

**FunctionGraph**

# API Reference

**Issue** 01  
**Date** 2024-12-06



**Copyright © Huawei Cloud Computing Technologies Co., Ltd. 2024. All rights reserved.**

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Cloud Computing Technologies Co., Ltd.

## **Trademarks and Permissions**



HUAWEI and other Huawei trademarks are the property of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

## **Notice**

The purchased products, services and features are stipulated by the contract made between Huawei Cloud and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

---

# Contents

---

|   |           |
|---|-----------|
| <b>1 Before You Start.....</b>  | <b>1</b>  |
| 1.1 Overview.....   | 1         |
| 1.2 API Calling.....  | 1         |
| 1.3 Constraints.....  | 1         |
| 1.4 Concepts.....   | 1         |
| 1.5 FunctionGraph Models.....   | 2         |
| 1.5.1 Function Model.....   | 2         |
| 1.5.2 Trigger Management Models.....  | 10        |
| <b>2 API Overview.....</b>  | <b>16</b> |
| <b>3 Calling APIs.....</b>  | <b>18</b> |
| 3.1 Making an API Request.....  | 18        |
| 3.2 Authentication.....   | 20        |
| 3.3 Response.....   | 21        |
| <b>4 Examples.....</b>  | <b>24</b> |
| 4.1 Example 1: Using a Timer Trigger to Periodically Download Files from an OBS Bucket..... | 24        |
| 4.2 Example 2: Using an APIG Trigger to Obtain a Static Web Page.....                       | 28        |
| 4.3 Example 3: Creating a Function by Uploading Code to an OBS Bucket.....                  | 30        |
| 4.4 Example 4: Using a Function to Invoke a Subfunction.....                                | 32        |
| <b>5 Extension and OpenTelemetry APIs.....</b>  | <b>36</b> |
| 5.1 Extension APIs.....   | 36        |
| 5.1.1 Introduction.....   | 36        |
| 5.1.2 Procedure.....  | 36        |
| 5.1.3 Creating an Extension Dependency.....   | 37        |
| 5.1.4 Extension API Reference.....  | 37        |
| 5.1.4.1 API Methods.....  | 38        |
| 5.1.5 Connecting to SkyWalking with an Extension.....                                       | 39        |
| 5.2 Telemetry APIs.....   | 41        |
| 5.2.1 Introduction.....   | 41        |
| 5.2.1.1 Using OpenTelemetry APIs with an Extension.....                                     | 41        |
| 5.2.1.2 Registering OpenTelemetry APIs.....   | 42        |
| 5.2.1.3 Processing Telemetry Data.....  | 42        |

|  |           |
|--|-----------|
| <b>6 APIs.....</b>   | <b>46</b> |
| 6.1 Function Invocation.....   | 46        |
| 6.1.1 Executing a Function Synchronously.....                              | 46        |
| 6.1.2 Executing a Function Asynchronously.....                             | 50        |
| 6.2 Function Quotas.....   | 54        |
| 6.2.1 Querying Tenant Quotas.....  | 54        |
| 6.3 Dependencies.....  | 58        |
| 6.3.1 Querying Dependencies.....   | 58        |
| 6.3.2 Creating a Dependency(To Be Discarded).....                          | 63        |
| 6.3.3 Creating a Dependency Version.....                                   | 70        |
| 6.3.4 Querying Dependency Versions.....                                    | 76        |
| 6.3.5 Querying a Dependency Version.....                                   | 81        |
| 6.3.6 Deleting a Dependency Version.....                                   | 85        |
| 6.3.7 Deleting a Dependency(To Be Discarded).....                          | 88        |
| 6.3.8 Querying a Dependency(To Be Discarded).....                          | 91        |
| 6.3.9 Updating a Dependency.....   | 94        |
| 6.4 Test Events.....   | 100       |
| 6.4.1 Querying Test Events of a Function.....                              | 101       |
| 6.4.2 Creating a Test Event.....   | 104       |
| 6.4.3 Deleting a Test Event.....   | 107       |
| 6.4.4 Obtaining the Details of a Test Event.....                           | 110       |
| 6.4.5 Updating a Test Event.....   | 113       |
| 6.5 Function Tracing.....  | 116       |
| 6.5.1 Querying Tracing Configuration.....                                  | 116       |
| 6.5.2 Modifying Tracing Configuration.....                                 | 118       |
| 6.6 Function Lifecycle Management.....                                     | 121       |
| 6.6.1 Querying Functions.....  | 121       |
| 6.6.2 Creating a Function.....   | 129       |
| 6.6.3 Deleting a Function or Function Version.....                         | 150       |
| 6.6.4 Querying the Code of a Function.....                                 | 153       |
| 6.6.5 Modifying the Code of a Function.....                                | 160       |
| 6.6.6 Querying the Metadata of a Function.....                             | 168       |
| 6.6.7 Modifying the Metadata of a Function.....                            | 181       |
| 6.6.8 Updating Max. Instances of a Function.....                           | 200       |
| 6.6.9 Querying Function Tags.....  | 211       |
| 6.6.10 Enabling or Disabling the Snapshot Function.....                    | 214       |
| 6.6.11 Querying ServiceBridge Functions Bound to a Specified Function..... | 216       |
| 6.6.12 Querying Snapshot Status.....                                       | 224       |
| 6.6.13 Querying Resource Tags.....   | 227       |
| 6.6.14 Querying Resources.....   | 230       |
| 6.6.15 Deleting Resource Tags.....   | 235       |
| 6.6.16 Creating Resource Tags.....   | 237       |

|  |     |
|--|-----|
| 6.6.17 Updating the Pinning Status of a Function.....              | 239 |
| 6.6.18 Querying the Available ServiceBridge Version.....           | 241 |
| 6.7 Versions and Aliases.....                                      | 244 |
| 6.7.1 Querying All Versions and Aliases of a Function.....         | 244 |
| 6.7.2 Creating an Alias for a Function Version.....                | 247 |
| 6.7.3 Deleting an Alias of a Function Version.....                 | 253 |
| 6.7.4 Querying the Alias of a Function Version.....                | 255 |
| 6.7.5 Modifying the Alias of a Function Version.....               | 259 |
| 6.7.6 Querying the Versions of a Function.....                     | 264 |
| 6.7.7 Publishing a Function Version.....                           | 274 |
| 6.8 Function Metrics.....  | 285 |
| 6.8.1 Querying Top Functions for a Specified Metric.....           | 285 |
| 6.8.2 Querying Tenant-Level Function Statistics.....               | 288 |
| 6.8.3 Querying Metrics in a Specified Period.....                  | 293 |
| 6.8.4 Querying Instance Usage Metrics of a Specified Function..... | 296 |
| 6.8.5 Querying Instance Traffic Metrics of a Function.....         | 299 |
| 6.9 Function Logs.....   | 303 |
| 6.9.1 Querying Details About Asynchronous Invocation Logs.....     | 303 |
| 6.9.2 Querying the Log Group and Stream of a Function.....         | 305 |
| 6.9.3 Enabling Log Reporting to LTS.....                           | 307 |
| 6.9.4 Enabling Asynchronous Status Notification.....               | 309 |
| 6.10 Function Templates.....                                       | 310 |
| 6.10.1 Querying Function Templates.....                            | 310 |
| 6.10.2 Querying a Specified Function Template.....                 | 315 |
| 6.11 Reserved Instances.....                                       | 319 |
| 6.11.1 Querying Reserved Instances of a Function.....              | 319 |
| 6.11.2 Changing the Number of Reserved Instances.....              | 324 |
| 6.11.3 Querying the Number of Reserved Instances.....              | 329 |
| 6.12 Function Import and Export.....                               | 333 |
| 6.12.1 Exporting a Function.....                                   | 333 |
| 6.12.2 Importing a Function.....                                   | 336 |
| 6.13 Function Triggers.....  | 343 |
| 6.13.1 Deleting All Triggers of a Function.....                    | 343 |
| 6.13.2 Querying All Triggers of a Function.....                    | 346 |
| 6.13.3 Creating a Trigger.....                                     | 358 |
| 6.13.4 Deleting a Trigger.....                                     | 382 |
| 6.13.5 Querying a Trigger.....                                     | 385 |
| 6.13.6 Updating a Trigger.....                                     | 396 |
| 6.14 Function Flows.....   | 407 |
| 6.14.1 Executing a Flow Synchronously.....                         | 408 |
| 6.14.2 Executing a Flow Asynchronously.....                        | 412 |
| 6.14.3 Deleting Flows.....   | 415 |

|  |            |
|--|------------|
| 6.14.4 Querying a Flow.....  | 418        |
| 6.14.5 Creating a Flow.....  | 422        |
| 6.14.6 Querying Instances of a Flow.....   | 433        |
| 6.14.7 Querying a Flow Instance.....   | 437        |
| 6.14.8 Querying Metadata of a Flow Instance.....   | 442        |
| 6.14.9 Modifying Metadata of a Flow Instance.....  | 453        |
| 6.14.10 Querying Flow Metrics.....   | 464        |
| 6.14.11 Querying Metrics of a Flow.....  | 467        |
| 6.14.12 Re-executing a Flow.....   | 471        |
| 6.14.13 Stopping a Flow.....   | 473        |
| 6.14.14 Querying Records of a Flow in Pagination Mode.....                                     | 475        |
| 6.14.15 Calling Back a Flow.....   | 480        |
| 6.15 Asynchronous Execution Notification.....  | 483        |
| 6.15.1 Querying Asynchronous Execution Notification Settings of a Function Version.....        | 483        |
| 6.15.2 Deleting Asynchronous Execution Notification Settings.....                              | 487        |
| 6.15.3 Configuring Asynchronous Execution Notification.....                                    | 488        |
| 6.15.4 Querying Asynchronous Execution Notification Settings of a Function's All Versions..... | 494        |
| 6.15.5 Querying Asynchronous Invocation Requests.....  | 498        |
| 6.15.6 Querying Active Asynchronous Invocation Requests.....                                   | 503        |
| 6.15.7 Stopping an Asynchronous Invocation Request.....  | 508        |
| <b>7 Permissions Policies and Supported Actions.....</b>                                       | <b>512</b> |
| <b>8 Appendix.....</b>   | <b>516</b> |
| 8.1 Status Codes.....  | 516        |
| 8.2 Error Codes.....   | 518        |
| 8.3 Obtaining Account, IAM User, Project, User Group, Region, and Agency Information.....      | 541        |
| 8.4 FunctionGraph Metrics.....   | 542        |
| <b>9 Change History.....</b>   | <b>545</b> |

# 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 Constraints

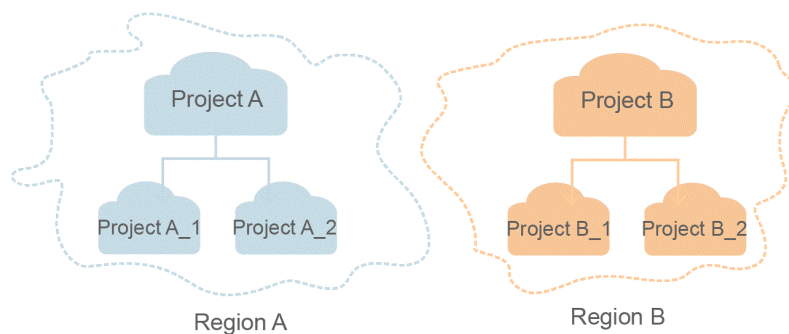
- The number of functions that you can create is determined by your quota. For details, see [Quotas](#).
- For more constraints, see API description.

## 1.4 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 users and grant them permissions for routine management.

- IAM user  
An Identity and Access Management (IAM) user is created using an account to use cloud services. Each IAM user has their own identity credentials (password and access keys).  
An IAM user can view the account ID and user ID on the [My Credentials](#) page of the console. 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



## 1.5 FunctionGraph Models

This section describes the returned fields of the FunctionGraph function model and trigger management models. The description of returned fields helps you understand FunctionGraph APIs. For details, see [APIs](#).

### 1.5.1 Function Model

This section describes the returned fields of the FunctionGraph function model.



## Function Model

The function model of FunctionGraph is as follows:

```
{
  "functions": [
    {
      "func_urn":
"urn:fss:xxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
      "func_name": "test",
      "domain_id": "cff01_hk",
      "namespace": "7aad83af3e8d42e99ac194e8419e2c9b",
      "project_name": "xxxxxxx",
      "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    | Tenant's project ID.  |
| project_name | Tenant's project name.  |
| package      | Group to which the function belongs. This field is defined to group functions.  |
| runtime      | Environment for executing a function. Options: Node.js 6.10, Node.js 8.10, Node.js 10.16, Node.js 12.13, Node.js 14.18, Node.js 16.17, Node.js 18.15, Python 2.7, Python 3.6, Python 3.9, Python 3.10, Java 8, Java 11, Go 1.x, C# (.NET Core 2.1), C# (.NET Core 3.1), Cangjie 1.0, PHP 7.3, custom, HTTP (HTTP function), and Custom Image (custom image function). |
| 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 (.).<br>For example, for Node.js function <b>myfunction.handler</b> , the file name is <b>myfunction.js</b> , and the entry point function is <b>handler</b> .   |
| memory_size  | Memory (MB) consumed by the function.<br>Options: 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584, 4096, 8192, 10240.  |
| cpu          | CPU usage of a function.  |
| code_type    | Function code type. Options: <ul style="list-style-type: none"><li>● <b>inline</b>: inline code</li><li>● <b>zip</b>: ZIP file</li><li>● <b>jar</b>: JAR file (mainly for Java functions)</li><li>● <b>obs</b>: function code stored in an Object Storage Service (OBS) bucket</li></ul>  |
| code_url     | <ul style="list-style-type: none"><li>● When <b>code_type</b> is set to <b>obs</b>, this parameter indicates the address of a function code package in OBS.</li><li>● When <b>code_type</b> is set to <b>inline</b>, <b>zip</b>, or <b>jar</b>, this parameter is left blank.</li></ul>   |

| Parameter           | Description  |
|---------------------|--|
| code_filename       | Function file name. <ul style="list-style-type: none"><li>When <b>code_type</b> is set to <b>zip</b> or <b>jar</b>, this parameter is required.</li><li>When <b>code_type</b> is set to <b>obs</b> or <b>inline</b>, this parameter is not required.</li></ul> |
| code_size           | Code size in bytes.  |
| user_data           | Name/Value information defined for the function.<br>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 <a href="#">Table 1-2</a> .   |
| depend_list         | Dependency list.   |
| strategy_config     | Function policy configuration. See <a href="#">Table 1-3</a> .   |
| extend_config       | Function extension configuration.  |
| dependencies        | Dependency list. See <a href="#">Table 1-5</a> .   |
| initializer_handler | Initializer of the function in the format of "xx.xx". It must contain a period (.).<br>For example, for Node.js function <b>myfunction.initializer</b> , the file name is <b>myfunction.js</b> , and the initialization function is <b>initializer</b> .       |

| Parameter           | Description  |
|---------------------|--|
| initializer_timeout | Maximum duration the function can be initialized. Value range: 1s-300s.    |
| func_vpc            | Virtual Private Cloud (VPC) configuration. See <a href="#">Table 1-4</a> . |
| mount_config        | File system configuration. See <a href="#">Table 1-6</a> .                 |

**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 parameters

| Parameter   | Description   |
|-------------|---|
| concurrency | <ul style="list-style-type: none"><li>• <b>0</b>: The function is disabled.</li><li>• <b>-1</b>: The function is enabled.</li></ul> |

**Table 1-4** func\_vpc parameters

| Parameter   | Type   | Mandatory                              | Description  |
|-------------|--------|--|--------------|
| vpc_name    | String | No                                     | VPC name.    |
| vpc_id      | String | Yes when <b>func_vpc</b> is not empty. | VPC ID.      |
| subnet_name | String | No                                     | Subnet name. |
| subnet_id   | String | Yes when <b>func_vpc</b> is not empty. | Subnet ID.   |
| cidr        | String | No                                     | Subnet mask. |
| gateway     | String | No                                     | Gateway.     |

**Table 1-5** dependency parameters

| Parameter   | Type   | Mandatory | Description   |
|-------------|--------|-----------|---|
| owner       | String | No        | Domain ID of the dependency owner.  |
| link        | String | No        | URL of the dependency package on OBS.                                       |
| runtime     | String | No        | Language of the dependency package (only used for classification purposes). |
| etag        | String | No        | MD5 value of the dependency package.  |
| size        | Int    | No        | Size of the dependency package.   |
| name        | String | No        | Name of the dependency package.   |
| description | String | No        | Description of the dependency package.                                      |
| file_name   | String | No        | File name of the dependency package (ZIP).                                  |

**Table 1-6** mount\_config parameters

| Parameter   | Type                        | Mandatory | Description                     |
|-------------|-----------------------------|-----------|---------------------------------|
| mount_user  | <a href="#">mount_user</a>  | No        | File system user configuration. |
| func_mounts | <a href="#">func_mounts</a> | No        | File system list.               |

**Table 1-7** mount\_user parameters

| Parameter     | Type | Mandatory                                | Description  |
|---------------|------|--|--|
| user_id       | Int  | Yes when <b>mount_user</b> 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 <b>mount_user</b> 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 <b>func_mounts</b> is not empty.         | Mount type. Options: <b>sfsTurbo</b> and <b>ecs</b> .     |
| mount_resource   | String | Yes when <b>func_mounts</b> is not empty.         | ID of the mounted resource (corresponding cloud service). |
| mount_share_path | String | Yes when <b>mount_type</b> is set to <b>ecs</b> . | Remote mount path. Example: <b>192.168.0.12:/data</b> .   |
| local_mount_path | String | Yes when <b>func_mounts</b> is not empty.         | Function access path.                                     |

## Function URN Format

```
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>**.

## Function Instance Data

```
{
  "func_urn": "urn:fss:xxxxxxxx:73d69ae0cfcf460190522d060f05ad:function:default:auto_testfunc93749",
  "func_name": "auto_testfunc93749",
  "domain_id": "b8aca445e0d04d81a34bb59de5280c72",
  "namespace": "73d69ae0cfcf460190522d060f05ad",
  "project_name": "xxxxxxxx",
  "package": "default",
  "runtime": "Python2.7",
  "timeout": 5,
  "handler": "index.handler",
  "memory_size": 128,
  "cpu": 300,
  "code_type": "inline",
  "code_filename": "index.py",
  "code_size": 1992,
  "version": "latest",
  "image_name": "latest-200731100126@obffv",
  "description": "Runs in response to API requests, and demonstrates how to display different types of content, such as HTML pages and JSON structures.",
  "last_modified": "2020-07-31T10:01:26+08:00",
  "func_code": {},
  "FuncCode": {},
  "concurrency": -1,
  "strategy_config": {
```

```
"concurrency": -1
},
"enterprise_project_id": "0"
}
```

## 1.5.2 Trigger Management Models

This section describes the returned fields of the 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, timer, DMS, DIS, LTS, DDS, CTS, APIG (dedicated), APIC, and Kafka.   |
| display_name      | Trigger type name.  |
| status            | Trigger type status. Options: <ul style="list-style-type: none"><li>● <b>DISABLED</b>: The trigger is disabled.</li><li>● <b>TEST</b>: The trigger is under test and invisible to clients.</li><li>● <b>ACTIVE</b>: The trigger is available.</li></ul> |
| event_codes       | Event attribute field.  |
| 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, TIMER, DMS, DIS, LTS, DDS, CTS, and kafka.  |
| event_type_code   | Event type code. This parameter is mandatory. It can be a non-null character string. This parameter is not used currently. |
| status            | Trigger status. Options: <b>ACTIVE</b> and <b>DISABLED</b> .   |
| 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: <b>Unconfirmed</b> and <b>Confirmed</b> . |

- The data of a Distributed Message Service (DMS) trigger is as follows:

```
{
  "queue_id": "string",
  "consumer_group_id": "string",
  "polling_interval": "int"
}
```

**Table 1-12** describes the parameters of a DMS trigger.

**Table 1-12** Parameters of a DMS trigger

| Parameter         | Description   |
|-------------------|---|
| queue_id          | Name of a DMS queue. This parameter is mandatory when you create a DMS trigger.                                       |
| consumer_group_id | Name of a DMS consumer group. This parameter is mandatory when you create a DMS trigger.                              |
| polling_interval  | Interval at which messages are polled. This parameter is mandatory when you create a DMS trigger. Default value: 30s. |

- The data of a Data Ingestion Service (DIS) trigger is as follows:

```
{
  "stream_name": "dis-qYPJ",
  "polling_interval": 30,
  "batch_size": 100,
  "sharditerator_type": "TRIM_HORIZON"
}
```

**Table 1-13** describes the parameters of a DIS trigger.

**Table 1-13** Parameters of a DIS trigger

| Parameter          | Description   |
|--------------------|---|
| stream_name        | Name of a stream. This parameter is mandatory.  |
| polling_interval   | Pull period. This parameter is optional. Value range: 1–60. Default value: 30.  |
| batch_size         | Number of data records that can be pulled from a specified stream. This parameter is optional. Value range: 1–10000. Default value: 100.              |
| sharditerator_type | Options: TRIM_HORIZON (pulling data from the beginning of a stream) and LATEST (pulling data from the current position). This parameter is mandatory. |

- The data of an APIG trigger is as follows:

```
{
  "group_id":"string",
  "env_id":"string",
  "auth":"string",
  "protocol":"string",
  "name":"string",
  "path":"string",
  "match_mode":"string",
  "req_method":"string",
  "backend_type":"string",
  "type": int,
  "sl_domain":"string",
  "instance_id":"string"
}
```

**Table 1-14** describes the parameters of an APIG trigger.

**Table 1-14** Parameters of an APIG trigger

| Parameter    | Description  |
|--------------|--|
| group_id     | API group. This parameter is mandatory.  |
| env_id       | API publishing environment. This parameter is mandatory.   |
| auth         | API authentication mode. Options: <b>NONE</b> , <b>IAM</b> , and <b>APP</b> . This parameter is mandatory.                         |
| protocol     | Access protocol. Options: <b>HTTP</b> and <b>HTTPS</b> . This parameter is mandatory.  |
| name         | API name. This parameter is mandatory.   |
| path         | API access address, which must meet the URL rules, for example, <b>/a/b</b> . This parameter is mandatory.                         |
| match_mode   | Match mode. Currently, only the prefix match mode (corresponding to <b>SWA</b> ) is supported. This parameter is mandatory.        |
| req_method   | API request method, which is of enumerated type. Options: <b>GET</b> , <b>POST</b> , and <b>PUT</b> . This parameter is mandatory. |
| backend_type | Backend type, which must be set to <b>FUNCTION</b> . This parameter is mandatory.  |
| type         | API type. Currently, only <b>1</b> is supported, indicating open API. This parameter is mandatory.                                 |
| sl_domain    | Subdomain name. This parameter is mandatory.   |
| instance_id  | Instance ID. This parameter is mandatory when <b>trigger_type_code</b> is set to <b>DEDICATEDGATEWAY</b> or <b>APIC</b> .          |

- The data of a timer trigger is as follows:

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

**Table 1-15** describes the parameters of a timer trigger.

**Table 1-15** Parameters of a timer trigger

| Parameter     | Description   |
|---------------|---|
| name          | Trigger name. This parameter is mandatory.  |
| schedule_type | Schedule type. Options: <b>Rate</b> or <b>Cron</b> . This parameter is mandatory. |

| Parameter  | Description  |
|------------|--|
| schedule   | Schedule setting, which varies depending on the schedule type you choose. This parameter is mandatory.<br>When <b>schedule_type</b> is set to <b>Rate</b> , add unit m, h, or d behind a rate, for example, <b>3m</b> for 3 minutes. |
| user_event | Additional information for calling a function. This parameter is optional.   |

- The data of a DDS trigger is as follows:

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

**Table 1-16** Parameters of a DDS trigger

| Parameter       | Description                              |
|-----------------|--|
| instance_id     | DB instance ID.                          |
| collection_name | Collection name.                         |
| db_name         | Database name.                           |
| db_password     | Password for logging in to the database. |
| batch_size      | Batch size.                              |

- The data of a Kafka trigger is as follows:

```
{
  "instance_id": "string",
  "topic_id": "[]string",
  "kafka_user": "string",
  "kafka_password": "string",
  "kafka_ssl_enable": string,
  "batch_size": int,
}
```

**Table 1-17** Parameters of a Kafka trigger

| Parameter      | Description        |
|----------------|--------------------|
| instance_id    | Kafka instance ID. |
| topic_id       | Topic ID.          |
| kafka_user     | Username.          |
| kafka_password | User password.     |

| Parameter        | Description   |
|------------------|---|
| kafka_ssl_enable | Whether to enable SSL authentication. If SSL authentication is enabled, the <b>kafka_user</b> and <b>kafka_password</b> 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   |
|---|---|
| <a href="#">Function Invocation</a>           | Execute functions synchronously or asynchronously and return reserved instance IDs.                 |
| <a href="#">Function Quotas</a>               | Query quotas.   |
| <a href="#">Dependencies</a>                  | Create, delete, query, and update dependencies.   |
| <a href="#">Test Events</a>                   | Create, delete, query, and update test events.  |
| <a href="#">Function Tracing</a>              | Query and modify tracing configuration.   |
| <a href="#">Function Lifecycle Management</a> | Create and delete functions.  |
| <a href="#">Versions and Aliases</a>          | Create and delete function versions and aliases.  |
| <a href="#">Function Metrics</a>              | Query function statistics, top functions for a specified metric, and metrics in a specified period. |
| <a href="#">Function Logs</a>                 | Query a function's log group and log stream, and enable log reporting to LTS.                       |
| <a href="#">Reserved Instances</a>            | Query reserved instances and change their number.   |
| <a href="#">Function Import and Export</a>    | Import and export functions.  |

| Type                                       | Description   |
|--|---|
| <b>Function Triggers</b>                   | Create, delete, and update triggers.  |
| <b>Function Flows</b>                      | Query, delete, create, and stop function flows.                             |
| <b>Asynchronous Execution Notification</b> | 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.

- **URI-scheme:** Protocol used to transmit requests. All APIs use HTTPS.
- **resource-path:** Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.
- **query-string:** Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, **?limit=10** indicates that a maximum of 10 data records will be displayed.

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

#### 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 , 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 . This API is the only one that does not require authentication.

### NOTE

In addition to supporting token-based authentication, FunctionGraph 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 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 the body included. Replace *username*, *domainname*, *\*\*\*\*\** (login password), and *xxxxxxxxxxxxxxxxxxxx* (project name) with the actual values.

#### 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](#).

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.

When calling an API to [obtain a user token](#), you must set **auth.scope** in the request body to **project**.

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

```
    }  
  },  
  "scope": {  
    "project": {  
      "name": "xxxxxxxx"  
    }  
  }  
}
```

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

## 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 the [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
→ MIIYXQYJKoZIhvcNAQcCoIIYfjCCGEEoCAQExDIALBgIghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgggacBIlWmHsidG9zZW4iOjnsiZlhaXl19hdCj6jwwMTktMDItMTNUMC
fj3Kjs6YgKnpVNRbW2eZ5eb78SZOkqACgkqWZi-H4o2p4p1131000Oubq4+qjG+T0iH4k10V9VijcAgzVVeFlYtLWT1GSO0zKZmlQHq82HBqHdgIZO9fuEbL5dMhdavj+33wEI
xHRCe9l87o+k9-
j+CMZSEB7bUgd5Uj6eRASXl1jipPEGA270g1Fruool6jgglFkNPQuFSOU8+uSsttVwRtNfS+qTp22Rkd5MCqFQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1lWEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HRezv0vN--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.

### Overall 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 from OBS.
2. **Modifying the Metadata of a Function:** Modify the OBS address, bucket name, and file name in the function configurations.
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 for the function to periodically download files from OBS.

### Step 1: Create a Function for Downloading Files from OBS

URI: POST /v2/{project\_id}/fgs/functions

For details about the API, see [Creating a Function](#).

- Example request

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions
{
  "code_filename": "index.zip",
  "code_type": "inline",
  "func_code": {
    "file":
      "UESDBAoAAAAIABESwIDHSM8cOQYAAJYRAAAIAAAAaW5kZXgucHm9V91v2zYQf9dfcXAeLKeKkrYZNg
      TQQ9JvpG2CJsOwJ4GWajuLRGok5VT963dHUpZsJ82GofVDQh2Pd8e7333wAl4Oj6BQpZDLM2jt4ug3ok
      QH8MeKS9CtlLgDdiUMGFY3FSdmDIYBKwpuDFxd3CTQqRbq1lgwDS/
      EogMmgS25LDq4F3YfY0rNWQWGG67UoeH+04boWxgglDcRKA7NQcYZS3BkU/
      ADjLI0WwWtVoRZ2quUmLSnBpaZn7JYi6UdrC1dy8coRt/hqtr0y65DZX8794YfMVZyXX/
      bF33F45+ntHfuqw5n+33Ni90188Pq005l+qUwUfa3WaFm+EBXPG4aXzZCe0iothZas5nH/
      rTmraBHnnj2fzTA652VpMCoYDS8KnBSMiuFMFyv3aeg7aMUA6vKoYdp2UIm5Zlpwk0Zol9fCmobLMt4zb
      BZFt28+Xedfrq5u8+vz2/do6eTY1s3xBPzvAF6re1kphgYxolPgFehhQ/
      0OOXgn9InSXRppvsQwopRpsRKSTWH7dwC3dAANRR9YDEupuAGpLEjOSxI4xzuvmfZi5FMlQqWqINyAj
      NwTZt+2srCo451mzSogiDuc4n053pCj9lvdctj7/WjtYimZ9QZM16c/+e40Bxmcrn6Eh34/
      WjuCKTe2qx72/g/
      WfkD1gZWlpmqCzneVQx5JdMnq6Ne07lb3RaXaEqmqng7ArpmQQOklauHSjVAdqLgKvxxvuiCVfsLaysGVZ
      y9MI0/M9mljhLcKpRtAtQk5Yhb2YrzHVEiwu0vKvndYwkdZKLZe4mfVkJYfH52ewaO/
      Ayx3Fm2lFEQJgCvLJNroZlBqO/
      KBI2/7ZKQP76VfM8vi6YhIOnOHjC4u2uKO28eObBims7F9byRFLzwxdufcil8L4ae9KVtgWTVXVlxAe9DNUFw
      0w9CKsIL9PeFCy2n0ncd4wJLbtrHjPle5oTWGB74l9dA0wcT2pRV
      +TsEluRV9Dgz0qiVD22L1B9ilcwp1xrpePJNbu9jsCywOVaaCVrqlrrNjsXiGIB/mE/UfWopltRGqOpUXC/
      5QWeR/9iQ2dYUxYURbGJ2Ab0D7GFzRarQXFZt7tCCeKpM8XZlnGi3QgBpRhEOBcVoptUdCsS6KNQ
      +Mfbqko4xIhVyoGCaHh4eD/
      WT0GUzg2UCa7Z3pj4RLngX28Ik3jnYzyHJqmkx3cH7pjL253B54UjjfzDcYWhoCsMOVI6YP55+89exuG5vn
      bv
      +Sd3Hlp539G15gIP1+iy6SgW134kAV1o9B6S1DcJbb5iKYC0aelmrrbgleLCGhVt1hAV0xg5y4UM4TmGYwg
      tJmonsQcz9HbbQ3cEhom1AdtkaPUCEstlsqbpu5LB5VtGRATTJCRIL+xu+7We/
      +uBeTwYuTExeEEeH5bAifqNHw3Ihv1OQKVuUDIR5DrudXrW1aaqSTW8wBP1KOC55pnTMxBV1m6sID
      pKUNE4R4s8h2up40DZDyGQuLya7KHEZ4dXuRdGTHRwn3EeLVW/fzqy3cAh4CBtPHaCG
      +d0ZknoaenM8Rlj3QoqDsQ6Cf3ER1HthPPMw+cWx3J8G6DTNy+E2GM2v
      +NdLsrM8bs0zleNzNwl0U7XFSb3A2Xm/yVuNOA629izmfyzSqBYRTKhmUCfjLO/L/
      EmCpHUfiWyt4yAYew2Eloz97dtTsKz5ErO7yQrXSzr8kYEXNMZ7Zi5OQNR/V
      +F0yTolAilORwtnfdg3PpvggqETBqAwffxPNNMwpuF/hENYi0DLqaAl2xQbDYvxXBP/
      qV7BixXMSqFUV5PTiS2EaZQqP3tnBKuDeqf9JFfqQ3o0fSneq4Z/821VBv/
      eizWNmNkU7ysWOb73xELwEnMKm10wB+mtfGynZrZYDZ8SFyNa32wI6TcWX3b1B/
      mJ14hotMSF2W1TAhB0r/
      3LcOcB9qxHduSzzDTE41FNHSTkxJAK2U5W4C72l2yTH31+krpsrPjHy93EJrtYyyB4OWsd3fywMWzfVllk
      psF4il1702Q3HXPYJq4RWDsCw2xEzn15XlG3qY6sVOI+xuGuv2Us/
      v90HtesapoK2a5GUowTpChauFr4fli9B7fBfpnPDprSzupm8ExpD95cTq+BTFF/
      wBQSwEChgMKAACAAREsJQx0jPHDkGAACWEQAACAAAAAAAAAAAAAAAAAwIAAAAAaW5kZXgucHl
      QSwUGAAAAAAEAQA2AAAAAXwYAAAAA"
  },
  "func_name": "download_file_from_obs",
  "handler": "index.handler",
  "memory_size": 256,
  "package": "default",
  "runtime": "Python2.7",
  "timeout": 30
}
```

- Example 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
e78406a83bf6d8683e7b25da4f0c07e7493aa4ccdc",
"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 about the API, see [Modifying the Metadata of a Function](#).

- Example 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.example.example.com\",\"srcBucket\":\"xxx\",\"srcObjName\": \"xxx\"}",
"xrole": "xxx"
}
```

- **function\_urn**: function URN recorded in [Step 1: Create a Function for Downloading Files from OBS](#)
- **obs\_address**: OBS address
- **srcBucket**: name of an OBS bucket
- **srcObjName**: file name
- **xrole**: agency name

- Example 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.example.example.com\",\"srcBucket\":\"xxx\",\"srcObjName\": \"xxx\"}",
"digest":
"68891a6778848a78bd37a8c0798c91d75a5c87aee6e901303047a52edf05bf2170aac4149d79b3f6a40ef
e78406a83bf6d8683e7b25da4f0c07e7493aa4ccdc",
}
```



```
"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 about the API, see [Executing a Function Synchronously](#).

- Example 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](#).

- Example 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 about the API, see [Creating a Trigger](#).

- Example 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.

- Example 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 API Gateway, and have recorded the ID and subdomain name of the API group.

### Overall 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 about the API, see [Creating a Function](#).

- Example request

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions
{
  "code_filename": "index.zip",
  "code_type": "inline",
  "func_code": {
    "file":
      "UESDBAoAAAAIABY7vFD7lxPkAgMAALoHAAAIAAAAaW5kZXgucHndVdtu00AQfc9XrMKDExQ7zqW50
      VYqFZRKIFUQhFBVobU9iU1tr9mdbRRkqSHwNH8aXMLtxrgoS8ISlosg7c
      +bszNnjzRPmPnVZKKIkn440TtyBCVQcx6mMY2ATkaZiRjmWKMZzdFzfcXgAXJkYsI4UzwrUoLpPMRE5B
      77KDQLCYigkGFMVescCxZMQQq0IDokcl4kruVYeyIGI5TU66VXqTxWGKvGiMUbwFhE1RGrXr0YVxsmXH
      CMTaBpNmvGQK1uEzdc8gwQpCKIYTFxKeYLU7HCUnBp8V80yMU7INTYsbKclqaKfjclMfBoDzR3FfKpxZLz
      bCMUfiXomWlz7GU5tNXw3oM5hBrBpfE9rdwZod22xzP
      +Ver8prxQZOvq9wqkezELTQxHqrkrCb1wjSBN32v5rPZa8zrLp/NPIG22fN8fbJsMRGTH/
      fHtO31X2kigaRveihxhjtV+j3Zfgq+t7IHU7XT6nV479NthP
      +r328Mh9Af9QSuAoBu01kU016qg2wq6J8A7bt8PTtxWC3pu0A8itzcMTjiHgEiGzBNL67gkK4QkZ6n102cl
      8vVzwBX0upVKBBMW8zxKQdasXRpkXztMfWQbKOgckTI02CEoxcoZ2ESKzFiOvCeT6RSKU7FwlItVnmQvI
      XIFyWXBbCzlr1vnaP+cO5unV24c2dZYB5Cgb9kdKh9rIMsN08mBwBCxjilzpbALN
      +WGCJ43CTMx6FjQ60uRQTOiLV9v7GfTRzK9uLnF5xiAgzLhoOQKWXndEBuT1NaxTziU7K3vM6V2jnp6xM
      OZSAZ7Za6O6V7o82MI4kfhXZ+gFvS7YhmrOqaE6P41b5x8gJecDQ8E0TfqqvDauJc/
      i0yYBTu225059y73ckRm1zK1hvEhnhart6IZfqQ3pMb1NzY7eZvkP6c2Llk1CbqRomtb+UufH6j3Yu
      +CBpxqqy99VcVeNjYoKtnKVfv7fHXqTAmXMTaNQ6hDtH5iWKZslGDN7QbBiczfsmezMEDT2QObWp/
      TzgdD1n1BLAQleAwoAAAAIABY7vFD7lxPkAgMAALoHAAAIAAAAAAAAAAAAAAAAADzAgAAAAAbpmRleC5
      weVBLBQYAAAAAAQABADYAAAAoAwAAAAA="
  },
  "func_name": "get_html",
  "handler": "index.handler",
}
```

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

- Example 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 about the API, see [Creating a Trigger](#).

- Example 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**: function URN recorded in [Step 1: Create a Function to Return a Static Web Page](#)

- **group\_id**: API group ID
- **sl\_domain**: subdomain name that API Gateway allocates to the API group

- Example response

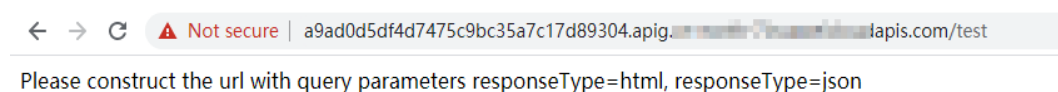
```
{
  "trigger_id": "1b3ec74b86454aa39001a9f89cc70ee2",
  "trigger_type_code": "APIG",
  "trigger_status": "ACTIVE",
  "event_data": {
    "api_id": "cbc698153d1f4265bdd8384b5cf6e581",
    "api_name": "API_GetHtml",
    "auth": "NONE",
    "env_id": "",
    "env_name": "",
    "func_info": {
      "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



## 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 Object Storage Service (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.

## Overall 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 about the API, see [Creating a Function](#).

- Example request

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions  
{  
  "code_type": "obs",  
  "code_url": "https://test.obs.example.example.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](#).

- Example 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.example.example.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"
}
```

## 4.4 Example 4: Using a Function to Invoke a Subfunction

### Scenario

This section uses Python as an example to describe how to invoke a subfunction by using a function.

For details about how to call APIs, see [Calling APIs](#).

### Prerequisites

An agency with the **FunctionGraph Administrator** or **Tenant Administrator** permission has been created.

### Overall Procedure

1. Create a subfunction.
2. Create a function.
3. Use the function to invoke the subfunction.

## Step 1: Create a Subfunction

1. Create a subfunction on the console. Set parameters by referring to [Figure 4-2](#) and retain the default values for other parameters.

**Figure 4-2** Setting parameters

**Basic Information**

\* Function Type

Event Function HTTP Function

\* 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.

\* Function Name

subunction

Enter 1 to 60 characters, starting with a letter and ending with a letter or digit. Only letters, digits, hyphens (-), and underscores (\_) are allowed.

Agency ?

Use no agency Create Agency

\* Enterprise Project ?

default View Enterprise Project

Runtime ?

Python 2.7

## Step 2: Create a Function

1. Create a function on the console. Select an agency with the **FunctionGraph Administrator** or **Tenant Administrator** permission. In addition, set parameters as shown in [Figure 4-2](#) and retain the default values for other parameters.

**Figure 4-3** Setting parameters

**Basic Information**

\* Function Type

Event Function HTTP Function

\* Region

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.

\* Function Name

ParentFunction

Enter 1 to 60 characters, starting with a letter and ending with a letter or digit. Only letters, digits, hyphens (-), and underscores (\_) are allowed.

Agency ?

function-admin Create Agency

\* Enterprise Project ?

default View Enterprise Project

Runtime ?

Python 3.6

2. On the **Code** tab page, edit the code. The sample code is as follows:

```
import json
import requests
def handler(event, context):
    token = context.getToken()
    project_id = context.getProjectID()
    urn = 'urn:fss:xx-xxxx-x:xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx:function:xxx:subfunction:latest' #
Subfunction URN, which can be queried on the right of the topology on the subfunction details page.
    url = 'https://functiongraph.{region_id}.{external_global_domain_name}/v2/%s/fgs/functions/%s/
invocations' % (project_id,urn)
    headers = {
        "x-auth-token": token,
        "content-type": 'application/json'
    }
    body = {"k":"v"}
    resp = requests.post(url, json=body, headers=headers, verify=False)
    print(resp.text)
    return {
        "statusCode": 200,
        "isBase64Encoded": False,
        "body": json.dumps(event),
        "headers": {
            "Content-Type": "application/json"
        }
    }
```



### Step 3: Use the Function to Invoke the Subfunction

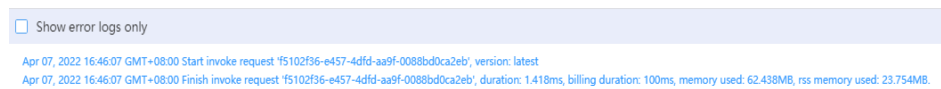
1. On the function details page, click **Test** to invoke the function.
2. View the execution result.
  - The execution result of the function is **Success** and **200** is returned.

**Figure 4-4** Function execution record



- The **Logs** tab page shows details about subfunction invocation.

**Figure 4-5** Subfunction execution record



# 5 Extension and OpenTelemetry APIs

---

## 5.1 Extension APIs

### 5.1.1 Introduction

Extension APIs integrate your FunctionGraph functions with monitoring, observability, security, and supervision tools for control in all phases of the function lifecycle. For example, diagnostic information is collected before, during, and after function invocation; your code is automatically checked without changing the code; the configuration is obtained before function invocation; alarms are sent through the security agent; and telemetry data is asynchronously sent to a custom destination.

Extensions run as independent processes in the function execution environment. You can write extensions using languages different from those of your functions. Compiled languages are recommended. In this case, an extension is an independent binary file and compatible with the supported runtimes. You can also use a non-compiled language that is compatible with the runtime of your function.

#### NOTE

- HTTP and event functions support extensions, while functions using custom images do not.
- Add an extension to a function by making the extension a dependency.

### 5.1.2 Procedure

- Step 1** Create a function. For details, see the function creation procedure of different languages in the *FunctionGraph Developer Guide*.
- Step 2** Create a dependency with the desired extension and add the dependency to the function.
- Step 3** Check that the extension process is started when the function is invoked.

----End

## 5.1.3 Creating an Extension Dependency

Prepare a ZIP package to compile and start the extension process.

This package must contain a folder named **extension** that contains an `.sh` script file prefixed with **extension** for starting the extension process. The following is an example of the package's file structure:

*extension -*

*extensionDemo.sh*

*test.py*

Download [extension.zip](#) to get the code.

The following table lists the paths for different languages in **extensionDemo.sh**.

**Table 5-1** Paths for different languages

| Language   | Path  |
|------------|---|
| Java 8     | /opt/function/runtime/java8/rtsp/jre/bin/java           |
| Java 11    | /opt/function/runtime/java11/rtsp/jre/bin/java          |
| Node.js 6  | /opt/function/runtime/nodejs6.10/rtsp/nodejs/bin/node   |
| Node.js 8  | /opt/function/runtime/nodejs8.10/rtsp/nodejs/bin/node   |
| Node.js 10 | /opt/function/runtime/nodejs10.16/rtsp/nodejs/bin/node  |
| Node.js 12 | /opt/function/runtime/nodejs12.13/rtsp/nodejs/bin/node  |
| Node.js 14 | /opt/function/runtime/nodejs14.18/rtsp/nodejs/bin/node  |
| Python 2.7 | /opt/function/runtime/python2.7/rtsp/python/bin/python  |
| Python 3.6 | /opt/function/runtime/python3.6/rtsp/python/bin/python3 |
| Python 3.9 | /opt/function/runtime/python3.9/rtsp/python/bin/python3 |
| PHP 7.3    | /opt/function/runtime/php7.3/rtsp/php/bin/php           |

## 5.1.4 Extension API Reference

Write an extension process with the following actions to start the extension.

1. Start an `HttpClient` to send a registration request to your `FunctionGraph` function.
2. Start an `HttpServer` to receive invocation requests from the function.

## 5.1.4.1 API Methods

### Registration

**http://\${EXTENSION\_API\_ADDR}/extension/register**

Extensions deployed by processes can receive events only after the extensions have been registered with FunctionGraph. Use environment variable **EXTENSION\_API\_ADDR** to obtain the extension API registration address provided by FunctionGraph. For example, for Python, use the **os.getenv("EXTENSION\_API\_ADDR")** method to obtain the registration address.

#### Path

- /extension/register

#### Method

- POST

#### Request Headers

**FunctionGraph-Extension-Name:** Complete file name of an extension.  
Mandatory: yes. Type: string.

**FunctionGraph-Extension-Address:** Address of the server that receives invocation events. Mandatory: yes. Type: string. Example: **127.0.0.1:8081**.

#### NOTE

- FunctionGraph uses the complete file name of an extension to check whether the extension has been imported for booting. The request header for registering the extension must contain the IP address and port number of the HttpServer started by the extension. Example:

```
headers = {  
  'Content-type': 'application/json',  
  'FunctionGraph-Extension-Name': "extensionDemo.sh"  
  'FunctionGraph-Extension-Address': "127.0.0.1:8011"  
}
```
- A maximum of 10 extensions are supported. The HttpServer IP address and port number must be within 127.0.0.1:8081 and 127.0.0.1:8090, and the port number of each extension must be unique.

#### Body Parameters

Omitted

#### Response Codes

**200** - The response body contains the function name, function version, and handler name.

Other codes indicate errors.

Example response body

```
{  
  "functionName": "helloWorld",
```

```
"functionVersion": "$LATEST",  
"errorInfo": {  
  "errorType": "",  
  "errorMessage": ""  
}  
}
```

## Invocation

**http://\${FunctionGraph-Extension-Address}/extension/invoke**

After registration, the created `HttpServer` listens to this path to receive function invocation events.

### Path

- /extension/register

### Method

- POST

### Body Parameters

**traceId** - Request ID.

**invokedFunctionUrn** - Function URN.

### Response Codes

**200** - The response body contains the function name, function version, and handler name.

Other codes indicate errors.

Example response body

```
{  
  "traceId": "3da1f2dc-3222-475e-9205-e2e6c6318895",  
  "invokedFunctionUrn": "sn:cn:yrk:1111:function:0@test@hello:latest"  
}
```

## 5.1.5 Connecting to SkyWalking with an Extension

This section uses SkyWalking as an example to describe how to integrate a function with monitoring, observability, security, and supervision tools via extension APIs.

### NOTE

Compiling an extension locally with a compiled language will generate a binary file. To use a non-compiled language, package and upload the required dependencies for the function, and ensure that the language is compatible with the function's runtime.

Embed the SkyWalking agent in the extension code to monitor function requests through the extension.

Sample code: [skywalking-go.zip](#)

```
func startSkywalkingAgent() {  
  r, err := reporter.NewGRPCReporter("10.174.242.117:11800", reporter.WithCDS(100))
```

```

if err != nil {
    log.Fatalf("new reporter error %v |n", err)
    return
}
defer r.Close()
tracer, err := go2sky.NewTracer("testservice", go2sky.WithReporter(r))
if err != nil {
    log.Fatalf("create tracer error %v |n", err)
    return
}
go2sky.SetGlobalTracer(tracer)
sm, err := httpPlugin.NewServerMiddleware(go2sky.GetGlobalTracer())
if err != nil {
    log.Fatalf("create server middleware error %v |n", err)
    return
}
http.HandleFunc(invokeURL, sm(RequestHandler{}).ServeHTTP)
http.ListenAndServe(currentExtensionAddr, nil)
}
    
```

Replace **10.174.242.117:11800** with your SkyWalking collector IP address and **testservice** with your service name.

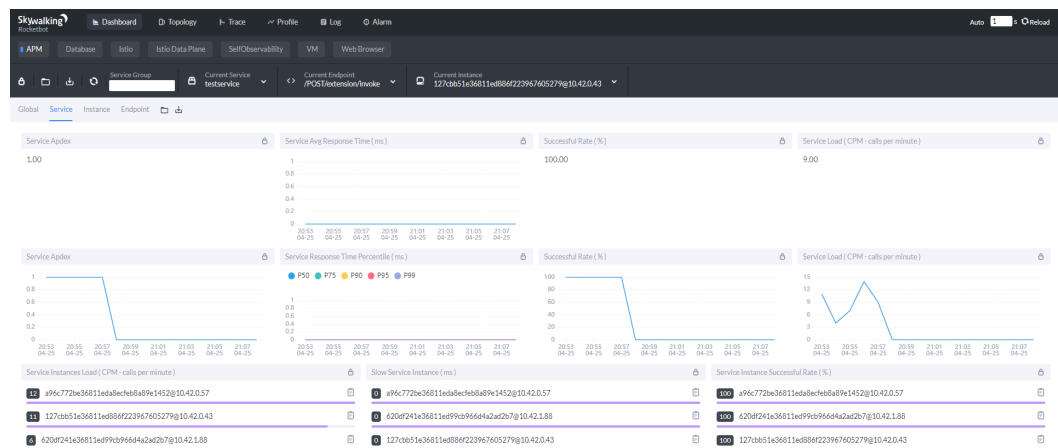
Compile the code locally to generate a binary file. Then package the binary file and the .sh script file prefixed with **extension**, and upload them as a dependency. The file structure of the extension dependency package is as follows:

*extension -*

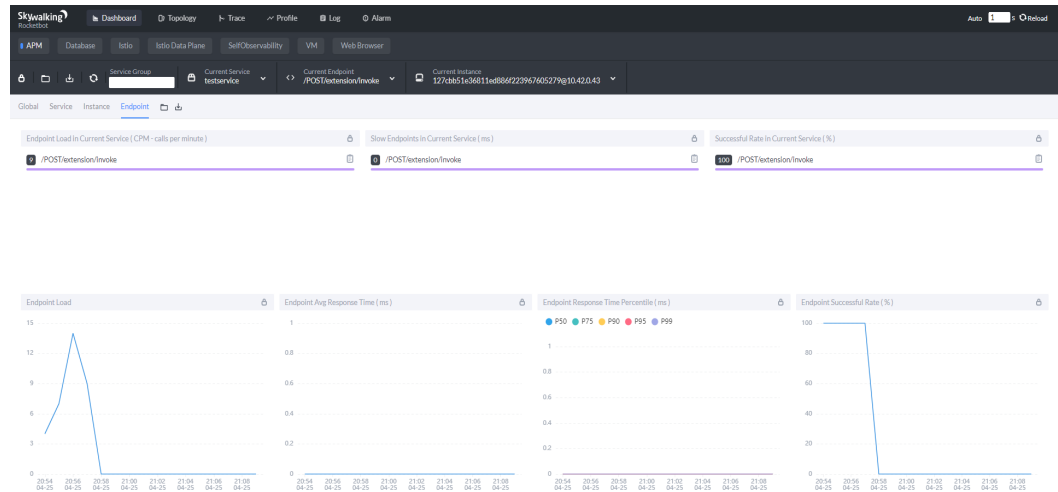
*extensionDemo.sh*

*Extension # Generated binary file*

**Service** page after successful connection



**Endpoint** page



## 5.2 Telemetry APIs

### 5.2.1 Introduction

With the OpenTelemetry APIs of FunctionGraph, extensions can receive telemetry data from FunctionGraph when functions are initialized or invoked, and collect logs generated during function and extension execution.

During execution, send a subscription request from an extension to the specified OpenTelemetry API. FunctionGraph then automatically sends all telemetry data to your extension for processing, for example, storing to OBS, writing to files, or forwarding to other observability tools.

Extensions can subscribe to three different telemetry streams using OpenTelemetry APIs:

1. Platform: Logs, metrics, and traces, which describe events and errors related to the runtime lifecycle, extension lifecycle, and function invocation.
2. Function: Custom logs generated by function code.
3. Extension: Custom logs generated by extension code.

#### 5.2.1.1 Using OpenTelemetry APIs with an Extension

Telemetry is a special extension, and can be enabled only after the following operations are performed in the extension process:

1. Before using OpenTelemetry APIs, register them with your extension by referring to the extension API description.
2. Start an `HttpClient` on the extension to send an OpenTelemetry API registration request to FunctionGraph.
3. Create an `HttpServer` (telemetry listener) to receive telemetry data from FunctionGraph for custom processing.

 NOTE

Only one telemetry extension can be created. Similar to the extension API, the OpenTelemetry API must also be within 127.0.0.1:8081 and 127.0.0.1:8090.

Example telemetry extension: [Telemetry.zip](#)

### 5.2.1.2 Registering OpenTelemetry APIs

**http://\${EXTENSION\_API\_ADDR}/telemetry**

Use environment variable **EXTENSION\_API\_ADDR** to obtain the API registration address provided by FunctionGraph. For example, for Python, use the **os.getenv("EXTENSION\_API\_ADDR")** method to obtain the registration address.

#### Path

- /telemetry

#### Method

- POST

#### Body Parameters

```
{
  "subscriber": {
    "protocol": "POST",
    "uri": "http://127.0.0.1:{PORT}"
  },
  "types": ["platform", "function", "extension"],
}
```

 NOTE

- The request body must contain the preceding JSON fields.
- **protocol** indicates the request type. The value must be **POST**.
- **uri** indicates the URI of the telemetry listener in the extension process for receiving telemetry data from FunctionGraph. **PORT** ranges from 8081 to 8090.
- **types** indicates the event types to subscribe to. The options are **platform**, **function**, and **extension**.

#### Response Codes

**200** - Subscription request successful.

**400** - Request error with a message returned.

**500** - Service error.

### 5.2.1.3 Processing Telemetry Data

URL: **http://localhost:{PORT}**, where **localhost** indicates the local host IP address **127.0.0.1**.

After event subscription with telemetry APIs, the extension receives telemetry data from FunctionGraph using the telemetry listener. Each POST request contains an Event object array in the body.



There are three event types you can subscribe to: platform, function, and extension.

| Category        | Event Type | Description         |
|-----------------|------------|---------------------|
| Platform events | platform   | Function execution  |
| Function logs   | function   | Function code logs  |
| Extension logs  | extension  | Extension code logs |

platform events

| Category                   | Subtype                     | Meaning                        | Data Structure   | Example   |
|----------------------------|-----------------------------|--------------------------------|--|---|
| Function is being invoked. | platform.initStart          | Function is being initialized. | Event: Object<br>- name: String = platform.initStart -- Event type<br>- startTime: String -- Start time<br>- traceId: String -- Request ID   | <pre>{   "name": "platform.initStart",   "startTime": "2023-02-01T00:03:50.000Z",   "traceId": "69be64a7-0233-11e8-82e4-e5d37911193e" }</pre>                               |
|                            | platform.start              | Function is being invoked.     |  |   |
|                            | platform.restoreStart       | Environment is being restored. |  |   |
| Invocation completed       | platform.initRuntimeDone,   | Function is initialized.       | Event: Object<br>- name: String = platform.initRuntimeDone -- Event type<br>- startTime: String -- Start time<br>- traceId: String -- Request ID<br>- status: String -- Request status | <pre>{   "name": "platform.initRuntimeDone",   "startTime": "2023-02-01T00:03:50.000Z",   "traceId": "69be64a7-0233-11e8-82e4-e5d37911193e",   "status": "success", }</pre> |
|                            | platform.RuntimeDone        | Function is invoked.           |  |   |
|                            | platform.restoreRuntimeDone | Environment is restored.       |  |   |

| Category          | Subtype                | Meaning                        | Data Structure  | Example  |
|-------------------|------------------------|--------------------------------|---|--|
| Invocation report | platform.initReport    | Initialization report          | Event: Object<br>- name: String = platform.initReport   platform.report   platform.restoreReport -- Event type<br>- startTime: String -- Start time<br>- traceId: String -- Request ID<br>- endTime: String -- End time<br>- status: String -- Request status<br>- metrics: reportMetrics -- Invocation data<br>reportMetrics: Object<br>- durationMs: float64 -- Invocation duration<br>- billingDurationMS: float64 -- Billed duration<br>- memoryUsed: float64 -- Memory used<br>- memorySize: int -- Memory size<br>- podName: String -- Pod name | <pre>{   "name": "platform.initReport",   "startTime": "2023-02-01T00:03:50.000Z",   "traceId": "69be64a7-0233-11e8-82e4-e5d37911193e",   "endTime": "2023-02-02T00:03:50.000Z",   "status": "success",   "reportMetrics": {     "durationMs": 10.6,     "billingDurationMS": 11,     "memoryUsed": 23.4,     "memorySize": 128,     "podName": "pool22-300-128-fusion-64774779-4g77v"   } }</pre> |
|                   | platform.report        | Invocation report              |   |  |
|                   | platform.restoreReport | Environment restoration report |   |  |

function events

| Type     | Data Structure   | Example  |
|----------|--|--|
| Function | Event: Object<br>- name: String -- Event type<br>- startTime: String -- Start time<br>- logs: string -- Logs | Add <b>[Function]</b> to the logs to collect. Example:<br><b>[Function] This is a simple log.</b><br><pre>{   "name": "function",   "startTime":     "2023-02-01T00:03:50.000Z",   "logs": "[Function]this is a simple log." }</pre> |

extension events

| Type      | Data Structure   | Example  |
|-----------|--|--|
| Extension | Event: Object<br>- name: String -- Event type<br>- startTime: String -- Start time<br>- logs: string -- Logs | Add <b>[Extension]</b> to the logs to collect. Example:<br><b>[Extension] This is a simple log.</b><br><pre>{   "name": "extension",   "startTime":     "2023-02-01T00:03:50.000Z",   "logs": "[Extension]this is a simple log." }</pre> |

# 6 APIs

## 6.1 Function Invocation

### 6.1.1 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 6-1** Path Parameters

| Parameter    | Mandatory | Type   | Description   |
|--------------|-----------|--------|---|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-2** Request header parameters

| Parameter             | Mandatory | Type   | Description  |
|-----------------------|-----------|--------|--|
| X-Auth-Token          | Yes       | String | User token.<br>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.                 |
| Content-Type          | Yes       | String | Message body type (format).  |
| 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.<br>Options: v0 and v1. <ul style="list-style-type: none"><li>v0: text format.</li><li>v1: JSON format. Select this format when using an SDK.</li></ul> |

**Table 6-3** Request body parameters

| Parameter        | Mandatory | Type   | Description                            |
|------------------|-----------|--------|--|
| {Customized_key} | Yes       | Object | Request body for executing a function. |

## Response Parameters

**Status code: 200****Table 6-4** Response header parameters

| Parameter            | Type   | Description                                      |
|----------------------|--------|--|
| X-Cff-Invoke-Summary | String | Execution summary of the synchronous invocation. |
| X-Cff-Request-Id     | String | Request ID of the synchronous invocation.        |

| Parameter              | Type   | Description   |
|------------------------|--------|---|
| X-Cff-Function-Log     | String | User log of the synchronous invocation. Set X-Cff-Log-Type:tail in the request header. Intercept and encode the last 2,000 bytes of the log using Base64. |
| X-CFF-Billing-Duration | String | Billing information of the synchronous invocation.  |
| X-Cff-Response-Version | String | Response format:<br>v0: text format<br>v1: JSON format  |
| X-Func-Err-Code        | String | Error code of the synchronous invocation. The value is 0 if the execution is successful.  |
| X-Is-Func-Err          | String | Indicates whether the error occurs in a user function.  |

**Table 6-5** Response body parameters

| Parameter  | Type    | Description                |
|------------|---------|----------------------------|
| request_id | String  | Request ID.                |
| result     | String  | Function execution result. |
| log        | String  | Function execution log.    |
| status     | Integer | Function execution status. |

**Status code: 400****Table 6-6** Response body parameters

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

**Status code: 401**

**Table 6-7** Response body parameters

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

**Status code: 403****Table 6-8** Response body parameters

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

**Status code: 404****Table 6-9** Response body parameters

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

**Status code: 500****Table 6-10** Response body parameters

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

**Status code: 503****Table 6-11** Response body parameters

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

## Example Requests

Execute a function synchronously with the request parameter as a key pair ("k":"v").

```
POST /v2/{project_id}/fgs/functions/{function_urn}/invocations
{
  "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](#).

## 6.1.2 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 6-12** Path Parameters

| Parameter    | Mandatory | Type   | Description   |
|--------------|-----------|--------|---|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-13** Request header parameters

| Parameter    | Mandatory | Type   | Description  |
|--------------|-----------|--------|--|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).  |

**Table 6-14** 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 6-15** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| request_id | String | Request ID. |

**Status code: 400****Table 6-16** Response body parameters

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

**Status code: 401****Table 6-17** Response body parameters

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

**Status code: 403****Table 6-18** Response body parameters

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

**Status code: 404****Table 6-19** Response body parameters

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

**Status code: 500****Table 6-20** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |

| Parameter | Type   | Description    |
|-----------|--------|----------------|
| error_msg | String | Error message. |

**Status code: 503**

**Table 6-21** Response body parameters

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

## Example Requests

Execute a function asynchronously with the request parameter as a key pair ("k":"v").

```
POST /v2/{project_id}/fgs/functions/{function_urn}/invocations-async
{
  "body": {
    "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. |

| Status Code | Description          |
|-------------|----------------------|
| 503         | Service unavailable. |

## Error Codes

See [Error Codes](#).

# 6.2 Function Quotas

## 6.2.1 Querying Tenant Quotas

### Function

This API is used to query tenant quotas.

### URI

GET /v2/{project\_id}/fgs/quotas

**Table 6-22** Path Parameters

| Parameter  | Mandatory | Type   | Description   |
|------------|-----------|--------|---|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 6-23** Request header parameters

| Parameter    | Mandatory | Type   | Description  |
|--------------|-----------|--------|--|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).  |

## Response Parameters

Status code: 200

**Table 6-24** Response body parameters

| Parameter | Type                    | Description        |
|-----------|-------------------------|--------------------|
| quotas    | ListQuotasResult object | Quota information. |

**Table 6-25** ListQuotasResult

| Parameter | Type                       | Description |
|-----------|----------------------------|-------------|
| resources | Array of Resources objects | Quota list. |

**Table 6-26** Resources

| Parameter | Type    | Description     |
|-----------|---------|-----------------|
| quota     | Integer | Function quota. |
| used      | Integer | Used quota.     |

| Parameter | Type   | Description   |
|-----------|--------|---|
| type      | String | Resource type.<br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>fgs_func_scale_down_timeout</b>:Release time of idle function instances in FunctionGraph v1.</li> <li>• <b>fgs_func_occurs</b>:Indicates instance quota for functions in FunctionGraph v1 and reserved instance quota for functions in FunctionGraph v2.</li> <li>• <b>fgs_func_pat_idle_time</b>:Release time of idle PAT in VPC function.</li> <li>• <b>fgs_func_num</b>:User function quantity quota.</li> <li>• <b>fgs_func_code_size</b>:Total code size quota of user functions.</li> <li>• <b>fgs_workflow_num</b>:Function flow quantity quota.</li> <li>• <b>fgs_on_demand_instance_limit</b>:Maximum number of instances per function in FunctionGraph v2.</li> <li>• <b>fgs_func_qos_limit</b>:Instance quantity quota of user functions.</li> </ul> |
| unit      | String | Resource unit. For fgs_func_code_size, the unit is MB. In other scenarios, there is no unit.  |

**Status code: 400**

**Table 6-27** Response body parameters

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

**Status code: 401**

**Table 6-28** Response body parameters

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

**Status code: 403**

**Table 6-29** Response body parameters

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

**Status code: 500**

**Table 6-30** 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](#).

# 6.3 Dependencies

## 6.3.1 Querying Dependencies

### Function

This API is used to query all dependencies.

### URI

GET /v2/{project\_id}/fgs/dependencies

**Table 6-31** Path Parameters

| Parameter  | Mandatory | Type   | Description   |
|------------|-----------|--------|---|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |



**Table 6-32** 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.  |
| 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: <ul style="list-style-type: none"><li>• Python 2.7</li><li>• Python 3.6</li><li>• Python 3.9</li><li>• Python 3.10</li><li>• Go 1.x</li><li>• Java 8</li><li>• Java 11</li><li>• Node.js 6.10</li><li>• Node.js 8.10</li><li>• Node.js 10.16</li><li>• Node.js 12.13</li><li>• Node.js 14.18</li><li>• Node.js16.17</li><li>• Node.js18.15</li><li>• C# (.NET Core 2.1)</li><li>• C# (.NET Core 3.1)</li><li>• Custom</li><li>• PHP 7.3</li><li>• HTTP</li><li>• Custom Image</li><li>• Cangjie1.0</li></ul> |
| 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 6-33** Request header parameters

| Parameter    | Mandatory | Type   | Description  |
|--------------|-----------|--------|--|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).  |

## Response Parameters

**Status code: 200****Table 6-34** Response body parameters

| Parameter    | Type  | Description                   |
|--------------|---|-------------------------------|
| dependencies | Array of <a href="#">ListDependenciesResult</a> objects | Dependency list.              |
| next_marker  | Long  | Next read location.           |
| count        | Long  | Total number of dependencies. |

**Table 6-35** 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 | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| 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 6-36** Response body parameters

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

**Status code: 403****Table 6-37** Response body parameters

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

**Status code: 404****Table 6-38** Response body parameters

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

**Status code: 500****Table 6-39** 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](#).

## 6.3.2 Creating a Dependency(To Be Discarded)

### Function

This API is used to create a dependency.

### URI

POST /v2/{project\_id}/fgs/dependencies

**Table 6-40** Path Parameters

| Parameter  | Mandatory | Type   | Description   |
|------------|-----------|--------|---|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 6-41** Request header parameters

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

**Table 6-42** 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. The size of the ZIP file cannot exceed 40 MB. For a larger file, upload it through OBS. |
| 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 | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>Java8</b></li> <li>• <b>Java11</b></li> <li>• <b>Node.js6.10</b></li> <li>• <b>Node.js8.10</b></li> <li>• <b>Node.js10.16</b></li> <li>• <b>Node.js12.13</b></li> <li>• <b>Node.js14.18</b></li> <li>• <b>Node.js16.17</b></li> <li>• <b>Node.js18.15</b></li> <li>• <b>Python2.7</b></li> <li>• <b>Python3.6</b></li> <li>• <b>Python3.10</b></li> <li>• <b>Go1.x</b></li> <li>• <b>C#(.NET Core 2.1)</b></li> <li>• <b>C#(.NET Core 3.1)</b></li> <li>• <b>Custom</b></li> <li>• <b>PHP7.3</b></li> <li>• <b>Python3.9</b></li> <li>• <b>http</b></li> <li>• <b>Custom Image</b></li> <li>• <b>Cangjie1.0</b></li> </ul> |
| name      | Yes       | String | <p>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.</p>  |

| Parameter   | Mandatory | Type   | Description   |
|-------------|-----------|--------|---|
| description | No        | String | Description of the dependency, which can contain a maximum of 512 characters. |

## Response Parameters

Status code: 200

Table 6-43 Response body parameters

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



| Parameter   | Type   | Description   |
|-------------|--------|---|
| runtime     | String | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| 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 6-44** Response body parameters

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

**Status code: 401****Table 6-45** Response body parameters

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

**Status code: 403****Table 6-46** Response body parameters

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

**Status code: 404****Table 6-47** Response body parameters

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

**Status code: 500****Table 6-48** Response body parameters

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

**Status code: 503****Table 6-49** 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" : "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. |

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

## Error Codes

See [Error Codes](#).

## 6.3.3 Creating a Dependency Version

### Function

This API is used to create a dependency version.

### URI

POST /v2/{project\_id}/fgs/dependencies/version

**Table 6-50** Path Parameters

| Parameter  | Mandatory | Type   | Description   |
|------------|-----------|--------|---|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 6-51** Request header parameters

| Parameter    | Mandatory | Type   | Description  |
|--------------|-----------|--------|--|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).  |

**Table 6-52** 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. The size of the ZIP file cannot exceed 40 MB. For a larger file, upload it through OBS. |
| 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 | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>Java8</b></li> <li>• <b>Java11</b></li> <li>• <b>Node.js6.10</b></li> <li>• <b>Node.js8.10</b></li> <li>• <b>Node.js10.16</b></li> <li>• <b>Node.js12.13</b></li> <li>• <b>Node.js14.18</b></li> <li>• <b>Node.js16.17</b></li> <li>• <b>Node.js18.15</b></li> <li>• <b>Python2.7</b></li> <li>• <b>Python3.6</b></li> <li>• <b>Python3.10</b></li> <li>• <b>Go1.x</b></li> <li>• <b>C#(.NET Core 2.1)</b></li> <li>• <b>C#(.NET Core 3.1)</b></li> <li>• <b>Custom</b></li> <li>• <b>PHP7.3</b></li> <li>• <b>Python3.9</b></li> <li>• <b>http</b></li> <li>• <b>Custom Image</b></li> <li>• <b>Cangjie1.0</b></li> </ul> |
| name      | Yes       | String | <p>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.</p>  |

| Parameter   | Mandatory | Type   | Description   |
|-------------|-----------|--------|---|
| description | No        | String | Description of the dependency, which can contain a maximum of 512 characters. |

## Response Parameters

Status code: 200

Table 6-53 Response body parameters

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

| Parameter     | Type   | Description   |
|---------------|--------|---|
| runtime       | String | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| 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 6-54** Response body parameters

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

**Status code: 403****Table 6-55** Response body parameters

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

**Status code: 404****Table 6-56** Response body parameters

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

**Status code: 500****Table 6-57** 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.          |
| 403         | Forbidden.             |
| 404         | Not found.             |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.3.4 Querying Dependency Versions

### Function

This API is used to query dependency versions.

## URI

GET /v2/{project\_id}/fgs/dependencies/{depend\_id}/version

**Table 6-58** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| depend_id  | Yes       | String | Dependency ID.                                                        |

**Table 6-59** 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 6-60** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200**

**Table 6-61** Response body parameters

| Parameter    | Type                                                 | Description                   |
|--------------|------------------------------------------------------|-------------------------------|
| dependencies | Array of <b>ListDependencyVersionsResult</b> objects | Dependency list.              |
| next_marker  | Long                                                 | Next read position.           |
| count        | Long                                                 | Total number of dependencies. |

**Table 6-62** ListDependencyVersionsResult

| Parameter | Type   | Description                                                       |
|-----------|--------|-------------------------------------------------------------------|
| id        | String | Dependency version ID.                                            |
| owner     | String | Dependency owner. public indicates that the dependency is public. |
| link      | String | URL of the dependency in OBS.                                     |

| Parameter     | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime       | String | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| etag          | String | Unique identifier of the dependency (MD5 verification value).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| size          | Long   | Size of the dependency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| name          | String | Dependency name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| file_name     | String | Dependency file name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| description   | String | Dependency description.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| version       | Long   | Dependency version.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| last_modified | Long   | Time when the dependency was last updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| dep_id        | String | Dependency ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter | Type    | Description                                             |
|-----------|---------|---------------------------------------------------------|
| is_shared | Boolean | Whether to share the dependency version.<br>(discarded) |

**Status code: 401****Table 6-63** Response body parameters

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

**Status code: 403****Table 6-64** Response body parameters

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

**Status code: 404****Table 6-65** Response body parameters

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

**Status code: 500****Table 6-66** 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 /v2/{project_id}/fgs/dependencies/{depend_id}/version?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](#).

## 6.3.5 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 6-67** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| depend_id  | Yes       | String | Dependency ID.                                                        |
| version    | Yes       | String | Dependence version.                                                   |

## Request Parameters

**Table 6-68** Request header parameters

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

## Response Parameters

**Status code: 200**

**Table 6-69** Response body parameters

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



| Parameter     | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime       | String | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| etag          | String | Unique identifier of the dependency (MD5 verification value).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| dep_id        | String | Dependency ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter     | Type    | Description                                          |
|---------------|---------|------------------------------------------------------|
| download_link | String  | Temporary download link of a dependency file.        |
| is_shared     | Boolean | Whether to share the dependency version. (discarded) |

**Status code: 401****Table 6-70** Response body parameters

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

**Status code: 403****Table 6-71** Response body parameters

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

**Status code: 404****Table 6-72** Response body parameters

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

**Status code: 500****Table 6-73** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |

| Parameter | Type   | Description    |
|-----------|--------|----------------|
| error_msg | String | Error message. |

## Example Requests

Query dependencies of the current tenant.

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

## 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](#).

## 6.3.6 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 6-74** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| depend_id  | Yes       | String | Dependency ID.                                                        |
| version    | Yes       | String | Dependence version.                                                   |

## Request Parameters

**Table 6-75** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 400**

**Table 6-76** Response body parameters

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

**Status code: 401**

**Table 6-77** Response body parameters

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

**Status code: 403****Table 6-78** Response body parameters

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

**Status code: 404****Table 6-79** Response body parameters

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

**Status code: 500****Table 6-80** 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             |
| 400         | Bad request.           |
| 401         | Unauthorized.          |
| 403         | Forbidden.             |
| 404         | Not found.             |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

### 6.3.7 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 6-81** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| depend_id  | Yes       | String | Dependency ID.                                                        |

## Request Parameters

**Table 6-82** Request header parameters

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

## Response Parameters

### Status code: 400

**Table 6-83** Response body parameters

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

### Status code: 401

**Table 6-84** Response body parameters

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

### Status code: 403

**Table 6-85** Response body parameters

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

### Status code: 404

**Table 6-86** Response body parameters

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

**Status code: 500****Table 6-87** 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             |
| 400         | Bad request.           |
| 401         | Unauthorized.          |
| 403         | Forbidden.             |
| 404         | Not found.             |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).



## 6.3.8 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 6-88** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| depend_id  | Yes       | String | Dependency ID.                                                        |

### Request Parameters

**Table 6-89** Request header parameters

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

### Response Parameters

**Status code: 200**

**Table 6-90** 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 | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| 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 6-91** Response body parameters

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

**Status code: 403****Table 6-92** Response body parameters

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

**Status code: 404****Table 6-93** Response body parameters

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

**Status code: 500****Table 6-94** 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](#).

## 6.3.9 Updating a Dependency

### Function

This API is used to update a specified dependency.

### URI

PUT /v2/{project\_id}/fgs/dependencies/{depend\_id}

**Table 6-95** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| depend_id  | Yes       | String | Dependency ID.                                                        |

## Request Parameters

**Table 6-96** Request header parameters

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

**Table 6-97** 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. The size of the ZIP file cannot exceed 40 MB. For a larger file, upload it through OBS. |
| 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 | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>Java8</b></li> <li>• <b>Java11</b></li> <li>• <b>Node.js6.10</b></li> <li>• <b>Node.js8.10</b></li> <li>• <b>Node.js10.16</b></li> <li>• <b>Node.js12.13</b></li> <li>• <b>Node.js14.18</b></li> <li>• <b>Node.js16.17</b></li> <li>• <b>Node.js18.15</b></li> <li>• <b>Python2.7</b></li> <li>• <b>Python3.6</b></li> <li>• <b>Python3.10</b></li> <li>• <b>Go1.x</b></li> <li>• <b>C#(.NET Core 2.1)</b></li> <li>• <b>C#(.NET Core 3.1)</b></li> <li>• <b>Custom</b></li> <li>• <b>PHP7.3</b></li> <li>• <b>Python3.9</b></li> <li>• <b>http</b></li> <li>• <b>Custom Image</b></li> <li>• <b>Cangjie1.0</b></li> </ul> |
| name      | Yes       | String | <p>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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Parameter   | Mandatory | Type   | Description                                                                   |
|-------------|-----------|--------|-------------------------------------------------------------------------------|
| description | No        | String | Description of the dependency, which can contain a maximum of 512 characters. |

## Response Parameters

Status code: 200

Table 6-98 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 | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| 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 6-99** Response body parameters

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

**Status code: 401****Table 6-100** Response body parameters

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

**Status code: 403****Table 6-101** Response body parameters

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

**Status code: 404****Table 6-102** Response body parameters

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

**Status code: 500****Table 6-103** 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](#).

## 6.4 Test Events

## 6.4.1 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 6-104** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

### Request Parameters

**Table 6-105** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

Status code: 200

**Table 6-106** Response body parameters

| Parameter | Type                                              | Description                  |
|-----------|---------------------------------------------------|------------------------------|
| count     | Integer                                           | Total number of test events. |
| events    | Array of <a href="#">ListEventsResult</a> objects | Test event list.             |

| Parameter   | Type | Description         |
|-------------|------|---------------------|
| next_marker | Long | Next read location. |

**Table 6-107** ListEventsResult

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

**Status code: 400****Table 6-108** Response body parameters

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

**Status code: 401****Table 6-109** Response body parameters

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

**Status code: 403****Table 6-110** Response body parameters

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

**Status code: 404**

**Table 6-111** Response body parameters

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

**Status code: 500****Table 6-112** 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.    |

| Status Code | Description            |
|-------------|------------------------|
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.4.2 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 6-113** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

### Request Parameters

**Table 6-114** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-115** Request body parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                               |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Yes       | String | Test event name. Max. 25 of letters, digits, hyphens (-), and underscores (_). Start with a letter, and end with a letter or digit.<br><br>Minimum length: 1 character.<br>Maximum length: 25 characters. |
| content   | Yes       | String | Test event content, which is a Base64-encoded JSON character string.                                                                                                                                      |

## Response Parameters

**Status code: 200**

**Table 6-116** Response body parameters

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

**Status code: 400**

**Table 6-117** Response body parameters

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

**Status code: 401**

**Table 6-118** Response body parameters

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

**Status code: 403****Table 6-119** Response body parameters

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

**Status code: 404****Table 6-120** Response body parameters

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

**Status code: 500****Table 6-121** Response body parameters

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

## Example Requests

Create a test event named event-xx with content {"k":"v"}.

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/events
{
  "name" : "event-xx",
  "content" : "eyJrJjoidiJ9"
}
```

## 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](#).

### 6.4.3 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 6-122** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |
| event_id     | Yes       | String | Test event ID.                                                        |

## Request Parameters

**Table 6-123** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 400****Table 6-124** Response body parameters

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

**Status code: 401****Table 6-125** Response body parameters

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

**Status code: 403****Table 6-126** Response body parameters

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

**Status code: 404****Table 6-127** Response body parameters

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

**Status code: 500****Table 6-128** Response body parameters

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

## Example Requests

Delete a test event.

```
DELETE https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/events/{event_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](#).

## 6.4.4 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 6-129** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |
| event_id     | Yes       | String | Test event ID.                                                        |

### Request Parameters

**Table 6-130** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

**Status code: 200**

**Table 6-131** Response body parameters

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

| Parameter     | Type   | Description         |
|---------------|--------|---------------------|
| content       | String | Test event content. |
| last_modified | Number | Last update time.   |

**Status code: 400****Table 6-132** Response body parameters

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

**Status code: 401****Table 6-133** Response body parameters

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

**Status code: 403****Table 6-134** Response body parameters

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

**Status code: 404****Table 6-135** Response body parameters

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

**Status code: 500**

**Table 6-136** 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" : "ewogICAgImJvZHkiOiAiAiliwKICAgICJyZXF1ZXN0Q29udGV4d*****"
}
```

## 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](#).

## 6.4.5 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 6-137** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |
| event_id     | Yes       | String | Test event ID.                                                        |

### Request Parameters

**Table 6-138** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-139** Request body parameters

| Parameter | Mandatory | Type   | Description                                                          |
|-----------|-----------|--------|----------------------------------------------------------------------|
| content   | Yes       | String | Test event content, which is a Base64-encoded JSON character string. |

## Response Parameters

### Status code: 200

**Table 6-140** Response body parameters

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

### Status code: 400

**Table 6-141** Response body parameters

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

### Status code: 401

**Table 6-142** Response body parameters

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

### Status code: 403

**Table 6-143** Response body parameters

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

### Status code: 404



**Table 6-144** Response body parameters

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

**Status code: 500****Table 6-145** Response body parameters

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

## Example Requests

Update the content of a specified test event to {"k":"v"}.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/events/{event_id}
{
  "content" : "eyJrljoidiJ9"
}
```

## 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](#).

# 6.5 Function Tracing

## 6.5.1 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 6-146** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

### Request Parameters

**Table 6-147** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

Status code: 200

**Table 6-148** Response body parameters

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

**Status code: 403****Table 6-149** Response body parameters

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

**Status code: 404****Table 6-150** Response body parameters

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

**Status code: 500****Table 6-151** 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](#).

## 6.5.2 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 6-152** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-153** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-154** 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 6-155** Response body parameters

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

**Status code: 403**

**Table 6-156** Response body parameters

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

**Status code: 500****Table 6-157** Response body parameters

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

## Example Requests

Modify the AK/SK in a function's tracing configuration.

```
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](#).

# 6.6 Function Lifecycle Management

## 6.6.1 Querying Functions

### Function

This API is used to query all functions.

### URI

GET /v2/{project\_id}/fgs/functions

**Table 6-158** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

**Table 6-159** Query Parameters

| Parameter | Mandatory | Type   | Description                     |
|-----------|-----------|--------|---------------------------------|
| marker    | No        | String | Final record queried last time. |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                          |
|--------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| maxitems     | No        | String | Maximum number of functions that can be queried each time.<br>Maximum value: 400.<br>If this parameter is not set or is 0 or greater than 400, the default value 400 is used.<br>If this parameter is less than 0, a message indicating parameter error is returned. |
| package_name | No        | String | Name of the group.                                                                                                                                                                                                                                                   |

## Request Parameters

**Table 6-160** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200**

**Table 6-161** Response body parameters

| Parameter   | Type                                                | Description                                                |
|-------------|-----------------------------------------------------|------------------------------------------------------------|
| functions   | Array of <a href="#">ListFunctionResult</a> objects | Function list.                                             |
| next_marker | Long                                                | Next read location.                                        |
| count       | Long                                                | Total number of functions that match the query conditions. |



**Table 6-162** ListFunctionResult

| Parameter    | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resource_id  | String | Resource ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| runtime      | String | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| timeout       | Integer | Maximum duration the function can be executed. Value range: 3s-259,200s.                                                                                                                                                                                                                                                                                                                                                    |
| handler       | String  | Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).<br>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.<br>Minimum length: 3 character.<br>Maximum length: 128 characters.                                                                                                                          |
| memory_size   | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>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.                                                                                                                                                                                                                      |
| code_type     | String  | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url      | String  | Address of the function code package in OBS.                                                                                                                                                                                                                                                                                                                                                                                |
| code_filename | String  | Function file name.                                                                                                                                                                                                                                                                                                                                                                                                         |

| Parameter           | Type                                  | Description                                                                                                                                                                                                                                                                                               |
|---------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                                                                                                                                                                                         |
| 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_config     | <a href="#">StrategyConfig</a> object | Function policy configuration.                                                                                                                                                                                                                                                                            |
| extend_config       | String                                | Extended configuration.                                                                                                                                                                                                                                                                                   |
| initializer_handler | String                                | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                                                                       |

| Parameter                | Type             | Description                                                                                                                                                                                                                                         |
|--------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pre_stop_handler         | String           | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler. |
| pre_stop_timeout         | Integer          | Maximum duration the function can be initialized. Value range: 1s–90s.                                                                                                                                                                              |
| 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 an official version, and v1 indicates a deprecated version.<br>Enumeration values: <ul style="list-style-type: none"><li>• v1</li><li>• v2</li></ul>                                                                                   |
| 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_functionUrns | Array of strings | URNs bound to the bridge function.                                                                                                                                                                                                                  |

**Table 6-163** 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. <ul style="list-style-type: none"><li>• -1: The function has unlimited instances.</li><li>• 0: The function is disabled.</li></ul> |
| concurrent_number | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                      |

**Status code: 401****Table 6-164** Response body parameters

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

**Status code: 403****Table 6-165** Response body parameters

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

**Status code: 404****Table 6-166** Response body parameters

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

**Status code: 500****Table 6-167** 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:xxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
    "resource_id": "0d075978-5a54-4ee1-8e24-ff5bd070xxxx:test",
    "func_name": "test",
    "domain_id": "cff01_hk",
    "namespace": "7aad83af3e8d42e99ac194e8419e2c9b",
    "project_name": "xxxxxxx",
    "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,
    "pre_stop_handler": "index.pre_stop_handler",
    "pre_stop_timeout": 3
  } ],
  "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](#).

## 6.6.2 Creating a Function

### Function

This API is used to create a function.

### URI

POST /v2/{project\_id}/fgs/functions

**Table 6-168** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 6-169** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-170** Request body parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                         |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| func_name | Yes       | String | Function name. Max. 60 of letters, digits, hyphens (-), and underscores (_). Start with a letter, and end with a letter or digit.<br>Minimum length: 1 character.<br>Maximum length: 60 characters. |
| package   | Yes       | String | Group to which the function belongs. This field is defined to group functions.                                                                                                                      |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime   | Yes       | String  | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>Java8</b></li> <li>• <b>Java11</b></li> <li>• <b>Node.js6.10</b></li> <li>• <b>Node.js8.10</b></li> <li>• <b>Node.js10.16</b></li> <li>• <b>Node.js12.13</b></li> <li>• <b>Node.js14.18</b></li> <li>• <b>Node.js16.17</b></li> <li>• <b>Node.js18.15</b></li> <li>• <b>Python2.7</b></li> <li>• <b>Python3.6</b></li> <li>• <b>Python3.10</b></li> <li>• <b>Go1.x</b></li> <li>• <b>C#(.NET Core 2.1)</b></li> <li>• <b>C#(.NET Core 3.1)</b></li> <li>• <b>Custom</b></li> <li>• <b>PHP7.3</b></li> <li>• <b>Python3.9</b></li> <li>• <b>http</b></li> <li>• <b>Custom Image</b></li> <li>• <b>Cangjie1.0</b></li> </ul> |
| timeout   | Yes       | Integer | <p>Maximum duration the function can be executed. Value range: 3s-259,200s.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



| Parameter           | Mandatory | Type                           | Description                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|-----------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| handler             | Yes       | String                         | Handler of the function. Max. 60 of letters.<br>It must be in the format of "xx.xx" and contain a period (.). For a function created with a custom image, the handler must be "-".<br>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.<br>Minimum length: 3 character.<br>Maximum length: 128 characters. |
| depend_version_list | No        | Array of strings               | Dependency version IDs.                                                                                                                                                                                                                                                                                                                                                             |
| func_vpc            | No        | <a href="#">FuncVpc</a> object | VPC configuration. An agency with VPC permissions must be configured for the function.                                                                                                                                                                                                                                                                                              |
| memory_size         | Yes       | Integer                        | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>The value ranges from 128 to 4096.                                                                                                                                                                                                   |

| Parameter     | Mandatory | Type                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| code_type     | No        | String                    | Function code type. Options:<br>inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br><br>This parameter is optional for custom image functions, but mandatory for other functions.<br><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url      | No        | String                    | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                                                                                                                             |
| code_filename | No        | String                    | Name of a function file. This parameter is mandatory only when code_type is set to jar or zip.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| custom_image  | No        | <b>CustomImage</b> object | Container image. This parameter is mandatory only when code_type is set to Custom-Image-Swr.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 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.                                                                                                                                                                                                                                                                    |

| Parameter            | Mandatory | Type                      | Description                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|-----------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| encrypted_use_r_data | No        | String                    | Name/value information to be encrypted. For example, if a function needs an encryption password, define password={1234}. You can define a maximum of 20 such parameters, and their total length cannot exceed 4 KB.                                                                                                                                                                                        |
| xrole                | No        | String                    | Configuration agency. You need to create an agency on the IAM console. This field is mandatory when a function needs to access other services. After specifying a function configuration agency, you can use the context method in the function handler to obtain a token, an AK, and an SK for accessing other cloud services. No agency is required if FunctionGraph does not access any cloud services. |
| app_xrole            | No        | String                    | Execution agency. You can optimize performance by configuring a separate agency for function execution, otherwise, the same agency is used for both execution and configuration.                                                                                                                                                                                                                           |
| description          | No        | String                    | Function description.                                                                                                                                                                                                                                                                                                                                                                                      |
| func_code            | No        | <b>FuncCode</b> object    | Response body of the FuncCode struct.                                                                                                                                                                                                                                                                                                                                                                      |
| mount_config         | No        | <b>MountConfig</b> object | Mounting configuration.                                                                                                                                                                                                                                                                                                                                                                                    |
| initializer_handler  | No        | String                    | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                 |
| pre_stop_handler      | No        | String                                         | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler. |
| pre_stop_timeout      | No        | Integer                                        | Maximum duration the function can be initialized. Value range: 1s-90s.                                                                                                                                                                              |
| 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.<br>Default: <b>v2</b><br>Enumeration values: <ul style="list-style-type: none"><li>• v1</li><li>• v2</li></ul>                                                             |
| log_config            | No        | <a href="#">FuncLogConfig</a> object           | Function log configuration.                                                                                                                                                                                                                         |
| network_controller    | No        | <a href="#">NetworkControllerConfig</a> 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.                                                                                                                                                                                                        |

**Table 6-171** FuncVpc

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

**Table 6-172** 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. |
| 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 6-173** 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. |

| Parameter | Mandatory | Type   | Description        |
|-----------|-----------|--------|--------------------|
| link      | No        | String | Function code URL. |

**Table 6-174** MountConfig

| Parameter   | Mandatory | Type                                       | Description        |
|-------------|-----------|--------------------------------------------|--------------------|
| mount_user  | Yes       | <a href="#">MountUser</a> object           | User information.  |
| func_mounts | Yes       | Array of <a href="#">FuncMount</a> objects | Mounted resources. |

**Table 6-175** 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 6-176** 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. |
| 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 6-177** 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 6-178** NetworkControlConfig

| Parameter              | Mandatory | Type                                       | Description             |
|------------------------|-----------|--------------------------------------------|-------------------------|
| disable_public_network | No        | Boolean                                    | Disable public access.  |
| trigger_access_vpcs    | No        | Array of <a href="#">VpcConfig</a> objects | VPC access restriction. |

**Table 6-179** VpcConfig

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

## Response Parameters

Status code: 200

**Table 6-180** Response body parameters

| Parameter | Type   | Description                                        |
|-----------|--------|----------------------------------------------------|
| func_id   | String | Function ID, which uniquely identifies a function. |
| func_urn  | String | Function URN.                                      |
| func_name | String | Function name.                                     |
| domain_id | String | Domain ID.                                         |

| Parameter    | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| namespace    | String  | Project ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| project_name | String  | Project name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| package      | String  | Group to which the function belongs. This field is defined to group functions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| runtime      | String  | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |
| timeout      | Integer | Maximum duration the function can be executed. Value range: 3s-259,200s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| handler       | String  | Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).<br>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.<br>Minimum length: 3 character.<br>Maximum length: 128 characters.                                                                                                                          |
| memory_size   | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>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.                                                                                                                                                                                                                      |
| code_type     | String  | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url      | String  | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                     |
| code_filename | String  | Name of a function file. This parameter is mandatory only when code_type is set to jar or zip.                                                                                                                                                                                                                                                                                                                              |
| code_size     | Long    | Code size in bytes.                                                                                                                                                                                                                                                                                                                                                                                                         |
| domain_names  | String  | Private domain name configured for resolution.                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter               | Type                                  | Description                                                                                                                                                                                                                                                                  |
|-------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| user_data               | String                                | Name/Value information defined for the function.<br><br>These are parameters used in a function.<br><br>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.                                                                                                                                                                                                                                                            |
| 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                | <a href="#">FuncVpc</a> object        | VPC configuration. An agency with VPC permissions must be configured for the function.                                                                                                                                                                                       |
| mount_config            | <a href="#">MountConfig</a> object    | Mounting configuration.                                                                                                                                                                                                                                                      |
| reserved_instance_count | Integer                               | The number of instances reserved for a function.                                                                                                                                                                                                                             |
| depend_list             | Array of strings                      | Dependency ID list.                                                                                                                                                                                                                                                          |
| depend_version_list     | Array of strings                      | Dependency version IDs.                                                                                                                                                                                                                                                      |
| strategy_config         | <a href="#">StrategyConfig</a> object | Function policy configuration.                                                                                                                                                                                                                                               |
| extend_config           | String                                | Extended configuration.                                                                                                                                                                                                                                                      |

| Parameter             | Type                                        | Description                                                                                                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dependencies          | Array of <a href="#">Dependency</a> objects | Dependency packages.                                                                                                                                                                                                                                                                                      |
| initializer_handler   | String                                      | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                                                                       |
| pre_stop_handler      | String                                      | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler.                                                       |
| pre_stop_timeout      | Integer                                     | Maximum duration the function can be initialized. Value range: 1s–90s.                                                                                                                                                                                                                                    |
| 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 an official version, and v1 indicates a deprecated version.<br>Enumeration values: <ul style="list-style-type: none"><li>• v1</li><li>• v2</li></ul>                                                                                                                                         |
| enable_cloud_debug    | String                                      | Whether to enable cloud debugging to adapt to the CloudDebug scenario. (discarded)                                                                                                                                                                                                                        |
| enable_dynamic_memory | Boolean                                     | Whether to enable dynamic memory allocation.                                                                                                                                                                                                                                                              |
| is_stateful_function  | Boolean                                     | Whether stateful functions are supported. This parameter is supported in FunctionGraph v2.                                                                                                                                                                                                                |

| Parameter                    | Type                                  | Description                                                                                                                                                                                                                                                                                           |
|------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| custom_image                 | <b>CustomImage</b> object             | Container image.                                                                                                                                                                                                                                                                                      |
| is_bridge_function           | Boolean                               | Whether this is a bridge function.                                                                                                                                                                                                                                                                    |
| apig_route_enabled           | Boolean                               | Whether to configure gateway routing rules.                                                                                                                                                                                                                                                           |
| heartbeat_handler            | String                                | Entry of the heartbeat function in the format of "xx.xx". It must contain a period (.). This parameter can be configured only for Java functions. The heartbeat function entry must be in the same file as your function handler. This parameter is mandatory when the heartbeat function is enabled. |
| enable_class_isolation       | Boolean                               | Indicates whether to enable class isolation. This parameter can be configured only for Java functions. Enable to dump logs to Kafka and improve class loading efficiency. However, this may cause compatibility issues.                                                                               |
| allow_ephemeral_storage      | Boolean                               | Indicates whether ephemeral storage can be configured.                                                                                                                                                                                                                                                |
| ephemeral_storage            | Integer                               | Ephemeral storage. By default, the /tmp directory of each function is 512 MB. You can increase the size to 10,240 MB (10 GB) if necessary.<br>Enumeration values: <ul style="list-style-type: none"><li>• 512</li><li>• 10240</li></ul>                                                               |
| network_controller           | <b>NetworkControllerConfig</b> object | Network configuration.                                                                                                                                                                                                                                                                                |
| resource_id                  | String                                | Resource ID. Unique ID of a function.                                                                                                                                                                                                                                                                 |
| is_return_stream             | Boolean                               | Whether to return stream data. (discarded)                                                                                                                                                                                                                                                            |
| enable_authentication_header | Boolean                               | Whether to add authentication information to request header for custom image-based functions. (This parameter cannot be modified when creating a function.)                                                                                                                                           |

**Table 6-181** FuncVpc

| Parameter          | Type             | Description     |
|--------------------|------------------|-----------------|
| domain_id          | String           | Domain name ID. |
| namespace          | String           | Project ID.     |
| 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_group_ids | Array of strings | Security group. |

**Table 6-182** MountConfig

| Parameter   | Type                                       | Description        |
|-------------|--------------------------------------------|--------------------|
| mount_user  | <a href="#">MountUser</a> object           | User information.  |
| func_mounts | Array of <a href="#">FuncMount</a> objects | Mounted resources. |

**Table 6-183** 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 6-184** 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. |

| Parameter        | Type   | Description                                                                                                  |
|------------------|--------|--------------------------------------------------------------------------------------------------------------|
| 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 6-185** 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. <ul style="list-style-type: none"><li>-1: The function has unlimited instances.</li><li>0: The function is disabled.</li></ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                  |

**Table 6-186** Dependency

| Parameter | Type   | Description                        |
|-----------|--------|------------------------------------|
| id        | String | Dependency version ID.             |
| owner     | String | Domain ID of the dependency owner. |
| link      | String | URL of the dependency on OBS.      |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime       | String  | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |
| 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| version       | Long    | Dependency version ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| dep_id        | String  | Dependency ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| last_modified | Integer | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Table 6-187** 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.                   |

**Table 6-188** NetworkControlConfig

| Parameter              | Type                                       | Description             |
|------------------------|--------------------------------------------|-------------------------|
| disable_public_network | Boolean                                    | Disable public access.  |
| trigger_access_vpcs    | Array of <a href="#">VpcConfig</a> objects | VPC access restriction. |

**Table 6-189** VpcConfig

| Parameter | Type   | Description |
|-----------|--------|-------------|
| vpc_name  | String | VPC name.   |
| vpc_id    | String | VPC ID.     |

**Status code: 400****Table 6-190** Response body parameters

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

**Status code: 401**



**Table 6-191** Response body parameters

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

**Status code: 403****Table 6-192** Response body parameters

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

**Status code: 404****Table 6-193** Response body parameters

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

**Status code: 500****Table 6-194** Response body parameters

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

**Status code: 503****Table 6-195** Response body parameters

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

## Example Requests

- Create a Python 2.7 function with 128 MB memory and 3s timeout. Add environment variable password and mount a disk.

POST [https://{Endpoint}/v2/{project\\_id}/fgs/functions](https://{Endpoint}/v2/{project_id}/fgs/functions)

```
{
  "func_name": "xxx",
  "package": "xxx",
  "runtime": "Python2.7",
  "handler": "index.py",
  "type": "v2",
  "memory_size": 128,
  "timeout": 3,
  "code_type": "inline",
  "mount_config": {
    "mount_user": {
      "user_id": -1,
      "user_group_id": -1
    }
  },
  "func_mounts": [ {
    "mount_resource": "268xxx-d3xx-4cxx-98xx-d1dbxxx",
    "local_mount_path": "/mnt",
    "mount_type": "sfsTurbo"
  } ]
},
"encrypted_user_data": "{\"password\":\"1234\"}",
"func_code": {
  "file": "xxxxx",
  "link": ""
}
}
```

- Create a Python 3.9 function with 128 MB memory and 3s timeout, and upload the code from OBS.

POST [https://{Endpoint}/v2/{project\\_id}/fgs/functions](https://{Endpoint}/v2/{project_id}/fgs/functions)

```
{
  "func_name": "xxx",
  "package": "xxx",
  "runtime": "Python3.9",
  "handler": "index.py",
  "type": "v2",
  "memory_size": 128,
  "timeout": 3,
  "code_type": "obs",
  "code_url": "https:xxx"
}
```

- Create a custom image function named xxx. The memory size is 128 MB, the timeout period is 3s, and the code is uploaded by SWR.

POST [https://{Endpoint}/v2/{project\\_id}/fgs/functions](https://{Endpoint}/v2/{project_id}/fgs/functions)

```
{
  "func_name": "xxx",
  "package": "xxx",
  "runtime": "Custom Image",
  "handler": "-",
  "type": "v2",
  "memory_size": 128,
  "timeout": 3,
  "code_type": "obs",
  "code_url": "https:xxx",
  "xrole": "xxx",
  "custom_image": {
    "enabled": true,
    "image": "swr.xxx"
  }
}
```

## Example Responses

### Status code: 200

ok

```
{
  "func_urn" :
  "urn:fss:xxxxxxxx:c3b2459a6d5e4b548e6777e57852692d:function:default:TestCreateFunctionInPythonSdk:latest",
  "func_name" : "TestCreateFunctionInPythonSdk",
  "domain_id" : "14ee2e3501124efcbca7998baa24xxxx",
  "namespace" : "46b6f338fc3445b8846c71dfb1fbxxxx",
  "project_name" : "xxxxxxxx",
  "package" : "default",
  "runtime" : "Python3.6",
  "timeout" : 3,
  "handler" : "index.handler",
  "memory_size" : 128,
  "encrypted_user_data" : "{\"password\":\"\"}",
  "mount_config" : {
    "mount_user" : {
      "user_id" : -1,
      "user_group_id" : -1
    },
    "func_mounts" : [ {
      "mount_resource" : "268xxx-d3xx-4cxx-98xx-d1dbxxx",
      "local_mount_path" : "/mnt",
      "mount_type" : "sfsTurbo"
    } ]
  },
  "cpu" : 300,
  "code_type" : "inline",
  "code_filename" : "index.py",
  "code_size" : 100,
  "digest" :
  "1c8610d1870731a818a037f1d2adf3223e8ac351aeb293fb1f8eabd2e9820069a61ed8b5d38182e760adc33a307d0e957afc357f415cd8c9c3ff6f0426fd85cd",
  "version" : "latest",
  "image_name" : "latest-191025153727@zehlht",
  "last_modified" : "2019-10-25 15:37:27",
  "strategy_config" : {
    "concurrency" : 0
  }
}
```

### Status code: 400

Bad request.

```
{
  "error_code" : "FSS.0400",
  "error_msg" : "invalid parameter"
}
```

### Status code: 401

Unauthorized.

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

### Status code: 403

Forbidden.

```
{
  "error_code" : "FSS.0403",
}
```

```
"error_msg" : "invalid token"  
}
```

## 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](#).

## 6.6.3 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 6-196** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                              |
|--------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| function_urn | Yes       | String | Function URN. For details, see the function model descriptions.<br><br>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.<br>Example:<br>urn:fss:xxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test. |

## Request Parameters

**Table 6-197** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                      |
|--------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br><br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                      |

## Response Parameters

### Status code: 401

**Table 6-198** Response body parameters

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

### Status code: 403

**Table 6-199** Response body parameters

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

**Status code: 404****Table 6-200** Response body parameters

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

**Status code: 500****Table 6-201** 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](#).

## 6.6.4 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 6-202** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-203** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

Status code: 200

**Table 6-204** Response body parameters

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| func_urn  | String | Function URN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| func_name | String | Function name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| domain_id | String | Domain ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| runtime   | String | Environment for executing a function. Options:<br>Python2.7 Python 3.6 Python 3.9 Python 3.10<br>Go 1.x Java 8 Java 11 Node.js 6.10 Node.js 8.10<br>Node.js 10.16 Node.js 12.13 Node.js 14.18<br>Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1)<br>C# (.NET Core 3.1) Custom PHP 7.3 HTTP<br>Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |



| Parameter           | Type                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| code_type           | String                             | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions.<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url            | String                             | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                      |
| code_filename       | String                             | Name of a function file. This parameter is mandatory only when code_type 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           | <b>FuncCode</b> object             | Response body of the FuncCode struct.                                                                                                                                                                                                                                                                                                                                                                                        |
| depend_list         | Array of strings                   | Dependency ID list.                                                                                                                                                                                                                                                                                                                                                                                                          |
| depend_version_list | Array of strings                   | Dependency version IDs.                                                                                                                                                                                                                                                                                                                                                                                                      |
| strategy_config     | <b>StrategyConfig</b> object       | Function policy configuration.                                                                                                                                                                                                                                                                                                                                                                                               |
| dependencies        | Array of <b>Dependency</b> objects | Dependency packages.                                                                                                                                                                                                                                                                                                                                                                                                         |

**Table 6-205** 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 6-206** 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. <ul style="list-style-type: none"><li>-1: The function has unlimited instances.</li><li>0: The function is disabled.</li></ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                  |

**Table 6-207** Dependency

| Parameter | Type   | Description                        |
|-----------|--------|------------------------------------|
| id        | String | Dependency version ID.             |
| owner     | String | Domain ID of the dependency owner. |
| link      | String | URL of the dependency on OBS.      |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime       | String  | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |
| 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| version       | Long    | Dependency version ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| dep_id        | String  | Dependency ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| last_modified | Integer | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Status code: 400****Table 6-208** Response body parameters

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

**Status code: 401****Table 6-209** Response body parameters

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

**Status code: 403****Table 6-210** Response body parameters

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

**Status code: 404****Table 6-211** Response body parameters

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

**Status code: 500****Table 6-212** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |

| Parameter | Type   | Description    |
|-----------|--------|----------------|
| 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:xxxxxxxx: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.    |

| Status Code | Description            |
|-------------|------------------------|
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.6.5 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 6-213** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-214** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-215** Request body parameters

| Parameter           | Mandatory | Type                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|-----------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| code_type           | Yes       | String                             | Function code type. Options:<br>inline: inline code zip: ZIP file<br>obs: function code stored in an<br>OBS bucket jar: JAR file,<br>mainly for Java functions. For<br>details about how to modify a<br>custom image-based function,<br>see <a href="#">Modify the configuration<br/>of the custom image-based<br/>function</a> .<br><br>Enumeration values: <ul style="list-style-type: none"><li>• inline</li><li>• zip</li><li>• obs</li><li>• jar</li></ul> |
| code_url            | No        | String                             | If code_type is set to obs,<br>enter the OBS URL of the<br>function code package. If<br>code_type is not set to obs,<br>leave this parameter blank.                                                                                                                                                                                                                                                                                                             |
| code_filename       | No        | String                             | Name of a function file. This<br>parameter is mandatory only<br>when code_type is set to jar or<br>zip.                                                                                                                                                                                                                                                                                                                                                         |
| func_code           | Yes       | <a href="#">FuncCode</a><br>object | Response body of the<br>FuncCode struct.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| depend_version_list | No        | Array of<br>strings                | Dependency version IDs.                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Table 6-216** FuncCode

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

## Response Parameters

**Status code: 200**

**Table 6-217** Response body parameters

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| func_urn  | String | Function URN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| func_name | String | Function name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| domain_id | String | Domain ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| runtime   | String | <p>Environment for executing a function. Options:<br/>           Python2.7 Python 3.6 Python 3.9 Python 3.10<br/>           Go 1.x Java 8 Java 11 Node.js 6.10 Node.js 8.10<br/>           Node.js 10.16 Node.js 12.13 Node.js 14.18<br/>           Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1)<br/>           C# (.NET Core 3.1) Custom PHP 7.3 HTTP<br/>           Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>Java8</b></li> <li>• <b>Java11</b></li> <li>• <b>Node.js6.10</b></li> <li>• <b>Node.js8.10</b></li> <li>• <b>Node.js10.16</b></li> <li>• <b>Node.js12.13</b></li> <li>• <b>Node.js14.18</b></li> <li>• <b>Node.js16.17</b></li> <li>• <b>Node.js18.15</b></li> <li>• <b>Python2.7</b></li> <li>• <b>Python3.6</b></li> <li>• <b>Python3.10</b></li> <li>• <b>Go1.x</b></li> <li>• <b>C#(.NET Core 2.1)</b></li> <li>• <b>C#(.NET Core 3.1)</b></li> <li>• <b>Custom</b></li> <li>• <b>PHP7.3</b></li> <li>• <b>Python3.9</b></li> <li>• <b>http</b></li> <li>• <b>Custom Image</b></li> <li>• <b>Cangjie1.0</b></li> </ul> |



| Parameter           | Type                                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| code_type           | String                                      | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions.<br>For details about how to modify a custom image-based function, see <a href="#">Modify the configuration of the custom image-based function</a> .<br><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li></ul> |
| code_url            | String                                      | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                                                                    |
| code_filename       | String                                      | Name of a function file. This parameter is mandatory only when code_type 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           | <a href="#">FuncCode</a> object             | Response body of the FuncCode struct.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| depend_list         | Array of strings                            | Dependency ID list.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| depend_version_list | Array of strings                            | Dependency version IDs.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| strategy_config     | <a href="#">StrategyConfig</a> object       | Function policy configuration.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| dependencies        | Array of <a href="#">Dependency</a> objects | Dependency packages.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Table 6-218** 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 6-219** 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. <ul style="list-style-type: none"><li>-1: The function has unlimited instances.</li><li>0: The function is disabled.</li></ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                  |

**Table 6-220** Dependency

| Parameter | Type   | Description                        |
|-----------|--------|------------------------------------|
| id        | String | Dependency version ID.             |
| owner     | String | Domain ID of the dependency owner. |
| link      | String | URL of the dependency on OBS.      |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime       | String  | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |
| 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| version       | Long    | Dependency version ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| dep_id        | String  | Dependency ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| last_modified | Integer | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Status code: 400****Table 6-221** Response body parameters

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

**Status code: 401****Table 6-222** Response body parameters

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

**Status code: 403****Table 6-223** Response body parameters

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

**Status code: 404****Table 6-224** Response body parameters

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

**Status code: 500****Table 6-225** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |

| Parameter | Type   | Description    |
|-----------|--------|----------------|
| error_msg | String | Error message. |

## Example Requests

- Modify the code of a specified function in inline mode.

PUT https://{Endpoint}/v2/{project\_id}/fgs/functions/{function\_urn}/code

```
{
  "code_filename": "index.zip",
  "code_type": "inline",
  "func_code": {
    "file": "UEsDBAoAAAAIAPQ1M1gNmPLrAAAAAEBAAAIAAAaW5kZXGucHlNjtEOgJAMRd/
5igVfxDALxhjDo0S/wB+YrMgMdMvWGYnh390wEfrU3nVb0xXjG85qLRU
+Sk8NP0UUh3RltjTaUwkNKwVKDuwbA0vQMrDAhK8KsTFsoCeYvsMw2xUkeCvKu0hLRk
+6LIZ0u5s3BwPFwwUEEG/yo6B4vEXcshyBG
+lb437kfNfpEWhATrQmqGtKYVH0Pit8fEdCqM6VQtSGncxYppPz5O3fgFUEsBAh4DCgAAAAG9DUzWA
0iY8usAAAAAQEAAAgAAAAAAAAAAAAAAAAAPMCAAAAGluZGV4LnB5UEsFBgAAAAABAAEANGAAANIAA
AAAAA=="
  }
}
```

- Modify the code of a specified function by uploading a ZIP package.

PUT https://{Endpoint}/v2/{project\_id}/fgs/functions/{function\_urn}/code

```
{
  "code_filename": "index.zip",
  "code_type": "zip",
  "func_code": {
    "file": "UEsDBAoAAAAIAPQ1M1gNmPLrAAAAAEBAAAIAAAaW5kZXGucHlNjtEOgJAMRd/
5igVfxDALxhjDo0S/wB+YrMgMdMvWGYnh390wEfrU3nVb0xXjG85qLRU
+Sk8NP0UUh3RltjTaUwkNKwVKDuwbA0vQMrDAhK8KsTFsoCeYvsMw2xUkeCvKu0hLRk
+6LIZ0u5s3BwPFwwUEEG/yo6B4vEXcshyBG
+lb437kfNfpEWhATrQmqGtKYVH0Pit8fEdCqM6VQtSGncxYppPz5O3fgFUEsBAh4DCgAAAAG9DUzWA
0iY8usAAAAAQEAAAgAAAAAAAAAAAAAAAAAPMCAAAAGluZGV4LnB5UEsFBgAAAAABAAEANGAAANIAA
AAAAA=="
  }
}
```

## 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.js",
  "code_size": 245,
  "digest":
  "39d51ae334ffb239037e194159f4cc9cec31086719aa73db7d0a608343121a290f7115693e008bd01cb12b99a8
03856e83aa96173b26c528c41cfed18267e08f",
  "last_modified": "2019-10-31 11:37:58",
  "func_code": {
    "file":
    "aW1wb3J0IGpz24KZGVmlGhhbmRsZXI0ZXZlbnQsIGVbnRleHQpOgogICAgb3V0cHV0ID0gJ0h0bGxvIE1zZyB
mb3JlbnR5bW9kaWZ5OUIAnIcsganNvbi5kdW1wcyhldmVudCkKICAgIGRlD0gY29udGV4dC5nZXRB2Nlc3NLZXkoK
QogICAgc2sgPSBjb250ZXh0LmdldFNlY3JldEtleSgpCiAgICB0b2t1biA9IGVbnRleHQzRva2VuOicgKyB0b2t1bgogIC
cHJpbnQgJ2FrOicgKyBhawogICAgcHJpbnQgJ3NrOicgKyBzawogICAgcHJpbnQgJ3Rva2VuOicgKyB0b2t1bgogIC
AgcmV0dXJlG91dHB1dAo+C0NLTqLwKlMnNCTgBMSn5SC+UbkysuKp1Bj7JQqxs+5p7La/ew4RBTp8lusZ/
```

```
k2qmqvCDdoBY0ywYCl
+RgctnLbTS6hLLj9sNyKoVXiXb1BLAQIeAwoAAAAIAAhYOU8ssPQsgwAAALYAAAAIAAAAAAAAAAAAAADzAgA
AAABpbmRleC5weVBLBQYAAAAAAQABADYAAACpAAAAAA="
  "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](#).

## 6.6.6 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 6-226** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

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

## Request Parameters

**Table 6-227** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200**

**Table 6-228** Response body parameters

| Parameter    | Type   | Description                                                                    |
|--------------|--------|--------------------------------------------------------------------------------|
| func_id      | String | Function ID, which uniquely identifies a function.                             |
| resource_id  | String | Resource ID.                                                                   |
| 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  | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| timeout   | Integer | <p>Maximum duration the function can be executed. Value range: 3s-259,200s.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| handler   | String  | <p>Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).</p> <p>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.</p> <p>Minimum length: 3 character.<br/>Maximum length: 128 characters.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| memory_size   | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>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.                                                                                                                                                                                                                      |
| code_type     | String  | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url      | String  | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                     |
| code_filename | String  | Name of a function file. This parameter is mandatory only when code_type 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.                                                                                                                                                            |

| Parameter           | Type                      | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                                                                                                                                                                                                                                                                    |
| role                | 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. After specifying a function execution agency, you can use the context method in the function handler to obtain a token, an AK, and an SK for accessing other cloud services. No agency is required if FunctionGraph does not access any cloud services. |
| app_role            | String                    | Execution agency. You can optimize performance by configuring a separate agency for function execution, otherwise, the same agency is used for both execution and configuration.                                                                                                                                                                                                                              |
| description         | String                    | Function description.                                                                                                                                                                                                                                                                                                                                                                                         |
| last_modified       | String                    | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                      |
| ephemeral_storage   | Integer                   | Ephemeral storage. By default, the /tmp directory of each function is 512 MB. You can increase the size to 10,240 MB (10 GB) if necessary.<br>Enumeration values: <ul style="list-style-type: none"><li>• 512</li><li>• 10240</li></ul>                                                                                                                                                                       |
| func_vpc            | <b>FuncVpc</b> object     | VPC configuration. An agency with VPC permissions must be configured for the function.                                                                                                                                                                                                                                                                                                                        |
| mount_config        | <b>MountConfig</b> object | Mounting configuration.                                                                                                                                                                                                                                                                                                                                                                                       |
| depend_list         | Array of strings          | Dependency ID list.                                                                                                                                                                                                                                                                                                                                                                                           |

| Parameter             | Type                                        | Description                                                                                                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| depend_version_list   | Array of strings                            | Dependency version IDs.                                                                                                                                                                                                                                                                                   |
| strategy_config       | <a href="#">StrategyConfig</a> object       | Function policy configuration.                                                                                                                                                                                                                                                                            |
| dependencies          | Array of <a href="#">Dependency</a> objects | Dependency packages.                                                                                                                                                                                                                                                                                      |
| initializer_handler   | String                                      | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                                                                       |
| pre_stop_handler      | String                                      | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler.                                                       |
| pre_stop_timeout      | Integer                                     | Maximum duration the function can be initialized. Value range: 1s–90s.                                                                                                                                                                                                                                    |
| 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 an official version, and v1 indicates a deprecated version.<br>Enumeration values: <ul style="list-style-type: none"><li>• v1</li><li>• v2</li></ul>                                                                                                                                         |
| enable_cloud_debug    | String                                      | Whether to enable cloud debugging to adapt to the CloudDebug scenario. (discarded)                                                                                                                                                                                                                        |

| Parameter                   | Type                               | Description                                                                                                                                                                                                                                                                                |
|-----------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                                              |
| is_bridge_function          | Boolean                            | Whether this is a bridge function.                                                                                                                                                                                                                                                         |
| enable_auth_info_header     | Boolean                            | Whether to add authentication information to request header for custom image-based functions.                                                                                                                                                                                              |
| custom_image                | <b>CustomImage</b> object          | Container image.                                                                                                                                                                                                                                                                           |
| reserved_instance_idle_mode | Boolean                            | Whether to enable idle mode for reserved instances.                                                                                                                                                                                                                                        |
| apig_route_enable           | Boolean                            | Whether to configure gateway routing rules.                                                                                                                                                                                                                                                |
| heartbeat_handler           | String                             | Entry of the heartbeat function in the format of "xx.xx". It must contain a period (.). This parameter can be configured only in Java. The heartbeat function entry must be in the same file as your function handler. This parameter is mandatory when the heartbeat function is enabled. |
| enable_class_isolation      | Boolean                            | Indicates whether to enable class isolation. This parameter can be configured only in Java. Enable to dump logs to Kafka and improve class loading efficiency. However, this may cause compatibility issues.                                                                               |
| gpu_type                    | String                             | GPU type.                                                                                                                                                                                                                                                                                  |
| allow_ephemeral_storage     | Boolean                            | Indicates whether ephemeral storage can be configured.                                                                                                                                                                                                                                     |
| network_controller          | <b>NetworkControlConfig</b> object | Network configuration.                                                                                                                                                                                                                                                                     |
| is_return_stream            | Boolean                            | Whether to return stream data. (discarded)                                                                                                                                                                                                                                                 |

**Table 6-229** FuncVpc

| Parameter          | Type             | Description     |
|--------------------|------------------|-----------------|
| domain_id          | String           | Domain name ID. |
| namespace          | String           | Project ID.     |
| 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_group_ids | Array of strings | Security group. |

**Table 6-230** MountConfig

| Parameter   | Type                                       | Description        |
|-------------|--------------------------------------------|--------------------|
| mount_user  | <a href="#">MountUser</a> object           | User information.  |
| func_mounts | Array of <a href="#">FuncMount</a> objects | Mounted resources. |

**Table 6-231** 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 6-232** 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. |

| Parameter        | Type   | Description                                                                                                  |
|------------------|--------|--------------------------------------------------------------------------------------------------------------|
| 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 6-233** 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. <ul style="list-style-type: none"><li>-1: The function has unlimited instances.</li><li>0: The function is disabled.</li></ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                  |

**Table 6-234** Dependency

| Parameter | Type   | Description                        |
|-----------|--------|------------------------------------|
| id        | String | Dependency version ID.             |
| owner     | String | Domain ID of the dependency owner. |
| link      | String | URL of the dependency on OBS.      |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime       | String  | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |
| 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| version       | Long    | Dependency version ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| dep_id        | String  | Dependency ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| last_modified | Integer | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Table 6-235** 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.                   |

**Table 6-236** NetworkControlConfig

| Parameter              | Type                                       | Description             |
|------------------------|--------------------------------------------|-------------------------|
| disable_public_network | Boolean                                    | Disable public access.  |
| trigger_access_vpcs    | Array of <a href="#">VpcConfig</a> objects | VPC access restriction. |

**Table 6-237** VpcConfig

| Parameter | Type   | Description |
|-----------|--------|-------------|
| vpc_name  | String | VPC name.   |
| vpc_id    | String | VPC ID.     |

**Status code: 400****Table 6-238** Response body parameters

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

**Status code: 401**



**Table 6-239** Response body parameters

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

**Status code: 403****Table 6-240** Response body parameters

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

**Status code: 404****Table 6-241** Response body parameters

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

**Status code: 500****Table 6-242** 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_id": "0d075978-5a54-4ee1-8e24-ff5bd070xxxx",
  "resource_id": "0d075978-5a54-4ee1-8e24-ff5bd070xxxx:test",
  "func_urn": "urn:fss:xxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test:latest",
  "func_name": "test",
  "domain_id": "14ee2e3501124efcbca7998baa24xxxx",
  "namespace": "46b6f338fc3445b8846c71dfb1fbxxxx",
  "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":
    "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](#).

## 6.6.7 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

**Table 6-243** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

### Request Parameters

**Table 6-244** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-245** Request body parameters

| Parameter | Mandatory | Type   | Description    |
|-----------|-----------|--------|----------------|
| func_name | Yes       | String | Function name. |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime   | Yes       | String  | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>Java8</b></li> <li>• <b>Java11</b></li> <li>• <b>Node.js6.10</b></li> <li>• <b>Node.js8.10</b></li> <li>• <b>Node.js10.16</b></li> <li>• <b>Node.js12.13</b></li> <li>• <b>Node.js14.18</b></li> <li>• <b>Node.js16.17</b></li> <li>• <b>Node.js18.15</b></li> <li>• <b>Python2.7</b></li> <li>• <b>Python3.6</b></li> <li>• <b>Python3.10</b></li> <li>• <b>Go1.x</b></li> <li>• <b>C#(.NET Core 2.1)</b></li> <li>• <b>C#(.NET Core 3.1)</b></li> <li>• <b>Custom</b></li> <li>• <b>PHP7.3</b></li> <li>• <b>Python3.9</b></li> <li>• <b>http</b></li> <li>• <b>Custom Image</b></li> <li>• <b>Cangjie1.0</b></li> </ul> |
| timeout   | Yes       | Integer | <p>Maximum duration the function can be executed. Value range: 3s-259,200s.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Parameter           | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                        |
|---------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| handler             | Yes       | String  | Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).<br>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.<br>Minimum length: 3 character.<br>Maximum length: 128 characters. |
| memory_size         | Yes       | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>The value ranges from 128 to 4096.                                                                                                                  |
| user_data           | No        | String  | Name/Value information defined for the function.<br>These are parameters used in a function.<br>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.                                                                                                                                                                                                                                                           |

| Parameter           | Mandatory | Type                         | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|-----------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. After specifying a function execution agency, you can use the context method in the function handler to obtain a token, an AK, and an SK for accessing other cloud services. No agency is required if FunctionGraph does not access any cloud services. |
| app_xrole           | No        | String                       | Execution agency. You can optimize performance by configuring a separate agency for function execution, otherwise, the same agency is used for both execution and configuration.                                                                                                                                                                                                                              |
| description         | No        | String                       | Function description.                                                                                                                                                                                                                                                                                                                                                                                         |
| func_vpc            | No        | <b>FuncVpc</b> object        | VPC configuration. An agency with VPC permissions must be configured for the function.                                                                                                                                                                                                                                                                                                                        |
| mount_config        | No        | <b>MountConfig</b> object    | Mounting configuration.                                                                                                                                                                                                                                                                                                                                                                                       |
| strategy_config     | No        | <b>StrategyConfig</b> object | Function policy configuration.                                                                                                                                                                                                                                                                                                                                                                                |
| custom_image        | No        | <b>CustomImage</b> object    | Container image.                                                                                                                                                                                                                                                                                                                                                                                              |
| extend_config       | No        | String                       | Extended configuration.                                                                                                                                                                                                                                                                                                                                                                                       |
| initializer_handler | No        | String                       | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                 |
| pre_stop_handler      | No        | String                                         | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler. |
| pre_stop_timeout      | No        | Integer                                        | Maximum duration the function can be initialized. Value range: 1s-90s.                                                                                                                                                                              |
| ephemeral_storage     | No        | Integer                                        | Ephemeral storage. By default, the /tmp directory of each function is 512 MB. You can increase the size to 10,240 MB (10 GB) if necessary.<br>Enumeration values: <ul style="list-style-type: none"><li>• 512</li><li>• 10240</li></ul>             |
| enterprise_project_id | No        | String                                         | Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.                                                                                                                                                  |
| log_config            | No        | <a href="#">FuncLogConfig</a> object           | Function log configuration.                                                                                                                                                                                                                         |
| network_controller    | No        | <a href="#">NetworkControllerConfig</a> 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.                                                                                                                                                                                                        |

| Parameter              | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                |
|------------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.xxx.demo.Test.restoreHook.                                                                                                                                 |
| restore_hook_timeout   | No        | Integer | Restore Hook timeout of snapshot-based cold start. Range: 1s to 300s.                                                                                                                                                                                                                      |
| heartbeat_handler      | No        | String  | Entry of the heartbeat function in the format of "xx.xx". It must contain a period (.). This parameter can be configured only in Java. The heartbeat function entry must be in the same file as your function handler. This parameter is mandatory when the heartbeat function is enabled. |
| enable_class_isolation | No        | Boolean | Indicates whether to enable class isolation. This parameter can be configured only in Java. Enable to dump logs to Kafka and improve class loading efficiency. However, this may cause compatibility issues.                                                                               |

**Table 6-246** FuncVpc

| Parameter   | Mandatory | Type   | Description     |
|-------------|-----------|--------|-----------------|
| domain_id   | No        | String | Domain name ID. |
| namespace   | No        | String | Project ID.     |
| vpc_name    | No        | String | VPC name.       |
| vpc_id      | Yes       | String | VPC ID.         |
| subnet_name | No        | String | Subnet name.    |



| Parameter       | Mandatory | Type             | Description     |
|-----------------|-----------|------------------|-----------------|
| subnet_id       | Yes       | String           | Subnet ID.      |
| cidr            | No        | String           | Subnet mask.    |
| gateway         | No        | String           | Gateway.        |
| security_groups | No        | Array of strings | Security group. |

**Table 6-247** MountConfig

| Parameter   | Mandatory | Type                                       | Description        |
|-------------|-----------|--------------------------------------------|--------------------|
| mount_user  | Yes       | <a href="#">MountUser</a> object           | User information.  |
| func_mounts | Yes       | Array of <a href="#">FuncMount</a> objects | Mounted resources. |

**Table 6-248** 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 6-249** 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. |
| 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.   |

| Parameter        | Mandatory | Type   | Description                                                                      |
|------------------|-----------|--------|----------------------------------------------------------------------------------|
| local_mount_path | Yes       | String | Function access path. This parameter is mandatory when func_mounts is not empty. |

**Table 6-250** 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. <ul style="list-style-type: none"><li>-1: The function has unlimited instances.</li><li>0: The function is disabled.</li></ul> |
| concurrent_num | Yes       | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                  |

**Table 6-251** 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. |
| 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 6-252** 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 6-253** NetworkControlConfig

| Parameter              | Mandatory | Type                                       | Description             |
|------------------------|-----------|--------------------------------------------|-------------------------|
| disable_public_network | No        | Boolean                                    | Disable public access.  |
| trigger_access_vpcs    | No        | Array of <a href="#">VpcConfig</a> objects | VPC access restriction. |

**Table 6-254** VpcConfig

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

## Response Parameters

Status code: 200

**Table 6-255** Response body parameters

| Parameter   | Type   | Description                                        |
|-------------|--------|----------------------------------------------------|
| func_id     | String | Function ID, which uniquely identifies a function. |
| resource_id | String | Function resource ID.                              |
| func_urn    | String | Function URN.                                      |
| func_name   | String | Function name.                                     |

| Parameter    | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| runtime      | String  | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |
| timeout      | Integer | Maximum duration the function can be executed. Value range: 3s-259,200s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| handler       | String  | <p>Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).</p> <p>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.</p> <p>Minimum length: 3 character.</p> <p>Maximum length: 128 characters.</p>                                                                                                                            |
| memory_size   | Integer | <p>Memory consumed by a function.</p> <p>Unit: MB.</p> <p>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.</p> <p>The value ranges from 128 to 4096.</p>                                                                                                                                                                                                                                             |
| cpu           | Integer | <p>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.</p>                                                                                                                                                                                                                                    |
| code_type     | String  | <p>Function code type. Options: inline: inline code<br/>zip: ZIP file<br/>obs: function code stored in an OBS bucket<br/>jar: JAR file, mainly for Java functions<br/>Custom-Image-Swr: The function code comes from the SWR custom image.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>inline</b></li> <li>• <b>zip</b></li> <li>• <b>obs</b></li> <li>• <b>jar</b></li> <li>• <b>Custom-Image-Swr</b></li> </ul> |
| code_url      | String  | <p>If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.</p>                                                                                                                                                                                                                                                                                                   |
| code_filename | String  | <p>Name of a function file. This parameter is mandatory only when code_type is set to jar or zip.</p>                                                                                                                                                                                                                                                                                                                                            |
| code_size     | Long    | <p>Code size in bytes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter           | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| user_data           | String  | Name/Value information defined for the function.<br><br>These are parameters used in a function.<br><br>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. After specifying a function execution agency, you can use the context method in the function handler to obtain a token, an AK, and an SK for accessing other cloud services. No agency is required if FunctionGraph does not access any cloud services. |
| app_xrole           | String  | Execution agency. You can optimize performance by configuring a separate agency for function execution, otherwise, the same agency is used for both execution and configuration.                                                                                                                                                                                                                              |
| description         | String  | Function description.                                                                                                                                                                                                                                                                                                                                                                                         |
| last_modified       | String  | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                      |
| ephemeral_storage   | Integer | Ephemeral storage. By default, the /tmp directory of each function is 512 MB. You can increase the size to 10,240 MB (10 GB) if necessary.<br><br>Enumeration values: <ul style="list-style-type: none"><li>● 512</li><li>● 10240</li></ul>                                                                                                                                                                   |

| Parameter             | Type                               | Description                                                                                                                                                                                                                                                                                               |
|-----------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| func_vpc              | <b>FuncVpc</b> object              | VPC configuration. An agency with VPC permissions must be configured for the function.                                                                                                                                                                                                                    |
| mount_config          | <b>MountConfig</b> object          | Mounting configuration.                                                                                                                                                                                                                                                                                   |
| strategy_config       | <b>StrategyConfig</b> object       | Function policy configuration.                                                                                                                                                                                                                                                                            |
| dependencies          | Array of <b>Dependency</b> objects | Dependency packages.                                                                                                                                                                                                                                                                                      |
| initializer_handler   | String                             | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                                                                       |
| pre_stop_handler      | String                             | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler.                                                       |
| pre_stop_timeout      | Integer                            | Maximum duration the function can be initialized. Value range: 1s–90s.                                                                                                                                                                                                                                    |
| 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 an official version, and v1 indicates a deprecated version.<br>Enumeration values: <ul style="list-style-type: none"><li>• v1</li><li>• v2</li></ul>                                                                                                                                         |

| Parameter               | Type                               | Description                                                                                   |
|-------------------------|------------------------------------|-----------------------------------------------------------------------------------------------|
| enable_cloud_debug      | String                             | Whether to enable cloud debugging to adapt to the CloudDebug scenario. (discarded)            |
| enable_dynamic_memory   | Boolean                            | Whether to enable dynamic memory allocation.                                                  |
| enable_auth_info_header | Boolean                            | Whether to add authentication information to request header for custom image-based functions. |
| is_stateful_function    | Boolean                            | Whether stateful functions are supported. This parameter is supported in FunctionGraph v2.    |
| domain_names            | String                             | Private domain name configured for resolution.                                                |
| custom_image            | <a href="#">CustomImage</a> object | Container image.                                                                              |
| is_return_stream        | Boolean                            | Whether to return stream data. (discarded)                                                    |

**Table 6-256** FuncVpc

| Parameter       | Type             | Description     |
|-----------------|------------------|-----------------|
| domain_id       | String           | Domain name ID. |
| namespace       | String           | Project ID.     |
| 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 6-257** MountConfig

| Parameter  | Type                             | Description       |
|------------|----------------------------------|-------------------|
| mount_user | <a href="#">MountUser</a> object | User information. |



| Parameter   | Type                                       | Description        |
|-------------|--------------------------------------------|--------------------|
| func_mounts | Array of <a href="#">FuncMount</a> objects | Mounted resources. |

**Table 6-258** 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 6-259** 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 6-260** 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. <ul style="list-style-type: none"><li>-1: The function has unlimited instances.</li><li>0: The function is disabled.</li></ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                  |

**Table 6-261** Dependency

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id          | String | Dependency version ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| owner       | String | Domain ID of the dependency owner.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| link        | String | URL of the dependency on OBS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| runtime     | String | Environment for executing a function. Options:<br>Python2.7 Python 3.6 Python 3.9 Python 3.10<br>Go 1.x Java 8 Java 11 Node.js 6.10 Node.js 8.10<br>Node.js 10.16 Node.js 12.13 Node.js 14.18<br>Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1)<br>C# (.NET Core 3.1) Custom PHP 7.3 HTTP<br>Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |
| 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Parameter     | Type    | Description                              |
|---------------|---------|------------------------------------------|
| version       | Long    | Dependency version ID.                   |
| dep_id        | String  | Dependency ID.                           |
| last_modified | Integer | Time when the function was last updated. |

**Table 6-262** 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 6-263** Response body parameters

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

**Status code: 401****Table 6-264** Response body parameters

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

**Status code: 403**

**Table 6-265** Response body parameters

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

**Status code: 404****Table 6-266** Response body parameters

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

**Status code: 500****Table 6-267** Response body parameters

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

## Example Requests

- Modify the configuration of Node.js function fgsTest to change the memory to 768 MB and timeout to 40s. Add environment variable host and mount a disk.

PUT [https://{Endpoint}/v2/{project\\_id}/fgs/functions/{function\\_urn}/config](https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/config)

```
{
  "func_name": "fgsTest",
  "handler": "index.handler",
  "memory_size": 768,
  "user_data": "{\"host\":\"192.168.0.1\"}",
  "runtime": "Node.js6.10",
  "mount_config": {
    "mount_user": {
      "user_id": -1,
      "user_group_id": -1
    },
    "func_mounts": [ {
      "mount_resource": "268xxx-d3xx-4cxx-98xx-d1dbxxx",
      "local_mount_path": "/mnt",
      "mount_type": "sfsTurbo"
    } ]
  },
  "timeout": 40
}
```

- Modify the GPU configuration of a custom runtime function to change the GPU memory to 1 GB and memory size to 4 GB.

PUT [https://{Endpoint}/v2/{project\\_id}/fgs/functions/{function\\_urn}/config](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
}
```

- Modify the configuration of the custom image-based function.

```
{
  "func_name": "test_function",
  "handler": "-",
  "memory_size": 128,
  "runtime": "Custom Image",
  "timeout": 3,
  "xrole": "xxx",
  "custom_image": {
    "enabled": true,
    "image": "swr.xxx.example.com/xxx/xxx:xxx",
    "working_dir": "/"
  }
}
```

## Example Responses

**Status code: 200**

OK

```
{
  "func_id": "0d075978-5a54-4ee1-8e24-ff5bd070xxxx",
  "resource_id": "0d075978-5a54-4ee1-8e24-ff5bd070xxxx:test",
  "func_urn": "urn:fss:xxxxxxx: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,
  "user_data": "{\"host\":\"192.168.0.1\"}",
  "mount_config": {
    "mount_user": {
      "user_id": -1,
      "user_group_id": -1
    }
  },
  "func_mounts": [ {
    "mount_resource": "268xxx-d3xx-4cxx-98xx-d1dbxxx",
    "local_mount_path": "/mnt",
    "mount_type": "sfsTurbo"
  } ]
},
  "digest": "faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9af322c55dabeb16565c386e402413458e6068",
  "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](#).

## 6.6.8 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 6-268** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-269** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-270** 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 6-271** 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  | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| timeout   | Integer | <p>Maximum duration the function can be executed. Value range: 3s-259,200s.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| handler   | String  | <p>Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).</p> <p>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.</p> <p>Minimum length: 3 character.<br/>Maximum length: 128 characters.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



| Parameter           | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| memory_size         | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>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.                                                                                                                                                                                                                      |
| code_type           | String  | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url            | String  | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                     |
| code_filename       | String  | Name of a function file. This parameter is mandatory only when code_type is set to jar or zip.                                                                                                                                                                                                                                                                                                                              |
| code_size           | Long    | Code size in bytes.                                                                                                                                                                                                                                                                                                                                                                                                         |
| user_data           | String  | Name/Value information defined for the function.<br>These are parameters used in a function.<br>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.                                                                                                                                                                                                                                                                                                                            |

| Parameter           | Type                               | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. After specifying a function execution agency, you can use the context method in the function handler to obtain a token, an AK, and an SK for accessing other cloud services. No agency is required if FunctionGraph does not access any cloud services. |
| app_xrole           | String                             | Execution agency. You can optimize performance by configuring a separate agency for function execution, otherwise, the same agency is used for both execution and configuration.                                                                                                                                                                                                                              |
| description         | String                             | Function description.                                                                                                                                                                                                                                                                                                                                                                                         |
| last_modified       | String                             | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                      |
| func_vpc            | <b>FuncVpc</b> object              | VPC configuration. An agency with VPC permissions must be configured for the function.                                                                                                                                                                                                                                                                                                                        |
| mount_config        | <b>MountConfig</b> object          | Mounting configuration.                                                                                                                                                                                                                                                                                                                                                                                       |
| strategy_config     | <b>StrategyConfig</b> object       | Function policy configuration.                                                                                                                                                                                                                                                                                                                                                                                |
| dependencies        | Array of <b>Dependency</b> objects | Dependency packages.                                                                                                                                                                                                                                                                                                                                                                                          |
| initializer_handler | String                             | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                                                                                                                                                                           |

| Parameter               | Type    | Description                                                                                                                                                                                                                                         |
|-------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pre_stop_handler        | String  | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler. |
| pre_stop_timeout        | Integer | Maximum duration the function can be initialized. Value range: 1s-90s.                                                                                                                                                                              |
| 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 an official version, and v1 indicates a deprecated version.<br>Enumeration values: <ul style="list-style-type: none"><li>• v1</li><li>• v2</li></ul>                                                                                   |
| enable_cloud_debug      | String  | Whether to enable cloud debugging to adapt to the CloudDebug scenario. (discarded)                                                                                                                                                                  |
| enable_dynamic_memory   | Boolean | Whether to enable dynamic memory allocation.                                                                                                                                                                                                        |
| is_stateful_function    | Boolean | Whether stateful functions are supported. This parameter is supported in FunctionGraph v2.                                                                                                                                                          |
| domain_names            | String  | Private domain name configured for resolution.                                                                                                                                                                                                      |
| is_return_stream        | Boolean | Whether to return stream data. (discarded)                                                                                                                                                                                                          |
| enable_auth_info_header | Boolean | Whether to add authentication information to request header for custom image-based functions.                                                                                                                                                       |

**Table 6-272** FuncVpc

| Parameter | Type   | Description     |
|-----------|--------|-----------------|
| domain_id | String | Domain name ID. |
| namespace | String | Project ID.     |

| 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_group_s | Array of strings | Security group. |

**Table 6-273** MountConfig

| Parameter   | Type                                       | Description        |
|-------------|--------------------------------------------|--------------------|
| mount_user  | <a href="#">MountUser</a> object           | User information.  |
| func_mounts | Array of <a href="#">FuncMount</a> objects | Mounted resources. |

**Table 6-274** 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 6-275** 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 6-276** 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. <ul style="list-style-type: none"><li>• -1: The function has unlimited instances.</li><li>• 0: The function is disabled.</li></ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                      |

**Table 6-277** Dependency

| Parameter | Type   | Description                        |
|-----------|--------|------------------------------------|
| id        | String | Dependency version ID.             |
| owner     | String | Domain ID of the dependency owner. |
| link      | String | URL of the dependency on OBS.      |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime       | String  | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |
| 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| version       | Long    | Dependency version ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| dep_id        | String  | Dependency ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| last_modified | Integer | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Status code: 400****Table 6-278** Response body parameters

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

**Status code: 401****Table 6-279** Response body parameters

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

**Status code: 403****Table 6-280** Response body parameters

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

**Status code: 404****Table 6-281** Response body parameters

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

**Status code: 500****Table 6-282** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |

| Parameter | Type   | Description    |
|-----------|--------|----------------|
| error_msg | String | Error message. |

## Example Requests

Update the maximum number of instances of a function to 300.

```
PUT https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/config-max-instance
{
  "max_instance_num" : 300
}
```

## Example Responses

**Status code: 200**

OK

```
{
  "func_urn" : "urn:fss:xxxxxxx: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" : 300,
    "concurrent_num" : 1
  }
}
```

## 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](#).

## 6.6.9 Querying Function Tags

### Function

This API is used to query function tags.

### URI

GET /v2/{project\_id}/{resource\_type}/{resource\_id}/tags

**Table 6-283** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                           |
|---------------|-----------|--------|-----------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| resource_type | Yes       | String | Resource type. Enter functions here.                                  |
| resource_id   | Yes       | String | Resource ID, function URN.                                            |

## Request Parameters

**Table 6-284** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200**

**Table 6-285** Response body parameters

| Parameter | Type                                    | Description  |
|-----------|-----------------------------------------|--------------|
| tags      | Array of <a href="#">KvItem</a> objects | Tag list.    |
| sys_tags  | Array of <a href="#">KvItem</a> objects | System tags. |

**Table 6-286** KvItem

| Parameter | Type   | Description |
|-----------|--------|-------------|
| key       | String | Key.        |
| value     | String | Value.      |

**Status code: 400**

**Table 6-287** Response body parameters

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

**Status code: 401**

**Table 6-288** Response body parameters

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

**Status code: 403**

**Table 6-289** Response body parameters

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

**Status code: 500****Table 6-290** Response body parameters

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

## Example Requests

This API is used to query all resource tags.

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

## Example Responses

**Status code: 200**

ok

```
{
  "tags": [ {
    "key": "xxx",
    "value": "yyy"
  } ],
  "sys_tags": [ {
    "key": "_sys_enterprise_project_id",
    "value": "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](#).

## 6.6.10 Enabling or Disabling the Snapshot Function

### Function

This API is used to enable or disable the snapshot feature. It is available only for non-latest versions of Java functions.

### URI

POST /v2/{project\_id}/fgs/functions/{function\_urn}/snapshots/{action}

**Table 6-291** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                          |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .                                                                |
| function_urn | Yes       | String | Function URN. For details, see the function model description.                                                                       |
| action       | Yes       | String | Enabled or disabled.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>enable</b></li><li>• <b>disable</b></li></ul> |

### Request Parameters

**Table 6-292** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

### Status code: 400

**Table 6-293** Response body parameters

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

### Status code: 401

**Table 6-294** Response body parameters

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

### Status code: 403

**Table 6-295** Response body parameters

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

### Status code: 404

**Table 6-296** Response body parameters

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

### Status code: 500

**Table 6-297** Response body parameters

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

## Example Requests

- Enable the snapshot function.  
POST https://{Endpoint}/v2/{project\_id}/fgs/functions/{function\_urn}/snapshots/enable
- Disable the snapshot function.  
POST https://{Endpoint}/v2/{project\_id}/fgs/functions/{function\_urn}/snapshots/disable

## Example Responses

**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](#).

## 6.6.11 Querying ServiceBridge Functions Bound to a Specified Function

### Function

This API is used to query ServiceBridge functions bound to a specified function.

## URI

GET /v2/{project\_id}/fgs/functions/{function\_urn}/servicebridge/relation

**Table 6-298** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

**Table 6-299** Query Parameters

| Parameter | Mandatory | Type   | Description         |
|-----------|-----------|--------|---------------------|
| type      | No        | String | ServiceBridge type. |

## Request Parameters

**Table 6-300** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

Status code: 200

**Table 6-301** Response body parameters

| Parameter | Type                                                | Description                             |
|-----------|-----------------------------------------------------|-----------------------------------------|
| [items]   | Array of <a href="#">ListFunctionResult</a> objects | Bridge functions bound to the function. |

**Table 6-302** ListFunctionResult

| Parameter    | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resource_id  | String | Resource ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| runtime      | String | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |



| Parameter   | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| timeout     | Integer | Maximum duration the function can be executed. Value range: 3s-259,200s.                                                                                                                                                                                                                                                                                                                                                    |
| handler     | String  | Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).<br>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.<br>Minimum length: 3 character.<br>Maximum length: 128 characters.                                                                                                                          |
| memory_size | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>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.                                                                                                                                                                                                                      |
| code_type   | String  | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url    | String  | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                     |

| Parameter           | Type                                  | Description                                                                                                                                                                                                                                                                                               |
|---------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| code_filename       | String                                | Name of a function file. This parameter is mandatory only when code_type 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.                                                                                                                                                                                                                                                                                         |
| 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_config     | <a href="#">StrategyConfig</a> object | Function policy configuration.                                                                                                                                                                                                                                                                            |
| extend_config       | String                                | Extended configuration.                                                                                                                                                                                                                                                                                   |
| initializer_handler | String                                | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. For example, for Node.js function myfunction.initializer, the file name is myfunction.js, and the initialization function is initializer. |

| Parameter                | Type             | Description                                                                                                                                                                                                                                         |
|--------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| initializer_timeout      | Integer          | Maximum duration the function can be initialized. Value range: 1s–300s. This parameter is mandatory when the initialization function is configured.                                                                                                 |
| pre_stop_handler         | String           | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler. |
| pre_stop_timeout         | Integer          | Maximum duration the function can be initialized. Value range: 1s–90s.                                                                                                                                                                              |
| 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 an official version, and v1 indicates a deprecated version.<br>Enumeration values: <ul style="list-style-type: none"><li>• v1</li><li>• v2</li></ul>                                                                                   |
| 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_functionUrns | Array of strings | URNs bound to the bridge function.                                                                                                                                                                                                                  |

**Table 6-303** 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. <ul style="list-style-type: none"><li>• -1: The function has unlimited instances.</li><li>• 0: The function is disabled.</li></ul> |

| Parameter      | Type    | Description                                                                                                           |
|----------------|---------|-----------------------------------------------------------------------------------------------------------------------|
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000. |

**Status code: 401****Table 6-304** Response body parameters

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

**Status code: 403****Table 6-305** Response body parameters

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

**Status code: 404****Table 6-306** Response body parameters

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

**Status code: 500****Table 6-307** Response body parameters

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

## Example Requests

Query ServiceBridge functions bound to a specified function.

```
GET https://{Endpoint}/v2/{project_id}/fgs/functions/{function_urn}/servicebridge/relation?type=rds
```

## Example Responses

**Status code: 200**

ok

```
[ {
  "func_urn" : "urn:fss:xxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
  "func_name" : "bridge-test",
  "domain_id" : "cff01_hk",
  "namespace" : "7aad83af3e8d42e99ac194e8419e2c9b",
  "project_name" : "xxxxxxx",
  "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,
  "pre_stop_handler" : "index.pre_stop_handler",
  "pre_stop_timeout" : 3
} ]
```

## Status Codes

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

## Error Codes

See [Error Codes](#).

## 6.6.12 Querying Snapshot Status

### Function

This API is used to query the snapshot status of a function.

### URI

GET /v2/{project\_id}/fgs/functions/{function\_urn}/snapshots/{action}

**Table 6-308** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                         |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .                                                                                                               |
| function_urn | Yes       | String | Function URN. For details, see the function model description.                                                                                                                      |
| action       | Yes       | String | Query snapshot status or whether snapshot cold start is used.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>state</b></li><li>• <b>enableSnapshot</b></li></ul> |

### Request Parameters

**Table 6-309** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

**Status code: 200**

**Table 6-310** Response body parameters

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

**Status code: 400****Table 6-311** Response body parameters

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

**Status code: 401****Table 6-312** Response body parameters

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

**Status code: 403****Table 6-313** Response body parameters

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

**Status code: 404****Table 6-314** Response body parameters

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

**Status code: 500****Table 6-315** Response body parameters

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

## Example Requests

Query the snapshot status of a function.

```
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](#).



## 6.6.13 Querying Resource Tags

### Function

This API is used to query resource tags.

### URI

GET /v2/{project\_id}/{resource\_type}/tags

**Table 6-316** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                           |
|---------------|-----------|--------|-----------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| resource_type | Yes       | String | Resource type. Enter "functions" here.                                |

### Request Parameters

**Table 6-317** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

Status code: 200

**Table 6-318** Response body parameters

| Parameter | Type                                     | Description |
|-----------|------------------------------------------|-------------|
| tags      | Array of <a href="#">TagItem</a> objects | Tag list.   |

| Parameter | Type                                     | Description  |
|-----------|------------------------------------------|--------------|
| sys_tags  | Array of <a href="#">TagItem</a> objects | System tags. |

**Table 6-319** TagItem

| Parameter | Type             | Description |
|-----------|------------------|-------------|
| key       | String           | Key.        |
| values    | Array of strings | Value.      |

**Status code: 400****Table 6-320** Response body parameters

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

**Status code: 401****Table 6-321** Response body parameters

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

**Status code: 403****Table 6-322** Response body parameters

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

**Status code: 500****Table 6-323** 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](#).

## 6.6.14 Querying Resources

### Function

This API is used to query resources.

### URI

POST /v2/{project\_id}/{resource\_type}/resource-instances/{action}

**Table 6-324** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                    |
|---------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .                                                          |
| resource_type | Yes       | String | Resource type. Enter functions here.                                                                                           |
| action        | Yes       | String | Filter or count.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>filter</b></li><li>• <b>count</b></li></ul> |

### Request Parameters

**Table 6-325** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-326** Request body parameters

| Parameter       | Mandatory | Type    | Description                         |
|-----------------|-----------|---------|-------------------------------------|
| without_any_tag | No        | Boolean | Whether to use tag-based filtering. |

| Parameter | Mandatory | Type                            | Description                                                                                                                    |
|-----------|-----------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| limit     | No        | String                          | Number of records displayed on each page.                                                                                      |
| offset    | No        | String                          | Query offset.                                                                                                                  |
| action    | No        | String                          | Query an action.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>count</b></li><li>• <b>filter</b></li></ul> |
| matches   | No        | Array of <b>KvItem</b> objects  | Query a key-value pair.                                                                                                        |
| sys_tags  | No        | Array of <b>TagItem</b> objects | Query system tags.                                                                                                             |

**Table 6-327** KvItem

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

**Table 6-328** TagItem

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

## Response Parameters

Status code: 200

**Table 6-329** Response body parameters

| Parameter   | Type                                                          | Description          |
|-------------|---------------------------------------------------------------|----------------------|
| resources   | Array of <a href="#">ListEnterpriseResourceResult</a> objects | Enterprise projects. |
| total_count | Long                                                          | Number of resources. |

**Table 6-330** ListEnterpriseResourceResult

| Parameter       | Type                                                | Description    |
|-----------------|-----------------------------------------------------|----------------|
| resource_id     | String                                              | Resource ID.   |
| resource_detail | <a href="#">ListEnterpriseResourceDetail</a> object |                |
| tags            | Array of <a href="#">KvItem</a> objects             | Tag list.      |
| sys_tags        | Array of <a href="#">KvItem</a> objects             | System tags.   |
| resource_name   | String                                              | Resource name. |

**Table 6-331** ListEnterpriseResourceDetail

| Parameter | Type   | Description   |
|-----------|--------|---------------|
| detailId  | String | Function URN. |

**Table 6-332** KvItem

| Parameter | Type   | Description |
|-----------|--------|-------------|
| key       | String | Key.        |
| value     | String | Value.      |

**Status code: 400**

**Table 6-333** Response body parameters

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

**Status code: 401****Table 6-334** Response body parameters

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

**Status code: 403****Table 6-335** Response body parameters

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

**Status code: 404****Table 6-336** Response body parameters

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

**Status code: 500****Table 6-337** 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" : {
      "detailId" : "urn:fss:{region-id}:xxx:function:default:test_xxx:latest"
    },
    "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](#).



## 6.6.15 Deleting Resource Tags

### Function

This API is used to delete resource tags.

### URI

DELETE /v2/{project\_id}/{resource\_type}/{resource\_id}/tags/delete

**Table 6-338** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                           |
|---------------|-----------|--------|-----------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| resource_type | Yes       | String | Resource type. Enter functions here.                                  |
| resource_id   | Yes       | String | Resource ID.                                                          |

### Request Parameters

**Table 6-339** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-340** Request body parameters

| Parameter | Mandatory | Type   | Description                                                                                                                 |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------|
| action    | No        | String | Action name.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>create</b></li><li>• <b>delete</b></li></ul> |

| Parameter | Mandatory | Type                                    | Description  |
|-----------|-----------|-----------------------------------------|--------------|
| tags      | No        | Array of <a href="#">KvItem</a> objects | Tag list.    |
| sys_tags  | No        | Array of <a href="#">KvItem</a> objects | System tags. |

**Table 6-341** KvItem

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

## Response Parameters

Status code: 400

**Table 6-342** Response body parameters

| Parameter  | Type   | Description    |
|------------|--------|----------------|
| error_code | String | Error code.    |
| 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](#).

## 6.6.16 Creating Resource Tags

### Function

This API is used to create resource tags.

### URI

POST /v2/{project\_id}/{resource\_type}/{resource\_id}/tags/create

**Table 6-343** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                           |
|---------------|-----------|--------|-----------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| resource_type | Yes       | String | Resource type. Enter functions here.                                  |
| resource_id   | Yes       | String | Resource ID.                                                          |

### Request Parameters

**Table 6-344** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-345** Request body parameters

| Parameter | Mandatory | Type                           | Description                                                                                                                 |
|-----------|-----------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| action    | No        | String                         | Action name.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>create</b></li><li>• <b>delete</b></li></ul> |
| tags      | No        | Array of <b>KvItem</b> objects | Tag list.                                                                                                                   |
| sys_tags  | No        | Array of <b>KvItem</b> objects | System tags.                                                                                                                |

**Table 6-346** KvItem

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

## Response Parameters

**Status code: 400**

**Table 6-347** Response body parameters

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

## Example Requests

Create resource tags testKey1:testValue1 and testKey2:testValue2.

```
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](#).

## 6.6.17 Updating the Pinning Status of a Function

### Function

This API is used to update the pinning status of a function.

### URI

PUT /v2/{project\_id}/fgs/functions/{func\_urn}/collect/{state}

**Table 6-348** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| func_urn   | Yes       | String | Function URN.                                                         |
| state      | Yes       | String | Pinning status.                                                       |

## Request Parameters

**Table 6-349** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 500**

**Table 6-350** Response body parameters

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

## Example Requests

Update the pinning status of a function.

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

## Example Responses

None

## Status Codes

| Status Code | Description            |
|-------------|------------------------|
| 200         | ok                     |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.6.18 Querying the Available ServiceBridge Version

### Function

This API is used to query the available ServiceBridge version.

### URI

GET /v2/{project\_id}/fgs/servicebridge/version

**Table 6-351** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

**Table 6-352** Query Parameters

| Parameter | Mandatory | Type   | Description                                              |
|-----------|-----------|--------|----------------------------------------------------------|
| type      | Yes       | String | ServiceBridge type. The value can be rds, mqs, or cache. |

### Request Parameters

**Table 6-353** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

**Status code: 200**

**Table 6-354** Response body parameters

| Parameter | Type                                                  | Description |
|-----------|-------------------------------------------------------|-------------|
| [items]   | Array of <a href="#">ServiceBridgeVersion</a> objects |             |

**Table 6-355** ServiceBridgeVersion

| Parameter | Type   | Description                        |
|-----------|--------|------------------------------------|
| name      | String | Code package name.                 |
| version   | String | Code version.                      |
| code_url  | String | OBS path where the code is stored. |

**Status code: 400****Table 6-356** Response body parameters

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

**Status code: 401****Table 6-357** Response body parameters

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

**Status code: 403****Table 6-358** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |



| Parameter | Type   | Description    |
|-----------|--------|----------------|
| error_msg | String | Error message. |

**Status code: 500**

**Table 6-359** Response body parameters

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

## Example Requests

Query the available version of the ServiceBridge function of the rds type.

```
GET https://{Endpoint}/v2/{project_id}/fgs/servicebridge/version?type=rds
```

## Example Responses

**Status code: 200**

ok

```
[ {  
  "name" : "xxx",  
  "version" : "xxx",  
  "code_url" : "xxx"  
}]
```

## Status Codes

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

## Error Codes

See [Error Codes](#).

## 6.7 Versions and Aliases

### 6.7.1 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 6-360** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

#### Request Parameters

**Table 6-361** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

#### Response Parameters

Status code: 200

**Table 6-362** Response body parameters

| Parameter | Type                                                    | Description                    |
|-----------|---------------------------------------------------------|--------------------------------|
| [items]   | Array of <a href="#">ListVersionAliasResult</a> objects | Function versions and aliases. |

**Table 6-363** 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 6-364** Response body parameters

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

**Status code: 403****Table 6-365** Response body parameters

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

**Status code: 404**

**Table 6-366** Response body parameters

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

**Status code: 500****Table 6-367** Response body parameters

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

**Status code: 503****Table 6-368** 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](#).

## 6.7.2 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 6-369** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-370** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-371** Request body parameters

| Parameter                   | Mandatory | Type                        | Description                                                                                                                                                                                 |
|-----------------------------|-----------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name                        | Yes       | String                      | Alias. Max. 64 of letters, digits, hyphens (-), and underscores (_). Start with a letter, and end with a letter or digit.<br>Minimum length: 1 character.<br>Maximum length: 64 characters. |
| version                     | Yes       | String                      | Version corresponding to the alias.                                                                                                                                                         |
| description                 | No        | String                      | Description of the alias.                                                                                                                                                                   |
| additional_version_weights  | No        | Map<String,Integer>         | Traffic shifting by percentage.                                                                                                                                                             |
| additional_version_strategy | No        | Map<String,VersionStrategy> | Traffic shifting by rule.                                                                                                                                                                   |

**Table 6-372** VersionStrategy

| Parameter | Mandatory | Type                                  | Description |
|-----------|-----------|---------------------------------------|-------------|
| rules     | No        | Array of VersionStrategyRules objects | Rules.      |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                    |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| combine_type | No        | String | Rule aggregation mode. and: All rules are met. or: Any rule is met.<br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>and</b></li> <li>• <b>or</b></li> </ul> |

**Table 6-373** VersionStrategyRules

| Parameter | Mandatory | Type   | Description                                                                                                                                                              |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_type | No        | String | Parameter type.<br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>Header</b></li> </ul>                                                                 |
| param     | No        | String | Rule parameter name, which can contain only letters, digits, underscores (_), and hyphens (-).                                                                           |
| op        | No        | String | Rule matching operator. Currently, only = and in are supported.<br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>in</b></li> <li>• <b>=</b></li> </ul> |
| value     | No        | String | Rule value. If op is set to in, the value is a multi-value character string separated by commas (,).                                                                     |

## Response Parameters

Status code: 200

**Table 6-374** 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.           |

| Parameter                   | Type                        | Description                            |
|-----------------------------|-----------------------------|----------------------------------------|
| last_modified               | String                      | Time when the alias was last modified. |
| alias_urn                   | String                      | URN of the alias.                      |
| additional_version_weights  | Map<String,Integer>         | Traffic shifting by percentage.        |
| additional_version_strategy | Map<String,VersionStrategy> | Traffic shifting by rule.              |

**Table 6-375** VersionStrategy

| Parameter    | Type                                  | Description                                                                                                                                                      |
|--------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rules        | Array of VersionStrategyRules objects | Rules.                                                                                                                                                           |
| combine_type | String                                | Rule aggregation mode. and: All rules are met.<br>or: Any rule is met.<br>Enumeration values: <ul style="list-style-type: none"><li>• and</li><li>• or</li></ul> |

**Table 6-376** VersionStrategyRules

| Parameter | Type   | Description                                                                                                                                             |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_type | String | Parameter type.<br>Enumeration values: <ul style="list-style-type: none"><li>• Header</li></ul>                                                         |
| param     | String | Rule parameter name, which can contain only letters, digits, underscores (_), and hyphens (-).                                                          |
| op        | String | Rule matching operator. Currently, only = and in are supported.<br>Enumeration values: <ul style="list-style-type: none"><li>• in</li><li>• =</li></ul> |
| value     | String | Rule value. If op is set to in, the value is a multi-value character string separated by commas (,).                                                    |



**Status code: 400****Table 6-377** Response body parameters

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

**Status code: 401****Table 6-378** Response body parameters

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

**Status code: 403****Table 6-379** Response body parameters

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

**Status code: 404****Table 6-380** Response body parameters

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

**Status code: 500****Table 6-381** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |

| Parameter | Type   | Description    |
|-----------|--------|----------------|
| error_msg | String | Error message. |

## Example Requests

- Create an alias named a1 for version v1 of a function.

POST https://{Endpoint}/v2/{project\_id}/fgs/functions/{function\_urn}/aliases

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

- Create an alias named a1 for version v1 of a function, enable Traffic Shifting, and set Weight of version v2 to 50%.

POST https://{Endpoint}/v2/{project\_id}/fgs/functions/{function\_urn}/aliases

```
{
  "name": "a1",
  "version": "v1",
  "additional_version_weights": {
    "v2": 50
  }
}
```

- Create an alias named a1 for version v1 of a function, enable Traffic Shifting, and set version v2 to shift traffic by Rule.

POST https://{Endpoint}/v2/{project\_id}/fgs/functions/{function\_urn}/aliases

```
{
  "name": "a1",
  "version": "v1",
  "additional_version_strategy": {
    "v2": {
      "combine_type": "and",
      "rules": [
        {
          "rule_type": "Header",
          "param": "version",
          "op": "=",
          "value": "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](#).

## 6.7.3 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 6-382** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |
| alias_name   | Yes       | String | Alias to be deleted.                                                  |

## Request Parameters

**Table 6-383** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 401****Table 6-384** Response body parameters

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

**Status code: 403****Table 6-385** Response body parameters

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

**Status code: 404****Table 6-386** Response body parameters

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

**Status code: 500**

**Table 6-387** 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](#).

## 6.7.4 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 6-388** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |
| alias_name   | Yes       | String | Alias to be queried.                                                  |

## Request Parameters

**Table 6-389** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200**

**Table 6-390** 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>         | Traffic shifting by percentage.        |
| additional_version_strategy | Map<String,VersionStrategy> | Traffic shifting by rule.              |

**Table 6-391** VersionStrategy

| Parameter    | Type                                                  | Description                                                                                                                                                                    |
|--------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rules        | Array of <a href="#">VersionStrategyRules</a> objects | Rules.                                                                                                                                                                         |
| combine_type | String                                                | Rule aggregation mode. and: All rules are met.<br>or: Any rule is met.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>and</b></li><li>• <b>or</b></li></ul> |

**Table 6-392** VersionStrategyRules

| Parameter | Type   | Description                                                                                                                                                           |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_type | String | Parameter type.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Header</b></li></ul>                                                                |
| param     | String | Rule parameter name, which can contain only letters, digits, underscores (_), and hyphens (-).                                                                        |
| op        | String | Rule matching operator. Currently, only = and in are supported.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>in</b></li><li>• <b>=</b></li></ul> |
| value     | String | Rule value. If op is set to in, the value is a multi-value character string separated by commas (,).                                                                  |

**Status code: 401****Table 6-393** Response body parameters

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

**Status code: 403****Table 6-394** Response body parameters

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

**Status code: 404****Table 6-395** Response body parameters

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

**Status code: 500****Table 6-396** 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:xxxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test:ldev",
  "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](#).

## 6.7.5 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 6-397** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |
| alias_name   | Yes       | String | Alias to be modified.                                                 |

## Request Parameters

**Table 6-398** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-399** 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.            |
| additional_version_strategy | No        | Map<String,VersionStrategy> | Traffic shifting by Rule.           |

**Table 6-400** VersionStrategy

| Parameter    | Mandatory | Type                                  | Description                                                                                                                                                      |
|--------------|-----------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rules        | No        | Array of VersionStrategyRules objects | Rules.                                                                                                                                                           |
| combine_type | No        | String                                | Rule aggregation mode. and: All rules are met. or: Any rule is met.<br>Enumeration values: <ul style="list-style-type: none"> <li>• and</li> <li>• or</li> </ul> |

**Table 6-401** VersionStrategyRules

| Parameter | Mandatory | Type   | Description                                                                                                                                                           |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_type | No        | String | Parameter type.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Header</b></li></ul>                                                                |
| param     | No        | String | Rule parameter name, which can contain only letters, digits, underscores (_), and hyphens (-).                                                                        |
| op        | No        | String | Rule matching operator. Currently, only = and in are supported.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>in</b></li><li>• <b>=</b></li></ul> |
| value     | No        | String | Rule value. If op is set to in, the value is a multi-value character string separated by commas (,).                                                                  |

## Response Parameters

**Status code: 200**

**Table 6-402** 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: 400**

**Table 6-403** Response body parameters

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

**Status code: 401****Table 6-404** Response body parameters

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

**Status code: 403****Table 6-405** Response body parameters

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

**Status code: 404****Table 6-406** Response body parameters

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

**Status code: 500****Table 6-407** Response body parameters

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

## Example Requests

- Update the function version of alias {alias\_name} to latest, and configure v1 as the additional version with a traffic ratio of 9:1.

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

```
{
  "version": "latest",
  "description": "",
  "additional_version_weights": {
    "v1": 10
  }
}
```

- Update the function version of alias {alias\_name} to v1, enable Traffic Shifting and set version v2 to shift traffic by Rule.

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

```
{
  "version": "v1",
  "description": "",
  "additional_version_strategy": {
    "v2": {
      "combine_type": "and",
      "rules": [ {
        "rule_type": "Header",
        "param": "version",
        "op": "=",
        "value": "v1"
      } ]
    }
  }
}
```

## Example Responses

### Status code: 200

ok

```
{
  "name": "dev",
  "version": "latest",
  "description": "",
  "last_modified": "2019-10-31 11:37:58",
  "alias_urn": "urn:fss:xxxxxxx: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.           |
| 401         | Unauthorized.          |
| 403         | Forbidden.             |
| 404         | Not found.             |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.7.6 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 6-408** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

**Table 6-409** 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 6-410** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200****Table 6-411** Response body parameters

| Parameter   | Type                                                       | Description               |
|-------------|------------------------------------------------------------|---------------------------|
| versions    | Array of <a href="#">ListFunctionVersionResult</a> objects | Version list.             |
| next_marker | Long                                                       | Next record location.     |
| count       | Long                                                       | Total number of versions. |

**Table 6-412** 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  | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| timeout   | Integer | <p>Maximum duration the function can be executed. Value range: 3s-259,200s.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| handler   | String  | <p>Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).</p> <p>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.</p> <p>Minimum length: 3 character.<br/>Maximum length: 128 characters.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



| Parameter           | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| memory_size         | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>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.                                                                                                                                                                                                                      |
| code_type           | String  | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url            | String  | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                     |
| code_filename       | String  | Name of a function file. This parameter is mandatory only when code_type 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.                                                                                                                                                                                                                                                                                                                            |

| Parameter           | Type                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. After specifying a function execution agency, you can use the context method in the function handler to obtain a token, an AK, and an SK for accessing other cloud services. No agency is required if FunctionGraph does not access any cloud services. |
| app_xrole           | String                                | Execution agency. You can optimize performance by configuring a separate agency for function execution, otherwise, the same agency is used for both execution and configuration.                                                                                                                                                                                                                              |
| 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_number   | Integer                               | Number of concurrent instances.                                                                                                                                                                                                                                                                                                                                                                               |
| strategy_config     | <a href="#">StrategyConfig</a> object | Function policy configuration.                                                                                                                                                                                                                                                                                                                                                                                |
| initializer_handler | String                                | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                                                                                                                                                                           |

| Parameter                   | Type                                       | Description                                                                                                                                                                                                                                         |
|-----------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pre_stop_handler            | String                                     | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler. |
| pre_stop_timeout            | Integer                                    | Maximum duration the function can be initialized. Value range: 1s–90s.                                                                                                                                                                              |
| long_time                   | Boolean                                    | Whether long-term running is supported.                                                                                                                                                                                                             |
| function_async_config       | <a href="#">FunctionAsyncConfig</a> object | Return struct of the asynchronous execution notification settings.                                                                                                                                                                                  |
| type                        | String                                     | Function version.                                                                                                                                                                                                                                   |
| 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. This parameter is supported in FunctionGraph v2.                                                                                                                                                          |
| enable_auth_info_header     | Boolean                                    | Whether to allow authentication information in the request header.                                                                                                                                                                                  |
| custom_image                | <a href="#">CustomImage</a> object         | Container image.                                                                                                                                                                                                                                    |
| reserved_instance_idle_mode | Boolean                                    | Whether to enable idle mode for reserved instances.                                                                                                                                                                                                 |

**Table 6-413** 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. <ul style="list-style-type: none"> <li>-1: The function has unlimited instances.</li> <li>0: The function is disabled.</li> </ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                     |

**Table 6-414** 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             | <a href="#">FuncAsyncDestinationConfig</a> 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 6-415** FuncAsyncDestinationConfig

| Parameter  | Type                                         | Description                                                                                           |
|------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------|
| on_success | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function is successfully executed.                                        |
| on_failure | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function fails to be executed due to a system error or an internal error. |

**Table 6-416** FuncDestinationConfig

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                      |
|-------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| destination | String | Object type. <ul style="list-style-type: none"><li>• OBS</li><li>• SMN</li><li>• DIS</li><li>• FunctionGraph</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>OBS</b></li><li>• <b>SMN</b></li><li>• <b>DIS</b></li><li>• <b>FunctionGraph</b></li></ul> |

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| param     | String | Parameters (in JSON format) corresponding to the target service. <ul style="list-style-type: none"><li>• 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.</li><li>• SMN: The topic_urn parameter is included.</li><li>• DIS: The stream_name parameter is included.</li><li>• FunctionGraph: The func_urn parameter is included.</li></ul> |

**Table 6-417** 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 6-418** Response body parameters

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

**Status code: 401**

**Table 6-419** Response body parameters

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

**Status code: 403****Table 6-420** Response body parameters

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

**Status code: 404****Table 6-421** Response body parameters

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

**Status code: 500****Table 6-422** 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:xxxxxxxxxx: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](#).

## 6.7.7 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 6-423** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

### Request Parameters

**Table 6-424** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-425** 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 6-426** 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| runtime      | String | Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Java8</b></li><li>• <b>Java11</b></li><li>• <b>Node.js6.10</b></li><li>• <b>Node.js8.10</b></li><li>• <b>Node.js10.16</b></li><li>• <b>Node.js12.13</b></li><li>• <b>Node.js14.18</b></li><li>• <b>Node.js16.17</b></li><li>• <b>Node.js18.15</b></li><li>• <b>Python2.7</b></li><li>• <b>Python3.6</b></li><li>• <b>Python3.10</b></li><li>• <b>Go1.x</b></li><li>• <b>C#(.NET Core 2.1)</b></li><li>• <b>C#(.NET Core 3.1)</b></li><li>• <b>Custom</b></li><li>• <b>PHP7.3</b></li><li>• <b>Python3.9</b></li><li>• <b>http</b></li><li>• <b>Custom Image</b></li><li>• <b>Cangjie1.0</b></li></ul> |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| timeout       | Integer | Maximum duration the function can be executed. Value range: 3s-259,200s.                                                                                                                                                                                                                                                                                                                                                    |
| handler       | String  | Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).<br>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.<br>Minimum length: 3 character.<br>Maximum length: 128 characters.                                                                                                                          |
| memory_size   | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>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.                                                                                                                                                                                                                      |
| code_type     | String  | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url      | String  | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                     |
| code_filename | String  | Name of a function file. This parameter is mandatory only when code_type 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. After specifying a function execution agency, you can use the context method in the function handler to obtain a token, an AK, and an SK for accessing other cloud services. No agency is required if FunctionGraph does not access any cloud services. |
| app_xrole           | String                       | Execution agency. You can optimize performance by configuring a separate agency for function execution, otherwise, the same agency is used for both execution and configuration.                                                                                                                                                                                                                              |
| description         | String                       | Function description.                                                                                                                                                                                                                                                                                                                                                                                         |
| version_description | String                       | Version description.                                                                                                                                                                                                                                                                                                                                                                                          |
| last_modified       | String                       | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                      |
| func_vpc            | <b>FuncVpc</b> object        | VPC configuration. An agency with VPC permissions must be configured for the function.                                                                                                                                                                                                                                                                                                                        |
| mount_config        | <b>MountConfig</b> object    | Mounting configuration.                                                                                                                                                                                                                                                                                                                                                                                       |
| strategy_config     | <b>StrategyConfig</b> object | Function policy configuration.                                                                                                                                                                                                                                                                                                                                                                                |

| Parameter             | Type                                        | Description                                                                                                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dependencies          | Array of <a href="#">Dependency</a> objects | Dependency packages.                                                                                                                                                                                                                                                                                      |
| initializer_handler   | String                                      | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                                                                       |
| pre_stop_handler      | String                                      | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler.                                                       |
| pre_stop_timeout      | Integer                                     | Maximum duration the function can be initialized. Value range: 1s–90s.                                                                                                                                                                                                                                    |
| 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 an official version, and v1 indicates a deprecated version.<br>Enumeration values: <ul style="list-style-type: none"><li>• v1</li><li>• v2</li></ul>                                                                                                                                         |
| enable_dynamic_memory | Boolean                                     | Whether to enable dynamic memory allocation.                                                                                                                                                                                                                                                              |
| function_async_config | <a href="#">FunctionAsyncConfig</a> object  | Return struct of the asynchronous execution notification settings.                                                                                                                                                                                                                                        |

**Table 6-427** FuncVpc

| Parameter          | Type             | Description     |
|--------------------|------------------|-----------------|
| domain_id          | String           | Domain name ID. |
| namespace          | String           | Project ID.     |
| 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_group_ids | Array of strings | Security group. |

**Table 6-428** MountConfig

| Parameter   | Type                                       | Description        |
|-------------|--------------------------------------------|--------------------|
| mount_user  | <a href="#">MountUser</a> object           | User information.  |
| func_mounts | Array of <a href="#">FuncMount</a> objects | Mounted resources. |

**Table 6-429** 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 6-430** 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. |

| Parameter        | Type   | Description                                                                                                  |
|------------------|--------|--------------------------------------------------------------------------------------------------------------|
| 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 6-431** 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. <ul style="list-style-type: none"><li>-1: The function has unlimited instances.</li><li>0: The function is disabled.</li></ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                  |

**Table 6-432** Dependency

| Parameter | Type   | Description                        |
|-----------|--------|------------------------------------|
| id        | String | Dependency version ID.             |
| owner     | String | Domain ID of the dependency owner. |
| link      | String | URL of the dependency on OBS.      |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| runtime       | String  | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>Java8</b></li> <li>• <b>Java11</b></li> <li>• <b>Node.js6.10</b></li> <li>• <b>Node.js8.10</b></li> <li>• <b>Node.js10.16</b></li> <li>• <b>Node.js12.13</b></li> <li>• <b>Node.js14.18</b></li> <li>• <b>Node.js16.17</b></li> <li>• <b>Node.js18.15</b></li> <li>• <b>Python2.7</b></li> <li>• <b>Python3.6</b></li> <li>• <b>Python3.10</b></li> <li>• <b>Go1.x</b></li> <li>• <b>C#(.NET Core 2.1)</b></li> <li>• <b>C#(.NET Core 3.1)</b></li> <li>• <b>Custom</b></li> <li>• <b>PHP7.3</b></li> <li>• <b>Python3.9</b></li> <li>• <b>http</b></li> <li>• <b>Custom Image</b></li> <li>• <b>Cangjie1.0</b></li> </ul> |
| 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| version       | Long    | Dependency version ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| dep_id        | String  | Dependency ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| last_modified | Integer | Time when the function was last updated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Table 6-433** 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             | <a href="#">FuncAsyncDestinationConfig</a> 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 6-434** FuncAsyncDestinationConfig

| Parameter  | Type                                         | Description                                                                                           |
|------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------|
| on_success | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function is successfully executed.                                        |
| on_failure | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function fails to be executed due to a system error or an internal error. |

**Table 6-435** FuncDestinationConfig

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                      |
|-------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| destination | String | Object type. <ul style="list-style-type: none"><li>• OBS</li><li>• SMN</li><li>• DIS</li><li>• FunctionGraph</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>OBS</b></li><li>• <b>SMN</b></li><li>• <b>DIS</b></li><li>• <b>FunctionGraph</b></li></ul> |



| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| param     | String | Parameters (in JSON format) corresponding to the target service. <ul style="list-style-type: none"><li>• 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.</li><li>• SMN: The topic_urn parameter is included.</li><li>• DIS: The stream_name parameter is included.</li><li>• FunctionGraph: The func_urn parameter is included.</li></ul> |

**Status code: 400****Table 6-436** Response body parameters

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

**Status code: 401****Table 6-437** Response body parameters

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

**Status code: 403****Table 6-438** Response body parameters

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

**Status code: 404**

**Table 6-439** Response body parameters

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

**Status code: 500**

**Table 6-440** 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:xxxxxxx:7aad83af3e8d42e99ac194e8419e2c9b:function:default:test",
  "func_name": "test",
  "domain_id": "14ee2e3501124efcbca7998baa24xxxx",
  "namespace": "46b6f338fc3445b8846c71dfb1fbxxxx",
  "project_name": "xxxx",
  "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":
    "faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9af322c55dabeb16565c386e402413458e6068",
  "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](#).

# 6.8 Function Metrics

## 6.8.1 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 6-441** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

**Table 6-442** 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 6-443** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200**

**Table 6-444** Response body parameters

| Parameter   | Type                                            | Description                         |
|-------------|-------------------------------------------------|-------------------------------------|
| values      | Array of <a href="#">FunctionMetric</a> objects | Function URN and metrics.           |
| next_marker | Long                                            | Next read location.                 |
| count       | Long                                            | Total number of functions returned. |

**Table 6-445** FunctionMetric

| Parameter | Type    | Description   |
|-----------|---------|---------------|
| key       | String  | Function URN. |
| value     | Integer | Metric value. |

**Status code: 400****Table 6-446** 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](#).

## 6.8.2 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 6-447** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

**Table 6-448** Query Parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| filter    | Yes       | String | Parameter filter. <ul style="list-style-type: none"><li>• monitor_data: Query detailed statistics.</li><li>• monthly_report: Query monthly statistics.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>monitor_data</b></li><li>• <b>monthly_report</b></li></ul> |
| period    | No        | String | The unit is minute. This parameter must be used together with the filter parameter metric.                                                                                                                                                                                                 |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| option    | No        | String | Monthly statistical period. This parameter is valid only when filter is set to monthly_report.<br>If a value beyond the preceding range is specified, the default value 0 will be used. <ul style="list-style-type: none"><li>0: current month</li><li>1: last month</li><li>2: last three months</li><li>3: last six months</li></ul> |
| limit     | No        | String | Maximum number of data records returned in a request. Max.: 500. Default: 100.<br>Default: <b>100</b><br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                                                       |
| marker    | No        | String | Start position of the current query. The default value is 0.<br>Default: <b>0</b><br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                                                                           |

## Request Parameters

Table 6-449 Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

Status code: 200

**Table 6-450** Response body parameters

| Parameter  | Type                                                      | Description                    |
|------------|-----------------------------------------------------------|--------------------------------|
| count      | Array of <a href="#">MonthUsed</a> objects                | Number of monthly invocations. |
| gbs        | Array of <a href="#">MonthUsed</a> objects                | Monthly resource usage.        |
| gpu_gbs    | Array of <a href="#">MonthUsed</a> objects                | Monthly GPU usage.             |
| statistics | <a href="#">ListFunctionStatisticsResponseBody</a> object | Function Metrics               |

**Table 6-451** MonthUsed

| Parameter | Type   | Description |
|-----------|--------|-------------|
| date      | String | Date.       |
| value     | Number | Usage.      |

**Table 6-452** ListFunctionStatisticsResponseBody

| Parameter    | Type                                             | Description                       |
|--------------|--------------------------------------------------|-----------------------------------|
| count        | Array of <a href="#">SlaReportsValue</a> objects | Function invocations.             |
| duration     | Array of <a href="#">SlaReportsValue</a> objects | Average latency, in milliseconds. |
| fail_count   | Array of <a href="#">SlaReportsValue</a> objects | Number of errors.                 |
| max_duration | Array of <a href="#">SlaReportsValue</a> objects | Maximum latency, in milliseconds. |
| min_duration | Array of <a href="#">SlaReportsValue</a> objects | Minimum latency, in milliseconds. |



| Parameter             | Type                                             | Description                |
|-----------------------|--------------------------------------------------|----------------------------|
| reject_count          | Array of <a href="#">SlaReportsValue</a> objects | Number of throttles.       |
| function_error_count  | Array of <a href="#">SlaReportsValue</a> objects | Number of function errors. |
| system_error_count    | Array of <a href="#">SlaReportsValue</a> objects | Number of system errors.   |
| reserved_instance_num | Array of <a href="#">SlaReportsValue</a> objects | Reserved instance metrics. |
| concurrency_num       | Array of <a href="#">SlaReportsValue</a> objects | Elastic instance metrics.  |

**Table 6-453** SlaReportsValue

| Parameter | Type    | Description                                                                                                                       |
|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------|
| timestamp | Integer | Timestamp.                                                                                                                        |
| value     | Double  | Value. If the value is -1, the metric has no data in the current period. The possible cause is that the function is not executed. |

**Status code: 400****Table 6-454** 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](#).

## 6.8.3 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 6-455** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| func_urn   | Yes       | String | Function URN. For details, see the function model description.        |
| period     | Yes       | String | Time range specified to query function execution metrics.             |

## Request Parameters

**Table 6-456** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |

| Parameter    | Mandatory | Type   | Description                 |
|--------------|-----------|--------|-----------------------------|
| Content-Type | Yes       | String | Message body type (format). |

## Response Parameters

Status code: 200

Table 6-457 Response body parameters

| Parameter             | Type                                             | Description                       |
|-----------------------|--------------------------------------------------|-----------------------------------|
| count                 | Array of <a href="#">SlaReportsValue</a> objects | Function invocations.             |
| duration              | Array of <a href="#">SlaReportsValue</a> objects | Average latency, in milliseconds. |
| fail_count            | Array of <a href="#">SlaReportsValue</a> objects | Number of errors.                 |
| max_duration          | Array of <a href="#">SlaReportsValue</a> objects | Maximum latency, in milliseconds. |
| min_duration          | Array of <a href="#">SlaReportsValue</a> objects | Minimum latency, in milliseconds. |
| reject_count          | Array of <a href="#">SlaReportsValue</a> objects | Number of throttles.              |
| function_error_count  | Array of <a href="#">SlaReportsValue</a> objects | Number of function errors.        |
| system_error_count    | Array of <a href="#">SlaReportsValue</a> objects | Number of system errors.          |
| reserved_instance_num | Array of <a href="#">SlaReportsValue</a> objects | Reserved instance metrics.        |
| concurrency_num       | Array of <a href="#">SlaReportsValue</a> objects | Elastic instance metrics.         |

**Table 6-458** SlaReportsValue

| Parameter | Type    | Description                                                                                                                       |
|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------|
| timestamp | Integer | Timestamp.                                                                                                                        |
| value     | Double  | Value. If the value is -1, the metric has no data in the current period. The possible cause is that the function is not executed. |

## 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](#).

## 6.8.4 Querying Instance Usage Metrics of a Specified Function

### Function

Query instance usage metrics of a function.

- The metric unit is minute. If the query time range is less than 1 hour, the metric period is 1 minute. If the query time range is less than 1 day, the metric period is 30 minutes. If the query time range is greater than 1 day, the metric period is 180 minutes.
- Metrics are classified into the following types: reservedinstancenum (usage of reserved instances) and concurrency (instance usage/concurrency).

### URI

GET /v2/{project\_id}/fgs/functions/{func\_urn}/instancereports

**Table 6-459** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

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

**Table 6-460** Query Parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                      |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| marker    | No        | String | Start position of the current query. The default value is 0.<br>Default: <b>0</b><br>Minimum: <b>0</b><br>Maximum: <b>64</b>                     |
| limit     | No        | String | Maximum number of data records returned in a request. Max.: 500. Default: 100.<br>Default: <b>100</b><br>Minimum: <b>0</b><br>Maximum: <b>64</b> |

## Request Parameters

**Table 6-461** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

Status code: 200

**Table 6-462** Response body parameters

| Parameter           | Type                                             | Description                |
|---------------------|--------------------------------------------------|----------------------------|
| instanceNum         | Array of <a href="#">SlaReportsValue</a> objects | Elastic instance metrics.  |
| reservedInstanceNum | Array of <a href="#">SlaReportsValue</a> objects | Reserved instance metrics. |

**Table 6-463** SlaReportsValue

| Parameter | Type    | Description                                                                                                                       |
|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------|
| timestamp | Integer | Timestamp.                                                                                                                        |
| value     | Double  | Value. If the value is -1, the metric has no data in the current period. The possible cause is that the function is not executed. |

**Status code: 500****Table 6-464** Response body parameters

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

## Example Requests

Query instance usage metrics of a function.

```
GET /v2/{project_id}/fgs/functions/{func_urn}/instancereports
```

## Example Responses

**Status code: 200**

ok

```
{
  "instanceNum": [ {
    "timestamp": 1596679200000,
    "value": -1
  }, {
    "timestamp": 1596682800000,
    "value": 2
  }, {
    "timestamp": 1596686400000,
```



```
"value" : -1
}],
"reservedInstanceNum" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}, {
  "timestamp" : 1596686400000,
  "value" : -1
} ]
}
```

## Status Codes

| Status Code | Description            |
|-------------|------------------------|
| 200         | ok                     |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.8.5 Querying Instance Traffic Metrics of a Function

### Function

This API is used to query the instance traffic metrics of a function.

### URI

GET /v2/{project\_id}/fgs/functions/{func\_urn}/slareports/{period}

**Table 6-465** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| func_urn   | Yes       | String | Function URN. For details, see the function model description.        |
| period     | Yes       | String | Interval (min)                                                        |

## Request Parameters

**Table 6-466** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200****Table 6-467** Response body parameters

| Parameter            | Type                                             | Description                       |
|----------------------|--------------------------------------------------|-----------------------------------|
| concurrency_num      | Array of <a href="#">SlaReportsValue</a> objects | Concurrency.                      |
| count                | Array of <a href="#">SlaReportsValue</a> objects | Number of invocations.            |
| duration             | Array of <a href="#">SlaReportsValue</a> objects | Average latency, in milliseconds. |
| fail_count           | Array of <a href="#">SlaReportsValue</a> objects | Number of errors.                 |
| function_error_count | Array of <a href="#">SlaReportsValue</a> objects | Number of function errors.        |
| system_error_count   | Array of <a href="#">SlaReportsValue</a> objects | Number of system errors.          |
| instance_num         | Array of <a href="#">SlaReportsValue</a> objects | Number of elastic instances.      |

| Parameter             | Type                                             | Description                       |
|-----------------------|--------------------------------------------------|-----------------------------------|
| max_duration          | Array of <a href="#">SlaReportsValue</a> objects | Maximum latency, in milliseconds. |
| min_duration          | Array of <a href="#">SlaReportsValue</a> objects | Minimum latency, in milliseconds. |
| reject_count          | Array of <a href="#">SlaReportsValue</a> objects | Number of throttles.              |
| reserved_instance_num | Array of <a href="#">SlaReportsValue</a> objects | Number of reserved instances.     |

**Table 6-468** SlaReportsValue

| Parameter | Type    | Description                                                                                                                       |
|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------|
| timestamp | Integer | Timestamp.                                                                                                                        |
| value     | Double  | Value. If the value is -1, the metric has no data in the current period. The possible cause is that the function is not executed. |

**Status code: 500**

**Table 6-469** Response body parameters

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

## Example Requests

Query instance traffic metrics of a function.

```
GET /v2/{project_id}/fgs/functions/{func_urn}/slareports/{period}
```

## Example Responses

**Status code: 200**

ok

```
{
  "concurrency_num" : [ {
```

```
"timestamp" : 1596679200000,
"value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 2
}],
"count" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
"duration" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
"fail_count" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
"function_error_count" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
"instance_num" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
"max_duration" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
"min_duration" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
"reject_count" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
"reserved_instance_num" : [ {
  "timestamp" : 1596679200000,
  "value" : -1
}, {
  "timestamp" : 1596682800000,
  "value" : 950
}],
}],
```

```
"system_error_count" : [ {  
  "timestamp" : 1596679200000,  
  "value" : -1  
}, {  
  "timestamp" : 1596682800000,  
  "value" : 950  
} ]  
}
```

## Status Codes

| Status Code | Description            |
|-------------|------------------------|
| 200         | ok                     |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

# 6.9 Function Logs

## 6.9.1 Querying Details About Asynchronous Invocation Logs

### Function

This API is used to query details about asynchronous invocation logs.

### URI

GET /v2/{project\_id}/fgs/functions/async-status-log-detail

**Table 6-470** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 6-471** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200****Table 6-472** 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: 401****Table 6-473** Response body parameters

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

## Example Requests

Query details about asynchronous invocation logs.

```
GET /v2/{project_id}/fgs/functions/async-status-log-detail
```

## Example Responses

**Status code: 200**

Ok

```
{
  "group_id" : "xxx",
  "group_name" : "xxx",
  "stream_id" : "xxx",
  "stream_name" : "xxx"
}
```

**Status code: 401**

FORBIDDEN

```
{
  "error_code" : "FSS.0401",
  "error_msg" : "invalid token"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | Ok          |
| 401         | FORBIDDEN   |

## Error Codes

See [Error Codes](#).

## 6.9.2 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 6-474** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-475** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200**

**Table 6-476** 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 6-477** 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](#).

## 6.9.3 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

**Table 6-478** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 6-479** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 429****Table 6-480** 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](#).

## 6.9.4 Enabling Asynchronous Status Notification

### Function

Enable asynchronous status notification.

### URI

POST /v2/{project\_id}/fgs/functions/enable-async-status-logs

**Table 6-481** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 6-482** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

None

### Example Requests

Enable asynchronous status notification.

```
POST /v2/{project_id}/fgs/functions/enable-async-status-logs
```

## Example Responses

None

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | ok          |

## Error Codes

See [Error Codes](#).

# 6.10 Function Templates

## 6.10.1 Querying Function Templates

### Function

This API is used to query function templates.

### URI

GET /v2/{project\_id}/fgs/templates

**Table 6-483** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

**Table 6-484** Query Parameters

| Parameter | Mandatory | Type   | Description                                                                                                                  |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------|
| marker    | No        | String | Start position of the current query. The default value is 0.<br>Default: <b>0</b><br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

| Parameter | Mandatory | Type   | Description                                         |
|-----------|-----------|--------|-----------------------------------------------------|
| maxitems  | No        | String | Maximum number of templates obtained in each query. |
| ispublic  | No        | String | Indicates whether the template is public.           |
| runtime   | No        | String | Runtime template.                                   |
| scene     | No        | String | Scenario template.                                  |
| service   | No        | String | Cloud service template.                             |

## Request Parameters

Table 6-485 Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

Status code: 200

Table 6-486 Response body parameters

| Parameter      | Type                                                              | Description         |
|----------------|-------------------------------------------------------------------|---------------------|
| func_templates | Array of <a href="#">ShowFunctionTemplateResponseBody</a> objects | Function templates. |
| next_marker    | Integer                                                           | Next read location. |

**Table 6-487** ShowFunctionTemplateResponseBody

| Parameter             | Type                                                 | Description                                                              |
|-----------------------|------------------------------------------------------|--------------------------------------------------------------------------|
| id                    | String                                               | Template ID.                                                             |
| type                  | Integer                                              | Template type.                                                           |
| title                 | String                                               | Template title.                                                          |
| template_name         | String                                               | Template name.                                                           |
| description           | String                                               | Template description.                                                    |
| runtime               | String                                               | Template runtime.                                                        |
| handler               | String                                               | Template handler.                                                        |
| code_type             | String                                               | Code type.                                                               |
| code                  | String                                               | Code file.                                                               |
| timeout               | Integer                                              | Maximum duration the function can be executed. Value range: 3s-259,200s. |
| memory_size           | Integer                                              | Memory size.                                                             |
| trigger_metadata_list | Array of <a href="#">TriggerMetadataList</a> objects | Trigger information.                                                     |
| temp_detail           | <a href="#">TempDetail</a> object                    |                                                                          |
| user_data             | String                                               | User data.                                                               |
| encrypted_user_data   | String                                               | Encrypted user data.                                                     |
| dependencies          | Array of strings                                     | Dependencies required by the template.                                   |
| scene                 | String                                               | Template application scenarios.                                          |
| service               | String                                               | Cloud service associated with the template.                              |

**Table 6-488** TriggerMetadataList

| Parameter    | Type   | Description   |
|--------------|--------|---------------|
| trigger_name | String | Trigger name. |
| trigger_type | String | Trigger type. |
| event_type   | String | Event type.   |

| Parameter  | Type   | Description |
|------------|--------|-------------|
| event_data | String | Event data. |

**Table 6-489** TempDetail

| Parameter | Type   | Description      |
|-----------|--------|------------------|
| input     | String | Template input.  |
| output    | String | Template output. |
| warning   | String | Warning.         |

**Status code: 400****Table 6-490** Response body parameters

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

**Status code: 401****Table 6-491** Response body parameters

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

**Status code: 403****Table 6-492** Response body parameters

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

**Status code: 500**

**Table 6-493** Response body parameters

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

## Example Requests

Query 500 public function templates.

```
GET /v2/{project_id}/fgs/templates?marker=0&maxitems=500&ispublic=true
```

## Example Responses

**Status code: 200**

OK

```
{
  "func_templates" : [ {
    "id" : "d3aa6e4c-xxxx-xxxx-9c09-5c50c4xxxxxx",
    "type" : 1,
    "title" : "access-service-with-http",
    "template_name" : "access-service-with-http-php",
    "description" : "access service with http.",
    "runtime" : "PHP7.3",
    "handler" : "index.handler",
    "code_type" : "inline",
    "code" : "xxxxx",
    "timeout" : 30,
    "memory_size" : 256,
    "trigger_metadata_list" : [ ],
    "temp_detail" : {
      "input" : "None",
      "output" : "execution succeed: Return to access service information through http/https,",
      "warning" : "1. configure the serveraddress environment variables."
    },
    "user_data" : "",
    "encrypted_user_data" : "",
    "dependencies" : [ ],
    "scene" : "basic_function_usage",
    "service" : "FunctionGraph"
  } ],
  "next_marker" : 1
}
```

## Status Codes

| Status Code | Description   |
|-------------|---------------|
| 200         | OK            |
| 400         | Bad request.  |
| 401         | Unauthorized. |
| 403         | Forbidden.    |



| Status Code | Description            |
|-------------|------------------------|
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.10.2 Querying a Specified Function Template

### Function

This API is used to query a specified function template.

### URI

GET /v2/{project\_id}/fgs/templates/{template\_id}

**Table 6-494** Path Parameters

| Parameter   | Mandatory | Type   | Description                                                           |
|-------------|-----------|--------|-----------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| template_id | Yes       | String | Template ID.                                                          |

### Request Parameters

**Table 6-495** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

Status code: 200

**Table 6-496** Response body parameters

| Parameter             | Type                                                 | Description                                                              |
|-----------------------|------------------------------------------------------|--------------------------------------------------------------------------|
| id                    | String                                               | Template ID.                                                             |
| type                  | Integer                                              | Template type.                                                           |
| title                 | String                                               | Template title.                                                          |
| template_name         | String                                               | Template name.                                                           |
| description           | String                                               | Template description.                                                    |
| runtime               | String                                               | Template runtime.                                                        |
| handler               | String                                               | Template handler.                                                        |
| code_type             | String                                               | Code type.                                                               |
| code                  | String                                               | Code file.                                                               |
| timeout               | Integer                                              | Maximum duration the function can be executed. Value range: 3s-259,200s. |
| memory_size           | Integer                                              | Memory size.                                                             |
| trigger_metadata_list | Array of <a href="#">TriggerMetadataList</a> objects | Trigger information.                                                     |
| temp_detail           | <a href="#">TempDetail</a> object                    |                                                                          |
| user_data             | String                                               | User data.                                                               |
| encrypted_user_data   | String                                               | Encrypted user data.                                                     |
| dependencies          | Array of strings                                     | Dependencies required by the template.                                   |
| scene                 | String                                               | Template application scenarios.                                          |
| service               | String                                               | Cloud service associated with the template.                              |

**Table 6-497** TriggerMetadataList

| Parameter    | Type   | Description   |
|--------------|--------|---------------|
| trigger_name | String | Trigger name. |
| trigger_type | String | Trigger type. |
| event_type   | String | Event type.   |

| Parameter  | Type   | Description |
|------------|--------|-------------|
| event_data | String | Event data. |

**Table 6-498** TempDetail

| Parameter | Type   | Description      |
|-----------|--------|------------------|
| input     | String | Template input.  |
| output    | String | Template output. |
| warning   | String | Warning.         |

**Status code: 400**

**Table 6-499** Response body parameters

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

**Status code: 401**

**Table 6-500** Response body parameters

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

**Status code: 403**

**Table 6-501** Response body parameters

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

**Status code: 404**

**Table 6-502** Response body parameters

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

**Status code: 500****Table 6-503** Response body parameters

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

## Example Requests

Query a specified function template.

```
GET /v2/{project_id}/fgs/templates/{template_id}
```

## Example Responses

**Status code: 200**

OK

```
{
  "id" : "d3aa6e4c-xxxx-xxxx-9c09-5c50c4xxxxxx",
  "type" : 1,
  "title" : "access-service-with-http",
  "template_name" : "access-service-with-http-php",
  "description" : "access service with http.",
  "runtime" : "PHP7.3",
  "handler" : "index.handler",
  "code_type" : "inline",
  "code" : "xxxxx",
  "timeout" : 30,
  "memory_size" : 256,
  "trigger_metadata_list" : [ ],
  "temp_detail" : {
    "input" : "None",
    "output" : "execution succeed: Return to access service information through http/https,",
    "warning" : "1. configure the serveraddress environment variables."
  },
  "user_data" : "",
  "encrypted_user_data" : "",
  "dependencies" : [ ],
  "scene" : "basic_function_usage",
  "service" : "FunctionGraph"
}
```

**Status code: 404**

Not found.

```
{
  "error_code" : "FSS.1059",
  "error_msg" : "The function template does not exist."
}
```

## 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](#).

# 6.11 Reserved Instances

## 6.11.1 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 6-504** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

**Table 6-505** 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.<br>Default: <b>0</b><br>Minimum: <b>1</b><br>Maximum: <b>64</b>                     |
| limit        | No        | String | Maximum number of data records returned in a request. Max.: 500. Default: 100.<br>Default: <b>100</b><br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

## Request Parameters

**Table 6-506** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

Status code: 200

**Table 6-507** Response body parameters

| Parameter          | Type                                                     | Description         |
|--------------------|----------------------------------------------------------|---------------------|
| reserved_instances | Array of <a href="#">ReservedInstanceConfigs</a> objects | Reserved instances. |

| Parameter | Type                            | Description          |
|-----------|---------------------------------|----------------------|
| page_info | <a href="#">PageInfo</a> object |                      |
| count     | Long                            | Number of functions. |

**Table 6-508** ReservedInstanceConfigs

| Parameter      | Type                                 | Description                                |
|----------------|--------------------------------------|--------------------------------------------|
| function_urn   | String                               | Function URN.                              |
| qualifier_type | String                               | Limiting type. Options: version and alias. |
| qualifier_name | String                               | Limit value.                               |
| min_count      | Integer                              | Number of reserved instances.              |
| idle_mode      | Boolean                              | Whether to enable the idle mode.           |
| tactics_config | <a href="#">TacticsConfig</a> object |                                            |

**Table 6-509** TacticsConfig

| Parameter      | Type                                          | Description                      |
|----------------|-----------------------------------------------|----------------------------------|
| cron_configs   | Array of <a href="#">CronConfig</a> objects   | Scheduled configuration list.    |
| metric_configs | Array of <a href="#">MetricConfig</a> objects | Flow control configuration list. |

**Table 6-510** 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 (epoch format).            |
| expired_time | Long    | Expiry time (epoch format).           |

**Table 6-511** MetricConfig

| Parameter | Type    | Description                                                                                                                                                                |
|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | String  | Flow control configuration name.                                                                                                                                           |
| type      | String  | Flow control type. Currently, only reserved instance utilization is supported.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Concurrency</b></li></ul> |
| threshold | Integer | Flow control threshold.                                                                                                                                                    |
| min       | Integer | Minimum value.                                                                                                                                                             |

**Table 6-512** PageInfo

| Parameter       | Type | Description                          |
|-----------------|------|--------------------------------------|
| next_marker     | Long | Next read location.                  |
| previous_marker | Long | Previous read location.              |
| current_count   | Long | Number of items on the current page. |

**Status code: 400****Table 6-513** Response body parameters

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

**Status code: 401****Table 6-514** Response body parameters

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

**Status code: 403**



**Table 6-515** Response body parameters

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

**Status code: 404****Table 6-516** Response body parameters

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

**Status code: 500****Table 6-517** 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}:46b6f338fc3445b8846c71dfb1fbxxx:function:default:xxxx: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
  }
]
}
},
"page_info": {
  "next_marker": 1,
  "previous_marker": 0,
  "current_count": 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](#).

## 6.11.2 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 6-518** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-519** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-520** 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        | <a href="#">TacticsConfig</a> object |                                  |

**Table 6-521** TacticsConfig

| Parameter      | Mandatory | Type                                          | Description                      |
|----------------|-----------|-----------------------------------------------|----------------------------------|
| cron_configs   | No        | Array of <a href="#">CronConfig</a> objects   | Scheduled configuration list.    |
| metric_configs | No        | Array of <a href="#">MetricConfig</a> objects | Flow control configuration list. |

**Table 6-522** CronConfig

| Parameter    | Mandatory | Type    | Description                           |
|--------------|-----------|---------|---------------------------------------|
| name         | No        | String  | Scheduled configuration name.         |
| cron         | No        | String  | Cron expression.                      |
| count        | No        | Integer | Number of started reserved instances. |
| start_time   | No        | Long    | Start time (epoch format).            |
| expired_time | No        | Long    | Expiry time (epoch format).           |

**Table 6-523** MetricConfig

| Parameter | Mandatory | Type    | Description                                                                                                                                                                |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String  | Flow control configuration name.                                                                                                                                           |
| type      | No        | String  | Flow control type. Currently, only reserved instance utilization is supported.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Concurrency</b></li></ul> |
| threshold | No        | Integer | Flow control threshold.                                                                                                                                                    |
| min       | No        | Integer | Minimum value.                                                                                                                                                             |

## Response Parameters

Status code: 200

**Table 6-524** Response body parameters

| Parameter      | Type                                 | Description                   |
|----------------|--------------------------------------|-------------------------------|
| count          | Integer                              | Number of reserved instances. |
| idle_mode      | Boolean                              | Whether to enable idle mode.  |
| tactics_config | <a href="#">TacticsConfig</a> object |                               |

**Table 6-525** TacticsConfig

| Parameter      | Type                                          | Description                      |
|----------------|-----------------------------------------------|----------------------------------|
| cron_configs   | Array of <a href="#">CronConfig</a> objects   | Scheduled configuration list.    |
| metric_configs | Array of <a href="#">MetricConfig</a> objects | Flow control configuration list. |

**Table 6-526** 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 (epoch format).            |
| expired_time | Long    | Expiry time (epoch format).           |

**Table 6-527** MetricConfig

| Parameter | Type    | Description                                                                                                                                                                |
|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | String  | Flow control configuration name.                                                                                                                                           |
| type      | String  | Flow control type. Currently, only reserved instance utilization is supported.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Concurrency</b></li></ul> |
| threshold | Integer | Flow control threshold.                                                                                                                                                    |
| min       | Integer | Minimum value.                                                                                                                                                             |

**Status code: 400****Table 6-528** Response body parameters

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

**Status code: 401****Table 6-529** Response body parameters

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

**Status code: 403****Table 6-530** Response body parameters

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

**Status code: 404****Table 6-531** Response body parameters

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

**Status code: 500****Table 6-532** Response body parameters

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

## Example Requests

Update the number of a function's reserved instances to 3.

```
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](#).

## 6.11.3 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 6-533** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

**Table 6-534** Query Parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                  |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| marker    | No        | String | Final record queried last time.<br>Default: <b>0</b>                                                                                                                                                                                                         |
| limit     | No        | String | Maximum number of functions to obtain in a request.<br>Maximum value: 400<br>The default value is 400, which is used when this parameter is not specified or is 0 or greater than 400.<br>If it is less than 0, an error is reported.<br>Default: <b>400</b> |
| urn       | No        | String | URN of a function whose number of reserved instances is to be queried.                                                                                                                                                                                       |

## Request Parameters

**Table 6-535** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

Status code: 200



**Table 6-536** Response body parameters

| Parameter         | Type                                                  | Description          |
|-------------------|-------------------------------------------------------|----------------------|
| reservedinstances | Array of <a href="#">FuncReservedInstance</a> objects | Reserved instances.  |
| page_info         | <a href="#">PageInfo</a> object                       |                      |
| count             | Long                                                  | Number of functions. |

**Table 6-537** FuncReservedInstance

| Parameter | Type   | Description                   |
|-----------|--------|-------------------------------|
| func_urn  | String | Function URN.                 |
| count     | Long   | Number of reserved instances. |

**Table 6-538** PageInfo

| Parameter       | Type | Description                          |
|-----------------|------|--------------------------------------|
| next_marker     | Long | Next read location.                  |
| previous_marker | Long | Previous read location.              |
| current_count   | Long | Number of items on the current page. |

**Status code: 400****Table 6-539** Response body parameters

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

**Status code: 401**

**Table 6-540** Response body parameters

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

**Status code: 403****Table 6-541** Response body parameters

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

**Status code: 404****Table 6-542** Response body parameters

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

**Status code: 500****Table 6-543** 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:xxxx: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.             |
| 404         | Not found.             |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

# 6.12 Function Import and Export

## 6.12.1 Exporting a Function

### Function

This API is used to export a function.

### URI

GET /v2/{project\_id}/fgs/functions/{function\_urn}/export

**Table 6-544** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

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

**Table 6-545** Query Parameters

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                      |
|-----------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| config    | No        | Boolean | Whether to export function configuration. The default value is false. If the type parameter does not exist, at least one of code=true or config=true must be specified.<br>Default: <b>false</b> |
| code      | No        | Boolean | Whether to export function code. The default value is false. If the type parameter does not exist, at least one of code=true or config=true must be specified.<br>Default: <b>false</b>          |
| 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 6-546** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

### Status code: 404

**Table 6-547** Response body parameters

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

### Status code: 500

**Table 6-548** 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](#).

## 6.12.2 Importing a Function

### Function

This API is used to import a function.

### URI

POST /v2/{project\_id}/fgs/functions/import

**Table 6-549** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 6-550** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-551** Request body parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                         |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| func_name | Yes       | String | Function name. Max. 60 of letters, digits, hyphens (-), and underscores (_). Start with a letter, and end with a letter or digit.<br>Minimum length: 1 character.<br>Maximum length: 60 characters. |

| Parameter | Mandatory | Type   | Description                                           |
|-----------|-----------|--------|-------------------------------------------------------|
| 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 6-552** 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  | <p>Environment for executing a function. Options: Python2.7 Python 3.6 Python 3.9 Python 3.10 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 Node.js 16.17 Node.js 18.15 C# (.NET Core 2.1) C# (.NET Core 3.1) Custom PHP 7.3 HTTP Custom image-based functions Cangjie1.0</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>Java8</b></li> <li>● <b>Java11</b></li> <li>● <b>Node.js6.10</b></li> <li>● <b>Node.js8.10</b></li> <li>● <b>Node.js10.16</b></li> <li>● <b>Node.js12.13</b></li> <li>● <b>Node.js14.18</b></li> <li>● <b>Node.js16.17</b></li> <li>● <b>Node.js18.15</b></li> <li>● <b>Python2.7</b></li> <li>● <b>Python3.6</b></li> <li>● <b>Python3.10</b></li> <li>● <b>Go1.x</b></li> <li>● <b>C#(.NET Core 2.1)</b></li> <li>● <b>C#(.NET Core 3.1)</b></li> <li>● <b>Custom</b></li> <li>● <b>PHP7.3</b></li> <li>● <b>Python3.9</b></li> <li>● <b>http</b></li> <li>● <b>Custom Image</b></li> <li>● <b>Cangjie1.0</b></li> </ul> |
| timeout   | Integer | <p>Maximum duration the function can be executed. Value range: 3s-259,200s.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| handler   | String  | <p>Handler of a function in the format of "xx.xx". Max. 60 of letters. It must contain a period (.).</p> <p>For example, for Node.js function myfunction.handler, the file name is myfunction.js, and the handler function is handler.</p> <p>Minimum length: 3 character.<br/>Maximum length: 128 characters.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| memory_size   | Integer | Memory consumed by a function.<br>Unit: MB.<br>The value can be 128, 256, 512, 768, 1024, 1280, 1536, 1792, 2048, 2560, 3072, 3584 or 4096.<br>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.                                                                                                                                                                                                                      |
| code_type     | String  | Function code type. Options: inline: inline code<br>zip: ZIP file<br>obs: function code stored in an OBS bucket<br>jar: JAR file, mainly for Java functions<br>Custom-Image-Swr: The function code comes from the SWR custom image.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>inline</b></li><li>• <b>zip</b></li><li>• <b>obs</b></li><li>• <b>jar</b></li><li>• <b>Custom-Image-Swr</b></li></ul> |
| code_url      | String  | If code_type is set to obs, enter the OBS URL of the function code package. If code_type is not set to obs, leave this parameter blank.                                                                                                                                                                                                                                                                                     |
| code_filename | String  | Name of a function file. This parameter is mandatory only when code_type 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.                                                                                                                                                            |

| Parameter           | Type                                  | Description                                                                                                                                                                                                                                                                                               |
|---------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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            | <a href="#">FuncVpc</a> object        | VPC configuration. An agency with VPC permissions must be configured for the function.                                                                                                                                                                                                                    |
| depend_list         | Array of strings                      | Dependency IDs.                                                                                                                                                                                                                                                                                           |
| depend_version_list | Array of strings                      | Dependency versions.                                                                                                                                                                                                                                                                                      |
| strategy_config     | <a href="#">StrategyConfig</a> object | Function policy configuration.                                                                                                                                                                                                                                                                            |
| extend_config       | String                                | Extended configuration.                                                                                                                                                                                                                                                                                   |
| initializer_handler | String                                | Initializer of the function in the format of "xx.xx". It must contain a period (.). This parameter is mandatory when the initialization function is configured. 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. This parameter is mandatory when the initialization function is configured.                                                                                                                                                       |

| Parameter             | Type    | Description                                                                                                                                                                                                                                         |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pre_stop_handler      | String  | The pre-stop handler of a function. The value must contain a period (.) in the format of xx.xx. For example, for Node.js function myfunction.pre_stop_handler, the file name is myfunction.js, and the initialization function is pre_stop_handler. |
| pre_stop_timeout      | Integer | Maximum duration the function can be initialized. Value range: 1s–90s.                                                                                                                                                                              |
| enterprise_project_id | String  | Enterprise project ID. This parameter is mandatory if you create a function as an enterprise user.                                                                                                                                                  |

**Table 6-553** FuncVpc

| Parameter       | Type             | Description     |
|-----------------|------------------|-----------------|
| domain_id       | String           | Domain name ID. |
| namespace       | String           | Project ID.     |
| 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 6-554** 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. <ul style="list-style-type: none"><li>-1: The function has unlimited instances.</li><li>0: The function is disabled.</li></ul> |
| concurrent_num | Integer | Number of concurrent requests per instance. This parameter is supported only by v2. The value ranges from 1 to 1,000.                                                                                                                                  |

**Status code: 409**

**Table 6-555** Response body parameters

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

**Status code: 500**

**Table 6-556** Response body parameters

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

## Example Requests

Import a function from a Base64-encoded file test.zip.

```
POST https://{Endpoint}/v2/{project_id}/fgs/functions/import
{
  "func_name": "test",
  "file_name": "test.zip",
  "file_type": "zip",
  "file_code": "xxxxxxxxxxxxxxxxxxxxxx"
}
```

## 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":
    "faa825575c45437cddd4e369bea69893bcbe195d478178462ad90984fe72993f3f59d15f41c5373f807f3e05fb9af322c55dabeb16565c386e402413458e6068",
  "version": "latest",
}
```

```
"image_name" : "latest-191025153727@zehht",
"last_modified" : "2019-10-25 15:37:27",
"strategy_config" : {
  "concurrency" : -1
},
"enterprise_project_id" : "46b6f338fc3445b8846c71dfb1fbxxx"
```

**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](#).

# 6.13 Function Triggers

## 6.13.1 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 6-557** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-558** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).<br>Default: <b>application/json</b>                                                                                              |

## Response Parameters

**Status code: 400**

**Table 6-559** Response body parameters

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

**Status code: 401**

**Table 6-560** Response body parameters

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

**Status code: 403****Table 6-561** Response body parameters

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

**Status code: 404****Table 6-562** Response body parameters

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

**Status code: 500****Table 6-563** 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. |

| Status Code | Description            |
|-------------|------------------------|
| 401         | Unauthorized.          |
| 403         | Forbidden.             |
| 404         | Not found.             |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.13.2 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 6-564** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-565** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |



| Parameter    | Mandatory | Type   | Description                                                     |
|--------------|-----------|--------|-----------------------------------------------------------------|
| Content-Type | Yes       | String | Message body type (format).<br>Default: <b>application/json</b> |

## Response Parameters

Status code: 200

**Table 6-566** Response body parameters

| Parameter | Type                                              | Description |
|-----------|---------------------------------------------------|-------------|
| [items]   | Array of <b>ListFunctionTriggerResult</b> objects |             |

**Table 6-567** ListFunctionTriggerResult

| Parameter  | Type   | Description |
|------------|--------|-------------|
| trigger_id | String | Trigger ID. |

| Parameter         | Type                                                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_type_code | String                                              | <p>Trigger type. (OBS triggers are not available in the European regions.)</p> <ul style="list-style-type: none"> <li>TIMER</li> <li>APIG</li> <li>CTS</li> <li>DDS</li> <li>DMS</li> <li>DIS</li> <li>LTS</li> <li>OBS</li> <li>SMN</li> <li>KAFKA</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li><b>TIMER</b></li> <li><b>APIG</b></li> <li><b>CTS</b></li> <li><b>DDS</b></li> <li><b>DMS</b></li> <li><b>DIS</b></li> <li><b>LTS</b></li> <li><b>OBS</b></li> <li><b>SMN</b></li> <li><b>KAFKA</b></li> <li><b>RABBITMQ</b></li> <li><b>DEDICATEDGATEWAY</b></li> <li><b>OPENSOURCEKAFKA</b></li> <li><b>APIC</b></li> <li><b>Gemini Mongo</b></li> <li><b>EVENTGRID</b></li> <li><b>IOTDA</b></li> </ul> |
| trigger_status    | String                                              | <p>Trigger status.</p> <ul style="list-style-type: none"> <li>ACTIVE: The trigger is enabled.</li> <li>DISABLED: The trigger is disabled.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li><b>ACTIVE</b></li> <li><b>DISABLED</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| event_data        | <a href="#">TriggerEventDataResponseBody</a> object | Trigger source event.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter         | Type   | Description                        |
|-------------------|--------|------------------------------------|
| last_updated_time | String | Latest update time.                |
| created_time      | String | Time when the trigger was created. |

**Table 6-568** TriggerEventDataResponseBody

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | String  | Trigger name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| schedule_type | String  | Timer trigger type (timer trigger parameter). <ul style="list-style-type: none"><li>• Rate: specifies the frequency (minutes, hours, or days) at which the function is invoked. If the unit is minute, the value cannot exceed 60. If the unit is hour, the value cannot exceed 24. If the unit is day, the value cannot exceed 30.</li><li>• Cron: specifies a Cron expression to periodically invoke a function.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>Rate</b></li><li>• <b>Cron</b></li></ul> |
| schedule      | String  | Triggering rule. (timer trigger parameter). <ul style="list-style-type: none"><li>• When the trigger type is Rate, the scheduled rule is used. When the trigger type is Cron, the Cron expression is used.</li></ul>                                                                                                                                                                                                                                                                                                                 |
| user_event    | String  | Additional information (timer trigger parameter). When the timer trigger triggers the function, the execution event (the event parameter of the function) is {"version": "v1.0", "time": "2018-06-01T08:30:00+08:00", "trigger_type": "TIMER", "trigger_name": "Timer_001", "user_event": "Additional information you entered"}.                                                                                                                                                                                                     |
| triggerid     | String  | APIG trigger ID (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| type          | Integer | The API type (APIG trigger parameter). <ul style="list-style-type: none"><li>• 1: public</li><li>• 2: private</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                              |
| path          | String  | Path of the API (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Parameter  | Type   | Description                                                                                                                                                                                                                                                       |
|------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| protocol   | String | Request protocol of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"><li>• HTTP</li><li>• HTTPS</li></ul>                                                                                                               |
| req_method | String | Request mode of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"><li>• GET</li><li>• POST</li><li>• PUT</li><li>• DELETE</li><li>• HEAD</li><li>• PATCH</li><li>• OPTIONS</li><li>• ANY</li></ul>                       |
| group_id   | String | ID of the group to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                |
| group_name | String | Name of the group to which the API belongs (APIG trigger parameter).                                                                                                                                                                                              |
| match_mode | String | Matching mode of the API (APIG trigger parameter). <ul style="list-style-type: none"><li>• SWA: prefix match</li><li>• NORMAL: normal match (absolute match)</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• SWA</li><li>• NORMAL</li></ul> |
| env_name   | String | Environment in which the API is published (APIG trigger parameter).                                                                                                                                                                                               |
| env_id     | String | ID of the environment in which the API has been published (APIG trigger parameter).                                                                                                                                                                               |
| api_id     | String | API ID (APIG trigger parameter).                                                                                                                                                                                                                                  |
| api_name   | String | API name (APIG trigger parameter).                                                                                                                                                                                                                                |

| Parameter    | Type                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auth         | String                            | <p>Security authentication (APIG trigger parameter).</p> <ul style="list-style-type: none"> <li>• IAM: IAM authentication. Only IAM users are allowed to access the system. The security level is medium.</li> <li>• APP: Appkey&amp;Appsecret authentication is used. The security level is high. This authentication mode is recommended.</li> <li>• NONE: No authentication mode is used. All users can access the system. This mode is not recommended.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>IAM</b></li> <li>• <b>APP</b></li> <li>• <b>NONE</b></li> </ul> |
| invoke_url   | String                            | API calling address (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| func_info    | <b>ApigTriggerFuncInfo</b> object | FunctionGraph backend details (APIG trigger parameter). This parameter is mandatory for APIG triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| sl_domain    | String                            | <p>Subdomain name allocated by the APIG system by default (APIG trigger parameter).</p> <p>Minimum: <b>1</b></p> <p>Maximum: <b>255</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| backend_type | String                            | <p>Backend type of the API (APIG trigger parameter).</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>FUNCTION</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| instance_id  | String                            | <p>Instance ID. This parameter is mandatory for DDS, Kafka, and RabbitMQ triggers.</p> <ul style="list-style-type: none"> <li>• APIG trigger: APIG gateway ID</li> <li>• DDS trigger: DB instance ID.</li> <li>• Kafka trigger: Kafka instance ID</li> <li>• RabbitMQ trigger: RabbitMQ instance ID</li> </ul>                                                                                                                                                                                                                                                                                                |
| roma_app_id  | String                            | ID of the integration application to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| operations   | Array of strings                  | <p>Custom operations (CTS trigger parameter). CTS collects operation records of subscribed cloud resources. If you create a function with a CTS trigger, collected operation records of specified cloud services will be passed as a parameter to invoke the function.</p>                                                                                                                                                                                                                                                                                                                                    |

| Parameter          | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| collection_name    | String           | Collection name (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| db_name            | String           | Database name (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| db_password        | String           | DDS database password (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| db_user            | String           | DDS database username (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| instance_addresses | Array of strings | DDS database instance address (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| mode               | String           | DDS database instance type (DDS trigger parameter). <ul style="list-style-type: none"><li>• Sharding: cluster instance</li><li>• ReplicaSet: replica set instance</li><li>• Single: single node instance.</li></ul>                                                                                                                                                                                                                                                                                                                        |
| batch_size         | Integer          | Batch size: Maximum number of data records that can be processed by the function at a time. This parameter is mandatory for DIS, DDS, Kafka, and RabbitMQ triggers. <ul style="list-style-type: none"><li>• DDS trigger: Set the batch size to a value ranging from 1 to 10,000.</li><li>• DIS trigger: Set the batch size to a value ranging from 1 to 10,000.</li><li>• Kafka trigger: Set the batch size to a value ranging from 1 to 1000.</li><li>• RabbitMQ trigger: Set the batch size to a value ranging from 1 to 1000.</li></ul> |
| queue_id           | String           | Queue ID (DMS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| consumer_group_id  | String           | Consumer group ID (DMS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| polling_interval   | Integer          | Pull period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| stream_name        | String           | Stream name (DIS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter          | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sharditerator_type | String  | Start position (DIS trigger parameter). <ul style="list-style-type: none"> <li>● TRIM_HORIZON: Data is read from the earliest valid record stored in the partition.</li> <li>● LATEST: Data is read from the latest record in the partition. This option ensures that the most recent data in the partition is read.</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>● <b>TRIM_HORIZON</b></li> <li>● <b>LATEST</b></li> </ul> |
| polling_unit       | String  | Unit of the pull period (DIS trigger parameter). <ul style="list-style-type: none"> <li>● s: second</li> <li>● ms: millisecond</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>● <b>s</b></li> <li>● <b>ms</b></li> </ul>                                                                                                                                                                                                      |
| max_fetch_bytes    | Integer | Maximum number of bytes to be extracted (DIS trigger parameter). <p>Minimum: <b>0</b></p> <p>Maximum: <b>4194304</b></p>                                                                                                                                                                                                                                                                                                                             |
| is_serial          | String  | Serial Data Processing: If this option is selected, FunctionGraph pulls data from the stream only after previous data is processed. If this option is not selected, FunctionGraph pulls data from the stream as long as the pull period ends. <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>true</b></li> <li>● <b>false</b></li> </ul>                                                                                     |
| log_group_id       | String  | Log group ID (LTS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                |
| log_topic_id       | String  | Log stream ID (LTS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                               |
| bucket             | String  | Bucket name (OBS trigger parameter). The name of the OBS bucket used as the event source cannot be the same as that of an existing bucket of the current user or another user. After being created, the bucket name cannot be modified. <p>Minimum: <b>1</b></p> <p>Maximum: <b>64</b></p>                                                                                                                                                           |

| Parameter             | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| prefix                | String           | Prefix (OBS trigger parameter). Enter a prefix to limit notifications to objects whose names start with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| suffix                | String           | Suffix (OBS trigger parameter). Enter a suffix to limit notifications to objects whose names end with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| events                | Array of strings | Trigger event (OBS trigger parameter). <ul style="list-style-type: none"><li>● ObjectCreated: all object creation operations, including PUT, POST, COPY, and part assembling</li><li>● Put: Uploads an object using Put.</li><li>● Post: Uploads an object using POST</li><li>● Copy: Copies an object using COPY.</li><li>● CompleteMultipartUpload: Merges parts of a multipart upload.</li><li>● ObjectRemoved: Deletes an object.</li><li>● Delete: Deletes an object by specifying its version ID.</li><li>● DeleteMarkerCreated: Deletes an object without specifying its version ID.</li></ul> |
| topic_urn             | String           | Topic URN (SMN trigger parameter)<br>Minimum: <b>1</b><br>Maximum: <b>255</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| topic_ids             | Array of strings | The Kafka topic ID list (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| kafka_user            | String           | Kafka account name (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| kafka_password        | String           | Kafka password (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| kafka_connect_address | String           | Kafka instance connection address (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| kafka_ssl_enable      | Boolean          | Whether to enable SASL authentication(Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| access_password       | String           | RabbitMQ account password (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



| Parameter       | Type    | Description                                         |
|-----------------|---------|-----------------------------------------------------|
| access_user     | String  | RabbitMQ username (RabbitMQ trigger parameter).     |
| connect_address | String  | Instance IP address (RabbitMQ trigger parameter).   |
| exchange_name   | String  | Switch name (RabbitMQ trigger parameter).           |
| vhost           | String  | Virtual host (RabbitMQ trigger parameter).          |
| ssl_enable      | Boolean | Whether to enable SSL (RabbitMQ trigger parameter). |

**Table 6-569** ApigTriggerFuncInfo

| Parameter       | Type    | Description                                                                                                                                                                                                                                                  |
|-----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| function_urn    | String  | Function URN. For details, see the function model descriptions.                                                                                                                                                                                              |
| invocation_type | String  | Execution mode of a function. <ul style="list-style-type: none"><li>• sync: synchronous execution</li><li>• async: asynchronous execution</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>sync</b></li><li>• <b>async</b></li></ul> |
| timeout         | Integer | Timeout allowed for APIG to request the FunctionGraph service. The unit is in millisecond. This parameter is mandatory for APIG triggers.<br>Minimum: <b>1</b><br>Maximum: <b>60000</b>                                                                      |
| version         | String  | Function version information.                                                                                                                                                                                                                                |

**Status code: 400****Table 6-570** Response body parameters

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

**Status code: 401****Table 6-571** Response body parameters

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

**Status code: 403****Table 6-572** Response body parameters

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

**Status code: 404****Table 6-573** Response body parameters

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

**Status code: 500****Table 6-574** 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:xxxx:46b6f338fc3445b8846c71dfb1fbxxx: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",
    "triggerid": "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.          |
| 403         | Forbidden.             |
| 404         | Not found.             |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.13.3 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. (OBS triggers are not available in the European regions.)
- 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 6-575** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

### Request Parameters

**Table 6-576** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).<br>Default: <b>application/json</b>                                                                                              |

**Table 6-577** Request body parameters

| Parameter         | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_type_code | Yes       | String | <p>Trigger type. (OBS triggers are not available in the European regions.)</p> <ul style="list-style-type: none"> <li>• TIMER</li> <li>• APIG</li> <li>• CTS: Enable CTS first.</li> <li>• DDS: Configure a VPC for the function first.</li> <li>• DMS: Configure a DMS agency first.</li> <li>• DIS: Configure a DIS agency first.</li> <li>• LTS: Configure an LTS agency first.</li> <li>• OBS</li> <li>• KAFKA</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>TIMER</b></li> <li>• <b>APIG</b></li> <li>• <b>CTS</b></li> <li>• <b>DDS</b></li> <li>• <b>DMS</b></li> <li>• <b>DIS</b></li> <li>• <b>LTS</b></li> <li>• <b>OBS</b></li> <li>• <b>SMN</b></li> <li>• <b>KAFKA</b></li> <li>• <b>RABBITMQ</b></li> <li>• <b>DEDICATEDGATEWAY</b></li> <li>• <b>OPENSOURCEKAFKA</b></li> <li>• <b>APIC</b></li> <li>• <b>Gemini Mongo</b></li> <li>• <b>EVENTGRID</b></li> <li>• <b>IOTDA</b></li> </ul> |
| trigger_status    | No        | String | <p>Trigger status. Options: ACTIVE and DISABLED.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>ACTIVE</b></li> <li>• <b>DISABLED</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Parameter       | Mandatory | Type                                      | Description           |
|-----------------|-----------|-------------------------------------------|-----------------------|
| event_type_code | No        | String                                    | Message code.         |
| event_data      | Yes       | <b>TriggerEventDataRequestBody</b> object | Trigger source event. |

**Table 6-578** TriggerEventDataRequestBody

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | No        | String | <p>Timer trigger: trigger name</p> <ul style="list-style-type: none"> <li>• APIG trigger: API name</li> <li>• CTS trigger: Notification name</li> <li>• OBS trigger: Event Notification name. The default value is The trigger ID.</li> </ul>                                                                                                                                                                                                                                                                                                                                                            |
| schedule_type | No        | String | <p>Timer trigger type (timer trigger parameter). This parameter is mandatory for timer triggers.</p> <ul style="list-style-type: none"> <li>• Rate: specifies the frequency (minutes, hours, or days) at which the function is invoked. If the unit is minute, the value cannot exceed 60. If the unit is hour, the value cannot exceed 24. If the unit is day, the value cannot exceed 30.</li> <li>• Cron: specifies a Cron expression to periodically invoke a function.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>Rate</b></li> <li>• <b>Cron</b></li> </ul> |

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                      |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| schedule   | No        | String  | Triggering rule. (timer trigger parameter). This parameter is mandatory for timer triggers. <ul style="list-style-type: none"><li>• When the trigger type is Rate, the scheduled rule is used. When the trigger type is Cron, the Cron expression is used.</li></ul>                                                             |
| user_event | No        | String  | Additional information (timer trigger parameter). When the timer trigger triggers the function, the execution event (the event parameter of the function) is {"version": "v1.0", "time": "2018-06-01T08:30:00+08:00", "trigger_type": "TIMER", "trigger_name": "Timer_001", "user_event": "Additional information you entered"}. |
| type       | No        | Integer | API visibility(APIG trigger parameter). This parameter is mandatory for APIG triggers. <ul style="list-style-type: none"><li>• 1: public</li><li>• 2: private</li></ul>                                                                                                                                                          |
| path       | No        | String  | Path of the API (APIG trigger parameter). This parameter is mandatory for APIG triggers.                                                                                                                                                                                                                                         |
| protocol   | No        | String  | Request protocol of the API (APIG trigger parameter). This parameter is mandatory for APIG triggers.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>HTTP</b></li><li>• <b>HTTPS</b></li></ul>                                                                                                                 |

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                            |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| req_method | No        | String | Request method of the API (APIG trigger parameter). This parameter is mandatory for APIG triggers.<br>Enumeration values: <ul style="list-style-type: none"> <li>• GET</li> <li>• POST</li> <li>• PUT</li> <li>• DELETE</li> <li>• HEAD</li> <li>• PATCH</li> <li>• OPTIONS</li> <li>• ANY</li> </ul>                  |
| group_id   | No        | String | ID of the group to which the API belongs (APIG trigger parameter). This parameter is mandatory for APIG triggers.                                                                                                                                                                                                      |
| group_name | No        | String | Name of the API group to which the API belongs.                                                                                                                                                                                                                                                                        |
| match_mode | No        | String | Matching mode of the API (APIG trigger parameter). This parameter is mandatory for APIG triggers. <ul style="list-style-type: none"> <li>• SWA: prefix match</li> <li>• NORMAL: normal match (absolute match)</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>• SWA</li> <li>• NORMAL</li> </ul> |
| env_name   | No        | String | Environment in which the API is published (APIG trigger parameter). This parameter is mandatory for APIG triggers.                                                                                                                                                                                                     |
| env_id     | No        | String | ID of the environment in which the API has been published (APIG trigger parameter) This parameter is mandatory for APIG triggers.                                                                                                                                                                                      |



| Parameter    | Mandatory | Type                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|-----------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auth         | No        | String                                     | <p>Security authentication (APIG trigger parameter). This parameter is mandatory for APIG triggers.</p> <ul style="list-style-type: none"> <li>• IAM: IAM authentication. Only IAM users are allowed to access the system. The security level is medium.</li> <li>• APP: Appkey&amp;Appsecret authentication is used. The security level is high. This authentication mode is recommended.</li> <li>• NONE: No authentication mode is used. All users can access the system. This mode is not recommended.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>IAM</b></li> <li>• <b>APP</b></li> <li>• <b>NONE</b></li> </ul> |
| func_info    | No        | <a href="#">ApigTriggerFuncInfo</a> object | FunctionGraph backend details (APIG trigger parameter). This parameter is mandatory for APIG triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| sl_domain    | No        | String                                     | <p>Subdomain name allocated by the APIG system by default (APIG trigger parameter).</p> <p>Minimum: <b>1</b><br/>Maximum: <b>255</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| backend_type | No        | String                                     | <p>Backend type of the API (APIG trigger parameter).</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>FUNCTION</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter       | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                       |
|-----------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| operations      | No        | Array of strings | Custom operations (CTS trigger parameter). This parameter is mandatory for CTS triggers. CTS collects operation records of subscribed cloud resources. If you create a function with a CTS trigger, collected operation records of specified cloud services will be passed as a parameter to invoke the function. |
| instance_id     | No        | String           | Instance ID. This parameter is mandatory for DDS, Kafka, and RabbitMQ triggers. <ul style="list-style-type: none"><li>• APIG trigger: APIG gateway ID</li><li>• DDS trigger: DB instance ID.</li><li>• Kafka trigger: Kafka instance ID</li><li>• RabbitMQ trigger: RabbitMQ instance ID</li></ul>                |
| collection_name | No        | String           | Collection name (DDS trigger parameter). This parameter is mandatory for DDS triggers.                                                                                                                                                                                                                            |
| db_name         | No        | String           | Database name (DDS trigger parameter). This parameter is mandatory for DDS triggers.                                                                                                                                                                                                                              |
| db_password     | No        | String           | DDS database password (DDS trigger parameter). This parameter is mandatory for DDS triggers.                                                                                                                                                                                                                      |

| Parameter         | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| batch_size        | No        | Integer | Batch size: Maximum number of data records that can be processed by the function at a time. This parameter is mandatory for DIS, DDS, Kafka, and RabbitMQ triggers. <ul style="list-style-type: none"><li>• DDS trigger: Set the batch size to a value ranging from 1 to 10,000.</li><li>• DIS trigger: Set the batch size to a value ranging from 1 to 10,000.</li><li>• Kafka trigger: Set the batch size to a value ranging from 1 to 1,000.</li><li>• RabbitMQ trigger: Set the batch size to a value ranging from 1 to 1,000.</li></ul> |
| queue_id          | No        | String  | Queue ID (DMS trigger parameter). This parameter is mandatory for DMS triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| consumer_group_id | No        | String  | Consumer group ID (DMS trigger parameter). This parameter is mandatory for DMS triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| polling_interval  | No        | Integer | Pull period. This parameter is mandatory for DIS and DMS triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| stream_name       | No        | String  | Stream name (DIS trigger parameter). This parameter is mandatory for DIS triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sharditerator_type | No        | String  | <p>Starting position (DIS trigger parameter). This parameter is mandatory for DIS triggers.</p> <ul style="list-style-type: none"> <li>• TRIM_HORIZON: Data is read from the earliest valid record stored in the partition.</li> <li>• LATEST: Data is read from the latest record in the partition. This option ensures that the most recent data in the partition is read.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>TRIM_HORIZON</b></li> <li>• <b>LATEST</b></li> </ul> |
| polling_unit       | No        | String  | <p>Pull period unit (DIS trigger parameter). This parameter is mandatory for DIS triggers.</p> <ul style="list-style-type: none"> <li>• s: second</li> <li>• ms: millisecond</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>s</b></li> <li>• <b>ms</b></li> </ul>                                                                                                                                                                                                                |
| max_fetch_bytes    | No        | Integer | <p>Max. fetch bytes (DIS trigger parameter).</p> <p>Minimum: <b>0</b></p> <p>Maximum: <b>4194304</b></p>                                                                                                                                                                                                                                                                                                                                                                                                            |
| is_serial          | No        | String  | <p>Serial data processing (DIS trigger parameter). If enabled, FunctionGraph pulls data from the stream only after previous data is processed. If disabled, FunctionGraph pulls data from the stream as long as the pull period ends. This parameter is mandatory for DIS triggers.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>true</b></li> <li>• <b>false</b></li> </ul>                                                                                                          |
| log_group_id       | No        | String  | <p>Log group ID (LTS trigger parameter). This parameter is mandatory for LTS triggers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                      |
|--------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| log_topic_id | No        | String | Log stream ID (LTS trigger parameter). This parameter is mandatory for LTS triggers.                                                                                                                                                                                                                                             |
| bucket       | No        | String | Bucket name (OBS trigger parameter). The name of the OBS bucket used as the event source cannot be the same as that of an existing bucket of the current user or another user. After being created, the bucket name cannot be modified. This parameter is mandatory for OBS triggers.<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| prefix       | No        | String | Prefix (OBS trigger parameter). Enter a prefix to limit notifications to objects whose names start with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                    |
| suffix       | No        | String | Suffix (OBS trigger parameter). Enter a suffix to limit notifications to objects whose names end with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                      |

| Parameter             | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| events                | No        | Array of strings | <p>Trigger event (OBS trigger parameter). This parameter is mandatory for OBS triggers.</p> <ul style="list-style-type: none"> <li>ObjectCreated: all object creation operations, including PUT, POST, COPY, and part assembling</li> <li>Put: Uploads an object using Put.</li> <li>Post: Uploads an object using POST</li> <li>Copy: Copies an object using COPY.</li> <li>CompleteMultipartUpload: Merges parts of a multipart upload.</li> <li>ObjectRemoved: Deletes an object.</li> <li>Delete: Deletes an object by specifying its version ID. <ul style="list-style-type: none"> <li>DeleteMarkerCreated: Deletes an object without specifying its version ID.</li> </ul> </li> </ul> |
| topic_urn             | No        | String           | <p>Topic URN (SMN trigger parameter) This parameter is mandatory for SMN triggers.</p> <p>Minimum: <b>1</b></p> <p>Maximum: <b>255</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| topic_ids             | No        | Array of strings | <p>The Kafka topic ID list (Kafka trigger parameter). This parameter is mandatory for Kafka triggers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| kafka_user            | No        | String           | <p>Kafka account name (Kafka trigger parameter).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| kafka_password        | No        | String           | <p>Kafka password (Kafka trigger parameter).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| kafka_connect_address | No        | String           | <p>Kafka instance connection address (Kafka trigger parameter).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| kafka_ssl_enable      | No        | Boolean          | <p>Whether to enable SASL authentication (Kafka trigger parameter).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter       | Mandatory | Type    | Description                                                                                                |
|-----------------|-----------|---------|------------------------------------------------------------------------------------------------------------|
| access_password | No        | String  | RabbitMQ account password (RabbitMQ trigger parameter). This parameter is mandatory for RabbitMQ triggers. |
| access_user     | No        | String  | RabbitMQ username (RabbitMQ trigger parameter).                                                            |
| connect_address | No        | String  | Instance IP address (RabbitMQ trigger parameter).                                                          |
| exchange_name   | No        | String  | Switch name (RabbitMQ trigger parameter). This parameter is mandatory for RabbitMQ triggers.               |
| vhost           | No        | String  | Virtual host (RabbitMQ trigger parameter).                                                                 |
| ssl_enable      | No        | Boolean | Whether to enable SSL (RabbitMQ trigger parameter).                                                        |

**Table 6-579** ApigTriggerFuncInfo

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                        |
|-----------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| function_urn    | No        | String  | Function URN. For details, see the function model descriptions.                                                                                                                                                                                                    |
| invocation_type | No        | String  | Execution mode of a function. <ul style="list-style-type: none"> <li>• sync: synchronous execution</li> <li>• async: asynchronous execution</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>• <b>sync</b></li> <li>• <b>async</b></li> </ul> |
| timeout         | Yes       | Integer | Timeout allowed for APIG to request the FunctionGraph service. The unit is in millisecond. This parameter is mandatory for APIG triggers.<br>Minimum: <b>1</b><br>Maximum: <b>60000</b>                                                                            |
| version         | No        | String  | Function version information.                                                                                                                                                                                                                                      |

## Response Parameters

Status code: 201

**Table 6-580** Response body parameters

| Parameter         | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_id        | String | Trigger ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| trigger_type_code | String | Trigger type. <ul style="list-style-type: none"> <li>• TIMER</li> <li>• APIG</li> <li>• CTS</li> <li>• DDS</li> <li>• DMS</li> <li>• DIS</li> <li>• LTS</li> <li>• OBS</li> <li>• SMN</li> <li>• KAFKA</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>• <b>TIMER</b></li> <li>• <b>APIG</b></li> <li>• <b>CTS</b></li> <li>• <b>DDS</b></li> <li>• <b>DMS</b></li> <li>• <b>DIS</b></li> <li>• <b>LTS</b></li> <li>• <b>OBS</b></li> <li>• <b>SMN</b></li> <li>• <b>KAFKA</b></li> <li>• <b>RABBITMQ</b></li> <li>• <b>DEDICATEDGATEWAY</b></li> <li>• <b>OPENSOURCEKAFKA</b></li> <li>• <b>APIC</b></li> <li>• <b>Gemini Mongo</b></li> <li>• <b>EVENTGRID</b></li> <li>• <b>IOTDA</b></li> </ul> |



| Parameter         | Type                                                | Description                                                                                                                                                                                                                                                |
|-------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_status    | String                                              | Trigger status. <ul style="list-style-type: none"> <li>ACTIVE: The trigger is enabled.</li> <li>DISABLED: The trigger is disabled.</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li><b>ACTIVE</b></li> <li><b>DISABLED</b></li> </ul> |
| event_data        | <a href="#">TriggerEventDataResponseBody</a> object | Trigger source event.                                                                                                                                                                                                                                      |
| last_updated_time | String                                              | Latest update time.                                                                                                                                                                                                                                        |
| created_time      | String                                              | Time when the trigger was created.                                                                                                                                                                                                                         |

**Table 6-581** TriggerEventDataResponseBody

| Parameter     | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | String | Trigger name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| schedule_type | String | Timer trigger type (timer trigger parameter). <ul style="list-style-type: none"> <li>Rate: specifies the frequency (minutes, hours, or days) at which the function is invoked. If the unit is minute, the value cannot exceed 60. If the unit is hour, the value cannot exceed 24. If the unit is day, the value cannot exceed 30.</li> <li>Cron: specifies a Cron expression to periodically invoke a function.</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li><b>Rate</b></li> <li><b>Cron</b></li> </ul> |
| schedule      | String | Triggering rule. (timer trigger parameter). <ul style="list-style-type: none"> <li>When the trigger type is Rate, the scheduled rule is used. When the trigger type is Cron, the Cron expression is used.</li> </ul>                                                                                                                                                                                                                                                                                                               |

| Parameter  | Type    | Description                                                                                                                                                                                                                                                                                                                      |
|------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| user_event | String  | Additional information (timer trigger parameter). When the timer trigger triggers the function, the execution event (the event parameter of the function) is {"version": "v1.0", "time": "2018-06-01T08:30:00+08:00", "trigger_type": "TIMER", "trigger_name": "Timer_001", "user_event": "Additional information you entered"}. |
| triggerid  | String  | APIG trigger ID (APIG trigger parameter).                                                                                                                                                                                                                                                                                        |
| type       | Integer | The API type (APIG trigger parameter). <ul style="list-style-type: none"> <li>1: public</li> <li>2: private</li> </ul>                                                                                                                                                                                                           |
| path       | String  | Path of the API (APIG trigger parameter).                                                                                                                                                                                                                                                                                        |
| protocol   | String  | Request protocol of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"> <li><b>HTTP</b></li> <li><b>HTTPS</b></li> </ul>                                                                                                                                                                 |
| req_method | String  | Request mode of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"> <li><b>GET</b></li> <li><b>POST</b></li> <li><b>PUT</b></li> <li><b>DELETE</b></li> <li><b>HEAD</b></li> <li><b>PATCH</b></li> <li><b>OPTIONS</b></li> <li><b>ANY</b></li> </ul>                                     |
| group_id   | String  | ID of the group to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                                                                               |
| group_name | String  | Name of the group to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                                                                             |

| Parameter  | Type                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| match_mode | String                                     | Matching mode of the API (APIG trigger parameter). <ul style="list-style-type: none"><li>• SWA: prefix match</li><li>• NORMAL: normal match (absolute match)</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>SWA</b></li><li>• <b>NORMAL</b></li></ul>                                                                                                                                                                                                                                                                                                         |
| env_name   | String                                     | Environment in which the API is published (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| env_id     | String                                     | ID of the environment in which the API has been published (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| api_id     | String                                     | API ID (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| api_name   | String                                     | API name (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| auth       | String                                     | Security authentication (APIG trigger parameter). <ul style="list-style-type: none"><li>• IAM: IAM authentication. Only IAM users are allowed to access the system. The security level is medium.</li><li>• APP: Appkey&amp;Appsecret authentication is used. The security level is high. This authentication mode is recommended.</li><li>• NONE: No authentication mode is used. All users can access the system. This mode is not recommended.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>IAM</b></li><li>• <b>APP</b></li><li>• <b>NONE</b></li></ul> |
| invoke_url | String                                     | API calling address (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| func_info  | <a href="#">ApigTriggerFuncInfo</a> object | FunctionGraph backend details (APIG trigger parameter). This parameter is mandatory for APIG triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| sl_domain  | String                                     | Subdomain name allocated by the APIG system by default (APIG trigger parameter).<br>Minimum: <b>1</b><br>Maximum: <b>255</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Parameter          | Type             | Description                                                                                                                                                                                                                                                                                        |
|--------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| backend_type       | String           | Backend type of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"><li>● <b>FUNCTION</b></li></ul>                                                                                                                                                         |
| instance_id        | String           | Instance ID. This parameter is mandatory for DDS, Kafka, and RabbitMQ triggers. <ul style="list-style-type: none"><li>● APIG trigger: APIG gateway ID</li><li>● DDS trigger: DB instance ID.</li><li>● Kafka trigger: Kafka instance ID</li><li>● RabbitMQ trigger: RabbitMQ instance ID</li></ul> |
| roma_app_id        | String           | ID of the integration application to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                               |
| operations         | Array of strings | Custom operations (CTS trigger parameter). CTS collects operation records of subscribed cloud resources. If you create a function with a CTS trigger, collected operation records of specified cloud services will be passed as a parameter to invoke the function.                                |
| collection_name    | String           | Collection name (DDS trigger parameter).                                                                                                                                                                                                                                                           |
| db_name            | String           | Database name (DDS trigger parameter).                                                                                                                                                                                                                                                             |
| db_password        | String           | DDS database password (DDS trigger parameter).                                                                                                                                                                                                                                                     |
| db_user            | String           | DDS database username (DDS trigger parameter).                                                                                                                                                                                                                                                     |
| instance_addresses | Array of strings | DDS database instance address (DDS trigger parameter).                                                                                                                                                                                                                                             |
| mode               | String           | DDS database instance type (DDS trigger parameter). <ul style="list-style-type: none"><li>● Sharding: cluster instance</li><li>● ReplicaSet: replica set instance</li><li>● Single: single node instance.</li></ul>                                                                                |

| Parameter          | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| batch_size         | Integer | <p>Batch size: Maximum number of data records that can be processed by the function at a time. This parameter is mandatory for DIS, DDS, Kafka, and RabbitMQ triggers.</p> <ul style="list-style-type: none"> <li>• DDS trigger: Set the batch size to a value ranging from 1 to 10,000.</li> <li>• DIS trigger: Set the batch size to a value ranging from 1 to 10,000.</li> <li>• Kafka trigger: Set the batch size to a value ranging from 1 to 1000.</li> <li>• RabbitMQ trigger: Set the batch size to a value ranging from 1 to 1000.</li> </ul> |
| queue_id           | String  | Queue ID (DMS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| consumer_group_id  | String  | Consumer group ID (DMS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| polling_interval   | Integer | Pull period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| stream_name        | String  | Stream name (DIS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| sharditerator_type | String  | <p>Start position (DIS trigger parameter).</p> <ul style="list-style-type: none"> <li>• TRIM_HORIZON: Data is read from the earliest valid record stored in the partition.</li> <li>• LATEST: Data is read from the latest record in the partition. This option ensures that the most recent data in the partition is read.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>TRIM_HORIZON</b></li> <li>• <b>LATEST</b></li> </ul>                                                                                     |
| polling_unit       | String  | <p>Unit of the pull period (DIS trigger parameter).</p> <ul style="list-style-type: none"> <li>• s: second</li> <li>• ms: millisecond</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>s</b></li> <li>• <b>ms</b></li> </ul>                                                                                                                                                                                                                                                                                          |
| max_fetch_bytes    | Integer | <p>Maximum number of bytes to be extracted (DIS trigger parameter).</p> <p>Minimum: <b>0</b></p> <p>Maximum: <b>4194304</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Parameter    | Type   | Description                                                                                                                                                                                                                                                                                                                                               |
|--------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_serial    | String | Serial Data Processing: If this option is selected, FunctionGraph pulls data from the stream only after previous data is processed. If this option is not selected, FunctionGraph pulls data from the stream as long as the pull period ends.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>true</b></li><li>• <b>false</b></li></ul> |
| log_group_id | String | Log group ID (LTS trigger parameter).                                                                                                                                                                                                                                                                                                                     |
| log_topic_id | String | Log stream ID (LTS trigger parameter).                                                                                                                                                                                                                                                                                                                    |
| bucket       | String | Bucket name (OBS trigger parameter). The name of the OBS bucket used as the event source cannot be the same as that of an existing bucket of the current user or another user. After being created, the bucket name cannot be modified.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                        |
| prefix       | String | Prefix (OBS trigger parameter). Enter a prefix to limit notifications to objects whose names start with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                                             |
| suffix       | String | Suffix (OBS trigger parameter). Enter a suffix to limit notifications to objects whose names end with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                                               |

| Parameter             | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| events                | Array of strings | Trigger event (OBS trigger parameter). <ul style="list-style-type: none"><li>● ObjectCreated: all object creation operations, including PUT, POST, COPY, and part assembling</li><li>● Put: Uploads an object using Put.</li><li>● Post: Uploads an object using POST</li><li>● Copy: Copies an object using COPY.</li><li>● CompleteMultipartUpload: Merges parts of a multipart upload.</li><li>● ObjectRemoved: Deletes an object.</li><li>● Delete: Deletes an object by specifying its version ID.</li><li>● DeleteMarkerCreated: Deletes an object without specifying its version ID.</li></ul> |
| topic_urn             | String           | Topic URN (SMN trigger parameter)<br>Minimum: <b>1</b><br>Maximum: <b>255</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| topic_ids             | Array of strings | The Kafka topic ID list (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| kafka_user            | String           | Kafka account name (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| kafka_password        | String           | Kafka password (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| kafka_connect_address | String           | Kafka instance connection address (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| kafka_ssl_enable      | Boolean          | Whether to enable SASL authentication(Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| access_password       | String           | RabbitMQ account password (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| access_user           | String           | RabbitMQ username (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| connect_address       | String           | Instance IP address (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| exchange_name         | String           | Switch name (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| vhost                 | String           | Virtual host (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ssl_enable            | Boolean          | Whether to enable SSL (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Table 6-582** ApigTriggerFuncInfo

| Parameter       | Type    | Description                                                                                                                                                                                                                                                  |
|-----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| function_urn    | String  | Function URN. For details, see the function model descriptions.                                                                                                                                                                                              |
| invocation_type | String  | Execution mode of a function. <ul style="list-style-type: none"><li>• sync: synchronous execution</li><li>• async: asynchronous execution</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>sync</b></li><li>• <b>async</b></li></ul> |
| timeout         | Integer | Timeout allowed for APIG to request the FunctionGraph service. The unit is in millisecond. This parameter is mandatory for APIG triggers.<br>Minimum: <b>1</b><br>Maximum: <b>60000</b>                                                                      |
| version         | String  | Function version information.                                                                                                                                                                                                                                |

**Status code: 400****Table 6-583** Response body parameters

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

**Status code: 401****Table 6-584** Response body parameters

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

**Status code: 403**



**Table 6-585** Response body parameters

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

**Status code: 404****Table 6-586** Response body parameters

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

**Status code: 500****Table 6-587** Response body parameters

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

## Example Requests

- Create an OBS trigger named obs-event-1ec7 with events of uploading files to the input-picture2 bucket.

```
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 a shared APIG trigger named API\_test\_function, with None authentication (temporary domain name) and 5000s timeout.

```
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_function",
"env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
"env_name" : "RELEASE",
"protocol" : "HTTPS",
"auth" : "NONE",
"group_id" : "318b09eb214a41488c667ecd51667e3x",
"sl_domain" : "318b09eb214a41488c667ecd51667e3x.apig.{region}.example.com",
"match_mode" : "SWA",
"req_method" : "ANY",
"backend_type" : "FUNCTION",
"type" : 1,
"path" : "/test_gxz_v1_billing"
}
}
```

- Create a dedicated APIG trigger named `API_test_function`, with None authentication (temporary domain name) and 5000s timeout.

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

```
{
"trigger_type_code" : "DEDICATEDGATEWAY",
"trigger_status" : "ACTIVE",
"event_data" : {
"func_info" : {
"timeout" : 5000
},
"name" : "API_test_function",
"env_id" : "DEFAULT_ENVIRONMENT_RELEASE_ID",
"env_name" : "RELEASE",
"protocol" : "HTTPS",
"auth" : "IAM",
"group_id" : "5106210cf79e4xxxx",
"sl_domain" : "5106210cf79e4xxxx.apic.{region_id}.example.com",
"match_mode" : "SWA",
"req_method" : "ANY",
"backend_type" : "FUNCTION",
"type" : 1,
"path" : "/test_gxz_v1_billing"
}
}
```

- Create a Kafka trigger named `86ad3efc` to pull messages from the `PUSH_TOKEN_RECORD` consumer group.

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 to trigger a function every 3 minutes.

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_topic_id" : "5b4944dd-9603-481d-9b91-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.             |
| 404         | Not found.             |
| 500         | Internal server error. |

## Error Codes

See [Error Codes](#).

## 6.13.4 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 6-588** Path Parameters

| Parameter         | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id        | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| function_urn      | Yes       | String | Function URN. For details, see the function model description.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| trigger_type_code | Yes       | String | Trigger type code. (OBS triggers are not available in the European regions.)<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>TIMER</b></li><li>• <b>APIG</b></li><li>• <b>CTS</b></li><li>• <b>DDS</b></li><li>• <b>DMS</b></li><li>• <b>DIS</b></li><li>• <b>LTS</b></li><li>• <b>OBS</b></li><li>• <b>SMN</b></li><li>• <b>KAFKA</b></li><li>• <b>RABBITMQ</b></li><li>• <b>DEDICATEDGATEWAY</b></li><li>• <b>OPENSOURCEKAFKA</b></li><li>• <b>APIC</b></li><li>• <b>Gemini Mongo</b></li><li>• <b>EVENTGRID</b></li><li>• <b>IOTDA</b></li></ul> |
| trigger_id        | Yes       | String | Trigger ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Request Parameters

**Table 6-589** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).<br>Default: <b>application/json</b>                                                                                              |

## Response Parameters

**Status code: 400****Table 6-590** Response body parameters

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

**Status code: 401****Table 6-591** Response body parameters

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

**Status code: 403****Table 6-592** Response body parameters

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

**Status code: 404****Table 6-593** Response body parameters

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

**Status code: 500****Table 6-594** 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](#).

## 6.13.5 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 6-595** Path Parameters

| Parameter         | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id        | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| function_urn      | Yes       | String | Function URN. For details, see the function model description.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| trigger_type_code | Yes       | String | Trigger type code. (OBS triggers are not available in the European regions.)<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>TIMER</b></li><li>• <b>APIG</b></li><li>• <b>CTS</b></li><li>• <b>DDS</b></li><li>• <b>DMS</b></li><li>• <b>DIS</b></li><li>• <b>LTS</b></li><li>• <b>OBS</b></li><li>• <b>SMN</b></li><li>• <b>KAFKA</b></li><li>• <b>RABBITMQ</b></li><li>• <b>DEDICATEDGATEWAY</b></li><li>• <b>OPENSOURCEKAFKA</b></li><li>• <b>APIC</b></li><li>• <b>Gemini Mongo</b></li><li>• <b>EVENTGRID</b></li><li>• <b>IOTDA</b></li></ul> |
| trigger_id        | Yes       | String | Trigger ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Request Parameters

**Table 6-596** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).<br>Default: <b>application/json</b>                                                                                              |

## Response Parameters

**Status code: 200****Table 6-597** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| trigger_id | String | Trigger ID. |



| Parameter         | Type                                                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_type_code | String                                              | <p>Trigger type. (OBS triggers are not available in the European regions.)</p> <ul style="list-style-type: none"> <li>TIMER</li> <li>APIG</li> <li>CTS</li> <li>DDS</li> <li>DMS</li> <li>DIS</li> <li>LTS</li> <li>OBS</li> <li>SMN</li> <li>KAFKA</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li><b>TIMER</b></li> <li><b>APIG</b></li> <li><b>CTS</b></li> <li><b>DDS</b></li> <li><b>DMS</b></li> <li><b>DIS</b></li> <li><b>LTS</b></li> <li><b>OBS</b></li> <li><b>SMN</b></li> <li><b>KAFKA</b></li> <li><b>RABBITMQ</b></li> <li><b>DEDICATEDGATEWAY</b></li> <li><b>OPENSOURCEKAFKA</b></li> <li><b>APIC</b></li> <li><b>Gemini Mongo</b></li> <li><b>EVENTGRID</b></li> <li><b>IOTDA</b></li> </ul> |
| trigger_status    | String                                              | <p>Trigger status.</p> <ul style="list-style-type: none"> <li>ACTIVE: The trigger is enabled.</li> <li>DISABLED: The trigger is disabled.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li><b>ACTIVE</b></li> <li><b>DISABLED</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| event_data        | <a href="#">TriggerEventDataResponseBody</a> object | Trigger source event.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter         | Type   | Description                        |
|-------------------|--------|------------------------------------|
| last_updated_time | String | Latest update time.                |
| created_time      | String | Time when the trigger was created. |

**Table 6-598** TriggerEventDataResponseBody

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | String  | Trigger name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| schedule_type | String  | Timer trigger type (timer trigger parameter). <ul style="list-style-type: none"><li>Rate: specifies the frequency (minutes, hours, or days) at which the function is invoked. If the unit is minute, the value cannot exceed 60. If the unit is hour, the value cannot exceed 24. If the unit is day, the value cannot exceed 30.</li><li>Cron: specifies a Cron expression to periodically invoke a function.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>Rate</li><li>Cron</li></ul> |
| schedule      | String  | Triggering rule. (timer trigger parameter). <ul style="list-style-type: none"><li>When the trigger type is Rate, the scheduled rule is used. When the trigger type is Cron, the Cron expression is used.</li></ul>                                                                                                                                                                                                                                                                                             |
| user_event    | String  | Additional information (timer trigger parameter). When the timer trigger triggers the function, the execution event (the event parameter of the function) is {"version": "v1.0", "time": "2018-06-01T08:30:00+08:00", "trigger_type": "TIMER", "trigger_name": "Timer_001", "user_event": "Additional information you entered"}.                                                                                                                                                                               |
| triggerid     | String  | APIG trigger ID (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| type          | Integer | The API type (APIG trigger parameter). <ul style="list-style-type: none"><li>1: public</li><li>2: private</li></ul>                                                                                                                                                                                                                                                                                                                                                                                            |
| path          | String  | Path of the API (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter  | Type   | Description                                                                                                                                                                                                                                                       |
|------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| protocol   | String | Request protocol of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"><li>• HTTP</li><li>• HTTPS</li></ul>                                                                                                               |
| req_method | String | Request mode of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"><li>• GET</li><li>• POST</li><li>• PUT</li><li>• DELETE</li><li>• HEAD</li><li>• PATCH</li><li>• OPTIONS</li><li>• ANY</li></ul>                       |
| group_id   | String | ID of the group to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                |
| group_name | String | Name of the group to which the API belongs (APIG trigger parameter).                                                                                                                                                                                              |
| match_mode | String | Matching mode of the API (APIG trigger parameter). <ul style="list-style-type: none"><li>• SWA: prefix match</li><li>• NORMAL: normal match (absolute match)</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• SWA</li><li>• NORMAL</li></ul> |
| env_name   | String | Environment in which the API is published (APIG trigger parameter).                                                                                                                                                                                               |
| env_id     | String | ID of the environment in which the API has been published (APIG trigger parameter).                                                                                                                                                                               |
| api_id     | String | API ID (APIG trigger parameter).                                                                                                                                                                                                                                  |
| api_name   | String | API name (APIG trigger parameter).                                                                                                                                                                                                                                |

| Parameter    | Type                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auth         | String                            | <p>Security authentication (APIG trigger parameter).</p> <ul style="list-style-type: none"> <li>• IAM: IAM authentication. Only IAM users are allowed to access the system. The security level is medium.</li> <li>• APP: Appkey&amp;Appsecret authentication is used. The security level is high. This authentication mode is recommended.</li> <li>• NONE: No authentication mode is used. All users can access the system. This mode is not recommended.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>IAM</b></li> <li>• <b>APP</b></li> <li>• <b>NONE</b></li> </ul> |
| invoke_url   | String                            | API calling address (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| func_info    | <b>ApigTriggerFuncInfo</b> object | FunctionGraph backend details (APIG trigger parameter). This parameter is mandatory for APIG triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| sl_domain    | String                            | <p>Subdomain name allocated by the APIG system by default (APIG trigger parameter).</p> <p>Minimum: <b>1</b></p> <p>Maximum: <b>255</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| backend_type | String                            | <p>Backend type of the API (APIG trigger parameter).</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>FUNCTION</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| instance_id  | String                            | <p>Instance ID. This parameter is mandatory for DDS, Kafka, and RabbitMQ triggers.</p> <ul style="list-style-type: none"> <li>• APIG trigger: APIG gateway ID</li> <li>• DDS trigger: DB instance ID.</li> <li>• Kafka trigger: Kafka instance ID</li> <li>• RabbitMQ trigger: RabbitMQ instance ID</li> </ul>                                                                                                                                                                                                                                                                                                |
| roma_app_id  | String                            | ID of the integration application to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| operations   | Array of strings                  | <p>Custom operations (CTS trigger parameter). CTS collects operation records of subscribed cloud resources. If you create a function with a CTS trigger, collected operation records of specified cloud services will be passed as a parameter to invoke the function.</p>                                                                                                                                                                                                                                                                                                                                    |

| Parameter          | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| collection_name    | String           | Collection name (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| db_name            | String           | Database name (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| db_password        | String           | DDS database password (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| db_user            | String           | DDS database username (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| instance_addresses | Array of strings | DDS database instance address (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| mode               | String           | DDS database instance type (DDS trigger parameter). <ul style="list-style-type: none"><li>• Sharding: cluster instance</li><li>• ReplicaSet: replica set instance</li><li>• Single: single node instance.</li></ul>                                                                                                                                                                                                                                                                                                                        |
| batch_size         | Integer          | Batch size: Maximum number of data records that can be processed by the function at a time. This parameter is mandatory for DIS, DDS, Kafka, and RabbitMQ triggers. <ul style="list-style-type: none"><li>• DDS trigger: Set the batch size to a value ranging from 1 to 10,000.</li><li>• DIS trigger: Set the batch size to a value ranging from 1 to 10,000.</li><li>• Kafka trigger: Set the batch size to a value ranging from 1 to 1000.</li><li>• RabbitMQ trigger: Set the batch size to a value ranging from 1 to 1000.</li></ul> |
| queue_id           | String           | Queue ID (DMS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| consumer_group_id  | String           | Consumer group ID (DMS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| polling_interval   | Integer          | Pull period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| stream_name        | String           | Stream name (DIS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter          | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sharditerator_type | String  | Start position (DIS trigger parameter). <ul style="list-style-type: none"> <li>● TRIM_HORIZON: Data is read from the earliest valid record stored in the partition.</li> <li>● LATEST: Data is read from the latest record in the partition. This option ensures that the most recent data in the partition is read.</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>● <b>TRIM_HORIZON</b></li> <li>● <b>LATEST</b></li> </ul> |
| polling_unit       | String  | Unit of the pull period (DIS trigger parameter). <ul style="list-style-type: none"> <li>● s: second</li> <li>● ms: millisecond</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>● <b>s</b></li> <li>● <b>ms</b></li> </ul>                                                                                                                                                                                                      |
| max_fetch_bytes    | Integer | Maximum number of bytes to be extracted (DIS trigger parameter). <p>Minimum: <b>0</b></p> <p>Maximum: <b>4194304</b></p>                                                                                                                                                                                                                                                                                                                             |
| is_serial          | String  | Serial Data Processing: If this option is selected, FunctionGraph pulls data from the stream only after previous data is processed. If this option is not selected, FunctionGraph pulls data from the stream as long as the pull period ends. <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>● <b>true</b></li> <li>● <b>false</b></li> </ul>                                                                                     |
| log_group_id       | String  | Log group ID (LTS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                |
| log_topic_id       | String  | Log stream ID (LTS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                               |
| bucket             | String  | Bucket name (OBS trigger parameter). The name of the OBS bucket used as the event source cannot be the same as that of an existing bucket of the current user or another user. After being created, the bucket name cannot be modified. <p>Minimum: <b>1</b></p> <p>Maximum: <b>64</b></p>                                                                                                                                                           |

| Parameter             | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| prefix                | String           | Prefix (OBS trigger parameter). Enter a prefix to limit notifications to objects whose names start with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| suffix                | String           | Suffix (OBS trigger parameter). Enter a suffix to limit notifications to objects whose names end with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| events                | Array of strings | Trigger event (OBS trigger parameter). <ul style="list-style-type: none"><li>● ObjectCreated: all object creation operations, including PUT, POST, COPY, and part assembling</li><li>● Put: Uploads an object using Put.</li><li>● Post: Uploads an object using POST</li><li>● Copy: Copies an object using COPY.</li><li>● CompleteMultipartUpload: Merges parts of a multipart upload.</li><li>● ObjectRemoved: Deletes an object.</li><li>● Delete: Deletes an object by specifying its version ID.</li><li>● DeleteMarkerCreated: Deletes an object without specifying its version ID.</li></ul> |
| topic_urn             | String           | Topic URN (SMN trigger parameter)<br>Minimum: <b>1</b><br>Maximum: <b>255</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| topic_ids             | Array of strings | The Kafka topic ID list (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| kafka_user            | String           | Kafka account name (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| kafka_password        | String           | Kafka password (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| kafka_connect_address | String           | Kafka instance connection address (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| kafka_ssl_enable      | Boolean          | Whether to enable SASL authentication(Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| access_password       | String           | RabbitMQ account password (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Parameter       | Type    | Description                                         |
|-----------------|---------|-----------------------------------------------------|
| access_user     | String  | RabbitMQ username (RabbitMQ trigger parameter).     |
| connect_address | String  | Instance IP address (RabbitMQ trigger parameter).   |
| exchange_name   | String  | Switch name (RabbitMQ trigger parameter).           |
| vhost           | String  | Virtual host (RabbitMQ trigger parameter).          |
| ssl_enable      | Boolean | Whether to enable SSL (RabbitMQ trigger parameter). |

**Table 6-599** ApigTriggerFuncInfo

| Parameter       | Type    | Description                                                                                                                                                                                                                                                  |
|-----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| function_urn    | String  | Function URN. For details, see the function model descriptions.                                                                                                                                                                                              |
| invocation_type | String  | Execution mode of a function. <ul style="list-style-type: none"><li>• sync: synchronous execution</li><li>• async: asynchronous execution</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>sync</b></li><li>• <b>async</b></li></ul> |
| timeout         | Integer | Timeout allowed for APIG to request the FunctionGraph service. The unit is in millisecond. This parameter is mandatory for APIG triggers.<br>Minimum: <b>1</b><br>Maximum: <b>60000</b>                                                                      |
| version         | String  | Function version information.                                                                                                                                                                                                                                |

**Status code: 400****Table 6-600** Response body parameters

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



**Status code: 401****Table 6-601** Response body parameters

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

**Status code: 403****Table 6-602** Response body parameters

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

**Status code: 404****Table 6-603** Response body parameters

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

**Status code: 500****Table 6-604** 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": "2019-10-29 17:15:53"
}
```

## 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](#).

## 6.13.6 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 6-605** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                           |
|------------|-----------|--------|-----------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |

| Parameter         | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| function_urn      | Yes       | String | Function URN. For details, see the function model description.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| trigger_type_code | Yes       | String | Trigger type code. (OBS triggers are not available in the European regions.)<br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>TIMER</b></li> <li>• <b>APIG</b></li> <li>• <b>CTS</b></li> <li>• <b>DDS</b></li> <li>• <b>DMS</b></li> <li>• <b>DIS</b></li> <li>• <b>LTS</b></li> <li>• <b>OBS</b></li> <li>• <b>SMN</b></li> <li>• <b>KAFKA</b></li> <li>• <b>RABBITMQ</b></li> <li>• <b>DEDICATEDGATEWAY</b></li> <li>• <b>OPENSOURCEKAFKA</b></li> <li>• <b>APIC</b></li> <li>• <b>Gemini Mongo</b></li> <li>• <b>EVENTGRID</b></li> <li>• <b>IOTDA</b></li> </ul> |
| trigger_id        | Yes       | String | Trigger ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Request Parameters

**Table 6-606** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).<br>Default: <b>application/json</b>                                                                                              |

**Table 6-607** Request body parameters

| Parameter      | Mandatory | Type                                          | Description                                                                                                                         |
|----------------|-----------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| trigger_status | No        | String                                        | Trigger status.<br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>ACTIVE</b></li> <li>• <b>DISABLED</b></li> </ul> |
| event_data     | No        | Array of <b>UpdateriggerEventData</b> objects | Trigger update event.                                                                                                               |

**Table 6-608** UpdateriggerEventData

| 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.<br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>ms</b></li> <li>• <b>s</b></li> </ul> |

## Response Parameters

Status code: 200

**Table 6-609** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| trigger_id | String | Trigger ID. |

| Parameter         | Type                                                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_type_code | String                                              | <p>Trigger type. (OBS triggers are not available in the European regions.)</p> <ul style="list-style-type: none"> <li>TIMER</li> <li>APIG</li> <li>CTS</li> <li>DDS</li> <li>DMS</li> <li>DIS</li> <li>LTS</li> <li>OBS</li> <li>SMN</li> <li>KAFKA</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li><b>TIMER</b></li> <li><b>APIG</b></li> <li><b>CTS</b></li> <li><b>DDS</b></li> <li><b>DMS</b></li> <li><b>DIS</b></li> <li><b>LTS</b></li> <li><b>OBS</b></li> <li><b>SMN</b></li> <li><b>KAFKA</b></li> <li><b>RABBITMQ</b></li> <li><b>DEDICATEDGATEWAY</b></li> <li><b>OPENSOURCEKAFKA</b></li> <li><b>APIC</b></li> <li><b>Gemini Mongo</b></li> <li><b>EVENTGRID</b></li> <li><b>IOTDA</b></li> </ul> |
| trigger_status    | String                                              | <p>Trigger status.</p> <ul style="list-style-type: none"> <li>ACTIVE: The trigger is enabled.</li> <li>DISABLED: The trigger is disabled.</li> </ul> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li><b>ACTIVE</b></li> <li><b>DISABLED</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| event_data        | <a href="#">TriggerEventDataResponseBody</a> object | Trigger source event.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter         | Type   | Description                        |
|-------------------|--------|------------------------------------|
| last_updated_time | String | Latest update time.                |
| created_time      | String | Time when the trigger was created. |

**Table 6-610** TriggerEventDataResponseBody

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | String  | Trigger name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| schedule_type | String  | Timer trigger type (timer trigger parameter). <ul style="list-style-type: none"><li>Rate: specifies the frequency (minutes, hours, or days) at which the function is invoked. If the unit is minute, the value cannot exceed 60. If the unit is hour, the value cannot exceed 24. If the unit is day, the value cannot exceed 30.</li><li>Cron: specifies a Cron expression to periodically invoke a function.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>Rate</li><li>Cron</li></ul> |
| schedule      | String  | Triggering rule. (timer trigger parameter). <ul style="list-style-type: none"><li>When the trigger type is Rate, the scheduled rule is used. When the trigger type is Cron, the Cron expression is used.</li></ul>                                                                                                                                                                                                                                                                                             |
| user_event    | String  | Additional information (timer trigger parameter). When the timer trigger triggers the function, the execution event (the event parameter of the function) is {"version": "v1.0", "time": "2018-06-01T08:30:00+08:00", "trigger_type": "TIMER", "trigger_name": "Timer_001", "user_event": "Additional information you entered"}.                                                                                                                                                                               |
| triggerid     | String  | APIG trigger ID (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| type          | Integer | The API type (APIG trigger parameter). <ul style="list-style-type: none"><li>1: public</li><li>2: private</li></ul>                                                                                                                                                                                                                                                                                                                                                                                            |
| path          | String  | Path of the API (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter  | Type   | Description                                                                                                                                                                                                                                                       |
|------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| protocol   | String | Request protocol of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"><li>• HTTP</li><li>• HTTPS</li></ul>                                                                                                               |
| req_method | String | Request mode of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"><li>• GET</li><li>• POST</li><li>• PUT</li><li>• DELETE</li><li>• HEAD</li><li>• PATCH</li><li>• OPTIONS</li><li>• ANY</li></ul>                       |
| group_id   | String | ID of the group to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                |
| group_name | String | Name of the group to which the API belongs (APIG trigger parameter).                                                                                                                                                                                              |
| match_mode | String | Matching mode of the API (APIG trigger parameter). <ul style="list-style-type: none"><li>• SWA: prefix match</li><li>• NORMAL: normal match (absolute match)</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• SWA</li><li>• NORMAL</li></ul> |
| env_name   | String | Environment in which the API is published (APIG trigger parameter).                                                                                                                                                                                               |
| env_id     | String | ID of the environment in which the API has been published (APIG trigger parameter).                                                                                                                                                                               |
| api_id     | String | API ID (APIG trigger parameter).                                                                                                                                                                                                                                  |
| api_name   | String | API name (APIG trigger parameter).                                                                                                                                                                                                                                |

| Parameter    | Type                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auth         | String                            | Security authentication (APIG trigger parameter). <ul style="list-style-type: none"><li>• IAM: IAM authentication. Only IAM users are allowed to access the system. The security level is medium.</li><li>• APP: Appkey&amp;Appsecret authentication is used. The security level is high. This authentication mode is recommended.</li><li>• NONE: No authentication mode is used. All users can access the system. This mode is not recommended.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>IAM</b></li><li>• <b>APP</b></li><li>• <b>NONE</b></li></ul> |
| invoke_url   | String                            | API calling address (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| func_info    | <b>ApigTriggerFuncInfo</b> object | FunctionGraph backend details (APIG trigger parameter). This parameter is mandatory for APIG triggers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| sl_domain    | String                            | Subdomain name allocated by the APIG system by default (APIG trigger parameter).<br>Minimum: <b>1</b><br>Maximum: <b>255</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| backend_type | String                            | Backend type of the API (APIG trigger parameter).<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>FUNCTION</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| instance_id  | String                            | Instance ID. This parameter is mandatory for DDS, Kafka, and RabbitMQ triggers. <ul style="list-style-type: none"><li>• APIG trigger: APIG gateway ID</li><li>• DDS trigger: DB instance ID.</li><li>• Kafka trigger: Kafka instance ID</li><li>• RabbitMQ trigger: RabbitMQ instance ID</li></ul>                                                                                                                                                                                                                                                                                      |
| roma_app_id  | String                            | ID of the integration application to which the API belongs (APIG trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| operations   | Array of strings                  | Custom operations (CTS trigger parameter). CTS collects operation records of subscribed cloud resources. If you create a function with a CTS trigger, collected operation records of specified cloud services will be passed as a parameter to invoke the function.                                                                                                                                                                                                                                                                                                                     |



| Parameter          | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| collection_name    | String           | Collection name (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| db_name            | String           | Database name (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| db_password        | String           | DDS database password (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| db_user            | String           | DDS database username (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| instance_addresses | Array of strings | DDS database instance address (DDS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| mode               | String           | DDS database instance type (DDS trigger parameter). <ul style="list-style-type: none"><li>• Sharding: cluster instance</li><li>• ReplicaSet: replica set instance</li><li>• Single: single node instance.</li></ul>                                                                                                                                                                                                                                                                                                                        |
| batch_size         | Integer          | Batch size: Maximum number of data records that can be processed by the function at a time. This parameter is mandatory for DIS, DDS, Kafka, and RabbitMQ triggers. <ul style="list-style-type: none"><li>• DDS trigger: Set the batch size to a value ranging from 1 to 10,000.</li><li>• DIS trigger: Set the batch size to a value ranging from 1 to 10,000.</li><li>• Kafka trigger: Set the batch size to a value ranging from 1 to 1000.</li><li>• RabbitMQ trigger: Set the batch size to a value ranging from 1 to 1000.</li></ul> |
| queue_id           | String           | Queue ID (DMS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| consumer_group_id  | String           | Consumer group ID (DMS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| polling_interval   | Integer          | Pull period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| stream_name        | String           | Stream name (DIS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter          | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sharditerator_type | String  | Start position (DIS trigger parameter). <ul style="list-style-type: none"><li>● TRIM_HORIZON: Data is read from the earliest valid record stored in the partition.</li><li>● LATEST: Data is read from the latest record in the partition. This option ensures that the most recent data in the partition is read.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>● <b>TRIM_HORIZON</b></li><li>● <b>LATEST</b></li></ul> |
| polling_unit       | String  | Unit of the pull period (DIS trigger parameter). <ul style="list-style-type: none"><li>● s: second</li><li>● ms: millisecond</li></ul> Enumeration values: <ul style="list-style-type: none"><li>● <b>s</b></li><li>● <b>ms</b></li></ul>                                                                                                                                                                                                      |
| max_fetch_bytes    | Integer | Maximum number of bytes to be extracted (DIS trigger parameter).<br>Minimum: <b>0</b><br>Maximum: <b>4194304</b>                                                                                                                                                                                                                                                                                                                               |
| is_serial          | String  | Serial Data Processing: If this option is selected, FunctionGraph pulls data from the stream only after previous data is processed. If this option is not selected, FunctionGraph pulls data from the stream as long as the pull period ends.<br>Enumeration values: <ul style="list-style-type: none"><li>● <b>true</b></li><li>● <b>false</b></li></ul>                                                                                      |
| log_group_id       | String  | Log group ID (LTS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                          |
| log_topic_id       | String  | Log stream ID (LTS trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                         |
| bucket             | String  | Bucket name (OBS trigger parameter). The name of the OBS bucket used as the event source cannot be the same as that of an existing bucket of the current user or another user. After being created, the bucket name cannot be modified.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                             |

| Parameter             | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| prefix                | String           | Prefix (OBS trigger parameter). Enter a prefix to limit notifications to objects whose names start with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| suffix                | String           | Suffix (OBS trigger parameter). Enter a suffix to limit notifications to objects whose names end with the matching characters.<br>Minimum: <b>0</b><br>Maximum: <b>1024</b>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| events                | Array of strings | Trigger event (OBS trigger parameter). <ul style="list-style-type: none"><li>● ObjectCreated: all object creation operations, including PUT, POST, COPY, and part assembling</li><li>● Put: Uploads an object using Put.</li><li>● Post: Uploads an object using POST</li><li>● Copy: Copies an object using COPY.</li><li>● CompleteMultipartUpload: Merges parts of a multipart upload.</li><li>● ObjectRemoved: Deletes an object.</li><li>● Delete: Deletes an object by specifying its version ID.</li><li>● DeleteMarkerCreated: Deletes an object without specifying its version ID.</li></ul> |
| topic_urn             | String           | Topic URN (SMN trigger parameter)<br>Minimum: <b>1</b><br>Maximum: <b>255</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| topic_ids             | Array of strings | The Kafka topic ID list (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| kafka_user            | String           | Kafka account name (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| kafka_password        | String           | Kafka password (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| kafka_connect_address | String           | Kafka instance connection address (Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| kafka_ssl_enable      | Boolean          | Whether to enable SASL authentication(Kafka trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| access_password       | String           | RabbitMQ account password (RabbitMQ trigger parameter).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Parameter       | Type    | Description                                         |
|-----------------|---------|-----------------------------------------------------|
| access_user     | String  | RabbitMQ username (RabbitMQ trigger parameter).     |
| connect_address | String  | Instance IP address (RabbitMQ trigger parameter).   |
| exchange_name   | String  | Switch name (RabbitMQ trigger parameter).           |
| vhost           | String  | Virtual host (RabbitMQ trigger parameter).          |
| ssl_enable      | Boolean | Whether to enable SSL (RabbitMQ trigger parameter). |

**Table 6-611** ApigTriggerFuncInfo

| Parameter       | Type    | Description                                                                                                                                                                                                                                                  |
|-----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| function_urn    | String  | Function URN. For details, see the function model descriptions.                                                                                                                                                                                              |
| invocation_type | String  | Execution mode of a function. <ul style="list-style-type: none"><li>• sync: synchronous execution</li><li>• async: asynchronous execution</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>sync</b></li><li>• <b>async</b></li></ul> |
| timeout         | Integer | Timeout allowed for APIG to request the FunctionGraph service. The unit is in millisecond. This parameter is mandatory for APIG triggers.<br>Minimum: <b>1</b><br>Maximum: <b>60000</b>                                                                      |
| version         | String  | Function version information.                                                                                                                                                                                                                                |

**Status code: 404****Table 6-612** Response body parameters

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

## Example Requests

Enable 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": "2019-10-29 17:15:53"
}
```

**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](#).

## 6.14 Function Flows

## 6.14.1 Executing a Flow Synchronously

### Function

This API is used to execute an express flow synchronously. It is available only in the Chinese mainland regions.

### URI

POST /v2/{project\_id}/fgs/workflows/{workflow\_id}/sync-executions

**Table 6-613** Path Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                      |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id | Yes       | String | Flow definition ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                  |

### Request Parameters

**Table 6-614** Request body parameters

| Parameter | Mandatory | Type   | Description                                                                                                  |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------|
| headers   | No        | Object | Headers for flow execution.                                                                                  |
| input     | Yes       | Object | Input parameters for flow execution. You can use JSONPath for parameter mapping and specify a default value. |

### Response Parameters

Status code: 200

**Table 6-615** Response body parameters

| Parameter    | Type                                                          | Description                                                                                                                                                                                              |
|--------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| execution_id | String                                                        | Flow instance ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                             |
| status       | String                                                        | Flow execution status.<br>Minimum: <b>1</b><br>Maximum: <b>64</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>success</b></li><li>• <b>fail</b></li><li>• <b>timeout</b></li></ul> |
| output       | Object                                                        | Flow execution result in JSON format. This parameter has a value only when the status is success.                                                                                                        |
| errors       | Array of <a href="#">SyncExecutionNodeErrorDetail</a> objects | Flow execution error information. This parameter has a value only when status is fail.<br>Array Length: <b>0 - 200</b>                                                                                   |
| begin_time   | String                                                        | Flow instance creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                        |
| end_time     | String                                                        | Flow instance end time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                             |

**Table 6-616** SyncExecutionNodeErrorDetail

| Parameter     | Type   | Description                                                 |
|---------------|--------|-------------------------------------------------------------|
| node_id       | String | Flow node ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>    |
| error_message | String | Error details.<br>Minimum: <b>1</b><br>Maximum: <b>2048</b> |

| Parameter  | Type   | Description                                                                                                       |
|------------|--------|-------------------------------------------------------------------------------------------------------------------|
| begin_time | String | Flow instance creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b> |
| end_time   | String | Flow instance end time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>      |

**Status code: 400**

**Table 6-617** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 404**

**Table 6-618** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 500**



**Table 6-619** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

## Example Requests

Execute a flow synchronously.

```
POST /{project_id}/fgs/workflows/{workflow_id}/sync-executions
```

```
{
  "headers" : {
    "tenantId" : "user1"
  },
  "input" : {
    "arg1" : "argument_1",
    "arg2" : "argument_2"
  }
}
```

## Example Responses

**Status code: 200**

Success

```
{
  "execution_id" : "48aff955-ea10-4ffd-b426-190bc192dc14",
  "status" : "success",
  "output" : {
    "result" : 200,
    "message" : "success"
  },
  "errors" : [ {
    "node_id" : "48aff955-ea10-4ffd-b426-190bc192dc14",
    "error_message" : "Exception happened",
    "begin_time" : "2021-01-01T00:00:00Z",
    "end_time" : "2021-01-01T00:00:00Z"
  } ],
  "begin_time" : "2021-01-01T00:00:00Z",
  "end_time" : "2021-01-01T00:00:00Z"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | Success     |

| Status Code | Description           |
|-------------|-----------------------|
| 400         | Bad Request           |
| 404         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.2 Executing a Flow Asynchronously

### Function

This API is used to execute a flow asynchronously. It is available only in the Chinese mainland regions.

### URI

POST /v2/{project\_id}/fgs/workflows/{workflow\_id}/executions

**Table 6-620** Path Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                      |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id | Yes       | String | Flow definition ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                  |

### Request Parameters

**Table 6-621** Request header parameters

| Parameter        | Mandatory | Type   | Description                  |
|------------------|-----------|--------|------------------------------|
| X-Create-Time    | No        | String | workflowRun task create time |
| X-WorkflowRun-ID | No        | String | workflowRun id               |

| Parameter                       | Mandatory | Type   | Description                                                                             |
|---------------------------------|-----------|--------|-----------------------------------------------------------------------------------------|
| X-WorkflowRun-MergeFnParameters | No        | String | Combines the output of the previous node with the input of the next node into an input. |

**Table 6-622** Request body parameters

| Parameter | Mandatory | Type   | Description                                                                                                  |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------|
| headers   | No        | Object | Headers for flow execution.                                                                                  |
| input     | Yes       | Object | Input parameters for flow execution. You can use JSONPath for parameter mapping and specify a default value. |

## Response Parameters

**Status code: 200**

**Table 6-623** Response body parameters

| Parameter    | Type   | Description                                            |
|--------------|--------|--------------------------------------------------------|
| execution_id | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

**Status code: 400**

**Table 6-624** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 404****Table 6-625** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 500****Table 6-626** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

## Example Requests

Execute a flow.

```
POST /v2/{project_id}/fgs/workflows/{workflow_id}/executions
```

```
{
  "headers" : {
    "tenantId" : "user1"
  },
  "input" : {
    "arg1" : "argument_1",
    "arg2" : "argument_2"
  }
}
```

## Example Responses

**Status code: 200**

Success

```
{  
  "execution_id" : "48aff955-ea10-4ffd-b426-190bc192dc14"  
}
```

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | Success               |
| 400         | Bad Request           |
| 404         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.3 Deleting Flows

### Function

This API is used to delete a flow.

### URI

DELETE /v2/{project\_id}/fgs/workflows

**Table 6-627** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                                                                      |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

## Request Parameters

**Table 6-628** Request body parameters

| Parameter     | Mandatory | Type             | Description                                |
|---------------|-----------|------------------|--------------------------------------------|
| workflow_urns | Yes       | Array of strings | Flow URNs.<br>Array Length: <b>0 - 200</b> |

## Response Parameters

**Status code: 200**

**Table 6-629** Response body parameters

| Parameter | Type                                              | Description                                               |
|-----------|---------------------------------------------------|-----------------------------------------------------------|
| success   | Array of strings                                  | URNs of successful flows.<br>Array Length: <b>0 - 100</b> |
| fail      | Array of <a href="#">OperateErrorInfo</a> objects | Details of failed flows.<br>Array Length: <b>0 - 200</b>  |

**Table 6-630** OperateErrorInfo

| Parameter    | Type   | Description                                                  |
|--------------|--------|--------------------------------------------------------------|
| workflow_urn | String | Unique flow URN.<br>Minimum: <b>1</b><br>Maximum: <b>128</b> |
| error_detail | String | Error details.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>    |

**Status code: 400**

**Table 6-631** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500**

**Table 6-632** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Delete function flows with URNs urn:fss:  
{region}:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow1:latest and  
urn:fss:  
{region}:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow2:latest.

```
DELETE /v2/{project_id}/fgs/workflows
```

```
{  
  "workflow_urns" : [ "urn:fss:{region}:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow1:latest",  
                    "urn:fss:{region}:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow2:latest" ]  
}
```

## Example Responses

None

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | Success               |
| 400         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.4 Querying a Flow

### Function

This API is used to query a flow.

### URI

GET /v2/{project\_id}/fgs/workflows

**Table 6-633** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                                                                      |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

**Table 6-634** Query Parameters

| Parameter          | Mandatory | Type    | Description                                                                                                                              |
|--------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------|
| workflow_name      | No        | String  | Flow name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                    |
| limit              | No        | Integer | Number of items displayed on each page. The default value is 200.<br>A value greater than 200 will be taken as 200.<br>Minimum: <b>1</b> |
| offset             | No        | Integer | Offset of pagination. The default value is 0. A value less than 0 will be taken as 0.<br>Minimum: <b>0</b>                               |
| enterprise_project | No        | String  | Enterprise project ID.                                                                                                                   |
| mode               | No        | String  | Flow type. Options: <ul style="list-style-type: none"><li>• NORMAL</li><li>• EXPRESS</li></ul>                                           |



## Request Parameters

None

## Response Parameters

Status code: 200

**Table 6-635** Response body parameters

| Parameter | Type                                                | Description                                                                                       |
|-----------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------|
| total     | Long                                                | Number of objects that meet the query conditions.<br>Minimum: <b>0</b><br>Maximum: <b>1000000</b> |
| size      | Integer                                             | Size of the returned objects.<br>Minimum: <b>0</b><br>Maximum: <b>200</b>                         |
| workflows | Array of <a href="#">WorkflowSimpleInfo</a> objects | Returned objects.<br>Array Length: <b>0 - 200</b>                                                 |

**Table 6-636** WorkflowSimpleInfo

| Parameter    | Type   | Description                                                                                                                                                                          |
|--------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id           | String | Unique flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                           |
| workflow_urn | String | Flow URN.<br>Format:urn:fss:<region_id>:<project_id>:workflow:<package>:<workflow_name>:<version>Currently, package and version can only be set to default and latest, respectively. |
| name         | String | Flow name.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                |
| description  | String | Flow description.<br>Minimum: <b>0</b><br>Maximum: <b>512</b>                                                                                                                        |

| Parameter              | Type    | Description                                                                                                  |
|------------------------|---------|--------------------------------------------------------------------------------------------------------------|
| created_time           | String  | Flow creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>     |
| updated_time           | String  | Flow modification time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b> |
| created_by             | String  | Flow creator.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                     |
| enable_stream_response | Boolean | Whether to return stream data.<br>Default: <b>false</b>                                                      |

**Status code: 400**

**Table 6-637** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500**

**Table 6-638** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Query function flows.

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

## Example Responses

**Status code: 200**

Response to flow query.

```
{
  "total" : 1,
  "size" : 1,
  "workflows" : [ {
    "id" : "48aff955-ea10-4ffd-b426-190bc192dc14",
    "workflow_urn" : "urn:fss:cn-north-7:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow:latest",
    "name" : "test-flow",
    "description" : "desc",
    "created_time" : "2021-01-01T00:00:00Z",
    "updated_time" : "2021-01-01T00:00:00Z",
    "created_by" : "admin"
  } ]
}
```

## Status Codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Response to flow query. |
| 400         | Bad Request             |
| 500         | Internal Server Error   |

## Error Codes

See [Error Codes](#).

## 6.14.5 Creating a Flow

### Function

This API is used to create a flow.

### URI

POST /v2/{project\_id}/fgs/workflows

**Table 6-639** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                                                                      |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

### Request Parameters

**Table 6-640** Request body parameters

| Parameter   | Mandatory | Type                                      | Description                                                   |
|-------------|-----------|-------------------------------------------|---------------------------------------------------------------|
| name        | Yes       | String                                    | Flow name.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>         |
| description | No        | String                                    | Flow description.<br>Minimum: <b>1</b><br>Maximum: <b>512</b> |
| start       | Yes       | String                                    | Start node ID.<br>Minimum: <b>1</b><br>Maximum: <b>256</b>    |
| triggers    | No        | Array of <a href="#">Trigger</a> objects  | Trigger list.<br>Array Length: <b>0 - 200</b>                 |
| functions   | Yes       | Array of <a href="#">Function</a> objects | Function list.<br>Array Length: <b>0 - 100</b>                |

| Parameter              | Mandatory | Type                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-----------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| states                 | Yes       | Array of <b>OperationState</b> objects | Node list. For details, see the descriptions of SleepState and OperationState.<br>Array Length: <b>1 - 100</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| constants              | Yes       | Object                                 | Constants.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| retries                | Yes       | Array of <b>Retry</b> objects          | Retry policies.<br>Array Length: <b>0 - 200</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| mode                   | No        | String                                 | Flow type.- <b>NORMAL</b> : better for common services that take a long time to execute. Flows of this type support persistence and query of historical execution records and asynchronous invocation.- <b>EXPRESS</b> : better for services that take less than five minutes to execute but need premium performance. Flows of this type support both synchronous and asynchronous invocations, but do not support persistence of historical execution records.By default, <b>NORMAL</b> is used.<br>Default: <b>NORMAL</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>NORMAL</b></li> <li>• <b>EXPRESS</b></li> </ul> |
| express_config         | No        | <b>ExpressConfig</b> object            | Express flow configuration. This parameter is required when mode is set to <b>EXPRESS</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| enterprise_project_id  | No        | String                                 | Enterprise project ID.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| enable_stream_response | No        | Boolean                                | Whether to return stream data.<br>Default: <b>false</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Table 6-641** Trigger

| Parameter      | Mandatory | Type                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|-----------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_name   | Yes       | String                         | Trigger name.<br>Minimum: <b>1</b><br>Maximum: <b>256</b>                                                                                                                                                                                                                                                                                                                                                                                                             |
| trigger_type   | Yes       | String                         | Trigger type. Options: <ul style="list-style-type: none"> <li>• FLOWTIMER</li> <li>• SMN</li> <li>• APIG (shared)</li> <li>• APIG_DE (dedicated)</li> <li>• OBS (OBS triggers are not available in the European regions.)</li> </ul> Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>FLOWTIMER</b></li> <li>• <b>SMN</b></li> <li>• <b>APIG</b></li> <li>• <b>APIG_DE</b></li> <li>• <b>OBS</b></li> </ul> |
| enabled        | No        | Boolean                        | Whether to enable the trigger.<br>Default: <b>true</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>true</b></li> <li>• <b>false</b></li> </ul>                                                                                                                                                                                                                                                                                                 |
| trigger_config | No        | <b>OBSTriggerConfig</b> object | OBS trigger configuration. This parameter is mandatory when trigger_type is set to OBS.                                                                                                                                                                                                                                                                                                                                                                               |

**Table 6-642** OBSTriggerConfig

| Parameter | Mandatory | Type   | Description                                                                                                              |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------|
| bucket    | Yes       | String | OBS bucket name. This parameter is mandatory when trigger_type is set to OBS.<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

| Parameter | Mandatory | Type             | Description                                                                                                          |
|-----------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------|
| events    | Yes       | Array of strings | OBS events. This parameter is mandatory when trigger_type is set to OBS.<br>Array Length: <b>1 - 64</b>              |
| prefix    | Yes       | String           | Object name prefix, which is mandatory when trigger_type is set to OBS.<br>Minimum: <b>1</b><br>Maximum: <b>1024</b> |
| suffix    | Yes       | String           | Object name suffix, which is mandatory when trigger_type is set to OBS.<br>Minimum: <b>1</b><br>Maximum: <b>1024</b> |

**Table 6-643** Function

| Parameter | Mandatory | Type   | Description                                                                                |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------|
| name      | Yes       | String | Function name, which must be unique in a flow.<br>Minimum: <b>0</b><br>Maximum: <b>256</b> |
| operation | Yes       | String | Function URN.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                  |
| metadata  | No        | Object | Custom function attribute.                                                                 |

**Table 6-644** OperationState

| Parameter         | Mandatory | Type                            | Description                                                                                                                                                                                                                                                 |
|-------------------|-----------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| action_mode       | No        | String                          | Action execution mode. Serial and parallel modes are supported. The default mode is serial.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>sequential</b></li><li>• <b>parallel</b></li></ul> |
| actions           | Yes       | Array of <b>Action</b> objects  | Operations to be performed.<br>Array Length: <b>1 - 10</b>                                                                                                                                                                                                  |
| on_errors         | No        | Array of <b>OnError</b> objects | Error handling policy.<br>Array Length: <b>0 - 200</b>                                                                                                                                                                                                      |
| id                | Yes       | String                          | Node ID, which must be unique in the flow.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                       |
| name              | Yes       | String                          | Node name.<br>Minimum: <b>1</b><br>Maximum: <b>256</b>                                                                                                                                                                                                      |
| type              | Yes       | String                          | Node type.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Operation</b></li><li>• <b>Sleep</b></li><li>• <b>End</b></li></ul>                                                                 |
| end               | Yes       | Boolean                         | Whether the node is an end node.                                                                                                                                                                                                                            |
| transition        | Yes       | String                          | ID of the next node.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                                                                                                                                                                            |
| state_data_filter | No        | <b>StateDataFilter</b> object   | Filter expression.                                                                                                                                                                                                                                          |



| Parameter | Mandatory | Type | Description                                                                                                                                         |
|-----------|-----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| duration  | No        | Long | Waiting time, in seconds. This parameter is mandatory and valid only when the node type is Sleep.<br>Minimum: <b>0.001</b><br>Maximum: <b>86400</b> |

**Table 6-645** Action

| Parameter    | Mandatory | Type                      | Description                      |
|--------------|-----------|---------------------------|----------------------------------|
| function_ref | No        | <b>FunctionRef</b> object | Function invocation information. |

**Table 6-646** FunctionRef

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                            |
|-------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ref_name    | Yes       | String | Function reference name, which must be the same as the name in the outer functions.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                                                                                                        |
| invoke_mode | No        | String | Function invocation mode. Currently, only synchronous invocation is supported.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>synchronize</b></li> <li>• <b>asynchronous</b></li> </ul> |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| arguments | Yes       | Object | <p>Input parameters for function execution. Constants can be referenced.</p> <p>Format: parameter path   constant value/path</p> <p>The parameter path is the JSONPath (for example, \$.a.b[0].c) of an input parameter.</p> <p>The constant value can be a number, string (enclosed in single quotation marks), or Boolean.</p> <p>The constant path is the JSONPath of a constant. It must be represented with \$CONST for a root node. For example, \$CONST.a.b.</p> |

**Table 6-647** OnError

| Parameter  | Mandatory | Type   | Description                                                                                                               |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------|
| error      | No        | String | <p>Error matching expression, which is used to filter exceptions.</p> <p>Minimum: <b>0</b></p> <p>Maximum: <b>256</b></p> |
| transition | No        | String | <p>ID of the next node.</p> <p>Minimum: <b>0</b></p> <p>Maximum: <b>256</b></p>                                           |
| retry_ref  | No        | String | <p>Retry policy name.</p> <p>Minimum: <b>0</b></p> <p>Maximum: <b>256</b></p>                                             |

**Table 6-648** StateDataFilter

| Parameter | Mandatory | Type   | Description                                                                      |
|-----------|-----------|--------|----------------------------------------------------------------------------------|
| input     | No        | String | Input filter expression (JSONPath).<br>Minimum: <b>0</b><br>Maximum: <b>256</b>  |
| output    | No        | String | Output filter expression (JSONPath).<br>Minimum: <b>0</b><br>Maximum: <b>256</b> |

**Table 6-649** Retry

| Parameter    | Mandatory | Type   | Description                                                                                    |
|--------------|-----------|--------|------------------------------------------------------------------------------------------------|
| name         | Yes       | String | Retry policy name, which must be unique in a flow.<br>Minimum: <b>1</b><br>Maximum: <b>256</b> |
| delay        | No        | Long   | Retry interval, in seconds. Default value: 1.<br>Minimum: <b>1</b><br>Maximum: <b>30</b>       |
| max_attempts | No        | Long   | Maximum number of retry attempts. Default value: 3.<br>Minimum: <b>1</b><br>Maximum: <b>8</b>  |

**Table 6-650** ExpressConfig

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| log_level | No        | String | <p>Execution log level, which is valid only when mode is set to EXPRESS.</p> <p>Options:</p> <ul style="list-style-type: none"> <li>• ALL: Execution logs of all nodes will be recorded.</li> <li>• ERROR: Only execution logs of abnormal nodes will be recorded. NONE: No logs will be recorded.</li> </ul> <p>To set this parameter to ALL or ERROR, enable LTS first.</p> <p>Minimum: 1<br/>Maximum: 5</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• ALL</li> <li>• ERROR</li> <li>• NONE</li> </ul> |

## Response Parameters

Status code: 201

**Table 6-651** Response body parameters

| Parameter    | Type   | Description                                                                                                                                                                                                                   |
|--------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id           | String | <p>Unique flow ID.</p> <p>Minimum: 1<br/>Maximum: 64</p>                                                                                                                                                                      |
| workflow_urn | String | <p>Flow URN.</p> <p>Format:urn:fss:&lt;region_id&gt;:&lt;project_id&gt;:workflow:&lt;package&gt;:&lt;workflow_name&gt;:&lt;version&gt;Currently, package and version can only be set to default and latest, respectively.</p> |
| name         | String | <p>Flow name.</p> <p>Minimum: 1<br/>Maximum: 64</p>                                                                                                                                                                           |

| Parameter              | Type    | Description                                                                                                  |
|------------------------|---------|--------------------------------------------------------------------------------------------------------------|
| description            | String  | Flow description.<br>Minimum: <b>0</b><br>Maximum: <b>512</b>                                                |
| created_time           | String  | Flow creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>     |
| updated_time           | String  | Flow modification time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b> |
| created_by             | String  | Flow creator.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                     |
| enable_stream_response | Boolean | Whether to return stream data.<br>Default: <b>false</b>                                                      |

**Status code: 400****Table 6-652** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500**

**Table 6-653** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Create a function flow named workflow\_test with start node test.

```
POST /v2/{project_id}/fgs/workflows
```

```
{
  "name": "workflow_test",
  "start": "test",
  "functions": [ {
    "name": "test",
    "operation": "urn:fss:{region}:c53626012ba84727b938ca8bf03108ef:test:latest"
  } ],
  "constants": { },
  "states": [ {
    "id": "test",
    "name": "test",
    "type": "Operation",
    "end": false,
    "transition": "end",
    "actions": [ {
      "function_ref": {
        "ref_name": "test",
        "arguments": {
          "execution_name": "$.test"
        }
      }
    }
  ]
}, {
  "id": "end",
  "name": "end",
  "type": "End",
  "end": true,
  "transition": "",
  "state_data_filter": {
    "input": "",
    "output": ""
  },
  "actions": [ ],
  "action_mode": ""
} ],
  "retries": [ {
    "name": "test"
  } ]
}
```

## Example Responses

Status code: 201

Created

```
{
  "id" : "48aff955-ea10-4ffd-b426-190bc192dc14",
  "workflow_urn" : "urn:fss:cn-north-7:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow:latest",
  "name" : "test-flow",
  "description" : "desc",
  "created_time" : "2021-01-01T00:00:00Z",
  "updated_time" : "2021-01-01T00:00:00Z",
  "created_by" : "admin"
}
```

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 201         | Created               |
| 400         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.6 Querying Instances of a Flow

### Function

This API is used to query instances of a flow.

### URI

GET /v2/{project\_id}/fgs/workflows/{workflow\_id}/executions

**Table 6-654** Path Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                      |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id | Yes       | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                             |

**Table 6-655** Query Parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                               |
|------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit      | No        | Integer | Number of items displayed on each page. The maximum value is 200. Excessive records will not be returned.<br>Minimum: <b>0</b><br>Maximum: <b>500</b>                                                                                                     |
| status     | No        | String  | Instance status.<br>Minimum: <b>0</b><br>Maximum: <b>64</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>success</b></li> <li>• <b>fail</b></li> <li>• <b>running</b></li> <li>• <b>timeout</b></li> <li>• <b>cancel</b></li> </ul> |
| start_time | No        | String  | Query start time (UTC). If the start time is not specified, it is three days earlier than the end time.                                                                                                                                                   |
| end_time   | No        | String  | Query end time (UTC). If the end time is not specified, it is three days later than the start time. If neither of them is set, data of the last three days is queried by default.                                                                         |

## Request Parameters

None

## Response Parameters

Status code: 200

**Table 6-656** Response body parameters

| Parameter  | Type                                       | Description                                                 |
|------------|--------------------------------------------|-------------------------------------------------------------|
| executions | Array of <b>FlowExecutionBrief</b> objects | Flow execution information.<br>Array Length: <b>0 - 999</b> |



**Table 6-657** FlowExecutionBrief

| Parameter        | Type   | Description                                                                                                                                                                                                                                                        |
|------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| workflow_id      | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                                                                                |
| workflow_urn     | String | Flow URN.<br>Format:urn:fss:<region_id>:<project_id>:workflow:<package>:<workflow_name>:<version>Currently, package and version can only be set to default and latest, respectively.                                                                               |
| execution_id     | String | Flow instance ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                                                                       |
| status           | String | Flow instance execution status.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>success</b></li><li>• <b>fail</b></li><li>• <b>running</b></li><li>• <b>timeout</b></li><li>• <b>cancel</b></li></ul> |
| begin_time       | String | Flow instance creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                  |
| end_time         | String | Flow instance end time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                       |
| last_update_time | String | Flow instance last update time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                               |
| created_by       | String | Flow instance creator.<br>Minimum: <b>1</b><br>Maximum: <b>32</b>                                                                                                                                                                                                  |

**Status code: 400**

**Table 6-658** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500****Table 6-659** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Query the instances of function flow {workflow\_id}.

```
GET /v2/{project_id}/fgs/workflows/{workflow_id}/executions
```

## Example Responses

**Status code: 200**

Response to flow instance query.

```
{  
  "executions" : [ {  
    "workflow_id" : "48aff955-ea10-4ffd-b426-190bc192dc14",  
    "workflow_urn" : "urn:fss:cn-north-7:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow:latest",
```

```
"execution_id" : "48aff955-ea10-4ffd-b426-190bc192dc14",  
"status" : "running",  
"begin_time" : "2021-01-01T00:00:00Z",  
"end_time" : "2021-01-01T00:00:00Z",  
"last_update_time" : "2021-01-01T00:00:00Z",  
"created_by" : "admin"  
} ]  
}
```

## Status Codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | Response to flow instance query. |
| 400         | Bad Request                      |
| 500         | Internal Server Error            |

## Error Codes

See [Error Codes](#).

## 6.14.7 Querying a Flow Instance

### Function

This API is used to query an instance of a flow.

### URI

GET /v2/{project\_id}/fgs/workflows/{workflow\_id}/executions/{execution\_id}

**Table 6-660** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                                                                      |
|--------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id  | Yes       | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                             |
| execution_id | Yes       | String | Flow instance ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                     |

## Request Parameters

**Table 6-661** Request header parameters

| Parameter                        | Mandatory | Type    | Description                                           |
|----------------------------------|-----------|---------|-------------------------------------------------------|
| X-Get-Workflow-Full-History-Data | No        | Boolean | Whether to obtain the complete flow execution output. |

## Response Parameters

**Status code: 200**

**Table 6-662** Response body parameters

| Parameter    | Type   | Description                                                                                                                                                                                                                                                              |
|--------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| workflow_id  | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                                                                                      |
| workflow_urn | String | Flow URN.<br>Format:urn:fss:<region_id>:<project_id>:workflo<br>w:<package>:<workflow_name>:<version>Curr<br>ently, package and version can only be set to<br>default and latest, respectively.                                                                          |
| execution_id | String | Flow instance ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                                                                             |
| status       | String | Flow instance execution status.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>success</b></li> <li>• <b>fail</b></li> <li>• <b>running</b></li> <li>• <b>timeout</b></li> <li>• <b>cancel</b></li> </ul> |
| headers      | Object | Headers for function execution.                                                                                                                                                                                                                                          |
| input        | Object | Input parameters for function execution.                                                                                                                                                                                                                                 |
| output       | Object | Function execution result.                                                                                                                                                                                                                                               |

| Parameter              | Type                                                 | Description                                                                                                          |
|------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| begin_time             | String                                               | Flow instance creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>    |
| end_time               | String                                               | Flow instance end time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>         |
| last_update_time       | String                                               | Flow instance last update time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b> |
| created_by             | String                                               | Flow instance creator.<br>Minimum: <b>1</b><br>Maximum: <b>32</b>                                                    |
| node_execution_details | Array of <a href="#">NodeExecutionDetail</a> objects | Node execution information.<br>Array Length: <b>0 - 200</b>                                                          |

**Table 6-663** NodeExecutionDetail

| Parameter    | Type                                                 | Description                                              |
|--------------|------------------------------------------------------|----------------------------------------------------------|
| node_id      | String                                               | Flow node ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| node_name    | String                                               | Flow node name.                                          |
| execution_id | String                                               | Flow node execution record ID.                           |
| executions   | Array of <a href="#">NodeExecutionDetail</a> objects | Node execution records.<br>Array Length: <b>0 - 200</b>  |

**Table 6-664** NodeExecution

| Parameter     | Type   | Description                                                                                                                                                                                                                                                          |
|---------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status        | String | Flow node execution status.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>success</b></li> <li>• <b>fail</b></li> <li>• <b>running</b></li> <li>• <b>timeout</b></li> <li>• <b>cancel</b></li> </ul> |
| input         | Object | Input parameters for function execution.                                                                                                                                                                                                                             |
| output        | Object | Function execution result.                                                                                                                                                                                                                                           |
| begin_time    | Long   | Node start time (UTC), precise to milliseconds.<br>Minimum: <b>0</b><br>Maximum: <b>999999999999999999</b>                                                                                                                                                           |
| end_time      | Long   | Node end time (UTC), precise to milliseconds.<br>Minimum: <b>0</b><br>Maximum: <b>999999999999999999</b>                                                                                                                                                             |
| error_message | Object | Error message. This parameter has a value only when the node execution fails.                                                                                                                                                                                        |
| request_id    | String | Flow node request ID.                                                                                                                                                                                                                                                |

**Status code: 400**

**Table 6-665** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 404**

**Table 6-666** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 500**

**Table 6-667** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Query details about instance {execution\_id} of function flow {workflow\_id}.

```
GET /v2/{project_id}/fgs/workflows/{workflow_id}/executions/{execution_id}
```

## Example Responses

**Status code: 200**

OK

```
{
  "workflow_id" : "48aff955-ea10-4ffd-b426-190bc192dc14",
  "workflow_urn" : "urn:fss:cn-north-7:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow:latest",
  "execution_id" : "48aff955-ea10-4ffd-b426-190bc192dc14",
  "status" : "running",
  "headers" : {
```

```
"tenantId" : "user1"
},
"input" : {
  "arg1" : "argument_1",
  "arg2" : "argument_2"
},
"output" : {
  "arg1" : "argument_1",
  "arg2" : "argument_2"
},
"begin_time" : "2021-01-01T00:00:00Z",
"end_time" : "2021-01-01T00:00:00Z",
"last_update_time" : "2021-01-01T00:00:00Z",
"created_by" : "admin",
"node_execution_details" : [ {
  "node_id" : "48aff955-ea10-4ffd-b426-190bc192dc14",
  "node_name" : "string",
  "execution_id" : "string",
  "executions" : [ {
    "status" : "running",
    "input" : {
      "arg1" : "argument_1",
      "arg2" : "argument_2"
    },
    "output" : {
      "arg1" : "argument_1",
      "arg2" : "argument_2"
    },
    "begin_time" : 1605119892050,
    "end_time" : 1605119892050,
    "error_message" : {
      "detail":"Execution failed\":" : null
    },
    "request_id" : "string"
  }
]
}
]
```

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | OK                    |
| 400         | Bad Request           |
| 404         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.8 Querying Metadata of a Flow Instance

### Function

This API is used to query the instance metadata of a flow.



## URI

GET /v2/{project\_id}/fgs/workflows/{workflow\_id}

**Table 6-668** Path Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                      |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id | Yes       | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                             |

## Request Parameters

None

## Response Parameters

**Status code: 200**

**Table 6-669** Response body parameters

| Parameter    | Type   | Description                                                                                                                                                                            |
|--------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id           | String | Unique flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                             |
| workflow_urn | String | Flow URN.<br>Format: urn:fss:<region_id>:<project_id>:workflow:<package>:<workflow_name>:<version> Currently, package and version can only be set to default and latest, respectively. |
| created_time | String | Flow creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                               |
| updated_time | String | Flow modification time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                           |

| Parameter     | Type                                      | Description                                                                                        |
|---------------|-------------------------------------------|----------------------------------------------------------------------------------------------------|
| created_by    | String                                    | Flow creator.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                           |
| lts_group_id  | String                                    | Log group ID for an express flow. This parameter is returned only when the log level is not NONE.  |
| lts_stream_id | String                                    | Log stream ID for an express flow. This parameter is returned only when the log level is not NONE. |
| definition    | <a href="#">WorkflowCreateBody</a> object | Body for creating a function flow.                                                                 |

**Table 6-670** WorkflowCreateBody

| Parameter   | Type                                            | Description                                                                                                    |
|-------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| name        | String                                          | Flow name.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                          |
| description | String                                          | Flow description.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                  |
| start       | String                                          | Start node ID.<br>Minimum: <b>1</b><br>Maximum: <b>256</b>                                                     |
| triggers    | Array of <a href="#">Trigger</a> objects        | Trigger list.<br>Array Length: <b>0 - 200</b>                                                                  |
| functions   | Array of <a href="#">Function</a> objects       | Function list.<br>Array Length: <b>0 - 100</b>                                                                 |
| states      | Array of <a href="#">OperationState</a> objects | Node list. For details, see the descriptions of SleepState and OperationState.<br>Array Length: <b>1 - 100</b> |
| constants   | Object                                          | Constants.                                                                                                     |
| retries     | Array of <a href="#">Retry</a> objects          | Retry policies.<br>Array Length: <b>0 - 200</b>                                                                |

| Parameter              | Type                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode                   | String                      | Flow type.- <b>NORMAL</b> : better for common services that take a long time to execute. Flows of this type support persistence and query of historical execution records and asynchronous invocation.- <b>EXPRESS</b> : better for services that take less than five minutes to execute but need premium performance. Flows of this type support both synchronous and asynchronous invocations, but do not support persistence of historical execution records.By default, <b>NORMAL</b> is used.<br>Default: <b>NORMAL</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>NORMAL</b></li><li>• <b>EXPRESS</b></li></ul> |
| express_config         | <b>ExpressConfig</b> object | Express flow configuration. This parameter is required when mode is set to <b>EXPRESS</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| enterprise_project_id  | String                      | Enterprise project ID.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| enable_stream_response | Boolean                     | Whether to return stream data.<br>Default: <b>false</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**Table 6-671** Trigger

| Parameter    | Type   | Description                                               |
|--------------|--------|-----------------------------------------------------------|
| trigger_name | String | Trigger name.<br>Minimum: <b>1</b><br>Maximum: <b>256</b> |

| Parameter      | Type                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_type   | String                         | <p>Trigger type. Options:</p> <ul style="list-style-type: none"> <li>• FLOWTIMER</li> <li>• SMN</li> <li>• APIG (shared)</li> <li>• APIG_DE (dedicated)</li> <li>• OBS (OBS triggers are not available in the European regions.)</li> </ul> <p>Minimum: <b>1</b><br/>Maximum: <b>32</b><br/>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>FLOWTIMER</b></li> <li>• <b>SMN</b></li> <li>• <b>APIG</b></li> <li>• <b>APIG_DE</b></li> <li>• <b>OBS</b></li> </ul> |
| enabled        | Boolean                        | <p>Whether to enable the trigger.</p> <p>Default: <b>true</b></p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>true</b></li> <li>• <b>false</b></li> </ul>                                                                                                                                                                                                                                                                                                  |
| trigger_config | <b>OBSTriggerConfig</b> object | OBS trigger configuration. This parameter is mandatory when trigger_type is set to OBS.                                                                                                                                                                                                                                                                                                                                                                                               |

**Table 6-672** OBSTriggerConfig

| Parameter | Type             | Description                                                                                                                          |
|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| bucket    | String           | <p>OBS bucket name. This parameter is mandatory when trigger_type is set to OBS.</p> <p>Minimum: <b>1</b><br/>Maximum: <b>64</b></p> |
| events    | Array of strings | <p>OBS events. This parameter is mandatory when trigger_type is set to OBS.</p> <p>Array Length: <b>1 - 64</b></p>                   |
| prefix    | String           | <p>Object name prefix, which is mandatory when trigger_type is set to OBS.</p> <p>Minimum: <b>1</b><br/>Maximum: <b>1024</b></p>     |

| Parameter | Type   | Description                                                                                                          |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------|
| suffix    | String | Object name suffix, which is mandatory when trigger_type is set to OBS.<br>Minimum: <b>1</b><br>Maximum: <b>1024</b> |

**Table 6-673** Function

| Parameter | Type   | Description                                                                                |
|-----------|--------|--------------------------------------------------------------------------------------------|
| name      | String | Function name, which must be unique in a flow.<br>Minimum: <b>0</b><br>Maximum: <b>256</b> |
| operation | String | Function URN.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                  |
| metadata  | Object | Custom function attribute.                                                                 |

**Table 6-674** OperationState

| Parameter   | Type                            | Description                                                                                                                                                                                                                                                 |
|-------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| action_mode | String                          | Action execution mode. Serial and parallel modes are supported. The default mode is serial.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>sequential</b></li><li>• <b>parallel</b></li></ul> |
| actions     | Array of <b>Action</b> objects  | Operations to be performed.<br>Array Length: <b>1 - 10</b>                                                                                                                                                                                                  |
| on_errors   | Array of <b>OnError</b> objects | Error handling policy.<br>Array Length: <b>0 - 200</b>                                                                                                                                                                                                      |
| id          | String                          | Node ID, which must be unique in the flow.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                       |

| Parameter         | Type                                   | Description                                                                                                                                                                                 |
|-------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name              | String                                 | Node name.<br>Minimum: <b>1</b><br>Maximum: <b>256</b>                                                                                                                                      |
| type              | String                                 | Node type.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Operation</b></li><li>• <b>Sleep</b></li><li>• <b>End</b></li></ul> |
| end               | Boolean                                | Whether the node is an end node.                                                                                                                                                            |
| transition        | String                                 | ID of the next node.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                                                                                                            |
| state_data_filter | <a href="#">StateDataFilter</a> object | Filter expression.                                                                                                                                                                          |
| duration          | Long                                   | Waiting time, in seconds. This parameter is mandatory and valid only when the node type is Sleep.<br>Minimum: <b>0.001</b><br>Maximum: <b>86400</b>                                         |

**Table 6-675** Action

| Parameter    | Type                               | Description                      |
|--------------|------------------------------------|----------------------------------|
| function_ref | <a href="#">FunctionRef</a> object | Function invocation information. |

**Table 6-676** FunctionRef

| Parameter | Type   | Description                                                                                                                     |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------|
| ref_name  | String | Function reference name, which must be the same as the name in the outer functions.<br>Minimum: <b>0</b><br>Maximum: <b>256</b> |

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| invoke_mode | String | Function invocation mode. Currently, only synchronous invocation is supported.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>synchronize</b></li> <li>• <b>asynchronous</b></li> </ul>                                                                                                                                                                                           |
| arguments   | Object | Input parameters for function execution. Constants can be referenced.<br>Format: parameter path   constant value/path<br>The parameter path is the JSONPath (for example, \$.a.b[0].c) of an input parameter.<br>The constant value can be a number, string (enclosed in single quotation marks), or Boolean.<br>The constant path is the JSONPath of a constant. It must be represented with \$CONST for a root node. For example, \$CONST.a.b. |

**Table 6-677** OnError

| Parameter  | Type   | Description                                                                                                |
|------------|--------|------------------------------------------------------------------------------------------------------------|
| error      | String | Error matching expression, which is used to filter exceptions.<br>Minimum: <b>0</b><br>Maximum: <b>256</b> |
| transition | String | ID of the next node.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                           |
| retry_ref  | String | Retry policy name.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                             |

**Table 6-678** StateDataFilter

| Parameter | Type   | Description                                                                      |
|-----------|--------|----------------------------------------------------------------------------------|
| input     | String | Input filter expression (JSONPath).<br>Minimum: <b>0</b><br>Maximum: <b>256</b>  |
| output    | String | Output filter expression (JSONPath).<br>Minimum: <b>0</b><br>Maximum: <b>256</b> |

**Table 6-679** Retry

| Parameter    | Type   | Description                                                                                    |
|--------------|--------|------------------------------------------------------------------------------------------------|
| name         | String | Retry policy name, which must be unique in a flow.<br>Minimum: <b>1</b><br>Maximum: <b>256</b> |
| delay        | Long   | Retry interval, in seconds. Default value: 1.<br>Minimum: <b>1</b><br>Maximum: <b>30</b>       |
| max_attempts | Long   | Maximum number of retry attempts. Default value: 3.<br>Minimum: <b>1</b><br>Maximum: <b>8</b>  |



**Table 6-680** ExpressConfig

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| log_level | String | Execution log level, which is valid only when mode is set to EXPRESS.<br>Options: <ul style="list-style-type: none"><li>• ALL: Execution logs of all nodes will be recorded.</li><li>• ERROR: Only execution logs of abnormal nodes will be recorded. NONE: No logs will be recorded.</li></ul> To set this parameter to ALL or ERROR, enable LTS first.<br>Minimum: <b>1</b><br>Maximum: <b>5</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>ALL</b></li><li>• <b>ERROR</b></li><li>• <b>NONE</b></li></ul> |

**Status code: 400****Table 6-681** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500**

**Table 6-682** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Query the metadata of function flow {workflow\_id}.

```
GET /v2/{project_id}/fgs/workflows/{workflow_id}
```

## Example Responses

**Status code: 200**

OK

```
{
  "id" : "fa466a62-73a2-49b9-9261-358dfe873b6e",
  "created_time" : "2022-09-01T01:29:46Z",
  "updated_time" : "2022-09-13T07:27:02Z",
  "workflow_urn" : "urn:fss:cn-
north-7:c53626012ba84727b938ca8bf03108ef:workflow:default:flow_nxy:latest",
  "lts_group_id" : "124cef5b-d494-490d-af94-166c4bef0e0d",
  "lts_stream_id" : "07e89ef7-d038-4018-97de-167b255de61f"
}
```

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | OK                    |
| 400         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.9 Modifying Metadata of a Flow Instance

### Function

This API is used to modify the instance metadata of a flow.

### URI

PUT /v2/{project\_id}/fgs/workflows/{workflow\_id}

**Table 6-683** Path Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                      |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id | Yes       | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                             |

### Request Parameters

**Table 6-684** Request body parameters

| Parameter   | Mandatory | Type                                      | Description                                                   |
|-------------|-----------|-------------------------------------------|---------------------------------------------------------------|
| name        | Yes       | String                                    | Flow name.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>         |
| description | No        | String                                    | Flow description.<br>Minimum: <b>1</b><br>Maximum: <b>512</b> |
| start       | Yes       | String                                    | Start node ID.<br>Minimum: <b>1</b><br>Maximum: <b>256</b>    |
| triggers    | No        | Array of <a href="#">Trigger</a> objects  | Trigger list.<br>Array Length: <b>0 - 200</b>                 |
| functions   | Yes       | Array of <a href="#">Function</a> objects | Function list.<br>Array Length: <b>0 - 100</b>                |

| Parameter              | Mandatory | Type                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-----------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| states                 | Yes       | Array of <b>OperationState</b> objects | Node list. For details, see the descriptions of SleepState and OperationState.<br>Array Length: <b>1 - 100</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| constants              | Yes       | Object                                 | Constants.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| retries                | Yes       | Array of <b>Retry</b> objects          | Retry policies.<br>Array Length: <b>0 - 200</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| mode                   | No        | String                                 | Flow type.- <b>NORMAL</b> : better for common services that take a long time to execute. Flows of this type support persistence and query of historical execution records and asynchronous invocation.- <b>EXPRESS</b> : better for services that take less than five minutes to execute but need premium performance. Flows of this type support both synchronous and asynchronous invocations, but do not support persistence of historical execution records.By default, <b>NORMAL</b> is used.<br>Default: <b>NORMAL</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>NORMAL</b></li> <li>• <b>EXPRESS</b></li> </ul> |
| express_config         | No        | <b>ExpressConfig</b> object            | Express flow configuration. This parameter is required when mode is set to <b>EXPRESS</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| enterprise_project_id  | No        | String                                 | Enterprise project ID.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| enable_stream_response | No        | Boolean                                | Whether to return stream data.<br>Default: <b>false</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Table 6-685** Trigger

| Parameter      | Mandatory | Type                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|-----------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| trigger_name   | Yes       | String                         | Trigger name.<br>Minimum: <b>1</b><br>Maximum: <b>256</b>                                                                                                                                                                                                                                                                                                                                                                                                             |
| trigger_type   | Yes       | String                         | Trigger type. Options: <ul style="list-style-type: none"> <li>• FLOWTIMER</li> <li>• SMN</li> <li>• APIG (shared)</li> <li>• APIG_DE (dedicated)</li> <li>• OBS (OBS triggers are not available in the European regions.)</li> </ul> Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>FLOWTIMER</b></li> <li>• <b>SMN</b></li> <li>• <b>APIG</b></li> <li>• <b>APIG_DE</b></li> <li>• <b>OBS</b></li> </ul> |
| enabled        | No        | Boolean                        | Whether to enable the trigger.<br>Default: <b>true</b><br>Enumeration values: <ul style="list-style-type: none"> <li>• <b>true</b></li> <li>• <b>false</b></li> </ul>                                                                                                                                                                                                                                                                                                 |
| trigger_config | No        | <b>OBSTriggerConfig</b> object | OBS trigger configuration. This parameter is mandatory when trigger_type is set to OBS.                                                                                                                                                                                                                                                                                                                                                                               |

**Table 6-686** OBSTriggerConfig

| Parameter | Mandatory | Type   | Description                                                                                                              |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------|
| bucket    | Yes       | String | OBS bucket name. This parameter is mandatory when trigger_type is set to OBS.<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

| Parameter | Mandatory | Type             | Description                                                                                                          |
|-----------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------|
| events    | Yes       | Array of strings | OBS events. This parameter is mandatory when trigger_type is set to OBS.<br>Array Length: <b>1 - 64</b>              |
| prefix    | Yes       | String           | Object name prefix, which is mandatory when trigger_type is set to OBS.<br>Minimum: <b>1</b><br>Maximum: <b>1024</b> |
| suffix    | Yes       | String           | Object name suffix, which is mandatory when trigger_type is set to OBS.<br>Minimum: <b>1</b><br>Maximum: <b>1024</b> |

**Table 6-687** Function

| Parameter | Mandatory | Type   | Description                                                                                |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------|
| name      | Yes       | String | Function name, which must be unique in a flow.<br>Minimum: <b>0</b><br>Maximum: <b>256</b> |
| operation | Yes       | String | Function URN.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                  |
| metadata  | No        | Object | Custom function attribute.                                                                 |

**Table 6-688** OperationState

| Parameter         | Mandatory | Type                            | Description                                                                                                                                                                                                                                                 |
|-------------------|-----------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| action_mode       | No        | String                          | Action execution mode. Serial and parallel modes are supported. The default mode is serial.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>sequential</b></li><li>• <b>parallel</b></li></ul> |
| actions           | Yes       | Array of <b>Action</b> objects  | Operations to be performed.<br>Array Length: <b>1 - 10</b>                                                                                                                                                                                                  |
| on_errors         | No        | Array of <b>OnError</b> objects | Error handling policy.<br>Array Length: <b>0 - 200</b>                                                                                                                                                                                                      |
| id                | Yes       | String                          | Node ID, which must be unique in the flow.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                       |
| name              | Yes       | String                          | Node name.<br>Minimum: <b>1</b><br>Maximum: <b>256</b>                                                                                                                                                                                                      |
| type              | Yes       | String                          | Node type.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>Operation</b></li><li>• <b>Sleep</b></li><li>• <b>End</b></li></ul>                                                                 |
| end               | Yes       | Boolean                         | Whether the node is an end node.                                                                                                                                                                                                                            |
| transition        | Yes       | String                          | ID of the next node.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                                                                                                                                                                            |
| state_data_filter | No        | <b>StateDataFilter</b> object   | Filter expression.                                                                                                                                                                                                                                          |

| Parameter | Mandatory | Type | Description                                                                                                                                         |
|-----------|-----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| duration  | No        | Long | Waiting time, in seconds. This parameter is mandatory and valid only when the node type is Sleep.<br>Minimum: <b>0.001</b><br>Maximum: <b>86400</b> |

**Table 6-689** Action

| Parameter    | Mandatory | Type                      | Description                      |
|--------------|-----------|---------------------------|----------------------------------|
| function_ref | No        | <b>FunctionRef</b> object | Function invocation information. |

**Table 6-690** FunctionRef

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                         |
|-------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ref_name    | Yes       | String | Function reference name, which must be the same as the name in the outer functions.<br>Minimum: <b>0</b><br>Maximum: <b>256</b>                                                                                                                     |
| invoke_mode | No        | String | Function invocation mode. Currently, only synchronous invocation is supported.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>synchronize</b></li><li>• <b>asynchronous</b></li></ul> |



| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| arguments | Yes       | Object | <p>Input parameters for function execution. Constants can be referenced.</p> <p>Format: parameter path   constant value/path</p> <p>The parameter path is the JSONPath (for example, \$.a.b[0].c) of an input parameter.</p> <p>The constant value can be a number, string (enclosed in single quotation marks), or Boolean.</p> <p>The constant path is the JSONPath of a constant. It must be represented with \$CONST for a root node. For example, \$CONST.a.b.</p> |

**Table 6-691** OnError

| Parameter  | Mandatory | Type   | Description                                                                                                               |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------|
| error      | No        | String | <p>Error matching expression, which is used to filter exceptions.</p> <p>Minimum: <b>0</b></p> <p>Maximum: <b>256</b></p> |
| transition | No        | String | <p>ID of the next node.</p> <p>Minimum: <b>0</b></p> <p>Maximum: <b>256</b></p>                                           |
| retry_ref  | No        | String | <p>Retry policy name.</p> <p>Minimum: <b>0</b></p> <p>Maximum: <b>256</b></p>                                             |

**Table 6-692** StateDataFilter

| Parameter | Mandatory | Type   | Description                                                                      |
|-----------|-----------|--------|----------------------------------------------------------------------------------|
| input     | No        | String | Input filter expression (JSONPath).<br>Minimum: <b>0</b><br>Maximum: <b>256</b>  |
| output    | No        | String | Output filter expression (JSONPath).<br>Minimum: <b>0</b><br>Maximum: <b>256</b> |

**Table 6-693** Retry

| Parameter    | Mandatory | Type   | Description                                                                                    |
|--------------|-----------|--------|------------------------------------------------------------------------------------------------|
| name         | Yes       | String | Retry policy name, which must be unique in a flow.<br>Minimum: <b>1</b><br>Maximum: <b>256</b> |
| delay        | No        | Long   | Retry interval, in seconds. Default value: 1.<br>Minimum: <b>1</b><br>Maximum: <b>30</b>       |
| max_attempts | No        | Long   | Maximum number of retry attempts. Default value: 3.<br>Minimum: <b>1</b><br>Maximum: <b>8</b>  |

**Table 6-694** ExpressConfig

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| log_level | No        | String | <p>Execution log level, which is valid only when mode is set to EXPRESS.</p> <p>Options:</p> <ul style="list-style-type: none"> <li>• ALL: Execution logs of all nodes will be recorded.</li> <li>• ERROR: Only execution logs of abnormal nodes will be recorded. NONE: No logs will be recorded.</li> </ul> <p>To set this parameter to ALL or ERROR, enable LTS first.</p> <p>Minimum: <b>1</b></p> <p>Maximum: <b>5</b></p> <p>Enumeration values:</p> <ul style="list-style-type: none"> <li>• <b>ALL</b></li> <li>• <b>ERROR</b></li> <li>• <b>NONE</b></li> </ul> |

## Response Parameters

Status code: 200

**Table 6-695** Response body parameters

| Parameter    | Type   | Description                                                                                                                                                                                                                   |
|--------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id           | String | <p>Unique flow ID.</p> <p>Minimum: <b>1</b></p> <p>Maximum: <b>64</b></p>                                                                                                                                                     |
| workflow_urn | String | <p>Flow URN.</p> <p>Format:urn:fss:&lt;region_id&gt;:&lt;project_id&gt;:workflow:&lt;package&gt;:&lt;workflow_name&gt;:&lt;version&gt;Currently, package and version can only be set to default and latest, respectively.</p> |
| name         | String | <p>Flow name.</p> <p>Minimum: <b>1</b></p> <p>Maximum: <b>64</b></p>                                                                                                                                                          |

| Parameter              | Type    | Description                                                                                                  |
|------------------------|---------|--------------------------------------------------------------------------------------------------------------|
| description            | String  | Flow description.<br>Minimum: <b>0</b><br>Maximum: <b>512</b>                                                |
| created_time           | String  | Flow creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>     |
| updated_time           | String  | Flow modification time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b> |
| created_by             | String  | Flow creator.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                     |
| enable_stream_response | Boolean | Whether to return stream data.<br>Default: <b>false</b>                                                      |

**Status code: 400****Table 6-696** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500**

**Table 6-697** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Modify the metadata of function flow {workflow\_id}.

```
PUT /v2/{project_id}/fgs/workflows/{workflow_id}
```

```
{
  "name": "workflow_test",
  "start": "test",
  "functions": [ {
    "name": "test",
    "operation": "urn:fss:{region}:c53626012ba84727b938ca8bf03108ef:test:latest"
  } ],
  "constants": { },
  "states": [ {
    "id": "test",
    "name": "test",
    "type": "Operation",
    "end": false,
    "transition": "end",
    "actions": [ {
      "function_ref": {
        "ref_name": "test",
        "arguments": {
          "execution_name": "$.test"
        }
      }
    }
  ]
}, {
  "id": "end",
  "name": "end",
  "type": "End",
  "end": true,
  "transition": "",
  "state_data_filter": {
    "input": "",
    "output": ""
  },
  "actions": [ ],
  "action_mode": ""
} ],
  "retries": [ {
    "name": "test"
  } ]
}
```

## Example Responses

Status code: 200

Success

```
{
  "id" : "48aff955-ea10-4ffd-b426-190bc192dc14",
  "workflow_urn" : "urn:fss:cn-north-7:73d69ae0cfcf460190522d060f05ad:workflow:default:testflow:latest",
  "name" : "test-flow",
  "description" : "desc",
  "created_time" : "2021-01-01T00:00:00Z",
  "updated_time" : "2021-01-01T00:00:00Z",
  "created_by" : "admin"
}
```

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | Success               |
| 400         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.10 Querying Flow Metrics

### Function

This API is used to query flow metrics.

### URI

GET /v2/{project\_id}/fgs/workflow-statistic

**Table 6-698** Path Parameters

| Parameter  | Mandatory | Type   | Description                                                                                                      |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

**Table 6-699** Query Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                            |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| period      | No        | String | Time period, in minutes.                                                                                                                                                                                                                                               |
| start_time  | No        | String | Timestamp of the start time, precise to milliseconds.                                                                                                                                                                                                                  |
| end_time    | No        | String | Timestamp of the end time, precise to milliseconds.                                                                                                                                                                                                                    |
| metric_type | No        | String | Metric type. If this parameter is left blank or invalid, all metrics are queried. Options: totalCount (number of invocations), errorCount (number of errors), averageDuration (average duration), running (ongoing executions), and rejectCount (number of throttles). |

## Request Parameters

None

## Response Parameters

Status code: 200

**Table 6-700** Response body parameters

| Parameter     | Type                                             | Description                       |
|---------------|--------------------------------------------------|-----------------------------------|
| count         | Array of <a href="#">SlaReportsValue</a> objects | Number of executions.             |
| duration      | Array of <a href="#">SlaReportsValue</a> objects | Average latency, in milliseconds. |
| fail_count    | Array of <a href="#">SlaReportsValue</a> objects | Number of errors.                 |
| running_count | Array of <a href="#">SlaReportsValue</a> objects | Number of running flows.          |

**Table 6-701** SlaReportsValue

| Parameter | Type   | Description |
|-----------|--------|-------------|
| timestamp | Long   | Timestamp.  |
| value     | Double | Value.      |

**Status code: 400**

**Table 6-702** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500**

**Table 6-703** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |



## Example Requests

Query function flow metrics.

```
GET /v2/{projectId}/fgs/workflow-statistic
```

## Example Responses

**Status code: 200**

Function flow statistics.

```
{
  "count": [ {
    "timestamp": 0,
    "value": 0
  } ],
  "duration": [ {
    "timestamp": 0,
    "value": 0
  } ],
  "fail_count": [ {
    "timestamp": 0,
    "value": 0
  } ],
  "running_count": [ {
    "timestamp": 0,
    "value": 0
  } ]
}
```

## Status Codes

| Status Code | Description               |
|-------------|---------------------------|
| 200         | Function flow statistics. |
| 400         | Bad Request               |
| 500         | Internal Server Error     |

## Error Codes

See [Error Codes](#).

### 6.14.11 Querying Metrics of a Flow

#### Function

This API is used to query the metrics of a flow.

#### URI

```
GET /v2/{project_id}/fgs/workflow-statistic/{workflow_urn}
```

**Table 6-704** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                         |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                    |
| workflow_urn | Yes       | String | Flow URN.<br>Format:urn:fs:<region_id>:<project_id>.workflow:<package>:<workflow_name>:<version><br>Currently, package and version can only be set to default and latest, respectively.<br>Minimum: <b>1</b><br>Maximum: <b>128</b> |

**Table 6-705** Query Parameters

| Parameter  | Mandatory | Type   | Description                                           |
|------------|-----------|--------|-------------------------------------------------------|
| period     | No        | String | Time period, in minutes.                              |
| start_time | No        | String | Timestamp of the start time, precise to milliseconds. |
| end_time   | No        | String | Timestamp of the end time, precise to milliseconds.   |

## Request Parameters

None

## Response Parameters

Status code: 200

**Table 6-706** Response body parameters

| Parameter | Type                                             | Description                       |
|-----------|--------------------------------------------------|-----------------------------------|
| count     | Array of <a href="#">SlaReportsValue</a> objects | Number of executions.             |
| duration  | Array of <a href="#">SlaReportsValue</a> objects | Average latency, in milliseconds. |

| Parameter     | Type                                             | Description              |
|---------------|--------------------------------------------------|--------------------------|
| fail_count    | Array of <a href="#">SlaReportsValue</a> objects | Number of errors.        |
| running_count | Array of <a href="#">SlaReportsValue</a> objects | Number of running flows. |

**Table 6-707** SlaReportsValue

| Parameter | Type   | Description |
|-----------|--------|-------------|
| timestamp | Long   | Timestamp.  |
| value     | Double | Value.      |

**Status code: 400****Table 6-708** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500****Table 6-709** Response body parameters

| Parameter  | Type   | Description                                            |
|------------|--------|--------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b> |

| Parameter  | Type   | Description                                      |
|------------|--------|--------------------------------------------------|
| error_msg  | String | Error description.<br>Minimum: 2<br>Maximum: 512 |
| request_id | String | Request ID.<br>Minimum: 2<br>Maximum: 512        |

## Example Requests

Query the metrics of a function flow.

```
GET /v2/{project_id}/fgs/workflow-statistic/{workflow_urn}
```

## Example Responses

**Status code: 200**

Function flow statistics.

```
{
  "count": [ {
    "timestamp": 0,
    "value": 0
  } ],
  "duration": [ {
    "timestamp": 0,
    "value": 0
  } ],
  "fail_count": [ {
    "timestamp": 0,
    "value": 0
  } ],
  "running_count": [ {
    "timestamp": 0,
    "value": 0
  } ]
}
```

## Status Codes

| Status Code | Description               |
|-------------|---------------------------|
| 200         | Function flow statistics. |
| 400         | Bad Request               |
| 500         | Internal Server Error     |

## Error Codes

See [Error Codes](#).

## 6.14.12 Re-executing a Flow

### Function

This API is used to retry a standard flow.

### URI

POST /v2/{project\_id}/fgs/workflows/{workflow\_id}/executions/{execution\_id}/retry

**Table 6-710** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                                                                      |
|--------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id  | Yes       | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                             |
| execution_id | Yes       | String | Flow instance ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                     |

### Request Parameters

None

### Response Parameters

**Status code: 400**

**Table 6-711** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

| Parameter  | Type   | Description                                             |
|------------|--------|---------------------------------------------------------|
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 404**

**Table 6-712** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 500**

**Table 6-713** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Re-execute instance {execution\_id} of a function.

```
POST /v2/{project_id}/fgs/workflows/{workflow_id}/executions/{execution_id}/retry
```

## Example Responses

None

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | OK                    |
| 400         | Bad Request           |
| 404         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.13 Stopping a Flow

### Function

This API is used to stop a flow.

### URI

POST /v2/{project\_id}/fgs/workflows/{workflow\_id}/executions/{execution\_id}/  
terminate

**Table 6-714** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                                                                      |
|--------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id  | Yes       | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                             |
| execution_id | Yes       | String | Flow instance ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                     |

## Request Parameters

None

## Response Parameters

**Status code: 400**

**Table 6-715** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 404**

**Table 6-716** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 500**



**Table 6-717** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Stop executing instance {execution\_id} of a function.

```
POST /v2/{project_id}/fgs/workflows/{workflow_id}/executions/{execution_id}/terminate
```

## Example Responses

None

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | OK                    |
| 400         | Bad Request           |
| 404         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

## 6.14.14 Querying Records of a Flow in Pagination Mode

### Function

This API is used to query the records of a flow in pagination mode.

## URI

GET /v2/{project\_id}/fgs/workflows/{workflow\_id}/executions-history

**Table 6-718** Path Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                      |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id | Yes       | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                             |

**Table 6-719** Query Parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                           |
|------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset     | Yes       | Integer | Offset, which is the position where the query starts. The value must be greater than or equal to 0.<br>Minimum: <b>0</b>                                                                                              |
| limit      | Yes       | Integer | Number of data records that can be displayed on each page in pagination query. Options: 1 to 100.<br>Minimum: <b>1</b><br>Maximum: <b>100</b>                                                                         |
| start_time | No        | String  | Start time in the format of YYYY-MM-DD hh:mm:ss (UTC time). If the start time is not specified, it is three days earlier than the end time.                                                                           |
| end_time   | No        | String  | End time in the format of YYYY-MM-DD hh:mm:ss (UTC time). If the end time is not specified, it is three days later than the start time. If neither of them is set, data of the last three days is queried by default. |

## Request Parameters

None

## Response Parameters

Status code: 200

Table 6-720 Response body parameters

| Parameter  | Type                                                | Description                                                 |
|------------|-----------------------------------------------------|-------------------------------------------------------------|
| executions | Array of <a href="#">FlowExecutionBrief</a> objects | Flow execution information.<br>Array Length: <b>0 - 999</b> |
| total      | Long                                                | Total number of records.                                    |
| size       | Integer                                             | Number of records on each page.                             |

Table 6-721 FlowExecutionBrief

| Parameter    | Type   | Description                                                                                                                                                                                                                                                        |
|--------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| workflow_id  | String | Flow ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                                                                                |
| workflow_urn | String | Flow URN.<br>Format: urn:fss:<region_id>:<project_id>:workflow:<package>:<workflow_name>:<version>Currently, package and version can only be set to default and latest, respectively.                                                                              |
| execution_id | String | Flow instance ID.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                                                                                                                       |
| status       | String | Flow instance execution status.<br>Minimum: <b>1</b><br>Maximum: <b>32</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>success</b></li><li>• <b>fail</b></li><li>• <b>running</b></li><li>• <b>timeout</b></li><li>• <b>cancel</b></li></ul> |

| Parameter        | Type   | Description                                                                                                          |
|------------------|--------|----------------------------------------------------------------------------------------------------------------------|
| begin_time       | String | Flow instance creation time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>    |
| end_time         | String | Flow instance end time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>         |
| last_update_time | String | Flow instance last update time (UTC), in the format yyyy-MM-ddTHH:mm:ssZ.<br>Minimum: <b>0</b><br>Maximum: <b>64</b> |
| created_by       | String | Flow instance creator.<br>Minimum: <b>1</b><br>Maximum: <b>32</b>                                                    |

**Status code: 400****Table 6-722** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

**Status code: 500**

**Table 6-723** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |
| request_id | String | Request ID.<br>Minimum: <b>2</b><br>Maximum: <b>512</b>        |

## Example Requests

Query the instances of function flow {workflow\_id} in pagination mode.

```
GET /v2/{project_id}/fgs/workflows/{workflow_id}/executions-history
```

## Example Responses

**Status code: 200**

Response to flow query.

```
{
  "executions": [ {
    "workflow_id": "c0aecc37-8b78-4fc5-81af-14af495dc053",
    "execution_id": "41c25eec-a1ba-4789-9851-eead00cd6b9",
    "status": "success",
    "begin_time": "2022-10-11T06:30:45Z",
    "end_time": "2022-10-11T06:30:47Z",
    "last_update_time": "2022-10-11T06:30:45Z",
    "created_by": "c0aecc37-8b78-4fc5-81af-14af495dc053",
    "workflow_urn": "urn:fss:cn-
north-7:c53626012ba84727b938ca8bf03108ef:workflow:default:flow_nxy_tp:latest"
  }, {
    "workflow_id": "c0aecc37-8b78-4fc5-81af-14af495dc053",
    "execution_id": "74a29a25-2d6d-4b50-a02e-63b7c5b8ab93",
    "status": "success",
    "begin_time": "2022-10-11T06:30:24Z",
    "end_time": "2022-10-11T06:30:26Z",
    "last_update_time": "2022-10-11T06:30:25Z",
    "created_by": "c0aecc37-8b78-4fc5-81af-14af495dc053",
    "workflow_urn": "urn:fss:cn-
north-7:c53626012ba84727b938ca8bf03108ef:workflow:default:flow_nxy_tp:latest"
  } ],
  "total": 100,
  "size": 10
}
```

## Status Codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Response to flow query. |
| 400         | Bad Request             |
| 500         | Internal Server Error   |

## Error Codes

See [Error Codes](#).

## 6.14.15 Calling Back a Flow

### Function

This API is used to call back a flow.

### URI

POST /v2/{project\_id}/fgs/workflows/{workflow\_id}/callback

**Table 6-724** Path Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                      |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> .<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |
| workflow_id | Yes       | String | Flow definition ID.<br>Minimum: <b>1</b><br>Maximum: <b>512</b>                                                  |

## Request Parameters

**Table 6-725** Request header parameters

| Parameter           | Mandatory | Type   | Description       |
|---------------------|-----------|--------|-------------------|
| X-Workflow-Run-Id   | Yes       | String | workflow run id   |
| X-Workflow-State-Id | Yes       | String | workflow state id |

**Table 6-726** Request body parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| result    | Yes       | String | Execution result.<br>Minimum: <b>1</b><br>Maximum: <b>64</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>success</b></li><li>• <b>fail</b></li></ul> |
| error     | No        | String | Error information.<br>Minimum: <b>1</b><br>Maximum: <b>64</b>                                                                                                              |
| output    | Yes       | Object | Flow execution result in JSON format. This parameter has a value only when the status is success.                                                                          |

## Response Parameters

**Status code: 200**

**Table 6-727** Response body parameters

| Parameter    | Type   | Description                                            |
|--------------|--------|--------------------------------------------------------|
| execution_id | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>64</b> |

**Status code: 400**

**Table 6-728** Response body parameters

| Parameter  | Type   | Description                                            |
|------------|--------|--------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b> |

| Parameter | Type   | Description                                                    |
|-----------|--------|----------------------------------------------------------------|
| error_msg | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 404****Table 6-729** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

**Status code: 500****Table 6-730** Response body parameters

| Parameter  | Type   | Description                                                    |
|------------|--------|----------------------------------------------------------------|
| error_code | String | Error code.<br>Minimum: <b>1</b><br>Maximum: <b>36</b>         |
| error_msg  | String | Error description.<br>Minimum: <b>2</b><br>Maximum: <b>512</b> |

## Example Requests

Call back a flow.

```
POST /v2/{project_id}/fgs/workflows/{workflow_id}/callback
{
  "result": "success",
  "output": {}
}
```

## Example Responses

**Status code: 200**



Success

```
{  
  "execution_id" : "48aff955-ea10-4ffd-b426-190bc192dc13"  
}
```

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | Success               |
| 400         | Bad Request           |
| 404         | Bad Request           |
| 500         | Internal Server Error |

## Error Codes

See [Error Codes](#).

# 6.15 Asynchronous Execution Notification

## 6.15.1 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 6-731** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-732** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200****Table 6-733** Response body parameters

| Parameter                      | Type                                              | Description                                                                                                       |
|--------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| func_urn                       | String                                            | Function URN.<br>Minimum: <b>1</b><br>Maximum: <b>269</b>                                                         |
| max_async_event_age_in_seconds | Integer                                           | Maximum validity period of a message. Value range: 1–86,400. 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             | <a href="#">FuncAsyncDestinationConfig</a> 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 6-734** FuncAsyncDestinationConfig

| Parameter  | Type                                         | Description                                                                                           |
|------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------|
| on_success | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function is successfully executed.                                        |
| on_failure | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function fails to be executed due to a system error or an internal error. |

**Table 6-735** FuncDestinationConfig

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| destination | String | Object type. <ul style="list-style-type: none"><li>• OBS</li><li>• SMN</li><li>• DIS</li><li>• FunctionGraph</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>OBS</b></li><li>• <b>SMN</b></li><li>• <b>DIS</b></li><li>• <b>FunctionGraph</b></li></ul>                                                                                                                                                                                                                             |
| param       | String | Parameters (in JSON format) corresponding to the target service. <ul style="list-style-type: none"><li>• 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.</li><li>• SMN: The topic_urn parameter is included.</li><li>• DIS: The stream_name parameter is included.</li><li>• FunctionGraph: The func_urn parameter is included.</li></ul> |

**Status code: 404**

**Table 6-736** 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:xxxxxxxx:7aad83af3e8d42e99ac194xxxxxxxx: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}:5691ba790e2b46ceb38316xxxxxxxx:function:default:testPython:latest\\"}"
    },
    "on_failure" : {
      "destination" : "FunctionGraph",
      "param" : "{\\"func_urn\\":\\"urn:fss:
{region}:5691ba790e2b46ceb38316xxxxxxxx: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](#).

## 6.15.2 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 6-737** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

### Request Parameters

**Table 6-738** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

### Response Parameters

**Status code: 404**

**Table 6-739** 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](#).

## 6.15.3 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 6-740** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-741** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-742** 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.<br>Minimum: <b>1</b><br>Maximum: <b>86400</b>                       |
| 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.<br>Minimum: <b>0</b><br>Maximum: <b>3</b> |
| destination_config             | No        | <b>FuncAsyncDestinationConfig</b> object | Asynchronous invocation target.                                                                                                                             |
| enable_async_status_log        | No        | Boolean                                  | Whether to enable asynchronous invocation status persistence.                                                                                               |

**Table 6-743** FuncAsyncDestinationConfig

| Parameter  | Mandatory | Type                                | Description                                                    |
|------------|-----------|-------------------------------------|----------------------------------------------------------------|
| on_success | No        | <b>FuncDestinationConfig</b> object | Target to be invoked when a function is successfully executed. |

| Parameter  | Mandatory | Type                                | Description                                                                                           |
|------------|-----------|-------------------------------------|-------------------------------------------------------------------------------------------------------|
| on_failure | No        | <b>FuncDestinationConfig</b> object | Target to be invoked when a function fails to be executed due to a system error or an internal error. |

**Table 6-744** FuncDestinationConfig

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| destination | No        | String | Object type. <ul style="list-style-type: none"><li>• OBS</li><li>• SMN</li><li>• DIS</li><li>• FunctionGraph</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>OBS</b></li><li>• <b>SMN</b></li><li>• <b>DIS</b></li><li>• <b>FunctionGraph</b></li></ul>                                                                                                                                                                                                                             |
| param       | No        | String | Parameters (in JSON format) corresponding to the target service. <ul style="list-style-type: none"><li>• 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.</li><li>• SMN: The topic_urn parameter is included.</li><li>• DIS: The stream_name parameter is included.</li><li>• FunctionGraph: The func_urn parameter is included.</li></ul> |

## Response Parameters

Status code: 200



**Table 6-745** Response body parameters

| Parameter                      | Type                                              | Description                                                                                                       |
|--------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| func_urn                       | String                                            | Function URN.<br>Minimum: <b>1</b><br>Maximum: <b>269</b>                                                         |
| 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             | <a href="#">FuncAsyncDestinationConfig</a> 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 6-746** FuncAsyncDestinationConfig

| Parameter  | Type                                         | Description                                                                                           |
|------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------|
| on_success | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function is successfully executed.                                        |
| on_failure | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function fails to be executed due to a system error or an internal error. |

**Table 6-747** FuncDestinationConfig

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| destination | String | Object type. <ul style="list-style-type: none"><li>• OBS</li><li>• SMN</li><li>• DIS</li><li>• FunctionGraph</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>OBS</b></li><li>• <b>SMN</b></li><li>• <b>DIS</b></li><li>• <b>FunctionGraph</b></li></ul>                                                                                                                                                                                                                             |
| param       | String | Parameters (in JSON format) corresponding to the target service. <ul style="list-style-type: none"><li>• 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.</li><li>• SMN: The topic_urn parameter is included.</li><li>• DIS: The stream_name parameter is included.</li><li>• FunctionGraph: The func_urn parameter is included.</li></ul> |

**Status code: 400****Table 6-748** Response body parameters

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

**Status code: 404****Table 6-749** 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 with max. validity period of 10s and max. retries of 3, and enable asynchronous invocation status persistence.

```
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:xxxxxxx:7aad83af3e8d42e99ac194xxxxxxx: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}:5691ba790e2b46ceb38316xxxxxxx:function:default:testPython:latest\"}"
    },
    "on_failure" : {
      "destination" : "FunctionGraph",
      "param" : "{\"func_urn\":\"urn:fss:
{region}:5691ba790e2b46ceb38316xxxxxxx: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](#).

## 6.15.4 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 6-750** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

**Table 6-751** Query Parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                              |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| marker    | No        | String | Final record queried last time.<br>Maximum: <b>64</b>                                                                                                                                                                                                                                                                                                                    |
| limit     | No        | String | Number of items displayed on each page. <ul style="list-style-type: none"><li>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.</li><li>If it is less than 0, an error is reported.</li></ul> Default: <b>10</b> |

## Request Parameters

**Table 6-752** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200****Table 6-753** Response body parameters

| Parameter            | Type                                                                 | Description                                   |
|----------------------|----------------------------------------------------------------------|-----------------------------------------------|
| async_invoke_configs | Array of <a href="#">ListFunctionAsyncInvokeConfigResult</a> objects | Asynchronous execution notification settings. |
| count                | Long                                                                 | Total number of items.<br>Minimum: <b>0</b>   |
| page_info            | <a href="#">PageInfo</a> object                                      |                                               |

**Table 6-754** ListFunctionAsyncInvokeConfigResult

| Parameter                      | Type    | Description                                                                 |
|--------------------------------|---------|-----------------------------------------------------------------------------|
| func_urn                       | String  | Function URN.<br>Minimum: <b>1</b><br>Maximum: <b>269</b>                   |
| max_async_event_age_in_seconds | Integer | Maximum validity period of a message. Value range: 60–86,400. Unit: second. |

| Parameter                | Type                                              | Description                                                                                                       |
|--------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 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       | <a href="#">FuncAsyncDestinationConfig</a> 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 6-755** FuncAsyncDestinationConfig

| Parameter  | Type                                         | Description                                                                                           |
|------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------|
| on_success | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function is successfully executed.                                        |
| on_failure | <a href="#">FuncDestinationConfig</a> object | Target to be invoked when a function fails to be executed due to a system error or an internal error. |

**Table 6-756** FuncDestinationConfig

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                      |
|-------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| destination | String | Object type. <ul style="list-style-type: none"><li>• OBS</li><li>• SMN</li><li>• DIS</li><li>• FunctionGraph</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>OBS</b></li><li>• <b>SMN</b></li><li>• <b>DIS</b></li><li>• <b>FunctionGraph</b></li></ul> |

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| param     | String | Parameters (in JSON format) corresponding to the target service. <ul style="list-style-type: none"> <li>• 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.</li> <li>• SMN: The topic_urn parameter is included.</li> <li>• DIS: The stream_name parameter is included.</li> <li>• FunctionGraph: The func_urn parameter is included.</li> </ul> |

**Table 6-757** PageInfo

| Parameter       | Type | Description                          |
|-----------------|------|--------------------------------------|
| next_marker     | Long | Next read location.                  |
| previous_marker | 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}:5691ba790e2b46ceb38316xxxxxxxx: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}:5691ba790e2b46ceb38316xxxxxxxx:function:default:testPython:latest\\"}"
      },
      "on_failure": {
        "destination": "FunctionGraph",
        "param": "{\\"func_urn\\":\\"urn:fss:
{region}:5691ba790e2b46ceb38316xxxxxxxx: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](#).

## 6.15.5 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 6-758** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |



**Table 6-759** 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.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                   |
| marker           | No        | String | Start position of the current query. The default value is 0.<br>Default: <b>0</b><br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                                                           |
| limit            | No        | String | Maximum number of data records returned in a request. Max.: 500. Default: 100.<br>Default: <b>100</b><br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                                       |
| 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. <ul style="list-style-type: none"><li>• WAIT</li><li>• RUNNING</li><li>• SUCCESS</li><li>• FAIL</li><li>• DISCARD</li></ul> Minimum: <b>0</b><br>Maximum: <b>64</b> |
| query_begin_time | 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

**Table 6-760** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

Status code: 200

**Table 6-761** Response body parameters

| Parameter   | Type                                                                | Description                                           |
|-------------|---------------------------------------------------------------------|-------------------------------------------------------|
| invocations | Array of <a href="#">ListFunctionAsyncInvocationsResult</a> 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 6-762** ListFunctionAsyncInvocationsResult

| Parameter  | Type   | Description                         |
|------------|--------|-------------------------------------|
| request_id | String | Asynchronous invocation request ID. |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                         |
|---------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status        | String  | Asynchronous invocation status. Options: <ul style="list-style-type: none"> <li>• WAIT</li> <li>• RUNNING</li> <li>• SUCCESS</li> <li>• FAIL</li> <li>• DISCARD</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>• <b>WAIT</b></li> <li>• <b>RUNNING</b></li> <li>• <b>SUCCESS</b></li> <li>• <b>FAIL</b></li> <li>• <b>DISCARD</b></li> </ul> |
| error_message | 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 6-763** Response body parameters

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

**Status code: 404**

**Table 6-764** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |

| Parameter | Type   | Description    |
|-----------|--------|----------------|
| error_msg | String | Error message. |

**Status code: 500**

**Table 6-765** 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](#).

## 6.15.6 Querying Active Asynchronous Invocation Requests

### Function

This API is used to query active asynchronous invocation requests.

### URI

GET /v2/{project\_id}/fgs/functions/{function\_urn}/active-async-invocations

**Table 6-766** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

**Table 6-767** Query Parameters

| Parameter        | Mandatory | Type   | Description                                                                                                                                                                                                                       |
|------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| requests         | No        | String | Asynchronous request ID. Separate multiple IDs with commas (,). Max. 10 request IDs. If this parameter is not specified, all asynchronous invocation requests are queried by default.<br>Minimum: <b>0</b><br>Maximum: <b>640</b> |
| marker           | No        | String | Start position of the current query. The default value is 0.<br>Default: <b>0</b><br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                      |
| limit            | No        | String | Maximum number of data records returned in a request. Max.: 500. Default: 100.<br>Default: <b>100</b><br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                  |
| status           | No        | String | Status of asynchronous invocation records to query. If this parameter is not specified, the invocation records of all statuses are queried. Options: WAIT RUNNING SUCCESS FAIL DISCARD<br>Minimum: <b>0</b><br>Maximum: <b>64</b> |
| query_begin_time | 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.                                                                     |
| 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

**Table 6-768** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

## Response Parameters

**Status code: 200****Table 6-769** Response body parameters

| Parameter   | Type                                                                | Description                                           |
|-------------|---------------------------------------------------------------------|-------------------------------------------------------|
| invocations | Array of <a href="#">ListFunctionAsyncInvocationsResult</a> 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 6-770** ListFunctionAsyncInvocationsResult

| Parameter  | Type   | Description                         |
|------------|--------|-------------------------------------|
| request_id | String | Asynchronous invocation request ID. |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                         |
|---------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status        | String  | Asynchronous invocation status. Options: <ul style="list-style-type: none"> <li>• WAIT</li> <li>• RUNNING</li> <li>• SUCCESS</li> <li>• FAIL</li> <li>• DISCARD</li> </ul> Enumeration values: <ul style="list-style-type: none"> <li>• <b>WAIT</b></li> <li>• <b>RUNNING</b></li> <li>• <b>SUCCESS</b></li> <li>• <b>FAIL</b></li> <li>• <b>DISCARD</b></li> </ul> |
| error_message | 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 6-771** Response body parameters

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

**Status code: 404**

**Table 6-772** Response body parameters

| Parameter  | Type   | Description |
|------------|--------|-------------|
| error_code | String | Error code. |



| Parameter | Type   | Description    |
|-----------|--------|----------------|
| error_msg | String | Error message. |

**Status code: 500**

**Table 6-773** Response body parameters

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

## Example Requests

Query active asynchronous invocation requests of a function.

```
GET /v2/{project_id}/fgs/functions/{function_urn}/active-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
  } ],
  "next_marker": 1,
  "count": 10
}
```

**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](#).

## 6.15.7 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".

### URI

POST /v2/{project\_id}/fgs/functions/{function\_urn}/cancel

**Table 6-774** Path Parameters

| Parameter    | Mandatory | Type   | Description                                                           |
|--------------|-----------|--------|-----------------------------------------------------------------------|
| project_id   | Yes       | String | Project ID. For details, see <a href="#">Obtaining a Project ID</a> . |
| function_urn | Yes       | String | Function URN. For details, see the function model description.        |

## Request Parameters

**Table 6-775** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                  |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>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. |
| Content-Type | Yes       | String | Message body type (format).                                                                                                                                  |

**Table 6-776** Request body parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                        |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| request_id | Yes       | String | ID of a stopped request.                                                                                                                                                                                                                                           |
| type       | No        | String | Stop mode. Options: recursive and force. recursive: The subfunction that is being invoked will be stopped. force: Terminate the runtime directly.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>force</b></li><li>• <b>recursive</b></li></ul> |

## Response Parameters

**Status code: 400**

**Table 6-777** Response body parameters

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

**Status code: 403**

**Table 6-778** Response body parameters

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

**Status code: 404****Table 6-779** Response body parameters

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

**Status code: 500****Table 6-780** 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](#).

# 7 Permissions Policies and Supported Actions

---

This chapter describes fine-grained permissions management for your FunctionGraph. If your account does not need individual IAM users, then you may skip over this chapter.

By default, new IAM users do not have any permissions assigned. You need to add a user to one or more groups, and assign permissions policies to these groups. The user then inherits permissions from the groups it is a member of. This process is called authorization. After authorization, the user can perform specified operations on FunctionGraph based on the permissions.

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

## NOTE

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

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

## Supported Actions

There are two kinds of policies: system-defined policies and custom policies. If the permissions preset in the system do not meet your requirements, you can create custom policies and apply these policies to user groups for refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: Defined by actions in a custom policy.

- APIs: REST APIs that can be called by a user who has been granted specific permissions.
- Actions: Specific operations that are allowed or denied.
- IAM projects and enterprise projects: Type of projects for which an action will take effect. Policies that contain actions for both IAM and enterprise projects can be used and take effect for both IAM and Enterprise Management. Policies that only contain actions for IAM projects can be used and only take effect for IAM. For details about the differences between IAM and enterprise projects, see [What Are the Differences Between IAM and Enterprise Management?](#)

 **NOTE**

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

**Table 7-1** lists the API actions supported by FunctionGraph.

**Table 7-1** FunctionGraph actions

| Permission                              | API                                                      | Action                            | IAM Project | Enterprise Project |
|-----------------------------------------|----------------------------------------------------------|-----------------------------------|-------------|--------------------|
| Querying a function list                | GET /v2/{project_id}/fgs/functions                       | FunctionGraph:function:list       | √           | √                  |
| Querying the metadata of a function     | GET /v2/{project_id}/fgs/functions/{function_urn}/config | FunctionGraph:function:getConfig  | √           | √                  |
| Querying the code of a function         | GET /v2/{project_id}/fgs/functions/{function_urn}/code   | FunctionGraph:function:getCode    | √           | √                  |
| Creating a function                     | POST /v2/{project_id}/fgs/functions                      | FunctionGraph:function:create     | √           | √                  |
| Deleting a function or function version | DELETE /v2/{project_id}/fgs/functions/{function_urn}     | FunctionGraph:function:delete     | √           | √                  |
| Modifying the code of a function        | PUT /v2/{project_id}/fgs/functions/{function_urn}/code   | FunctionGraph:function:updateCode | √           | √                  |

| Permission                                               | API                                                                       | Action                               | IAM Project | Enterprise Project |
|----------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------|-------------|--------------------|
| Modifying the metadata of a function                     | PUT /v2/{project_id}/fgs/functions/{function_urn}/config                  | FunctionGraph:function:updateConfig  | √           | √                  |
| Publishing a function version                            | POST /v2/{project_id}/fgs/functions/{function_urn}/versions               | FunctionGraph:function:createVersion | √           | √                  |
| Querying the versions of a function                      | GET /v2/{project_id}/fgs/functions/{function_urn}/versions                | FunctionGraph:function:listVersion   | √           | √                  |
| Creating an alias for a function version                 | POST /v2/{project_id}/fgs/functions/{function_urn}/aliases                | FunctionGraph:function:createAlias   | √           | √                  |
| Modifying the alias information about a function version | PUT /v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name}    | FunctionGraph:function:updateAlias   | √           | √                  |
| Deleting an alias of a function version                  | DELETE /v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name} | FunctionGraph:function:deleteAlias   | √           | √                  |
| Querying the alias information about a function version  | GET /v2/{project_id}/fgs/functions/{function_urn}/aliases/{alias_name}    | FunctionGraph:function:getAlias      | √           | √                  |
| Querying all version aliases of a function               | GET /v2/{project_id}/fgs/functions/{function_urn}/aliases                 | FunctionGraph:function:listAlias     | √           | √                  |



| Permission                                    | API                                                                                  | Action                                                | IAM Project | Enterprise Project |
|-----------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------|-------------|--------------------|
| Querying all triggers of a function           | GET /v2/{project_id}/fgs/triggers/{function_urn}                                     | FunctionGraph:trigger:listSpecifiedFunctionTriggers   | √           | √                  |
| Querying the information about a trigger      | GET /v2/{project_id}/fgs/triggers/{function_urn}/{trigger_type_code}/{trigger_id}    | FunctionGraph:trigger:get                             | √           | √                  |
| Deleting all triggers of a function           | DELETE /v2/{project_id}/fgs/triggers/{function_urn}                                  | FunctionGraph:trigger:deleteSpecifiedFunctionTriggers | √           | √                  |
| Creating a trigger                            | POST /v2/{project_id}/fgs/triggers/{function_urn}                                    | FunctionGraph:trigger:create                          | √           | √                  |
| Deleting a trigger                            | DELETE /v2/{project_id}/fgs/triggers/{function_urn}/{trigger_type_code}/{trigger_id} | FunctionGraph:trigger:delete                          | √           | √                  |
| Implementing synchronous function invocation  | POST /v2/{project_id}/fgs/functions/{function_urn}/invocations                       | FunctionGraph:function:invoke                         | √           | √                  |
| Implementing asynchronous function invocation | POST /v2/{project_id}/fgs/functions/{function_urn}/invocations-async                 | FunctionGraph:function:invokeAsync                    | √           | √                  |

# 8 Appendix

## 8.1 Status Codes

[Table 8-1](#) describes the status codes.

**Table 8-1** 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. |

| Status Code | Message                       | Description                                                                                                                                                                                   |
|-------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 406         | Not Acceptable                | The resource identified by the request is only capable of generating response entities which have content characteristics not acceptable according to the accept headers sent in the request. |
| 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.                                                                                                                                                                            |

## 8.2 Error Codes

| Status Code | Error Code | Error Message                         | Description                             | Solution                                  |
|-------------|------------|---------------------------------------|-----------------------------------------|-------------------------------------------|
| 400         | FSS.0400   | Invalid parameter.                    | Invalid request parameters.             | Check the request body parameters.        |
| 400         | FSS.1001   | Invalid query parameter.              | Invalid query parameter.                | Check the query parameters.               |
| 400         | FSS.1002   | Invalid function name.                | Invalid function name.                  | Check the function name.                  |
| 400         | FSS.1003   | Invalid function handler.             | Invalid handler.                        | Check the function handler.               |
| 400         | FSS.1004   | Invalid Package (function app).       | Invalid function package.               | Check the function package.               |
| 400         | FSS.1005   | Invalid runtime.                      | Invalid runtime.                        | Check the runtime.                        |
| 400         | FSS.1006   | Invalid function code entry mode.     | Invalid code type.                      | Check the code type.                      |
| 400         | FSS.1007   | Invalid function memory.              | Invalid memory.                         | Check the function memory.                |
| 400         | FSS.1008   | Invalid function timeout.             | Invalid timeout.                        | Check the function timeout.               |
| 400         | FSS.1009   | Invalid function UserData.            | Invalid environment variables.          | Check the function environment variables. |
| 400         | FSS.1010   | Invalid URL.                          | Invalid URL.                            | Check the URL.                            |
| 400         | FSS.1011   | Invalid function code.                | Invalid function code.                  | Check the function code.                  |
| 400         | FSS.1012   | The function code must be configured. | The function code cannot be left blank. | Check the function code.                  |

| Status Code | Error Code | Error Message                                                                              | Description                                                  | Solution                                                                   |
|-------------|------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------|
| 400         | FSS.1013   | Invalid file type.                                                                         | Invalid file type.                                           | Check the file type.                                                       |
| 400         | FSS.1014   | Invalid function alias.                                                                    | Invalid alias.                                               | Check the function alias.                                                  |
| 400         | FSS.1015   | Invalid function version.                                                                  | Invalid version.                                             | Check the function version.                                                |
| 400         | FSS.1016   | The function cannot be published because no changes have been made since last publication. | Publishing failed due to no changes to the previous version. | Check whether the function has changed compared with the previous version. |
| 400         | FSS.1017   | The number of environment variables exceeds the maximum allowed limit (20).                | The number of environment variables exceeds 20.              | Check the number of environment variables.                                 |
| 400         | FSS.1018   | The total size of environment variables exceeds the maximum allowed limit (2 KB).          | The total size of environment variables exceeds 2 KB.        | Check the total size of the environment variables.                         |
| 400         | FSS.1019   | The description exceeds the maximum allowed limit (512 characters).                        | The description contains more than 512 characters.           | Check the description length.                                              |
| 400         | FSS.1020   | Failed to validate XRole.                                                                  | Invalid agency.                                              | Check the xrole parameter of the request body.                             |

| Status Code | Error Code | Error Message                                            | Description                                                                                       | Solution                                                     |
|-------------|------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 400         | FSS.1021   | invalid service link agency.                             | Failed to create the service-linked agency.                                                       | Check the permissions of the service-linked agency.          |
| 400         | FSS.1022   | Only one YAML file is allowed.                           | Only one YAML file is allowed.                                                                    | Check whether there is only one YAML file.                   |
| 400         | FSS.1023   | The imported file is too large.                          | The imported file exceeds the maximum allowed limit.                                              | Check the size of the file.                                  |
| 400         | FSS.1024   | Invalid dependency.                                      | Invalid dependency.                                                                               | Check the dependency.                                        |
| 400         | FSS.1025   | Invalid YAML file.                                       | Invalid YAML file.                                                                                | Check the YAML file.                                         |
| 400         | FSS.1026   | Invalid Concurrency.                                     | Invalid concurrency policy.                                                                       | Check the concurrency policy.                                |
| 400         | FSS.1027   | Invalid packageName (app name).                          | Invalid package or app name.                                                                      | Check the package and app names.                             |
| 400         | FSS.1028   | The app cannot be deleted because it contains functions. | The app cannot be deleted because it contains functions.                                          | Check whether the app contains functions before deleting it. |
| 400         | FSS.1029   | The default app cannot be deleted.                       | The default app cannot be deleted.                                                                | The default app cannot be deleted.                           |
| 400         | FSS.1031   | The dependency already exists.                           | The dependency already exists.                                                                    | Check whether the dependency exists.                         |
| 400         | FSS.1032   | Invalid dependency type.                                 | Invalid dependency type. Currently, only local ZIP packages or packages from OBS can be uploaded. | Check the dependency type.                                   |

| Status Code | Error Code | Error Message                                                               | Description                                                                                      | Solution                                                              |
|-------------|------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 400         | FSS.1034   | Invalid image URL.                                                          | Invalid image URL.                                                                               | Check the image URL.                                                  |
| 400         | FSS.1035   | The image does not exist.                                                   | The image does not exist.                                                                        | Check whether the image exists.                                       |
| 400         | FSS.1036   | The VPC does not exist.                                                     | The VPC does not exist.                                                                          | Check whether the VPC exists.                                         |
| 400         | FSS.1037   | No subnet matches the specified ID.                                         | No matched subnets found.                                                                        | Check whether the subnet exists.                                      |
| 400         | FSS.1038   | The file system configuration already exists in the function.               | The file system configuration already exists in the function.                                    | Check whether the file system configuration already exists.           |
| 400         | FSS.1039   | The mounting path is invalid.                                               | Invalid mounting path.                                                                           | Check the mounting path.                                              |
| 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.           | Check whether both the app and function names exist in the YAML file. |
| 400         | FSS.1074   | The event field is invalid.                                                 | Invalid event field.                                                                             | Check the event parameters.                                           |
| 400         | FSS.1075   | The value of UserId or GroupId must be a non-zero integer from -1 to 65534. | The user ID and user group ID must be an integer from -1 to 65,534, excluding 0, 1000, and 1002. | Check the user ID and group ID.                                       |

| Status Code | Error Code | Error Message                                                                                                         | Description                                                                                                            | Solution                                                |
|-------------|------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 400         | FSS.1076   | The number of reserved instances exceeds the maximum allowed limit.                                                   | The number of reserved instances exceeds the maximum allowed limit.                                                    | Check the number of reserved instances.                 |
| 400         | FSS.1077   | The code and configuration of the function cannot be updated because the function has at least one reserved instance. | The code and configurations of the function cannot be updated because the function has at least one reserved instance. | Check whether the function contains reserved instances. |
| 400         | FSS.1081   | Invalid function async invoke config.                                                                                 | Invalid asynchronous notification parameters.                                                                          | Check the asynchronous notification parameters.         |
| 400         | FSS.1091   | The additional version is invalid.                                                                                    | Invalid additional version.                                                                                            | Check the additional version.                           |
| 400         | FSS.1092   | The weight of the additional version is invalid.                                                                      | The weight of the additional version is invalid.                                                                       | Check the weight of the additional version.             |
| 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.                                                       | Check the major and additional versions.                |
| 400         | FSS.1101   | Invalid trigger type.                                                                                                 | Invalid trigger type.                                                                                                  | Check the trigger type.                                 |
| 400         | FSS.1102   | Invalid SMN trigger parameters.                                                                                       | Invalid SMN trigger parameters.                                                                                        | Check the SMN trigger parameters.                       |
| 400         | FSS.1103   | Invalid DMS trigger parameters.                                                                                       | Invalid DMS trigger parameters.                                                                                        | Check the DMS trigger parameters.                       |



| Status Code | Error Code | Error Message                                                                  | Description                                                                    | Solution                                                                               |
|-------------|------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 400         | FSS.1104   | Invalid DIS trigger parameters.                                                | Invalid DIS trigger parameters.                                                | Check the DIS trigger parameters.                                                      |
| 400         | FSS.1106   | Invalid OBS trigger parameters.                                                | Invalid OBS trigger parameters.                                                | Check the OBS trigger parameters.                                                      |
| 400         | FSS.1107   | Invalid APIG trigger parameters.                                               | Invalid APIG trigger parameters.                                               | Check the APIG trigger parameters.                                                     |
| 400         | FSS.1109   | Invalid timer trigger parameters.                                              | Invalid timer trigger parameters.                                              | Check the timer trigger parameters.                                                    |
| 400         | FSS.1110   | Invalid LTS trigger parameters.                                                | Invalid LTS trigger parameters.                                                | Check the LTS trigger parameters.                                                      |
| 400         | FSS.1112   | The Kafka trigger parameters are invalid.                                      | Invalid Kafka trigger parameter.                                               | Check the Kafka trigger parameters.                                                    |
| 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. | If SASL_SSL has been enabled, enter a username and password.                           |
| 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.       | Check whether the subnet of the function is different from that of the Kafka instance. |
| 400         | FSS.1116   | Kafka instance configuration error. Please check the username and password.    | Kafka instance configuration error.                                            | Check the username and password of the Kafka instance.                                 |

| Status Code | Error Code | Error Message                                                          | Description                                                     | Solution                                    |
|-------------|------------|------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------|
| 400         | FSS.1117   | Failed to query messages from the Kafka instance.                      | Failed to query messages from the Kafka instance.               | Check whether the Kafka instance is normal. |
| 400         | FSS.1164   | Invalid DDS trigger parameters.                                        | Invalid DDS trigger parameters.                                 | Check the DDS trigger parameters.           |
| 400         | FSS.1172   | The database instance does not exist.                                  | The DB instance cannot be found.                                | Check the DB instance.                      |
| 400         | FSS.1173   | DDS DB instance configuration error. Please contact DDS R&D personnel. | DDS DB instance configuration error. Contact DDS R&D personnel. | Contact DDS technical support.              |
| 400         | FSS.1204   | Failed to get response from functionAccesssor.                         | Failed to obtain the function's return value.                   | Contact technical support.                  |
| 400         | FSS.1221   | Lts log has been enabled.                                              | LTS has already been enabled.                                   | Check whether LTS has already been enabled. |
| 400         | FSS.1301   | The CTS trigger does not exist.                                        | The CTS trigger does not exist.                                 | Check whether the CTS trigger exists.       |
| 400         | FSS.1303   | Access denied due to insufficient permissions.                         | Failed to verify permission. Access denied.                     | Check whether you have been authorized.     |
| 400         | FSS.1304   | The CTS service failed to process the request.                         | The server failed to process the request.                       | Contact CTS technical support.              |
| 400         | FSS.1305   | Invalid CTS trigger parameters.                                        | Invalid CTS trigger parameter.                                  | Check the CTS trigger parameters.           |

| Status Code | Error Code | Error Message                                                                       | Description                                    | Solution                                                     |
|-------------|------------|-------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------|
| 400         | FSS.1306   | The number of triggers exceeds the maximum allowed limit.                           | Trigger threshold reached.                     | Check whether the max. number of triggers has been reached.  |
| 400         | FSS.1307   | The trigger name already exists.                                                    | The trigger name already exists.               | Check whether the trigger name already exists.               |
| 400         | FSS.1308   | The operation resource does not exist.                                              | The resource does not exist.                   | Check whether the resource exists.                           |
| 400         | FSS.1309   | Invalid function URN.                                                               | Invalid function URN.                          | Check the function URN.                                      |
| 400         | FSS.1310   | Unauthorized user.                                                                  | Failed to obtain the user token.               | Check permissions.                                           |
| 400         | FSS.1311   | Unauthorized access.                                                                | CTS has not been enabled.                      | Check whether CTS has been enabled.                          |
| 400         | FSS.1312   | The notification name must be specified.                                            | No key notification name specified.            | Check the key notification name.                             |
| 400         | FSS.1313   | The number of resources to be operated has reached the maximum allowed limit (100). | The number of operation resources exceeds 100. | Check whether the max. number of resources has been reached. |
| 400         | FSS.1314   | The operation resource must be specified.                                           | No operation resource specified.               | Check whether the resource is empty.                         |
| 400         | FSS.1316   | The resource operation has already been selected.                                   | Operation already selected.                    | Check whether the same operation has already been selected.  |
| 400         | FSS.1317   | The trigger name is too long.                                                       | Trigger name is too long.                      | Check the length of the trigger name.                        |

| Status Code | Error Code | Error Message                                                | Description                                                                       | Solution                                                                                    |
|-------------|------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 400         | FSS.1318   | Invalid trigger operation.                                   | Invalid trigger operation.                                                        | Check the trigger operation.                                                                |
| 400         | FSS.1404   | Invalid function initializer.                                | Invalid function initializer.                                                     | Check the function initializer.                                                             |
| 400         | FSS.1405   | Invalid initialization timeout.                              | Invalid initialization timeout.                                                   | Check the function initialization timeout.                                                  |
| 400         | FSS.1406   | Invalid heartbeat handler.                                   | Invalid function heartbeat detection entry.                                       | Check the heartbeat detection entry of the function.                                        |
| 400         | FSS.1407   | Invalid restore hook handler.                                | Invalid Restore Hook handler.                                                     | Check the Restore Hook configuration.                                                       |
| 400         | FSS.1426   | This release[{{version}}] has reserved instances configured. | Reserved policies already exist in the version corresponding to the target alias. | Check whether auto scaling policies exist in the version corresponding to the target alias. |
| 400         | FSS.1441   | The dependency has versions, can not update or delete.       | The dependency already has a version and cannot be updated or deleted.            | Check whether the dependency has a version.                                                 |
| 400         | FSS.1601   | Invalid swr image param.                                     | Invalid SWR image parameter.                                                      | Check SWR image parameters.                                                                 |
| 401         | FSS.0401   | Unauthorized access.                                         | Access denied.                                                                    | Check permissions.                                                                          |
| 401         | FSS.1118   | Access denied.                                               | Access denied. The user is not in the whitelist.                                  | Check the whitelist configuration.                                                          |
| 403         | FSS.0403   | Forbidden.                                                   | Unauthorized operation.                                                           | Check permissions.                                                                          |

| Status Code | Error Code | Error Message                                                               | Description                                                              | Solution                                                                  |
|-------------|------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 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.    | Check the agency permissions.                                             |
| 403         | FSS.1041   | The number of functions exceeds the maximum allowed limit (400).            | The number of functions exceeds 400.                                     | Check whether the max. number of functions has been reached.              |
| 403         | FSS.1042   | The total code size of functions exceeds the maximum allowed limit (20 GB). | The total size of functions exceeds 20 GB.                               | Check whether the total size of functions reaches 20 GB.                  |
| 403         | FSS.1043   | The number of aliases exceeds the maximum allowed limit.                    | The number of aliases exceeds the maximum allowed limit.                 | Check whether the max. number of aliases has been reached.                |
| 403         | FSS.1044   | The number of apps exceeds the maximum allowed limit (400).                 | The number of apps exceeds 400.                                          | Check whether the number of apps reaches 400.                             |
| 403         | FSS.1045   | The number of dependencies exceeds the maximum allowed limit.               | The number of dependencies exceeds the maximum allowed limit.            | Check whether the max. number of dependencies has been reached.           |
| 403         | FSS.1046   | The dependency is inaccessible.                                             | The dependency is unavailable.                                           | Check whether the dependency is available.                                |
| 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. | Check whether the max. number of VPCs that can be bound has been reached. |

| Status Code | Error Code | Error Message                                                                             | Description                                                                                   | Solution                                                                                      |
|-------------|------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 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.                     | Check whether the max. number of VPCs that can be bound to a single project has been reached. |
| 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.                                 | Check whether the number of file systems mounted to the function reaches 5.                   |
| 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.           | Check whether the max. number of events per function has been reached.                        |
| 403         | FSS.1069   | The size of EventData exceeds 4 KB.                                                       | The event size exceeds 4 KB.                                                                  | Check whether the code size reaches 4 KB.                                                     |
| 403         | FSS.1073   | The function event already exists.                                                        | The function event already exists.                                                            | Check whether the event already exists in the function.                                       |
| 403         | FSS.1094   | The version cannot be deleted when it is 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. | Check whether the additional version is currently in use.                                     |
| 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.                                 | Check whether the file sharing protocol of the mounted resource is NFS.                       |

| Status Code | Error Code | Error Message                                                                                   | Description                                                                                     | Solution                                                                                                      |
|-------------|------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 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. | Check whether the bucket configuration of the current trigger conflicts with that of an existing OBS trigger. |
| 403         | FSS.1121   | Forbidden                                                                                       | Access denied due to the lack of a DMS agency.                                                  | Check whether a DMS agency has been configured.                                                               |
| 403         | FSS.1122   | Forbidden                                                                                       | Access denied due to the lack of a DIS agency.                                                  | Check whether a DIS agency has been configured.                                                               |
| 403         | FSS.1123   | The number of pull triggers exceeds the maximum allowed limit (10).                             | The number of pull-mode triggers has reached 10.                                                | Check whether 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.                                           | Check whether the max. number of APIs has been reached.                                                       |
| 403         | FSS.1125   | Forbidden                                                                                       | Unauthorized access.                                                                            | Check whether an LTS agency has been configured.                                                              |
| 403         | FSS.1126   | You do not have permissions to call the API.                                                    | You do not have permissions to call the API.                                                    | Check whether you have permission to call the API.                                                            |
| 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.                                         | Check permissions.                                                                                            |

| Status Code | Error Code | Error Message                                                | Description                                                           | Solution                                                     |
|-------------|------------|--------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------|
| 403         | FSS.1128   | list enterprise failed.                                      | Failed to list the enterprise projects for which you have permission. | Check your fine-grained permissions for enterprise projects. |
| 403         | FSS.1154   | Aliases of a function bound with triggers cannot be deleted. | The aliases cannot be deleted because they are bound with triggers.   | Delete the triggers first.                                   |
| 404         | FSS.0404   | The specified resource cannot be found.                      | The resource cannot be found.                                         | Check whether the resource exists.                           |
| 404         | FSS.1050   | The mounted resource cannot be found.                        | The mounted resource cannot be found.                                 | Check whether the mounted resource exists.                   |
| 404         | FSS.1051   | The function does not exist.                                 | The function cannot be found.                                         | Check whether the function exists.                           |
| 404         | FSS.1052   | The version does not exist.                                  | The version cannot be found.                                          | Check whether the function version exists.                   |
| 404         | FSS.1053   | The alias does not exist.                                    | The alias cannot be found.                                            | Check whether the function version alias exists.             |
| 404         | FSS.1054   | The function code package does not exist in OBS.             | The specified code package cannot be found in OBS.                    | Check whether the function code package exists in OBS.       |
| 404         | FSS.1055   | The app does not exist in obs.                               | The specified function app cannot be found in OBS.                    | Check whether the app exists in OBS.                         |
| 404         | FSS.1056   | The dependency does not exist.                               | The dependency does not exist.                                        | Check whether the dependency exists.                         |



| Status Code | Error Code | Error Message                                               | Description                                            | Solution                                                         |
|-------------|------------|-------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------|
| 404         | FSS.1057   | The function name does not exist in the YAML file.          | The function name does not exist in the YAML file.     | Check whether the function name exists in the YAML file.         |
| 404         | FSS.1059   | The function template does not exist.                       | The function template does not exist.                  | Check whether the function template exists.                      |
| 404         | FSS.1060   | The event template cannot be found.                         | The event template does not exist.                     | Check whether the event template exists.                         |
| 404         | FSS.1070   | The event cannot be found.                                  | The event cannot be found.                             | Check whether the event exists.                                  |
| 404         | FSS.1086   | The function async invocation configuration does not exist. | Asynchronous invocation configuration cannot be found. | Check the asynchronous invocation configuration of the function. |
| 404         | FSS.1111   | The Kafka resource cannot be found.                         | The Kafka resource cannot be found.                    | Check whether the Kafka instance exists.                         |
| 404         | FSS.1130   | The DIS stream does not exist.                              | The DIS stream cannot be found.                        | Check whether the DIS stream exists.                             |
| 404         | FSS.1131   | The trigger does not exist.                                 | The trigger cannot be found.                           | Check whether the trigger exists.                                |
| 404         | FSS.1132   | The SMN trigger does not exist. View the SMN console.       | The SMN trigger cannot be found.                       | Check whether the SMN trigger exists.                            |
| 404         | FSS.1133   | The DMS trigger does not exist.                             | The DMS trigger cannot be found.                       | Check whether the DMS trigger exists.                            |
| 404         | FSS.1134   | The DIS trigger does not exist.                             | The DIS trigger cannot be found.                       | Check whether the DIS trigger exists.                            |

| Status Code | Error Code | Error Message                                               | Description                             | Solution                                     |
|-------------|------------|-------------------------------------------------------------|-----------------------------------------|----------------------------------------------|
| 404         | FSS.1135   | The DMS queue does not exist.                               | The DMS queue cannot be found.          | Check whether the DMS queue exists.          |
| 404         | FSS.1136   | The OBS trigger does not exist.                             | The OBS trigger cannot be found.        | Check whether the OBS trigger exists.        |
| 404         | FSS.1137   | Invalid trigger type.                                       | Invalid trigger type.                   | Check whether the trigger type is valid.     |
| 404         | FSS.1138   | The APIG trigger does not exist.                            | The APIG trigger cannot be found.       | Check whether the APIG trigger exists.       |
| 404         | FSS.1139   | The DMS consumer group does not exist.                      | The DMS consumer group cannot be found. | Check whether the DMS consumer group exists. |
| 404         | FSS.1140   | The timer trigger does not exist.                           | The timer trigger cannot be found.      | Check whether the timer trigger exists.      |
| 404         | FSS.1160   | The LTS trigger does not exist.                             | The LTS trigger cannot be found.        | Check whether the LTS trigger exists.        |
| 404         | FSS.1161   | The LTS topic does not exist.                               | The LTS log topic cannot be found.      | Check whether the LTS log topic exists.      |
| 404         | FSS.1163   | The DDS trigger cannot be found.                            | The DDS trigger cannot be found.        | Check whether the DDS trigger exists.        |
| 404         | FSS.1171   | The SMN topic does not exist. Create it on the SMN console. | The SMN topic does not exist.           | Check whether the SMN topic exists.          |
| 404         | FSS.1174   | The Kafka trigger does not exist.                           | The Kafka trigger cannot be found.      | Check whether the Kafka trigger exists.      |
| 406         | FSS.0406   | Not acceptable.                                             | Invalid request format.                 | Check the API request body.                  |

| Status Code | Error Code | Error Message                                   | Description                                                                   | Solution                                                 |
|-------------|------------|-------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------------------------|
| 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. | Use another OBS bucket.                                  |
| 408         | FSS.0408   | Request timeout.                                | Request timed out.                                                            | Check the network.                                       |
| 409         | FSS.0409   | The specified resource already exists.          | The resource already exists.                                                  | Check whether the resource already exists.               |
| 409         | FSS.1061   | The function already exists.                    | The function already exists.                                                  | Check whether the function already exists.               |
| 409         | FSS.1062   | The version already exists.                     | The version already exists.                                                   | Check whether the function version already exists.       |
| 409         | FSS.1063   | The alias already exists.                       | The alias already exists.                                                     | Check whether the function version alias already exists. |
| 409         | FSS.1064   | The app already exists.                         | The app already exists.                                                       | Check whether the app already exists.                    |
| 409         | FSS.1065   | The dependency already exists.                  | The dependency already exists.                                                | Check whether 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.                               | Check whether the version is currently in use.           |
| 409         | FSS.1067   | The function template already exists.           | The function template already exists.                                         | Check whether the function template already exists.      |
| 409         | FSS.1141   | The SMN trigger already exists.                 | The SMN trigger already exists.                                               | Check whether the SMN trigger already exists.            |

| Status Code | Error Code | Error Message                          | Description                                           | Solution                                                   |
|-------------|------------|----------------------------------------|-------------------------------------------------------|------------------------------------------------------------|
| 409         | FSS.1142   | The DMS trigger already exists.        | The DMS trigger already exists.                       | Check whether the DMS trigger already exists.              |
| 409         | FSS.1143   | The DIS trigger already exists.        | The DIS trigger already exists.                       | Check whether the DIS trigger already exists.              |
| 409         | FSS.1145   | The OBS trigger already exists.        | The OBS trigger already exists.                       | Check whether the OBS trigger already exists.              |
| 409         | FSS.1146   | The APIG trigger already exists.       | The APIG trigger already exists.                      | Check whether the APIG trigger already exists.             |
| 409         | FSS.1147   | The request path already exists.       | The APIG triggering path already exists.              | Check whether the APIG triggering path already exists.     |
| 409         | FSS.1148   | The timer trigger already exists.      | The timer trigger already exists.                     | Check whether the timer trigger already exists.            |
| 409         | FSS.1149   | The LTS trigger already exists.        | The LTS trigger already exists.                       | Check whether the LTS trigger already exists.              |
| 409         | FSS.1150   | The Kafka trigger already exists.      | The Kafka trigger already exists.                     | Check whether the Kafka trigger already exists.            |
| 409         | FSS.1166   | The DDS trigger already exists.        | The DDS trigger already exists.                       | Check whether the DDS trigger already exists.              |
| 410         | FSS.0410   | The specified resource does not exist. | The specified resource does not exist.                | Check whether the resource exists.                         |
| 412         | FSS.1033   | The dependency is currently in use.    | Failed to delete the dependency because it is in use. | Check whether the dependency is in use before deleting it. |
| 412         | FSS.1090   | The subnet is not in the ACTIVE state. | The subnet is not in the ACTIVE state.                | Check whether the subnet is available.                     |

| Status Code | Error Code | Error Message                                                                                             | Description                                                | Solution                                                 |
|-------------|------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------|
| 412         | FSS.1095   | The mounted resource is not ready.                                                                        | The mounted resource is not ready.                         | Prepare the mounted resource.                            |
| 412         | FSS.1153   | The triggering conditions have not been met.                                                              | The triggering conditions have not been met.               | Check the triggering conditions.                         |
| 412         | FSS.1440   | Specified dependency version is used by X functions, please delete the function or the relation at first. | This dependency version is in use by X functions.          | Check whether the dependency version is in use.          |
| 413         | FSS.0413   | The request body is too large.                                                                            | The request body exceeds the maximum allowed limit.        | Check the request body.                                  |
| 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. | Check the size of the code package.                      |
| 413         | FSS.1072   | The size of the inline code exceeds the maximum allowed limit (10 KB).                                    | The code exceeds 10 KB.                                    | Check whether the size of the inline code reaches 10 KB. |
| 413         | FSS.1201   | The request body is too large.                                                                            | The request body exceeds the maximum allowed limit.        | Check the request body size.                             |
| 424         | FSS.0424   | Invalid dependency.                                                                                       | Invalid dependency.                                        | Check whether the dependency is valid.                   |

| Status Code | Error Code | Error Message                                                                                                                     | Description                                                                                                                    | Solution                                                                                         |
|-------------|------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 426         | FSS.0426   | An upgrade is required.                                                                                                           | Unsupported operation. Perform an upgrade.                                                                                     | Contact technical support.                                                                       |
| 426         | FSS.1152   | The selected bucket cannot be used to create a trigger.                                                                           | The selected OBS bucket cannot be used to create a trigger.                                                                    | Contact technical support.                                                                       |
| 428         | FSS.0428   | The preconditions have not been met.                                                                                              | The preconditions are not met.                                                                                                 | Check the prerequisites.                                                                         |
| 429         | FSS.0429   | Too many requests.                                                                                                                | Too many concurrent requests. Please try again later.                                                                          | Try again later.                                                                                 |
| 429         | FSS.1429   | Function concurrent invocation requests exceeds max value, please increase the max instances num or max concurrency per instance. | The number of concurrent function requests exceeds the upper limit (Max. instances per function x Max. requests per instance). | Increase the number of max. instances per function or max. requests per instance and try again.  |
| 500         | FSS.0500   | Internal service error.                                                                                                           | The service is temporarily abnormal due to an internal invocation error. Please try again later.                               | The service is temporarily abnormal due to an internal invocation error. Please try again later. |
| 500         | FSS.1162   | The operation cannot take effect immediately due to service exception.                                                            | The operation cannot take effect immediately because the service is abnormal.                                                  | Contact technical support.                                                                       |

| Status Code | Error Code | Error Message                                                                              | Description                              | Solution                                                                 |
|-------------|------------|--------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------|
| 500         | FSS.1202   | The response body or callback body is invalid because they do not contain any status code. | Invalid response body.                   | Contact technical support.                                               |
| 500         | FSS.1206   | Failed to convert result for apig.                                                         | The result cannot be converted for APIG. | Check the APIG response or contact technical support.                    |
| 500         | FSS.1302   | Failed to save the data.                                                                   | Failed to save the trigger data.         | Try again later or contact technical support.                            |
| 500         | FSS.1315   | The CTS service is unavailable.                                                            | Server error.                            | Contact CTS technical support.                                           |
| 500         | FSS.4001   | function entry is not found.                                                               | Function handler not found.              | Check whether the function handler matches the one in the uploaded code. |
| 500         | FSS.4002   | The user function failed to run.                                                           | The function failed to run.              | Check the code.                                                          |
| 500         | FSS.4003   | state content is too large.                                                                | The status information is too large.     | Check the status information.                                            |
| 500         | FSS.4004   | the return value of the function exceeds the maximum allowed limit.                        | The returned content exceeds the limit.  | Check whether the returned content exceeds 6 MB.                         |
| 500         | FSS.4005   | state is undefined.                                                                        | Undefined status.                        | Check the status information.                                            |
| 500         | FSS.4006   | function name has no service ID.                                                           | The function is not stateful.            | Check whether serviceID is configured for the function.                  |

| Status Code | Error Code | Error Message                                     | Description                                 | Solution                                                            |
|-------------|------------|---------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------|
| 500         | FSS.4007   | function result is invalid.                       | Function invocation result is invalid.      | Check the function code based on the error message.                 |
| 500         | FSS.4008   | response body size %d exceeds the limit of %d.    | Return value body is too large.             | Check the return value.                                             |
| 500         | FSS.4009   | function initialization exception.                | The initialization function is not working. | Check the code logic of the initialization function.                |
| 500         | FSS.4010   | invoke timed out after %s.                        | Function invocation timed out.              | Locate the cause and check the configured timeout.                  |
| 500         | FSS.4011   | Initialization function execution times out.      | Function initialization timed out.          | Locate the cause.                                                   |
| 500         | FSS.4012   | load function timed out after %s.                 | Function load timed out.                    | Check whether the code package is successfully downloaded from OBS. |
| 500         | FSS.4013   | failed to check auth of the request.              | Stateful request authentication failed.     | Check the authentication information.                               |
| 500         | FSS.4014   | reading the storeObject timeout.Use larger memory | Dependency loading timed out.               | Increase the function memory.                                       |



| Status Code | Error Code | Error Message                                                       | Description                                                                                                                             | Solution                                                                                                                                              |
|-------------|------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 500         | FSS.4020   | runtime dir xxx is forbidden.                                       | User changes the permissions for the / <b>home/snuser</b> and / <b>opt/function/runtime</b> directories using the <b>chmod</b> command. | Check whether the user changes the permissions for / <b>home/snuser</b> and / <b>opt/function/runtime</b> directories using the <b>chmod</b> command. |
| 500         | FSS.4021   | trigger request of this tenant is limited at this frontend instance | Too many concurrent requests.                                                                                                           | Contact technical support.                                                                                                                            |
| 500         | FSS.4024   | function metadata is not found.                                     | The function metadata does not exist.                                                                                                   | Check whether the function exists.                                                                                                                    |
| 500         | FSS.4025   | can not create a state using a stateless function                   | Stateful instances cannot be created using a stateless function.                                                                        | Check whether the function is stateful.                                                                                                               |
| 500         | FSS.4026   | instanceName is not exist                                           | The instance you specified does not exist.                                                                                              | Check whether the stateful instance exists.                                                                                                           |
| 500         | FSS.4027   | cannot be created repeatedly instanceID                             | The stateful instance name already exists.                                                                                              | Check whether the stateful instance name already exists.                                                                                              |
| 500         | FSS.4140   | the size of request body is beyond maximum body size.               | The function request body exceeds the limit (6 MB).                                                                                     | Check whether the function request body exceeds the limit. If it does not, contact technical support.                                                 |

| Status Code | Error Code | Error Message                                       | Description                                              | Solution                                                                                                                                                  |
|-------------|------------|-----------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 500         | FSS.4201   | function initialization failed                      | Failed to initialize the function.                       | Check the function initialization code.                                                                                                                   |
| 500         | FSS.4202   | runtime bootstrap not found                         | No bootstrap file found.                                 | Check the path of the bootstrap file.                                                                                                                     |
| 500         | FSS.4203   | runtime process is exited                           | The bootstrap script exits before execution is complete. | Check the bootstrap script.                                                                                                                               |
| 500         | FSS.4204   | The user bootstrap script syntax is incorrect.      | The syntax of the bootstrap script is incorrect.         | Check the bootstrap script.                                                                                                                               |
| 500         | FSS.4205   | runtime memory limit exceeded                       | Too much memory used by the function.                    | Check the used memory and the configured limit.                                                                                                           |
| 500         | FSS.4206   | failed to mount volumes for function                | Failed to attach the disk.                               | Check whether the disk info (such as path) in code is consistent with that in the configuration file. If the problem persists, contact technical support. |
| 500         | FSS.4207   | disk uages exceed limit                             | The disk usage is too high.                              | Check the disk usage. If the problem persists, contact technical support.                                                                                 |
| 500         | FSS.4208   | function invocation canceled                        | The request is canceled.                                 | The request is canceled. Try again.                                                                                                                       |
| 500         | FSS.4218   | the function fails to be started for multiple times | The function fails to be started for multiple times.     | Check the function code.                                                                                                                                  |
| 502         | FSS.0502   | Bad gateway.                                        | Gateway error.                                           | Contact technical support.                                                                                                                                |

| Status Code | Error Code | Error Message                                   | Description                                     | Solution                            |
|-------------|------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------|
| 502         | FSS.1319   | Invalid trigger name.                           | Invalid trigger name.                           | Modify the trigger name.            |
| 503         | FSS.0503   | Service unavailable.                            | Service unavailable.                            | Contact technical support.          |
| 503         | FSS.1115   | The network is unreachable.                     | The network is unreachable.                     | Check the network.                  |
| 503         | FSS.1169   | The network is unreachable.                     | The network is unreachable.                     | Check the network.                  |
| 503         | FSS.1170   | Authentication error.                           | Authentication error. Check DDS configurations. | Check the DDS configuration.        |
| 503         | FSS.1401   | Failed to obtain the image information.         | Failed to obtain the image information.         | Check the image pull configuration. |
| 503         | FSS.1402   | Failed to pull the image to create a container. | Failed to pull the image to create a container. | Check the image URL.                |
| 503         | FSS.1403   | Failed to pull the image to delete a container. | Failed to pull the image to delete a container. | Check the image URL.                |
| 504         | FSS.0504   | Gateway timeout.                                | Gateway timed out.                              | Check the network.                  |

## 8.3 Obtaining Account, IAM User, Project, User Group, Region, and Agency Information

### Obtaining Account, IAM User, and Project Information

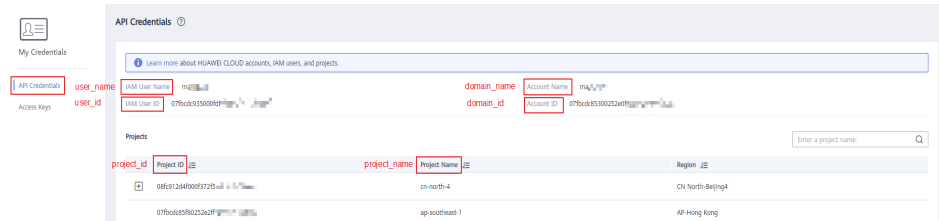
- Using the console

Your username, user ID, account name, account ID, project name, and project ID need to be specified in the URL and request body for calling certain APIs. Obtain these parameters on the **My Credentials** page.

- a. Log in to Huawei Cloud management console.

- b. Hover over the username and choose **My Credentials** from the drop-down list.
- c. View the account name, account ID, username, user ID, project name, and project ID on the **API Credentials** page.

**Figure 8-1** Viewing the account, user, and project information



- Calling an API
  - For details about how to obtain a user ID, see [Listing IAM Users](#).
  - For details about how to obtain a project ID, see [Querying Project Information](#).

## Obtaining User Group Information

1. Log in to the IAM console, and choose **User Groups** in the navigation pane.
2. Click next to the target user group to view its name and ID.

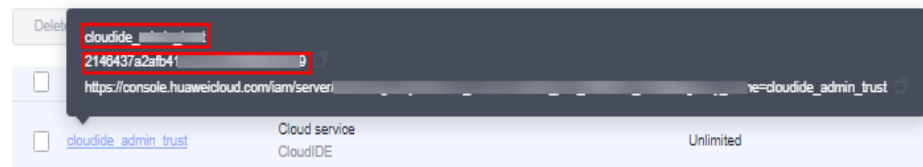
## Obtaining Region Information

1. Log in to the IAM console, and choose **Projects** in the navigation pane.
2. The value in the **Project Name** column is the ID of the region to which the project belongs.

## Obtaining Agency Information

1. Log in to the IAM console, and choose **Agencies** in the navigation pane.
2. Hover over the desired agency. The name and ID of this agency are displayed in a pop-up bubble box.

**Figure 8-2** Viewing an agency ID



# 8.4 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 8-2** 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 |

| Metric       | Display Name     | Description                        | Unit | Upper Limit | Lower Limit | Recommended Threshold | Value Type | Meaning                            | Dimension            |
|--------------|------------------|------------------------------------|------|-------------|-------------|-----------------------|------------|------------------------------------|----------------------|
| max Duration | Maximum Duration | Maximum time a function is invoked | ms   | -           | 0           | -                     | Int        | Maximum time a function is invoked | package-functionname |
| min Duration | Minimum Duration | Minimum time a function is invoked | ms   | -           | 0           | -                     | Int        | Minimum time a function is invoked | package-functionname |

## Dimension

**Table 8-3** Dimension

| Key                  | Value                  |
|----------------------|------------------------|
| package-functionname | App_name-Function_name |

# 9 Change History

---

**Table 9-1** Change history

| Date       | Description                               |
|------------|-------------------------------------------|
| 2023-06-20 | This issue is the first official release. |