

06 SDK Reference

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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](#).

Generating Code Inline

[API Explorer](#) can dynamically generate SDK code that meets your requirements, simplifying SDK usage. Therefore, it is recommended.

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	huaweicloud-sdk-java-v3	Java SDK User Guide
Python	huaweicloud-sdk-python-v3	Python SDK User Guide
Go	huaweicloud-sdk-go-v3	Go SDK User Guide
.NET	huaweicloud-sdk-net-v3	.Net SDK User Guide
Node.js	huaweicloud-sdk-nodejs-v3	Node.js SDK User Guide
PHP	huaweicloud-sdk-php-v3	PHP SDK User Guide

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	<pre><dependency> <groupId>com.huaweicloud.sdk</groupId> <artifactId>huaweicloud-sdk-functiongraph</artifactId> <version>\${version}</version> </dependency></pre>
Links	SDK Dependency Java SDK User Guide

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.*;

import java.util.Map;
import java.util.HashMap;

public class InvokeFunctionSolution {
```

```

public static void main(String[] args) {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
    // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
    // environment variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running
    // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    String ak = System.getenv("CLOUD_SDK_AK");
    String sk = System.getenv("CLOUD_SDK_SK");

    ICredential auth = new BasicCredentials()
        .withAk(ak)
        .withSk(sk);

    FunctionGraphClient client = FunctionGraphClient.newBuilder()
        .withCredential(auth)
        .withRegion(FunctionGraphRegion.valueOf("<YOUR_REGION>"))
        .build();
    InvokeFunctionRequest request = new InvokeFunctionRequest();
    request.setXCFFRequestVersion("v1");
    Map<String, Object> listbodyInvokeFunctionRequestBody = new HashMap<>();
    listbodyInvokeFunctionRequestBody.put("k", "v");
    request.withBody(listbodyInvokeFunctionRequestBody);
    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.getRequestId());
        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	<code>npm i @huaweicloud/huaweicloud-sdk-functiongraph</code>
Links	SDK Dependency Node.js SDK User Guide

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/v2/public-api");

// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
const ak = process.env.CLOUD_SDK_AK;
const sk = process.env.CLOUD_SDK_SK;
const endpoint = "https://functiongraph.<region>.myhuaweicloud.com";
const project_id = "";

const credentials = new core.BasicCredentials()
    .withAk(ak)
    .withSk(sk)
    .withProjectId(project_id)
const client = functiongraph.FunctionGraphClient.newBuilder()
    .withCredential(credentials)
    .withEndpoint(endpoint)
    .build();
const request = new functiongraph.InvokeFunctionRequest();
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	<code>pip install huaweicloudsdkfunctiongraph</code>
Links	SDK Dependency Python SDK User Guide

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__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = __import__('os').getenv("CLOUD_SDK_AK")
    sk = __import__('os').getenv("CLOUD_SDK_SK")

    credentials = BasicCredentials(ak, sk) \

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

    try:
```

```
request = InvokeFunctionRequest()
listInvokeFunctionRequestBodybody = {
    "k": "v"
}
request.body = listInvokeFunctionRequestBodybody
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	<code>go get -u github.com/huaweicloud/huaweicloud-sdk-go-v3</code>
Links	SDK Dependency Go SDK User Guide

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() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        Build()
```

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

request := &model.InvokeFunctionRequest{}
var listInvokeFunctionRequestBodybody = map[string]interface{}{
    "k": "v",
}
request.Body = listInvokeFunctionRequestBodybody
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.

6 PHP 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 6-1 PHP SDK information

SDK Info	Description
Installation	You are advised to use Composer to install the SDK. # Install Composer. curl -sS https://getcomposer.org/installer php # Install the PHP SDK. composer require huaweicloud/huaweicloud-sdk-functiongraph # After the installation is complete, import the auto loading file of Composer. require 'path/to/vendor/autoload.php';
Links	SDK Dependency PHP SDK User Guide

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

```
<?php
namespace HuaweiCloud\SDK\FunctionGraph\V2\Model;
require_once "vendor/autoload.php";
use HuaweiCloud\SDK\Core\Auth\BasicCredentials;
use HuaweiCloud\SDK\Core\Http\HttpConfig;
use HuaweiCloud\SDK\Core\Exceptions\ConnectionException;
use HuaweiCloud\SDK\Core\Exceptions\RequestTimeoutException;
use HuaweiCloud\SDK\Core\Exceptions\ServiceResponseException;
use HuaweiCloud\SDK\FunctionGraph\V2\FunctionGraphClient;

// The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
// risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
// variables and decrypted during use to ensure security.
// In this example, AK and SK are stored in environment variables for authentication. Before running this
// example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
$ak = getenv('CLOUD_SDK_AK');
$sk = getenv('CLOUD_SDK_SK');
$endpoint = "https://functiongraph.<region>.myhuaweicloud.com";
```

```

$projectId = "";
$credentials = new BasicCredentials($ak,$sk,$projectId);
$config = HttpConfig::getDefaultConfig();
$config->setIgnoreSslVerification(true);

$client = FunctionGraphClient::newBuilder(new FunctionGraphClient)
->withHttpConfig($config)
->withEndpoint($endpoint)
->withCredentials($credentials)
->build();
$request = new InvokeFunctionRequest();

try {
    $response = $client->InvokeFunction($request);
    echo "\n";
    echo $response;
} catch (ConnectionException $e) {
    $msg = $e->getMessage();
    echo "\n". $msg ."\n";
} catch (RequestTimeoutException $e) {
    $msg = $e->getMessage();
    echo "\n". $msg ."\n";
} catch (ServiceResponseException $e) {
    echo "\n";
    echo $e->getHttpStatusCode(). "\n";
    echo $e->getRequestId(). "\n";
    echo $e->getErrorCode() . "\n";
    echo $e->getErrMsg() . "\n";
}

```

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.

7.NET 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 7-1 .NET SDK information

SDK Info	Description
Installation	- Using .NET CLI dotnet add package HuaweiCloud.SDK.FunctionGraph - Using Package Manager Install-Package HuaweiCloud.SDK. FunctionGraph
Links	SDK Dependency .NET SDK User Guide

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

```
using System;
using System.Collections.Generic;
using HuaweiCloud.SDK.Core;
using HuaweiCloud.SDK.Core.Auth;
using HuaweiCloud.SDK.FunctionGraph;
using HuaweiCloud.SDK.FunctionGraph.V2;
using HuaweiCloud.SDK.FunctionGraph.V2.Model;
namespace InvokeFunctionSolution
{
    class Program
    {
        static void Main(string[] args)
        {
            // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
            security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
            environment variables and decrypted during use to ensure security.
            // In this example, AK and SK are stored in environment variables for authentication. Before
            running this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local
            environment
            string ak = Environment.GetEnvironmentVariable("CLOUD_SDK_AK");
            string sk = Environment.GetEnvironmentVariable("CLOUD_SDK_SK");
```

```

var config = HttpConfig.GetDefaultConfig();
config.IgnoreSslVerification = true;
var auth = new BasicCredentials(ak, sk);
var client = FunctionGraphClient.NewBuilder()
    .WithCredential(auth)
    .WithRegion(FunctionGraphRegion.ValueOf("<regionId>"))
    .WithHttpConfig(config)
    .Build();
var req = new InvokeFunctionRequest
{
};
try
{
    var resp = client.InvokeFunction(req);
    var respStatusCode = resp.HttpStatusCode;
    Console.WriteLine(respStatusCode);
}
catch (RequestTimeoutException requestTimeoutException)
{
    Console.WriteLine(requestTimeoutException.ErrorMessage);
}
catch (ServiceResponseException clientRequestException)
{
    Console.WriteLine(clientRequestException.HttpStatusCode);
    Console.WriteLine(clientRequestException.RequestId);
    Console.WriteLine(clientRequestException.ErrorCode);
    Console.WriteLine(clientRequestException.ErrorMsg);
}
catch (ConnectionException connectionException)
{
    Console.WriteLine(connectionException.ErrorMessage);
}
}
}

```

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.