EventGrid

Getting Started

Issue 01

Date 2025-09-05

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Contents

1 Enabling EG and Authorizing Permissions

Before using EventGrid (EG), ensure that:

1. You have **registered a HUAWEI ID and enabled Huawei Cloud services**.
2. Your account has permission to use EG. For details about how to grant and bind account permissions, see **Creating a User and Granting Permissions**.

   If you use an IAM user account, contact the Huawei Cloud account administrator to authorize you to use the EG service.

   To perform operations related to event sending, configure the following permissions as instructed in **Permissions Management**.

Table 1-1 EG permissions

Role/Policy Name	Description	Type	Dependency
EG FullAccess	Full permissions for EG	System-defined policy	N/A
EG Publisher	Permissions for publishing events	System-defined policy	N/A
EG ReadOnlyAccess	Read-only permissions for EG	System-defined policy	N/A
EG CommonAccess	General permissions for EG.	System-defined policy	N/A

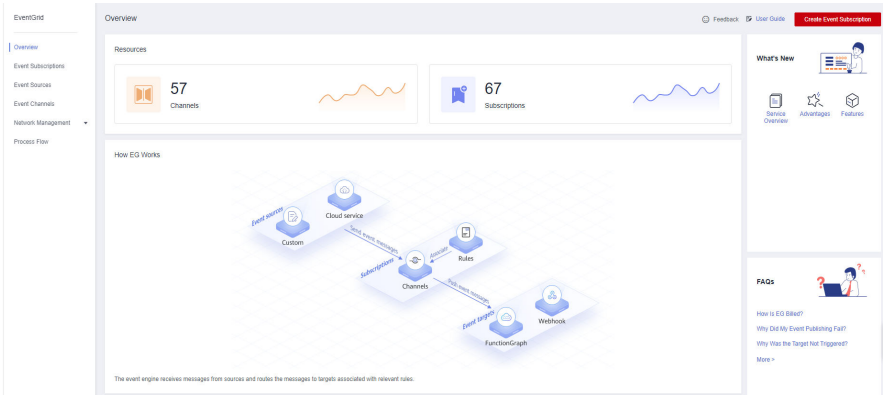
Table 1-2 Additional permission parameters

Configuration	Permission
Event Target: **EventGrid (EG)**, **Simple Message Notification (SMN)**, **FunctionGraph (function computing)**, custom endpoint or message source	iam:permissions:grantRoleToAgencyOnProject
	iam:agencies:listAgencies
	iam:roles:listRoles
	iam:agencies:getAgency
	iam:agencies:createAgency
	iam:permissions:listRolesForAgency
	iam:permissions:listRolesForAgencyOnProject
	iam:permissions:listRolesForAgencyOnDomain

Logging In to the EG Console

Step 1 Log in to the **EG console**.

Figure 1-1 EG console



----End

2 Sending a Huawei Cloud Service Event

This section describes how to send a Huawei Cloud service event.

Huawei Cloud Object Storage Service (OBS) sends the generated cloud service events to EG. The EG service filters and converts the events based on the filter rule, and triggers the event target (a function in FunctionGraph).

Prerequisites

- You have completed the operations in **Enabling EG and Authorizing Permissions**.
- You have obtained the permission to access OBS and FunctionGraph.

Step 1: Create an Event Target (Create a Function)

Step 1 Log in to the FunctionGraph console.

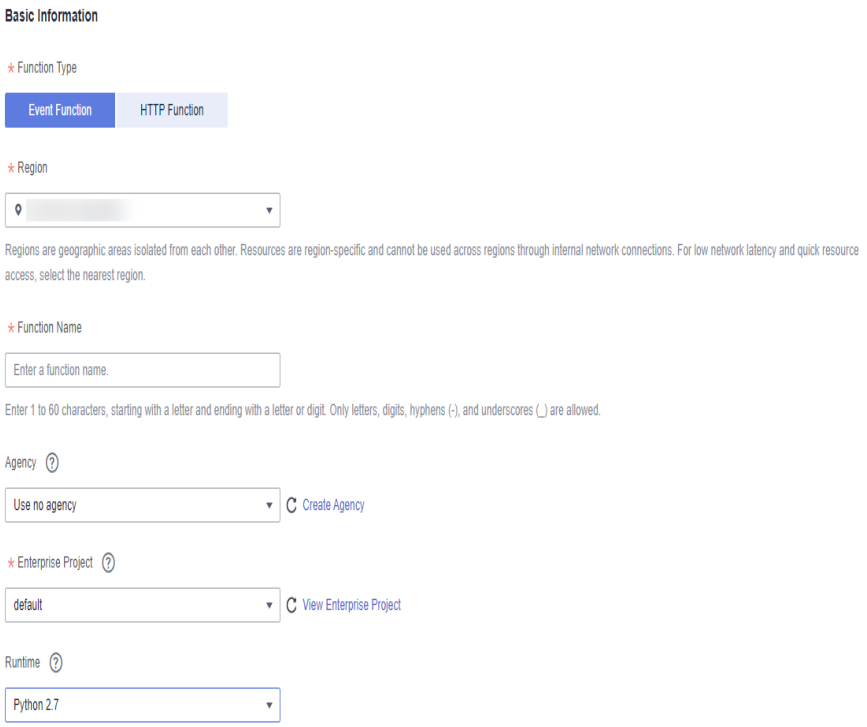
Step 2 Choose **Functions** > **Function List** in the navigation pane.

Step 3 Click **Create Function**.

Step 4 Set function parameters, as shown in **Figure 2-1**. For details about the function parameters, see **Creating a Function**.

- **Function Type**: Select **Event Function**.
- **Region**: Select the region as required.
- **Function Name**: Enter **test**.
- **Agency**: Select **Use no agency**.
- **Runtime**: Select **Python 2.7**.

Figure 2-1 Creating a function



Step 5 Click **Create**.

Step 6 On the **Code** tab page of the function details page, enter the following code and click **Deploy**.

```
# -*- coding:utf-8 -*-
import json
def handler (event, context):
    print(json.dumps(event))
    return {
        "statusCode": 200,
        "isBase64Encoded": False,
        "body": json.dumps(event),
        "headers": {
            "Content-Type": "application/json"
        }
    }
```

----End

Step 2: Create an Event Subscription

Subscriptions bind event sources, channels, and targets. Events of sources are routed to targets based on specified rules.

Step 1 Log in to the EG console.

Step 2 In the navigation pane, choose **Event Subscriptions**.

Step 3 Click **Create Event Subscription**.

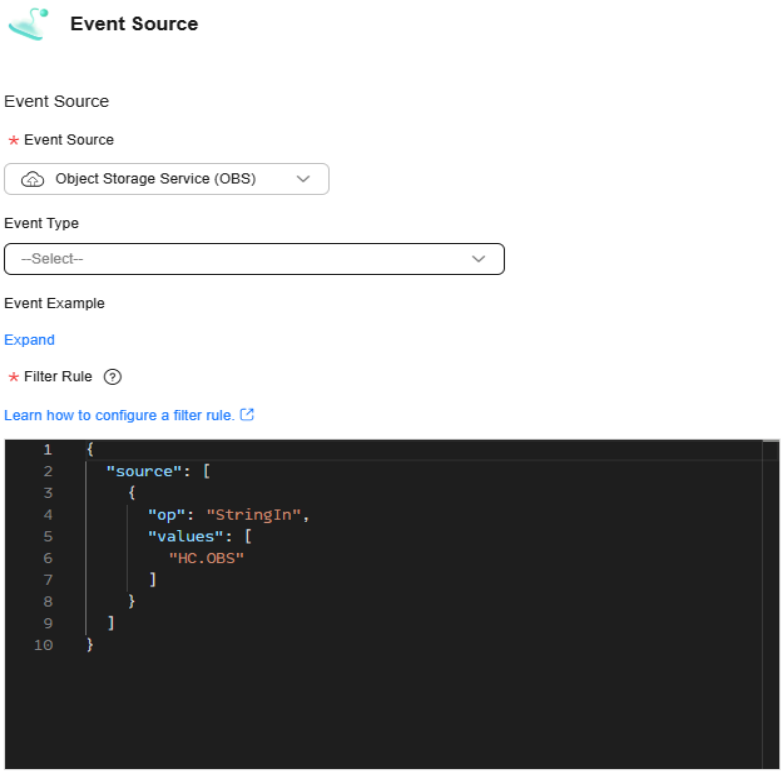
Step 4 Click next to the default subscription name.

Step 5 Enter **OfficialEvent** in **Subscription Name**, and click **OK**.

Step 6 Configure an event source.

1. Click **Event Source**, and set event source parameters as shown in **Figure 2-2**.
   - **Provider**: Select Cloud services.
   - **Event Source**: Select **Object Storage Service (OBS)**.
   - **Filter Rule**: Use the default rule.

   Figure 2-2 Setting event source parameters

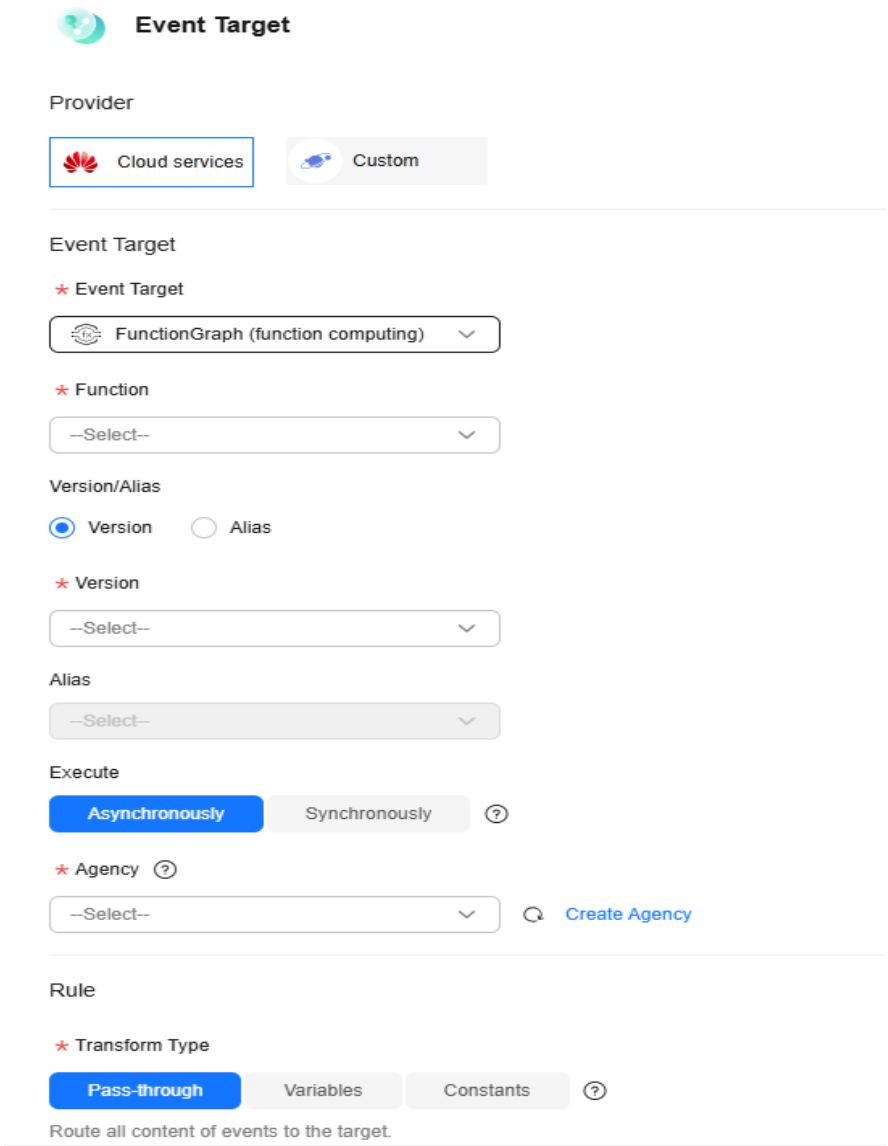


2. Click **OK**.

Step 7 Configure an event target.

1. Click **Event Target**, and set event target parameters as shown in **Figure 2-3**.
   - **Provider**: Select Cloud services.
   - **Event Target**: Select **FunctionGraph (function computing)**.
   - **Function**: Select **test** (created in **Step 1**).
   - **Version**: Select **latest**.
   - **Agency**: Select or create an agency named **EG_TARGET_AGENCY**. For details about the permissions of the agency, see **Authorization**.
   - **Transform Type**: Select **Pass-through**.

Figure 2-3 Setting event target parameters



2. Click **OK**.

Step 8 Click **Save**.

----End

Step 3: Generate an OBS Event (Create an OBS Bucket)

Step 1 Log in to the OBS console.

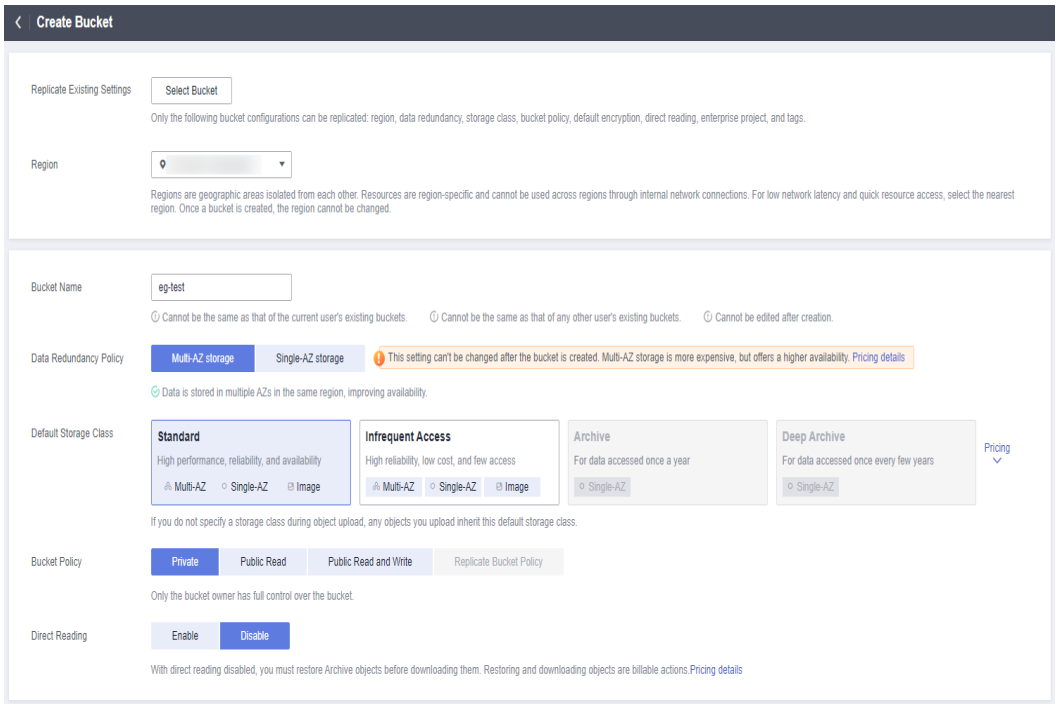
Step 2 Click **Create Bucket**.

Step 3 Set bucket parameters, as shown in **Figure 2-4**. For details about these parameters, see **Creating a Bucket**.

- **Region**: The value must be the same as the region of the EG service.
- **Bucket Name**: Enter **eg-test**.
- **Default Storage Class**: Select **Standard**.

- **Bucket Policy**: Select **Private**.
- **Default Encryption**: Leave it unselected.
- **Direct Reading**: Select **Disable**.
- **Enterprise Project**: Select **default**.

Figure 2-4 Creating a bucket



Step 4 Click **Create Now** and create a bucket as prompted.

----End

Step 4: View Results

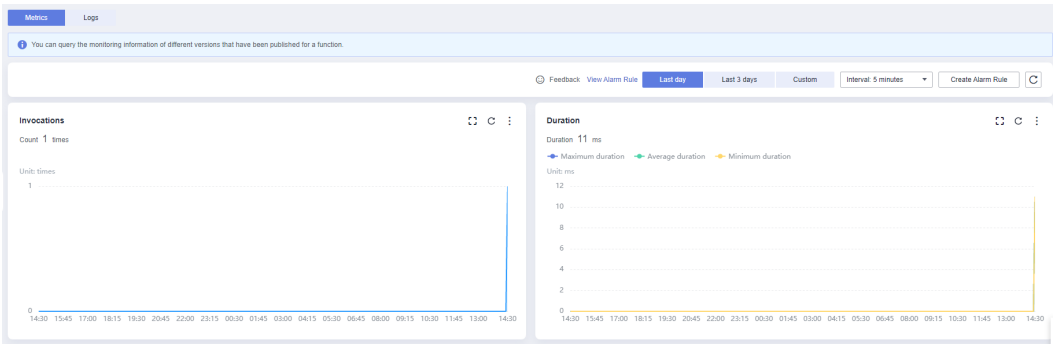
Step 1 Log in to the FunctionGraph console.

Step 2 Choose **Functions** > **Function List** in the navigation pane.

Step 3 Click the **test** function to go to the function details page.

Step 4 On the **Metrics** tab page, view the number of invocations and running duration.

Figure 2-5 Viewing metrics



----End

3 Sending a Custom Event

This section describes how to send a custom event.

The custom events generated by custom event sources are sent to EG. The EG service filters and converts the custom events based on the filter rule, and triggers the event target (a function in FunctionGraph).

Prerequisites

- You have completed the operations in **Enabling EG and Authorizing Permissions**.
- You have obtained the permission to access FunctionGraph.

Step 1: Create a Custom Channel

Step 1 Log in to the EG console.

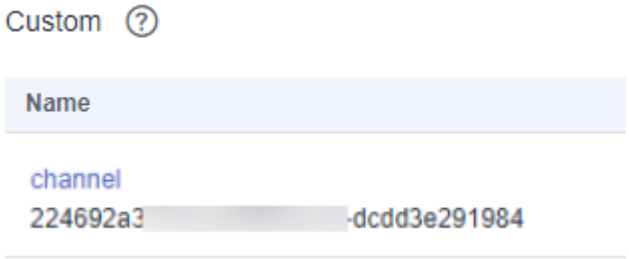
Step 2 In the navigation pane, choose **Event Channels**.

Step 3 Click **Create Event Channel**.

Step 4 Enter **channel** in **Name**, and click **OK**.

View the created channel in the **Custom** area, and record the channel ID.

Figure 3-1 Event channel ID



----End

Step 2: Create an Event Source

Step 1 Log in to the EG console.

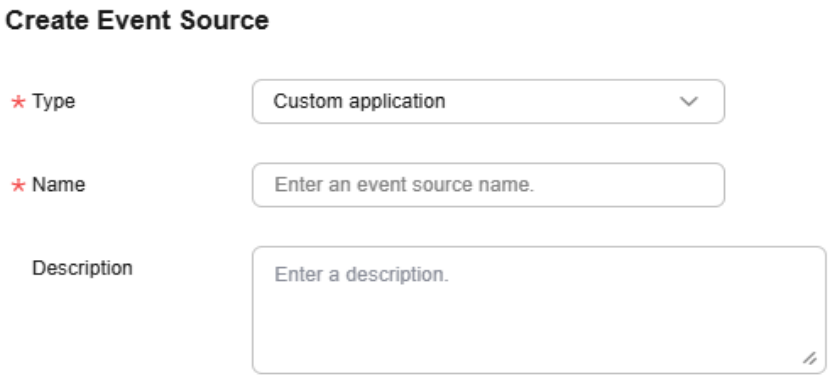
Step 2 In the navigation pane, choose **Event Bus** > **Event Sources**.

Step 3 Click **Create Event Source** in the upper right corner.

Step 4 Set event source parameters, as shown in **Figure 3-2**.

- **Type**: Select a value from the drop-down list.
- **Name**: Enter **egsdk-source**.
- **Description**: Enter a description.

Figure 3-2 Create a source for the custom event



Step 5 Click **OK**.

View this event source on the **Custom** tab.

----End

Step 3: Create an Event Target (Create a Function)

Step 1 Log in to the FunctionGraph console.

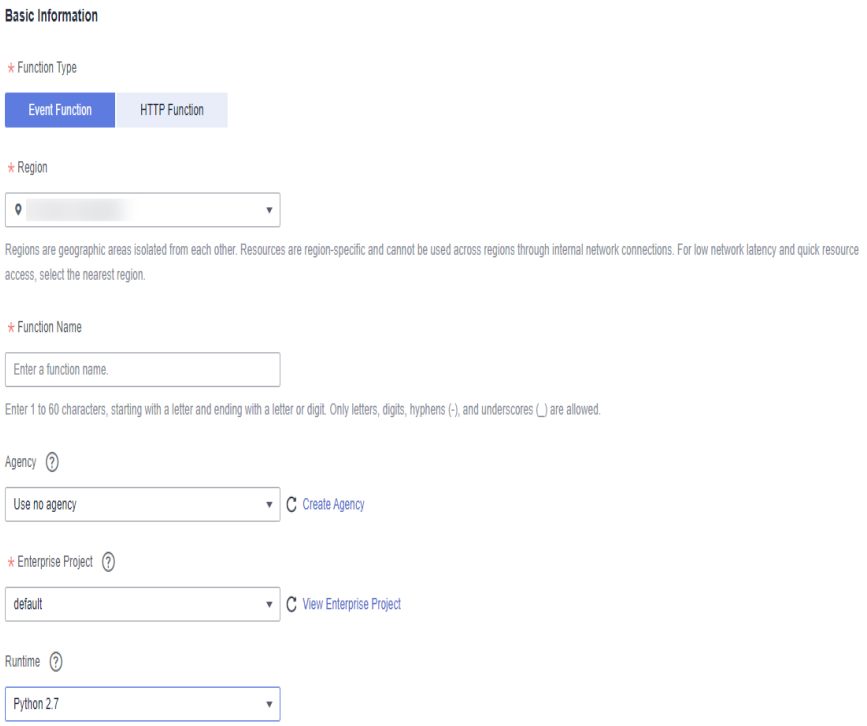
Step 2 Choose **Functions** > **Function List** in the navigation pane.

Step 3 Click **Create Function**.

Step 4 Set function parameters, as shown in **Figure 3-3**. For details about the function parameters, see **Creating a Function**.

- **Function Type**: Select **Event Function**.
- **Region**: Select the region as required.
- **Function Name**: Enter **test**.
- **Agency**: Select **Use no agency**.
- **Runtime**: Select **Python 2.7**.

Figure 3-3 Creating a function



Step 5 Click **Create**.

Step 6 On the **Code** tab page of the function details page, enter the following code and click **Deploy**.

```
# -*- coding:utf-8 -*-
import json
def handler (event, context):
    print(json.dumps(event))
    return {
        "statusCode": 200,
        "isBase64Encoded": False,
        "body": json.dumps(event),
        "headers": {
            "Content-Type": "application/json"
        }
    }
```

----End

Step 4: Create an Event Subscription

Subscriptions bind event sources, channels, and targets. Events of sources are routed to targets based on specified rules.

Step 1 Log in to the EG console.

Step 2 In the navigation pane, choose **Event Subscriptions**.

Step 3 Click **Create Event Subscription**.

Step 4 Click  next to the default subscription name.

Step 5 Enter **CustomEvent** in **Subscription Name**, and click **OK**.

Step 6 Configure an event source.

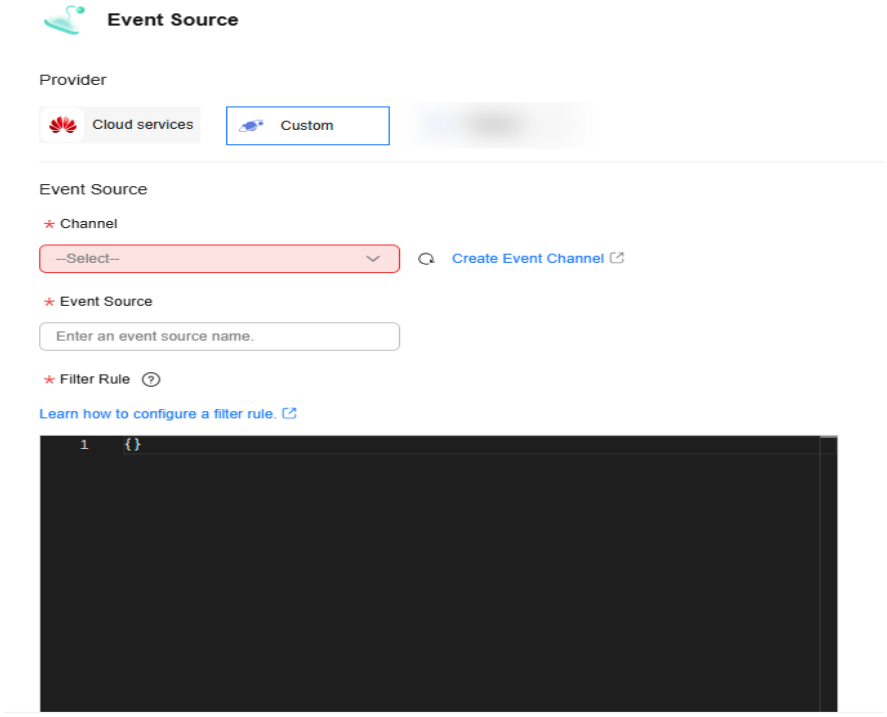
1. Click **Event Source**, and set event source parameters as shown in **Figure 3-4**.

Table 3-1 Custom event source parameters

Parameter	Description
Channel	Select an existing custom event channel.
Event Source	Enter or select a custom event source that has been associated with the selected custom event channel.
Filter Rule	Enter an event filter rule. Only events that match these filter rules will be routed to the associated targets.

Filter Rule: Retain the default value and record the value of **values**, for example, **egsdk-source** in **Figure 3-4**.

Figure 3-4 Setting event source parameters



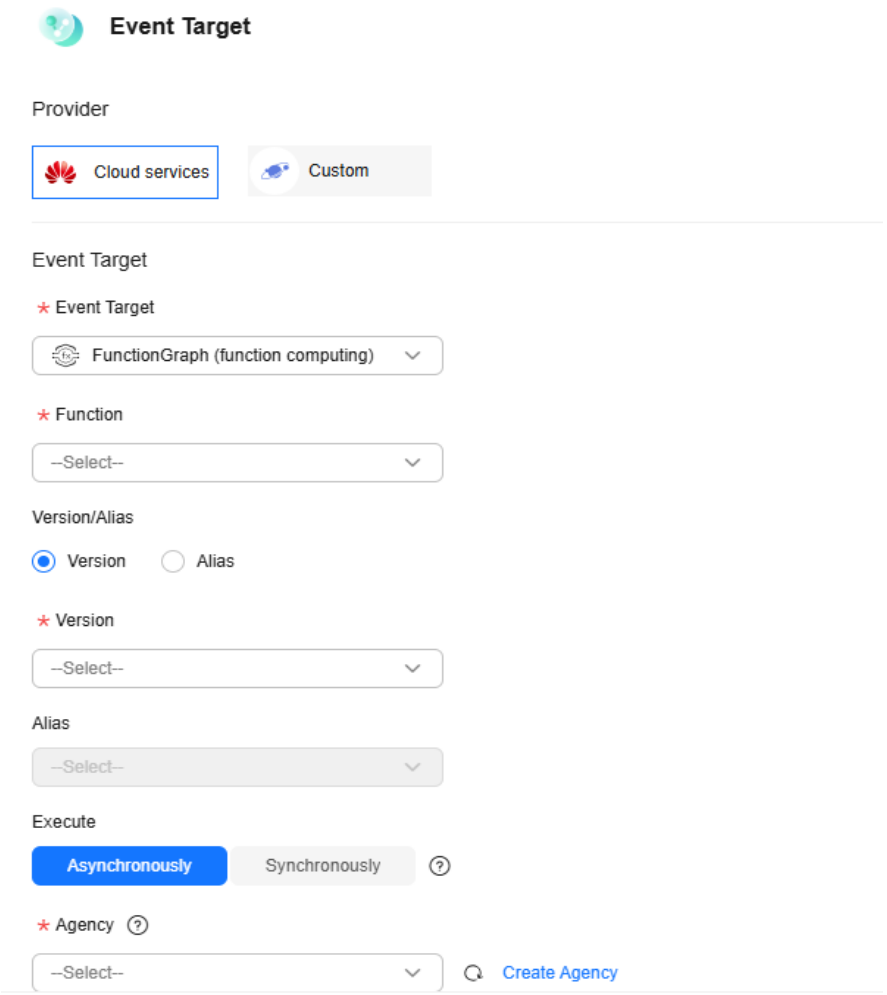
2. Click **OK**.

Step 7 Configure an event target.

1. Click **Event Target**, and set event target parameters as shown in **Figure 3-5**.
   - **Provider**: Select Cloud services.

- **Event Target**: Select **FunctionGraph (function computing)**.
- **Function**: Select **test** (created in **Step 3**).
- **Version**: Select **latest**.
- **Agency**: Select the created agency.
- **Transform Type**: Select **Pass-through**.

Figure 3-5 Setting event target parameters



2. Click **OK**.

Step 8 Click **Save**.

----End

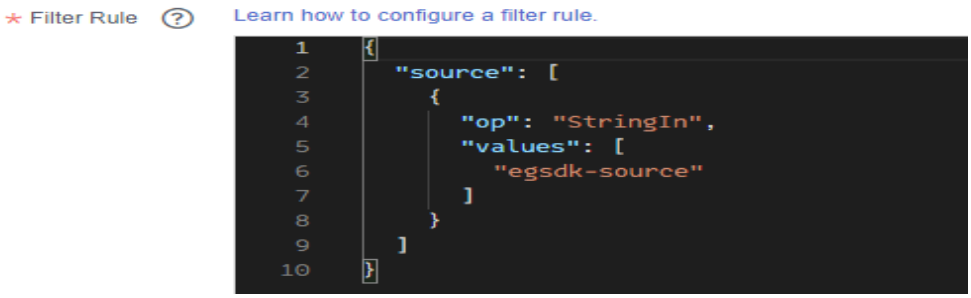
Step 5: Send a Custom Event

Step 1 Configure a custom event. For details, see **CloudEvents SDK**.

Modify the following parameters in the sample code for publishing an event:

- **NAME**: IAM username.
- **PASSWORD**: IAM user password.

- **DOMAIN_NAME**: Account name.
- **IAM_ENDPOINT**: IAM endpoint. For details, see **Regions and Endpoints**.
- **PROJECT_ID**: The project ID. Obtain it by referring to **API Credentials**.
- **CHANNEL_ID**: Change the value to the channel ID recorded in **Step 1**.
- **ENDPOINT**: EG **endpoint**.
- **SOURCE**: Event source name. Change it to the value of **values** in **Filter** recorded in **Step 4: Create an Event Subscription**.



- **TIME**: Time when the event is generated.
- **DATA**: Event content that complies with the **CloudEvents 1.0** specifications. Modify this parameter based on service requirements.

Step 2 Run the main function to publish the event.

----End

Step 6: View Results

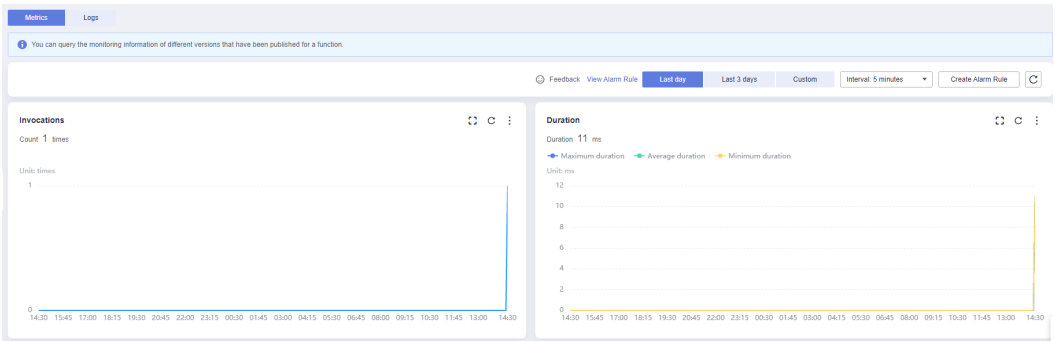
Step 1 Log in to the FunctionGraph console.

Step 2 Choose **Functions** > **Function List** in the navigation pane.

Step 3 Click the **test** function to go to the function details page.

Step 4 On the **Metrics** tab page, view the number of invocations and running duration.

Figure 3-6 Viewing metrics



----End

4 Common Practices

After purchasing EG, you can centrally access it through both Huawei Cloud services and custom or SaaS applications, and build a loosely coupled architecture that is distributed and event-driven to flexibly route your events via CloudEvents.

This section describes common practices of EG to help you better use it.

Table 4-1 Common practices

Practice	Description
Routing OBS Application Service Messages to DMS for Kafka.	Route application service events of OBS to DMS for Kafka.

