficient	Insufficient virtual IP address quota.	Apply for a higher quota.
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.

Status Code	Error Code	Error Message	Description	Solution
500	SFS.TURBO.0104	Failed to import or export OBS data	Failed to import or export OBS data.	Try again. If the fault persists, contact technical support.
500	SFS.TURBO.0105	Failed to obtain OBS import and export task data	Failed to obtain the OBS import and export data.	Try again. If the fault persists, contact technical support.
400	SFS.TURBO.0106	The OBS task does not exist	The OBS task is not found.	Select an existing OBS task or create an OBS task.
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 Access Keys (AK/SK)

NOTE

To access SFS using access keys as an IAM user, the programmatic access must be enabled. For details, see **Viewing or Modifying IAM User Information**.

When calling an API, you need to use the AK/SK to verify the signature. To obtain the AK/SK, perform the following steps:

Step 1 Log in to the console.

Step 2 Hover the cursor on the username in the upper right corner and select **My Credentials** from the drop-down list.

Step 3 On the **My Credentials** page, click **Manage Access Keys**.

Step 4 In the navigation pane, choose **Access Keys**.

Step 5 Click **Create Access Key**.

Step 6 Enter a description (optional) and click **OK**.

Step 7 Enter the verification code your email, mobile phone, or virtual MFA device received. Skip this step if critical operation protection is not enabled.

Step 8 Download the access key file.

NOTE

Keep the access key secure.

----End

8.4 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.

Figure 8-1 Viewing the project ID