FunctionGraph

API Reference

Date   **2023-07-06**

Contents

1 Before You Start

1.1 Overview

Welcome to FunctionGraph. FunctionGraph hosts and computes event-driven functions in a serverless context while ensuring high availability, high scalability, and zero maintenance. All you need to do is write your code and set conditions. You pay only for what you use and you are not charged when your code is not running.

This document describes how to use application programming interfaces (APIs) to perform operations on FunctionGraph resources, such as creating, deleting, query, and executing functions. For details about all supported operations, see **API Overview**.

1.2 API Calling

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

1.3 Endpoints

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

1.4 Constraints

- The number of functions that you can create is determined by your quota. For details, see **Quotas**.
- For more constraints, see API description.

1.5 Concepts

- Account

  An account is created upon successful registration with the cloud system. 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 and 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.

- IAM user

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

  The account name, username, and password will be required for API authentication.

- Region

  Regions are geographic areas isolated from each other. Resources are region-specific and cannot be used across regions through internal network connections. For low network latency and quick resource access, select the nearest region.

- 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 support cross-AZ high-availability systems.

- Project

  Projects group and isolate resources (including compute, storage, and network resources) across physical regions. A default project is provided for each region, and subprojects can be created under each default project. Users can be granted permissions to access all resources in a specific project. For more refined access control, create subprojects under a project and purchase resources in the subprojects. Users can then be assigned permissions to access only specific resources in the subprojects.

Figure 1-1 Project isolating model
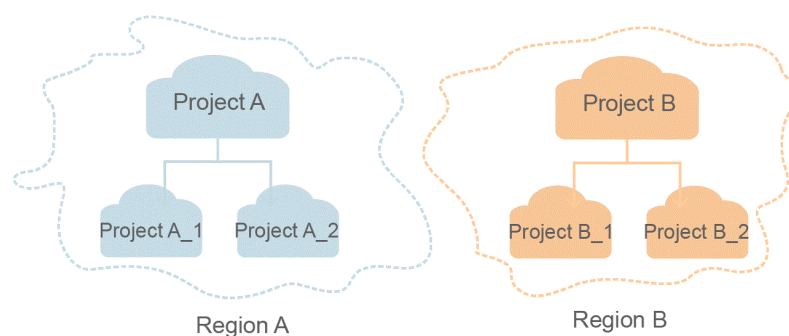
1.6 Function Model Definition

1.6.1 Function Model

Function Model

The function model of FunctionGraph is as follows:

```
{
  "functions": [
   {
    "func_urn": "urn:fss:xxxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
    "func_name": "test",
    "domain_id": "cff01_hk",
    "namespace": "7aad83af3e8d42e99ac194e8419e2c9b",
    "project_name": "xxxxxxxxxx",
    "package": "default",
    "runtime": "Node.js6.10",
    "timeout": 3,
    "handler": "test.handler",
    "memory_size": 128,
    "cpu": 300,
    "code_type": "inline",
    "code_url": "",
    "code_filename": "index.js",
    "code_size": 272,
    "user_data": "",
    "digest":
"decbce6939297b0b5ec6d1a23bf9c725870f5e69fc338a89a6a4029264688dc26338f56d08b6535d
e47f15ad538e22ca66613b9a46f807d50b687bb53fded1c6",
    "version": "latest",
    "image_name": "latest-5qe8e",
    "xrole": "cff",
    "app_xrole": null,
    "description": "111",
    "version_description": "",
    "last_modified": "2018-03-28T11:30:32+08:00",
"func_code": {
 "file": "",
 "link": ""
},
 "func_vpc":null,
 "mount_config":null,
 "depend_list": null,
 "strategy_config": {
    "concurrency": -1
},
 "extend_config": "",
 "dependencies": null,
"initializer_handler": "index.initializer",
"initializer_timeout": 3
  }
 ],
 "next_marker": 45
}
```

Description

Table 1-1 describes the parameters in the function model.

Table 1-1 Parameters in the function model

Parameter	Description
func_urn	Function URN.
func_name	Function name.
domain_id	Tenant name.
namespace	Project ID.
project_name	Project name.
package	Group to which the function belongs. This field is defined to group functions.
runtime	Environment for executing the function. FunctionGraph supports Node.js 6.10, Node.js 8.10, Node.js 10.16, Node.js 12.13, Python 2.7, Python 3.6, Java 8, Go 1.8, C# (.NET Core 2.0), C# (.NET Core 2.1), C# (.NET Core 3.1), and PHP 7.3.
timeout	Maximum duration the function can be executed. Value range: 3s–900s.
handler	Handler of the function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function **myfunction.handler**, the file name is **myfunction.js**, and the entry point function is **handler**.
memory_size	Memory (MB) consumed by the function. Options: 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584, and 4096.
cpu	Number of CPU millicores used by the function (1 core = 1000 millicores). The value of this field is proportional to that of **MemorySize**. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores).
code_type	Function code type. Options: ● **inline**: inline code ● **zip**: ZIP file ● **jar**: JAR file (mainly for Java functions) ● **obs**: function code stored in an Object Storage Service (OBS) bucket

Parameter	Description
code_url	● When **code_type** is set to **obs**, this parameter indicates the address of a function code package in OBS. ● When **code_type** is set to **inline**, **zip**, or **jar**, this parameter is left blank.
code_filename	Function file name. ● When **code_type** is set to **zip** or **jar**, this parameter is required. ● When **code_type** is set to **obs** or **inline**, this parameter is not required.
code_size	Code size in bytes.
user_data	Name/Value information defined for the function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
digest	SHA512 hash value of function code, which is used to determine whether the function is changed.
version	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v+year/month/day-hour/minute/second).
image_name	Internal identifier of a function version.
xrole	Agency used by the function. You need to create an agency on the Identity and Access Management (IAM) console. This field is mandatory when a function needs to access other services.
app_xrole	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	Description of the function.
version_description	Description of the function version.
last_modified	Time when the function was last updated.
func_code	Function code. See **Table 1-2**.
depend_list	Dependency list.
strategy_config	Function policy configuration. See **Table 1-3**.
extend_config	Function extension configuration.
dependencies	Dependency list. See **Table 1-5**.

Parameter	Description
initializer_handler	Initializer of the function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function **myfunction.initializer**, the file name is **myfunction.js**, and the initialization function is **initializer**.
initializer_timeout	Maximum duration the function can be initialized. Value range: 1s–300s.
func_vpc	Virtual Private Cloud (VPC) configuration. See **Table 1-4**.
mount_config	File system configuration. See **Table 1-6**.

Table 1-2 func_code parameters

Parameter	Description
file	Function code. Nothing will be returned.
link	Function code link. Nothing will be returned.

Table 1-3 strategy_config parameter

Parameter	Description
concurrency	● **0**: The function is disabled. ● **-1**: The function is enabled.

Table 1-4 func_vpc parameters

Parameter	Type	Mandatory	Description
vpc_name	String	-	VPC name.
vpc_id	String	Yes when **func_vpc** is not empty.	VPC ID.
subnet_name	String	-	Subnet name.
subnet_id	String	Yes when **func_vpc** is not empty.	Subnet ID.
cidr	String	-	Subnet mask.
gateway	String	-	Gateway.

Table 1-5 dependency parameters

Parameter	Type	Mandatory	Description
owner	String	-	Domain ID of the dependency owner.
link	String	-	URL of the dependency package on OBS.
runtime	String	-	Language of the dependency package (only used for classification purposes).
etag	String	-	MD5 value of the dependency package.
size	Int	-	Size of the dependency package.
name	String	-	Name of the dependency package.
description	String	-	Description of the dependency package.
file_name	String	-	File name of the dependency package (ZIP).

Table 1-6 mount_config parameters

Parameter	Type	Mandatory	Description
mount_user	**mount_user**	-	File system user configuration.
func_mounts	**func_mounts**	-	File system list.

Table 1-7 mount_user parameters

Parameter	Type	Mandatory	Description
user_id	Int	Yes when **mount_user** is not empty.	User ID, which is an integer from –1 to 65,534, excluding 0, 1000, and 1002.
user_group_id	Int	Yes when **mount_user** is not empty.	User group ID, which is an integer from –1 to 65,534, excluding 0, 1000, and 1002.

Table 1-8 func_mounts parameters

Parameter	Type	Mandatory	Description
mount_type	String	Yes when **func_mounts** is not empty.	Mount type. Options: **ecs**.
mount_resource	String	Yes when **func_mounts** is not empty.	ID of the mounted resource (corresponding cloud service).
mount_share_path	String	Yes when **mount_type** is set to **ecs**.	Remote mount path. Example: **192.168.0.12:/ data**.
local_mount_path	String	Yes when **func_mounts** is not empty.	Function access path.

The format of a function URN is as follows:

urn:fss:<region_id>:<project_id>:function:<package>:<function_name>[:<version>|:!<alias>]

📖 NOTE

A function URN is divided into eight fields by colons. The value of **region_id** is included in the system configuration. You can set this parameter to the same as that in the backend. The content in the brackets ([]) is a function version or alias. If you enter an alias, add an exclamation mark (!) in front of it for easy identification.

When a function URN is used as an API parameter, you can provide it in a simplified format as follows:

- 1 field: **<function_name>**. **project_id** is obtained from a token, **package** is **default**, and **version** is **latest**.

- 2 fields: **<package>:<function_name>**. **project_id** is obtained from a token, and **version** is **latest**.
- 3 fields: **<project_id>:<package>:<function_name>**. **version** is **latest**.
- 4 fields: **<project_id>:<package>:<function_name>:<Version or Alias>**.
- 7 fields: **urn:fss:<region_id>:<project_id>:function:<package>:<function_name>**. **version** is **latest**.
- 8 fields: **urn:fss:<region_id>:<project_id>:function:<package>:<function_name>:<Version or Alias>**.

1.6.2 Trigger Management Models

Trigger Type Model

```
{
    "trigger_type_code":"string",
    "display_name":"string",
    "status":"string",
    "event_codes":"array of string",
    "description":"string"
}
```

Table 1-9 describes the parameters in the trigger type model.

Table 1-9 Parameters in the trigger type model

Parameter	Description
trigger_type_code	Trigger type code. Options: **SMN**, **APIG**, **OBS**, **TIMER**, **DMS**, **DIS**, **LTS**, **DDS**, **CTS**, and **kafka**.
display_name	Trigger type value.
status	Trigger type status. Options: • **DISABLED**: The trigger is disabled. • **TEST**: The trigger is under test and invisible to clients. • **ACTIVE**: The trigger is available.
description	Trigger description.

Trigger Instance Model

```
{
    "trigger_id":"string",
    "trigger_type_code":"string",
    "event_type_code":"string",
    "status":"string",
    "event_data":"json struct",
    "last_updated_time":"string",
    "created_time":"string"
}
```

Table 1-10 describes the parameters in the trigger instance model.

Table 1-10 Parameters in the trigger instance model

Parameter	Description
trigger_id	Trigger ID.
trigger_type_code	Trigger type code. Options: **SMN**, **APIG**, **OBS**, **TIMER**, **DMS**, **DIS**, **LTS**, **DDS**, **CTS**, and **kafka**.
event_type_code	Event type code. This parameter is mandatory. It can be any non-null character string. This parameter is not used currently.
status	Trigger status. Options: **ACTIVE** and **DISABLED**.
event_data	Trigger data defined in JSON format.
last_updated_time	Time when the trigger was last updated.
created_time	Time when the trigger was created.

Trigger Instance Data

- The data of a Simple Message Notification (SMN) trigger is as follows:
```
{
    "topic_urn":"string",
    "subscription_status":"string"
}
```
  Table 1-11 describes the parameters of an SMN trigger.

  Table 1-11 Parameters of an SMN trigger

Parameter	Description
topic_urn	URN of an SMN topic. This parameter is mandatory when you create an SMN trigger.
subscription_status	Subscription status of a topic. Options: **Unconfirmed** and **Confirmed**.

- The data of an Object Storage Service (OBS) trigger is as follows:
```
{
    "bucket": "yourBucketName",
    "events": ["s3:ObjectCreated:Put"],
    "prefix": "yourPrefix",
    "suffix": "yourSuffix"
}
```

  Table 1-12 Parameters of an OBS trigger

Parameter	Description
bucket	Bucket name. This parameter is mandatory.

Parameter	Description
events	Collection of OBS trigger events. Options: **s3:ObjectCreated:***, **s3:ObjectCreated:Put**, **s3:ObjectCreated:Post**, **s3:ObjectCreated:Copy**, **s3:ObjectCreated:CompleteMultipartUpload**, **s3:ObjectRemoved:***, **s3:ObjectRemoved:DeleteMarkerCreated**, and **s3:ObjectRemoved:Delete**. This parameter is mandatory. Note that **s3:objectcreated:*** includes all events that start with **s3:objectcreated**, and **s3:objectremoved:*** includes all events that start with **s3:objectremoved**.
prefix	Prefix of an OBS object. This parameter is optional.
suffix	Suffix of an OBS object. This parameter is optional.

- The data of a timer trigger is as follows:

```
{
    "name": "string",
    "schedule_type": "string",
    "schedule": "string",
    "user_event": "string"
}
```

Table 1-13 describes the parameters of a timer trigger.

Table 1-13 Parameters of a timer trigger

Parameter	Description
name	Trigger name. This parameter is mandatory.
schedule_type	Schedule type. Options: **Rate** or **Cron**. This parameter is mandatory.
schedule	Schedule setting, which varies depending on the schedule type you choose. This parameter is mandatory. When **schedule_type** is set to **Rate**, add unit m, h, or d behind a rate, for example, **3m** for 3 minutes.
user_event	Additional information for calling a function. This parameter is optional.

- The data of a Kafka trigger is as follows:

```
{
    "instance_id": "string",
   "db_name": "string",
    "collection_name": "string",
    "db_user": "string",
   "db_password": string,
    "batch_size": int,
}
```

Table 1-14 Parameters of a Kafka trigger

Parameter	Description
instance_id	Kafka instance ID.
topic_id	Topic ID.
kafka_user	Username.
kafka_passwo rd	Password.
kafka_ssl_ena ble	Whether to enable SSL authentication. If SSL authentication is enabled, the **kafka_user** and **kafka_password** fields are mandatory.
batch_size	Batch size.

2 API Overview

FunctionGraph provides developers and partners with open APIs for development, deployment, hosting, and O&M, helping users quickly implement service innovations at low costs and shorten the rollout period of applications.

FunctionGraph provides the following types of APIs:

Table 2-1 API overview

Type	Description
Function Invocation	Execute functions synchronously or asynchronously and return reserved instance IDs.
Function Quotas	Query quotas.
Dependencies	Create, delete, query, and update dependencies.
Test Events	Create, delete, query, and update test events.
Function Lifecycle Management	Create and delete functions.
Versions and Aliases	Create and delete function versions and aliases.
Function Metrics	Query function statistics, top functions for a specified metric, and metrics in a specified period.
Function Logs	Query a function's log group and log stream, and enable log reporting to LTS.
Reserved Instances	Query reserved instances and change their number.
Function Import and Export	Import and export functions.
Function Triggers	Create, delete, and update triggers.

Type	Description
Asynchronous Execution Notification	Query, delete, and configure asynchronous invocation notification settings.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the Identity and Access Management (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 parameters

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

📖 **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:

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

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

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:

- **Content-Type**: specifies the request body type or format. This field is mandatory and its default value is **application/json**. Other values of this field will be provided for specific APIs if any.
- **X-Auth-Token**: specifies a user token only for token-based API authentication. The user token is a response to the API used to **obtain a user token**. This API is the only one that does not require authentication.

  📖 **NOTE**

  > In addition to supporting token-based authentication, public cloud APIs also support authentication using access key ID/secret access key (AK/SK). During AK/SK-based authentication, an SDK is used to sign the request, and the **Authorization** (signature information) and **X-Sdk-Date** (time when the request is sent) header fields are automatically added to the request.
  >
  > For more details, see **AK/SK-based Authentication**.

- **X-Project-ID**: specifies a subproject ID. This parameter is mandatory only in multi-project scenarios.
- **X-Domain-ID**: specifies an account ID.

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:

Request Body

The body of a request is often sent in a structured format as specified in the **Content-Type** header field. The request body transfers content except the request header.

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

In the case of the API used to **obtain a user token**, the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace *username*, *domainname*, ******** (login password), and *xxxxxx* (project ID) with the actual values. To learn how to obtain a project ID, see **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**.

```
Content-Type: application/json

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

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

3.2 Authentication

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

- Token-based authentication: Requests are authenticated using a token.

● AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/SK.

Token-based Authentication

> **NOTE**
>
> The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the Identity and Access Management (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.

In **Making an API Request**, the process of calling the API used to **obtain a user token** is described. After a token is obtained, the **X-Auth-Token** header field must be added to requests to specify the token when other APIs are called. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

AK/SK-based Authentication

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

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

NOTICE

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

3.3 Response

Status Code

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

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

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

Response Header

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

Figure 3-1 shows the response header fields for the API used to **obtain a user token**. The **x-subject-token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

Figure 3-1 Header fields of the response to the request for obtaining a user token

```
connection  →  keep-alive

content-type  →  application/json

date  →  Tue, 12 Feb 2019 06:52:13 GMT

server  →  Web Server

strict-transport-security  →  max-age=31536000; includeSubdomains;

transfer-encoding  →  chunked

via  →  proxy A

x-content-type-options  →  nosniff

x-download-options  →  noopen

x-frame-options  →  SAMEORIGIN

x-iam-trace-id  →  218d45ab-d674-4995-af3a-2d0255ba41b5

x-subject-token
 →  MIIYXQYJKoZIhvcNAQcCoIIYTjCCGEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjIwMTktMDItMTNUMD
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqjACgkIqO1wi4JIGzrpd18LGXK5txIdfq4IqHCYb8P4NaY0NYejcAgzJVeFIYtLWT1GSO0zxKZmIQHQj82HBqHdgIZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXI1jipPEGA270g1FruooL6jqgIFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HRozv0vN--n5d6Nbxg==

x-xss-protection  →  1; mode=block;
```

Response Body

The body of a response is often returned in structured format 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": "XXXXXXXX",
......
```

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

```
{
  "error_code": "FGS.0111",
  "error_msg": "xxxxxxxxx"
}
```

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

4 **Examples**

4.1 Example 1: Using a Timer Trigger to Periodically Download Files from an OBS Bucket

Scenario

This example guides you through the procedure for creating a Python 2.7 function and associating a timer trigger with it to periodically download files from an OBS bucket.

For details about how to call APIs, see **Calling APIs**.

Prerequisites

- You have uploaded files to OBS and have recorded the file names, the bucket in which the files are stored, and the address of the bucket.
- You have created an agency in IAM to allow FunctionGraph to access OBS and have recorded the name of the agency.

General Procedure

Create a FunctionGraph function and associate a timer trigger with it to periodically download files from an OBS bucket. The procedure is as follows:

1. **Creating a Function**: Create a function for downloading files.
2. **Modifying the Metadata of a Function**: Modify the OBS address, OBS bucket name, and file name in the function configuration.
3. **Executing a Function Synchronously**: Verify whether the function can successfully download files from the OBS bucket.
4. **Creating a Trigger**: Create a timer trigger to periodically download files.

Step 1: Create a Function for Downloading Files from OBS

URI: **POST /v2/**{*project_id*}**/fgs/functions**

For details, see **Creating a Function**.

- Sample request

POST https://{Endpoint}/v2/{project_id}/fgs/functions

{
 "code_filename": "index.zip",
 "code_type": "inline",
 "func_code": {
  "file":
"UEsDBAoAAAAIABESwlDHSM8cOQYAAJYRAAAIAAAAaW5kZXgucHm9V91v2zYQf9dfcXAeLKeKkrYZNg
TQQ9JvpG2CJsOwJ4GWaJuLRGok5VT963dHUpZsJ82GofVDQh2Pd8e7333wAI4Oj6BQpZDLM2jt4ug3ok
QH8MeKS9CtlLgDdiUMGFY3FSdmDlYBKwpuDFxd3CTQqRbq1lgwDS/
EogMmgS25LDq4F3YFy0rNWQWG67UoeH+04boWxgglDcRKA7NQcYZS3BkU/
ADjLI0WWtVoRZ2quUmLSnBpaZn7JYi6UdrC1dy8coRt/hqtr0y65DZX8794YfMVZyXX/
bF33F45+ntHfuqw5n+33Ni90188PQp005I+qUwUFa3WaFm+EBXPG4aXzzCe0iothZas5nH/
rTmraBHnnj2fzTA652VpMCoYDS8KnBSMiuFMFyv3aeg7aMUA6vKoYdp2UIm5Zlpwk0Zol9fCmobLMt4zb
BZFt28+Xedfrq5u8+vz2/do6eTY1s3xBPzvAF4re1kphgYxoIPgfEbhQ/
0OOXgn9InSXRppvsQwopRpsRKSTWH7dwC3dAANRR9YDEupuAGpLEjOSxI4xzuvmFziiF5MlQqqWqiNYaJ
NwTZt+2srCo451mzSogiDuc4n053pCj9lvdctj7/WjtYimZ9QZM16c/+e4OBxmcnr6Eh34/
WjuCKTe2qx72/g/
WfkD1gZWlpmqCzneVQx5JdMnq6Ne07lb3RaXaEqmqng7ArpmQQOkauHSjVAdqlgKvxvuiCVfsLaysGZV
y9Mi0/M9mljhLcKpRTAtQk5Yhb2YrzHVEiwu0vKvdnYWkdZKLZe4mfVkKjYfHS2ewaO/
Ayx3Fm2lFEQJgCvLJNroZIbqO/
KBI2/7ZKQP76VfM8vi6YhlOnOHjC4u2uKO28eObBims7F9byRFlZwxdufci8L4ae9KVtgWTXVlxAe9DNUFw
0w9CKsIL9PeFCy2n0ncd4wJLBtrHjPle5oTWGB74l9dA0wcT2pRV
+TsEIuRV9DGz0qiVD22L1B9iIcwp1xrpePJNbU9jsCywOVaaCVrqulrrNJsXiGIB/mE/UFwOpltRGqOpUXC/
5QWeR/9iQ2dYUxYuRbGJ2Ab0D7GFzRarQXFZt7tJCCeKPm8XZlnGi3QgBpRhEOBcVoptUdCsS6KNQ
+Mfbqko4xlhVyoGCaHh4eD/
WT0GUzg2UCa7Z3pj4RLngX28Ik3jnYzyHJqmkx3cH7pjL253B54UjjfzDcYWhoCsMOVI6YP55+89exuG5vn
bv
+Sd3HIp539G15gIP1+jy6SgW134kAV1o9B6S1DcJbb5iKYC0aelmrrbgleLCGhVt1hAV0xg5y4UM4TmGYwg
tJmonsQcz9HbbQ3cEhom1AdtkaPUCEstlsqbpu5LB5VtGRATTJCRIL+xu+7We/
+uBeTwYuTExeEEeH5bAiFqNHW3Ihv1OQKVuUDIR5DrudXrW1aqqSTW8wBP1KOC55pnTMXbVV1m6slD
pKUNE4R4s8h2up40DZDygQuLya7KHEZ4dXuRdGTHRWn3EeLVW/fzqy3cAh4CBtPHaCG
+d0Zknoaenem8RllJ3QoqDsQ6Cf3ER1HthPPMw+cWx3J8G6DTNy+E2GM2v
+NdLsrM8bs0zIeNzNwl0U7XFSb3A2Xm/yVuNOA629izmfiyzSqBYRTKhmUCfjLO/L/
EmCpHUfiWyt4yjAYew2Eloz97dtTsKz5ErO7yQrXSZr8kYEXNMZ7Zi5OQNR/V
+F0yTolAil0Rwtnfdg3PpvggqETBqAwffxPNNMwpuF/hENYi0DLqaAl2xQbDYvxXBP/
qV7BixXMSqFUV5PTiS2EaZQQp3tnBKuDeqf9JFfqQ3o0fSneqd4Z/821VBv/
eizWNmNkU7ysWOb73xELwEnMKm10wB+mtfGynZrZYDZ8SFyNa32wl6TcWX3b1B/
mJ14hotMSF2W1TAhB0r/
3LcOcB9qxHduSzzDTE41FNHSTkxJAK2U5W4C72l2yTH31+krpsrPsJHy93EJRtYyyB4OWsd3fywMWzfVIlk
psF4iI1702Q3HXPYJq4RWDsCw2xEzn15XlG3qY6sVOI+xuGuv2Us/
v90HtesapoK2a5GUowTpChauFr4fIi9B7fBfpnPDprSzupm8ExPD95cTq+BTFF/
wBQSwECHgMKAAAACAARESJQx0jPHDkGAACWEQAACAAAAAAAAAAAAAAA8wIAAAAAaW5kZXgucHl
QSwUGAAAAAAEAAQA2AAAAXwYAAAAA"
 },
 "func_name": "download_file_from_obs",
 "handler": "index.handler",
 "memory_size": 256,
 "package": "default",
 "runtime": "Python2.7",
 "timeout": 30
}

- Sample response

{
 "func_urn": "urn:fss:{project_name}:{project_id}:function:default:download_file_from_obs:latest",
 "func_name": "download_file_from_obs",
 "domain_id": "89fexxxd636",
 "namespace": "{project_id}",
 "project_name": "xxx",
 "package": "default",
 "runtime": "Python2.7",
 "timeout": 30,
 "handler": "index.handler",
 "memory_size": 256,
 "cpu": 400,
 "code_type": "inline",
 "code_filename": "index.zip",
 "code_size": 1707,
 "digest":

"68891a6778848a78bd37a8c0798c91d75a5c87aee6e901303047a52edf05bf2170aac4149d79b3f6a40ef
e78406a83bf6d8683e7b25da4f0c07e7493aa4ccdcd",
 "version": "latest",
 "image_name": "latest-200603162219@zr2ym",
 "last_modified": "2020-06-03T16:22:19+08:00",
 "strategy_config": {
  "concurrency": -1
 },
 "StrategyConfig": {},
 "enterprise_project_id": "0"
}

Record the URN of the function, that is, the value of **func_urn** in the response.

Step 2: Modify the OBS Address, Bucket Name, and File Name in the Function Configurations

URI: **PUT /v2/**{*project_id*}**/fgs/functions/**{*function_urn*}**/config**

For details, see **Modifying the Metadata of a Function**.

● Sample request

```
PUT  https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/config
{
 "func_name": "download_file_from_obs",
 "handler": "index.handler",
 "memory_size": 256,
 "runtime": "Python2.7",
 "timeout": 30,
 "user_data": "{\"obs_address\":\"obs.xxx.xxx.com\",\"srcBucket\":\" xxx\",\"srcObjName\":\"xxx\"}",
 "xrole": "xxx"
}
```

function_urn indicates the function URN recorded in **Step 1: Create a Function for Downloading Files from OBS**; **obs_address** indicates the OBS address; **srcBucket** indicates the name of an OBS bucket, **srcObjName** indicates a file name, and **xrole** indicates an agency name.

● Sample response

```
{
 "func_urn": "urn:fss:{project_name}:{project_id}:function:default:download_file_from_obs:latest",
 "func_name": "download_file_from_obs",
 "domain_id": "89fexxxd636",
 "namespace": "{project_id}",
 "project_name": "xxx",
 "package": "default",
 "runtime": "Python2.7",
 "timeout": 30,
 "handler": "index.handler",
 "memory_size": 256,
 "cpu": 400,
 "code_type": "inline",
 "code_filename": "index.zip",
 "code_size": 1707,
 "user_data": "{\"obs_address\":\"obs.xxx.xxx.com\",\"srcBucket\":\"xxx\",\"srcObjName\":\"xxx\"}",
 "digest":
"68891a6778848a78bd37a8c0798c91d75a5c87aee6e901303047a52edf05bf2170aac4149d79b3f6a40ef
e78406a83bf6d8683e7b25da4f0c07e7493aa4ccdcd",
 "version": "latest",
 "image_name": "latest-200603165355@varrp",
 "xrole": "xxx",
 "app_xrole": "xxx",
 "last_modified": "2020-06-03T17:25:03+08:00",
 "strategy_config": {
  "concurrency": -1
 },
```

```
    "StrategyConfig": {},
    "enterprise_project_id": "0"
}
```

Step 3: Test the Function

URI: **POST /v2/**{*project_id*}**/fgs/functions/**{*function_urn*}**/invocations**

For details, see **Executing a Function Synchronously**.

- Sample request
```
POST  https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/invocations
{
 "message": "download file"
}
```

  function_urn indicates the function URN recorded in **Step 1: Create a Function for Downloading Files from OBS**.

- Sample response
```
"The object downloaded successfully from OBS, and the size is 14 KB"
```

Step 4: Create a Timer Trigger to Periodically Download Files from OBS

URI: **POST /v2/**{*project_id*}**/fgs/triggers/**{*function_urn*}

For details, see **Creating a Trigger**.

- Sample request
```
POST  https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}
{
 "event_data": {
  "name": "Timer-download",
  "schedule_type": "Rate",
  "schedule": "1d"
 },
 "event_type_code": "MessageCreated",
 "trigger_status": "ACTIVE",
 "trigger_type_code": "TIMER"
}
```

  function_urn indicates the function URN recorded in **Step 1: Create a Function for Downloading Files from OBS**.

  The preceding example request is used to download files from the specified OBS bucket every day.

- Sample response
```
{
 "trigger_id": "461bbe95-c85b-4dc9-a306-9701e77f1d66",
 "trigger_type_code": "TIMER",
 "trigger_status": "ACTIVE",
 "event_data": {
  "name": "Timer-download",
  "schedule": "1d",
  "schedule_type": "Rate"
 },
 "last_updated_time": "2020-06-04T10:33:30+08:00",
 "created_time": "2020-06-04T10:33:30+08:00"
}
```

4.2 Example 2: Using an APIG Trigger to Obtain a Static Web Page

Scenario

This example guides you through the procedure for creating a Python 2.7 function and associating an APIG trigger with it to obtain a static web page.

For details about how to call APIs, see **Calling APIs**.

Prerequisites

You have created an API group in APIG, and have recorded the ID and subdomain name of the API group.

General Procedure

Create a FunctionGraph function and associate an APIG trigger with it to obtain a static web page. The procedure is as follows:

1. **Creating a Function**: Create a function to return a static web page.
2. **Creating a Trigger**: Create an APIG trigger.
3. Call the API of the APIG trigger to obtain a static page.

Step 1: Create a Function to Return a Static Web Page

URI: **POST /v2/**{*project_id*}**/fgs/functions**

For details, see **Creating a Function**.

- Sample request
```
POST  https://{Endpoint}/v2/{project_id}/fgs/functions
{
 "code_filename": "index.zip",
 "code_type": "inline",
 "func_code": {
  "file":
"UEsDBAoAAAAIABY7vFD7lxPkAgMAALoHAAAIAAAAaW5kZXgucHndVdtu00AQfc9XrMKDExQ7zqW50
VYqFZRKIFUQhFBVobU9iU1tr9mdbRKqSHwNH8aXMLtxrgoS8ISIosg7c
+bszNnjzRPmPnVZKKIkn440TtyBCVQcx6mMY2ATkaZiRjmWKMZzdnFzfcXgAXJkYsl4UzwrUoLpPMRE5B
77KDQLCYigkGFMVescCxZMQQq0IDokcl4kruVyEYiGI5TU66VXqTxWGKvGiMUbwFhE1RGrXr0YVxsmXH
CMTaBpNmvGQK1uEzdc8gwQpCKIYTFxKeYLU7HCUnBp8V80yMU7lNTYsbKcIqaKfjclMfBoDzR3FfKpxZl
2bCMUfiXomWIz7GU5tNXw3oM5hBrBpfE9rdwZod22xzP
+VeR8prxQZOvq9wqkezElTQxHqrkrCb1wjSBN32v5rPZa8zrLp/NPlG22fN8fbJsMRGTH/
fHtO31X2kigaRVeihxhjtv+j3Zfgq+t7lHU7XT6nV479NthP
+r328Mh9Af9QSuAoBu01kU016qg2wq6J8A7bt8PTtxWC3pu0A8itzcMTjiHgEiGZbNL67gkK4QkZ6n102cl
8vVzwBX0upVKBBMW8zxKQdasXRpkXztMfWQbKOgckTl02CEoxcoZ2ESKzFiOvCeT6RSkU7FwlltVnfmQv
IXIFYwXBbCzlR1vnaP+cO5unV24c2dZYB5Cgb9kdKh9rlMsN08mBwBCxJilzpbALN
+WGCJ43CTMx6FjQ60uRQTOiLV9v7GfTtRzK9uLnF5xiAgzlhoOQKWXndEBuT1NaxTziU7K3vM6V2jnp6x
MOZSAZ7Za6O06V7o82MI4kfhXZ+gFvS7YhmrOqaE6P41b5x8gJecDQ8E0TfqyvDauJC/
i0yYBTu225059y73ckRm1zK1hvEhnhart6lZfqQ3pMb1NzY7eZvkP6c2LIk1CbqRomtb+UufH6j3Yu
+CBpxqqy99VcVeNjYoKtnKVfv7fHXqTAmXMTaNQ6hDtH5iWKZslGDN7QbBiczfsmezMEDT2Q0bWP/
TzgdD1n1BLAQIeAwoAAAAIABY7vFD7lxPkAgMAALoHAAAIAAAAAAAAAAAAAAAADzAgAAAABpbmRleC5
weVBLBQYAAAAAQABADYAAAoAwAAAA="
 },
 "func_name": "get_html",
 "handler": "index.handler",
```

```
   "memory_size": 256,
   "package": "default",
   "runtime": "Python2.7",
   "timeout": 5
}
```

- Sample response

```
{
 "func_urn": "urn:fss:{project_name}:{project_id}:function:default:get_html:latest",
 "func_name": "get_html",
 "domain_id": "89fexxxd636",
 "namespace": "{project_id}",
 "project_name": "xxx",
 "package": "default",
 "runtime": "Python2.7",
 "timeout": 5,
 "handler": "index.handler",
 "memory_size": 256,
 "cpu": 400,
 "code_type": "inline",
 "code_filename": "index.zip",
 "code_size": 884,
 "digest":
"b08fef5e97dd130037978db07f0e9109aa43a191517cd1196bcab822f17dddcf37f7506a15691177962f98
03ba6d170a1c87aafb4fa1b9f0d07f9415642b26d2",
 "version": "latest",
 "image_name": "latest-200604105808@we0qo",
 "last_modified": "2020-06-04T10:58:08+08:00",
 "strategy_config": {
  "concurrency": -1
 },
 "StrategyConfig": {},
 "enterprise_project_id": "0"
}
```

  Record the URN of the function, that is, the value of **func_urn** in the
  response.

Step 2: Create an APIG Trigger

URI: **POST /v2/**{*project_id*}**/fgs/triggers/**{*function_urn*}

For details, see **Creating a Trigger**.

- Sample request

```
POST  https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}
{
 "event_data": {
  "group_id": "a9ad0d5df4d7475c9bc35a7c17d89304",
  "env_id": "DEFAULT_ENVIRONMENT_RELEASE_ID",
  "auth": "NONE",
  "protocol": "HTTP",
  "name": "API_GetHtml",
  "path": "/test",
  "match_mode": "SWA",
  "req_method": "ANY",
  "backend_type": "FUNCTION",
  "sl_domain": "a9ad0d5df4d7475c9bc35a7c17d89304.apig.xxx.xxxapis.com",
  "type": 1,
  "env_name": "RELEASE"
 },
 "event_type_code": "APICreated",
 "trigger_status": "ACTIVE",
 "trigger_type_code": "APIG"
}
```

  function_urn indicates the function URN recorded in **Step 1: Create a
  Function to Return a Static Web Page**, **group_id** indicates an API group ID,

and **sl_domain** indicates the subdomain name that APIG allocates to the API group.

- Sample response

```
{
 "trigger_id": "1b3ec74b86454aa39001a9f89cc70ee2",
 "trigger_type_code": "APIG",
 "trigger_status": "ACTIVE",
 "event_data": {
  "api_id": "cbc698153d1f4265bdd8384b5cf6e581",
  "api_name": "API_GetHtml",
  "auth": "NONE",
  "env_id": "",
  "env_name": "",
  "func_info": {
   "function_urn": "urn:fss:{project_name}:{project_id}:function:default:get_html",
   "invocation_type": "sync",
   "timeout": 5000,
   "version": "latest"
  },
  "group_id": "a9ad0d5df4d7475c9bc35a7c17d89304",
  "group_name": "APIGroup_gethtml",
  "invoke_url": "http://a9ad0d5df4d7475c9bc35a7c17d89304.apig.xxx.xxxapis.com/test",
  "match_mode": "SWA",
  "name": "API_GetHtml",
  "path": "/test",
  "protocol": "HTTP",
  "req_method": "ANY",
  "triggerid": "1b3ec74b86454aa39001a9f89cc70ee2",
  "type": 1
 },
 "last_updated_time": "2020-06-04T17:14:32+08:00",
 "created_time": "2020-06-04T17:14:32+08:00"
}
```

Record the value of **invoke_url**.

Step 3: Call the API of the APIG Trigger to Obtain a Static Web Page

Enter the value of **invoke_url** in the address bar of a browser to obtain a static web page.

Figure 4-1 Calling the API

Please construct the url with query parameters responseType=html, responseType=json
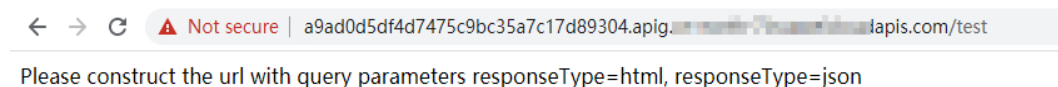
4.3 Example 3: Creating a Function by Uploading Code to an OBS Bucket

Scenario

This example guides you through the procedure for uploading local code to an OBS bucket and creating a Python 2.7 function using the link URL of the OBS bucket.

For details about how to call APIs, see **Calling APIs**.

Prerequisites

An OBS bucket has been created.

General Procedure

After writing function code in your local environment, upload the code file to an OBS bucket and use the link URL of the OBS bucket to create a function. The procedure is as follows:

1. Write code in your local environment to create a function project.

2. Compress the code file into a ZIP package, upload the package to the OBS bucket, and record the link URL of this bucket.

3. Call the API in **Creating a Function** to create a function using the link URL of the OBS bucket.

Step 1: Create a Function Project

1. Write code for printing text **helloworld**.

    Open a text editor, compile a HelloWorld function, and save the code file as **helloworld.py**. The code is as follows:

    ```
    def printhello():
        print 'Hello world!'
    ```

2. Define a FunctionGraph function.

    Open a text editor, define a function, and save the function file as **index.py** under the same directory as the **helloworld.py** file. The function code is as follows:

    ```
    import json
    import helloworld

    def handler (event, context):
        output =json.dumps(event)
        helloworld.printhello()
        return output
    ```

Step 2: Upload the Project to an OBS Bucket

1. In the function project, select the **helloworld.py** and **index.py** files and compress them into **fss_examples_python2.7.zip**.

2. Upload the **fss_examples_python2.7.zip** package to the OBS bucket and record the link URL of the OBS bucket.

Step 3: Call the Function Creation API to Create a Function Using the Link URL of the OBS Bucket

URI: **POST /v2/**{*project_id*}**/fgs/functions**

For details, see **Creating a Function**.

- Sample request
  ```
  POST  https://{Endpoint}/v2/{project_id}/fgs/functions
  {
   "code_type": "obs",
   "code_url": "https://test.obs.xxx.xxx.com/fss_examples_python2.7.zip",
   "func_name": "create_function_from_obs",
  ```

```
 "handler": "index.handler",
 "memory_size": 256,
 "package": "default",
 "runtime": "Python2.7",
 "timeout": 30
}
```

code_url indicates the link URL of the OBS bucket recorded in **2**.

- Sample response

```
{
 "func_urn": "urn:fss:{project_name}:{project_id}:function:default:create_function_from_obs:latest",
 "func_name": "create_function_from_obs",
 "domain_id": "0503xxxa960",
 "namespace": "{project_id}",
 "project_name": "xxx",
 "package": "default",
 "runtime": "Python2.7",
 "timeout": 30,
 "handler": "index.handler",
 "memory_size": 256,
 "cpu": 400,
 "code_type": "obs",
 "code_url": "https://test.obs.xxx.xxx.com/fss_examples_python2.7.zip",
 "code_filename": "fss_examples_python2.7.zip",
 "code_size": 436,
 "digest":
"3af770ada27514564b1a20d964cba4b35f432fa40f9fc4f4f7c1f0d2f42eac6cb4db1358c195235966b05f6
6b4664e7bf31c3f384a9066b3d1fcc3e96b4c3f65",
 "version": "latest",
 "image_name": "latest-200619100734@gjf4p",
 "last_modified": "2020-06-19T10:07:34+08:00",
 "strategy_config": {
  "concurrency": -1
 },
 "StrategyConfig": {},
 "enterprise_project_id": "0"
}
```

5 APIs

5.1 Function Invocation

5.1.1 Executing a Function Synchronously

Function

This API is used to execute a function synchronously. Clients must wait for explicit responses to their requests from the function. Responses are returned only after function invocation is complete.

URI

POST /v2/{project_id}/fgs/functions/{function_urn}/invocations

Table 5-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API used to obtain a user token. The value of X-Subject-Token in the response header is the user token.
X-Cff-Log-Type	No	String	Options: tail (4 KB logs will be returned) and null (no logs will be returned).
X-CFF-Request-Version	No	String	Response body format. Options: v0 and v1. ● v0: text format. ● v1: JSON format. Select this format when using an SDK.

Table 5-3 Request body parameters

Parameter	Mandatory	Type	Description
{User defined key}	Yes	Object	Request body for executing a function.

Response Parameters

Status code: 200

Table 5-4 Response header parameters

Parameter	Type	Description
X-Cff-Invoke-Summary	String	-
X-Cff-Request-Id	String	-

Table 5-5 Response body parameters

Parameter	Type	Description
request_id	String	Request ID.

Parameter	Type	Description
result	String	Function execution result.
log	String	Function execution log.
status	Integer	Function execution status.

Status code: 400

Table 5-6 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-7 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-8 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-9 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-10 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 503

Table 5-11 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Execute a function synchronously.

```
POST /v2/{project_id}/fgs/functions/{function_urn}/invocations

{
  "application/json" : {
    "k" : "v"
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "result" : "{\"statusCode\": 200, \"isBase64Encoded\": false, \"body\": \"{\\\"key\\\": \\\"value\\\"}\",
\"headers\": {\"Content-Type\": \"application/json\"}}",
  "log" : "2022-09-20T11:43:57Z Start invoke request '1cbe80f3-3c65-475e-ad88-76ac518d386a', version:
v1\nHello, World!\n\n2022-09-20T11:43:58Z Finish invoke request '1cbe80f3-3c65-475e-
ad88-76ac518d386a', duration: 65.828ms, billing duration: 66ms, memory used: 21.473MB, billing memory:
128MB",
  "status" : 200,
  "request_id" : "1cbe80f3-3c65-475e-ad88-76ac518d386x"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.
503	Service unavailable.

Error Codes

See **Error Codes**.

5.1.2 Executing a Function Asynchronously

Function

This API is used to execute a function asynchronously.

URI

POST /v2/{project_id}/fgs/functions/{function_urn}/invocations-async

Table 5-12 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-13 Request header parameters

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

Table 5-14 Request body parameters

Parameter	Mandatory	Type	Description
{User defined key}	Yes	Object	Request body for executing a function asynchronously.

Response Parameters

Status code: 202

Table 5-15 Response body parameters

Parameter	Type	Description
request_id	String	Request ID.

Status code: 400

Table 5-16 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-17 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-18 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-19 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-20 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 503

Table 5-21 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Execute a function asynchronously.

```
POST /v2/{project_id}/fgs/functions/{function_urn}/invocations-async

{
  "application/json" : {
    "k" : "v"
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "request_id" : "1167bf8c-87b0-43ab-8f5f-26b16c64f252"
}
```

Status Codes

Status Code	Description
202	Accepted
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.
503	Service unavailable.

Error Codes

See **Error Codes**.

5.1.3 Executing a Function Asynchronously and Returning Reserved Instance IDs(Discarded)

Function

This API is used to execute a function asynchronously and return reserved instance IDs. It is suitable for clients that execute a time-consuming task but do not need to wait for the execution result. A reserved instance ID will be returned for this API. If the instance is abnormal, you can delete it based on its ID. Note that this API is only available for whitelisted users.

This API is only available in CN South-Guangzhou and CN Southwest-Guiyang1.

URI

POST /v2/{project_id}/fgs/functions/{function_urn}/reserved-invocations

Table 5-22 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-23 Request header parameters

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

Table 5-24 Request body parameters

Parameter	Mandatory	Type	Description
{User defined key}	Yes	Object	Request body for executing a function asynchronously and returning reserved instance IDs.

Response Parameters

Status code: 202

Table 5-25 Response header parameters

Parameter	Type	Description
Content-Type	String	application/json

Table 5-26 Response body parameters

Parameter	Type	Description
instance_id	String	Reserved instance ID.

Status code: 404

Table 5-27 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Execute a function asynchronously and return reserved instance IDs.

```
POST /v2/{project_id}/fgs/functions/{function_urn}/reserved-invocations

{
  "application/json" : {
    "k" : "v"
  }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "instance_id" : "048bad9b-96ae-45ad-8f12-4061a744ef9d"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "FSS.1051",
  "error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
202	Accepted
404	Not Found

Error Codes

See **Error Codes**.

5.2 Function Quotas

5.2.1 Querying Tenant Quotas

Function

This API is used to query tenant quotas.

URI

GET /v2/{project_id}/fgs/quotas

Table 5-28 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Request Parameters

Table 5-29 Request header parameters

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

Response Parameters

Status code: 200

Table 5-30 Response body parameters

Parameter	Type	Description
quotas	**ListQuotasResult** object	Quota information.

Table 5-31 ListQuotasResult

Parameter	Type	Description
resources	Array of **Resources** objects	Quota list.

Table 5-32 Resources

Parameter	Type	Description
quota	Integer	Function quota.
used	Integer	Used quota.
type	String	Resource type. Enumeration values: ● **fgs_func_scale_down_timeout** ● **fgs_func_occurs** ● **fgs_func_pat_idle_time** ● **fgs_func_num** ● **fgs_func_code_size** ● **fgs_workflow_num**
unit	String	Resource unit. For fgs_func_code_size, the unit is MB. In other scenarios, there is no unit.

Status code: 400

Table 5-33 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-34 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-35 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-36 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query quotas.

```
GET /v2/{project_id}/fgs/quotas
```

Example Responses

Status code: 200

Query successful.

```
{
  "quotas" : {
    "resources" : [ {
      "quota" : 60,
      "used" : 3,
      "type" : "fgs_func_scale_down_timeout"
    }, {
      "quota" : 100,
      "used" : 22,
      "type" : "fgs_func_occurs"
    }, {
      "quota" : 100,
      "used" : 22,
      "type" : "fgs_func_pat_idle_time"
    }, {
      "quota" : 100,
      "used" : 22,
      "type" : "fgs_func_num"
    }, {
      "quota" : 10240,
      "used" : 22,
      "type" : "fgs_func_code_size",
      "unit" : "MB"
    }, {
      "quota" : 512,
      "used" : 22,
```

```
    "type" : "fgs_workflow_num"
  } ]
 }
}
```

Status Codes

Status Code	Description
200	Query successful.
400	Bad request.
401	Unauthorized.
403	Forbidden.
500	Internal server error.

Error Codes

See **Error Codes**.

5.3 Dependencies

5.3.1 Querying Dependencies

Function

This API is used to query all dependencies.

URI

GET /v2/{project_id}/fgs/dependencies

Table 5-37 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Table 5-38 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	Final record queried last time. Default value: 0.

Parameter	Mandatory	Type	Description
maxitems	No	String	Maximum number of items to return in a request.
ispublic	No	String	Whether a dependency is public.
dependency_type	No	String	Dependency type. Options: public, private, and all. Default value: all.
runtime	No	String	Environment in which a FunctionGraph function is executed. Options: • Python 2.7 • Python 3.6 • Python 3.9 • Go 1.8 • Go 1.x • Java 8 • Java 11 • Node.js 6.10 • Node.js 8.10 • Node.js 10.16 • Node.js 12.13 • Node.js 14.18 • C# (.NET Core 2.0) • C# (.NET Core 2.1) • C# (.NET Core 3.1) • Custom • PHP 7.3 • HTTP
name	No	String	Dependence name.
limit	No	String	Maximum number of dependencies that can be obtained in a query. Default value: 400.

Request Parameters

Table 5-39 Request header parameters

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

Response Parameters

Status code: 200

Table 5-40 Response body parameters

Parameter	Type	Description
dependencies	Array of **ListDependenciesResult** objects	Dependency list.
next_marker	Long	Next read location.
count	Long	Total number of dependencies.

Table 5-41 ListDependenciesResult

Parameter	Type	Description
id	String	Dependency ID.
owner	String	Dependency owner. public indicates a public dependency.
link	String	URL of the dependency in the OBS console.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	Dependency ID.
size	Long	Dependency size.
name	String	Dependency name.
file_name	String	Dependency file name.
description	String	Dependency description.
version	Long	Dependence version.
last_modified	Long	Time when the dependency was last updated.

Status code: 401

Table 5-42 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-43 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-44 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-45 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Dependencies of the current tenant.

```
GET https://{Endpoint}/v2/{project_id}/fgs/ListDependencies?marker=0&maxitems=400
```

Example Responses

Status code: 200

ok

```
{
  "dependencies" : [ {
    "id" : "6578de50-9a18-48fa-b84e-b2d36636e433",
    "owner" : "public",
    "link" : "https://{obs_endpoint}/functionstage-examples/fg_test_pandas_1.1.3.zip",
    "runtime" : "Python3.6",
    "etag" : "35a893d9495b3e22259b2773996bc94d-6",
    "size" : 31009808,
    "name" : "panda1.1.3"
  } ],
  "next_marker" : 43,
  "count" : 43
}
```

Status Codes

Status Code	Description
200	ok
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.3.2 Creating a Dependency(To Be Discarded)

Function

This API is used to create a dependency.

URI

POST /v2/{project_id}/fgs/dependencies

Table 5-46 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Request Parameters

Table 5-47 Request header parameters

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

Table 5-48 Request body parameters

Parameter	Mandatory	Type	Description
depend_file	No	String	This parameter is mandatory when depend_type is set to zip. It is in the file stream format and must be a ZIP file encoded using Base64.
depend_link	No	String	URL of the dependency in the OBS console when depend_type is set to obs.
depend_type	Yes	String	Import mode. Options: obs and zip.

Parameter	Mandatory	Type	Description
runtime	Yes	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9**

Parameter	Mandatory	Type	Description
			• **http**
name	Yes	String	Dependence name. It can contain a maximum of 96 characters, and must start with a letter and end with a letter or digit. Only letters, digits, underscores (_), periods (.), and hyphens (-) are allowed.
description	No	String	Description of the dependency, which can contain a maximum of 512 characters.

Response Parameters

Status code: 200

Table 5-49 Response body parameters

Parameter	Type	Description
id	String	Dependence version.
owner	String	Dependency owner.
link	String	URL of the dependency in the OBS console.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	Dependency ID.
size	Long	Dependency size.
name	String	Dependency name.
description	String	Dependency description.
file_name	String	Dependency file name.

Status code: 400

Table 5-50 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-51 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-52 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-53 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-54 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 503

Table 5-55 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

- Create a dependency by directly uploading a ZIP file.

  ```
  POST https://{Endpoint}/v2/{project_id}/fgs/dependencies

  {
    "depend_file" : "xxx",
    "depend_type" : "zip",
    "runtime" : "Node.js8.10",
    "name" : "xxx"
  }
  ```

- Create a dependency by uploading a ZIP file from OBS.

  ```
  POST https://{Endpoint}/v2/{project_id}/fgs/dependencies

  {
    "depend_link" : "https://{bucket}.{obs_endpoint}/depends/****/4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3.zip",
    "depend_type" : "obs",
    "runtime" : "Node.js8.10",
    "name" : "xxx"
  }
  ```

Example Responses

Status code: 200

ok

```
{
  "id" : "4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3",
  "owner" : "*****",
  "link" : "https://{bucket}.{obs_endpoint}/depends/****/4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3.zip",
  "runtime" : "Python3.6",
  "etag" : "83863be4b6c3a86aef995dbc83aaae68f",
  "size" : 577118,
  "name" : "python-kafka",
  "description" : "Python library for Kafka operations.",
  "file_name" : "python-kafka.zip"
}
```

Status Codes

Status Code	Description
200	ok
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.
503	Service unavailable.

Error Codes

See **Error Codes**.

5.3.3 Creating a Dependency Version

Function

This API is used to create a dependency version.

URI

POST /v2/{project_id}/fgs/dependencies/version

Table 5-56 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Request Parameters

Table 5-57 Request header parameters

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

Table 5-58 Request body parameters

Parameter	Mandatory	Type	Description
depend_file	No	String	This parameter is mandatory when depend_type is set to zip. It is in the file stream format and must be a ZIP file encoded using Base64.
depend_link	No	String	URL of the dependency in the OBS console when depend_type is set to obs.
depend_type	Yes	String	Import mode. Options: obs and zip.

Parameter	Mandatory	Type	Description
runtime	Yes	String	Environment in which a FunctionGraph function is executed. Options: • Python 2.7 • Python 3.6 • Python 3.9 • Go 1.8 • Go 1.x • Java 8 • Java 11 • Node.js 6.10 • Node.js 8.10 • Node.js 10.16 • Node.js 12.13 • Node.js 14.18 • C# (.NET Core 2.0) • C# (.NET Core 2.1) • C# (.NET Core 3.1) • Custom • PHP 7.3 • HTTP Enumeration values: • **Java8** • **Java11** • **Node.js6.10** • **Node.js8.10** • **Node.js10.16** • **Node.js12.13** • **Node.js14.18** • **Python2.7** • **Python3.6** • **Go1.8** • **Go1.x** • **C#(.NET Core 2.0)** • **C#(.NET Core 2.1)** • **C#(.NET Core 3.1)** • **Custom** • **PHP7.3** • **Python3.9**

Parameter	Mandatory	Type	Description
			• **http**
name	Yes	String	Dependence name. It can contain a maximum of 96 characters, and must start with a letter and end with a letter or digit. Only letters, digits, underscores (_), periods (.), and hyphens (-) are allowed.
description	No	String	Description of the dependency, which can contain a maximum of 512 characters.

Response Parameters

Status code: 200

Table 5-59 Response body parameters

Parameter	Type	Description
id	String	Dependency version.
owner	String	Dependency owner.
link	String	URL of the dependency in OBS.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: • Python 2.7 • Python 3.6 • Python 3.9 • Go 1.8 • Go 1.x • Java 8 • Java 11 • Node.js 6.10 • Node.js 8.10 • Node.js 10.16 • Node.js 12.13 • Node.js 14.18 • C# (.NET Core 2.0) • C# (.NET Core 2.1) • C# (.NET Core 3.1) • Custom • PHP 7.3 • HTTP Enumeration values: • **Java8** • **Java11** • **Node.js6.10** • **Node.js8.10** • **Node.js10.16** • **Node.js12.13** • **Node.js14.18** • **Python2.7** • **Python3.6** • **Go1.8** • **Go1.x** • **C#(.NET Core 2.0)** • **C#(.NET Core 2.1)** • **C#(.NET Core 3.1)** • **Custom** • **PHP7.3** • **Python3.9** • **http**

Parameter	Type	Description
etag	String	Unique identifier of the dependency.
size	Long	Dependency size.
name	String	Dependency name.
description	String	Dependency description.
file_name	String	Dependency file name.
version	Long	Dependency version.
dep_id	String	Dependency ID.
last_modified	Long	Time when the dependency was last updated.

Status code: 401

Table 5-60 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-61 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-62 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-63 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

- Create a dependency version by directly uploading a ZIP file.

  POST https://{Endpoint}/v2/{project_id}/fgs/dependencies/version

  ```
  {
    "depend_file" : "xxx",
    "depend_type" : "zip",
    "runtime" : "Node.js8.10",
    "name" : "xxx"
  }
  ```

- Create a dependency by uploading a ZIP file from OBS.

  POST https://{Endpoint}/v2/{project_id}/fgs/dependencies/version

  ```
  {
    "depend_link" : "https://{bucket}.{obs_endpoint}/depends/****/4f4ae4eb-dcdc-4dd3-
  bffd-79600bd972b3.zip",
    "depend_type" : "obs",
    "runtime" : "Node.js8.10",
    "name" : "xxx"
  }
  ```

Example Responses

Status code: 200

ok

```
{
  "id" : "4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3",
  "owner" : "*****",
  "link" : "https://{bucket}.{obs_endpoint}/depends/****/4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3.zip",
  "runtime" : "Python3.6",
  "etag" : "83863be4b6c3a86aef995dbc83aae68f",
  "size" : 577118,
  "name" : "python-kafka",
  "description" : "Python library for Kafka operations.",
  "file_name" : "python-kafka.zip",
  "version" : 0,
  "dep_id" : "edbd67fa-f107-40b3-af75-a85f0577ad61",
  "last_modified" : 1660029887
}
```

Status Codes

Status Code	Description
200	ok
401	Unauthorized.

Status Code	Description
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.3.4 Querying Dependency Versions

Function

This API is used to query dependency versions.

URI

GET /v2/{project_id}/fgs/dependencies/{depend_id}/version

Table 5-64 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
depend_id	Yes	String	Dependency ID.

Table 5-65 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	Final record queried last time. Default value: 0.
maxitems	No	String	Maximum number of items to return in a request.

Request Parameters

Table 5-66 Request header parameters

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

Response Parameters

Status code: 200

Table 5-67 Response body parameters

Parameter	Type	Description
dependencies	Array of **ListDependenciesResult** objects	Dependency list.
next_marker	Long	Next read location.
count	Long	Total number of dependencies.

Table 5-68 ListDependenciesResult

Parameter	Type	Description
id	String	Dependency ID.
owner	String	Dependency owner. public indicates a public dependency.
link	String	URL of the dependency in the OBS console.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	Dependency ID.
size	Long	Dependency size.
name	String	Dependency name.
file_name	String	Dependency file name.
description	String	Dependency description.
version	Long	Dependence version.
last_modified	Long	Time when the dependency was last updated.

Status code: 401

Table 5-69 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-70 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-71 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-72 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query dependencies of the current tenant.

```
GET https://{Endpoint}/v2/{project_id}/fgs/ListDependencies?marker=0&maxitems=400
```

Example Responses

Status code: 200

ok

```
{
  "dependencies" : [ {
    "id" : "6578de50-9a18-48fa-b84e-b2d36636e433",
    "owner" : "public",
    "link" : "https://{obs_endpoint}/functionstage-examples/fg_test_pandas_1.1.3.zip",
    "runtime" : "Python3.6",
    "etag" : "35a893d9495b3e22259b2773996bc94d-6",
    "size" : 31009808,
    "name" : "panda1.1.3"
  } ],
  "next_marker" : 43,
  "count" : 43
}
```

Status Codes

Status Code	Description
200	ok
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.3.5 Querying a Dependency Version

Function

This API is used to query the details about a dependency version.

URI

GET /v2/{project_id}/fgs/dependencies/{depend_id}/version/{version}

Table 5-73 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
depend_id	Yes	String	Dependency ID.
version	Yes	String	Dependence version.

Request Parameters

Table 5-74 Request header parameters

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

Response Parameters

Status code: 200

Table 5-75 Response body parameters

Parameter	Type	Description
id	String	Dependency ID.
owner	String	Dependency owner.
link	String	URL of the dependency in OBS.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	Unique identifier of the dependency.
size	Long	Dependency size.
name	String	Dependency name.
description	String	Dependency description.
file_name	String	Dependency file name.
version	Long	Dependency version.
last_modified	Long	Time when the dependency was last updated.

Status code: 401

Table 5-76 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-77 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-78 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-79 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query dependencies of the current tenant.

GET https://{Endpoint}/v2/{project_id}/fgs/ListDependencies?marker=0&maxitems=400

Example Responses

Status code: 200

OK

```
{
  "id" : "4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3",
  "owner" : "*****",
  "link" : "https://{bucket}.{obs_endpoint}/depends/****/4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3.zip",
  "runtime" : "Python3.6",
  "etag" : "83863be4b6c3a86aef995dbc83aae68f",
  "size" : 577118,
  "name" : "python-kafka",
  "description" : "Python library for Kafka operations.",
  "file_name" : "python-kafka.zip",
  "version" : 0,
  "last_modified" : 1660029887
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.3.6 Deleting a Dependency Version

Function

This API is used to delete a dependency version.

URI

DELETE /v2/{project_id}/fgs/dependencies/{depend_id}/version/{version}

Table 5-80 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
depend_id	Yes	String	Dependency ID.
version	Yes	String	Dependence version.

Request Parameters

Table 5-81 Request header parameters

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

Response Parameters

Status code: 401

Table 5-82 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-83 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-84 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-85 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete a dependency version.

```
DELETE https://{Endpoint}/v2/{project_id}/fgs/dependencies/{depend_id}/version/{version}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
401	Unauthorized.
403	Forbidden.
404	Not found.

Status Code	Description
500	Internal server error.

Error Codes

See **Error Codes**.

5.3.7 Deleting a Dependency(To Be Discarded)

Function

This API is used to delete a specified dependency.

URI

DELETE /v2/{project_id}/fgs/dependencies/{depend_id}

Table 5-86 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
depend_id	Yes	String	Dependency ID.

Request Parameters

Table 5-87 Request header parameters

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

Response Parameters

Status code: 401

Table 5-88 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-89 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-90 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-91 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete a dependency.

```
DELETE https://{Endpoint}/v2/{project_id}/fgs/dependencies/{depend_id}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.3.8 Querying a Dependency(To Be Discarded)

Function

This API is used to query a specified dependency.

URI

GET /v2/{project_id}/fgs/dependencies/{depend_id}

Table 5-92 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
depend_id	Yes	String	Dependency ID.

Request Parameters

Table 5-93 Request header parameters

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

Response Parameters

Status code: 200

Table 5-94 Response body parameters

Parameter	Type	Description
id	String	Dependency ID.
owner	String	Dependency owner.
link	String	URL of the dependency in the OBS console.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	Dependency ID.
size	Long	Dependency size.
name	String	Dependency name.
description	String	Dependency description.
file_name	String	Dependency file name.

Status code: 401

Table 5-95 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-96 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-97 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-98 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query a dependency.

GET https://{Endpoint}/v2/{project_id}/fgs/dependencies/{depend_id}

Example Responses

Status code: 200

OK

```
{
  "id" : "4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3",
  "owner" : "*****",
  "link" : "https://{bucket}.{obs_endpoint}/depends/****/4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3.zip",
  "runtime" : "Python3.6",
  "etag" : "83863be4b6c3a86aef995dbc83aae68f",
  "size" : 577118,
  "name" : "python-kafka",
  "description" : "Python library for Kafka operations.",
  "file_name" : "python-kafka.zip"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.3.9 Updating a Dependency(To Be Discarded)

Function

This API is used to update a specified dependency.

URI

PUT /v2/{project_id}/fgs/dependencies/{depend_id}

Table 5-99 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
depend_id	Yes	String	Dependency ID.

Request Parameters

Table 5-100 Request header parameters

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

Table 5-101 Request body parameters

Parameter	Mandatory	Type	Description
depend_file	No	String	This parameter is mandatory when depend_type is set to zip. It is in the file stream format and must be a ZIP file encoded using Base64.
depend_link	No	String	URL of the dependency in the OBS console when depend_type is set to obs.
depend_type	Yes	String	Import mode. Options: obs and zip.

Parameter	Mandatory	Type	Description
runtime	Yes	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9**

Parameter	Mandatory	Type	Description
			• **http**
name	Yes	String	Dependence name. It can contain a maximum of 96 characters, and must start with a letter and end with a letter or digit. Only letters, digits, underscores (_), periods (.), and hyphens (-) are allowed.
description	No	String	Description of the dependency, which can contain a maximum of 512 characters.

Response Parameters

Status code: 200

Table 5-102 Response body parameters

Parameter	Type	Description
id	String	Dependency ID.
owner	String	Dependency owner.
link	String	URL of the dependency in the OBS console.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: • Python 2.7 • Python 3.6 • Python 3.9 • Go 1.8 • Go 1.x • Java 8 • Java 11 • Node.js 6.10 • Node.js 8.10 • Node.js 10.16 • Node.js 12.13 • Node.js 14.18 • C# (.NET Core 2.0) • C# (.NET Core 2.1) • C# (.NET Core 3.1) • Custom • PHP 7.3 • HTTP Enumeration values: • **Java8** • **Java11** • **Node.js6.10** • **Node.js8.10** • **Node.js10.16** • **Node.js12.13** • **Node.js14.18** • **Python2.7** • **Python3.6** • **Go1.8** • **Go1.x** • **C#(.NET Core 2.0)** • **C#(.NET Core 2.1)** • **C#(.NET Core 3.1)** • **Custom** • **PHP7.3** • **Python3.9** • **http**

Parameter	Type	Description
etag	String	Dependency ID.
size	Long	Dependency size.
name	String	Dependency name.
description	String	Dependency description.
file_name	String	Dependency file name.

Status code: 400

Table 5-103 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-104 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-105 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-106 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-107 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update a dependency.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/dependencies/{depend_id}

{
  "depend_file" : "xxx",
  "depend_type" : "zip",
  "runtime" : "Node.js8.10",
  "name" : "xxx"
}
```

Example Responses

Status code: 200

ok

- Example 1

  ```
  null
  ```

- Example 2

  ```
  {
    "id" : "4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3",
    "owner" : "*****",
    "link" : "https://{bukcet}.{obs_endpoint}/depends/****/4f4ae4eb-dcdc-4dd3-bffd-79600bd972b3.zip",
    "runtime" : "Python3.6",
    "etag" : "83863be4b6c3a86aef995dbc83aae68f",
    "size" : 577118,
    "name" : "python-kafka",
    "description" : "Python library for Kafka operations.",
    "file_name" : "python-kafka.zip"
  }
  ```

Status Codes

Status Code	Description
200	ok
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.4 Test Events

5.4.1 Querying Test Events of a Function

Function

This API is used to query the test events of a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/events

Table 5-108 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-109 Request header parameters

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

Response Parameters

Status code: 200

Table 5-110 Response body parameters

Parameter	Type	Description
count	Integer	Total number of test events.
events	Array of **ListEventsResult** objects	Test event list.
next_marker	Long	Next read location.

Table 5-111 ListEventsResult

Parameter	Type	Description
id	String	Test event ID.
last_modified	Number	Last update time.
name	String	Test event name.

Status code: 400

Table 5-112 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-113 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-114 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-115 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-116 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the test event list.

```
GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/events
```

Example Responses

Status code: 200

OK

```
{
 "events" : [ {
   "id" : "3b659dc0-12fc-40dc-aa05-a321d9424cb3",
   "name" : "event-k9r3",
   "last_modified" : 1597374286
 } ],
 "next_marker" : 1,
 "count" : 1
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.4.2 Creating a Test Event

Function

This API is used to create a test event.

URI

POST /v2/{project_id}/fgs/functions/{function_urn}/events

Table 5-117 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Parameter	Mandatory	Type	Description
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-118 Request header parameters

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

Table 5-119 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Test event name. It must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.
content	Yes	String	Test event content, which is a JSON character string.

Response Parameters

Status code: 200

Table 5-120 Response body parameters

Parameter	Type	Description
id	String	Test event ID.
name	String	Test event name.

Status code: 400

Table 5-121 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-122 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-123 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-124 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-125 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create a test event.

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/events

{
  "name" : "event-xx",
  "content" : "{\"k:\"v\"}"
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "3b659dc0-12fc-40dc-aa05-a321d9424cb3",
  "name" : "event-k9r3"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.4.3 Deleting a Test Event

Function

This API is used to delete a test event.

URI

DELETE /v2/{project_id}/fgs/functions/{function_urn}/events/{event_id}

Table 5-126 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.
event_id	Yes	String	Test event ID.

Request Parameters

Table 5-127 Request header parameters

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

Response Parameters

Status code: 400

Table 5-128 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

None

Example Responses

None

Status Codes

Status Code	Description
204	No Content
400	Bad request.

Error Codes

See **Error Codes**.

5.4.4 Obtaining the Details of a Test Event

Function

This API is used to query the details of a test event.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/events/{event_id}

Table 5-129 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.
event_id	Yes	String	Test event ID.

Request Parameters

Table 5-130 Request header parameters

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

Response Parameters

Status code: 200

Table 5-131 Response body parameters

Parameter	Type	Description
id	String	Test event ID.
name	String	Test event name.
content	String	Test event content.
last_modified	Number	Last update time.

Status code: 400

Table 5-132 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-133 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-134 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-135 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-136 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query a test event.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/events/{event_id}

Example Responses

Status code: 200

OK

```
{
  "id" : "3b659dc0-12fc-40dc-aa05-a321d9424cb3",
  "name" : "event-k9r3",
  "last_modified" : 1597374286,
  "content" : "ewogICAgImJvZHkiOiAiiiwKICAgICJyZXF1ZXN0Q29udGV4d*****"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.4.5 Updating a Test Event

Function

This API is used to update a test event.

URI

PUT /v2/{project_id}/fgs/functions/{function_urn}/events/{event_id}

Table 5-137 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.
event_id	Yes	String	Test event ID.

Request Parameters

Table 5-138 Request header parameters

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

Table 5-139 Request body parameters

Parameter	Mandatory	Type	Description
content	Yes	String	Test event content, which is a JSON character string.

Response Parameters

Status code: 200

Table 5-140 Response body parameters

Parameter	Type	Description
id	String	Test event ID.
name	String	Test event name.

Status code: 400

Table 5-141 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-142 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-143 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-144 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-145 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update a test event.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/events/{event_id}

{
  "content" : "{\"k:\"v\"}"
}
```

Example Responses

Status code: 200

OK

```
{
  "id" : "3b659dc0-12fc-40dc-aa05-a321d9424cb3",
  "name" : "event-k9r3"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.5 Function Tracing

5.5.1 Querying Tracing Configuration

Function

This API is used to query the tracing configuration of a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/tracing

Table 5-146 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-147 Response body parameters

Parameter	Type	Description
tracing_ak	String	AK of APM.
tracing_sk	String	SK of APM.

Status code: 403

Table 5-148 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-149 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-150 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the tracing configuration of a function.

GET /v2/{project_id}/fgs/functions/{function_urn}/tracing

Example Responses

Status code: 200

ok

```
{
  "tracing_ak" : "xxx",
  "tracing_sk" : "******"
}
```

Status code: 403

FORBIDDEN

```
{
  "error_code" : "FSS.0403",
  "error_msg" : "invalid token"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "FSS.0404",
  "error_msg" : "can not find tracing aksk"
}
```

Status code: 500

Internal error.

```
{
  "error_code" : "FSS.0500",
  "error_msg" : "xxx"
}
```

Status Codes

Status Code	Description
200	ok
403	FORBIDDEN
404	Not Found
500	Internal error.

Error Codes

See **Error Codes**.

5.5.2 Modifying Tracing Configuration

Function

This API is used to modify the tracing configuration of a function. You can enable or modify the AK/SK or disable the AK/SK.

URI

PUT /v2/{project_id}/fgs/functions/{function_urn}/tracing

Table 5-151 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Parameter	Mandatory	Type	Description
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-152 Request body parameters

Parameter	Mandatory	Type	Description
tracing_ak	No	String	AK of APM.
tracing_sk	No	String	SK of APM.

Response Parameters

Status code: 400

Table 5-153 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-154 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-155 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

Modify the tracing configuration of a function.

```
PUT /v2/{project_id}/fgs/functions/{function_urn}/tracing

{
  "tracing_ak" : "xxx",
  "tracing_sk" : "yyy"
}
```

Example Responses

Status code: 400

Bad Request

```
{
  "error_code" : "FSS.1128",
  "error_msg" : "function[xxx] not existed"
}
```

Status code: 403

FORBIDDEN

```
{
  "error_code" : "FSS.0403",
  "error_msg" : "invalid token"
}
```

Status code: 500

Internal error.

```
{
  "error_code" : "FSS.0500",
  "error_msg" : "xxx"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
403	FORBIDDEN
500	Internal error.

Error Codes

See **Error Codes**.

5.6 Function Lifecycle Management

5.6.1 Querying Functions

Function

This API is used to query all functions.

URI

GET /v2/{project_id}/fgs/functions

Table 5-156 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Table 5-157 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	Final record queried last time.
maxitems	No	String	Maximum number of functions that can be queried each time. Maximum value: 400. If this parameter is not set or is 0 or greater than 400, the default value 400 is used. If this parameter is less than 0, a message indicating parameter error is returned.
package_name	No	String	App name.

Request Parameters

Table 5-158 Request header parameters

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

Response Parameters

Status code: 200

Table 5-159 Response body parameters

Parameter	Type	Description
functions	Array of **ListFunctionResult** objects	Function list.
next_marker	Integer	Next read location.
count	Long	Total number of functions that match the query conditions.

Table 5-160 ListFunctionResult

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
gpu_memory	Integer	GPU memory. This parameter is available only for functions created with a custom runtime or image. Unit: MB. Options: 1024, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10,240, 11,264, 12,288, 13,312, 14,336, 15,360, and 16,384. Range: 1024 to 16,384.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**

Parameter	Type	Description
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.
user_data	String	Name/Value information defined for the function. These are parameters used in the function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_use r_data	String	User-defined name/value to be encrypted.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v +year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	String	Function description.
last_modified	String	Time when the function was last updated.
func_vpc_id	String	VPC ID.
strategy_confi g	**StrategyConf ig** object	Function policy configuration.
extend_config	String	Extended configuration.

Parameter	Type	Description
initializer_han dler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_tim eout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_pro ject_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
long_time	Boolean	Whether to allow a long timeout.
log_group_id	String	Log group ID.
log_stream_id	String	Log stream ID.
type	String	v2 indicates the OBT version and v1 indicates the original version. Enumeration values: ● **v1** ● **v2**
fail_count	Integer	Number of times that a function failed to be executed in the last day.
is_bridge_func tion	Boolean	Whether this is a bridge function.
bind_bridge_f uncUrns	Array of strings	URNs bound to the bridge function.

Table 5-161 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_nu m	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Status code: 401

Table 5-162 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-163 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-164 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-165 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query functions of the current tenant.

GET https://{Endpoint}/v2/{project_id}/fgs/functions?marker=0&maxitems=400

Example Responses

Status code: 200

ok

```
{
  "functions" : [ {
    "func_urn" : "urn:fss:xxxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
    "func_name" : "test",
    "domain_id" : "cff01_hk",
    "namespace" : "7aad83af3e8d42e99ac194e8419e2c9b",
    "project_name" : "xxxxxxxx",
    "package" : "default",
    "runtime" : "Node.js6.10",
    "timeout" : 3,
    "handler" : "test.handler",
    "memory_size" : 128,
    "cpu" : 300,
    "code_type" : "inline",
    "code_filename" : "index.js",
    "code_size" : 272,
    "digest" :
"decbce6939297b0b5ec6d1a23bf9c725870f5e69fc338a89a6a4029264688dc26338f56d08b6535de47f15ad53
8e22ca66613b9a46f807d50b687bb53fded1c6",
    "version" : "latest",
    "xrole" : "cff",
    "image_name" : "latest-191025153727@zehht",
    "last_modified" : "2019-10-25 15:37:27",
    "strategy_config" : {
      "concurrency" : 0
    },
    "initializer_handler" : "index.initializer",
    "initializer_timeout" : 3,
    "fail_count" : 12
  } ],
  "next_marker" : 4
}
```

Status Codes

Status Code	Description
200	ok
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.2 Creating a Function

Function

This API is used to create a function.

URI

POST /v2/{project_id}/fgs/functions

Table 5-166 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Request Parameters

Table 5-167 Request header parameters

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

Table 5-168 Request body parameters

Parameter	Mandatory	Type	Description
func_name	Yes	String	Function name.
package	Yes	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Mandatory	Type	Description
runtime	Yes	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9**

Parameter	Mandatory	Type	Description
			• **http**
timeout	Yes	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	Yes	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
depend_version_list	No	Array of strings	Dependency versions.
func_vpc	No	**FuncVpc** object	VPC configuration.
memory_size	Yes	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
gpu_memory	No	Integer	GPU memory. This parameter is available only for functions created with a custom runtime or image. Unit: MB. Options: 1024, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10,240, 11,264, 12,288, 13,312, 14,336, 15,360, and 16,384. Range: 1024 to 16,384.

Parameter	Mandatory	Type	Description
code_type	Yes	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**
code_url	No	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filenam e	No	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
user_data	No	String	Name/Value information defined for the function. These are parameters used in the function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
xrole	No	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	No	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	No	String	Function description.

Parameter	Mandatory	Type	Description
func_code	No	**FuncCode** object	Response body of the FuncCode struct.
initializer_handler	No	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_timeout	No	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_project_id	No	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
type	No	String	Function version. Some regions support only v1. The default value is v1. Default: **v2** Enumeration values: ● **v1** ● **v2**
log_config	No	**FuncLogConfig** object	Function log configuration.
network_controller	No	**NetworkControlConfig** object	Network configuration.

Table 5-169 FuncVpc

Parameter	Mandatory	Type	Description
vpc_name	Yes	String	VPC name.
vpc_id	Yes	String	VPC ID.
subnet_name	Yes	String	Subnet name.
subnet_id	Yes	String	Subnet ID.
cidr	Yes	String	Subnet mask.
gateway	Yes	String	Gateway.

Parameter	Mandatory	Type	Description
security_grou ps	No	Array of strings	Security group.

Table 5-170 FuncCode

Parameter	Mandatory	Type	Description
file	No	String	Function code, which must be encoded using Base64. If this parameter is left blank, the default code is used.
link	No	String	Function code URL.

Table 5-171 FuncLogConfig

Parameter	Mandatory	Type	Description
group_name	No	String	Name of the log group bound to the function.
group_id	No	String	ID of the log group bound to the function.
stream_name	No	String	Name of the log stream bound to the function.
stream_id	No	String	ID of the log stream bound to the function.

Table 5-172 NetworkControlConfig

Parameter	Mandatory	Type	Description
disable_public _network	No	Boolean	Disable public access.
trigger_access _vpcs	No	Array of **VpcConfig** objects	VPC access restriction.

Table 5-173 VpcConfig

Parameter	Mandatory	Type	Description
vpc_name	No	String	VPC name.

Parameter	Mandatory	Type	Description
vpc_id	No	String	VPC ID.

Response Parameters

Status code: 200

Table 5-174 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
gpu_memory	Integer	GPU memory. This parameter is available only for functions created with a custom runtime or image. Unit: MB. Options: 1024, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10,240, 11,264, 12,288, 13,312, 14,336, 15,360, and 16,384. Range: 1024 to 16,384.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**

Parameter	Type	Description
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.
user_data	String	Name/Value information defined for the function. These are parameters used in a function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_user_data	String	User-defined name/value to be encrypted.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v +year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	String	Function description.
last_modified	String	Time when the function was last updated.
func_vpc	**FuncVpc** object	VPC configuration.
mount_config	**MountConfig** object	Mounting configuration.
depend_list	Array of strings	Dependency ID list.

Parameter	Type	Description
depend_version_list	Array of strings	Dependency versions.
strategy_config	**StrategyConfig** object	Function policy configuration.
extend_config	String	Extended configuration.
initializer_handler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_timeout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_project_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
enable_dynamic_memory	Boolean	Whether to enable dynamic memory allocation.
is_stateful_function	Boolean	Whether stateful functions are supported. If they are supported, set this parameter to true. This parameter is supported in FunctionGraph v2.
enable_auth_in_header	Boolean	Whether to allow authentication information in the request header.
custom_image	**CustomImage** object	Container image.

Table 5-175 FuncVpc

Parameter	Type	Description
vpc_name	String	VPC name.
vpc_id	String	VPC ID.
subnet_name	String	Subnet name.
subnet_id	String	Subnet ID.
cidr	String	Subnet mask.
gateway	String	Gateway.

Parameter	Type	Description
security_grou ps	Array of strings	Security group.

Table 5-176 MountConfig

Parameter	Type	Description
mount_user	**MountUser** object	User information.
func_mounts	Array of **FuncMount** objects	Mounted resources.

Table 5-177 MountUser

Parameter	Type	Description
user_id	String	User ID, a non-0 integer from –1 to 65534.
user_group_id	String	User group ID, a non-0 integer from –1 to 65534.

Table 5-178 FuncMount

Parameter	Type	Description
mount_type	String	Mount type. The value can be sfs, sfsTurbo, or ecs. This parameter is mandatory when func_mounts is not empty.
mount_resour ce	String	ID of the mounted resource (cloud service ID). This parameter is mandatory when func_mounts is not empty.
mount_share_ path	String	Remote mount path. For example, 192.168.0.12:/data. This parameter is mandatory if mount_type is set to ecs.
local_mount_ path	String	Function access path. This parameter is mandatory when func_mounts is not empty.

Table 5-179 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_nu m	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-180 CustomImage

Parameter	Type	Description
enabled	Boolean	Whether to enable this feature.
image	String	Image address.
command	String	Command for starting a container image.
args	String	Command line parameter for starting a container image.
working_dir	String	Working directory of an image container.
uid	String	User ID of an image container.
gid	String	User group ID of an image container.

Status code: 400

Table 5-181 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-182 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 403

Table 5-183 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-184 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-185 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 503

Table 5-186 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create a function.

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions

{
  "func_name" : "xxx",
  "package" : "xxx",
  "runtime" : "Python2.7",
  "handler" : "index.py",
  "memory_size" : 128,
  "code_type" : "inline",
  "timeout" : 3,
  "func_code" : {
    "file" : "xxxxx",
    "link" : ""
  }
}
```

Example Responses

Status code: 200

ok

```
{
  "func_urn" :
"urn:fss:xxxxxxxxx:c3b2459a6d5e4b548e6777e57852692d:function:default:TestCreateFunctionInPythonSdk:lat
est",
  "func_name" : "TestCreateFunctionInPythonSdk",
  "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
  "namespace" : "46b6f338fc3445b8846c71dfb1fbxxxx",
  "project_name" : "xxxxxxxxxx",
  "package" : "default",
  "runtime" : "Python3.6",
  "timeout" : 3,
  "handler" : "index.handler",
  "memory_size" : 128,
  "cpu" : 300,
  "code_type" : "inline",
  "code_filename" : "index.py",
  "code_size" : 100,
  "digest" :
"1c8610d1870731a818a037f1d2adf3223e8ac351aeb293fb1f8eabd2e9820069a61ed8b5d38182e760adc33a30
7d0e957afc357f415cd8c9c3ff6f0426fd85cd",
  "version" : "latest",
  "image_name" : "latest-191025153727@zehht",
  "last_modified" : "2019-10-25 15:37:27",
  "strategy_config" : {
    "concurrency" : 0
  }
}
```

Status code: 400

Bad request.

```
{
  "error_code" : "FSS.0401",
  "error_msg" : "not permit"
}
```

Status code: 401

Unauthorized.

```
{
  "error_code" : "FSS.0401",
```

```
"error_msg" : "not permit"
}
```

Status code: 403

Forbidden.

```
{
  "error_code" : "FSS.0401",
  "error_msg" : "not permit"
}
```

Status Codes

Status Code	Description
200	ok
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.
503	Service unavailable.

Error Codes

See **Error Codes**.

5.6.3 Deleting a Function or Function Version

Function

This API is used to delete a function or a non-latest version of a function.

If the URN contains a function version or alias, the function version or the version corresponding to the specified alias as well as associated triggers will be deleted.

If the URN does not contain a function version or alias, the entire function (including all of its versions, aliases, and triggers) will be deleted.

URI

DELETE /v2/{project_id}/fgs/functions/{function_urn}

Table 5-187 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model descriptions. The latest version of a function cannot be deleted. To delete a function and all its versions, provide a URN without any version or alias. Example: urn:fss:xxxxxxxx: 7aad83af3e8d42e99ac194e84 19e2c9b:function:default:test.

Request Parameters

Table 5-188 Request header parameters

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

Response Parameters

Status code: 401

Table 5-189 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-190 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-191 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-192 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete a function or a function version.

```
DELETE https://{Endpoint}/v2/{project_id}/fgs/functions/{func_urn}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
401	Unauthorized.
403	Forbidden.
404	Not found.

Status Code	Description
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.4 Querying the Code of a Function

Function

This API is used to query the code of a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/code

Table 5-193 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-194 Request header parameters

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

Response Parameters

Status code: 200

Table 5-195 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
code_type	String	Function code type. Options: • inline: inline code. • zip: ZIP file. • obs: function code stored in an OBS bucket. • jar: JAR file, for Java functions. Enumeration values: • **inline** • **zip** • **obs** • **jar**
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
last_modified	String	Time when the function was last updated.
func_code	**FuncCode** object	Response body of the FuncCode struct.
depend_list	Array of strings	Dependency ID list.
depend_versio n_list	Array of strings	Dependency versions.
strategy_confi g	**StrategyConf ig** object	Function policy configuration.
dependencies	Array of **Dependency** objects	Dependency packages.

Table 5-196 FuncCode

Parameter	Type	Description
file	String	Function code, which must be encoded using Base64. If this parameter is left blank, the default code is used.
link	String	Function code URL.

Table 5-197 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_num	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-198 Dependency

Parameter	Type	Description
owner	String	Domain ID of the dependency owner.
link	String	URL of the dependency on OBS.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	MD5 value of a dependency.
size	Long	Dependency size.
name	String	Dependence name.
description	String	Dependency description.
file_name	String	File name of a dependency package (ZIP).

Status code: 400

Table 5-199 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-200 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-201 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-202 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-203 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the code of a function.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/code

Example Responses

Status code: 200

OK

```
{
  "func_urn" : "urn:fss:xxxxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test:latest",
  "func_name" : "test",
  "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
  "runtime" : "Node.js6.10",
  "code_type" : "inline",
  "code_filename" : "index.zip",
  "code_size" : 245,
  "digest" :
"39d51ae334ffb239037e194159f4cc9cec31086719aa73db7d0a608343121a290f7115693e008bd01cb12b99a8
03856e83aa96173b26c528c41cfed18267e08f",
  "last_modified" : "2019-10-31 11:37:58",
  "func_code" : {
    "file" : "",
    "link" : ""
  },
  "strategy_config" : {
    "concurrency" : -1
  }
}
```

Status code: 404

Not found.

```
{
  "error_code" : "FSS.1052",
  "error_msg" : "Not found the function version"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.5 Modifying the Code of a Function

Function

This API is used to modify the code of a function.

URI

PUT /v2/{project_id}/fgs/functions/{function_urn}/code

Table 5-204 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-205 Request header parameters

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

Table 5-206 Request body parameters

Parameter	Mandatory	Type	Description
code_type	Yes	String	Function code type. Options: • inline: inline code. • zip: ZIP file. • obs: function code stored in an OBS bucket. • jar: JAR file, for Java functions. Enumeration values: • **inline** • **zip** • **obs** • **jar**
code_url	No	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	No	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
func_code	Yes	**FuncCode** object	Response body of the FuncCode struct.
depend_list	No	Array of strings	Dependency ID list.
depend_versio n_list	No	Array of strings	Dependency versions.

Table 5-207 FuncCode

Parameter	Mandatory	Type	Description
file	No	String	Function code, which must be encoded using Base64. If this parameter is left blank, the default code is used.
link	No	String	Function code URL.

Response Parameters

Status code: 200

Table 5-208 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
code_type	String	Function code type. Options: • inline: inline code. • zip: ZIP file. • obs: function code stored in an OBS bucket. • jar: JAR file, for Java functions. Enumeration values: • **inline** • **zip** • **obs** • **jar**
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
last_modified	String	Time when the function was last updated.
func_code	**FuncCode** object	Response body of the FuncCode struct.
depend_list	Array of strings	Dependency ID list.
depend_versio n_list	Array of strings	Dependency versions.
strategy_confi g	**StrategyConf ig** object	Function policy configuration.
dependencies	Array of **Dependency** objects	Dependency packages.

Table 5-209 FuncCode

Parameter	Type	Description
file	String	Function code, which must be encoded using Base64. If this parameter is left blank, the default code is used.
link	String	Function code URL.

Table 5-210 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_num	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-211 Dependency

Parameter	Type	Description
owner	String	Domain ID of the dependency owner.
link	String	URL of the dependency on OBS.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	MD5 value of a dependency.
size	Long	Dependency size.
name	String	Dependence name.
description	String	Dependency description.
file_name	String	File name of a dependency package (ZIP).

Status code: 400

Table 5-212 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-213 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-214 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-215 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-216 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Modify the code of a function.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/code

{
  "code_filename" : "index.zip",
  "code_type" : "inline",
  "func_code" : {
    "file" :
"UEsDBAoAAAAIACBkLlV2+vGXqQAAAPgAAAAIAAAAaW5kZXguananNdjj0OgkAQhXtPMYUJS0JIaDX2xkILL8AK
AxKHHdydVQzh7i5IQZzqZb68H
+w7tuLSuzYloYUDVN4U0rABhS80kkDBRrCfhCa66eIRw7CBcIQC7ILF4tM3FlXELor3Mwsmx4Qpca04xLMTo1tU
8YoLoLU8dRpPtP6zl85LAPkRiRjebKmEFp3TNWZZtoPtcLpezqkT25i6qT6/sfGYLzHLVDU3JPA/
YfwCUEsBAh4DCgAAAAgAIGQuVXb68ZepAAAA
+AAAAAgAAAAAAAAAAAAAAAPMCAAAAGluZGV4LmpzUEsFBgAAAAABAAEANgAAAM8AAAAAAA=="
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "func_urn" : "urn:fss:xxxxxxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test:latest",
  "func_name" : "test",
  "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
  "runtime" : "Node.js6.10",
  "code_type" : "inline",
  "code_filename" : "index.js",
  "code_size" : 245,
  "digest" :
"39d51ae334ffb239037e194159f4cc9cec31086719aa73db7d0a608343121a290f7115693e008bd01cb12b99a8
03856e83aa96173b26c528c41cfed18267e08f",
  "last_modified" : "2019-10-31 11:37:58",
  "func_code" : {
    "file" :
"aW1wb3J0IGpzb24KZGVmIGhhbmRsZXIoZXZlbnQsIGNvbnRleHQpOgogICAgb3V0cHV0ID0gJ2hlbGxvIE1zZyB
```

mb3IgbW9kaWZ5OiAnICsganNvbi5kdW1wcyhldmVudCkkICAgIGFrID0gY29udGV4dC5nZXRBY2Nlc3NLZXkoK
QogICAggc2sgPSBjb250ZXh0LmdldFNlY3JldEtleSgpCiAgICB0b2tlbiA9IGNvbnRleHQuZ2V0VG9rZW4oKQogICAg
cHJpbnQgKGKyBhawogICAggcHJpbnQgKGJ3cOicgKyBzawogICAggcHJpbnQgKGJ3Rva2VuOicgKyB0b2tlbgogIC
AgcmV0dXJuIG91dHB1dAo+C0NLTqLwKImNCTgBMSn5SC+UbkysuKp1Bj7JQqxds+5p7La/ew4RBTp8IusZ/
k2qmqvCDdoBY0ywYCl
+RgctnLbTS6hLLj9sNyKoVXiXb1BLAQIeAwoAAAAIAAhYOU8ssPQsgwAAALYAAAAIAAAAAAAAAAAADzAgA
AAABpbmRleC5weVBLBQYAAAAAAQABADYAAACpAAAAAAA=",
    "link" : ""
  },
  "strategy_config" : {
    "concurrency" : -1
  }
}

Status code: 404

Not found.

{
  "error_code" : "FSS.1052",
  "error_msg" : "Not found the function version"
}

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.6 Querying the Metadata of a Function

Function

This API is used to query the metadata of a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/config

Table 5-217 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-218 Request header parameters

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

Response Parameters

Status code: 200

Table 5-219 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
gpu_memory	Integer	GPU memory. This parameter is available only for functions created with a custom runtime or image. Unit: MB. Options: 1024, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10,240, 11,264, 12,288, 13,312, 14,336, 15,360, and 16,384. Range: 1024 to 16,384.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**

Parameter	Type	Description
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.
user_data	String	Name/Value information defined for the function. These are parameters used in the function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_user_data	String	User-defined name/value to be encrypted.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v +year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	String	Function description.
last_modified	String	Time when the function was last updated.
ephemeral_storage	Integer	Ephemeral storage. Enumeration values: • **512** • **10240**
func_vpc	**FuncVpc** object	VPC configuration.

Parameter	Type	Description
mount_config	**MountConfig** object	Mounting configuration.
depend_list	Array of strings	Dependency ID list.
depend_version_list	Array of strings	Dependency versions.
strategy_config	**StrategyConfig** object	Function policy configuration.
dependencies	Array of **Dependency** objects	Dependency packages.
initializer_handler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_timeout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_project_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
long_time	Boolean	Whether to allow a long timeout.
log_group_id	String	Log group ID.
log_stream_id	String	Log stream ID.
type	String	v2 indicates the OBT version and v1 indicates the original version. Enumeration values: ● **v1** ● **v2**
enable_dynamic_memory	Boolean	Whether to enable dynamic memory allocation.
is_stateful_function	Boolean	Whether stateful functions are supported. If they are supported, set this parameter to true. This parameter is supported in FunctionGraph v2.
enable_auth_in_header	Boolean	Whether to allow authentication information in the request header.

Parameter	Type	Description
custom_image	**CustomImage** object	Container image.

Table 5-220 FuncVpc

Parameter	Type	Description
vpc_name	String	VPC name.
vpc_id	String	VPC ID.
subnet_name	String	Subnet name.
subnet_id	String	Subnet ID.
cidr	String	Subnet mask.
gateway	String	Gateway.
security_groups	Array of strings	Security group.

Table 5-221 MountConfig

Parameter	Type	Description
mount_user	**MountUser** object	User information.
func_mounts	Array of **FuncMount** objects	Mounted resources.

Table 5-222 MountUser

Parameter	Type	Description
user_id	String	User ID, a non-0 integer from –1 to 65534.
user_group_id	String	User group ID, a non-0 integer from –1 to 65534.

Table 5-223 FuncMount

Parameter	Type	Description
mount_type	String	Mount type. The value can be sfs, sfsTurbo, or ecs. This parameter is mandatory when func_mounts is not empty.
mount_resour ce	String	ID of the mounted resource (cloud service ID). This parameter is mandatory when func_mounts is not empty.
mount_share_ path	String	Remote mount path. For example, 192.168.0.12:/data. This parameter is mandatory if mount_type is set to ecs.
local_mount_ path	String	Function access path. This parameter is mandatory when func_mounts is not empty.

Table 5-224 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_nu m	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-225 Dependency

Parameter	Type	Description
owner	String	Domain ID of the dependency owner.
link	String	URL of the dependency on OBS.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	MD5 value of a dependency.
size	Long	Dependency size.
name	String	Dependence name.
description	String	Dependency description.
file_name	String	File name of a dependency package (ZIP).

Table 5-226 CustomImage

Parameter	Type	Description
enabled	Boolean	Whether to enable this feature.
image	String	Image address.
command	String	Command for starting a container image.
args	String	Command line parameter for starting a container image.
working_dir	String	Working directory of an image container.
uid	String	User ID of an image container.
gid	String	User group ID of an image container.

Status code: 400

Table 5-227 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-228 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-229 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-230 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-231 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the metadata of a function.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/config

Example Responses

Status code: 200

OK

```
{
  "func_urn" : "urn:fss:xxxxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test:latest",
  "func_name" : "test",
  "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
  "namespace" : "46b6f338fc3445b8846c71dfb1fbxxxx",
  "project_name" : "xxxxxxxxx",
  "package" : "default",
  "runtime" : "Node.js6.10",
  "timeout" : 3,
  "handler" : "test.handler",
  "memory_size" : 128,
```

```
"cpu" : 300,
"code_type" : "inline",
"code_filename" : "index.js",
"code_size" : 272,
"digest" :
"faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9
af322c55dabeb16565c386e402413458e6068",
"version" : "latest",
"ephemeral_storage" : 512,
"image_name" : "latest-191025153727@zehht",
"last_modified" : "2019-10-25 15:37:27",
"strategy_config" : {
  "concurrency" : 0
}
}
```

Status code: 404

Not found.

```
{
"error_code" : "FSS.1051",
"error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.7 Modifying the Metadata of a Function

Function

This API is used to modify the metadata of a function.

URI

PUT /v2/{project_id}/fgs/functions/{function_urn}/config

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-233 Request body parameters

Parameter	Mandatory	Type	Description
func_name	Yes	String	Function name.

Parameter	Mandatory	Type	Description
runtime	Yes	String	Environment in which a FunctionGraph function is executed. Options: • Python 2.7 • Python 3.6 • Python 3.9 • Go 1.8 • Go 1.x • Java 8 • Java 11 • Node.js 6.10 • Node.js 8.10 • Node.js 10.16 • Node.js 12.13 • Node.js 14.18 • C# (.NET Core 2.0) • C# (.NET Core 2.1) • C# (.NET Core 3.1) • Custom • PHP 7.3 • HTTP Enumeration values: • **Java8** • **Java11** • **Node.js6.10** • **Node.js8.10** • **Node.js10.16** • **Node.js12.13** • **Node.js14.18** • **Python2.7** • **Python3.6** • **Go1.8** • **Go1.x** • **C#(.NET Core 2.0)** • **C#(.NET Core 2.1)** • **C#(.NET Core 3.1)** • **Custom** • **PHP7.3** • **Python3.9**

Parameter	Mandatory	Type	Description
			• **http**
timeout	Yes	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	Yes	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Yes	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
gpu_memory	No	Integer	GPU memory. This parameter is available only for functions created with a custom runtime or image. Unit: MB. Options: 1024, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10,240, 11,264, 12,288, 13,312, 14,336, 15,360, and 16,384. Range: 1024 to 16,384.

Parameter	Mandatory	Type	Description
user_data	No	String	Name/Value information defined for the function. These are parameters used in a function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_user_data	No	String	User-defined name/value to be encrypted.
xrole	No	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	No	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	No	String	Function description.
func_vpc	No	**FuncVpc** object	VPC configuration.
mount_config	No	**MountConfig** object	Mounting configuration.
strategy_config	No	**StrategyConfig** object	Function policy configuration.
custom_image	No	**CustomImage** object	Container image.
extend_config	No	String	Extended configuration.
initializer_handler	No	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.

Parameter	Mandatory	Type	Description
initializer_timeout	No	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
ephemeral_storage	No	Integer	Ephemeral storage size. Max.: 10 GB. Default: 512 MB. Enumeration values: ● **512** ● **10240**
enterprise_project_id	No	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
log_config	No	**FuncLogConfig** object	Function log configuration.
network_controller	No	**NetworkControlConfig** object	Network configuration.
is_stateful_function	No	Boolean	Whether stateful functions are supported. If they are supported, set this parameter to true. This parameter is supported in FunctionGraph v2.
enable_dynamic_memory	No	Boolean	Whether to enable dynamic memory allocation.
enable_auth_in_header	No	Boolean	Whether to allow authentication information in the request header.
domain_names	No	String	Private domain name.
restore_hook_handler	No	String	Restore Hook entry point for snapshot-based cold start in the format "xx.xx". The period (.) must be included. For example, com.huawei.demo.Test.restore Hook. This parameter is available only for Java functions.
restore_hook_timeout	No	Integer	Restore Hook timeout of snapshot-based cold start. Range: 1s to 300s.

Table 5-234 FuncVpc

Parameter	Mandatory	Type	Description
vpc_name	Yes	String	VPC name.
vpc_id	Yes	String	VPC ID.
subnet_name	Yes	String	Subnet name.
subnet_id	Yes	String	Subnet ID.
cidr	Yes	String	Subnet mask.
gateway	Yes	String	Gateway.
security_groups	No	Array of strings	Security group.

Table 5-235 MountConfig

Parameter	Mandatory	Type	Description
mount_user	Yes	**MountUser** object	User information.
func_mounts	Yes	Array of **FuncMount** objects	Mounted resources.

Table 5-236 MountUser

Parameter	Mandatory	Type	Description
user_id	Yes	String	User ID, a non-0 integer from –1 to 65534.
user_group_id	Yes	String	User group ID, a non-0 integer from –1 to 65534.

Table 5-237 FuncMount

Parameter	Mandatory	Type	Description
mount_type	Yes	String	Mount type. The value can be sfs, sfsTurbo, or ecs. This parameter is mandatory when func_mounts is not empty.

Parameter	Mandatory	Type	Description
mount_resource	Yes	String	ID of the mounted resource (cloud service ID). This parameter is mandatory when func_mounts is not empty.
mount_share_path	No	String	Remote mount path. For example, 192.168.0.12:/data. This parameter is mandatory if mount_type is set to ecs.
local_mount_path	Yes	String	Function access path. This parameter is mandatory when func_mounts is not empty.

Table 5-238 StrategyConfig

Parameter	Mandatory	Type	Description
concurrency	Yes	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_num	Yes	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-239 CustomImage

Parameter	Mandatory	Type	Description
enabled	No	Boolean	Whether to enable this feature.
image	No	String	Image address.
command	No	String	Command for starting a container image.
args	No	String	Command line parameter for starting a container image.

Parameter	Mandatory	Type	Description
working_dir	No	String	Working directory of an image container.
uid	No	String	User ID of an image container.
gid	No	String	User group ID of an image container.

Table 5-240 FuncLogConfig

Parameter	Mandatory	Type	Description
group_name	No	String	Name of the log group bound to the function.
group_id	No	String	ID of the log group bound to the function.
stream_name	No	String	Name of the log stream bound to the function.
stream_id	No	String	ID of the log stream bound to the function.

Table 5-241 NetworkControlConfig

Parameter	Mandatory	Type	Description
disable_public_network	No	Boolean	Disable public access.
trigger_access_vpcs	No	Array of **VpcConfig** objects	VPC access restriction.

Table 5-242 VpcConfig

Parameter	Mandatory	Type	Description
vpc_name	No	String	VPC name.
vpc_id	No	String	VPC ID.

Response Parameters

Status code: 200

Table 5-243 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
gpu_memory	Integer	GPU memory. This parameter is available only for functions created with a custom runtime or image. Unit: MB. Options: 1024, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10,240, 11,264, 12,288, 13,312, 14,336, 15,360, and 16,384. Range: 1024 to 16,384.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**

Parameter	Type	Description
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.
user_data	String	Name/Value information defined for the function. These are parameters used in a function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_user r_data	String	User-defined name/value to be encrypted.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v +year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	String	Function description.
last_modified	String	Time when the function was last updated.
ephemeral_st orage	Integer	Ephemeral storage. Enumeration values: ● **512** ● **10240**
func_vpc	**FuncVpc** object	VPC configuration.

Parameter	Type	Description
mount_config	**MountConfig** object	Mounting configuration.
strategy_config	**StrategyConfig** object	Function policy configuration.
dependencies	Array of **Dependency** objects	Dependency packages.
initializer_handler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_timeout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_project_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
long_time	Boolean	Whether to allow a long timeout.
log_group_id	String	Log group ID.
log_stream_id	String	Log stream ID.
type	String	v2 indicates the OBT version and v1 indicates the original version. Enumeration values: ● **v1** ● **v2**
enable_dynamic_memory	Boolean	Whether to enable dynamic memory allocation.
is_stateful_function	Boolean	Whether stateful functions are supported. If they are supported, set this parameter to true. This parameter is supported in FunctionGraph v2.
domain_names	String	Private domain name configured for resolution.
enable_auth_in_header	Boolean	Whether to allow authentication information in the request header.
custom_image	**CustomImage** object	Container image.

Table 5-244 FuncVpc

Parameter	Type	Description
vpc_name	String	VPC name.
vpc_id	String	VPC ID.
subnet_name	String	Subnet name.
subnet_id	String	Subnet ID.
cidr	String	Subnet mask.
gateway	String	Gateway.
security_groups	Array of strings	Security group.

Table 5-245 MountConfig

Parameter	Type	Description
mount_user	**MountUser** object	User information.
func_mounts	Array of **FuncMount** objects	Mounted resources.

Table 5-246 MountUser

Parameter	Type	Description
user_id	String	User ID, a non-0 integer from –1 to 65534.
user_group_id	String	User group ID, a non-0 integer from –1 to 65534.

Table 5-247 FuncMount

Parameter	Type	Description
mount_type	String	Mount type. The value can be sfs, sfsTurbo, or ecs. This parameter is mandatory when func_mounts is not empty.
mount_resource	String	ID of the mounted resource (cloud service ID). This parameter is mandatory when func_mounts is not empty.

Parameter	Type	Description
mount_share_ path	String	Remote mount path. For example, 192.168.0.12:/data. This parameter is mandatory if mount_type is set to ecs.
local_mount_ path	String	Function access path. This parameter is mandatory when func_mounts is not empty.

Table 5-248 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_nu m	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-249 Dependency

Parameter	Type	Description
owner	String	Domain ID of the dependency owner.
link	String	URL of the dependency on OBS.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	MD5 value of a dependency.
size	Long	Dependency size.
name	String	Dependence name.
description	String	Dependency description.
file_name	String	File name of a dependency package (ZIP).

Table 5-250 CustomImage

Parameter	Type	Description
enabled	Boolean	Whether to enable this feature.
image	String	Image address.
command	String	Command for starting a container image.
args	String	Command line parameter for starting a container image.
working_dir	String	Working directory of an image container.
uid	String	User ID of an image container.
gid	String	User group ID of an image container.

Status code: 400

Table 5-251 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-252 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-253 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-254 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-255 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

- Modify the metadata of a function.

  ```
  PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/config

  {
    "func_name" : "fgsSdkTest-20220831080525",
    "handler" : "index.handler",
    "memory_size" : 768,
    "runtime" : "Node.js6.10",
    "timeout" : 40
  }
  ```

- Modify GPU configuration of a custom runtime function.

  ```
  PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/config

  {
    "func_name" : "test_GPU",
    "handler" : "bootstrap",
    "memory_size" : 4096,
    "runtime" : "Custom",
    "timeout" : 40,
    "gpu_memory" : 1024
  }
  ```

Example Responses

Status code: 200

OK

```
{
  "func_urn" : "urn:fss:xxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
  "func_name" : "test",
  "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
  "namespace" : "46b6f338fc3445b8846c71dfb1fbxxxx",
  "project_name" : "xxxxxx",
  "package" : "default",
  "runtime" : "Node.js6.10",
  "timeout" : 3,
  "handler" : "fssExampleCsharp2.1::fssExampleCsharp21.Program::MyFunc",
  "memory_size" : 128,
  "cpu" : 300,
  "code_type" : "inline",
  "code_filename" : "index.js",
  "code_size" : 272,
  "digest" :
"faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9
af322c55dabeb16565c386e402413458e6068",
  "version" : "latest",
  "ephemeral_storage" : 512,
  "image_name" : "latest-191025153727@zehht",
  "last_modified" : "2019-10-25 15:37:27",
  "strategy_config" : {
    "concurrency" : 0
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.8 Updating Max. Instances of a Function

Function

This API is used to update the maximum number of instances of a function.

URI

PUT /v2/{project_id}/fgs/functions/{function_urn}/config-max-instance

Table 5-256 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-257 Request header parameters

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

Table 5-258 Request body parameters

Parameter	Mandatory	Type	Description
max_instance _num	No	Integer	Maximum number of instances. -1 indicates that the number of instances is unlimited, and 0 indicates that the function is disabled.

Response Parameters

Status code: 200

Table 5-259 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN.

Parameter	Type	Description
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: • Python 2.7 • Python 3.6 • Python 3.9 • Go 1.8 • Go 1.x • Java 8 • Java 11 • Node.js 6.10 • Node.js 8.10 • Node.js 10.16 • Node.js 12.13 • Node.js 14.18 • C# (.NET Core 2.0) • C# (.NET Core 2.1) • C# (.NET Core 3.1) • Custom • PHP 7.3 • HTTP Enumeration values: • **Java8** • **Java11** • **Node.js6.10** • **Node.js8.10** • **Node.js10.16** • **Node.js12.13** • **Node.js14.18** • **Python2.7** • **Python3.6** • **Go1.8** • **Go1.x** • **C#(.NET Core 2.0)** • **C#(.NET Core 2.1)** • **C#(.NET Core 3.1)** • **Custom** • **PHP7.3** • **Python3.9** • **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.

Parameter	Type	Description
user_data	String	Name/Value information defined for the function. These are parameters used in a function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_user_data	String	User-defined name/value to be encrypted.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v +year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	String	Function description.
last_modified	String	Time when the function was last updated.
func_vpc	**FuncVpc** object	VPC configuration.
mount_config	**MountConfig** object	Mounting configuration.
strategy_config	**StrategyConfig** object	Function policy configuration.
dependencies	Array of **Dependency** objects	Dependency packages.

Parameter	Type	Description
initializer_han dler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_tim eout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_pro ject_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
long_time	Boolean	Whether to allow a long timeout.
log_group_id	String	Log group ID.
log_stream_id	String	Log stream ID.
type	String	v2 indicates the OBT version and v1 indicates the original version. Enumeration values: ● **v1** ● **v2**
enable_dyna mic_memory	Boolean	Whether to enable dynamic memory allocation.
is_stateful_fu nction	Boolean	Whether stateful functions are supported. If they are supported, set this parameter to true. This parameter is supported in FunctionGraph v2.
domain_name s	String	Private domain name configured for resolution.

Table 5-260 FuncVpc

Parameter	Type	Description
vpc_name	String	VPC name.
vpc_id	String	VPC ID.
subnet_name	String	Subnet name.
subnet_id	String	Subnet ID.
cidr	String	Subnet mask.
gateway	String	Gateway.

Parameter	Type	Description
security_grou ps	Array of strings	Security group.

Table 5-261 MountConfig

Parameter	Type	Description
mount_user	**MountUser** object	User information.
func_mounts	Array of **FuncMount** objects	Mounted resources.

Table 5-262 MountUser

Parameter	Type	Description
user_id	String	User ID, a non-0 integer from –1 to 65534.
user_group_id	String	User group ID, a non-0 integer from –1 to 65534.

Table 5-263 FuncMount

Parameter	Type	Description
mount_type	String	Mount type. The value can be sfs, sfsTurbo, or ecs. This parameter is mandatory when func_mounts is not empty.
mount_resour ce	String	ID of the mounted resource (cloud service ID). This parameter is mandatory when func_mounts is not empty.
mount_share_ path	String	Remote mount path. For example, 192.168.0.12:/data. This parameter is mandatory if mount_type is set to ecs.
local_mount_ path	String	Function access path. This parameter is mandatory when func_mounts is not empty.

Table 5-264 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_nu m	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-265 Dependency

Parameter	Type	Description
owner	String	Domain ID of the dependency owner.
link	String	URL of the dependency on OBS.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: • Python 2.7 • Python 3.6 • Python 3.9 • Go 1.8 • Go 1.x • Java 8 • Java 11 • Node.js 6.10 • Node.js 8.10 • Node.js 10.16 • Node.js 12.13 • Node.js 14.18 • C# (.NET Core 2.0) • C# (.NET Core 2.1) • C# (.NET Core 3.1) • Custom • PHP 7.3 • HTTP Enumeration values: • **Java8** • **Java11** • **Node.js6.10** • **Node.js8.10** • **Node.js10.16** • **Node.js12.13** • **Node.js14.18** • **Python2.7** • **Python3.6** • **Go1.8** • **Go1.x** • **C#(.NET Core 2.0)** • **C#(.NET Core 2.1)** • **C#(.NET Core 3.1)** • **Custom** • **PHP7.3** • **Python3.9** • **http**

Parameter	Type	Description
etag	String	MD5 value of a dependency.
size	Long	Dependency size.
name	String	Dependence name.
description	String	Dependency description.
file_name	String	File name of a dependency package (ZIP).

Status code: 400

Table 5-266 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-267 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-268 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-269 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-270 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update the maximum number of instances of a function.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/config-max-instance

{
  "max_instance_num" : 3
}
```

Example Responses

Status code: 200

OK

```
{
  "func_urn" : "urn:fss:xxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
  "func_name" : "test",
  "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
  "namespace" : "46b6f338fc3445b8846c71dfb1fbxxxx",
  "project_name" : "xxxxxx",
  "package" : "default",
  "runtime" : "Node.js6.10",
  "timeout" : 3,
  "handler" : "fssExampleCsharp2.1::fssExampleCsharp21.Program::MyFunc",
  "memory_size" : 128,
  "cpu" : 300,
  "code_type" : "inline",
  "code_filename" : "index.js",
  "code_size" : 272,
  "digest" :
"faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9
af322c55dabeb16565c386e402413458e6068",
  "version" : "latest",
  "image_name" : "latest-191025153727@zehht",
  "last_modified" : "2019-10-25 15:37:27",
  "strategy_config" : {
    "concurrency" : 0
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.9 Enabling or Disabling the Snapshot Function

Function

This API is used to enable or disable the snapshot function.

URI

POST /v2/{project_id}/fgs/functions/{function_urn}/snapshots/{action}

Table 5-271 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.
action	Yes	String	Enabled or disabled.

Request Parameters

Table 5-272 Request header parameters

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

Response Parameters

Status code: 400

Table 5-273 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-274 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-275 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-276 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-277 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Enable or disable the snapshot function.

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn/snapshots/{action}
```

Example Responses

Status code: 404

Not found.

```
{
  "error_code" : "FSS.1051",
  "error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
204	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.10 Querying Snapshot Status

Function

This API is used to query snapshot status.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/snapshots/state

Table 5-278 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-279 Request header parameters

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

Response Parameters

Status code: 200

Table 5-280 Response body parameters

Parameter	Type	Description
state	String	Snapshot status.
code	String	Snapshot response code.

Status code: 400

Table 5-281 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-282 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-283 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-284 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-285 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

Query snapshot status.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/snapshots/state

Example Responses

Status code: 200

OK

```
{
  "state" : "enable"
}
```

Status code: 404

Not found.

```
{
  "error_code" : "FSS.1051",
  "error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.11 Querying Resource Tags

Function

This API is used to query resource tags.

URI

GET /v2/{project_id}/{resource_type}/tags

Table 5-286 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
resource_type	Yes	String	Resource type.

Request Parameters

Table 5-287 Request header parameters

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

Response Parameters

Status code: 200

Table 5-288 Response body parameters

Parameter	Type	Description
tags	Array of **TagItem** objects	Tag list.
sys_tags	Array of **TagItem** objects	System tags.

Table 5-289 TagItem

Parameter	Type	Description
key	String	Key.

Parameter	Type	Description
values	Array of strings	Value.

Status code: 400

Table 5-290 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-291 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-292 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-293 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query resource tags.

GET https://{Endpoint}/v2/{project_id}/{resource_type}/tags

Example Responses

Status code: 200

ok

```
{
  "tags" : [ {
    "key" : "xxx",
    "values" : [ "yyy", "zzz" ]
  } ],
  "sys_tags" : [ {
    "key" : "_sys_enterprise_project_id",
    "values" : [ "5aa119a8-d25b-45a7-8d1b-88e127885635" ]
  } ]
}
```

Status Codes

Status Code	Description
200	ok
400	Bad request.
401	Unauthorized.
403	Forbidden.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.12 Querying Resources

Function

This API is used to query resources.

URI

POST /v2/{project_id}/{resource_type}/resource-instances/{action}

Table 5-294 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
resource_type	Yes	String	Resource type.
action	Yes	String	Filter or count. Enumeration values: ● **filter** ● **count**

Request Parameters

Table 5-295 Request header parameters

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

Table 5-296 Request body parameters

Parameter	Mandatory	Type	Description
without_any_tag	No	Boolean	Whether to use tag-based filtering.
limit	No	String	Number of records displayed on each page.
offset	No	String	Query offset.
action	No	String	Query an action. Enumeration values: ● **count** ● **filter**
matches	No	Array of **KvItem** objects	Query a key-value pair.

Parameter	Mandatory	Type	Description
sys_tags	No	Array of **TagItem** objects	Query system tags.

Table 5-297 KvItem

Parameter	Mandatory	Type	Description
key	No	String	Key.
value	No	String	Value.

Table 5-298 TagItem

Parameter	Mandatory	Type	Description
key	No	String	Key.
values	No	Array of strings	Value.

Response Parameters

Status code: 200

Table 5-299 Response body parameters

Parameter	Type	Description
resources	Array of **ListEnterpriseResourceResult** objects	Enterprise projects.
total_count	Long	Number of resources.

Table 5-300 ListEnterpriseResourceResult

Parameter	Type	Description
resource_id	String	Resource ID.
resource_detail	**ListFunctionResult** object	Function attribute struct.

Parameter	Type	Description
tags	Array of **KvItem** objects	Tag list.
sys_tags	Array of **KvItem** objects	System tags.
resource_name e	String	Resource name.

Table 5-301 ListFunctionResult

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
gpu_memory	Integer	GPU memory. This parameter is available only for functions created with a custom runtime or image. Unit: MB. Options: 1024, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10,240, 11,264, 12,288, 13,312, 14,336, 15,360, and 16,384. Range: 1024 to 16,384.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**

Parameter	Type	Description
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.
user_data	String	Name/Value information defined for the function. These are parameters used in the function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_use r_data	String	User-defined name/value to be encrypted.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v +year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	String	Function description.
last_modified	String	Time when the function was last updated.
func_vpc_id	String	VPC ID.
strategy_confi g	**StrategyConfig** object	Function policy configuration.
extend_config	String	Extended configuration.

Parameter	Type	Description
initializer_handler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_timeout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_project_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
long_time	Boolean	Whether to allow a long timeout.
log_group_id	String	Log group ID.
log_stream_id	String	Log stream ID.
type	String	v2 indicates the OBT version and v1 indicates the original version. Enumeration values: ● **v1** ● **v2**
fail_count	Integer	Number of times that a function failed to be executed in the last day.
is_bridge_function	Boolean	Whether this is a bridge function.
bind_bridge_funcUrns	Array of strings	URNs bound to the bridge function.

Table 5-302 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_num	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-303 KvItem

Parameter	Type	Description
key	String	Key.
value	String	Value.

Status code: 400

Table 5-304 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-305 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-306 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-307 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-308 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query resources.

```
POST https://{Endpoint}/v2/{project_id}/{resource_type}/resource-instances/{action}

{
  "without_any_tag" : true,
  "limit" : 5,
  "matches" : [ {
    "key" : "resource_name",
    "value" : "test_function"
  } ]
}
```

Example Responses

Status code: 200

ok

- Example 1

```
{
  "resources" : [ {
    "resource_id" : "34e4516e-e324-412b-914e-c4e568c7d813",
    "resource_detail" : {
      "func_urn" : "",
      "func_name" : "test_v2_1",
      "domain_id" : "f0a16ead2b344414a5ff053409c4xxxx",
      "namespace" : "e3e37049e339493d996313d658f7xxxx",
      "project_name" : "{region}",
      "package" : "default",
      "runtime" : "Node.js6.10",
      "timeout" : 3,
      "handler" : "index.handler",
      "memory_size" : 128,
      "cpu" : 300,
      "code_type" : "inline",
      "code_filename" : "index.zip",
      "code_size" : "247",
      "digest" :
"608239783ff8efe2cd8b623530c5afdcfed38fca66beb99c26d7ff4dcb872e091d4976bc8b0e5986d8f185d
55fdf92ff7c55980f8c91d01cd36402763c0d1d13",
      "version" : "latest",
      "image_name" : "latest-191211192124@po1lk",
      "strategy_config" : { }
    },
    "tags" : [ ],
    "sys_tags" : [ {
      "key" : "_sys_enterprise_project_id",
      "value" : "df5edab8-c458-4a4c-b87b-a4d3b0a757ce"
    } ],
```

```
    "resource_name" : "test_v2_1"
  } ]
}
```

- Example 2

```
1
```

Status Codes

Status Code	Description
200	ok
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.13 Deleting Resource Tags

Function

This API is used to delete resource tags.

URI

DELETE /v2/{project_id}/{resource_type}/{resource_id}/tags/delete

Table 5-309 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
resource_type	Yes	String	Resource type.
resource_id	Yes	String	Resource ID.

Request Parameters

Table 5-310 Request header parameters

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

Table 5-311 Request body parameters

Parameter	Mandatory	Type	Description
action	No	String	Action name. Enumeration values: • **create** • **delete**
tags	No	Array of **KvItem** objects	Tag list.
sys_tags	No	Array of **KvItem** objects	System tags.

Table 5-312 KvItem

Parameter	Mandatory	Type	Description
key	No	String	Key.
value	No	String	Value.

Response Parameters

Status code: 400

Table 5-313 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

Delete resource tags.

```
DELETE https://{Endpoint}/v2/{project_id}/{resource_type}/{resource_id}/tags/delete

{
  "tags" : [ {
    "key" : "testKey1",
    "value" : "testValue1"
  } ],
  "action" : "delete"
}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
400	Bad request.

Error Codes

See **Error Codes**.

5.6.14 Creating Resource Tags

Function

This API is used to create resource tags.

URI

POST /v2/{project_id}/{resource_type}/{resource_id}/tags/create

Table 5-314 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Parameter	Mandatory	Type	Description
resource_type	Yes	String	Resource type.
resource_id	Yes	String	Resource ID.

Request Parameters

Table 5-315 Request header parameters

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

Table 5-316 Request body parameters

Parameter	Mandatory	Type	Description
action	No	String	Action name. Enumeration values: ● **create** ● **delete**
tags	No	Array of **KvItem** objects	Tag list.
sys_tags	No	Array of **KvItem** objects	System tags.

Table 5-317 KvItem

Parameter	Mandatory	Type	Description
key	No	String	Key.
value	No	String	Value.

Response Parameters

Status code: 400

Table 5-318 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create resource tags.

```
POST https://{Endpoint}/v2/{project_id}/{resource_type}/{resource_id}/tags/create

{
  "tags" : [ {
    "key" : "testKey1",
    "value" : "testValue1"
  }, {
    "key" : "testKey2",
    "value" : "testValue2"
  } ],
  "action" : "create"
}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
400	Bad request.

Error Codes

See **Error Codes**.

5.6.15 Creating a VPC Endpoint

Function

This API is used to create a VPC endpoint.

URI

POST /v2/{project_id}/fgs/vpc-endpoint

Table 5-319 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Request Parameters

Table 5-320 Request header parameters

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

Table 5-321 Request body parameters

Parameter	Mandatory	Type	Description
flavor	No	String	Endpoint specifications. By default, large specifications are used.
xrole	No	String	Agency used to create the endpoint.
vpc_id	Yes	String	ID of the VPC to connect to the endpoint.
subnet_id	Yes	String	ID of the subnet to connect to the endpoint.

Response Parameters

Status code: 200

Table 5-322 Response body parameters

Parameter	Type	Description
endpoints	Array of strings	IP addresses.
address	String	Domain name.

Status code: 400

Table 5-323 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-324 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-325 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-326 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 500

Table 5-327 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create a VPC endpoint.

```
POST https://{Endpoint}/v2/{project_id}/fgs/vpc-endpoint

{
  "vpc_id" : "a938xxxx-7xxx-4xxx-bxxx-cee915xxxxxx",
  "subnet_id" : "a4a1xxxx-9xxx-4xxx-8xxx-bb46f7xxxxxx",
  "flavor" : "default",
  "xrole" : "xxx"
}
```

Example Responses

Status code: 200

ok

```
{
  "endpoints" : [ ],
  "address" : "https://xx"
}
```

Status Codes

Status Code	Description
200	ok
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.6.16 Deleting a VPC Endpoint

Function

This API is used to delete a VPC endpoint.

URI

DELETE /v2/{project_id}/fgs/vpc-endpoint/{vpc_id}/{subnet_id}

Table 5-328 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
vpc_id	Yes	String	vpc ID
subnet_id	Yes	String	Subnet ID.

Request Parameters

Table 5-329 Request header parameters

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

Response Parameters

Status code: 400

Table 5-330 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete a VPC endpoint.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/vpc-endpoint/{vpc_id}/{subnet_id}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
400	Bad request.

Error Codes

See **Error Codes**.

5.7 Versions and Aliases

5.7.1 Querying All Versions and Aliases of a Function

Function

This API is used to query the versions and aliases of a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/aliases

Table 5-331 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-332 Request header parameters

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

Response Parameters

Status code: 200

Table 5-333 Response body parameters

Parameter	Type	Description
[items]	Array of **ListVersionAliasResult** objects	Function versions and aliases.

Table 5-334 ListVersionAliasResult

Parameter	Type	Description
name	String	Alias to be queried.
version	String	Version corresponding to the alias.
description	String	Description of the alias.
last_modified	String	Time when the alias was last modified.
alias_urn	String	URN of the alias.
additional_version_weights	Map<String,Integer>	Dark launch information.

Status code: 401

Table 5-335 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-336 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-337 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-338 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 503

Table 5-339 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query aliases of a function.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/aliases

Example Responses

Status code: 200

OK

```
[ {
  "name" : "a1",
  "version" : "latest",
  "description" : "",
  "last_modified" : "2019-10-31 11:37:58",
  "alias_urn" : "urn:fss:{region}:46b6f338fc3445b8846c71dfb1fbxxxx:function:default:xxxxx:!a1",
  "additional_version_weights" : {
    "v1" : 10
  }
} ]
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.
503	Service unavailable.

Error Codes

See **Error Codes**.

5.7.2 Creating an Alias for a Function Version

Function

This API is used to create an alias for a function version.

URI

POST /v2/{project_id}/fgs/functions/{function_urn}/aliases

Table 5-340 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-341 Request header parameters

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

Table 5-342 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Alias to be queried.
version	Yes	String	Version corresponding to the alias.
description	No	String	Description of the alias.
additional_version_weights	No	Map<String,Integer>	Dark launch information.

Response Parameters

Status code: 200

Table 5-343 Response body parameters

Parameter	Type	Description
name	String	Alias to be queried.
version	String	Version corresponding to the alias.

Parameter	Type	Description
description	String	Description of the alias.
last_modified	String	Time when the alias was last modified.
alias_urn	String	URN of the alias.
additional_version_weights	Map<String,Integer>	Dark launch information.

Status code: 400

Table 5-344 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-345 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-346 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-347 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-348 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create an alias for a function version.

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/aliases

{
  "name" : "a1",
  "version" : "v1"
}
```

Example Responses

Status code: 200

ok

```
{
  "name" : "a1",
  "version" : "latest",
  "description" : "",
  "last_modified" : "2019-10-31 11:37:58",
  "alias_urn" : "urn:fss:{region}:46b6f338fc3445b8846c71dfb1fbxxxx:function:default:xxxxx:!a1"
}
```

Status code: 404

Not found.

```
{
  "error_code" : "FSS.1051",
  "error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
200	ok
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.7.3 Deleting an Alias of a Function Version

Function

This API is used to delete an alias of a function version.

URI

DELETE /v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name}

Table 5-349 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.
alias_name	Yes	String	Alias to be deleted.

Request Parameters

Table 5-350 Request header parameters

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

Response Parameters

Status code: 401

Table 5-351 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-352 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-353 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-354 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete the alias of a function version.

```
DELETE https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.7.4 Querying the Alias of a Function Version

Function

This API is used to query the alias of a function version.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name}

Table 5-355 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.
alias_name	Yes	String	Alias to be queried.

Request Parameters

Table 5-356 Request header parameters

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

Response Parameters

Status code: 200

Table 5-357 Response body parameters

Parameter	Type	Description
name	String	Alias to be queried.
version	String	Version corresponding to the alias.
description	String	Description of the alias.
last_modified	String	Time when the alias was last modified.
alias_urn	String	URN of the alias.
additional_version_weights	Map<String,Integer>	Dark launch information.

Status code: 401

Table 5-358 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-359 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-360 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-361 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the alias of a function version.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name}

Example Responses

Status code: 200

OK

```
{
  "name" : "dev",
  "version" : "latest",
  "description" : "my dev version",
  "last_modified" : "2019-10-31 11:37:58",
  "alias_urn" : "urn:fss:xxxxxxxxxx: 7aad83af3e8d42e99ac194e8419e2c9b:function:default:test:!dev",
  "additional_version_weights" : {
    "v1" : 10
  }
}
```

Status code: 401

Unauthorized.

```
{
  "error_code" : "FSS.1053",
  "error_msg" : "Not found the function alias"
}
```

Status Codes

Status Code	Description
200	OK
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.7.5 Modifying the Alias of a Function Version

Function

This API is used to modify the alias of a function version.

URI

PUT /v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name}

Table 5-362 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Parameter	Mandatory	Type	Description
function_urn	Yes	String	Function URN. For details, see the function model description.
alias_name	Yes	String	Alias to be modified.

Request Parameters

Table 5-363 Request header parameters

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

Table 5-364 Request body parameters

Parameter	Mandatory	Type	Description
version	Yes	String	Version corresponding to the alias.
description	No	String	Description of the alias.
additional_version_weights	No	Map<String,Integer>	Dark launch information.

Response Parameters

Status code: 200

Table 5-365 Response body parameters

Parameter	Type	Description
name	String	Alias to be queried.
version	String	Version corresponding to the alias.
description	String	Description of the alias.
last_modified	String	Time when the alias was last modified.

Parameter	Type	Description
alias_urn	String	URN of the alias.
additional_version_weights	Map<String,Integer>	Dark launch information.

Status code: 400

Table 5-366 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-367 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-368 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-369 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-370 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update the alias of a function version.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name}

{
  "version" : "latest",
  "description" : "",
  "additional_version_weights" : {
    "v1" : 50
  }
}
```

Example Responses

Status code: 200

ok

```
{
  "name" : "dev",
  "version" : "latest",
  "description" : "",
  "last_modified" : "2019-10-31 11:37:58",
  "alias_urn" : "urn:fss:xxxxxxxx: 7aad83af3e8d42e99ac194e8419e2c9b:function:default:test:!dev",
  "additional_version_weights" : {
    "v1" : 10
  }
}
```

Status code: 404

Not found.

```
{
  "error_code" : "FSS.1051",
  "error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
200	ok
400	Bad request.

Status Code	Description
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.7.6 Querying the Versions of a Function

Function

This API is used to query the versions of a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/versions

Table 5-371 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Table 5-372 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	Final record queried last time.
maxitems	No	String	Maximum number of functions to obtain in a request.

Request Parameters

Table 5-373 Request header parameters

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

Response Parameters

Status code: 200

Table 5-374 Response body parameters

Parameter	Type	Description
versions	Array of **ListFunctionVersionResult** objects	Version list.
next_marker	Long	Next record location.
count	Long	Total number of versions.

Table 5-375 ListFunctionVersionResult

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.

Parameter	Type	Description
user_data	String	Name/Value information defined for the function. These are parameters used in the function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_user_data	String	User-defined name/value to be encrypted.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v +year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
last_modified	String	Time when the function was last updated.
func_vpc_id	String	VPC ID.
concurrency	Integer	0: A function is disabled. -1: A function is enabled.
concurrent_num	Integer	Number of concurrent instances.
strategy_config	**StrategyConfig** object	Function policy configuration.
initializer_handler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_timeout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.

Parameter	Type	Description
long_time	Boolean	Whether long-term running is supported.
function_async_config	**FunctionAsyncConfig** object	Return struct of the asynchronous execution notification settings.
type	String	Function version.
enable_cloud_debug	String	Whether to enable cloud-based debugging.
enable_dynamic_memory	Boolean	Whether to enable dynamic memory allocation.
enterprise_project_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
is_stateful_function	Boolean	Whether stateful functions are supported. If they are supported, set this parameter to true. This parameter is supported in FunctionGraph v2.
enable_auth_in_header	Boolean	Whether to allow authentication information in the request header.
custom_image	**CustomImage** object	Container image.
reserved_instance_idle_mode	Boolean	Whether to enable idle mode for reserved instances.

Table 5-376 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.
concurrent_num	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-377 FunctionAsyncConfig

Parameter	Type	Description
max_async_ev ent_age_in_se conds	Integer	Maximum validity period of a message. Value range: 60–86,400. Unit: second.
max_async_re try_attempts	Integer	Maximum number of retry attempts to be made if asynchronous invocation fails. Default value: 3. Value range: 0–8.
destination_c onfig	**FuncAsyncDe stinationConf ig** object	Asynchronous invocation target.
created_time	String	Time when asynchronous execution notification was configured.
last_modified	String	Time when the asynchronous execution notification settings were last modified.

Table 5-378 FuncAsyncDestinationConfig

Parameter	Type	Description
on_success	**FuncDestinat ionConfig** object	Target to be invoked when a function is successfully executed.
on_failure	**FuncDestinat ionConfig** object	Target to be invoked when a function fails to be executed due to a system error or an internal error.

Table 5-379 FuncDestinationConfig

Parameter	Type	Description
destination	String	Object type. ● OBS ● SMN ● DIS ● FunctionGraph Enumeration values: ● **OBS** ● **SMN** ● **DIS** ● **FunctionGraph**

Parameter	Type	Description
param	String	Parameters (in JSON format) corresponding to the target service. ● OBS: Parameters related to the bucket name, object directory prefix, and object expiration time are included. The object expiration time ranges from 0 to 365 days. If the value is 0, the object will not expire. ● SMN: The topic_urn parameter is included. ● DIS: The stream_name parameter is included. ● FunctionGraph: The func_urn parameter is included.

Table 5-380 CustomImage

Parameter	Type	Description
enabled	Boolean	Whether to enable this feature.
image	String	Image address.
command	String	Command for starting a container image.
args	String	Command line parameter for starting a container image.
working_dir	String	Working directory of an image container.
uid	String	User ID of an image container.
gid	String	User group ID of an image container.

Status code: 400

Table 5-381 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-382 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-383 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-384 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-385 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query functions.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/versions

Example Responses

Status code: 200

OK

```
{
  "versions" : [ {
    "func_urn" : "urn:fss:xxxxxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
    "func_name" : "test",
    "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
    "namespace" : "46b6f338fc3445b8846c71dfb1fbxxxx",
    "project_name" : "xxxxx",
    "package" : "default",
    "runtime" : "Node.js6.10",
    "timeout" : 3,
    "handler" : "test.handler",
    "memory_size" : 128,
    "cpu" : 300,
    "code_type" : "inline",
    "code_filename" : "index.js",
    "code_size" : 272,
    "digest" :
"faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9
af322c55dabeb16565c386e402413458e6068",
    "version" : "latest",
    "image_name" : "latest-191025153727@zehht",
    "last_modified" : "2019-10-25 15:37:27",
    "strategy_config" : {
      "concurrency" : 0
    }
  } ],
  "next_marker" : 5
}
```

Status code: 404

Not found.

```
{
  "error_code" : "FSS.1051",
  "error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.7.7 Publishing a Function Version

Function

This API is used to publish a function version.

URI

POST /v2/{project_id}/fgs/functions/{function_urn}/versions

Table 5-386 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-387 Request header parameters

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

Table 5-388 Request body parameters

Parameter	Mandatory	Type	Description
digest	No	String	MD5 key.
version	No	String	Function version.
description	No	String	Version description.

Response Parameters

Status code: 200

Table 5-389 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.

Parameter	Type	Description
user_data	String	Name/Value information defined for the function. These are parameters used in the function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
encrypted_user_data	String	User-defined name/value to be encrypted.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v+year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	String	Function description.
version_description	String	Version description.
last_modified	String	Time when the function was last updated.
func_vpc	**FuncVpc** object	VPC configuration.
mount_config	**MountConfig** object	Mounting configuration.
strategy_config	**StrategyConfig** object	Function policy configuration.
dependencies	Array of **Dependency** objects	Dependency packages.

Parameter	Type	Description
initializer_han dler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_tim eout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_pro ject_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.
long_time	Boolean	Whether to allow a long timeout.
log_group_id	String	Log group ID.
log_stream_id	String	Log stream ID.
type	String	v2 indicates the OBT version and v1 indicates the original version. Enumeration values: ● **v1** ● **v2**
enable_dyna mic_memory	Boolean	Whether to enable dynamic memory allocation.
function_asyn c_config	**FunctionAsyn cConfig** object	Return struct of the asynchronous execution notification settings.

Table 5-390 FuncVpc

Parameter	Type	Description
vpc_name	String	VPC name.
vpc_id	String	VPC ID.
subnet_name	String	Subnet name.
subnet_id	String	Subnet ID.
cidr	String	Subnet mask.
gateway	String	Gateway.
security_grou ps	Array of strings	Security group.

Table 5-391 MountConfig

Parameter	Type	Description
mount_user	**MountUser** object	User information.
func_mounts	Array of **FuncMount** objects	Mounted resources.

Table 5-392 MountUser

Parameter	Type	Description
user_id	String	User ID, a non-0 integer from –1 to 65534.
user_group_id	String	User group ID, a non-0 integer from –1 to 65534.

Table 5-393 FuncMount

Parameter	Type	Description
mount_type	String	Mount type. The value can be sfs, sfsTurbo, or ecs. This parameter is mandatory when func_mounts is not empty.
mount_resource	String	ID of the mounted resource (cloud service ID). This parameter is mandatory when func_mounts is not empty.
mount_share_path	String	Remote mount path. For example, 192.168.0.12:/data. This parameter is mandatory if mount_type is set to ecs.
local_mount_path	String	Function access path. This parameter is mandatory when func_mounts is not empty.

Table 5-394 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.

Parameter	Type	Description
concurrent_num	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Table 5-395 Dependency

Parameter	Type	Description
owner	String	Domain ID of the dependency owner.
link	String	URL of the dependency on OBS.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
etag	String	MD5 value of a dependency.
size	Long	Dependency size.
name	String	Dependence name.
description	String	Dependency description.
file_name	String	File name of a dependency package (ZIP).

Table 5-396 FunctionAsyncConfig

Parameter	Type	Description
max_async_event_age_in_seconds	Integer	Maximum validity period of a message. Value range: 60–86,400. Unit: second.
max_async_retry_attempts	Integer	Maximum number of retry attempts to be made if asynchronous invocation fails. Default value: 3. Value range: 0–8.
destination_config	**FuncAsyncDestinationConfig** object	Asynchronous invocation target.
created_time	String	Time when asynchronous execution notification was configured.
last_modified	String	Time when the asynchronous execution notification settings were last modified.

Table 5-397 FuncAsyncDestinationConfig

Parameter	Type	Description
on_success	**FuncDestinationConfig** object	Target to be invoked when a function is successfully executed.
on_failure	**FuncDestinationConfig** object	Target to be invoked when a function fails to be executed due to a system error or an internal error.

Table 5-398 FuncDestinationConfig

Parameter	Type	Description
destination	String	Object type. ● OBS ● SMN ● DIS ● FunctionGraph Enumeration values: ● **OBS** ● **SMN** ● **DIS** ● **FunctionGraph**
param	String	Parameters (in JSON format) corresponding to the target service. ● OBS: Parameters related to the bucket name, object directory prefix, and object expiration time are included. The object expiration time ranges from 0 to 365 days. If the value is 0, the object will not expire. ● SMN: The topic_urn parameter is included. ● DIS: The stream_name parameter is included. ● FunctionGraph: The func_urn parameter is included.

Status code: 400

Table 5-399 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-400 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 403

Table 5-401 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-402 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-403 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Publish a function version.

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/versions

{
  "version" : "v1",
  "description" : "v1"
}
```

Example Responses

Status code: 200

OK

```
{
  "func_urn" : "urn:fss:xxxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
  "func_name" : "test",
  "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
  "namespace" : "46b6f338fc3445b8846c71dfb1fbxxxx",
  "project_name" : "xxxxx",
  "package" : "default",
  "runtime" : "Node.js6.10",
  "timeout" : 3,
  "handler" : "test.handler",
  "memory_size" : 128,
  "cpu" : 300,
  "code_type" : "inline",
  "code_filename" : "inline.js",
  "code_size" : 272,
  "digest" :
"faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9
af322c55dabeb16565c386e402413458e6068",
  "version" : "latest",
  "image_name" : "latest-191025153727@zehht",
  "last_modified" : "2019-10-25 15:37:27",
  "strategy_config" : {
    "concurrency" : 0
  }
}
```

Status code: 404

Not found.

```
{
  "error_code" : "FSS.1051",
  "error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.8 Function Metrics

5.8.1 Querying Top Functions for a Specified Metric

Function

This API is used to query the top functions for a specified metric.

By default, the top ten functions with the most errors in the last day are queried.

URI

GET /v2/{project_id}/fgs/function/report

Table 5-404 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Table 5-405 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	Metric type. Default value: failcount.
start_time	No	String	Start time.
end_time	No	String	End time.
limit	No	String	Metric type. Default value: failcount.

Request Parameters

Table 5-406 Request header parameters

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

Response Parameters

Status code: 200

Table 5-407 Response body parameters

Parameter	Type	Description
values	Array of **FunctionMetric** objects	Function URN and metrics.
next_marker	Long	Next read location.
count	Long	Total number of functions returned.

Table 5-408 FunctionMetric

Parameter	Type	Description
key	String	Function URN.
value	Integer	Metric value.

Status code: 400

Table 5-409 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the top functions for a specified metric.

```
GET /v2/{project_id}/fgs/function/report
```

Example Responses

Status code: 200

Query successful.

```
{
  "next_marker" : 2,
  "count" : 2,
  "values" : [ {
    "key" : "funcUrn1",
    "value" : 1
  }, {
    "key" : "funcUrn2",
    "value" : 2
  } ]
}
```

Status Codes

Status Code	Description
200	Query successful.
400	Bad Request

Error Codes

See **Error Codes**.

5.8.2 Querying Tenant-Level Function Statistics

Function

This API is used to query tenant-level function statistics.

The statistics include function format, quota and usage, and traffic report.

You can query data in a specific period using the filter and period parameters.

URI

GET /v2/{project_id}/fgs/functions/statistics

Table 5-410 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Table 5-411 Query Parameters

Parameter	Mandatory	Type	Description
filter	Yes	String	Parameter filter. ● monitor_data: Query detailed statistics. ● monthly_report: Query monthly statistics. Enumeration values: ● **monitor_data** ● **monthly_report**

Parameter	Mandatory	Type	Description
period	No	String	The unit is minute. This parameter must be used together with the filter parameter metric.
option	No	String	Monthly statistical period. This parameter is valid only when filter is set to monthly_report. If a value beyond the preceding range is specified, the default value 0 will be used. ● 0: current month ● 1: last month ● 2: last three months ● 3: last six months

Request Parameters

Table 5-412 Request header parameters

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

Response Parameters

Status code: 200

Table 5-413 Response body parameters

Parameter	Type	Description
count	Array of **MonthUsed** objects	Number of monthly invocations.
gbs	Array of **MonthUsed** objects	Monthly resource usage.

Parameter	Type	Description
statistics	**ListFunctionStatisticsResponseBody** object	Function Metrics

Table 5-414 MonthUsed

Parameter	Type	Description
date	String	Date.
value	Number	Usage.

Table 5-415 ListFunctionStatisticsResponseBody

Parameter	Type	Description
count	Array of **SlaReportsValue** objects	Function invocations.
duration	Array of **SlaReportsValue** objects	Average latency, in milliseconds.
fail_count	Array of **SlaReportsValue** objects	Number of errors.
max_duration	Array of **SlaReportsValue** objects	Maximum latency, in milliseconds.
min_duration	Array of **SlaReportsValue** objects	Minimum latency, in milliseconds.
reject_count	Array of **SlaReportsValue** objects	Number of throttles.

Table 5-416 SlaReportsValue

Parameter	Type	Description
timestamp	Integer	Timestamp.
value	Double	Value.

Status code: 400

Table 5-417 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query tenant-level function statistics.

```
GET /v2/{project_id}/fgs/functions/statistics
```

Example Responses

Status code: 200

Query successful.

```
{
  "statistics" : {
    "count" : [ {
      "timestamp" : 1596679200000,
      "value" : -1
    }, {
      "timestamp" : 1596682800000,
      "value" : 2
    }, {
      "timestamp" : 1596686400000,
      "value" : -1
    } ],
    "duration" : [ {
      "timestamp" : 1596679200000,
      "value" : -1
    }, {
      "timestamp" : 1596682800000,
      "value" : 950
    }, {
      "timestamp" : 1596686400000,
      "value" : -1
    } ],
    "fail_count" : [ {
      "timestamp" : 1596679200000,
      "value" : -1
    }, {
      "timestamp" : 1596682800000,
      "value" : 0
    }, {
      "timestamp" : 1596686400000,
      "value" : -1
    } ],
    "max_duration" : [ {
      "timestamp" : 1596679200000,
      "value" : -1
    }, {
      "timestamp" : 1596682800000,
      "value" : 740
```

```
    }, {
      "timestamp" : 1596686400000,
      "value" : -1
    } ],
    "min_duration" : [ {
      "timestamp" : 1596679200000,
      "value" : -1
    }, {
      "timestamp" : 1596682800000,
      "value" : 210
    }, {
      "timestamp" : 1596686400000,
      "value" : -1
    } ],
    "reject_count" : [ {
      "timestamp" : 1596679200000,
      "value" : -1
    }, {
      "timestamp" : 1596682800000,
      "value" : 0
    }, {
      "timestamp" : 1596686400000,
      "value" : -1
    } ]
  }
}
```

Status Codes

Status Code	Description
200	Query successful.
400	Bad Request

Error Codes

See **Error Codes**.

5.8.3 Querying Metrics in a Specified Period

Function

This API is used to query metrics of a function in a specified period.

URI

GET /v2/{project_id}/fgs/functions/{func_urn}/statistics/{period}

Table 5-418 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Parameter	Mandatory	Type	Description
func_urn	Yes	String	Function URN. For details, see the function model description.
period	Yes	String	Time range specified to query function execution metrics. Minimum: **0** Maximum: **0** Minimum: **0** Maximum: **0**

Request Parameters

Table 5-419 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. It can be obtained by calling the IAM API used to obtain a user token. The value of X-Subject-Token in the response header is a token. Minimum: **0** Maximum: **0** Minimum: **0** Maximum: **0**

Response Parameters

Status code: 200

Table 5-420 Response body parameters

Parameter	Type	Description
count	Array of **SlaReportsValue** objects	Function invocations.
duration	Array of **SlaReportsValue** objects	Average latency, in milliseconds.

Parameter	Type	Description
fail_count	Array of **SlaReportsValue** objects	Number of errors.
max_duration	Array of **SlaReportsValue** objects	Maximum latency, in milliseconds.
min_duration	Array of **SlaReportsValue** objects	Minimum latency, in milliseconds.
reject_count	Array of **SlaReportsValue** objects	Number of throttles.

Table 5-421 SlaReportsValue

Parameter	Type	Description
timestamp	Integer	Timestamp.
value	Double	Value.

Example Requests

Query metrics of a function in a specified period.

```
GET /v2/{project_id}/fgs/functions/{func_urn}/statistics/{period}
```

Example Responses

Status code: 200

ok

```
{
  "count" : [ {
    "timestamp" : 1596679200000,
    "value" : -1
  }, {
    "timestamp" : 1596682800000,
    "value" : 2
  }, {
    "timestamp" : 1596686400000,
    "value" : -1
  } ],
  "duration" : [ {
    "timestamp" : 1596679200000,
    "value" : -1
  }, {
    "timestamp" : 1596682800000,
    "value" : 950
  }, {
    "timestamp" : 1596686400000,
```

```
    "value" : -1
} ],
"fail_count" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 0
}, {
  "timestamp" : 1596686400000,
  "value" : -1
} ],
"max_duration" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 740
}, {
  "timestamp" : 1596686400000,
  "value" : -1
} ],
"min_duration" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 210
}, {
  "timestamp" : 1596686400000,
  "value" : -1
} ],
"reject_count" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 0
}, {
  "timestamp" : 1596686400000,
  "value" : -1
} ]
}
```

Status Codes

Status Code	Description
200	ok

Error Codes

See **Error Codes**.

5.9 Function Logs

5.9.1 Querying the Log Group and Stream of a Function

Function

This API is used to query the LTS log group and stream settings of a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/lts-log-detail

Table 5-422 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-423 Response body parameters

Parameter	Type	Description
group_name	String	Log group name.
group_id	String	Log group ID.
stream_id	String	Log stream ID.
stream_name	String	Log stream name.

Status code: 403

Table 5-424 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the LTS log group and stream settings of a function.

GET /v2/{project_id}/fgs/functions/{urn}/lts-log-detail

Example Responses

Status code: 200

Ok

```
{
  "group_id" : "xxx",
  "stream_id" : "xxx",
  "stream_name" : "xxx"
}
```

Status code: 403

FORBIDDEN

```
{
  "error_code" : "FSS.0403",
  "error_msg" : "invalid token"
}
```

Status Codes

Status Code	Description
200	Ok
403	FORBIDDEN

Error Codes

See **Error Codes**.

5.9.2 Enabling Log Reporting to LTS

Function

This API is used to enable log reporting to LTS.

URI

POST /v2/{project_id}/fgs/functions/enable-lts-logs

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Request Parameters

Table 5-426 Request header parameters

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

Response Parameters

Status code: 429

Table 5-427 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Enable log reporting to LTS.

```
POST /v2/{project_id}/fgs/functions/enable-lts-logs
```

Example Responses

Status code: 429

Too many requests.

```
{
  "error_code" : "FSS.0429",
  "error_msg" : "api is busy now"
}
```

Status Codes

Status Code	Description
200	ok
429	Too many requests.

Error Codes

See **Error Codes**.

5.10 Reserved Instances

5.10.1 Querying Reserved Instances of a Function

Function

This API is used to query reserved instances of a function.

URI

GET /v2/{project_id}/fgs/functions/reservedinstanceconfigs

Table 5-428 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Table 5-429 Query Parameters

Parameter	Mandatory	Type	Description
function_urn	No	String	Function URN. For details, see the function model descriptions.
marker	No	String	Start position of the current query. The default value is 0. Default: **0** Minimum: **1** Maximum: **64**

Parameter	Mandatory	Type	Description
limit	No	String	Maximum number of data records returned in a request. Max.: 500. Default: 100. Default: **100** Minimum: **1** Maximum: **64**

Request Parameters

Table 5-430 Request header parameters

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

Response Parameters

Status code: 200

Table 5-431 Response body parameters

Parameter	Type	Description
reserved_instances	Array of **ReservedInstanceConfigs** objects	Reserved instances.
page_info	**PageInfo** object	
count	Long	Number of functions.

Table 5-432 ReservedInstanceConfigs

Parameter	Type	Description
function_urn	String	Function URN.
qualifier_type	String	Limiting type. Options: version and alias.

Parameter	Type	Description
qualifier_name	String	Limit value.
min_count	Integer	Number of reserved instances.
idle_mode	Boolean	Whether to enable the idle mode.
tactics_config	**TacticsConfig** object	

Table 5-433 TacticsConfig

Parameter	Type	Description
cron_configs	Array of **CronConfig** objects	Scheduled configuration list.
metric_configs	Array of **MetricConfig** objects	Flow control configuration list.

Table 5-434 CronConfig

Parameter	Type	Description
name	String	Scheduled configuration name.
cron	String	Cron expression.
count	Integer	Number of started reserved instances.
start_time	Long	Start time.
expired_time	Long	Expiry time.

Table 5-435 MetricConfig

Parameter	Type	Description
name	String	Flow control configuration name.
type	String	Flow control type.
threshold	Integer	Flow control threshold.
min	Integer	Minimum value.

Table 5-436 PageInfo

Parameter	Type	Description
next_marker	Long	Next read location.
previous_mar ker	Long	Previous read location.
current_count	Long	Number of items on the current page.

Status code: 400

Table 5-437 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-438 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-439 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-440 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-441 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query reserved instances of a function.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/reservedinstanceconfigs

Example Responses

Status code: 200

OK

```
{
 "reserved_instances" : [ {
  "function_urn" : "urn:fss:{region}:46b6f338fc3445b8846c71dfb1fbxxxx:function:default:xxxxx:latest",
  "qualifier_type" : "version",
  "qualifier_name" : "latest",
  "min_count" : 10,
  "idle_mode" : false,
  "tactics_config" : {
   "cron_configs" : [ {
    "name" : "cronConfig",
    "cron" : "0 1 * * * *",
    "count" : 15,
    "start_time" : 1658073600,
    "expired_time" : 1658160000
   } ],
   "metric_configs" : [ {
    "name" : "metricConfig",
    "type" : "Concurrency",
    "threshold" : 90,
    "min" : 12
   } ]
  }
 } ],
 "count" : 1,
 "page_info" : {
  "next_marker" : 1,
  "previous_marker" : 0,
  "current_count" : 1
```

```
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.10.2 Changing the Number of Reserved Instances

Function

This API is used to change the number of reserved instances.

URI

PUT /v2/{project_id}/fgs/functions/{function_urn}/reservedinstances

Table 5-442 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-443 Request header parameters

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

Table 5-444 Request body parameters

Parameter	Mandatory	Type	Description
count	Yes	Integer	Number of reserved instances.
idle_mode	No	Boolean	Whether to enable the idle mode.
tactics_config	No	**TacticsConfig** object	

Table 5-445 TacticsConfig

Parameter	Mandatory	Type	Description
cron_configs	No	Array of **CronConfig** objects	Scheduled configuration list.
metric_configs	No	Array of **MetricConfig** objects	Flow control configuration list.

Table 5-446 CronConfig

Parameter	Mandatory	Type	Description
name	No	String	Scheduled configuration name.
cron	No	String	Cron expression.
count	No	Integer	Number of started reserved instances.

Parameter	Mandatory	Type	Description
start_time	No	Long	Start time.
expired_time	No	Long	Expiry time.

Table 5-447 MetricConfig

Parameter	Mandatory	Type	Description
name	No	String	Flow control configuration name.
type	No	String	Flow control type.
threshold	No	Integer	Flow control threshold.
min	No	Integer	Minimum value.

Response Parameters

Status code: 200

Table 5-448 Response body parameters

Parameter	Type	Description
count	Integer	Number of reserved instances.
idle_mode	Boolean	Whether to enable idle mode.
tactics_config	**TacticsConfig** object	

Table 5-449 TacticsConfig

Parameter	Type	Description
cron_configs	Array of **CronConfig** objects	Scheduled configuration list.
metric_configs	Array of **MetricConfig** objects	Flow control configuration list.

Table 5-450 CronConfig

Parameter	Type	Description
name	String	Scheduled configuration name.
cron	String	Cron expression.
count	Integer	Number of started reserved instances.
start_time	Long	Start time.
expired_time	Long	Expiry time.

Table 5-451 MetricConfig

Parameter	Type	Description
name	String	Flow control configuration name.
type	String	Flow control type.
threshold	Integer	Flow control threshold.
min	Integer	Minimum value.

Status code: 400

Table 5-452 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-453 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-454 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-455 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-456 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update the number of reserved instances.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/reservedinstances

{
  "count" : 3
}
```

Example Responses

Status code: 200

OK

```
{
  "count" : 2
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.10.3 Querying the Number of Reserved Instances

Function

This API is used to query the number of instances reserved for a function.

URI

GET /v2/{project_id}/fgs/functions/reservedinstances

Table 5-457 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Table 5-458 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	Final record queried last time. Default: **0**

Parameter	Mandatory	Type	Description
limit	No	String	Maximum number of functions to obtain in a request. Maximum value: 400 The default value is 400, which is used when this parameter is not specified or is 0 or greater than 400. If it is less than 0, an error is reported. Default: **400**
urn	No	String	URN of a function whose number of reserved instances is to be queried.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-459 Response body parameters

Parameter	Type	Description
reservedinstances	Array of **FuncReservedInstance** objects	Reserved instances.
page_info	**PageInfo** object	
count	Long	Number of functions.

Table 5-460 FuncReservedInstance

Parameter	Type	Description
func_urn	String	Function URN.
count	Long	Number of reserved instances.

Table 5-461 PageInfo

Parameter	Type	Description
next_marker	Long	Next read location.
previous_mar ker	Long	Previous read location.
current_count	Long	Number of items on the current page.

Status code: 400

Table 5-462 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-463 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-464 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-465 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-466 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query reserved instances.

GET https://{Endpoint}/v2/{project_id}/fgs/functions/reservedinstances

Example Responses

Status code: 200

OK

```
{
  "reservedinstances" : [ {
    "func_urn" : "urn:fss:xxxxx:46b6f338fc3445b8846c71dfb1fbxxxx:function:csharp:test2-0:latest",
    "count" : 2
  } ],
  "page_info" : {
    "next_marker" : 2,
    "previous_marker" : 0,
    "current_count" : 2
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.

Status Code	Description
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.11 Function Import and Export

5.11.1 Exporting a Function

Function

This API is used to export a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/export

Table 5-467 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Table 5-468 Query Parameters

Parameter	Mandatory	Type	Description
config	No	Boolean	Whether to export function configuration. The default value is false. Default: **false**
code	No	Boolean	Whether to export function code. The default value is false. Default: **false**

Parameter	Mandatory	Type	Description
type	No	String	This parameter cannot be used with code or config. type=code indicates exporting the code, and type=config indicates exporting the configuration.

Request Parameters

Table 5-469 Request header parameters

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

Response Parameters

Status code: 404

Table 5-470 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-471 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

- Export function code only.

  GET /v2/{project_id}/fgs/functions/{func_urn}/export?type=code

- Export both function code and configuration.

  GET /v2/{project_id}/fgs/functions/{func_urn}/export?code=true&config=true

Example Responses

Status code: 404

Not found.

```
{
  "error_code" : "FSS.1051",
  "error_msg" : "Not found the function"
}
```

Status Codes

Status Code	Description
200	ok
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.11.2 Importing a Function

Function

This API is used to import a function.

URI

POST /v2/{project_id}/fgs/functions/import

Table 5-472 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.

Request Parameters

Table 5-473 Request body parameters

Parameter	Mandatory	Type	Description
func_name	Yes	String	Function name.
file_name	Yes	String	File name.
file_type	Yes	String	File type.
file_code	Yes	String	Function code. The code must be encoded using Base64.
package	No	String	App name. The default value is default.

Response Parameters

Status code: 200

Table 5-474 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN.
func_name	String	Function name.
domain_id	String	Domain ID.
namespace	String	Project ID.
project_name	String	Project name.
package	String	Group to which the function belongs. This field is defined to group functions.

Parameter	Type	Description
runtime	String	Environment in which a FunctionGraph function is executed. Options: ● Python 2.7 ● Python 3.6 ● Python 3.9 ● Go 1.8 ● Go 1.x ● Java 8 ● Java 11 ● Node.js 6.10 ● Node.js 8.10 ● Node.js 10.16 ● Node.js 12.13 ● Node.js 14.18 ● C# (.NET Core 2.0) ● C# (.NET Core 2.1) ● C# (.NET Core 3.1) ● Custom ● PHP 7.3 ● HTTP Enumeration values: ● **Java8** ● **Java11** ● **Node.js6.10** ● **Node.js8.10** ● **Node.js10.16** ● **Node.js12.13** ● **Node.js14.18** ● **Python2.7** ● **Python3.6** ● **Go1.8** ● **Go1.x** ● **C#(.NET Core 2.0)** ● **C#(.NET Core 2.1)** ● **C#(.NET Core 3.1)** ● **Custom** ● **PHP7.3** ● **Python3.9** ● **http**

Parameter	Type	Description
timeout	Integer	Maximum duration the function can be executed. Value range: 3s–900s. The value can be up to 12 hours for whitelisted users. For details, contact FunctionGraph personnel.
handler	String	Handler of a function in the format of "xx.xx". It must contain a period (.). For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.
memory_size	Integer	Memory consumed by a function. Unit: MB. The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096. The value ranges from 128 to 4096.
gpu_memory	Integer	GPU memory. This parameter is available only for functions created with a custom runtime or image. Unit: MB. Options: 1024, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10,240, 11,264, 12,288, 13,312, 14,336, 15,360, and 16,384. Range: 1024 to 16,384.
cpu	Integer	CPU resources of a function. Unit: millicore (1 core = 1000 millicores). The value of this field is proportional to that of MemorySize. By default, 100 CPU millicores are required for 128 MB memory. The value is calculated as follows: Memory/128 x 100 + 200 (basic CPU millicores)
code_type	String	Function code type. Options: ● inline: inline code. ● zip: ZIP file. ● obs: function code stored in an OBS bucket. ● jar: JAR file, for Java functions. Enumeration values: ● **inline** ● **zip** ● **obs** ● **jar**

Parameter	Type	Description
code_url	String	If CodeType is set to obs, enter the OBS URL of the function code package. If CodeType is not set to obs, leave this parameter blank.
code_filename e	String	Name of a function file. This parameter is mandatory only when CodeType is set to jar or zip.
code_size	Long	Code size in bytes.
user_data	String	Name/Value information defined for the function. These are parameters used in the function. For example, if a function needs to access a host, define Host={host_ip}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.
digest	String	SHA512 hash value of function code, which is used to determine whether the function has changed.
version	String	Function version, which is automatically generated by the system. The version name is in the format of "vYYYYMMDD-HHMMSS" (v +year/month/day-hour/minute/second).
image_name	String	Internal identifier of a function version.
xrole	String	Agency used by the function. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
app_xrole	String	Agency used by the function app. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services.
description	String	Function description.
version_description ption	String	Version description.
last_modified	String	Time when the function was last updated.
func_vpc	**FuncVpc** object	VPC configuration.
depend_list	Array of strings	Dependency IDs.
depend_version n_list	Array of strings	Dependency versions.

Parameter	Type	Description
strategy_config	**StrategyConfig** object	Function policy configuration.
extend_config	String	Extended configuration.
initializer_handler	String	Initializer of the function. It is in the format of "xx.xx" and must contain a period (.). For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer.
initializer_timeout	Integer	Maximum duration the function can be initialized. Value range: 1s–300s.
enterprise_project_id	String	Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.

Table 5-475 FuncVpc

Parameter	Type	Description
vpc_name	String	VPC name.
vpc_id	String	VPC ID.
subnet_name	String	Subnet name.
subnet_id	String	Subnet ID.
cidr	String	Subnet mask.
gateway	String	Gateway.
security_groups	Array of strings	Security group.

Table 5-476 StrategyConfig

Parameter	Type	Description
concurrency	Integer	Maximum number of instances for a single function. For v1, the value can be 0 or –1; for v2, it ranges from –1 to 1000. ● -1: The function has unlimited instances. ● 0: The function is disabled.

Parameter	Type	Description
concurrent_num	Integer	Maximum number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from –1 to 1000.

Status code: 409

Table 5-477 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-478 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Import a function.

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions/import

{
  "func_name" : "test",
  "file_name" : "test.zip",
  "file_type" : "zip",
  "file_code" : "xxxxxxxxxxxxxxxxxxxx"
}
```

Example Responses

Status code: 200

ok

```
{
  "func_urn" : "urn:fss:{region}:46b6f338fc3445b8846c71dfb1fbd9e8:function:default:test_v1_2",
  "func_name" : "test_v1_2",
  "domain_id" : "14ee2e35****a7998b******aa24cabf",
  "namespace" : "46b6f338fc3445b8846c71dfb1fbd9e8",
  "project_name" : "{region}",
  "package" : "default",
  "runtime" : "Node.js6.10",
```

```
  "timeout" : 3,
  "handler" : "index.handler",
  "memory_size" : 128,
  "cpu" : 300,
  "code_type" : "zip",
  "code_filename" : "index.zip",
  "code_size" : 6709,
  "digest" :
"faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9
af322c55dabeb16565c386e402413458e6068",
  "version" : "latest",
  "image_name" : "latest-191025153727@zehht",
  "last_modified" : "2019-10-25 15:37:27",
  "strategy_config" : {
    "concurrency" : -1
  },
  "enterprise_project_id" : "46b6f338fc3445b8846c71dfb1fbxxxx"
}
```

Status code: 409

Conflict

```
{
  "error_code" : "FSS.1061",
  "error_msg" : "The function has existed"
}
```

Status Codes

Status Code	Description
200	ok
409	Conflict
500	Internal server error.

Error Codes

See **Error Codes**.

5.12 Function Triggers

5.12.1 Deleting All Triggers of a Function

Function

This API is used to delete all triggers of a function.

If a non-latest function version is specified, all triggers corresponding to the version will be deleted.

If an alias is specified, all triggers corresponding to the alias will be deleted.

If neither function versions nor aliases are specified or the latest version is specified, all triggers of the function (including all versions and aliases) will be deleted.

URI

DELETE /v2/{project_id}/fgs/triggers/{function_urn}

Table 5-479 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-480 Request header parameters

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

Response Parameters

Status code: 400

Table 5-481 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-482 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-483 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-484 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-485 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete all triggers of a function.

```
DELETE https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.12.2 Querying All Triggers of a Function

Function

This API is used to query all triggers of a function.

URI

GET /v2/{project_id}/fgs/triggers/{function_urn}

Table 5-486 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-487 Request header parameters

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

Response Parameters

Status code: 200

Table 5-488 Response body parameters

Parameter	Type	Description
[items]	Array of **ListFunctionTriggerResult** objects	

Table 5-489 ListFunctionTriggerResult

Parameter	Type	Description
trigger_id	String	Trigger ID.

Parameter	Type	Description
trigger_type_c ode	String	Trigger type. ● TIMER ● APIG ● CTS ● DDS ● DMS ● DIS ● LTS ● OBS ● SMN ● KAFKA Enumeration values: ● **TIMER** ● **APIG** ● **CTS** ● **DDS** ● **DMS** ● **DIS** ● **LTS** ● **OBS** ● **SMN** ● **KAFKA** ● **RABBITMQ** ● **DEDICATEDGATEWAY** ● **OPENSOURCEKAFKA** ● **APIC** ● **GAUSSMONGO** ● **EVENTGRID** ● **IOTDA**
trigger_status	String	Trigger status. ● ACTIVE: The trigger is enabled. ● DISABLED: The trigger is disabled. Enumeration values: ● **ACTIVE** ● **DISABLED**
event_data	Object	Trigger source event.
last_updated_ time	String	Latest update time.

Parameter	Type	Description
created_time	String	Time when the trigger was created.

Status code: 400

Table 5-490 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-491 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-492 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-493 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-494 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query all triggers of a function.

```
GET https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}
```

Example Responses

Status code: 200

OK

```
[ {
  "trigger_id" : "1b3b264db3b849118d007884b9bc8a60",
  "trigger_type_code" : "APIG",
  "trigger_status" : "ACTIVE",
  "event_data" : {
    "api_id" : "4a59f6a7263c4d1dab3f69c34f98d949",
    "api_name" : "API_test_triggers",
    "auth" : "IAM",
    "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
    "env_name" : "RELEASE",
    "func_info" : {
      "function_urn" : "urn:fss:xxxxx:46b6f338fc3445b8846c71dfb1fbxxxx:function:default:test_triggers",
      "invocation_type" : "sync",
      "timeout" : 5000,
      "version" : "latest"
    },
    "group_id" : "9205f83fe721481eb490870d380cf31d",
    "group_name" : "APIGroup_2mbe",
    "invoke_url" : "https://ed94ae9494ba4f70ac24224747202140.{apig_endpoint}/test_triggers",
    "match_mode" : "SWA",
    "name" : "API_test_triggers",
    "path" : "/test_triggers",
    "protocol" : "HTTPS",
    "req_method" : "ANY",
    "trigger_id" : "1b3b264db3b849118d007884b9bc8a60",
    "type" : 1
  },
  "last_updated_time" : "2022-11-09 16:37:24",
  "created_time" : "2022-11-09 16:37:24"
} ]
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.

Status Code	Description
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.12.3 Creating a Trigger

Function

This API is used to create a trigger.

- Trigger types include timer, APIG, CTS, DDS, DMS, DIS, LTS, OBS, SMN, and Kafka.
- By default, DDS and Kafka triggers are in the DISABLED state, and other triggers are in the ACTIVE state.
- – Only timer, DDS, DMS, Kafka, and LTS triggers can be disabled.

URI

POST /v2/{project_id}/fgs/triggers/{function_urn}

Table 5-495 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-496 Request header parameters

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

Table 5-497 Request body parameters

Parameter	Mandatory	Type	Description
trigger_type_c ode	Yes	String	Trigger type. ● TIMER ● APIG ● CTS: Enable CTS first. ● DDS: Configure a VPC for the function first. ● DMS: Configure a DMS agency first. ● DIS: Configure a DIS agency first. ● LTS: Configure an LTS agency first. ● OBS ● KAFKA Enumeration values: ● **TIMER** ● **APIG** ● **CTS** ● **DDS** ● **DMS** ● **DIS** ● **LTS** ● **OBS** ● **SMN** ● **KAFKA** ● **RABBITMQ** ● **DEDICATEDGATEWAY** ● **OPENSOURCEKAFKA** ● **APIC** ● **GAUSSMONGO** ● **EVENTGRID** ● **IOTDA**
trigger_status	No	String	Trigger status. Options: ACTIVE and DISABLED. Enumeration values: ● **ACTIVE** ● **DISABLED**

Parameter	Mandatory	Type	Description
event_type_co de	No	String	Message code.
event_data	Yes	Object	Event struct.

Response Parameters

Status code: 201

Table 5-498 Response body parameters

Parameter	Type	Description
trigger_id	String	Trigger ID.

Parameter	Type	Description
trigger_type_c ode	String	Trigger type. ● TIMER ● APIG ● CTS ● DDS ● DMS ● DIS ● LTS ● OBS ● SMN ● KAFKA Enumeration values: ● **TIMER** ● **APIG** ● **CTS** ● **DDS** ● **DMS** ● **DIS** ● **LTS** ● **OBS** ● **SMN** ● **KAFKA** ● **RABBITMQ** ● **DEDICATEDGATEWAY** ● **OPENSOURCEKAFKA** ● **APIC** ● **GAUSSMONGO** ● **EVENTGRID** ● **IOTDA**
trigger_status	String	Trigger status. ● ACTIVE: The trigger is enabled. ● DISABLED: The trigger is disabled. Enumeration values: ● **ACTIVE** ● **DISABLED**
event_data	Object	Trigger source event.
last_updated_ time	String	Latest update time.

Parameter	Type	Description
created_time	String	Time when the trigger was created.

Status code: 400

Table 5-499 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-500 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-501 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-502 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-503 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

- Create an OBS trigger.

  POST https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}

  ```
  {
    "trigger_type_code" : "OBS",
    "trigger_status" : "ACTIVE",
    "event_data" : {
      "bucket" : "input-picture2",
      "events" : [ "s3:ObjectCreated:*" ],
      "name" : "obs-event-1ec7"
    }
  }
  ```

- Create an APIG trigger.

  POST https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}

  ```
  {
    "trigger_type_code" : "APIG",
    "trigger_status" : "ACTIVE",
    "event_data" : {
      "func_info" : {
        "timeout" : 5000
      },
      "name" : "API_test_gxz_v1_billing",
      "env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
      "env_name" : "RELEASE",
      "protocol" : "HTTPS",
      "auth" : "NONE",
      "group_id" : "318b09eb214a41488c667ecd51667e3x",
      "sl_domain" : "318b09eb214a41488c667ecd51667e3x.apig.{region}.huaweicloudapis.com",
      "match_mode" : "SWA",
      "req_method" : "ANY",
      "backend_type" : "FUNCTION",
      "type" : 1,
      "path" : "/test_gxz_v1_billing"
    }
  }
  ```

- Create a Kafka trigger.

  POST https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}

  ```
  {
    "trigger_type_code" : "KAFKA",
    "trigger_status" : "DISABLED",
    "event_data" : {
      "instance_id" : "86ad3efc-c019-460e-91e7-317b1a89f95x",
      "topic_ids" : [ "PUSH_TOKEN_RECORD" ],
      "batch_size" : 100
    }
  }
  ```

- Create a timer trigger.

  POST https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}

  ```
  {
  ```

```
    "trigger_type_code" : "TIMER",
    "trigger_status" : "ACTIVE",
    "event_data" : {
      "name" : "Timer-l8v2",
      "schedule" : "3m",
      "schedule_type" : "Rate"
    }
  }
```

● Create an LTS trigger. (An agency with LTS permissions is required.)

POST https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}

```
{
  "trigger_type_code" : "LTS",
  "trigger_status" : "ACTIVE",
  "event_data" : {
    "log_group_id" : "ccd3fa30-7c86-4590-8a9d-XXX",
    "log_group_name" : "function_flow_lts_group_XXX",
    "log_topic_id" : "5b4944dd-9603-481d-9b91-XXX",
    "log_topic_name" : "79eebdc0-3a0d-4231-b88e-XXX"
  }
}
```

● Create an SMN trigger.

POST https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}

```
{
  "trigger_type_code" : "SMN",
  "trigger_status" : "ACTIVE",
  "event_data" : {
    "topic_urn" : "urn:smn:{region}:{project_id}:Failed_times"
  }
}
```

Example Responses

Status code: 201

Created

```
{
  "trigger_id" : "9a14fae1-78cf-4185-ac7a-429eb6dc41fb",
  "trigger_type_code" : "TIMER",
  "trigger_status" : "ACTIVE",
  "event_data" : {
    "name" : "Timer-cpg3",
    "schedule" : "3m",
    "schedule_type" : "Rate"
  },
  "last_updated_time" : "2022-11-09 16:37:24",
  "created_time" : "2022-11-09 16:37:24"
}
```

Status Codes

Status Code	Description
201	Created
400	Bad request.
401	Unauthorized.
403	Forbidden.

Status Code	Description
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.12.4 Deleting a Trigger

Function

This API is used to delete a trigger.

URI

DELETE /v2/{project_id}/fgs/triggers/{function_urn}/{trigger_type_code}/{trigger_id}

Table 5-504 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Parameter	Mandatory	Type	Description
trigger_type_c ode	Yes	String	Trigger type code. Enumeration values: • **TIMER** • **APIG** • **CTS** • **DDS** • **DMS** • **DIS** • **LTS** • **OBS** • **SMN** • **KAFKA** • **RABBITMQ** • **DEDICATEDGATEWAY** • **OPENSOURCEKAFKA** • **APIC** • **GAUSSMONGO** • **EVENTGRID** • **IOTDA**
trigger_id	Yes	String	Trigger ID.

Request Parameters

Table 5-505 Request header parameters

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

Response Parameters

Status code: 400

Table 5-506 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-507 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-508 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-509 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-510 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete a trigger.

DELETE https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}/{trigger_type_code}/{trigger_id}

Example Responses

None

Status Codes

Status Code	Description
204	No Content
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.12.5 Querying a Trigger

Function

This API is used to query a specified trigger.

URI

GET /v2/{project_id}/fgs/triggers/{function_urn}/{trigger_type_code}/{trigger_id}

Table 5-511 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Parameter	Mandatory	Type	Description
trigger_type_c ode	Yes	String	Trigger type code. Enumeration values: • **TIMER** • **APIG** • **CTS** • **DDS** • **DMS** • **DIS** • **LTS** • **OBS** • **SMN** • **KAFKA** • **RABBITMQ** • **DEDICATEDGATEWAY** • **OPENSOURCEKAFKA** • **APIC** • **GAUSSMONGO** • **EVENTGRID** • **IOTDA**
trigger_id	Yes	String	Trigger ID.

Request Parameters

Table 5-512 Request header parameters

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

Response Parameters

Status code: 200

Table 5-513 Response body parameters

Parameter	Type	Description
trigger_id	String	Trigger ID.
trigger_type_c ode	String	Trigger type. ● TIMER ● APIG ● CTS ● DDS ● DMS ● DIS ● LTS ● OBS ● SMN ● KAFKA Enumeration values: ● **TIMER** ● **APIG** ● **CTS** ● **DDS** ● **DMS** ● **DIS** ● **LTS** ● **OBS** ● **SMN** ● **KAFKA** ● **RABBITMQ** ● **DEDICATEDGATEWAY** ● **OPENSOURCEKAFKA** ● **APIC** ● **GAUSSMONGO** ● **EVENTGRID** ● **IOTDA**
trigger_status	String	Trigger status. ● ACTIVE: The trigger is enabled. ● DISABLED: The trigger is disabled. Enumeration values: ● **ACTIVE** ● **DISABLED**
event_data	Object	Trigger source event.

Parameter	Type	Description
last_updated_time	String	Latest update time.
created_time	String	Time when the trigger was created.

Status code: 400

Table 5-514 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-515 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-516 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-517 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-518 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query a trigger.

```
GET https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}/{trigger_type_code}/{trigger_id}
```

Example Responses

Status code: 200

OK

```
{
  "trigger_id" : "9a14fae1-78cf-4185-ac7a-429eb6dc41fb",
  "trigger_type_code" : "TIMER",
  "trigger_status" : "ACTIVE",
  "event_data" : {
    "name" : "Timer-cpg3",
    "schedule" : "3m",
    "schedule_type" : "Rate"
  },
  "last_updated_time" : "2022-11-09 16:37:24",
  "created_time" : "2019-10-29171553"
}
```

Status Codes

Status Code	Description
200	OK
400	Bad request.
401	Unauthorized.
403	Forbidden.
404	Not found.
500	Internal server error.

Error Codes

See **Error Codes**.

5.12.6 Updating a Trigger

Function

This API is used to update a trigger.

URI

PUT /v2/{project_id}/fgs/triggers/{function_urn}/{trigger_type_code}/{trigger_id}

Table 5-519 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.
trigger_type_c ode	Yes	String	Trigger type code. Enumeration values: ● **TIMER** ● **APIG** ● **CTS** ● **DDS** ● **DMS** ● **DIS** ● **LTS** ● **OBS** ● **SMN** ● **KAFKA** ● **RABBITMQ** ● **DEDICATEDGATEWAY** ● **OPENSOURCEKAFKA** ● **APIC** ● **GAUSSMONGO** ● **EVENTGRID** ● **IOTDA**
trigger_id	Yes	String	Trigger ID.

Request Parameters

Table 5-520 Request header parameters

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

Table 5-521 Request body parameters

Parameter	Mandatory	Type	Description
trigger_status	No	String	Trigger status. Enumeration values: ● **ACTIVE** ● **DISABLED**
event_data	No	Array of **TriggerEvent Data** objects	Trigger update event.

Table 5-522 TriggerEventData

Parameter	Mandatory	Type	Description
is_serial	No	Boolean	Serial data processing.
max_fetch_bytes	No	Integer	Max. bytes.
polling_interval	No	Integer	Pull period.
polling_unit	No	String	Pull period unit. Enumeration values: ● **ms** ● **s**

Response Parameters

Status code: 200

Table 5-523 Response body parameters

Parameter	Type	Description
trigger_id	String	Trigger ID.
trigger_type_c ode	String	Trigger type. ● TIMER ● APIG ● CTS ● DDS ● DMS ● DIS ● LTS ● OBS ● SMN ● KAFKA Enumeration values: ● **TIMER** ● **APIG** ● **CTS** ● **DDS** ● **DMS** ● **DIS** ● **LTS** ● **OBS** ● **SMN** ● **KAFKA** ● **RABBITMQ** ● **DEDICATEDGATEWAY** ● **OPENSOURCEKAFKA** ● **APIC** ● **GAUSSMONGO** ● **EVENTGRID** ● **IOTDA**
trigger_status	String	Trigger status. ● ACTIVE: The trigger is enabled. ● DISABLED: The trigger is disabled. Enumeration values: ● **ACTIVE** ● **DISABLED**
event_data	Object	Trigger source event.

Parameter	Type	Description
last_updated_time	String	Latest update time.
created_time	String	Time when the trigger was created.

Status code: 404

Table 5-524 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Update a trigger.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/triggers/{function_urn}/{trigger_type_code}/{trigger_id}

{
  "trigger_status" : "ACTIVE"
}
```

Example Responses

Status code: 200

OK

```
{
  "trigger_id" : "9a14fae1-78cf-4185-ac7a-429eb6dc41fb",
  "trigger_type_code" : "TIMER",
  "trigger_status" : "ACTIVE",
  "event_data" : {
    "name" : "Timer-cpg3",
    "schedule" : "3m",
    "schedule_type" : "Rate"
  },
  "last_updated_time" : "2022-11-09 16:37:24",
  "created_time" : "2019-10-29171553"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "FSS.0404",
  "error_msg" : "not found"
}
```

Status Codes

Status Code	Description
200	OK
404	Not Found

Error Codes

See **Error Codes**.

5.13 Asynchronous Execution Notification

5.13.1 Querying Asynchronous Execution Notification Settings of a Function Version

Function

This API is used to query the asynchronous invocation setting of a function version.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/async-invoke-config

Table 5-525 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-526 Request header parameters

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

Response Parameters

Status code: 200

Table 5-527 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN. Minimum: **1** Maximum: **269**
max_async_event_age_in_seconds	Integer	Maximum validity period of a message. Value range: 60–86,400. Unit: second.
max_async_retry_attempts	Integer	Maximum number of retry attempts to be made if asynchronous invocation fails. Default value: 3. Value range: 0–8.
destination_config	**FuncAsyncDestinationConfig** object	Asynchronous invocation target.
created_time	String	Time when asynchronous execution notification was configured.
last_modified	String	Time when the asynchronous execution notification settings were last modified.
enable_async_status_log	Boolean	Whether to enable asynchronous invocation status persistence.

Table 5-528 FuncAsyncDestinationConfig

Parameter	Type	Description
on_success	**FuncDestinationConfig** object	Target to be invoked when a function is successfully executed.
on_failure	**FuncDestinationConfig** object	Target to be invoked when a function fails to be executed due to a system error or an internal error.

Table 5-529 FuncDestinationConfig

Parameter	Type	Description
destination	String	Object type. ● OBS ● SMN ● DIS ● FunctionGraph Enumeration values: ● **OBS** ● **SMN** ● **DIS** ● **FunctionGraph**
param	String	Parameters (in JSON format) corresponding to the target service. ● OBS: Parameters related to the bucket name, object directory prefix, and object expiration time are included. The object expiration time ranges from 0 to 365 days. If the value is 0, the object will not expire. ● SMN: The topic_urn parameter is included. ● DIS: The stream_name parameter is included. ● FunctionGraph: The func_urn parameter is included.

Status code: 404

Table 5-530 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query the asynchronous execution notification settings of a function version.

GET /v2/{project_id}/fgs/functions/{function_urn}/async-invoke-config

Example Responses

Status code: 200

Ok

```
{
  "func_urn" : "urn:fss:xxxxxxxxxx:7aad83af3e8d42e99ac194xxxxxxxxxx:function:default:test:latest",
  "max_async_event_age_in_seconds" : 60,
  "max_async_retry_attempts" : 1,
  "destination_config" : {
    "on_success" : {
      "destination" : "FunctionGraph",
      "param" : "{\"func_urn\":\"urn:fss:{region}:
5691ba790e2b46ceb38316xxxxxxxxxx:function:default:testPython:latest\"}"
    },
    "on_failure" : {
      "destination" : "FunctionGraph",
      "param" : "{\"func_urn\":\"urn:fss:{region}:
5691ba790e2b46ceb38316xxxxxxxxxx:function:default:testPython:latest\"}"
    }
  },
  "created_time" : "2021-03-04T14:50:02+08:00",
  "last_modified" : "2021-03-04 14:50:02"
}
```

Status Codes

Status Code	Description
200	Ok
404	Not Found

Error Codes

See **Error Codes**.

5.13.2 Deleting Asynchronous Execution Notification Settings

Function

This API is used to delete the asynchronous execution notification settings of a function.

URI

DELETE /v2/{project_id}/fgs/functions/{function_urn}/async-invoke-config

Table 5-531 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-532 Request header parameters

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

Response Parameters

Status code: 404

Table 5-533 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete the asynchronous execution notification settings of a function.

DELETE /v2/{project_id}/fgs/functions/{function_urn}/async-invoke-config

Example Responses

None

Status Codes

Status Code	Description
204	No Content
404	Not Found

Error Codes

See **Error Codes**.

5.13.3 Configuring Asynchronous Execution Notification

Function

This API is used to configure asynchronous execution notification for a function.

URI

PUT /v2/{project_id}/fgs/functions/{function_urn}/async-invoke-config

Table 5-534 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-535 Request header parameters

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

Table 5-536 Request body parameters

Parameter	Mandatory	Type	Description
max_async_event_age_in_seconds	No	Integer	Maximum validity period of a message. Value range: 1s to 86,400s. Default value: 3600s. Minimum: **1** Maximum: **86400**
max_async_retry_attempts	No	Integer	Maximum number of retry attempts to be made if asynchronous invocation fails. Default value: 1. Value range: 0–3. Minimum: **0** Maximum: **3**
destination_config	No	**FuncAsyncDestinationConfig** object	Asynchronous invocation target.
enable_async_status_log	No	Boolean	Whether to enable asynchronous invocation status persistence.

Table 5-537 FuncAsyncDestinationConfig

Parameter	Mandatory	Type	Description
on_success	No	**FuncDestinationConfig** object	Target to be invoked when a function is successfully executed.

Parameter	Mandatory	Type	Description
on_failure	No	**FuncDestinationConfig** object	Target to be invoked when a function fails to be executed due to a system error or an internal error.

Table 5-538 FuncDestinationConfig

Parameter	Mandatory	Type	Description
destination	No	String	Object type. ● OBS ● SMN ● DIS ● FunctionGraph Enumeration values: ● **OBS** ● **SMN** ● **DIS** ● **FunctionGraph**
param	No	String	Parameters (in JSON format) corresponding to the target service. ● OBS: Parameters related to the bucket name, object directory prefix, and object expiration time are included. The object expiration time ranges from 0 to 365 days. If the value is 0, the object will not expire. ● SMN: The topic_urn parameter is included. ● DIS: The stream_name parameter is included. ● FunctionGraph: The func_urn parameter is included.

Response Parameters

Status code: 200

Table 5-539 Response body parameters

Parameter	Type	Description
func_urn	String	Function URN. Minimum: **1** Maximum: **269**
max_async_ev ent_age_in_se conds	Integer	Maximum validity period of a message. Value range: 60–86,400. Unit: second.
max_async_re try_attempts	Integer	Maximum number of retry attempts to be made if asynchronous invocation fails. Default value: 3. Value range: 0–8.
destination_c onfig	**FuncAsyncDe stinationConf ig** object	Asynchronous invocation target.
created_time	String	Time when asynchronous execution notification was configured.
last_modified	String	Time when the asynchronous execution notification settings were last modified.
enable_async_ status_log	Boolean	Whether to enable asynchronous invocation status persistence.

Table 5-540 FuncAsyncDestinationConfig

Parameter	Type	Description
on_success	**FuncDestinat ionConfig** object	Target to be invoked when a function is successfully executed.
on_failure	**FuncDestinat ionConfig** object	Target to be invoked when a function fails to be executed due to a system error or an internal error.

Table 5-541 FuncDestinationConfig

Parameter	Type	Description
destination	String	Object type. ● OBS ● SMN ● DIS ● FunctionGraph Enumeration values: ● **OBS** ● **SMN** ● **DIS** ● **FunctionGraph**
param	String	Parameters (in JSON format) corresponding to the target service. ● OBS: Parameters related to the bucket name, object directory prefix, and object expiration time are included. The object expiration time ranges from 0 to 365 days. If the value is 0, the object will not expire. ● SMN: The topic_urn parameter is included. ● DIS: The stream_name parameter is included. ● FunctionGraph: The func_urn parameter is included.

Status code: 400

Table 5-542 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-543 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Example Requests

Configure asynchronous execution notification for a function.

```
PUT /v2/{project_id}/fgs/functions/{function_urn}/async-invoke-config

{
  "max_async_event_age_in_seconds" : 10,
  "max_async_retry_attempts" : 3,
  "enable_async_status_log" : true
}
```

Example Responses

Status code: 200

Ok

```
{
  "func_urn" : "urn:fss:xxxxxxxxx:7aad83af3e8d42e99ac194xxxxxxxxxx:function:default:test:latest",
  "max_async_event_age_in_seconds" : 60,
  "max_async_retry_attempts" : 1,
  "destination_config" : {
    "on_success" : {
      "destination" : "FunctionGraph",
      "param" : "{\"func_urn\":\"urn:fss:{region}:
5691ba790e2b46ceb38316xxxxxxxxxx:function:default:testPython:latest\"}"
    },
    "on_failure" : {
      "destination" : "FunctionGraph",
      "param" : "{\"func_urn\":\"urn:fss:{region}:
5691ba790e2b46ceb38316xxxxxxxxxx:function:default:testPython:latest\"}"
    }
  },
  "created_time" : "2021-03-04T14:50:02+08:00",
  "last_modified" : "2021-03-04 14:50:02"
}
```

Status Codes

Status Code	Description
200	Ok
400	Bad Request
404	Not Found

Error Codes

See **Error Codes**.

5.13.4 Querying Asynchronous Execution Notification Settings of a Function's All Versions

Function

This API is used to query the asynchronous execution notification settings of a function's all versions.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/async-invoke-configs

Table 5-544 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Table 5-545 Query Parameters

Parameter	Mandatory	Type	Description
marker	No	String	Final record queried last time. Maximum: **64**
limit	No	String	Number of items displayed on each page. • If this parameter is not specified or is set to 0, the default value 10 is used. The maximum value is 100. If you set this parameter to a value greater than 100, the value automatically changes to 100. • If it is less than 0, an error is reported. Default: **10**

Request Parameters

Table 5-546 Request header parameters

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

Response Parameters

Status code: 200

Table 5-547 Response body parameters

Parameter	Type	Description
async_invoke_ configs	Array of **ListFunction AsyncInvoke ConfigResult** objects	Asynchronous execution notification settings.
count	Long	Total number of items. Minimum: **0**
page_info	**PageInfo** object	

Table 5-548 ListFunctionAsyncInvokeConfigResult

Parameter	Type	Description
func_urn	String	Function URN. Minimum: **1** Maximum: **269**
max_async_ev ent_age_in_se conds	Integer	Maximum validity period of a message. Value range: 60–86,400. Unit: second.
max_async_re try_attempts	Integer	Maximum number of retry attempts to be made if asynchronous invocation fails. Default value: 3. Value range: 0–8.

Parameter	Type	Description
destination_config	**FuncAsyncDestinationConfig** object	Asynchronous invocation target.
created_time	String	Time when asynchronous execution notification was configured.
last_modified	String	Time when the asynchronous execution notification settings were last modified.
enable_async_status_log	Boolean	Whether to enable asynchronous invocation status persistence.

Table 5-549 FuncAsyncDestinationConfig

Parameter	Type	Description
on_success	**FuncDestinationConfig** object	Target to be invoked when a function is successfully executed.
on_failure	**FuncDestinationConfig** object	Target to be invoked when a function fails to be executed due to a system error or an internal error.

Table 5-550 FuncDestinationConfig

Parameter	Type	Description
destination	String	Object type. ● OBS ● SMN ● DIS ● FunctionGraph Enumeration values: ● **OBS** ● **SMN** ● **DIS** ● **FunctionGraph**

Parameter	Type	Description
param	String	Parameters (in JSON format) corresponding to the target service. ● OBS: Parameters related to the bucket name, object directory prefix, and object expiration time are included. The object expiration time ranges from 0 to 365 days. If the value is 0, the object will not expire. ● SMN: The topic_urn parameter is included. ● DIS: The stream_name parameter is included. ● FunctionGraph: The func_urn parameter is included.

Table 5-551 PageInfo

Parameter	Type	Description
next_marker	Long	Next read location.
previous_mar ker	Long	Previous read location.
current_count	Long	Number of items on the current page.

Example Requests

Query the asynchronous execution notification settings of a function's all versions.

GET /v2/{project_id}/fgs/functions/{function_urn}/async-invoke-configs

Example Responses

Status code: 200

Ok

```
{
  "async_invoke_configs" : [ {
    "func_urn" : "urn:fss:{region}:5691ba790e2b46ceb38316xxxxxxxxxx:function:default:test_async:latest",
    "max_async_event_age_in_seconds" : 60,
    "max_async_retry_attempts" : 1,
    "destination_config" : {
      "on_success" : {
        "destination" : "FunctionGraph",
        "param" : "{\"func_urn\":\"urn:fss:{region}:
5691ba790e2b46ceb38316xxxxxxxxxx:function:default:testPython:latest\"}"
      },
      "on_failure" : {
        "destination" : "FunctionGraph",
        "param" : "{\"func_urn\":\"urn:fss:{region}:
5691ba790e2b46ceb38316xxxxxxxxxx:function:default:testPython:latest\"}"
      }
```

```
    },
    "created_time" : "2021-03-04T14:50:02+08:00",
    "last_modified" : "2021-03-04 14:50:02"
  } ],
  "count" : 2,
  "page_info" : {
    "next_marker" : 2,
    "previous_marker" : 0,
    "current_count" : 2
  }
}
```

Status Codes

Status Code	Description
200	Ok

Error Codes

See **Error Codes**.

5.13.5 Querying Asynchronous Invocation Requests

Function

This API is used to query the asynchronous invocation requests of a function.

URI

GET /v2/{project_id}/fgs/functions/{function_urn}/async-invocations

Table 5-552 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Table 5-553 Query Parameters

Parameter	Mandatory	Type	Description
request_id	No	String	ID of the asynchronous invocation request to be queried. If this parameter is not specified, all asynchronous invocation requests are queried by default. Minimum: **0** Maximum: **64**
marker	No	String	Start position of the current query. The default value is 0. Default: **0** Minimum: **0** Maximum: **64**
limit	No	String	Maximum number of data records returned in a request. Max.: 500. Default: 100. Default: **100** Minimum: **0** Maximum: **64**
status	No	String	Asynchronous invocation status to be queried. Five statuses are supported. If this parameter is not specified, the invocation records of all statuses are queried. ● WAIT ● RUNNING ● SUCCESS ● FAIL ● DISCARD Minimum: **0** Maximum: **64**
query_begin_t ime	No	String	Start time of the query. The format is "YYYY-MM-DD'T'HH:mm:ss" (UTC time). If this parameter is not specified, the time starts from the last hour by default.

Parameter	Mandatory	Type	Description
query_end_time	No	String	End time of the query. The format is "YYYY-MM-DD'T'HH:mm:ss" (UTC time). If this parameter is not specified, the end time is the current time by default.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-554 Response body parameters

Parameter	Type	Description
invocations	Array of **ListFunctionAsyncInvocationsResult** objects	Asynchronous invocation records.
count	Integer	Total number of queried data records.
next_marker	Integer	Start position for querying records on the next page.

Table 5-555 ListFunctionAsyncInvocationsResult

Parameter	Type	Description
request_id	String	Asynchronous invocation request ID.

Parameter	Type	Description
status	String	Asynchronous invocation status. Options: • WAIT • RUNNING • SUCCESS • FAIL • DISCARD Enumeration values: • **WAIT** • **RUNNING** • **SUCCESS** • **FAIL** • **DISCARD**
error_messag e	String	Asynchronous invocation error information. If the execution is successful, no value is returned.
error_code	Integer	Asynchronous invocation error code. If the execution is successful, 0 is returned.
start_time	String	Start time of the asynchronous invocation. The format is "YYYY-MM-DD'T'HH:mm:ss" (UTC time).
end_time	String	End time of the asynchronous invocation. The format is "YYYY-MM-DD'T'HH:mm:ss" (UTC time).

Status code: 403

Table 5-556 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-557 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 500

Table 5-558 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query asynchronous invocation requests of a function.

GET /v2/{project_id}/fgs/functions/{function_urn}/async-invocations

Example Responses

Status code: 200

OK

```
{
 "invocations" : [ {
   "request_id" : "403fcbd6-ec41-401f-9fa7-386f3d3d****",
   "status" : "SUCCESS",
   "error_message" : "",
   "start_time" : "2019-10-25T15:37:27",
   "end_time" : "2019-10-25T15:37:27",
   "error_code" : 0
 } ]
}
```

Status code: 403

FORBIDDEN

```
{
 "error_code" : "FSS.0403",
 "error_msg" : "invalid token"
}
```

Status code: 404

Not Found

```
{
 "error_code" : "FSS.0404",
 "error_msg" : "can not find function"
}
```

Status code: 500

Internal error.

```
{
  "error_code" : "FSS.0500",
  "error_msg" : "xxx"
}
```

Status Codes

Status Code	Description
200	OK
403	FORBIDDEN
404	Not Found
500	Internal error.

Error Codes

See **Error Codes**.

5.13.6 Stopping an Asynchronous Invocation Request

Function

This API is used to stop asynchronous invocation of a function with N concurrent instances. When calling this API, set recursive to false and force to true. The API will also stop the function's other concurrent requests and return "4208 function invocation canceled".

This API is only available in CN South-Guangzhou and CN Southwest-Guiyang1.

URI

POST /v2/{project_id}/fgs/functions/{function_urn}/cancel

Table 5-559 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details, see **Obtaining a Project ID**.
function_urn	Yes	String	Function URN. For details, see the function model description.

Request Parameters

Table 5-560 Request body parameters

Parameter	Mandatory	Type	Description
request_id	Yes	String	ID of a stopped request.
type	No	String	Stop mode. Options: ● recursive: The subfunction that is being invoked will be stopped. ● force: The runtime will be directly stopped. Enumeration values: ● **force** ● **recursive**

Response Parameters

Status code: 400

Table 5-561 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-562 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 404

Table 5-563 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 5-564 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Stop an asynchronous invocation request of a function.

```
POST /v2/{project_id}/fgs/functions/{function_urn}/cancel

{
  "request_id" : "xxxx"
}
```

Example Responses

Status code: 200

OK

```
null
```

Status code: 400

Invalid RequestId

```
{
  "error_code" : "FSS.0400",
  "error_msg" : "Invalid RequestId"
}
```

Status code: 403

FORBIDDEN

```
{
  "error_code" : "FSS.0403",
  "error_msg" : "invalid token"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "FSS.0404",
```

```
"error_msg" : "can not find function"
}
```

Status code: 500

Internal error.

```
{
  "error_code" : "FSS.0500",
  "error_msg" : "xxx"
}
```

Status Codes

Status Code	Description
200	OK
400	Invalid RequestId
403	FORBIDDEN
404	Not Found
500	Internal error.

Error Codes

See **Error Codes**.

6 **Appendix**

6.1 Status Codes

Table 6-1 describes the status codes.

Table 6-1 Status codes

Status Code	Message	Description
200	-	The request has succeeded.
204	-	The request has succeeded.
400	Bad Request	The server failed to process the request.
401	Unauthorized	The request requires user authentication.
403	Forbidden	The server understood the request, but is refusing to fulfill it.
404	Not Found	The server has not found anything matching the request URI.
405	Method Not Allowed	The method specified in the request line is not allowed for the resource identified by the request URI.
406	Not Acceptable	The response generated by the server cannot be accepted by the client.

Status Code	Message	Description
407	Proxy Authentication Required	The client must first authenticate itself with the proxy.
408	Request Timeout	The client did not produce a request within the time that the server was prepared to wait.
409	Conflict	The request could not be completed due to a conflict with the current state of the resource.
500	Internal Server Error	The server encountered an unexpected condition which prevented it from fulfilling the request.
501	Not Implemented	The server does not support the functionality required to fulfill the request.
502	Bad Gateway	The server, while acting as a gateway or proxy, received an invalid response from the upstream server it accessed in attempting to fulfill the request.
503	Service Unavailable	The server is currently unable to handle the request due to a temporary overloading or maintenance of the server.
504	Gateway Timeout	Gateway timed out.

6.2 Error Codes

Table 6-2 FunctionGraph error codes

Status Code	Error Code	Error Message	Description
400	FSS. 0400	Invalid parameter.	Invalid request parameters.

Status Code	Error Code	Error Message	Description
401	FSS. 0401	Unauthorized access.	Access denied.
403	FSS. 0403	Forbidden	Unauthorized operation.
404	FSS. 0404	The specified resource was not found.	The resource cannot be found.
406	FSS. 0406	Not acceptable.	Incorrect request format. For example, the request body may not be in the required JSON format.
408	FSS. 0408	Request timeout.	Request timed out.
409	FSS. 0409	The specified resource already exists.	The resource already exists.
410	FSS. 0410	The specified resource does not exist.	The specified resource does not exist.
413	FSS. 0413	The request body is too large.	The request body exceeds the maximum allowed limit.
424	FSS. 0424	Invalid dependency.	Invalid dependency.
426	FSS. 0426	An upgrade is required.	Unsupported operation. Perform an upgrade.
428	FSS. 0428	The preconditions have not been met.	The prerequisite has not been met. For example, you must delete related resources before deleting a resource.
429	FSS. 0429	Too many requests.	Too many concurrent requests. Please try again later.
500	FSS. 0500	Internal server error.	The service is temporarily abnormal due to an internal invocation error. Please try again later.

Status Code	Error Code	Error Message	Description
502	FSS. 0502	Bad gateway.	Gateway error.
503	FSS. 0503	Service unavailable.	Service unavailable.
504	FSS. 0504	Gateway timeout.	Gateway timed out.
400	FSS. 1001	Invalid query parameter.	Invalid query parameter.
400	FSS. 1002	Invalid function name.	Invalid function name.
400	FSS. 1003	Invalid function handler.	Invalid handler.
400	FSS. 1004	Invalid Package (function app).	Invalid function package.
400	FSS. 1005	Invalid runtime.	Invalid runtime.
400	FSS. 1006	Invalid function code entry mode.	Invalid code type.
400	FSS. 1007	Invalid function memory.	Invalid memory.
400	FSS. 1008	Invalid function timeout.	Invalid timeout.
400	FSS. 1009	Invalid function UserData.	Invalid environment variables.
400	FSS. 1010	Invalid URL.	Invalid URL.
400	FSS. 1011	Invalid function code.	Invalid function code.
400	FSS. 1012	The function code must be configured.	The function code cannot be left blank.
400	FSS. 1013	Invalid file type.	Invalid file type.
400	FSS. 1014	Invalid function alias.	Invalid alias.
400	FSS. 1015	Invalid function version.	Invalid version.

Status Code	Error Code	Error Message	Description
400	FSS. 1016	The function cannot be published because no changes have been made since last publication.	The function code cannot be published because it has not been changed since last publication.
400	FSS. 1017	The number of items in the UserData field exceeds the maximum allowed limit (20).	The number of environment variables exceeds 20.
400	FSS. 1018	The total size of the UserData field exceeds the maximum allowed limit (2 KB).	The total size of environment variables exceeds 2 KB.
400	FSS. 1019	The description exceeds the maximum allowed limit.	The maximum length is 512 characters.
400	FSS. 1022	Only one YAML file is allowed.	Only one YAML file is allowed.
400	FSS. 1023	The imported file is too large.	The imported file exceeds the maximum allowed limit.
400	FSS. 1024	Invalid dependency.	Invalid dependency.
400	FSS. 1025	Invalid YAML file.	Invalid YAML file.
400	FSS. 1026	Invalid Concurrency.	Invalid concurrency policy.
400	FSS. 1027	Invalid packageName (app name).	Invalid package or app name.
400	FSS. 1028	The app cannot be deleted because it contains functions.	The app cannot be deleted because it contains functions.
400	FSS. 1029	The default app cannot be deleted.	The default app cannot be deleted.
400	FSS. 1031	The dependency already exists.	The dependency already exists.
400	FSS. 1032	Invalid dependency type.	Invalid dependency type. Currently, only local ZIP packages or packages from OBS can be uploaded.

Status Code	Error Code	Error Message	Description
412	FSS. 1033	The dependency is currently in use.	Failed to delete the dependency because it is in use.
400	FSS. 1034	Invalid image URL.	Invalid image URL.
400	FSS. 1035	The image does not exist.	The image does not exist.
400	FSS. 1036	The VPC does not exist.	The VPC does not exist.
400	FSS. 1037	No subnet matches the specified ID.	No matched subnets found.
400	FSS. 1038	The file system configuration already exists in the function.	The file system configuration already exists in the function.
400	FSS. 1039	The mounting path is invalid.	Invalid mounting path.
403	FSS. 1040	The selected Xrole does not have permissions to mount the resources.	The selected agency does not have permissions to mount the resources.
403	FSS. 1041	The number of functions exceeds the maximum allowed limit.	The number of functions exceeds 400.
403	FSS. 1042	The total code size of functions exceeds the maximum allowed limit.	The total size of functions exceeds 20 GB.
403	FSS. 1043	The number of aliases exceeds the maximum allowed limit.	The number of aliases exceeds the maximum allowed limit.
403	FSS. 1044	The number of apps exceeds the maximum allowed limit (400).	The number of apps exceeds 400.
403	FSS. 1045	The number of dependencies exceeds the maximum allowed limit.	The number of dependencies exceeds the maximum allowed limit.
403	FSS. 1046	The dependency is inaccessible.	The dependency is unavailable.
403	FSS. 1047	The number of bound VPCs exceeds the maximum limit allowed for a tenant.	The number of bound VPCs exceeds the maximum limit allowed for a tenant.

Status Code	Error Code	Error Message	Description
403	FSS. 1048	The number of bound VPCs exceeds the maximum limit allowed for a project.	The number of bound VPCs exceeds the maximum limit allowed for a project.
403	FSS. 1049	The number of file systems mounted to the function exceeds the maximum allowed limit (5).	The number of file systems mounted to the function exceeds 5.
404	FSS. 1050	The mounted resource cannot be found.	The mounted resource cannot be found.
404	FSS. 1051	The function does not exist.	The function cannot be found.
404	FSS. 1052	The version does not exist.	The version cannot be found.
404	FSS. 1053	The alias does not exist.	The alias cannot be found.
404	FSS. 1054	The function app does not exist in OBS.	The specified code package cannot be found in OBS.
404	FSS. 1055	The app does not exist.	The specified function app cannot be found in OBS.
404	FSS. 1056	The dependency does not exist.	The dependency does not exist.
404	FSS. 1057	The function name does not exist in the YAML file.	The function name does not exist in the YAML file.
400	FSS. 1058	The app name and function name cannot be the same in the YAML file.	The combination of the app name and function name cannot be the same in the YAML file.
404	FSS. 1059	The function template does not exist.	The function template does not exist.
404	FSS. 1060	The event template cannot be found.	The event template does not exist.
409	FSS. 1061	The function already exists.	The function already exists.
409	FSS. 1062	The version already exists.	The version already exists.

Status Code	Error Code	Error Message	Description
409	FSS. 1063	The alias already exists.	The alias already exists.
409	FSS. 1064	The app already exists.	The app already exists.
409	FSS. 1065	The dependency already exists.	The dependency already exists.
409	FSS. 1066	The version is already in use by another alias.	The version is already in use by another alias.
409	FSS. 1067	The function template already exists.	The function template already exists.
403	FSS. 1068	The number of events configured for the function exceeds the maximum allowed limit.	The number of events configured for the function exceeds the maximum allowed limit.
403	FSS. 1069	The size of EventData exceeds 4 KB.	The event size exceeds 4 KB.
404	FSS. 1070	The event cannot be found.	The event cannot be found.
413	FSS. 1071	The size of the code package to be uploaded exceeds the maximum allowed limit (50 MB).	The size of the code package to be uploaded exceeds 50 MB.
413	FSS. 1072	The size of the inline code exceeds the maximum allowed limit (10 KB).	The code exceeds 10 KB.
403	FSS. 1073	The function event already exists.	The function event already exists.
400	FSS. 1074	The event field is invalid.	Invalid event field.
400	FSS. 1075	The user ID and user group ID must be an integer from –1 to 65,534, excluding 0, 1000, and 1002.	The user ID and user group ID must be an integer from –1 to 65,534, excluding 0, 1000, and 1002.
412	FSS. 1090	The subnet is not in the ACTIVE state.	The subnet is not in the ACTIVE state.
400	FSS. 1091	The additional version is invalid.	Invalid additional version.

Status Code	Error Code	Error Message	Description
400	FSS. 1092	The weight of the additional version is invalid.	The weight of the additional version is invalid.
400	FSS. 1093	The major version and the additional version cannot be the same.	The major version and the additional version cannot be the same.
403	FSS. 1094	The version cannot be deleted because it has been used as the additional version of an alias.	The version cannot be deleted because it has been used as the additional version of an alias.
412	FSS. 1095	The mounted resource is not ready.	The mounted resource is not ready.
403	FSS. 1096	The file sharing protocol of the mounted resource is not NFS.	The file sharing protocol of the mounted resource is not NFS.
400	FSS. 1101	Invalid trigger type.	Invalid trigger type.
400	FSS. 1102	Invalid SMN trigger parameters.	Invalid SMN trigger parameters.
400	FSS. 1106	Invalid OBS trigger parameters.	Invalid OBS trigger parameters.
400	FSS. 1107	Invalid APIG trigger parameters.	Invalid APIG trigger parameters.
403	FSS. 1108	The bucket configuration of the current trigger conflicts with that of an existing OBS trigger.	The bucket configuration of the current trigger conflicts with that of an existing OBS trigger.
400	FSS. 1109	Invalid timer trigger parameters.	Invalid timer trigger parameters.
404	FSS. 1111	The Kafka resource cannot be found.	The Kafka resource cannot be found.
400	FSS. 1112	The Kafka trigger parameters are invalid.	Invalid Kafka trigger parameters.

Status Code	Error Code	Error Message	Description
400	FSS. 1113	The username and password must be specified because Kafka SASL_SSL is enabled.	The username and password must be specified because Kafka SASL_SSL is enabled.
400	FSS. 1114	The subnet of the function must be the same as that of the Kafka instance.	The subnet of the function is different from that of the Kafka instance.
503	FSS. 1115	The network is unreachable.	The network is unreachable.
400	FSS. 1116	Kafka instance configuration error. Please check the username and password.	Kafka instance configuration error. Check the username and password.
400	FSS. 1117	Failed to query messages from the Kafka instance.	Failed to query messages from the Kafka instance.
401	FSS. 1118	Access denied.	Access denied. The user is not in the whitelist.
403	FSS. 1121	Forbidden	Access denied. Check whether the corresponding agency has been configured.
403	FSS. 1122	Forbidden	Access denied. Check whether the corresponding agency has been configured.
403	FSS. 1123	The number of pull triggers exceeds the maximum allowed limit.	The number of pull-mode triggers has reached 10.
403	FSS. 1124	The number of APIs exceeds the maximum allowed limit.	The number of APIs exceeds the maximum allowed limit.
403	FSS. 1125	Forbidden	Access denied.
403	FSS. 1126	You do not have permissions to call the API.	You do not have permissions to call the API.

Status Code	Error Code	Error Message	Description
403	FSS. 1127	The EPS user does not have permissions to call the API.	The EPS user does not have permissions to call the API.
404	FSS. 1131	The trigger does not exist.	The trigger cannot be found.
404	FSS. 1132	The SMN trigger does not exist. View the SMN console.	The SMN trigger cannot be found.
404	FSS. 1136	The OBS trigger does not exist.	The OBS trigger cannot be found.
404	FSS. 1137	Invalid trigger type.	The trigger type cannot be found.
404	FSS. 1138	The APIG trigger does not exist.	The APIG trigger cannot be found.
404	FSS. 1140	The timer trigger does not exist.	The timer trigger cannot be found.
409	FSS. 1141	The SMN trigger already exists.	The SMN trigger already exists.
409	FSS. 1145	The OBS trigger already exists.	The OBS trigger already exists.
409	FSS. 1146	The APIG trigger already exists.	The APIG trigger already exists.
409	FSS. 1147	The request path already exists.	The request path already exists.
409	FSS. 1148	The timer trigger already exists.	The timer trigger already exists.
409	FSS. 1150	The Kafka trigger already exists.	The Kafka trigger already exists.
406	FSS. 1151	The OBS bucket is in a different region.	The region where the OBS bucket is located does not match the current region.
426	FSS. 1152	The selected bucket cannot be used to create a trigger.	The selected OBS bucket cannot be used to create a trigger.
412	FSS. 1153	The triggering conditions have not been met.	The triggering conditions have not been met.

Status Code	Error Code	Error Message	Description
403	FSS. 1154	Aliases of a function bound with triggers cannot be deleted.	The aliases cannot be deleted because they are bound with triggers.
500	FSS. 1162	The operation cannot take effect immediately due to service exception.	The operation cannot take effect immediately because the service is abnormal.
503	FSS. 1169	The network is unreachable.	The network is unreachable.
404	FSS. 1171	The SMN topic does not exist. Create one on the SMN console.	The SMN topic does not exist.
400	FSS. 1172	The database or collection does not exist.	The DB instance cannot be found.
404	FSS. 1174	The Kafka trigger does not exist.	The Kafka trigger cannot be found.
413	FSS. 1201	The request body is too large.	The request body exceeds the maximum allowed limit.
500	FSS. 1202	The response body or callback body is invalid because they do not contain any status code.	Invalid response body.
500	FSS. 1302	Failed to save the data.	Failed to save the trigger data.
400	FSS. 1303	Access denied due to insufficient permissions.	Failed to verify permission. Access denied.
400	FSS. 1306	The number of triggers exceeds the maximum allowed limit.	Trigger threshold reached.
400	FSS. 1307	The trigger name already exists.	The trigger name already exists.
400	FSS. 1308	The operation resource does not exist.	The resource does not exist.
400	FSS. 1309	Invalid function URN.	Invalid function URN.
400	FSS. 1310	Unauthorized user.	Failed to obtain the user token.

Status Code	Error Code	Error Message	Description
400	FSS. 1312	The notification name must be specified.	No key notification name specified.
400	FSS. 1313	The number of operation resources has reached the maximum allowed limit.	The number of operation resources exceeds 100.
400	FSS. 1314	The operation resource must be specified.	No operation resource specified.
400	FSS. 1316	The resource operation has already been selected.	Duplicate operation resource.
400	FSS. 1317	The trigger name is too long.	The trigger name is too long.
400	FSS. 1318	Invalid trigger operation.	Invalid trigger operation.
502	FSS. 1319	Invalid trigger name.	Invalid trigger name.
503	FSS. 1401	Failed to obtain the image information.	Failed to obtain the image information.
503	FSS. 1402	Failed to pull the image to create a container.	Failed to pull the image to create a container.
503	FSS. 1403	Failed to pull the image to delete a container.	Failed to pull the image to delete a container.
400	FSS. 1404	Invalid function initializer.	Invalid function initializer.
400	FSS. 1405	Invalid initialization timeout.	Invalid initialization timeout.

6.3 Obtaining a Project ID

Obtaining a Project ID on the Console

When calling APIs, you need to enter a project ID in some URLs. To obtain a project ID, perform the following steps:

1. Log in to the management console.
2. Click the username and choose **My Credentials** from the drop-down list.

   On the **My Credentials** page, view the project ID.

Obtaining a Project ID by Calling an API

A project ID can also be obtained by calling a specific API. For details, see **Querying Project Information**.

The API used to obtain a project ID is **GET https://**{*Endpoint*}**/v3/projects**, where {*Endpoint*} indicates the IAM endpoint. You can obtain the IAM endpoint from **Regions and Endpoints**. For details on API calling authentication, see **Authentication**.

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

```
{
    "projects": [
        {
            "domain_id": "65382450e8f64ac0870cd180d14e684b",
            "is_domain": false,
            "parent_id": "65382450e8f64ac0870cd180d14e684b",
            "name": "xxx",
            "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"
    }
}
```

6.4 FunctionGraph Metrics

Introduction

This section describes the function metrics reported to Cloud Eye.

Their namespace and dimension are also included. You can view monitoring graphs and alarm messages on the Cloud Eye console.

Namespace

SYS.FunctionGraph

Function Metrics

Table 6-3 Function metrics

Metric	Display Name	Description	Unit	Upper Limit	Lower Limit	Recommended Threshold	Value Type	Meaning	Dimension
count	Invocations	Number of times a function is invoked	Count	-	0	-	Int	Number of times a function is invoked	package-functionname
failcount	Errors	Number of errors that occur when a function is invoked	Count	-	0	-	Int	Number of errors that occur when a function is invoked	package-functionname
rejectcount	Throttles	Number of times a function is throttled when invoked	Count	-	0	-	Int	Number of times a function is throttled when invoked	package-functionname
duration	Average Duration	Average time a function is invoked	ms	-	0	-	Int	Average time a function is invoked	package-functionname
maxDuration	Maximum Duration	Maximum time a function is invoked	ms	-	0	-	Int	Maximum time a function is invoked	package-functionname

Metric	Display Name	Description	Unit	Upper Limit	Lower Limit	Recommended Threshold	Value Type	Meaning	Dimension
minDuration	Minimum Duration	Minimum time a function is invoked	ms	-	0	-	Int	Minimum time a function is invoked	package-functionname

Dimension

Table 6-4 Dimension

Key	Value
package-functionname	App_name-Function_name