

# FunctionGraph

# SDK

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# 1 SDK Overview

This document describes different SDK runtimes supported by FunctionGraph and provides the addresses for obtaining the latest SDK versions.

Ensure that you have installed the latest SDKs. Earlier SDKs may not be compatible, or lack the latest features. To query the version, see [SDK Center](#).

## SDK List

[Table 1-1](#) lists the SDKs supported by FunctionGraph. You can view SDK updates, obtain installation packages, and view user guides in GitHub.

**Table 1-1** SDK list

Runtime	GitHub Address	Reference
Java	<a href="#">huaweicloud-sdk-java-v3</a>	<a href="#">Java SDK User Guide</a>
Python	<a href="#">huaweicloud-sdk-python-v3</a>	<a href="#">Python SDK User Guide</a>
Go	<a href="#">huaweicloud-sdk-go-v3</a>	<a href="#">Go SDK User Guide</a>
.NET	<a href="#">huaweicloud-sdk-net-v3</a>	<a href="#">.Net SDK User Guide</a>
Node.js	<a href="#">huaweicloud-sdk-nodejs-v3</a>	<a href="#">Node.js SDK User Guide</a>

## Mappings Between APIs and SDKs

[Table 1-2](#) lists the mappings between FunctionGraph APIs and SDKs.

**Table 1-2** Mappings between APIs and SDKs

API	SDK Method (Same for All Runtimes)
Implementing synchronous function invocation	invoke_function
Implementing asynchronous function invocation	async_invoke_function
Obtaining the dependency list	list_dependencies
Creating a dependency	create_dependency
Deleting a dependency	delete_dependency
Obtaining a specified dependency	show_dependency
Updating a specified dependency	update_dependency
Obtaining the test event list	list_events
Creating a test event	create_event
Deleting a test event	delete_event
Obtaining the details of a test event	show_event
Updating a test event	update_event
Querying the tenant quotas	list_quotas
Obtaining function running metrics in a specified period	list_function_statistics
Querying account-level function statistics	list_statistics
Updating a trigger	update_trigger
Querying the function list	list_functions
Creating a function	create_function
Deleting a function or a function version	delete_function
Querying all version aliases of a function	list_version_aliases
Creating an alias for a function version	create_version_alias
Deleting a function alias	delete_version_alias
Querying the alias of a function version	show_version_alias
Modifying the alias information about a function version	update_version_alias

API	SDK Method (Same for All Runtimes)
Querying the code of a function	show_function_code
Modifying the code of a function	update_function_code
Querying the metadata of a function	show_function_config
Modifying the metadata of a function	update_function_config
Querying all versions of a function	list_function_versions
Publishing a function version	create_function_version
Setting the number of reserved instances	update_function_reserved_instances
Configuring asynchronous invocation for a function version	update_function_async_invoke_config
Obtaining the asynchronous invocation configuration of a function version	show_function_async_invoke_config
Deleting the asynchronous invocation configuration of a function version	delete_function_async_invoke_config
Obtaining the asynchronous invocation configurations of all versions of a function	list_function_async_invoke_config
Deleting all triggers of a function	batch_delete_function_triggers
Querying all version aliases of a function	list_version_aliases
Creating a trigger	create_function_trigger
Deleting a trigger	delete_function_trigger
Querying the information about a trigger	show_function_trigger

# 2 Java SDK

A **synchronous function execution** SDK is used as an example. To use the sample code, you must add the SDK dependency with the same language.

**Table 2-1** Java SDK information

SDK Info	Description
Installation	<dependency> <groupId>com.huaweicloud.sdk</groupId> <artifactId>huaweicloud-sdk-functiongraph</artifactId> <version>\${version}</version> </dependency>
Links	<a href="#">Java SDK User Guide</a>

## NOTE

**\${version}** indicates the SDK version number. Set it as required.

The request/response parameters and example requests/responses of the SDK are the same as those of the corresponding APIs. For details about the parameters and examples, see the API for **executing a function synchronously**.

## SDK Request Example

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.functiongraph.v2.region.FunctionGraphRegion;
import com.huaweicloud.sdk.functiongraph.v2.*;
import com.huaweicloud.sdk.functiongraph.v2.model.*;

public class InvokeFunctionSolution {

    public static void main(String[] args) {
        // This example is only used for testing purposes. Do not hardcode your AK/SK in the production
```

```
environment.  
String ak = "<YOUR AK>";  
String sk = "<YOUR SK>";  
String securityToken = System.getenv("HUAWEICLOUD_SDK_SECURITY_TOKEN");  
String projectId = "{your projectId string}";  
  
ICredential auth = new BasicCredentials()  
    .withAk(ak)  
    .withSk(sk)  
    .withSecurityToken(securityToken)  
    .withProjectId(projectId)  
  
FunctionGraphClient client = FunctionGraphClient.newBuilder()  
    .withCredential(auth)  
    .withRegion(FunctionGraphRegion.valueOf("<region>"))  
    .build();  
  
InvokeFunctionRequest request = new InvokeFunctionRequest();  
request.withXCffLogType("tail");  
request.withXCFFRequestVersion("v1");  
Map<String, Object> listbodyInvokeFunctionRequestBody = new HashMap<>();  
listbodyInvokeFunctionRequestBody.put("k", "v");  
request.withBody(listbodyInvokeFunctionRequestBody);  
request.withFunctionUrn("urn:fss:<region>:<project_id>:function:default:<func_name>:<version>");  
request.withXCffLogType("tail");  
request.withXCFFRequestVersion("v1");  
try {  
    InvokeFunctionResponse response = client.invokeFunction(request);  
    System.out.println(response.toString());  
} catch (ConnectionException e) {  
    e.printStackTrace();  
} catch (RequestTimeoutException e) {  
    e.printStackTrace();  
} catch (ServiceResponseException e) {  
    e.printStackTrace();  
    System.out.println(e.getHttpStatusCode());  
    System.out.println(e.getErrorCode());  
    System.out.println(e.getErrorMsg());  
}  
}
```

#### NOTE

Obtain **AK/SK**, **region** (endpoint), and **project\_id** by referring to [AK/SK Signing and Authentication Guide](#).

Obtain **func\_name** and **version** from the function details page.

**xCFFRequestVersionRequest** indicates the response body format. **v0**: text format; **v1**: JSON format. Select this format when using an SDK.



# 3 Node.js SDK

A [synchronous function execution](#) SDK is used as an example. To use the sample code, you must add the SDK dependency with the same language.

**Table 3-1** Node.js SDK information

SDK Info	Description
Installation	npm i @huaweicloud/huaweicloud-sdk-functiongraph
Links	<a href="#">SDK Dependency</a> <a href="#">Node.js SDK User Guide</a>

The request/response parameters and example requests/responses of the SDK are the same as those of the corresponding APIs. For details about the parameters and examples, see the API for [executing a function synchronously](#).

## SDK Request Example

```
const core = require('@huaweicloud/huaweicloud-sdk-core');
const functiongraph = require("@huaweicloud/huaweicloud-sdk-functiongraph");
// This example is only used for testing purposes. Do not hardcode your AK/SK in the production
environment.
const ak = "<YOUR AK>";
const sk = "<YOUR SK>";
const endpoint = "https://functiongraph.<region>.myhuaweicloud.com";
const project_id = "<project_id>";

const credentials = new core.BasicCredentials()
    .withAk(ak)
    .withSk(sk)
    .withSecurityToken(securityToken)
    .withProjectId(projectId)
const client = functiongraph.FunctionGraphClient.newBuilder()
    .withCredential(credentials)
    .withEndpoint(endpoint)
    .build();
const request = new functiongraph.InvokeFunctionRequest();
request.xCffLogType = "tail";
request.xCFFRequestVersion = "v1";
request.functionUrn = "urn:fss:<region>:<project_id>:function:default:<func_name>:<version>";
const result = client.invokeFunction(request);
```

```
result.then(result => {
  console.log("JSON.stringify(result)::" + JSON.stringify(result));
}).catch(ex => {
  console.log("exception:" + JSON.stringify(ex));
});
```

#### NOTE

Obtain **AK/SK**, **region** (endpoint), and **project\_id** by referring to [AK/SK Signing and Authentication Guide](#).

Obtain **func\_name** and **version** from the function details page.

**xCFFRequestVersionRequest** indicates the response body format. **v0**: text format; **v1**: JSON format. Select this format when using an SDK.

# 4 Python SDK

A [synchronous function execution](#) SDK is used as an example. To use the sample code, you must add the SDK dependency with the same language.

**Table 4-1** Python SDK information

SDK Info	Description
Installation	pip install huaweicloudsdkfunctiongraph
Links	<a href="#">SDK Dependency</a> <a href="#">Python SDK User Guide</a>

The request/response parameters and example requests/responses of the SDK are the same as those of the corresponding APIs. For details about the parameters and examples, see the API for [executing a function synchronously](#).

## SDK Request Example

```
# coding: utf-8

from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkfunctiongraph.v2.region.functiongraph_region import FunctionGraphRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkfunctiongraph.v2 import *

if __name__ == "__main__":
    # This example is only used for testing purposes. Do not hardcode your AK/SK in the production
    environment.
    ak = "<YOUR AK>"
    sk = "<YOUR SK>"
    security_token = os.getenv("HUAWEICLOUD_SDK_SECURITY_TOKEN")
    project_id = "{your projectId string}"

    credentials = BasicCredentials(ak, sk, project_id).with_security_token(security_token) \

    client = FunctionGraphClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(FunctionGraphRegion.value_of("<region>")) \
        .build()

    try:
        request = InvokeFunctionRequest()
```

```
request.x_cff_log_type = "tail"
request.x_cff_request_version = "v1"
request.function_urn = "urn:fss:<region>:<project_id>:function:default:<func_name>:<version>"
response = client.invoke_function(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

#### NOTE

Obtain **AK/SK**, **region** (endpoint), and **project\_id** by referring to [AK/SK Signing and Authentication Guide](#).

Obtain **func\_name** and **version** from the function details page.

**xCFFRequestVersionRequest** indicates the response body format. **v0**: text format; **v1**: JSON format. Select this format when using an SDK.

# 5 Go SDK

A [synchronous function execution](#) SDK is used as an example. To use the sample code, you must add the SDK dependency with the same language.

**Table 5-1** Go SDK information

SDK Info	Description
Installation	go get -u github.com/huaweicloud/huaweicloud-sdk-go-v3
Links	<a href="#">SDK Dependency</a> <a href="#">Go SDK User Guide</a>

The request/response parameters and example requests/responses of the SDK are the same as those of the corresponding APIs. For details about the parameters and examples, see the API for [executing a function synchronously](#).

## SDK Request Example

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    functiongraph "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/functiongraph/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/functiongraph/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/functiongraph/v2/region"
)

func main() {
    // This example is only used for testing purposes. Do not hardcode your AK/SK in the production
    environment.
    ak := "<YOUR AK>"
    sk := "<YOUR SK>"
    securityToken := os.Getenv("HUAWEICLOUD_SDK_SECURITY_TOKEN")
    projectId := "{your projectId string}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithSecurityToken(securityToken).
        WithProjectId(projectId).
```

```
SafeBuild()

client := functiongraph.NewFunctionGraphClient(
    functiongraph.FunctionGraphClientBuilder().
        WithRegion(region.ValueOf("<region>")).
        WithCredential(auth).
        Build())

request := &model.InvokeFunctionRequest{}
xCffLogTypeRequest:= "tail"
request.XCffLogType = &xCffLogTypeRequest
xCFFRequestVersionRequest:= "v1"
request.XCFFRequestVersion = &xCFFRequestVersionRequest
request.FunctionUrn = "urn:fss:<region>:<project_id>:function:default:<func_name>:<version>"
response, err := client.InvokeFunction(request)
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
}
```

 **NOTE**

Obtain **AK/SK**, **region** (endpoint), and **project\_id** by referring to [AK/SK Signing and Authentication Guide](#).

Obtain **func\_name** and **version** from the function details page.

**xCFFRequestVersionRequest** indicates the response body format. **v0**: text format; **v1**: JSON format. Select this format when using an SDK.