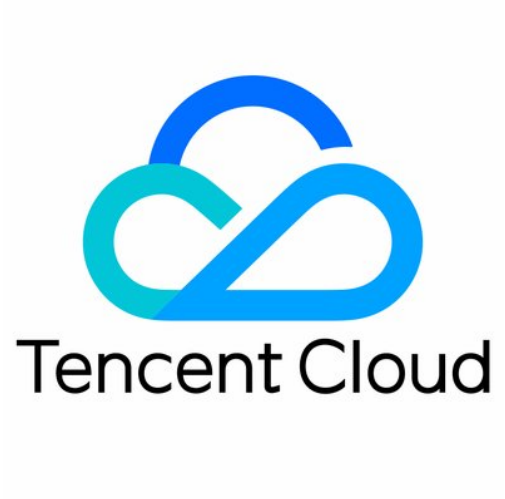
Event Bridge

Practical Tutorial

Product Documentation



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Practical Tutorial
Migrating Event Alarm
Quick Migration Guide

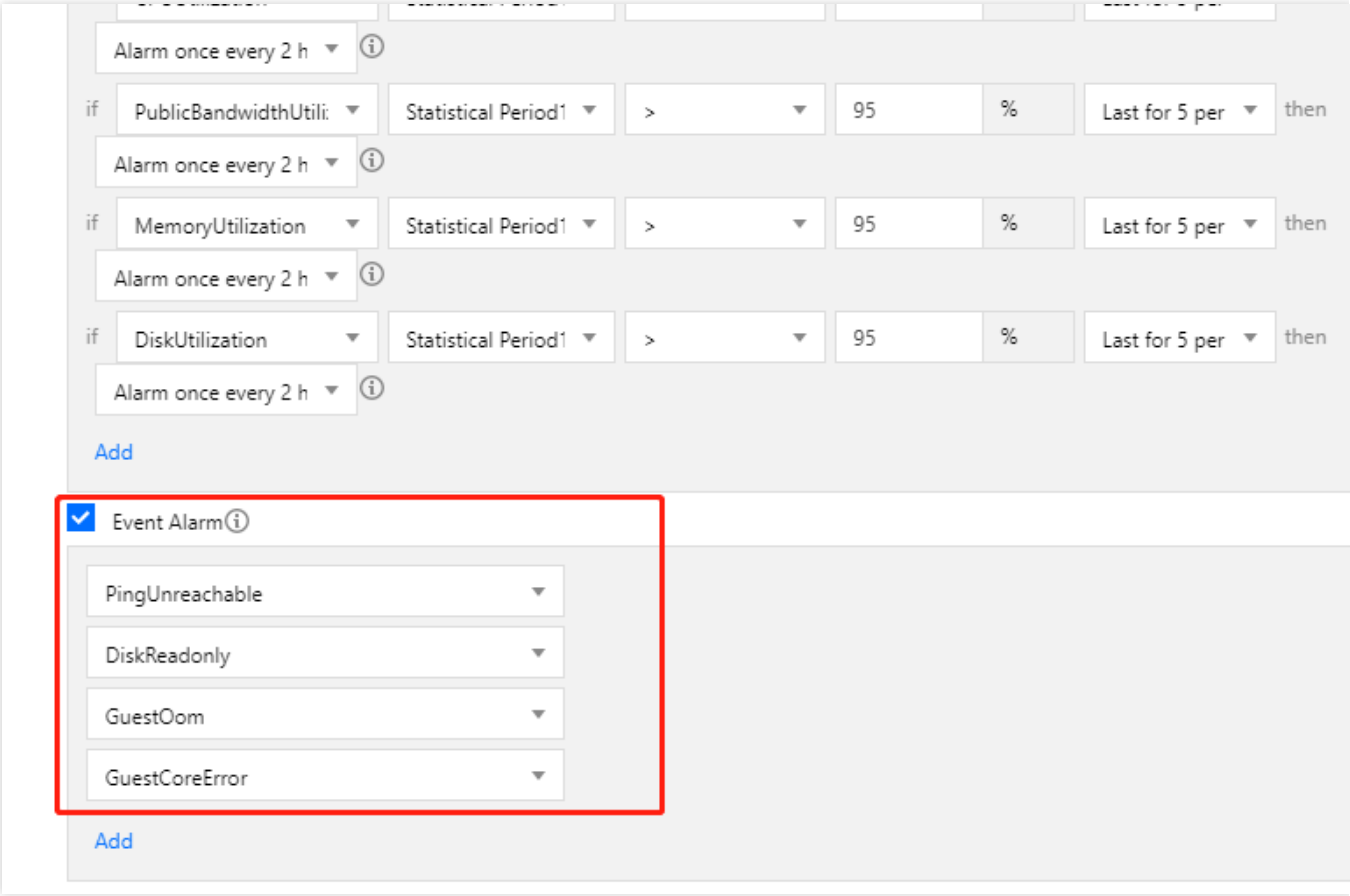
Last updated：2024-07-23 15:08:07

Feature Description

If you are currently using Cloud Monitor (CM) Event Center, EventBridge had automatically migrated your existing CM **alarm policies** and **push targets** at the end of April 2022 to ensure smooth user experience.

Limits

1. This migration involves only **event alarm** policies. For metric alarms, you can still configure and manage them in the CM console.



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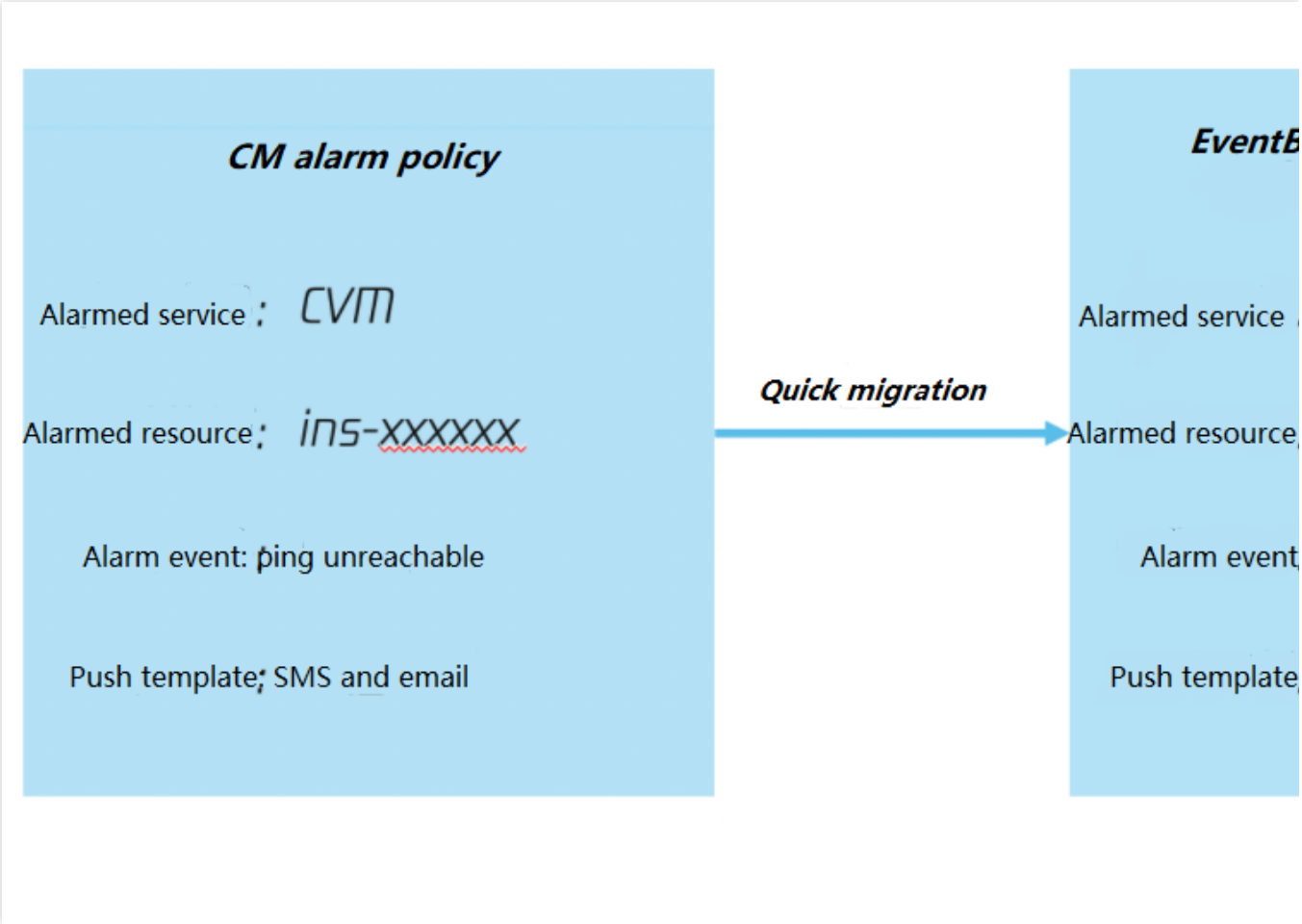
2. Policies will be migrated by service. The conversion logic for a single alarm rule is as shown below. After migration, alarms will be configured for all resources of the specific service under your account. The number of alarm policies remains the same before and after the migration. If you want to configure alarms for specified resources, you can manually adjust the alarm rules. For more information, see Alarm Policy Configuration.



3. **Alarm policies**, **push targets**, and **platform events** will all be migrated together, and the corresponding event rules and targets will be created for your **Tencent Cloud service event bus** in the **Guangzhou** region.

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Alarm Policy Configuration

Last updated：2024-07-23 15:08:07

Important

EventBridge is integrated with Tencent Cloud Observability Platform (TCOP). You can configure the alert rules in the TCOP console.

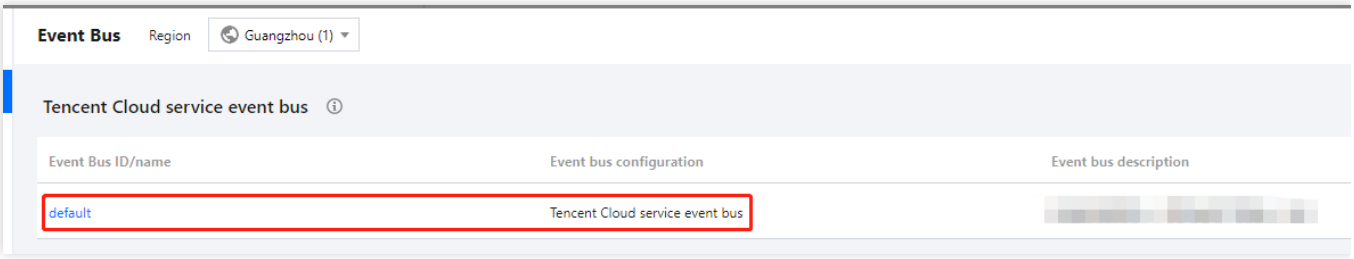
Overview

Upon the activation of EventBridge, a **default Tencent Cloud service event bus** in created automatically in the **Guangzhou** region. Events of all services connected to the event bus are deliver events. You can also set event rules and delivery targets to configure an alarm link.

Configuring Alerting Rules

1. View the event list

Log in to the EventBridge console, go to the **default Tencent Cloud service event bus**, and view the events of all connected Tencent Cloud services.



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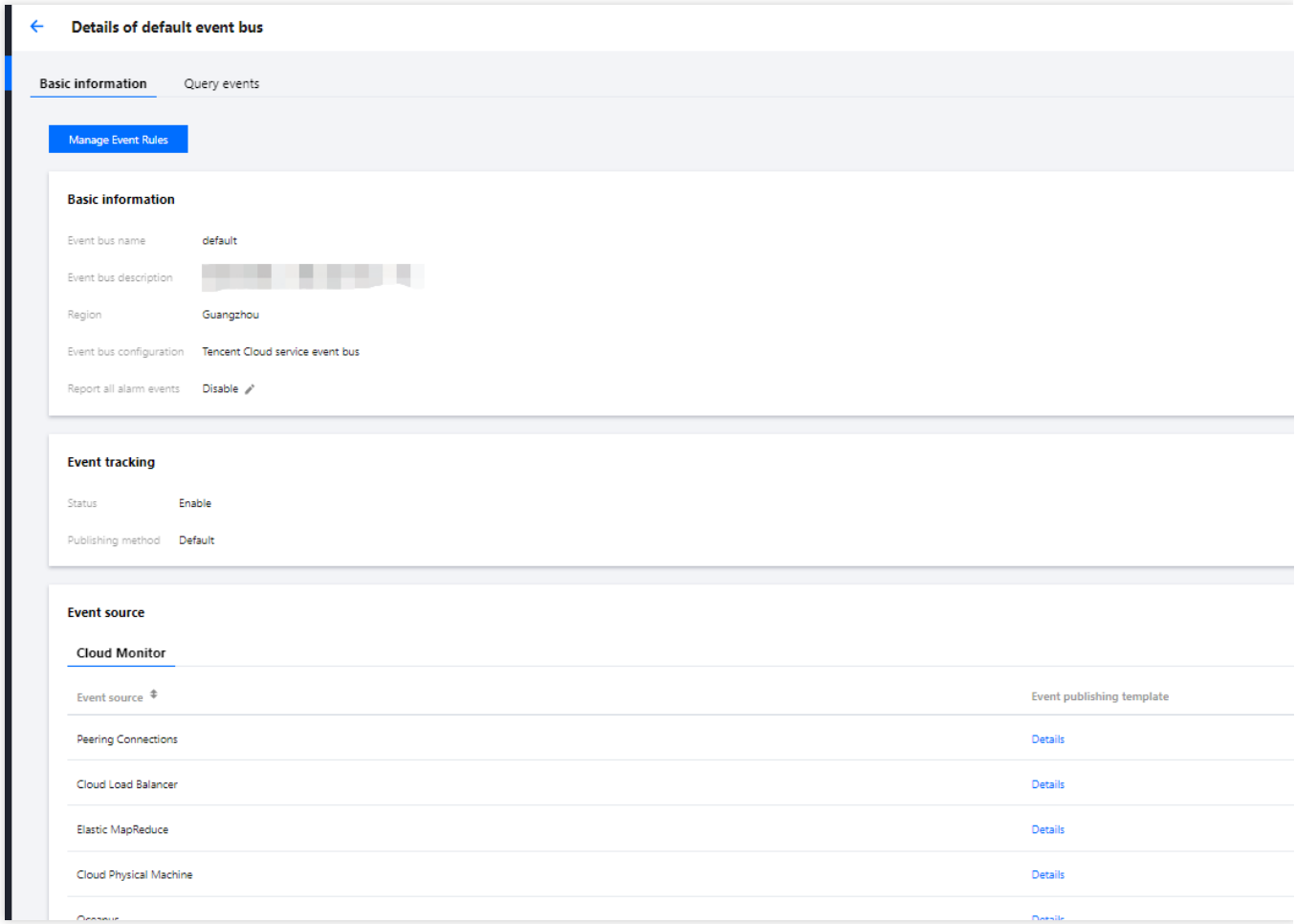

The standard event format is as shown below:

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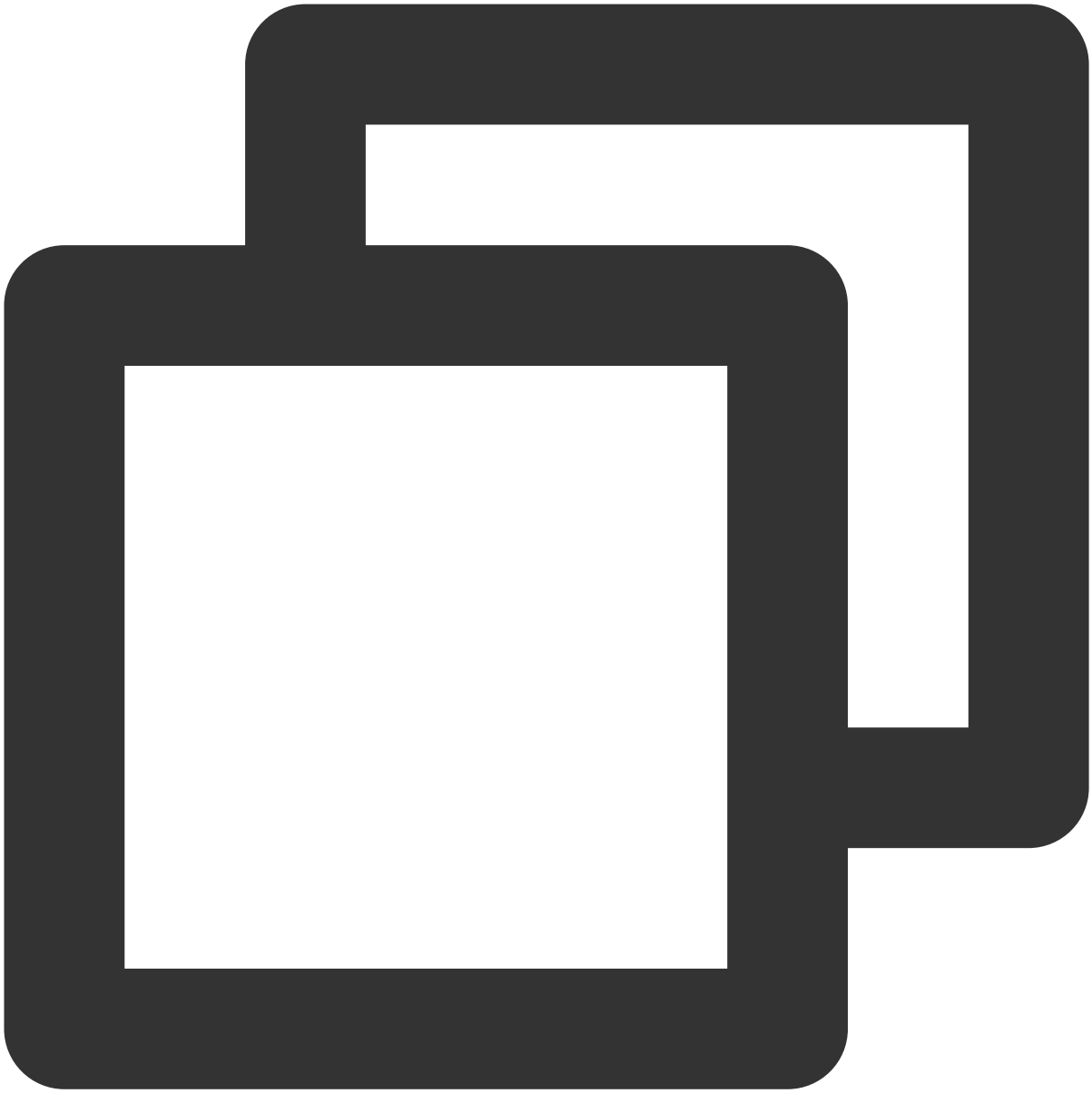

```
{
    "specversion":"1.0",
    "id":"13a3f42d-7258-4ada-da6d-023a333b4662",
    "source":"${ProductName}.cloud.tencent",
    "type":"cvm:ErrorEvent:ping_unreachable",
    "subject":"${resource ID}",
    "time": 1615430559146,
    "region":"ap-guangzhou",
    "resource":[
        "qcs::eb:ap-guangzhou:uid1250000000:eventbusid/eventruleid"
    ],
```

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```
    "datacontenttype":"application/json;charset=utf-8",
    "tags":{
        "key1":"value1",
        "key2":"value2"
     },
    "status":"1",
    "data":{
        "appId":"1250000011",
        "instanceId":"ins-sjdksjk",
        "projectId":"11",
        "dimensions":{
            "ip":"127.0.0.1"
            },
        "additionalMsg":{
            "IP":"something unnormal"
            }
    }
}
```

The preceding fields are described as follows:

Field	Description	String
specversion	Event structure version (CloudEvents version), which is 1.0.2.	String
ID	ID returned by `PUT Event` .	String
type	Type of the event passed in `PUT Event` . The standard format of a Tencent Cloud service alarm event is `${ProductName}:ErrorEvent:${EventType}` , where colons (:) are used to separate type fields.	String
source	Event source (which is required for a Tencent Cloud service event and is the abbreviation of `subject`). The value is `xxx.cloud.tencent` by default for a Tencent Cloud service.	String
subject	Event source details, which can be customized. QCS description such as `qcs::dts:ap-guangzhou:appid/uin:xxx` is used for a Tencent Cloud service by default.	String
timer	Event time, which is a GMT+0 timestamp in milliseconds, such as `1615430559146` .	Timestamp
datacontenttype	Data media type declaration.	String
region	Region.	String
status	Alert event status. Valid values: `1` (abnormal), `0` (resolved), and `-`	String

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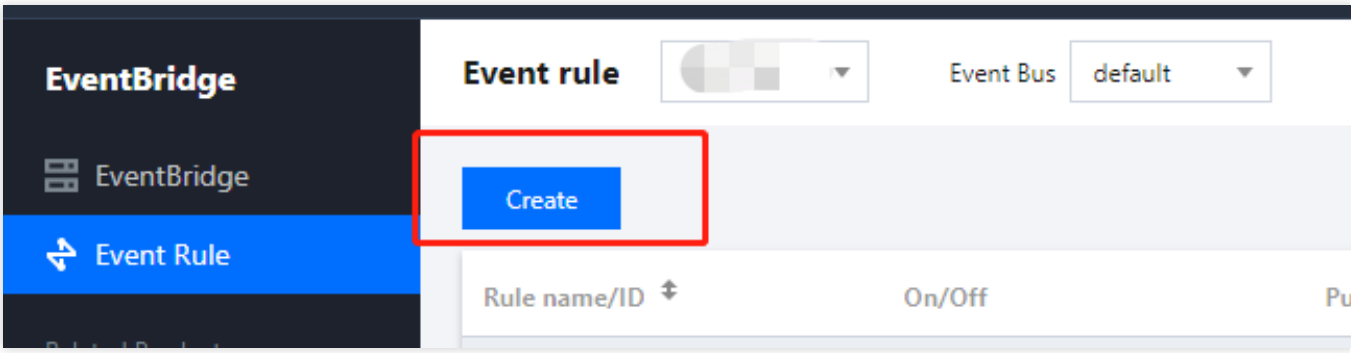
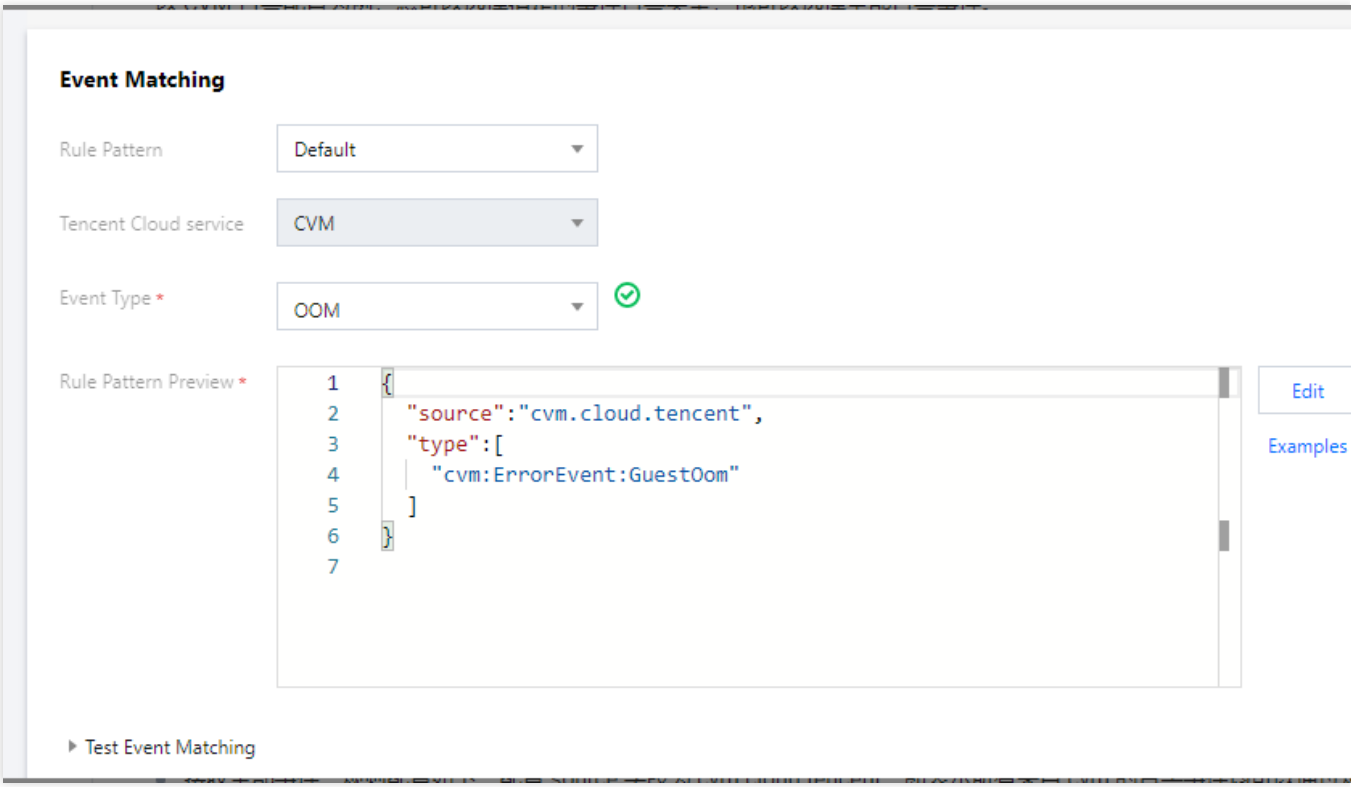
	(stateless).	
tags	Resource tags.	JSON
data	Details of the event input through `PUT Event` , which are customizable based on the specific business.	JSON

2. Configure an alert event rule

Go to the **Event Rule** page, select the target event bus. Create an event rule.





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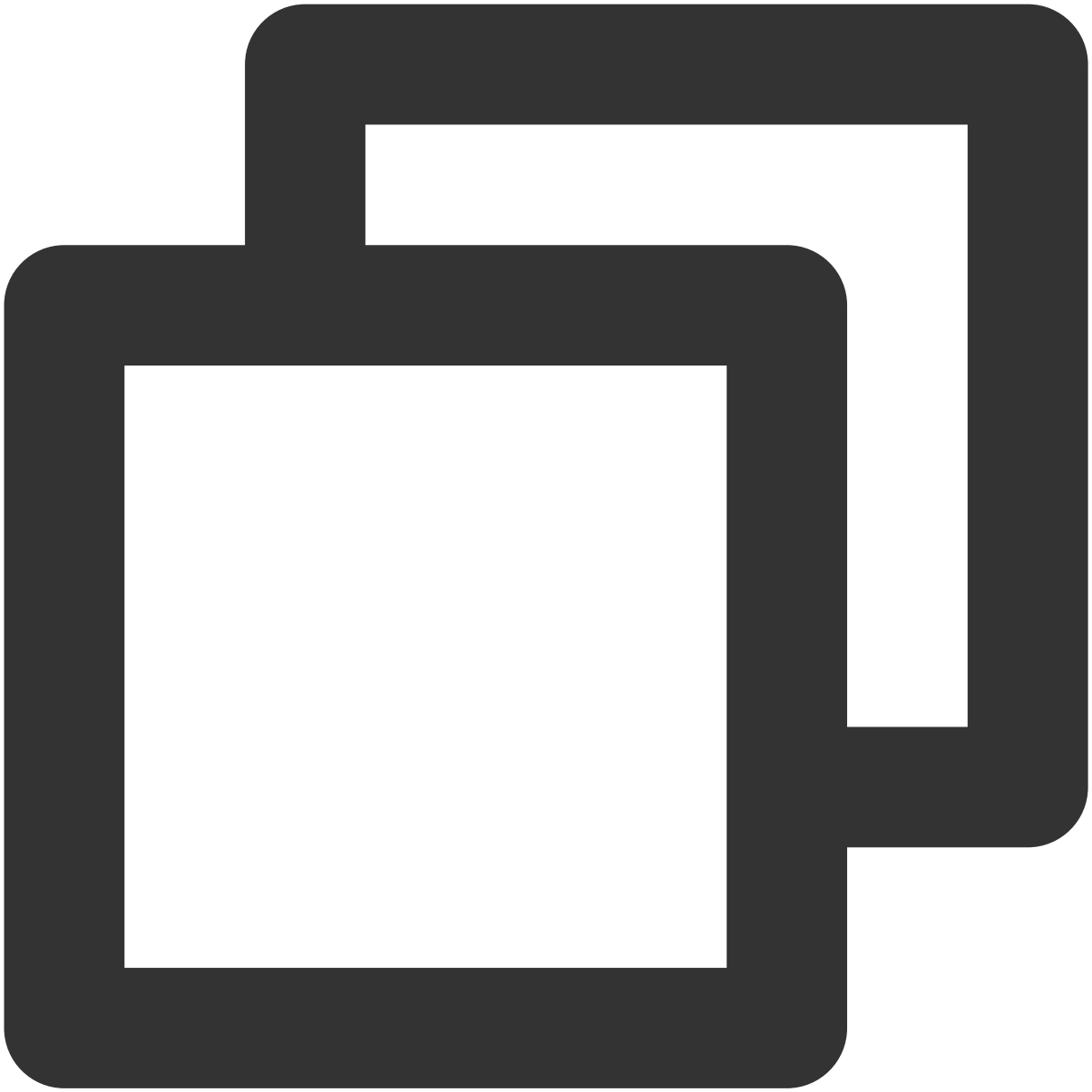
Sample alert rule

To receive and deliver all CVM alert events, the rule should be as below:



```
{
  "source":"cvm.cloud.tencent"
}
```

To receive and deliver only unreachable ping events from CVM, the rule should be as below. In this case, other events are discarded.

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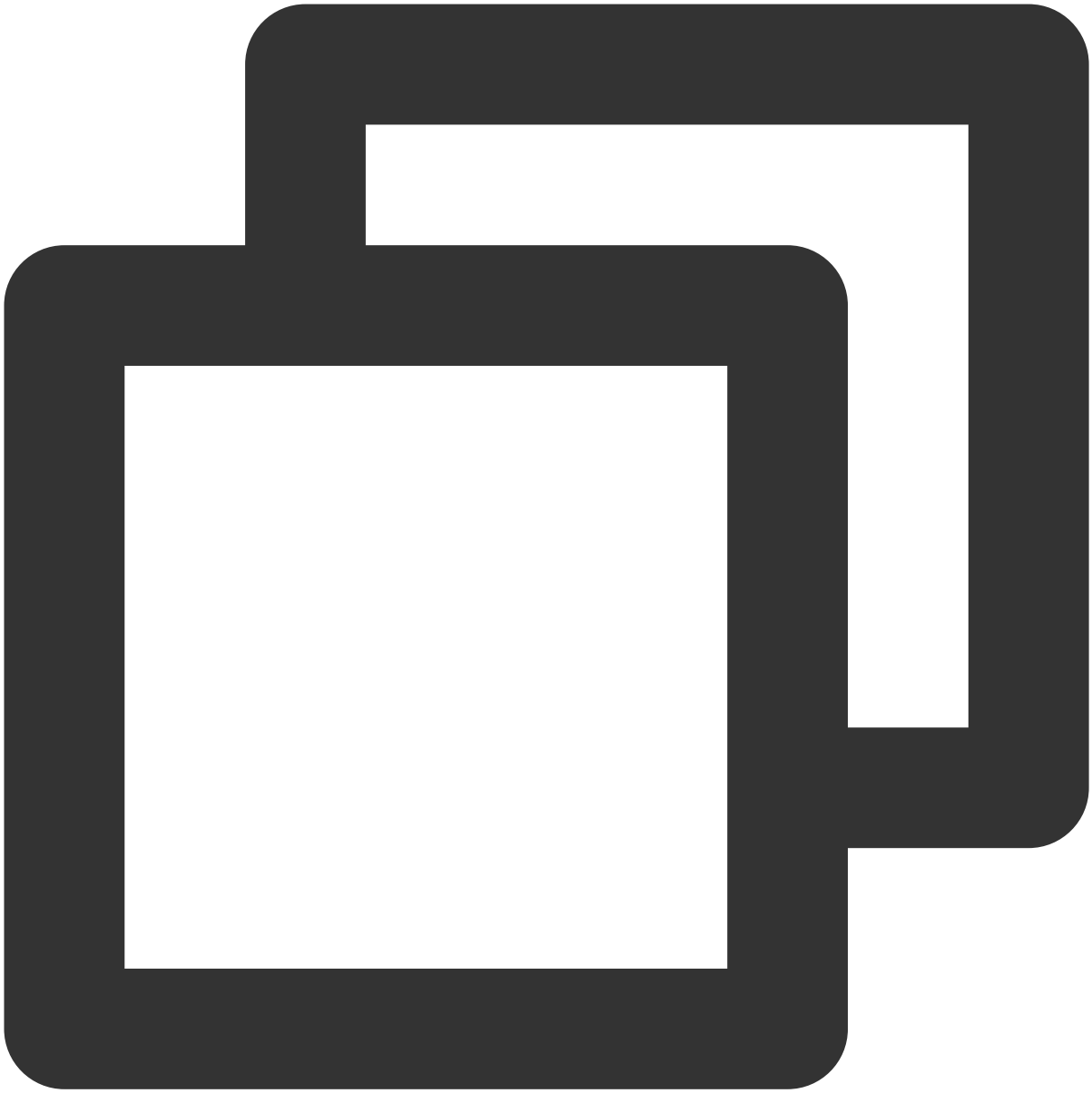

```
{
"source":"cvm.cloud.tencent",
"type":"cvm:ErrorEvent:PingUnreachable"
}
```

Receiving events from the specified instance: Events from the CVM resource "ins-XXX" are received and delivered. Other events are discarded. The format of `subject` varies for different event sources. You can check the formats in the complete event delivered to CLS.

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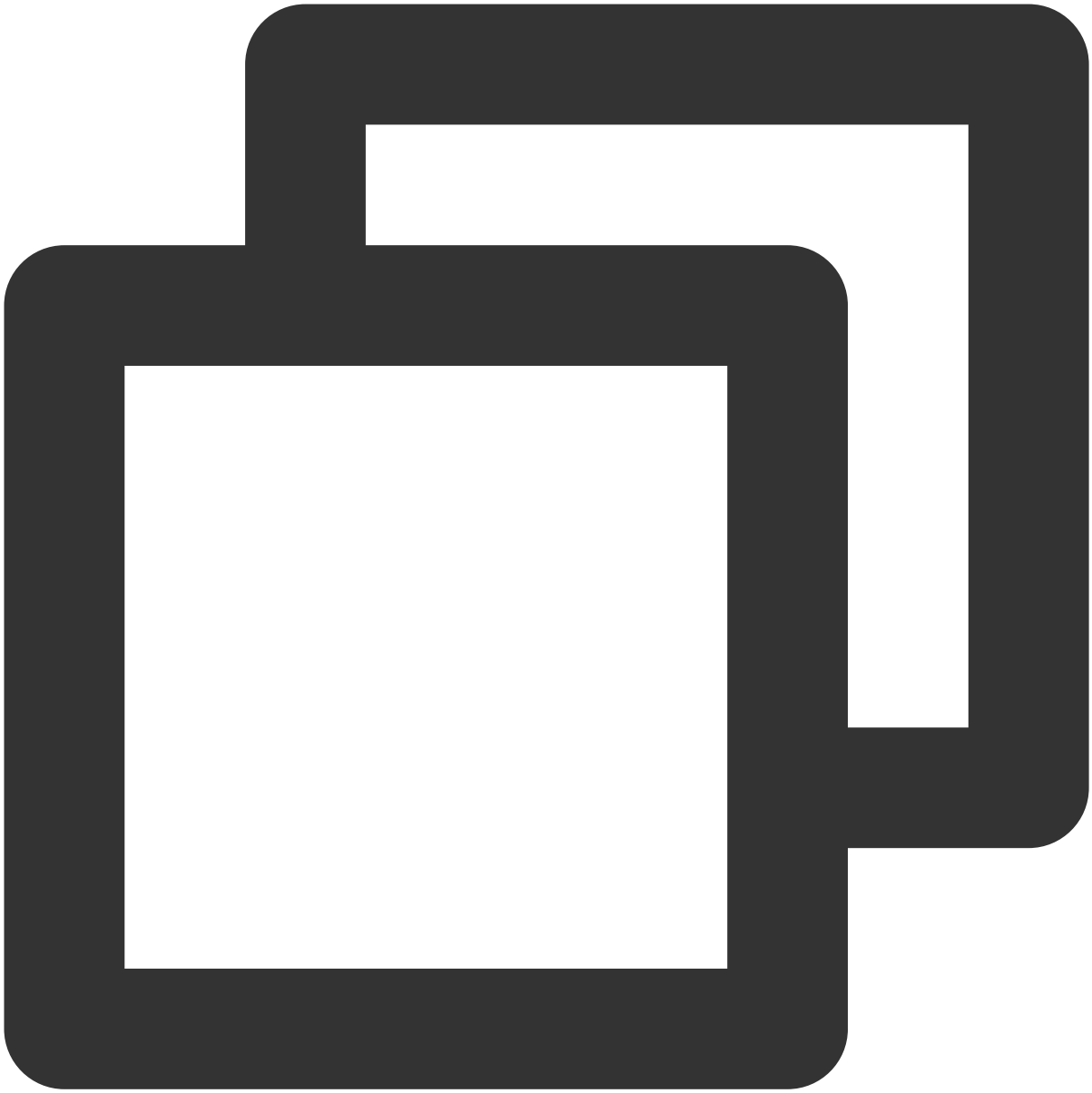

```
{
"source":"cvm.cloud.tencent",
"subject":"ins-xxxxxx"
}
```

You can also specify multiple resources by using an array.

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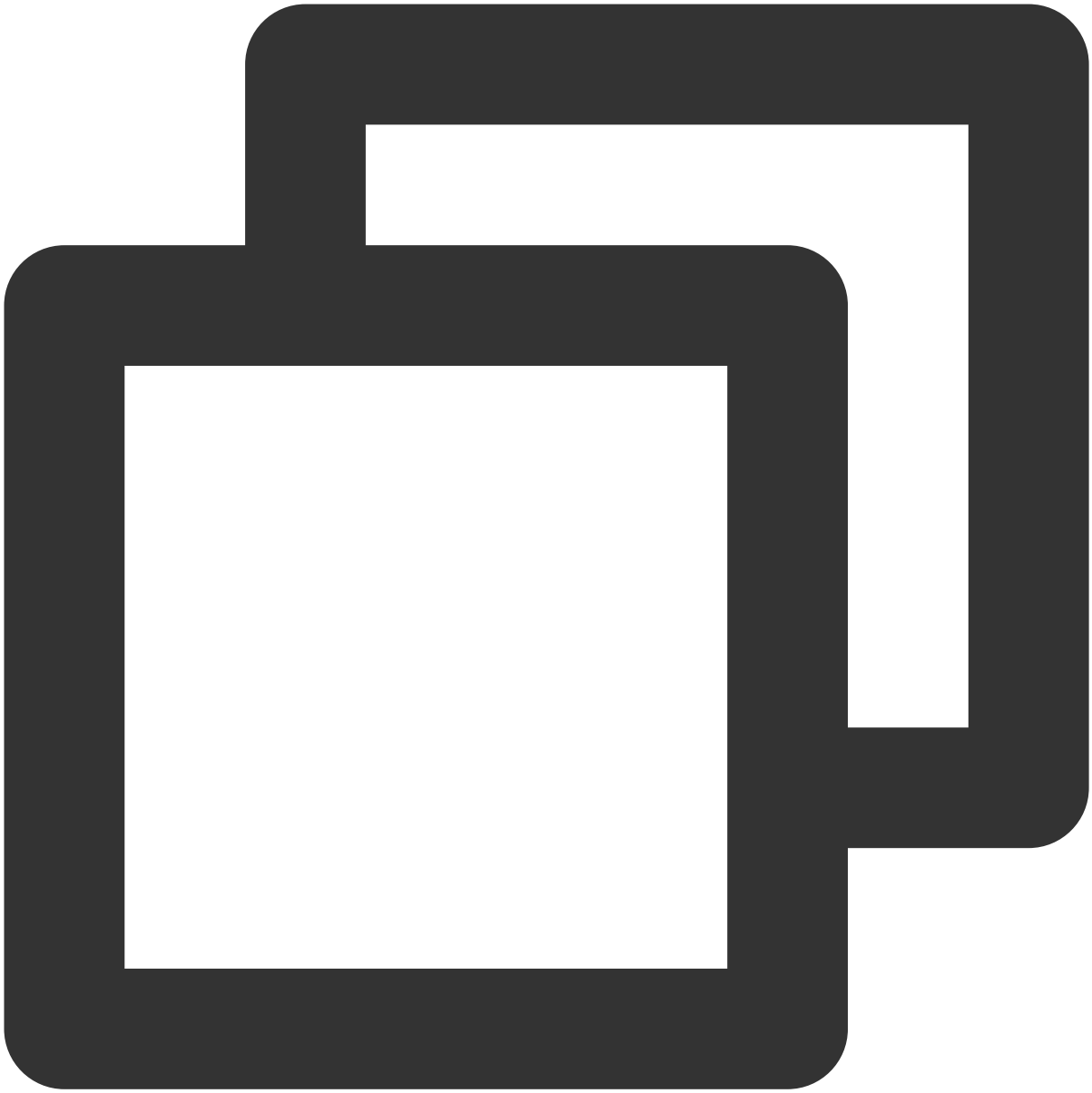

```
 {
"source":"cvm.cloud.tencent",
"subject":["ins-xxxxxx","ins-xxxxxx"]
 }
```

For more information about the matching rules, see Event Pattern.

3. Configure delivery targets

In event alarm scenarios, we recommend you configure two delivery targets: **CLS** and **Notification message**.

CLS

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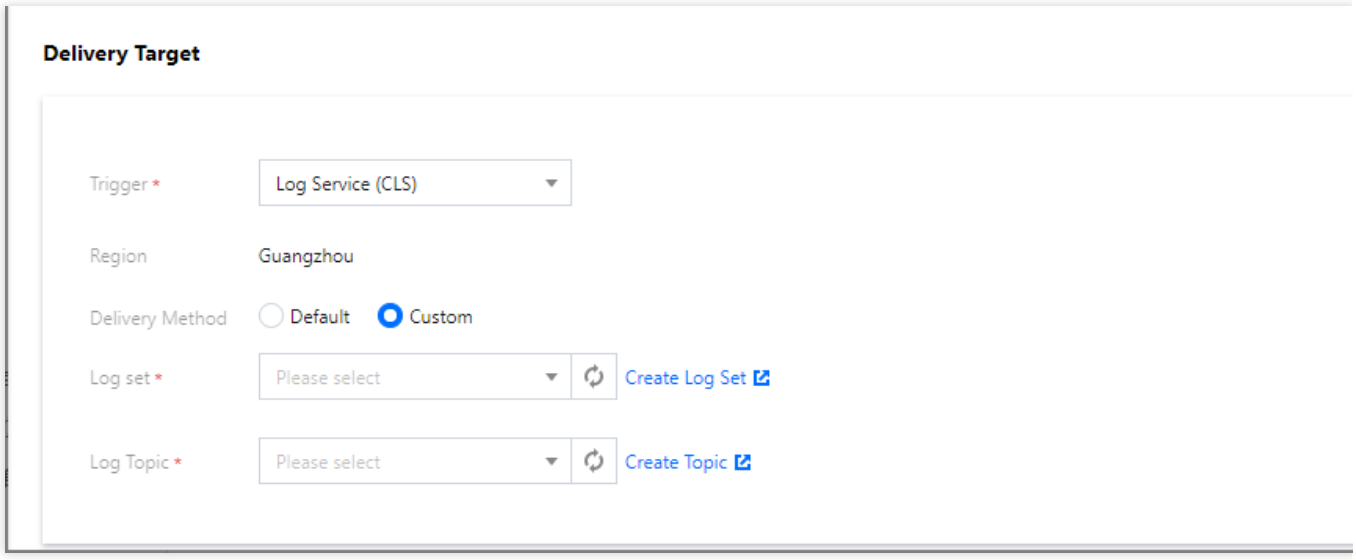
Notification message

EventBridge provides a dedicated CLS log set for the default Tencent Cloud service event bus, which helps you trace back delivered alarm events.



Description

EventBridge offers a free tier of 1 GB per 30 days for storage in the dedicated logset to ensure that you can view and manage basic alarm events free of charge. Excessive storage will be billed according to the CLS billing rules. For more information, see Billing Overview.

You can configure a notification message to push your alarm events in the specified delivery method to promptly reach users.

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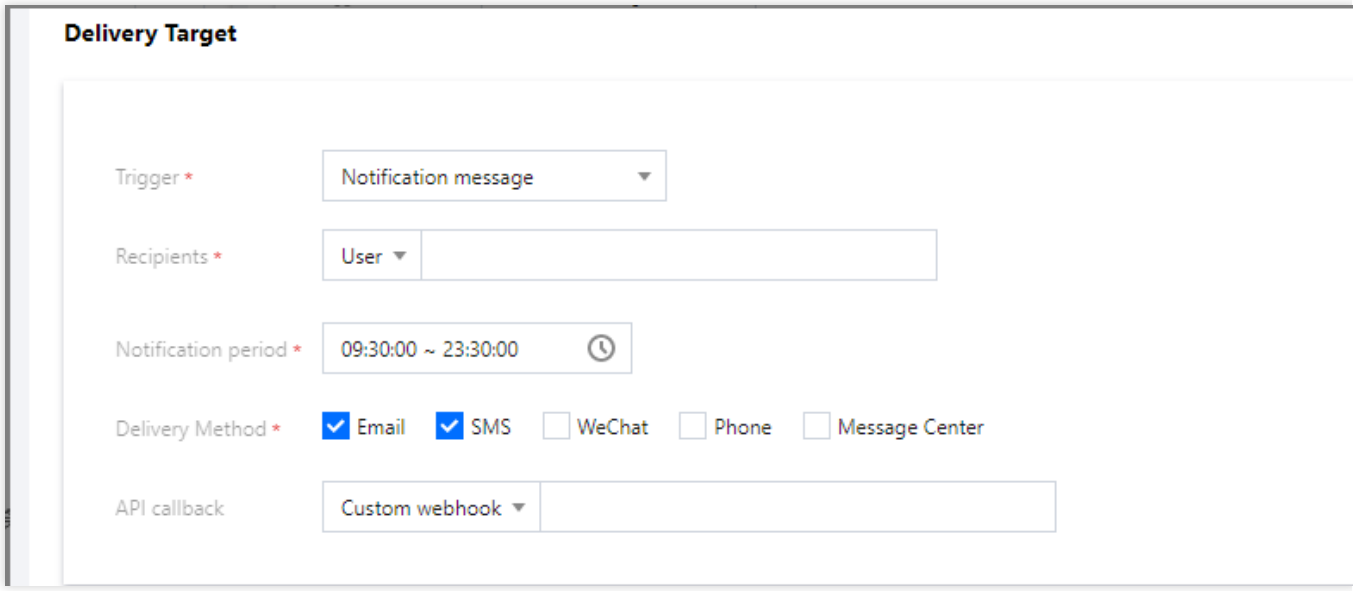
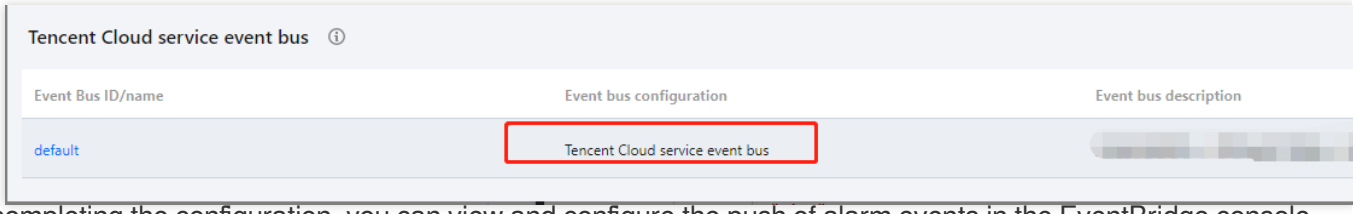


4. Test the configuration result

After completing the configuration, return to the EventBridge console, select the bound event bus, and click **Deliver Event**. You can select a bound event rule template and click **Deliver Event** for test.

Note

The test template displays only the `data` field, while other fields are fixed and cannot be customized.



After completing the configuration, you can view and configure the push of alarm events in the EventBridge console.

Sample push content text

Email content:

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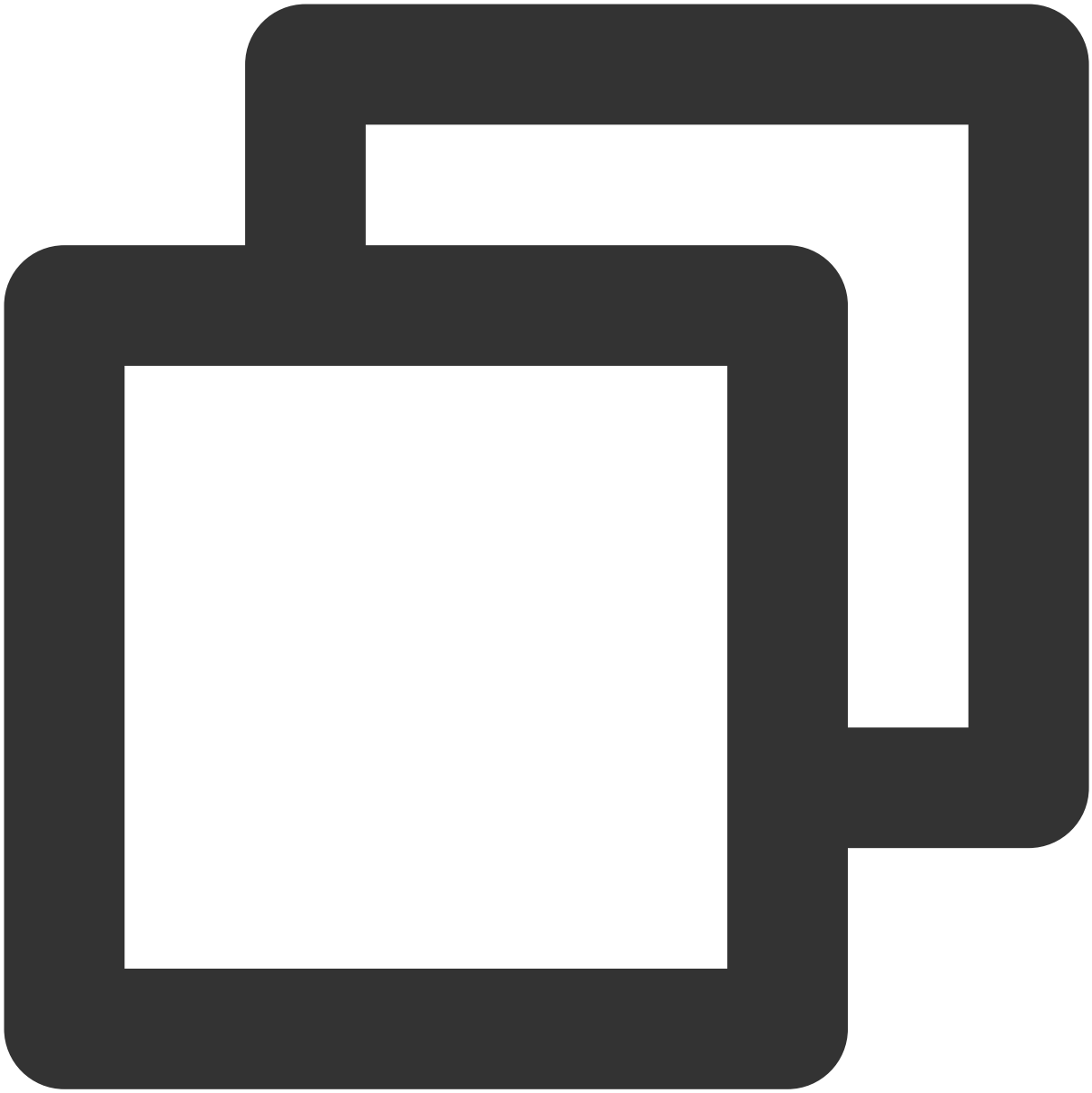

```
${ProductName} Alarm Notification
Dear user,

An alarm is triggered for Tencent Cloud ${ProductName} under your account (Account

Alert event: ${EventType}
Service: ${ProductName}
Resource: ${Subject}
Region: ${Region}
Event occurrence time: ${Time}
Event status: ${} (It can be `error`, `recovered`, or `stateless`)
```

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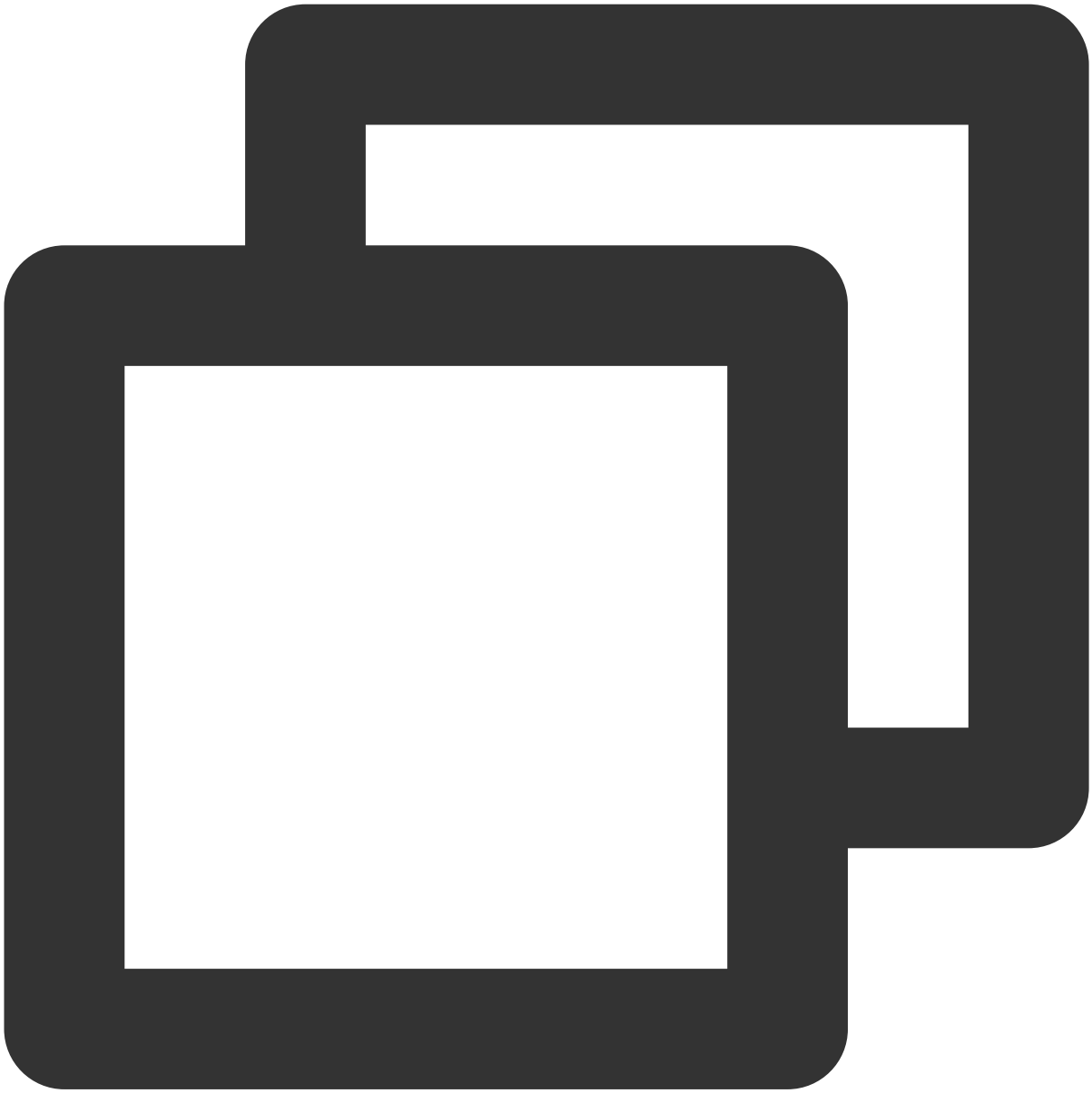
```
For more details, log in to the EventBridge console.
```

Sample HTTP callback content:



```
{
"sessionId": "xxxxxxxxxxxxxxx",  // Event ID
"alarmStatus": "1",//Event.Status
"alarmType": "event",// The value is fixed, indicating an event alert
"alarmObjInfo": {
   "region": "sh",         // Event region
   "dimensions": {     // Additional description of the resource, which is subjecte
```

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```
      "unInstanceId": "ins-xxxxx",
      "objDetail": {
                  "deviceLanIp": "xxxx",
                  "deviceWanIp": ""
                  "uniqVpcId": "vpc-xxx"
       },

       "deviceName": "xxx"
   }
},
"alarmPolicyInfo": { // Alarm policy information, which is compatible with existing
      "policyName": "xxxx",  // EventBridge event rule name
        "conditions": {
            "productName": "cvm",                 // Abbreviation of the related Te
             "eventName": "guest_reboot",    // Event type
             "alarmNotifyType": "", // It is left empty and is compatible with exis
             "alarmNotifyPeriod": ""  // It is left empty and is compatible with ex
     }
},
"additionalMsg": [{ // Additional information of the event, which is determined by
"key": "alias",
"value": "xxxx"
}, {
"key": "deviceLanIp",
"value": "xxxx"
}, {
"key": "deviceWanIp",
"value": ""
}, {
"key": "uniqVpcId",
"value": ""
}],
"firstOccurTime": "2021-10-19 11:15:47", // Alerted time
"durationTime": 0,  // Duration
"recoverTime": "0"  // Recovery time

}
```

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Real-Time Oceanus Alarm Message Push

Last updated：2024-07-23 15:08:07

Overview

A monitoring and alarming system is indispensable for a business production environment. When a failure occurs, a complete monitoring and alarming link is required to push the alarm message in real time and handle the alarm. Tencent Cloud EventBridge is a secure, stable, and efficient serverless event management platform. EventBridge in Event Center can receive real-time events and relevant data streams from your applications, SaaS services, and Tencent Cloud services. By integrating notification message and SCF, it can send notifications by email, SMS, WeCom, DingTalk, Lark, and more.
Oceanus is a powerful enterprise-grade real-time big data analysis platform based on Apache Flink. It features one-stop development, seamless connection, millisecond-level latency, low costs, high security, and high stability, with the aim to maximize the value of enterprise data and accelerate the construction of real-time digital business capabilities. By combining EventBridge and SCF, you can collect exception events in your Oceanus cluster and push them in real time. This document describes how to collect an Oceanus cluster status change event and send it to WeCom, DingTalk, and Lark.

Architecture Design

The overall architecture is as shown below. When the Oceanus status changes (for example, an instance gets exceptional, isolated, or disconnected), the Oceanus system will trigger an alarm and actively push it to EventBridge. Then, the alarm will be pushed to the specified target after being filtered by the alarm rules bound to EventBridge. It can also be pushed to more third-party services through SCF.

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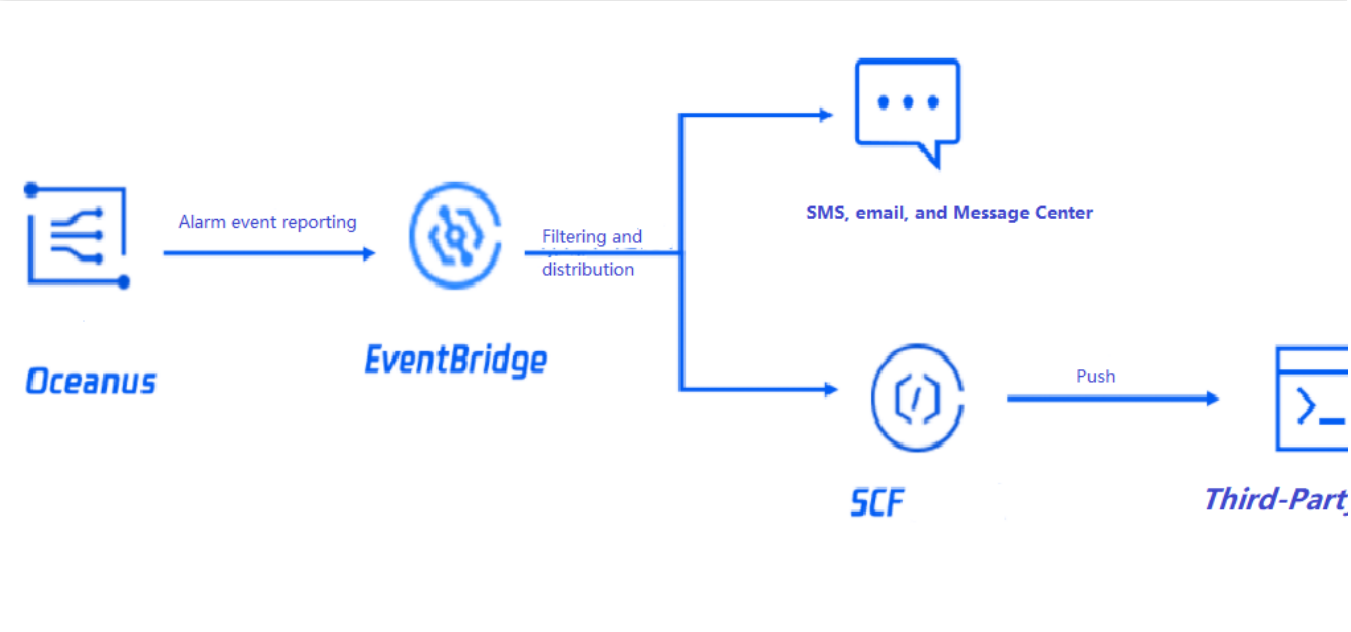

Directions

1. Log in to the EventBridge console.
2. Click **Create Event Rule** in the **Event Rule** section.
3. On the **Create Event Rule** > **Event Matching** page, configure the alarm rule.
 This document uses the configuration of the **TaskManager CPU workload is too high** event alarm in Oceanus as an example. You can also select another event alarm or all events. For more information on event match rules, see Event Pattern.

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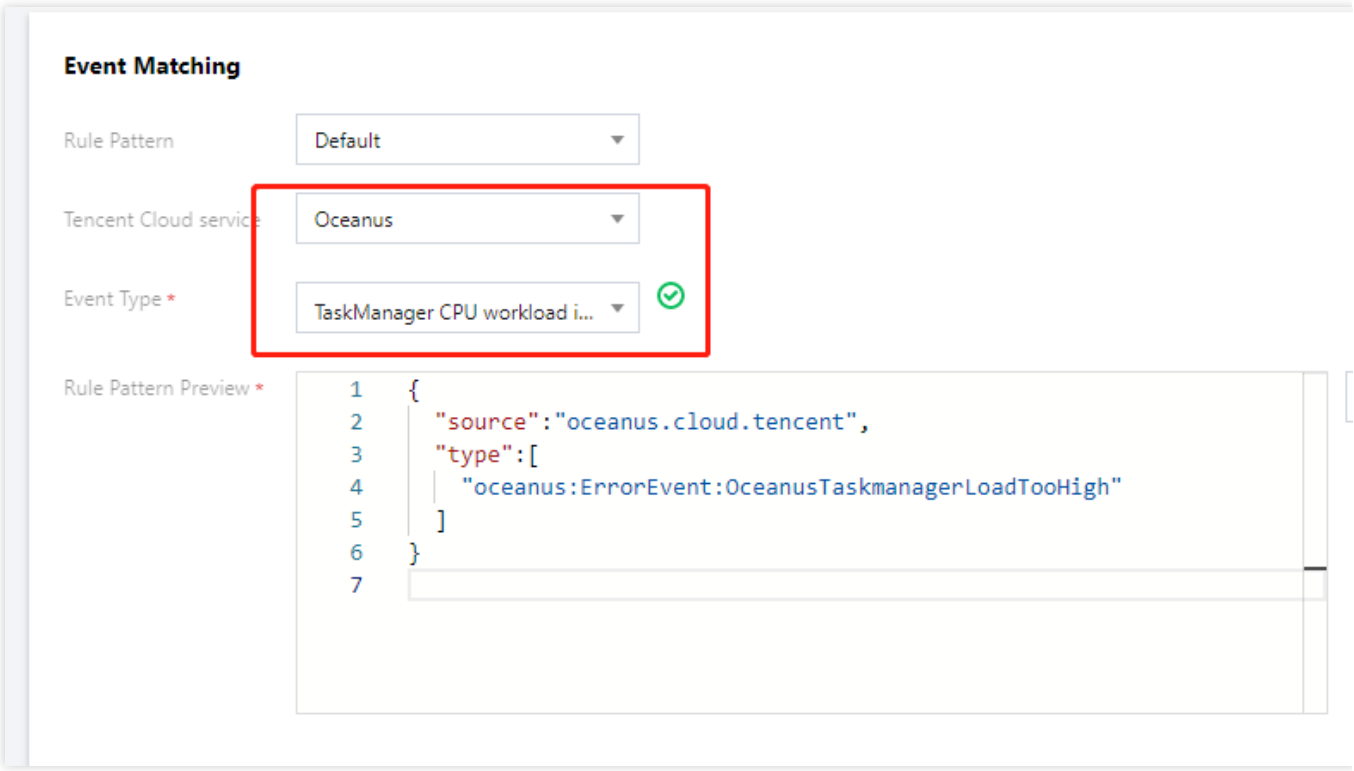


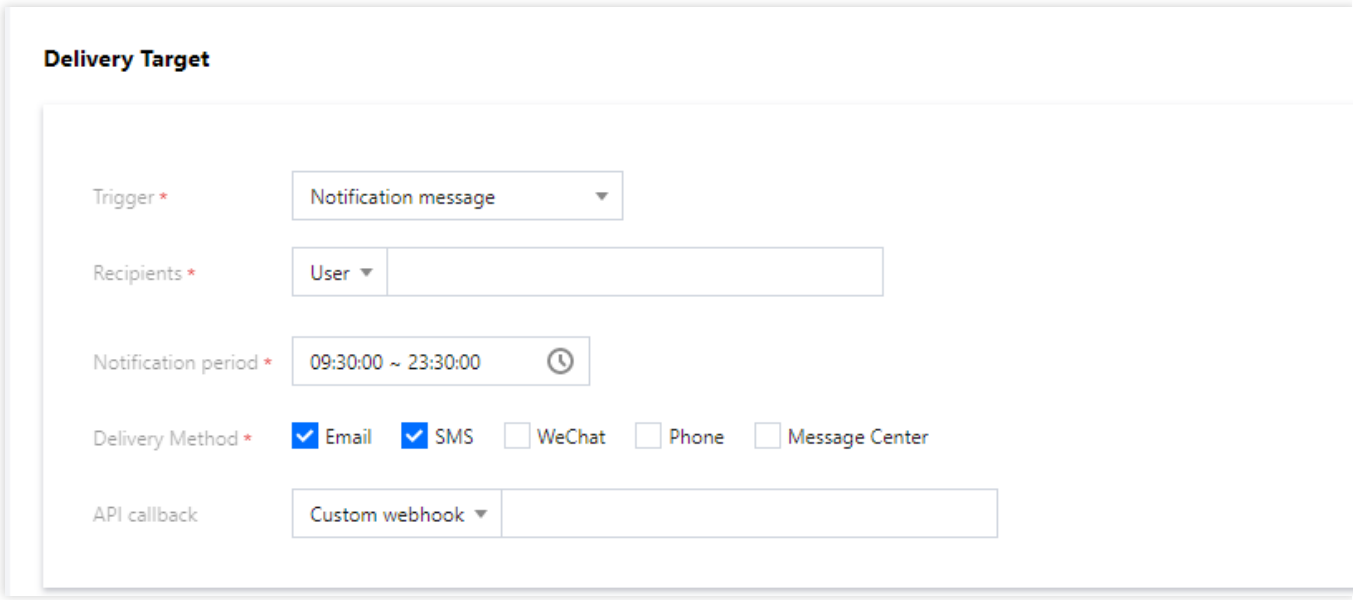
4. On the **Create Event Rule** > **Delivery Target** page, configure the push (delivery) target.

You can select a delivery target as needed. Here, two delivery targets of **notification message** and **SCF** are used as examples.

Notification message

SCF

You can configure a notification message to push your alarm events in the specified delivery method to promptly reach users.



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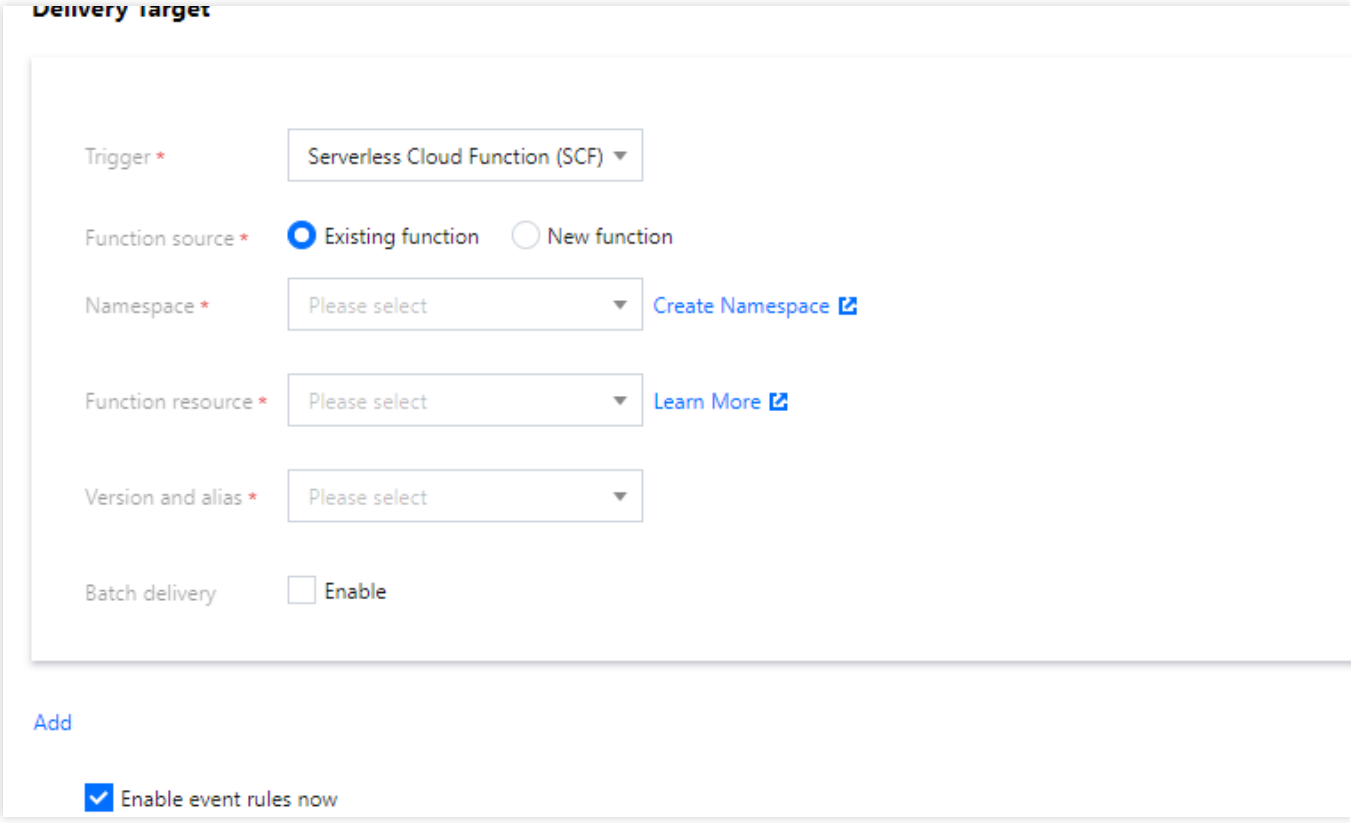
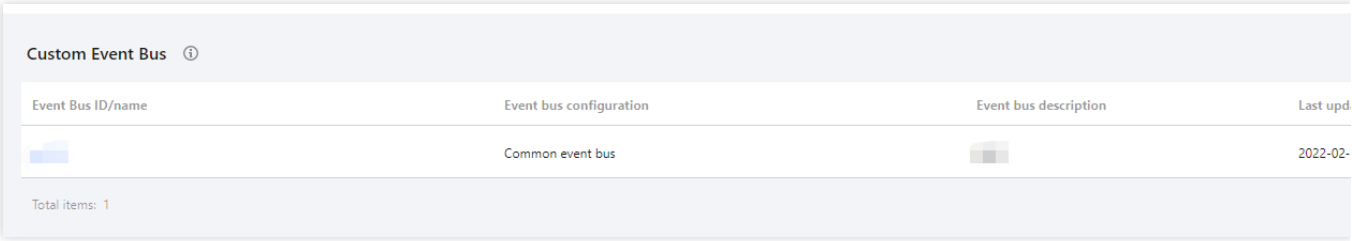
EventBridge allows you to use a webhook over the general HTTP protocol to directly deliver events. If your delivery target has strict requirements for the request format, you can use SCF to convert the format of the events to be delivered first, and then use EventBridge to directly send the original events to the specified function, so as to build a complete push link.



After completing the configuration, you can view and configure the push of alarm events in the EventBridge console.

5. Test the alarm link in **Event Bus**.

Select a bound event bus and click **Deliver Event** as shown below:



In the **Deliver Event** pop-up window, select a bound event rule template and click **OK** for test as shown below:

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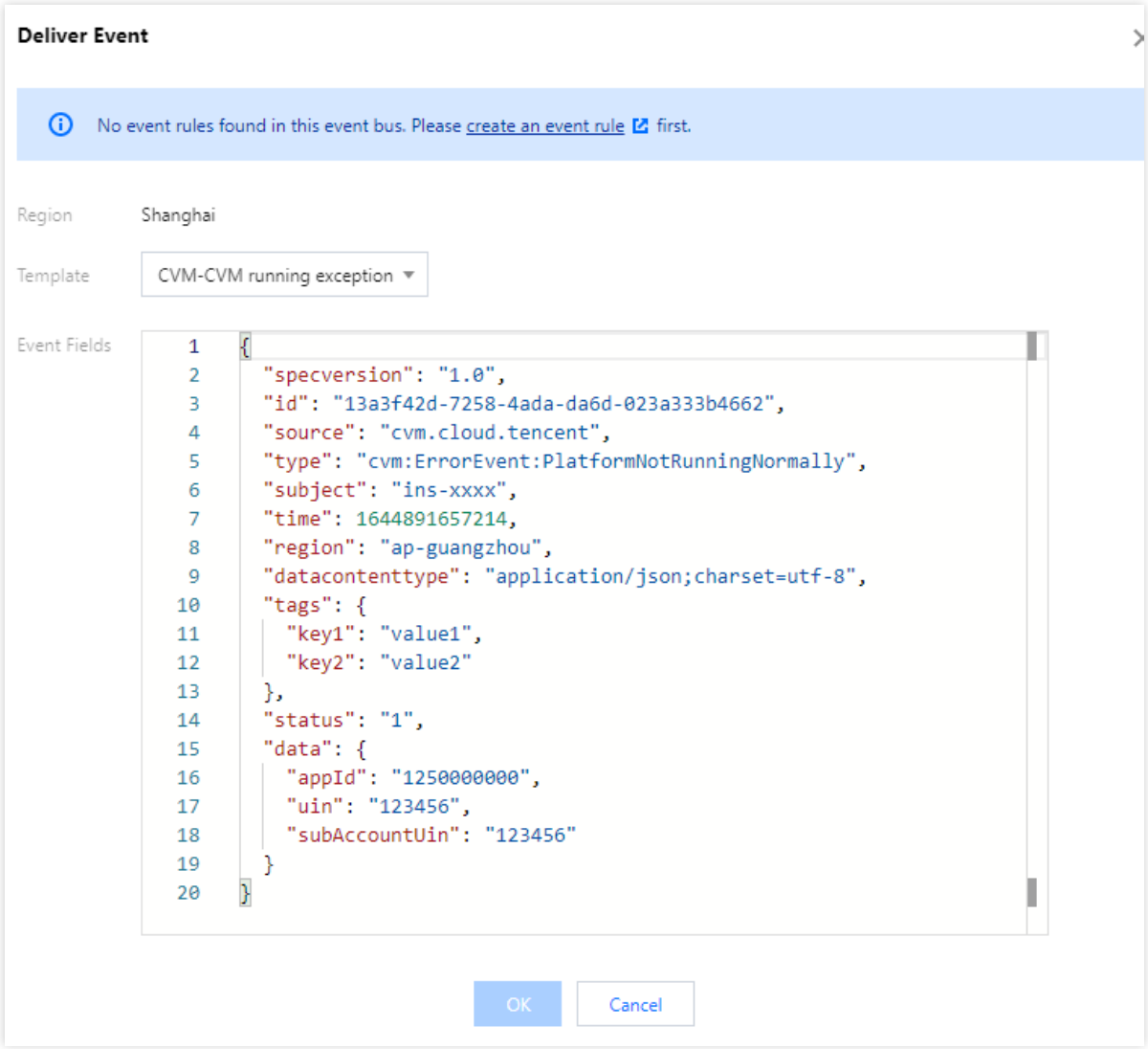

Note:

You can only modify the content in the `data` field in the test template, while other fields are fixed and cannot be customized.

6. After completing the configuration, you can view and manage the alarm rule in the EventBridge console.

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Automatic Backup and Restart of Exceptional CVM Instance

Last updated：2024-07-23 15:08:07

Overview

A monitoring and alarming system is indispensable for a business production environment. Complete monitoring, prompt alarming, and automated alarm handling can help you quickly locate and fix problems to reduce possible economic losses.
Tencent Cloud EventBridge is a secure, stable, and efficient serverless event management platform. EventBridge in Event Center can receive real-time events and relevant data streams from your applications, SaaS services, and Tencent Cloud services. By integrating notification message and SCF, it can send alarm messages in real time and automatically handle alarms.
This document uses a server exception as an example to describe how to implement real-time alarm message push and automatic snapshot-based disk rollback with the aid of EventBridge and SCF after your CVM instances generate alarm events. In this way, you can quickly build an automated OPS architecture.

Architecture Design

The overall architecture is as shown below. When a CVM instance triggers an exception alarm, CVM will automatically generate an alarm event and actively push it to EventBridge. After the alarm is filtered by the alarm rules bound to EventBridge, the alarm message will be pushed to users promptly through the specified notification channels, and SCF will be triggered at the same time to call an API to quickly roll back the disk based on snapshot, so as to recover the business in time.

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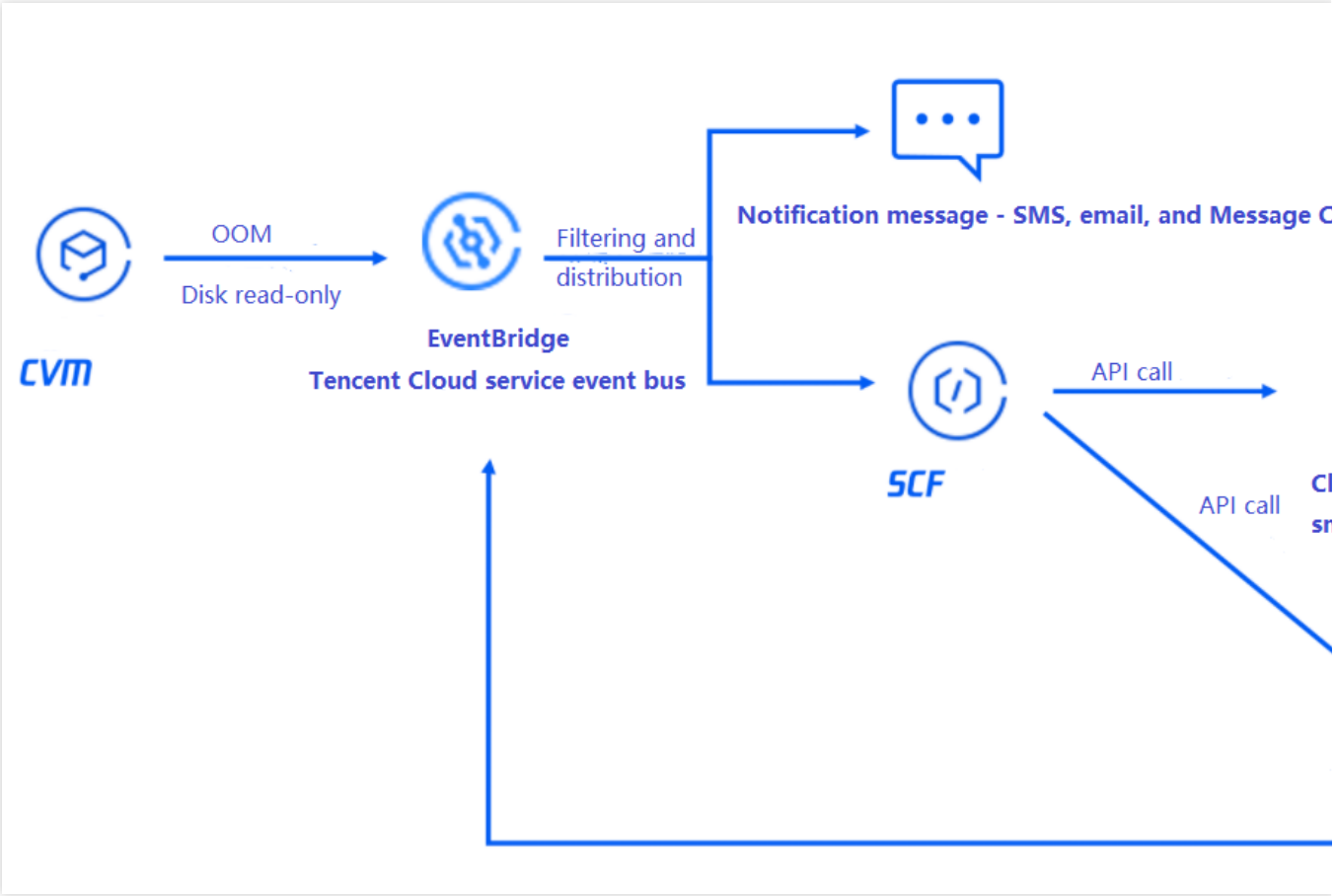

The basic process is as follows:An instance generates an alarm event > The event is filtered by the EventBridge rules > The event is delivered to notification message and SCF > SCF calls an API to back up the disk data and restart the instance > The alarm event is pushed to users after the restart.

Directions

Step 1. Create a function to implement the snapshot creation and restart logic

1. Log in to the SCF console.
2. Create a function as instructed in Creating Event-Triggered Function in Console.
3. Write the code logic of calling the API. Below is the sample code:

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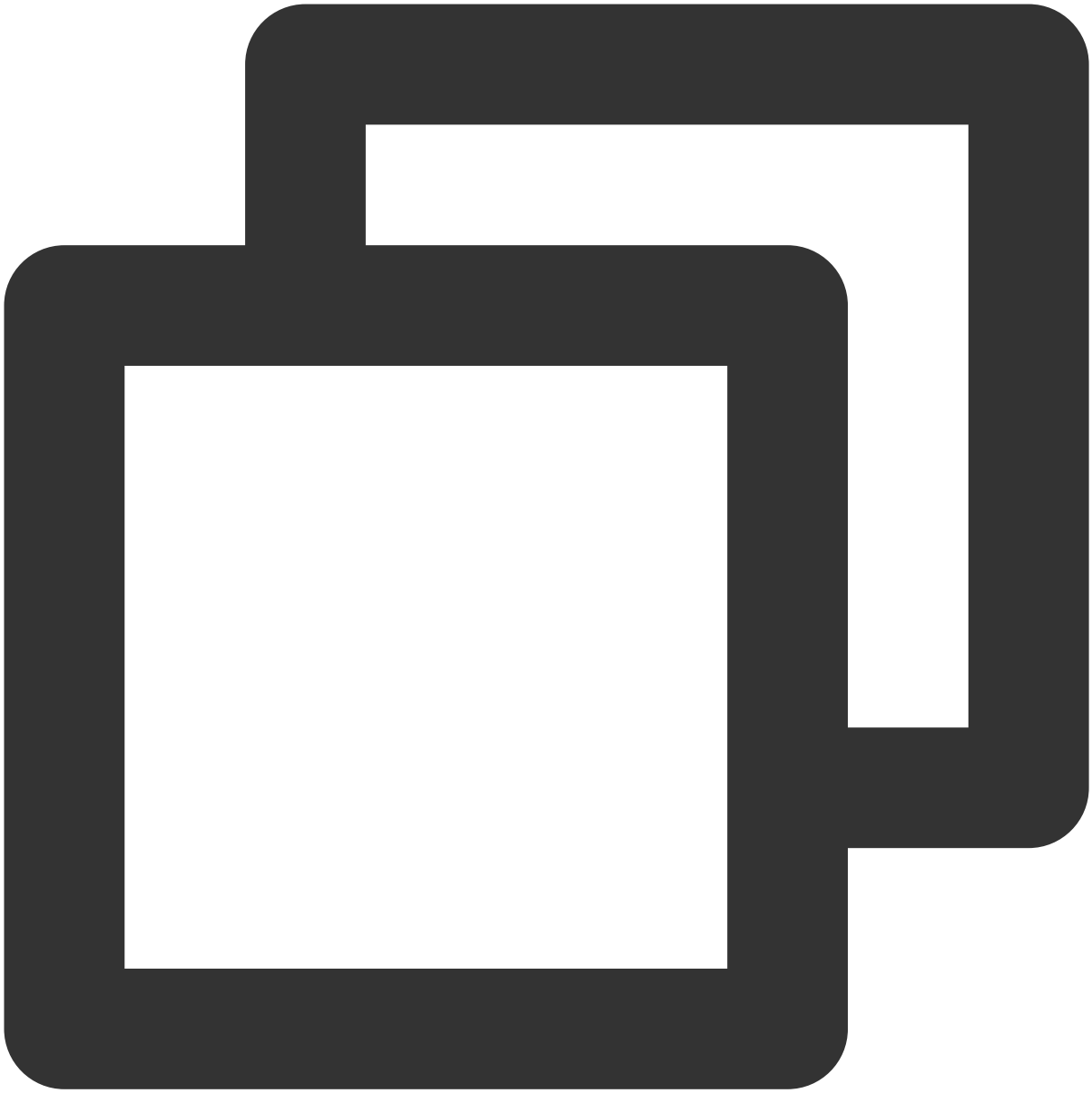

```
exports.main_handler = async (event, context) => {
 // Depends on tencentcloud-sdk-nodejs version 4.0.3 or higher
const tencentcloud = require("tencentcloud-sdk-nodejs");

const CvmClient = tencentcloud.cvm.v20170312.Client;
const CbsClient = tencentcloud.cbs.v20170312.Client;
var secretId = process.env.secretId // Pass in `secretId` of your account to the en
var secretKey = process.env.secretKey // Pass in `secretKey` of your account to the
var insID = event.subject

const clientConfig1 = {
```

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```
  credential: {
 secretId: secretId,
 secretKey: secretKey,
  },
  region: "ap-guangzhou",
  profile: {
 httpProfile: {
   endpoint: "cvm.tencentcloudapi.com",
 },
  },
};

const client1 = new CvmClient(clientConfig1);
const params1 = {
 "InstanceIds": [
     ${Replace it with the ID of the instance to be restarted}
 ],
 "StopType": "SOFT"
};
client1.RebootInstances(params1).then(
  (data) => {
 console.log(data);
  },
  (err) => {
 console.error("error", err);
  }
);

const clientConfig2 = {
  credential: {
 secretId: secretId,
 secretKey: secretKey,
  },
  region: "ap-guangzhou",
  profile: {
 httpProfile: {
   endpoint: "cbs.tencentcloudapi.com",
 },
  },
};

const client2 = new CbsClient(clientConfig2);
const params2 = {
 "DiskId": ${Replace it with the ID of the disk to be backed up}
};
client2.CreateSnapshot(params2).then(
  (data) => {
```

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```
  console.log(data);
   },
   (err) => {
  console.error("error", err);
   }
);
};
```

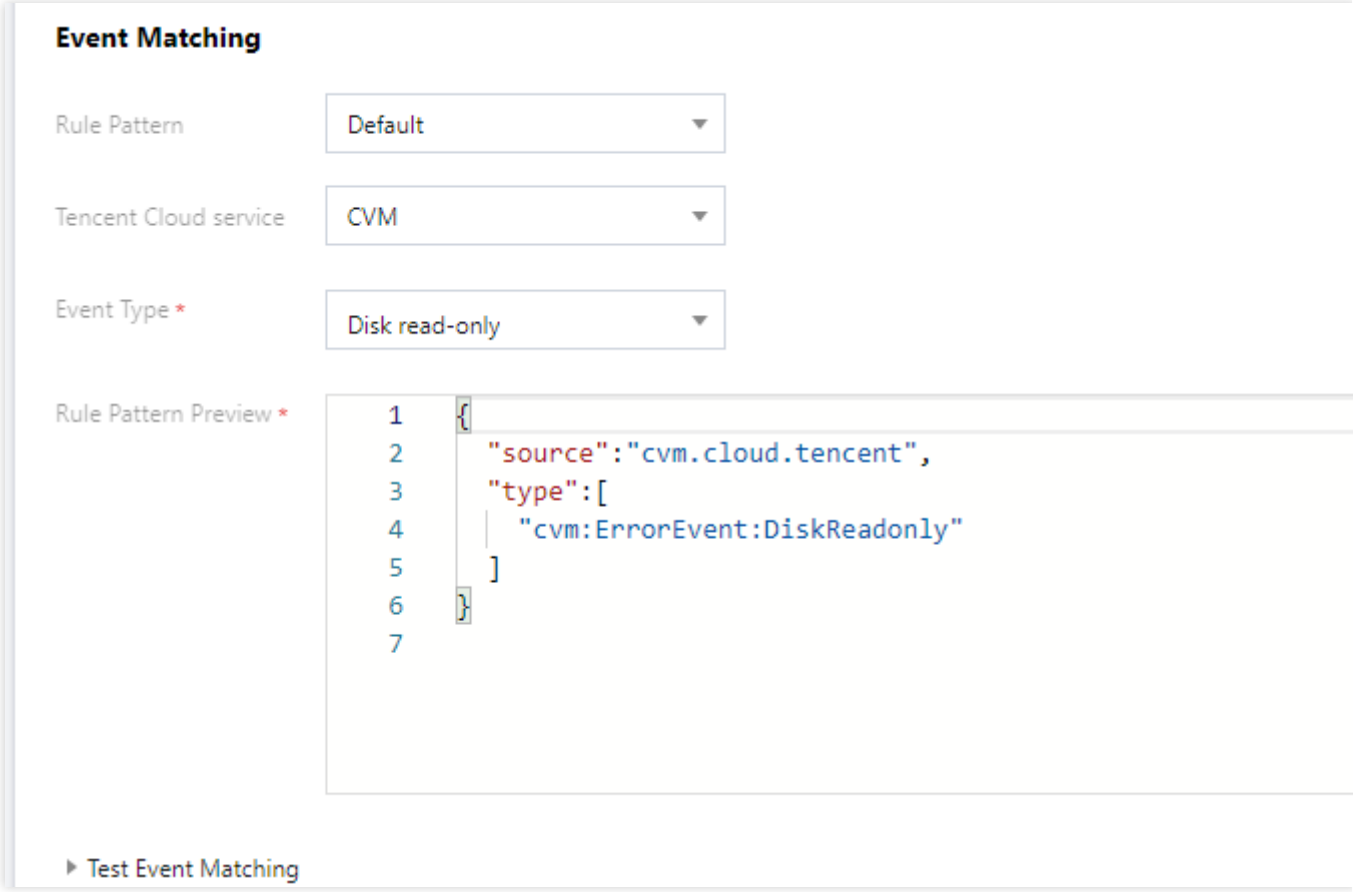
You can also use API Explorer to quickly generate the sample code.

Step 2. Create en event rule and filter alarm events

1. Log in to the EventBridge console.
2. Select **Tencent Cloud service event bus** > **default** in **Event Bus**.
3. In the **details of the default event bus**, click **Manage Event Rules**.
4. In **Event Rule**, click **Create Event Rule** to create rules to filter and convert events.

4.1 Taking the **CVM disk is read-only** event as an example, create rules as follows:

Rule 1: receive the disk read-only exception events



Rule 2: receive instance restart events

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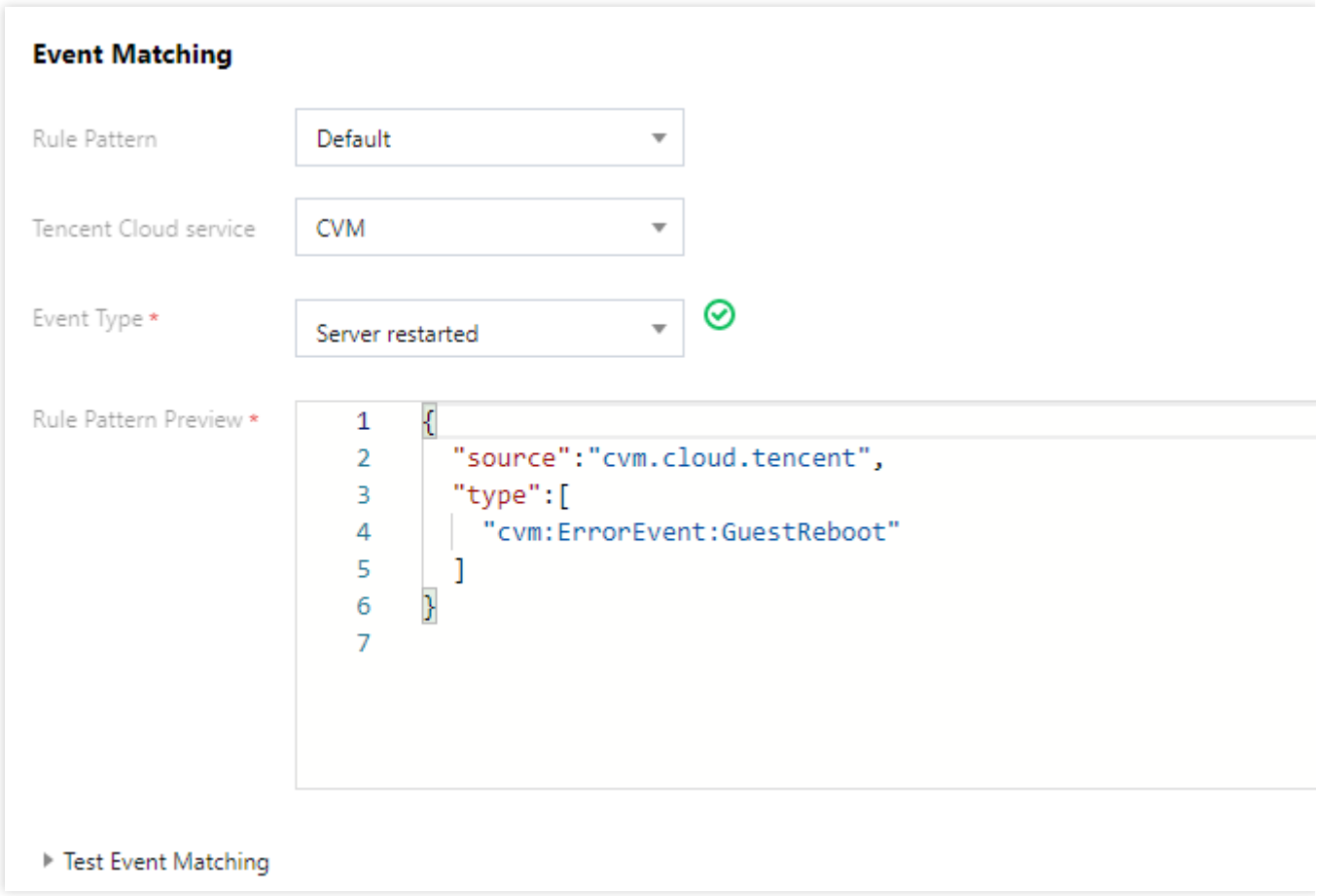

4.2 You can also customize the event rules based on your actual needs as follows:

Filter all **CVM** events in the **Guangzhou** region.

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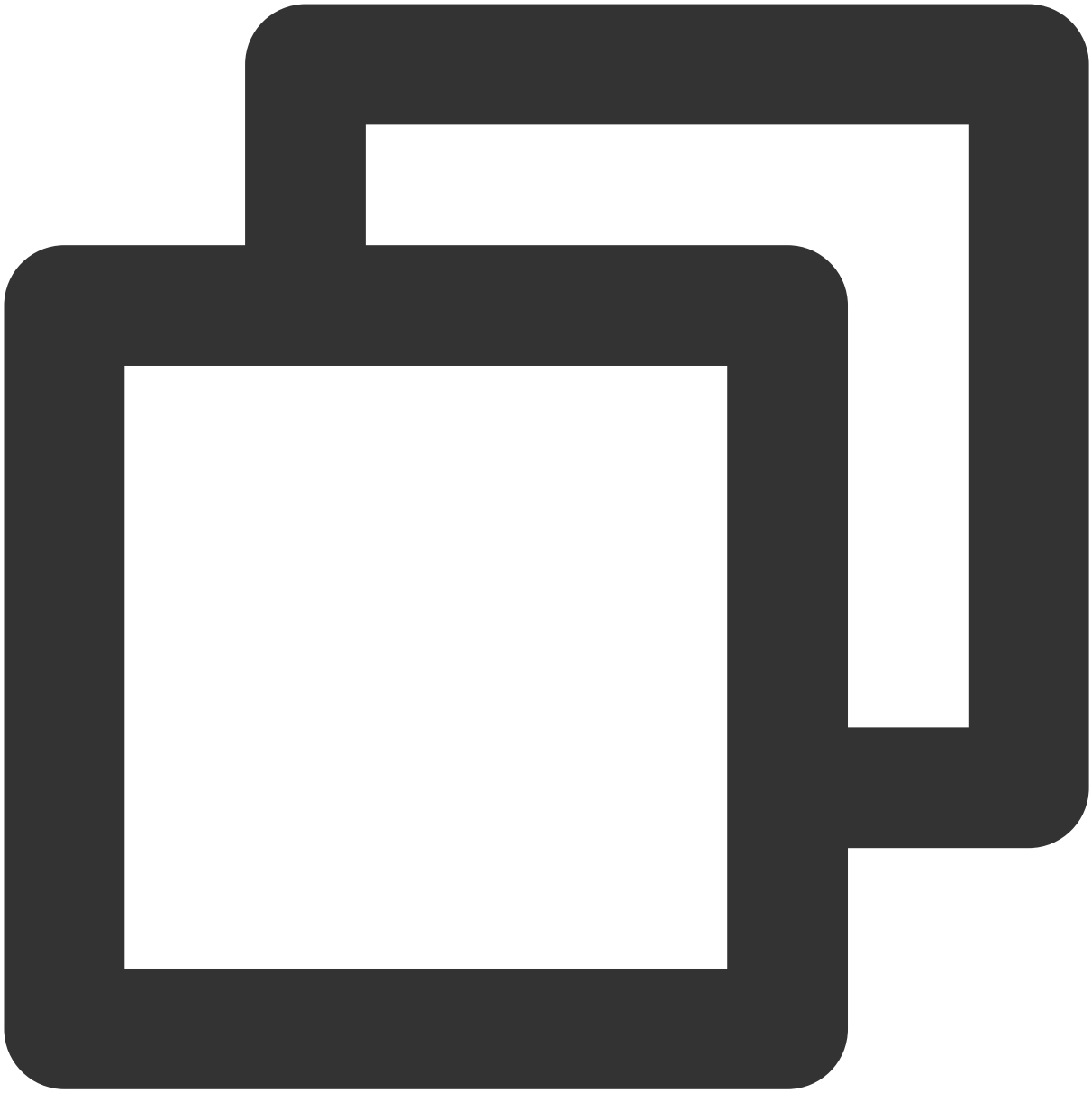

```
{
 "source":"cvm.cloud.tencent",
 "region":"ap-guangzhou"
 }
```

Filter **CVM** events with the specified instance ID.

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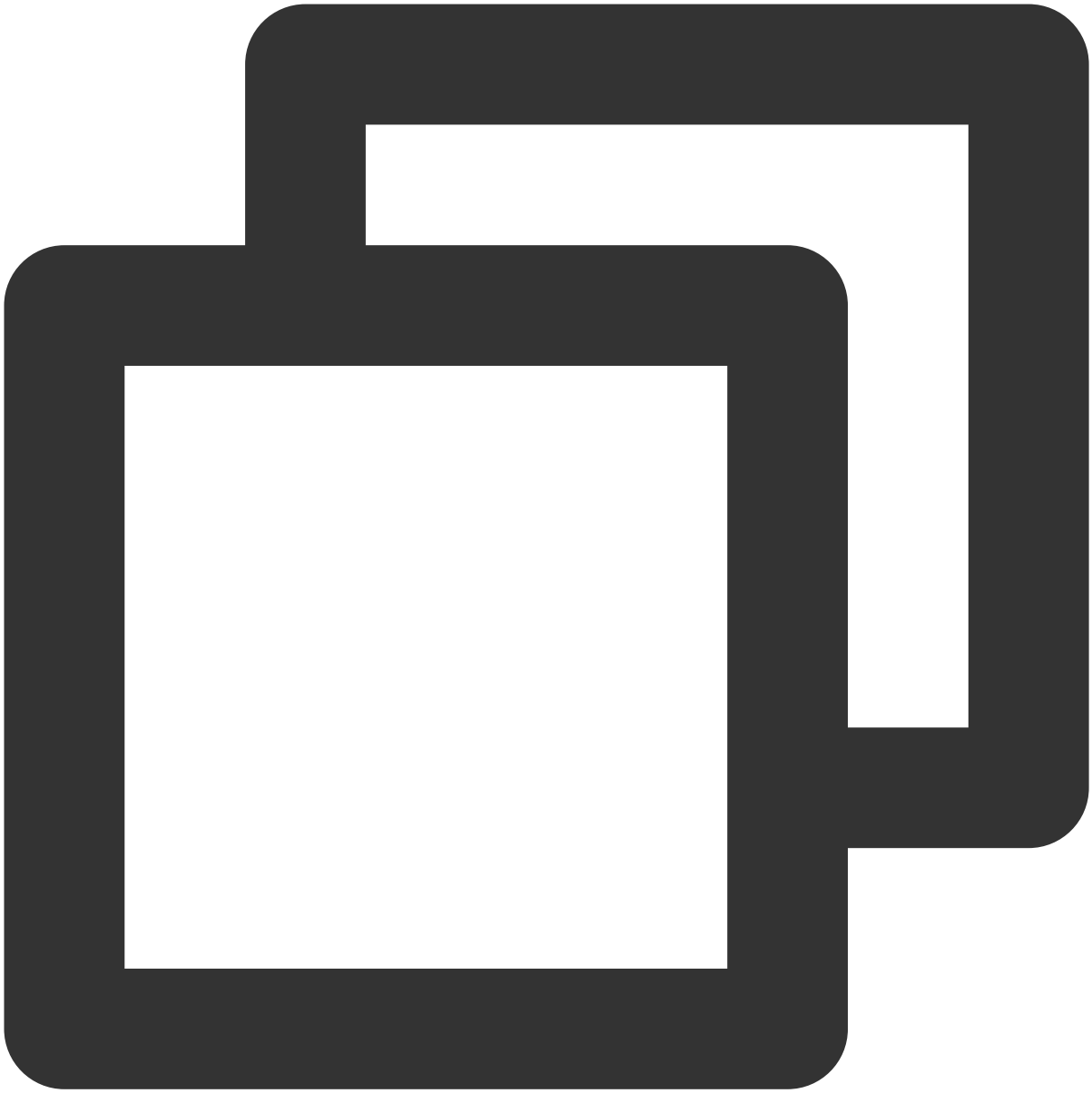

```
{
 "source":"cvm.cloud.tencent",
 "subject":[
"ins-xxxxxx",
"ins-xxxxxx"
]
 }
```

Step 3. Bind event targets and backend processing logic and set the push target

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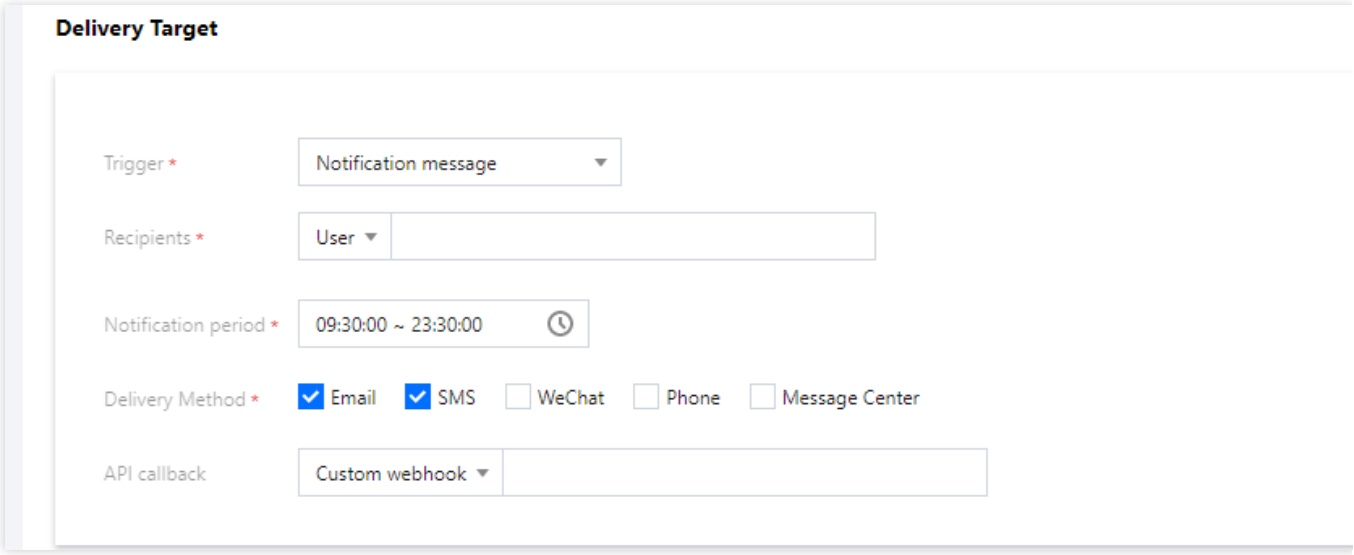
After creating rules, you can bind delivery targets to the rules as prompted. The above demo is used as an example here:

For **rule 1**, you need to bind two targets: **notification message** and **SCF**.

Notification message

SCF

Select a method to receive alarm messages.



Bind the function created in step 1 to implement automated processing of alarm events.

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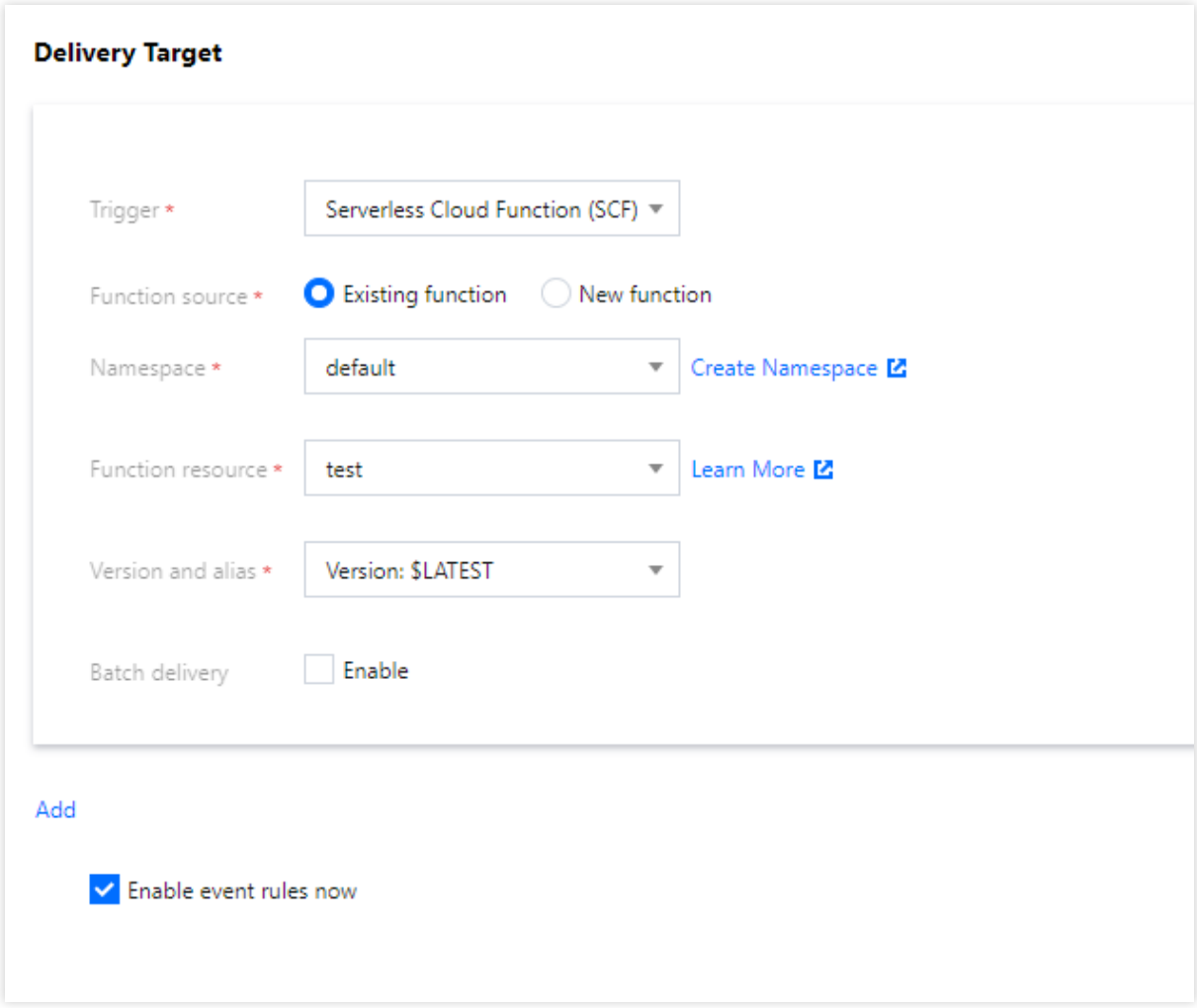
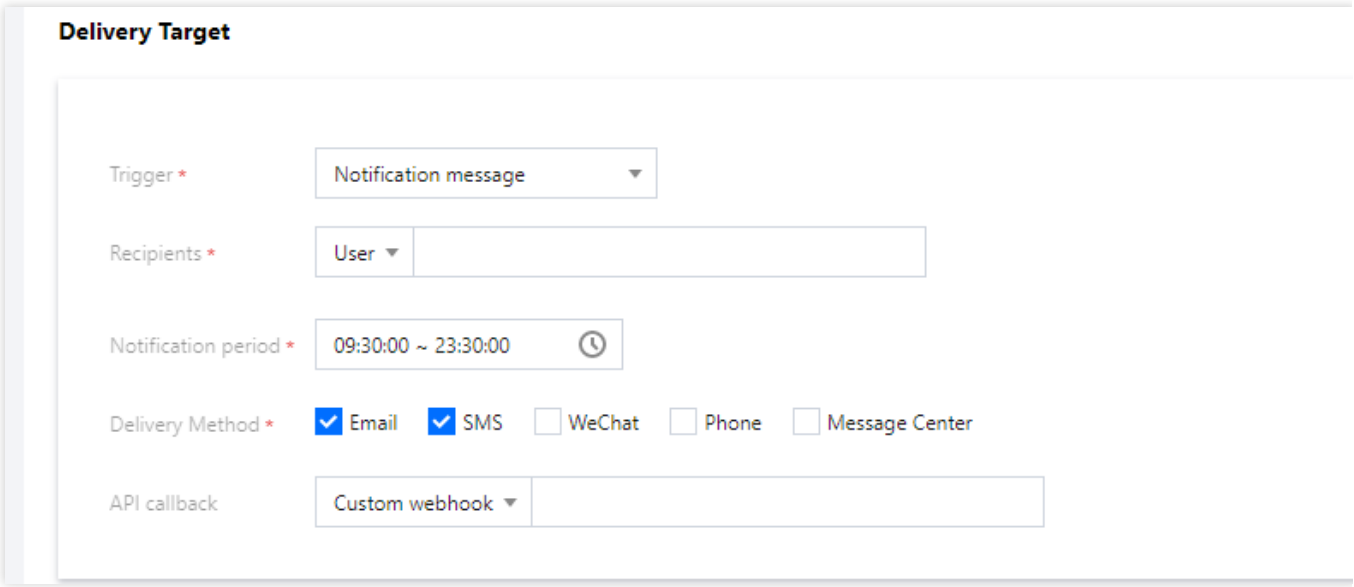


For **rule 2**, you only need to bind the notification message target.



Step 4. Send a simulated event to check whether the process works normally

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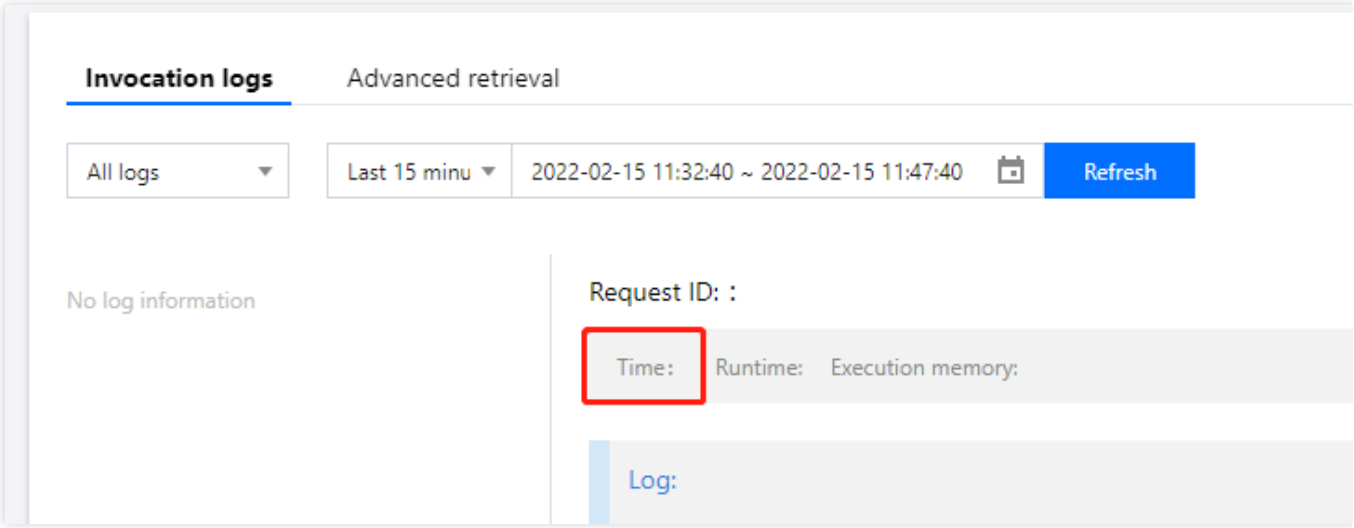
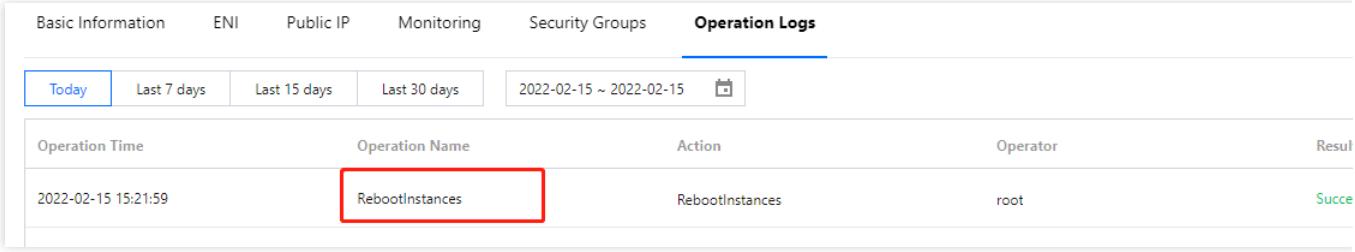
At this point, you have built the automated alarm processing link. You can use a simulated alarm event to test whether the process can run normally:

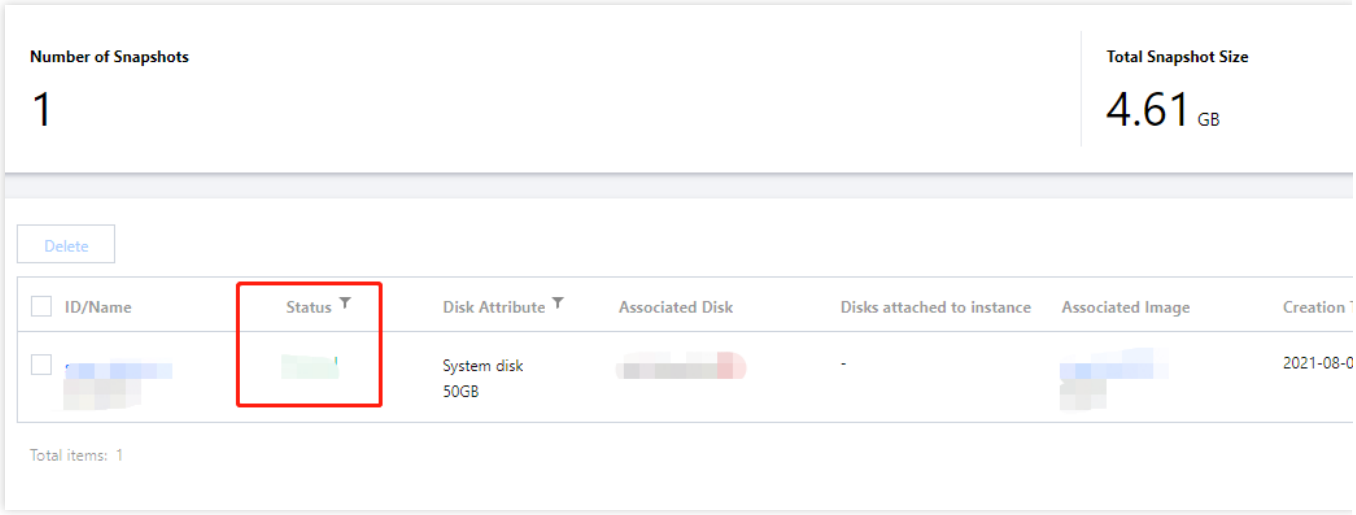
Successful function invocation:



Instance restart:



Snapshot creation:



Alarm message receipt:

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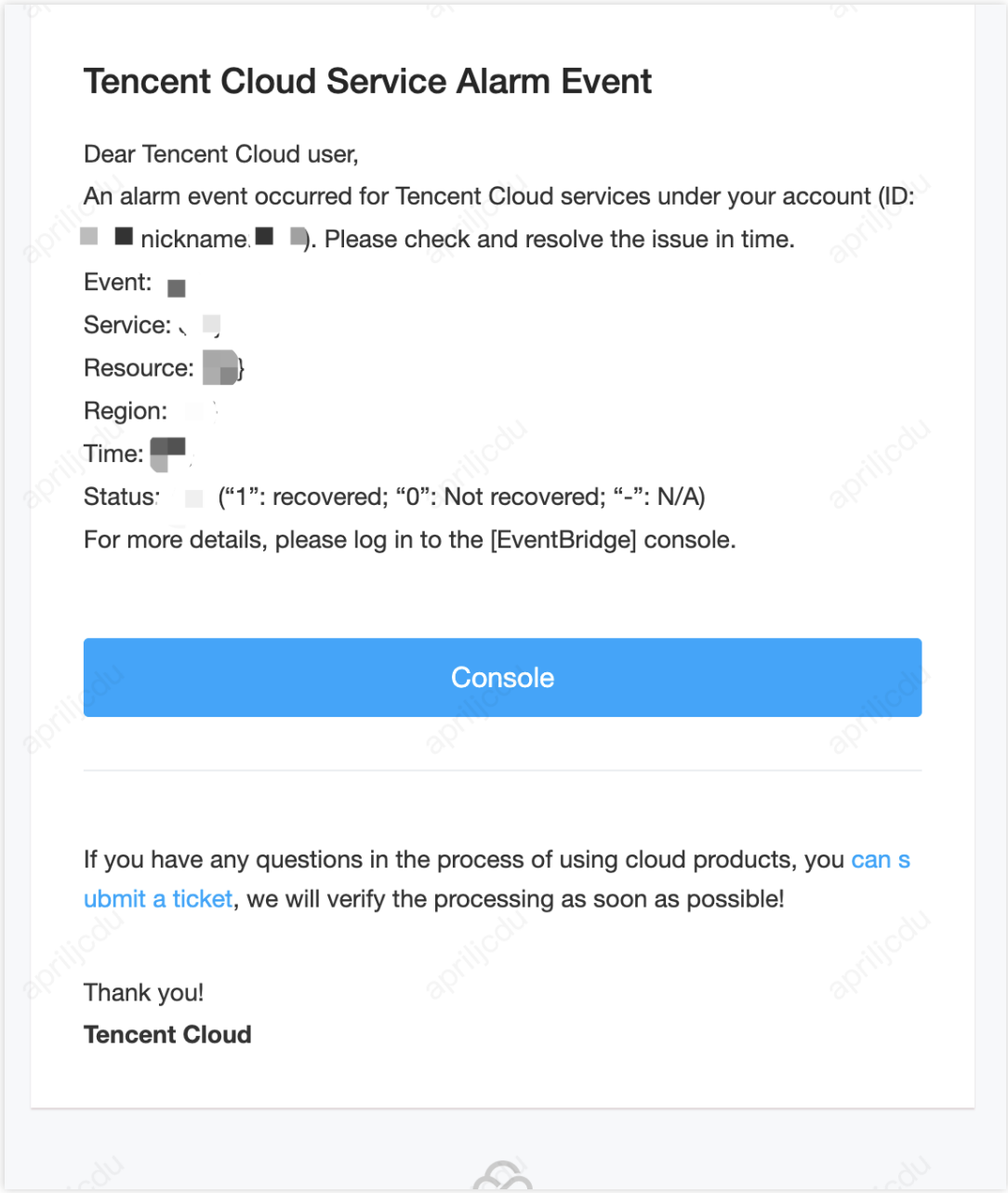

Tencent Cloud Service Alarm Event

Dear Tencent Cloud user,

An alarm event occurred for Tencent Cloud services under your account (ID: ■ nickname■ ■). Please check and resolve the issue in time.

Event: ■

Service:

Resource:

Region:

Time:

Status: ("1": recovered; "0": Not recovered; "-": N/A)

For more details, please log in to the [EventBridge] console.

Console

If you have any questions in the process of using cloud products, you can submit a ticket, we will verify the processing as soon as possible!

Thank you!

Tencent Cloud

Restart email receipt:

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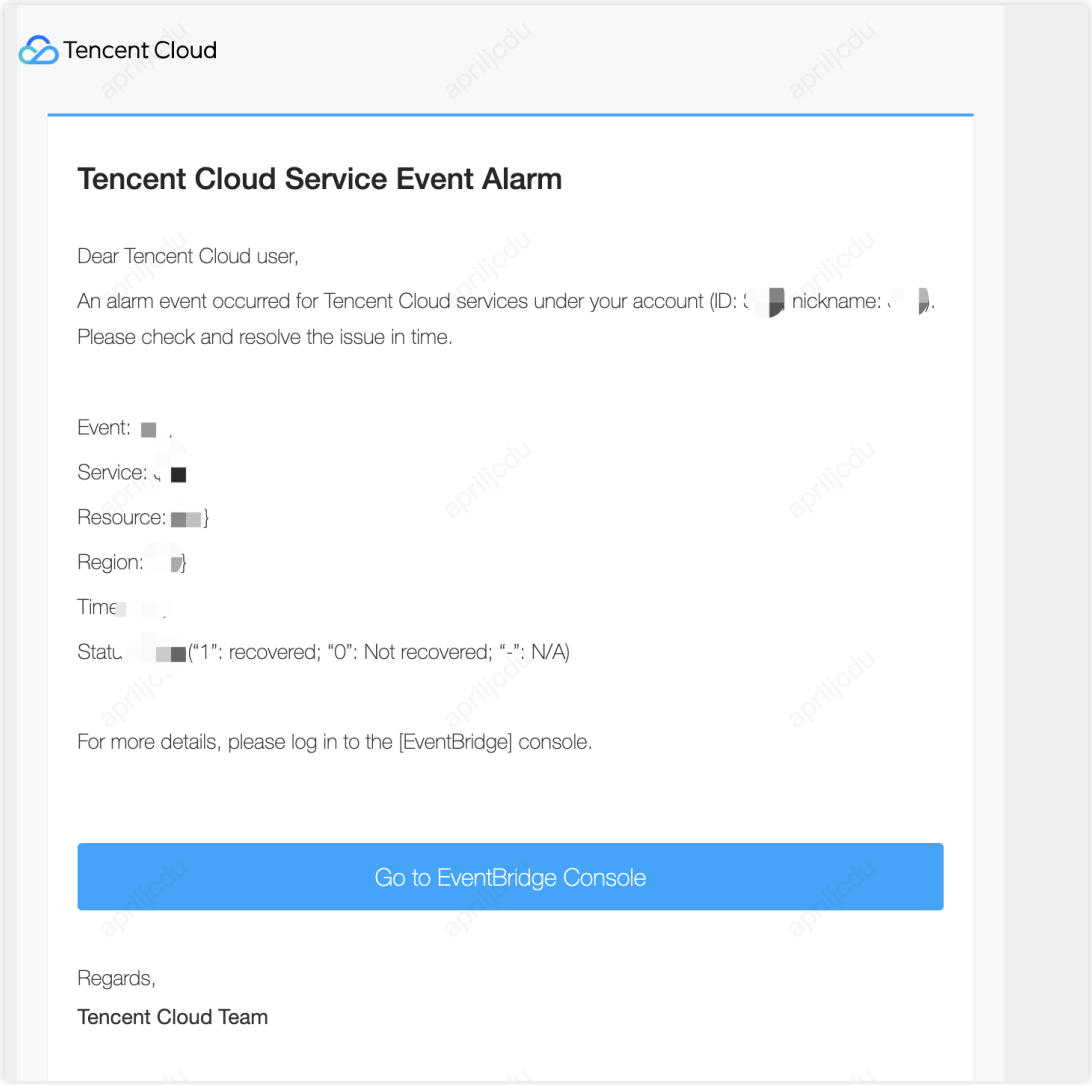

Tencent Cloud

Tencent Cloud Service Event Alarm

Dear Tencent Cloud user,

An alarm event occurred for Tencent Cloud services under your account (ID: [redacted] nickname: [redacted].
Please check and resolve the issue in time.

Event: [redacted]

Service: [redacted]

Resource: [redacted]}

Region: [redacted]}

Time[redacted]

Statu[redacted]("1": recovered; "0": Not recovered; "-": N/A)

For more details, please log in to the [EventBridge] console.

Go to EventBridge Console

Regards,
Tencent Cloud Team

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Planning a EventBridge-based Midplatform for a Retail Business

Last updated：2024-07-23 15:08:07

Overview

With the continuous development of information technology, many retail enterprises use a variety of internal systems for enterprise IT construction. For example, they use ERP, CRM and other business systems to manage information such as commodity and user information, and use OA, finance systems, and other internal systems to provide service support. However, these systems are isolated from each other and difficult to be managed in a unified manner. A midplatform is a perfect solution to the situation.
A midplatform can receive events from different internal systems of an enterprise, enable information sharing within the enterprise, and forward the events to corresponding downstream services for consumption processing, so as to connect more systems together. EventBridge is a secure, stable, and efficient serverless event management platform. It can receive real-time events and related data streams from custom applications, Software-as-a-Service (SaaS) services, and enable quick distribution and real-time consumption of the events by integrating delivery targets such as message push services and Serverless Cloud Function (SCF). EventBridge simplifies the event-driven midplatform architecture design and reduce R&D costs.

Architecture Design

As shown in the figure, taking the retail midplatform as an example, EventBridge provides a unified specification for delivering different types of events (such as user order, commodity warehousing, and order update events) generated by the business side through the EventBridge API. After filtering and extracting events, EventBridge delivers the events to corresponding processing targets according to different routing rules configured, completing the automatic processing of the events. In this scenario, EventBridge implements the basic capabilities of the business midplatform, and the enterprise can also use EventBridge as the underlying architecture for more complex business midplatform building based on the API specifications and routing rules provided by EventBridge, thus simplifying development and reducing costs.

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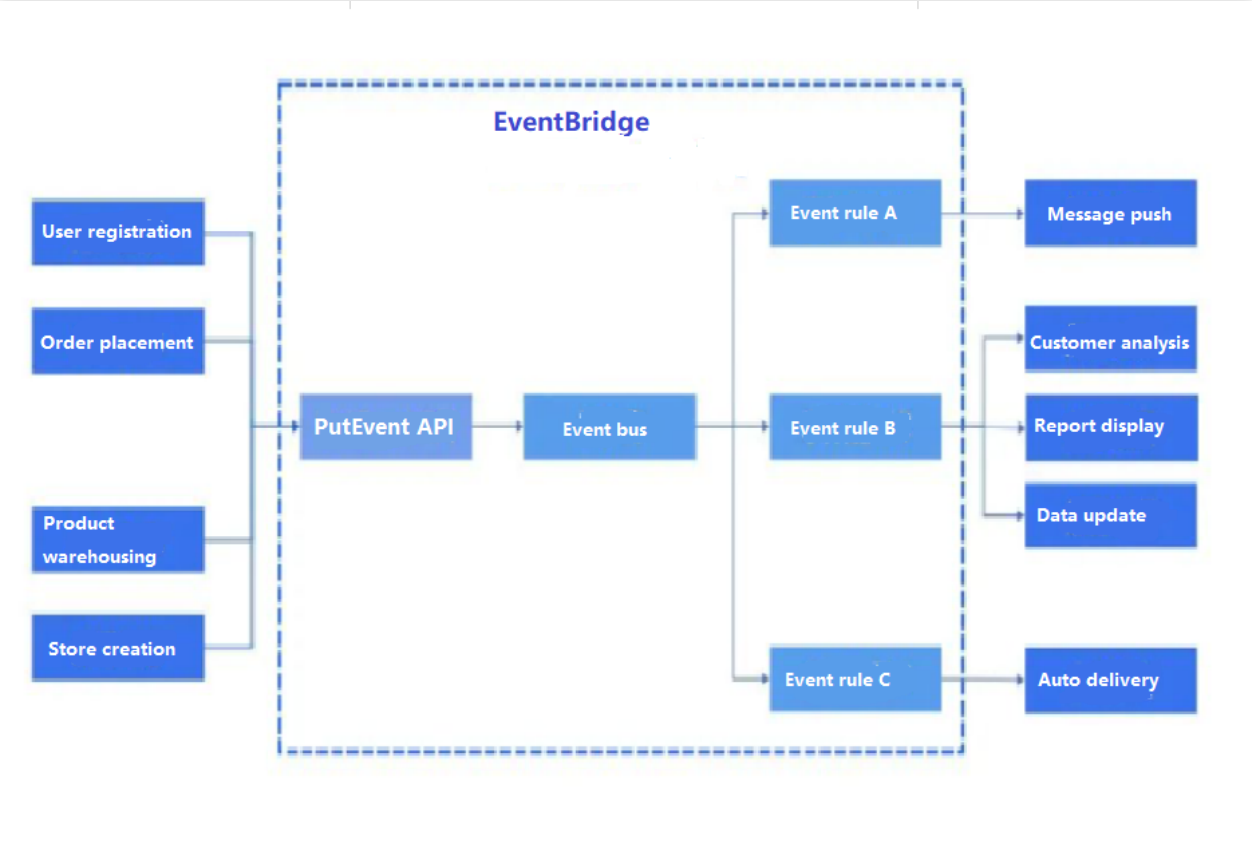

Solution Strengths

Unified event specification

EventBridge provides a unified and standard event specification for complex and diverse service systems to ensure event consistency and facilitate subsequent processing.

Simplified development process

With simple configuration, developers can use the built-in rule matching and event processing features of EventBridge to distribute events from different sources, lowering the development threshold and improving system building efficiency.

Real-time processing of massive data

As a stream data processing pipeline, EventBridge can route data between different data warehouses, between data processing applications, and between data analysis and processing systems, implementing the real-time processing of a massive number of business events.

Rich extensible capabilities

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The events processed by EventBridge comply with the same format specification and can be directly pushed to different business systems for consumption and business logic processing. At present, EventBridge has integrated SCF, which allows you to develop data processing logic through any programming language based on functions to connect different systems and services.

Directions

Step 1: Bind event sources

EventBridge currently supports three types of event sources:

Tencent Cloud services

Events generated by Tencent Cloud services, such as monitoring alarm events and cloud operation auditing events, are delivered to the Tencent Cloud service event bus by default by the business side. This default event bus cannot be modified or deleted. To view the Tencent Cloud service events currently supported, go to the details page of the Tencent Cloud service event bus in the EventBridge console.

SaaS services

Currently, the Queqiao iPaaS enterprise application platform has been connected to EventBridge, and the events generated by all the over 50 SaaS applications supported by Queqiao iPaaS can be delivered to EventBridge.

Custom services

In addition to default event sources, EventBridge supports custom event sources. You can configure to use message queue messages such as CKafka and TDMQ to deliver events generated by the business side by using API gateway URL callbacks or direct API calls.

For the retail midplatform architecture, events generated by the business platform are custom events and they can be delivered to EventBridge via API calls or callbacks. For operation details, see here.

Step 2: Configure routing rules

How to classify the events collected from different business sources is another concern of a midplatform system. This problem can be effectively solved by EventBridge's rule filtering capability. Based on EventBridge's standard event format, developers can customize different field matching rules to filter different events and perform simple event analysis and conversion to achieve efficient classification and processing of massive amount of data. For how to configure routing rules, see here.

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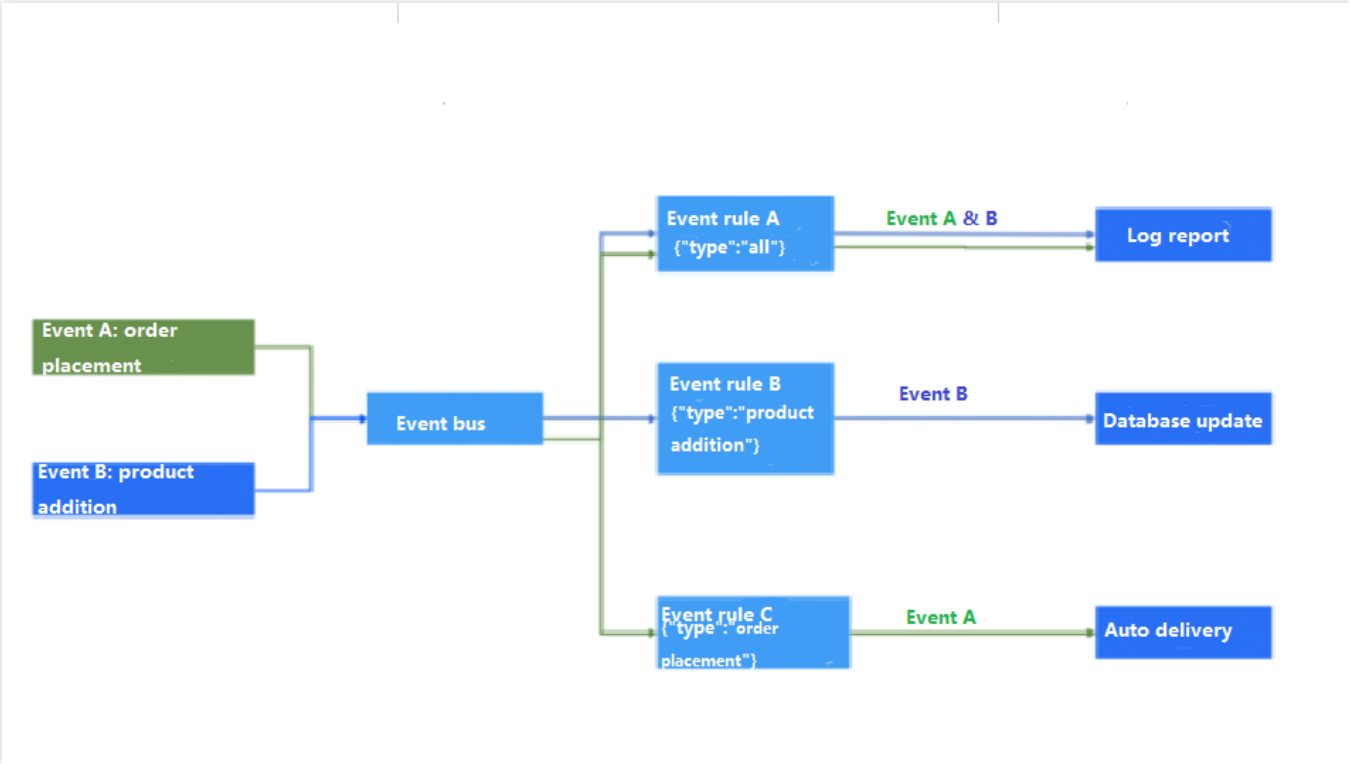

Step 3: Bind delivery targets

After configuring routing rules are configured, the business side can deliver different events to specified downstream platforms for consumption based on the corresponding business logic. The event targets currently supported by EventBridge include SCF and CKafka.

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