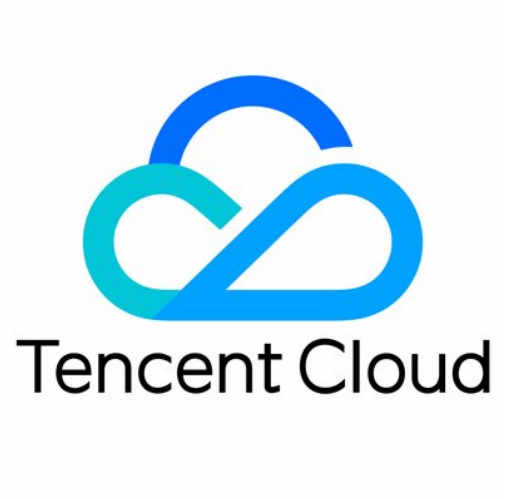
Content Delivery Network

Practical Tutorial

Product Documentation



Contents

Practical Tutorial
CDN - CVM
Overview

Last updated：2024-12-30 21:58:24

This document describes how to use Tencent Cloud CDN to accelerate access to CVM.

Content Delivery Network (CDN)

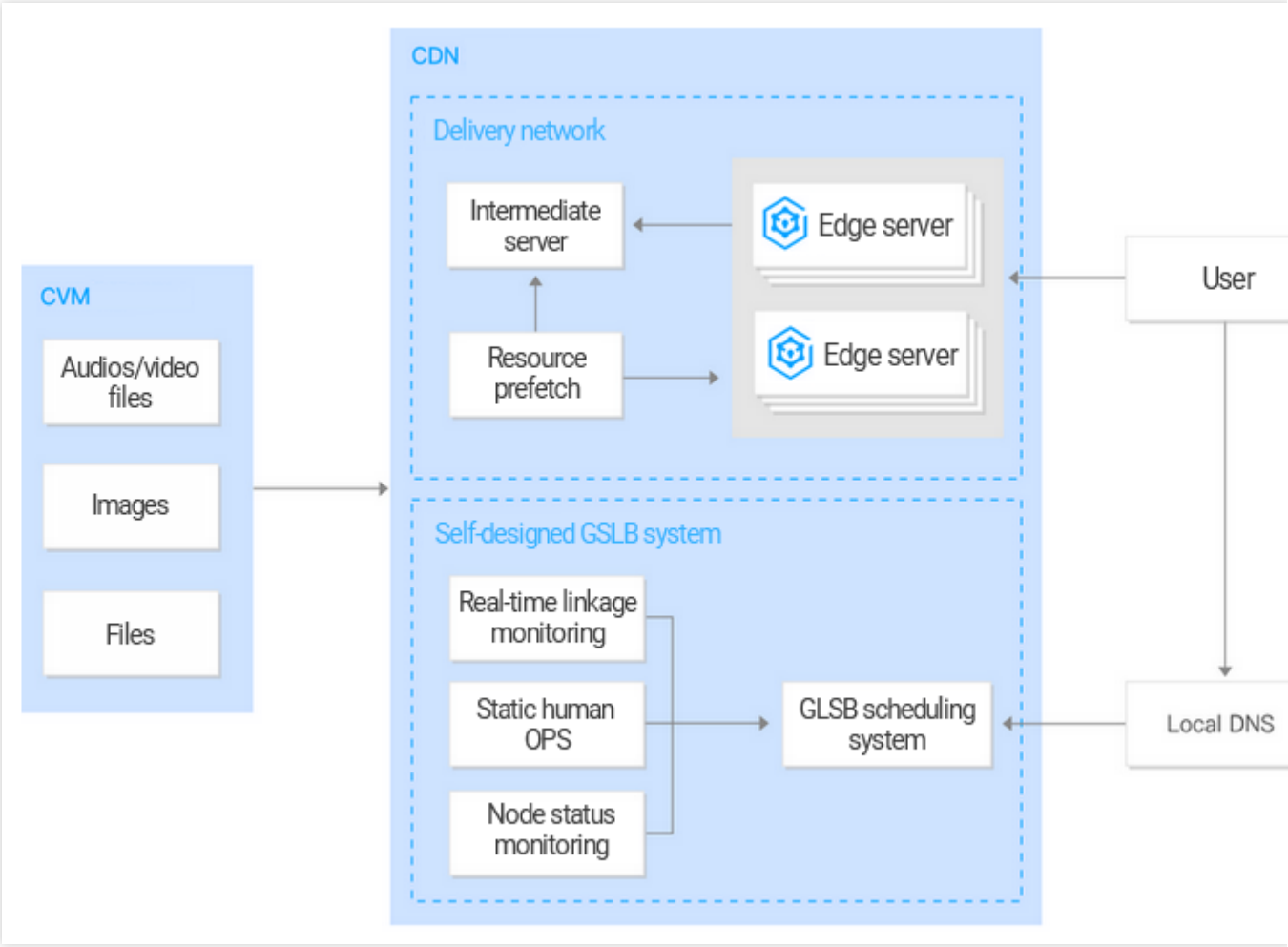
By delivering resources to high numbers of globally deployed cache nodes and leveraging Tencent's independently developed GSLB scheduling system, CDN enables nearby access to required resources for end users. This reduces access delays caused by network congestion, distance, and ISP issues and effectively improves the download speed, responsiveness, and user experience.

Cloud Virtual Machine (CVM)

CVM provides scalable virtual computing resources in the cloud. You can launch CVM instances on different operating systems and load them into your custom application environment. As your business needs change, you can scale your computing resources in real time and adjust your CVM instance specifications accordingly.

Content Delivery Practices

CDN can accelerate global delivery of static resources such as massive amounts of audio/video files, images, and files stored in CVM. With CDN's global cache nodes and scheduling capabilities, frequently requested resources can be delivered to edge servers in advance. When they are accessed or downloaded by end users, the cached resources on a nearby node will be returned.
CDN acceleration for CVM not only reduces the pressure on the origin server, transfer delay, and bandwidth costs, but also significantly improves the service availability.



Note:

Tencent Cloud Enterprise Content Delivery Network (ECDN) can be used to accelerate the delivery of dynamic/static resources or dynamic resources stored in CVM.

Implementation

CDN acceleration can be implemented for CVM in the following way:

Bind the CDN acceleration domain name to the CVM domain name or IP address and enable the CDN acceleration service. For detailed directions, please see Implementation via CDN Console.

Via CDN Console

Last updated：2025-01-25 15:49:38

This document describes how to accelerate access to CVM instances through CDN console.

Prerequisite

1. You have signed up for a Tencent Cloud account and verified your identity.
2. You have activated the CVM service. For more information, see Getting started with CVM.

Directions

Creating a Distribution

Log in to the CDN console, click **Domain Management** in the left sidebar to enter the domain name management page, and click **Create a Distribution**.

Part 1: Domain name configuration

Enter your service domain name in the domain field and select the project, region, and service type:

Configuration description:

Configuration	Description
Domain Name	1. The domain name can contain up to 81 characters. 2. ICP filing is required for domain names running in the Chinese mainland. 3. Sub-domains (a.test.com or a.b.test.com) and wildcard domain names (*.test.com or *.a.test.com) are supported. 4. You need to verify the domain name ownership when connecting a wildcard domain name or a connected domain name. **Notes:** 1. If a wildcard domain name is connected here, its sub-domains and second-level wildcard domain names cannot be connected by any other accounts. 2. Domain names in the format of `*.test.com` and `*.a.test.com` cannot be configured at the same time. 3. Domain names containing underscores and punycode-converted Chinese characters are now available. 4. Malicious or high-risk domain names cannot be connected to. For more information, see Use Limits.

Project	Project is a set of resources shared by all Tencent Cloud products. You can manage it on the Project Management page.
Region	**The Chinese mainland**: access requests from users all around the world will be scheduled to cache nodes in the Chinese mainland. **Outside the Chinese mainland**: access requests from user all around the world will be scheduled to cache nodes outside the Chinese mainland. **Global**: access requests will be scheduled to the nearest optimal node, regardless of whether it's within or outside the Chinese mainland. **Notes:** Acceleration services in and outside the Chinese mainland are billed separately. For more information on billing policies, see Billing Overview.
Service Type	CDN optimizes acceleration performance based on service type. For the best acceleration result, we recommend selecting the service type similar to that of your actual business. Static acceleration: suitable for small-scale resource acceleration scenarios such as ecommerce, websites, and game images. Download acceleration: suitable for download scenarios such as game installation, source audio/video file download, and mobile phone firmware distribution. Streaming VOD acceleration: suitable for scenarios such as online education and VOD.
Internet Protocol	IPv4: nodes can be accessed only through IPv4 addresses. IPv4+IPv6: nodes can be accessed through both IPv4 and IPv6 addresses. Only when this option is selected can an IPv6 origin server be configured. **Note:** IPv6 is only supported in the Chinese mainland.

Part 2: Origin server configuration

Configure the origin. When the requested resource is not cached on CDN nodes, CDN will forward the request to the origin, pull the requested resource and cache it on CDN nodes.

Configuration description:

Configuration	Description
Origin Server Type	Customer Origin: select this if you already have your own business server. (i.e., origin server). Tencent Cloud COS: if resources are stored in COS, the bucket can be directly selected as the origin server.
Origin Server Address	Customer Origin:

	1. Multiple IPs can be configured as the origin server, which will be polled during origin-pull. 2. If multiple IPs are used, you can configure weighted origin-pull in the format of `IP:port:weight(1 – 100)`. The port can be omitted and the format becomes `IP::weight`. 3. You can configure one domain name as the origin server, which should be different from the business acceleration domain name. Tencent Cloud COS: 1. Select from the drop-down list the bucket to be configured as the origin server. 2. If the bucket is private read/write, first grant CDN access to the bucket. Otherwise, origin-pull will fail.
Origin-pull Protocol	This can be selected based on the protocols supported by the origin server: HTTP: HTTP/HTTPS access requests use HTTP origin-pull. HTTPS: HTTP/HTTPS access requests use HTTPS origin-pull (the origin server must support HTTPS access). Follow protocol: HTTP access requests use HTTP origin-pull, while HTTPS access requests use HTTPS origin-pull (the origin server must support HTTPS access).
Origin Domain	This refers to the domain name accessed on the origin server by a CDN node during origin-pull. If a subdomain name is connected, it will be the same as the acceleration domain name by default and can be customized. If a wildcard domain name is connected, it will be the actual access subdomain name by default and can be customized.

Part 3: Service configuration

Configure the node acceleration service:

Configuration description:

Configuration	Description
Ignore Parameter	A node caches resources by following the `Key-Value` mapping, where `Key` is the resource URL. If "Ignore Query String" is enabled, parameters after "?" in the URL will be ignored. Otherwise, `Key` will be a complete resource URL. This feature is disabled for static acceleration and enabled for download and streaming media VOD acceleration by default. For more information, see Cache Key Rule Configuration.
Range GETs	This specifies whether to process partial requests during origin-pull. It can be enabled only if the origin server supports Range GETs. For more information, see Range GETs Configuration. This feature is enabled for COS origin by default

Cache Configuration	This specifies node cache validity configuration. The cache expiration time for all files is 30 days by default. The configured cache validity is the longest possible time, the actual cache validity is related to the resources on nodes. For more information, see Node Cache Validity Configuration (Legacy).

Completing the configuration

After entering all configuration items on **Create a Distribution** page, click **Submit** to add a domain name and wait for the domain name configuration to be delivered over the entire network, which usually takes 5 to 10 minutes.

Configuring CNAME

After successfully adding a domain name, You can view the acceleration CNAME assigned by CDN on the **Domain Management** page. You need to add a CNAME record for the domain name through your DNS service provider (such as DNSPod). Acceleration services will become available after **the DNS configuration takes effect**. For more information, see CNAME Configuration.

Note:

According to regulations, if the origin server is at an accelerated domain name of Tencent Cloud CVM, the domain name configured for the host header should obtain an ICP filing through Tencent Cloud. For more information, see Host header configuration.

CDN - COS
Overview

Last updated：2025-01-25 14:58:03

This document describes how to use Tencent Cloud CDN to accelerate access to COS.

Content Delivery Network (CDN)

By delivering resources to high numbers of globally deployed cache nodes and leveraging Tencent's independently developed GSLB scheduling system, CDN enables nearby access to required resources for end users. This reduces access delays caused by network congestion, distance, and ISP issues and effectively improves the download speed, responsiveness, and user experience.

Cloud Object Storage (COS)

You can store all your static resources such as static scripts, audio/video files, images, and attachments in standard storage in COS, which features unlimited capacity and high-frequency reads/writes to provide scalable and reliable storage for static resources and reduce pressure on resource servers.

Content Delivery Practices

CDN can accelerate global delivery of static resources such as static scripts, audio/video files, images, and attachments stored in COS. With CDN's global cache nodes and scheduling capabilities, frequently requested resources can be delivered to edge servers in advance. When they are accessed or downloaded by end users, the cached resources on a nearby node will be returned. This reduces both pressure on the origin server as well as transfer delay, significantly improving the user experience.

Note:

Tencent Cloud Enterprise Content Delivery Network (ECDN) can be used to accelerate the delivery of dynamic/static resources or dynamic resources stored in COS.

Implementation

CDN acceleration can be implemented for COS in the following two ways. Choose either of them to complete acceleration：

Point the COS endpoint to the CDN acceleration domain name and bind your domain name to the CDN acceleration domain name (through CNAME). For detailed directions, please see Implementation via CDN Console.

Bind your domain name to the COS endpoint and enable CDN acceleration. For detailed directions, please see Implementation via COS Console.

Via CDN Console

Last updated：2024-12-30 21:59:43

This document describes how to accelerate access to resources in COS through CDN.

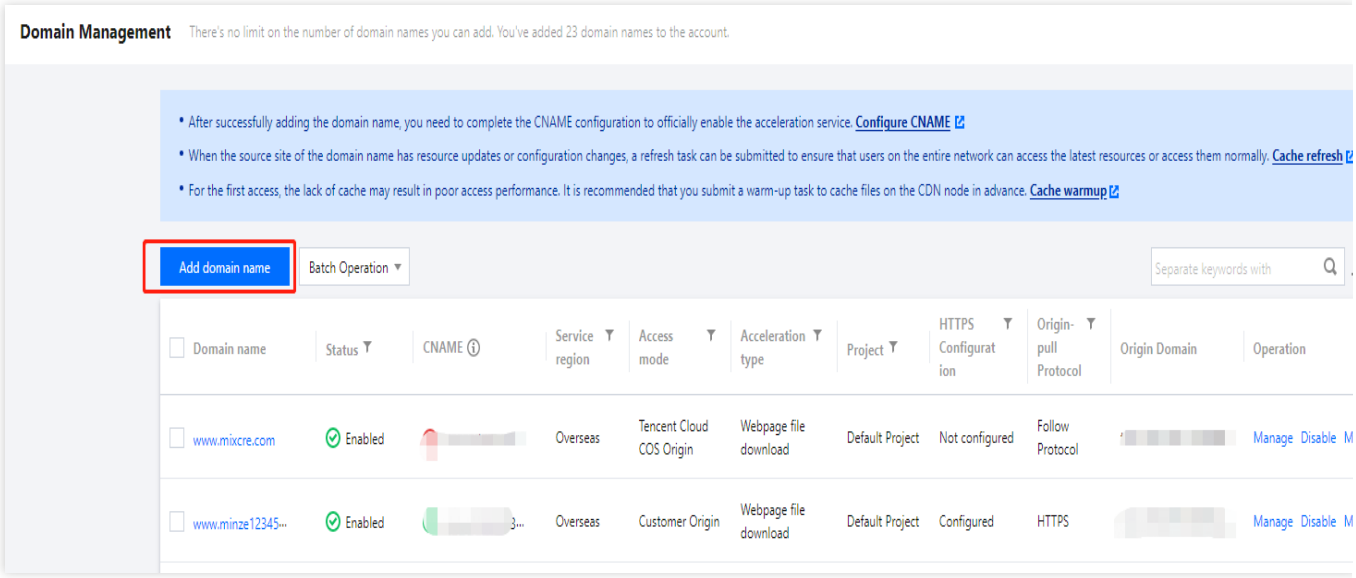
Prerequisites

1. You have signed up for a Tencent Cloud account and verified your identity.
2. A COS bucket has been created. For more information, see Creating Buckets.

Operation Guide

Creating a distribution

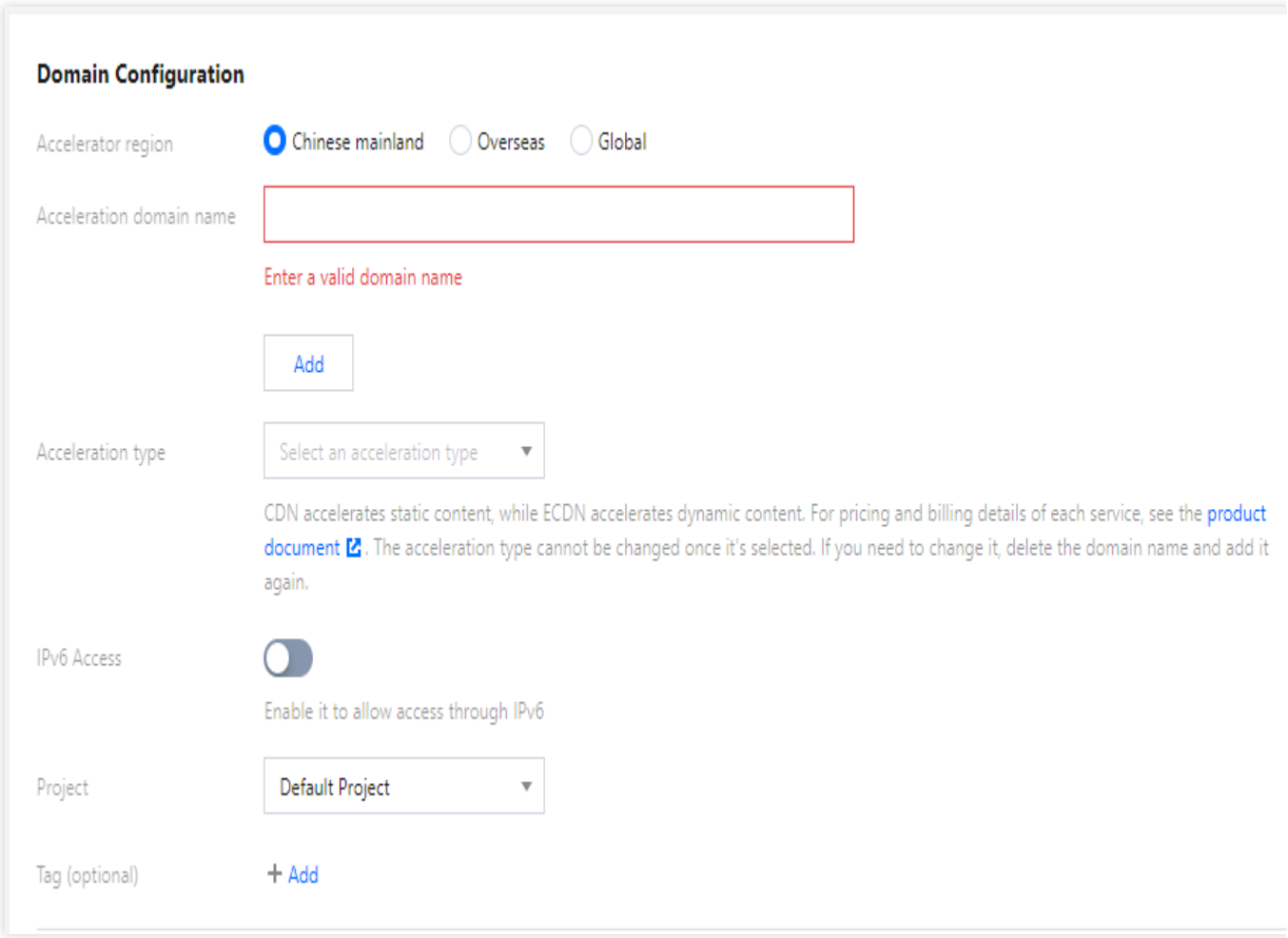
Log in to the CDN console and click **Domain Management** in the left sidebar to enter the domain name management page. Then click **Create a Distribution**.



Selecting COS as origin server

Part 1: Domain name configuration

Enter your business domain name in the domain field, select a project and acceleration type, choose whether to enable IPv6 access, and set a tag:



Configuration description:

Configuration	Description
Region	**Chinese mainland**: all requests are scheduled to cache nodes in the Chinese mainland. **Outside the Chinese mainland**: all requests are scheduled to cache nodes outside the Chinese mainland. **Global**: requests are scheduled to the nearest optimal node. **Notes:** Acceleration services in and outside the Chinese mainland are billed separately. For more information, see Billing Overview.
Acceleration Domain Name	1. The domain name can contain up to 81 characters. 2. ICP filing is required for domain names running in the Chinese mainland. 3. Sub-domains (`a.test.com` or `a.b.test.com`) and wildcard domain names (`*.test.com` or `*.a.test.com`) are supported. 4. You need to verify the domain name ownership when connecting a wildcard domain name or a connected domain name. **Notes:**

	1. If a wildcard domain name is connected here, its sub-domains and second-level wildcard domain names cannot be connected by any other accounts. 2. Domain names in the format of `*.test.com` and `*.a.test.com` cannot be configured at the same time. 3. Domain names containing underscores and punycode-converted Chinese characters are now available. 4. Malicious or high-risk domain names cannot be connected to. For more information, see Use Limits.
Project	(Optional) Project is a set of resources shared by all Tencent Cloud products. You can manage it on the Project Management page.
Acceleration type	Tencent Cloud CDN optimizes acceleration performance based on the service type. For the best acceleration result, we recommend that you select a service type that is similar to that of your actual business. CDN is applicable to the acceleration of static resources. ECDN is applicable to the acceleration of dynamic resources. CDN: Acceleration of small webpage file downloads: applicable to e-commerce, websites, UGC communities, and other business scenarios that mainly involve small static resources, such as webpage styles, images, and small files. Acceleration of large file downloads: applicable to business scenarios where large files, such as game installation packages, application updates, and application program packages, are downloaded. Audio and video on demand acceleration: applicable to audio and video on-demand scenarios that require acceleration, such as online on-demand audio and video streaming. ECDN: Dynamic and static content acceleration: applicable to business scenarios where dynamic and static data is integrated, such as various website homepages. Dynamic content acceleration: applicable to scenarios such as account login, order transactions, API calls, and real-time queries. Once selected, the acceleration type cannot be changed. To change the acceleration type, delete the domain name, add the domain name again, and then select a new acceleration type.
IPv6 Access	(Optional) CDN nodes support IPv4 access by default. IPv6 access will be supported after it is enabled. **Note:** IPv6 access is only available in the Chinese mainland.
Tag	(Optional) A tag is used to manage resources by category from different dimensions. If the existing tags do not meet your requirements, please go to Tag.

Part 2: Origin configuration

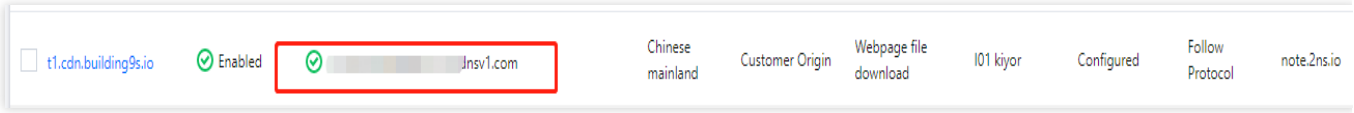
Configure the origin. When the requested resource is not cached on CDN nodes, CDN will forward the request to the origin, pull the requested resource and cache it on CDN nodes.

1. Select **COS** from the **Origin Type** drop-down list under **Domain Configuration**.
2. Select an origin-pull protocol based on the support of the origin server.
3. Select a **bucket** for the origin address.
4. Enable **Private Bucket Access**. You should go to **COS-bucket permission management** to authorize the CDN service first. After the service authorization is confirmed, you can manually enable this feature.
5. The default setting is used for **Origin Domain**. No modification is required.

After entering all configuration items on the **Add domain name** page, click **OK** and wait for domain name configuration to be delivered over the entire network, which usually takes 5 to 10 minutes.

Configuring CNAME

After successfully adding a domain name, you can view the acceleration CNAME assigned by CDN on the **Domain Management** page.



You must add the CNAME record for the domain name at your DNS provider, such as DNSPod. After **the DNS configuration takes effect**, acceleration services become available. For more information, see CNAME Configuration.

Recommended Configuration

1. After completing all the settings, prefetch the static resource files in COS to CDN nodes in advance, which will reduce the strain on the origin server and accelerate response and downloading. For more details, see Prefetch Cache.
2. Configure cross-origin access headers. For more details on cross-origin permissions of resources, see HTTP Response Header.
3. If the resource has been modified on your origin server, you are recommended to purge cache before prefetch again. For more details, see Purge Cache.

Configuring CNAME via DNSPod

Last updated：2024-12-30 22:00:45

Tencent Cloud CDN and DNSPod . If a domain name has been hosted on Tencent Cloud DNSPod, you can configure CNAME with a few steps through CDN console. Thus, you can reduce steps, save time and enable CDN acceleration service quickly.

Note:

It is only available on the Chinese site but not on the international site.

Background

After a domain name is connected to CDN, the system will automatically assign a CNAME domain name suffixed with `.cdn.dnsv1.com` which can be viewed on the Domain Management page on the CDN console. It cannot be accessed directly. Instead, you need to complete the CNAME configuration with the domain name service provider first. When the CNAME record takes effect, you can enable the CDN acceleration service.

Scenarios

Users who use both Tencent Cloud CDN and DNSPod can configure CNAME record to enable the CDN acceleration service.

Operation Guide

Hosting domain names on DNSPod

You need to host the domain name resolution on DNSPod first. For more information, see Hosting Domain Name Resolution on DNSPod.

Using CDN service

Adding a domain name

Log in to CDN console, click **Domain Management** in the left sidebar, and click **Create a Distribution** to add the domain name you want to accelerate. For more information, see Adding Domain Names.

Configuring CNAME

Log in to [CDN console] and go to the Domain Management page. Find the domain name you want to accelerate, and hover over the icon in front of CNAME to view the note. Click **Quick Configure** to configure CNAME.
To enable acceleration service for the selected domain name, we will take following actions to process the resolution record for the domain name in DNSPod.
1. If the domain name has not configured any resolution record, add a Tencent Cloud CDN CNAME record with default line type. The default TTL is 600.
2. If the domain name has configured a resolution record, pause all configured resolution records and add a Tencent Cloud CDN CNAME record with default line type. The default TTL is 600.
Note: pause all configured resolution records for a domain name may affect existing DNS resolution service for the domain name.
1. You can log in to the DNSPod console to manage resolution records.
Note:
Please ensure current account has management permissions for the corresponding domain name.
If it is a sub-account or collaborator account, please contact master account to get authorization. For example, you should get the write permission and QcloudDNSPodFullAccess permission corresponding to CDN acceleration domain name.

Completing CNAME settings

After submitting resolution for quick configuration, it will take about 1 minute to take effect. You can refresh Domain Name Management page in CDN console. When the CNAME status changes to activated, you can hover over the icon in front of CNAME to view a note, i.e. acceleration service is in normal operation.
Note:
If you do not want to use this feature, you can configure CNAME by yourself. For more information, see CNAME Configuration.

Others

If you delete the corresponding acceleration domain name, we will not operate your resolution records in DNSPod. Please modify resolution records as needed.

Regularly Storing CDN Logs

Last updated：2024-12-30 22:00:56

Regularly Storing CDN Logs

This document describes how to use Tencent Cloud SCF to create two functions in order to regularly store CDN logs into COS.

Key Steps

This document describes how to create the "storage" and "task distribution" functions, use them together, and configure a timer trigger in order to regularly store CDN logs into COS.
There are four key steps:
A. Prepare the Tencent Cloud API access key and COS information
B. Create the storage function (cdn-save-log-into-cos)
C. Create the task function (cdn-dispatch-log-jobs)
D. Configure the timer

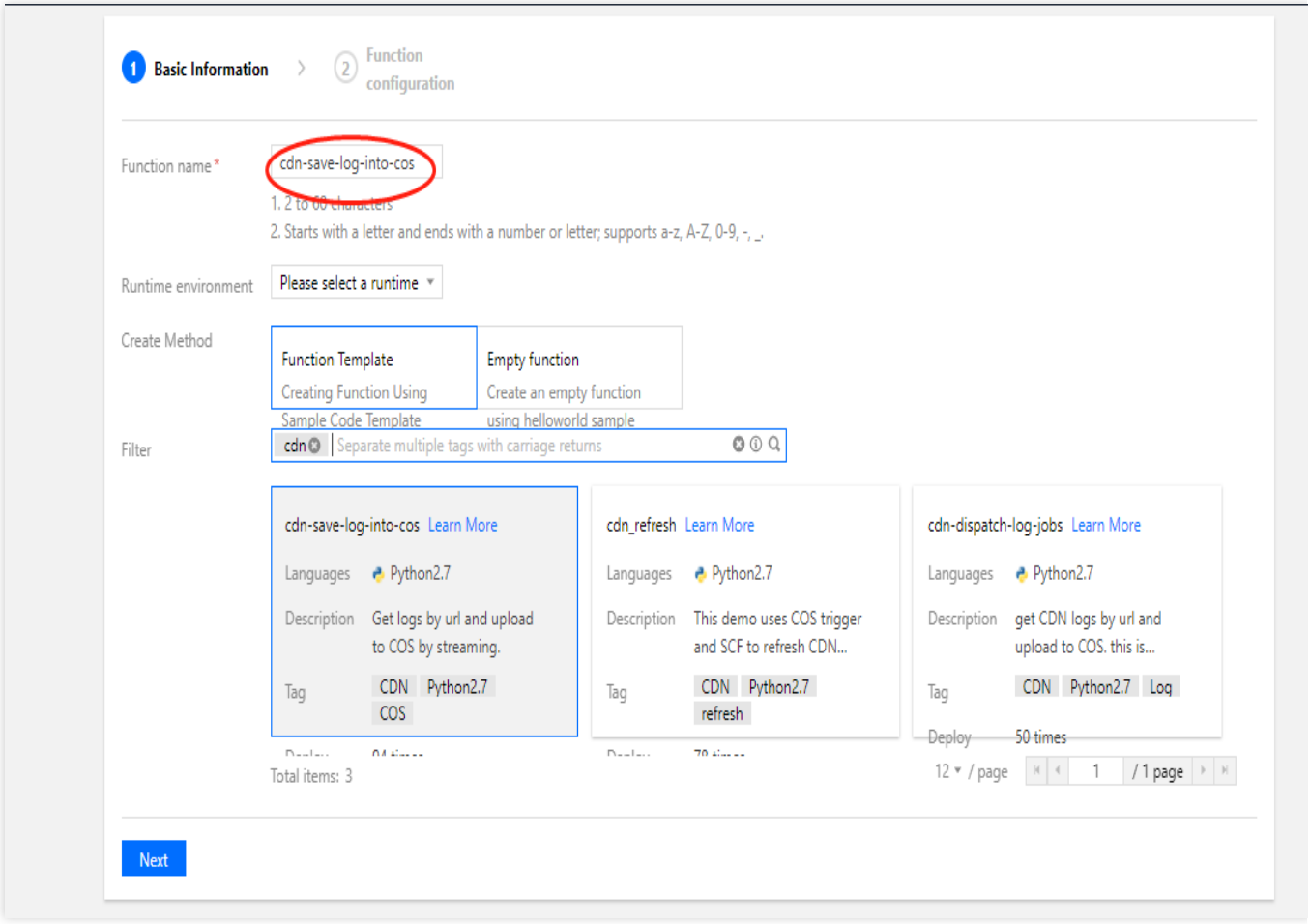
Directions

A. Prepare the following resources before creating the functions

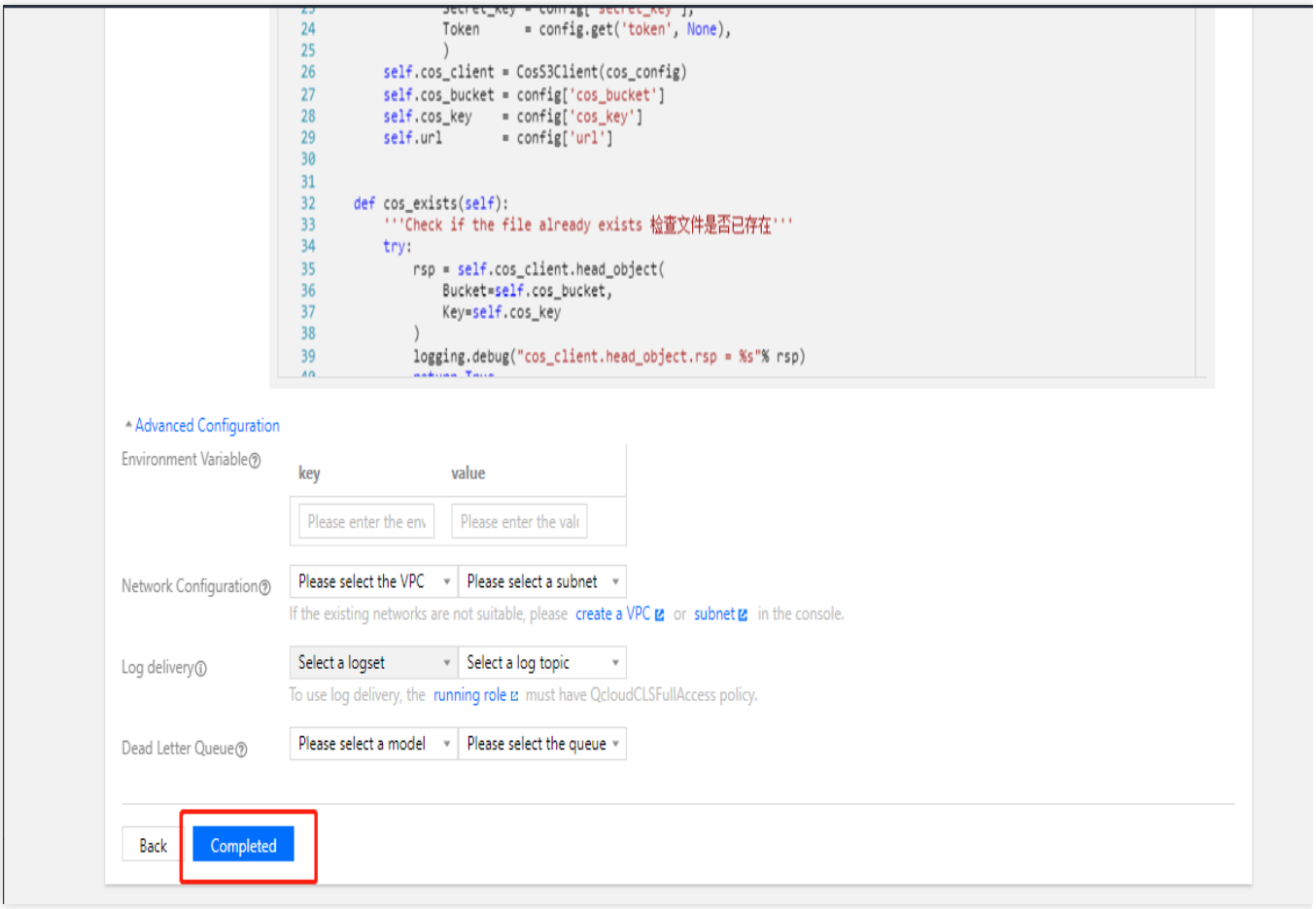
1. Tencent Cloud API access key
Go to the access key management page, query or create a key, and record the following information:
Access credential name (`SecretId`), such as `AKID*****************************Rv`
Access credential key (`SecretKey`), such as `3t0S*****************************56`
2. COS bucket
Log in to the COS Console, access the **Bucket List** to query or create a bucket, access the bucket to view its **Basic Information**, and record the following information:
Bucket name (`Bucket Name`), such as `examples-1251002854`
Bucket region (`Region`), such as `ap-chengdu`

B. Create the storage function (cdn-save-log-into-cos)

1. Log in to the SCF Console and click **Function Service**.
2. Select **Create** and enter **cdn-save-log-into-cos** as the function name.
3. Select **Function Template**, search with the keyword "CDN", select the "cdn-save-log-into-cos" template, and click "Next" to access the function configuration page:

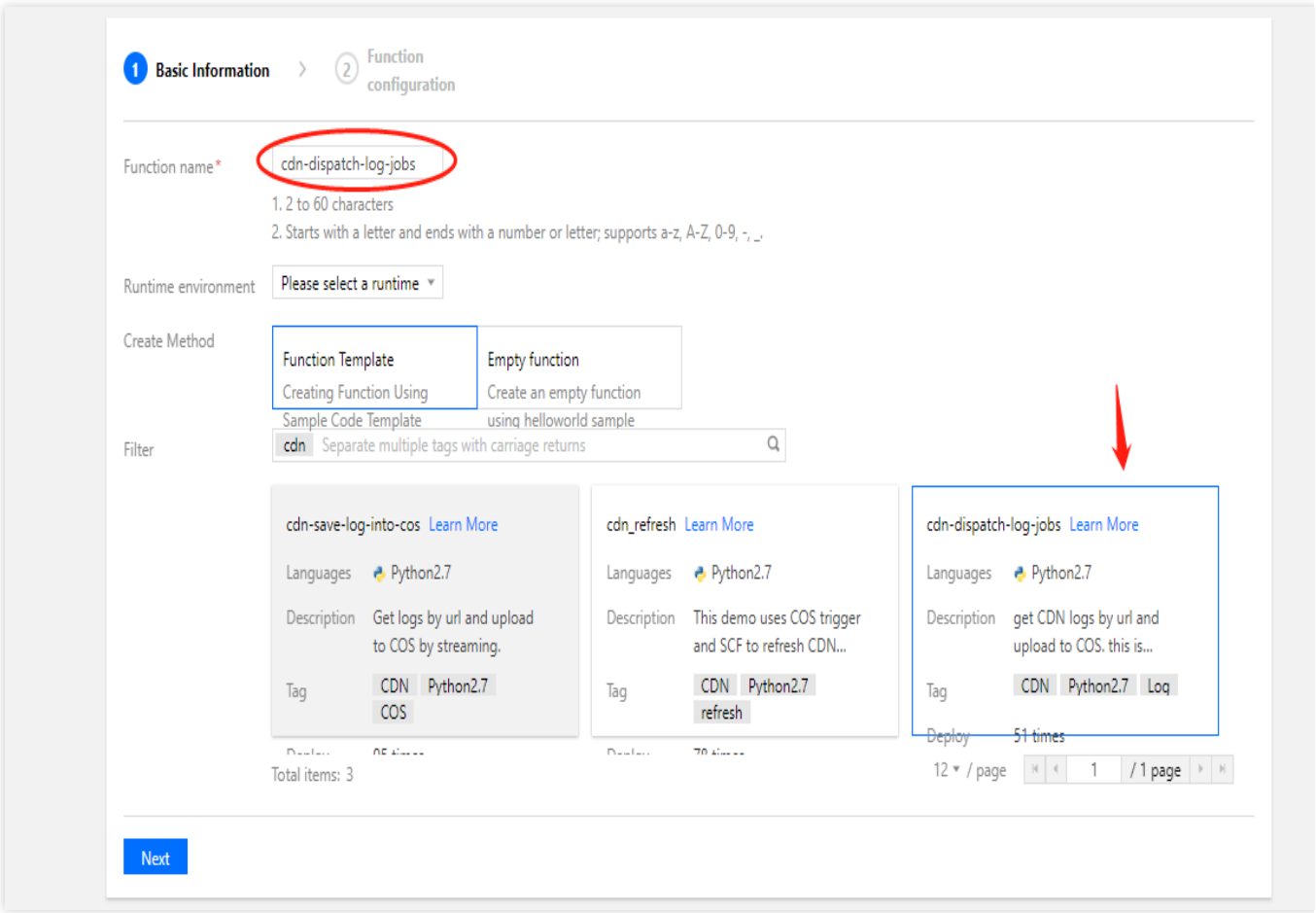


4. Click **Complete** to create the function.



C. Create the task function (cdn-dispatch-log-jobs)

1. Log in to the SCF Console and click **Create**.
2. Select **Function Template**, search with the keyword "CDN", and select the "cdn-dispatch-log-jobs" template.
3. Enter **cdn-dispatch-log-jobs** as the function name and click "Next".
4. Click **Complete** to create the function.



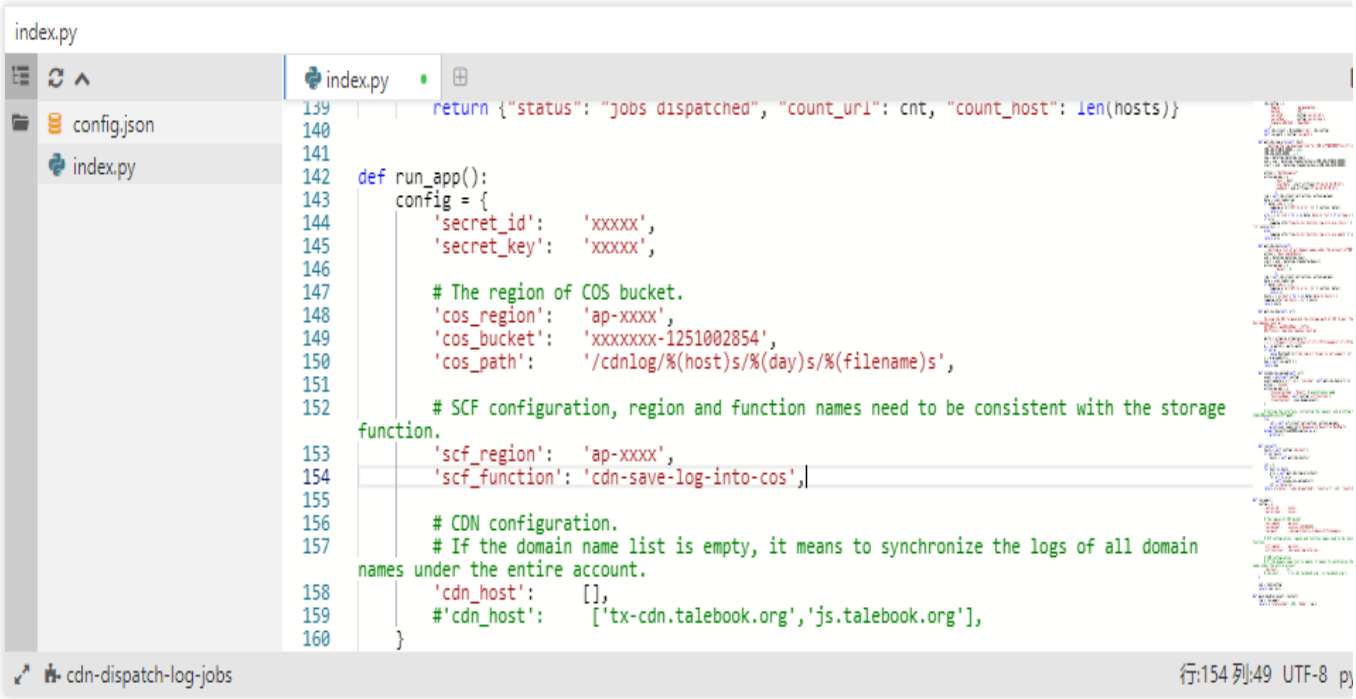
5. Click the **Function Code** tab. In the code editing box, modify the Python code by entering the following configuration information:

In the `config` variable on row 143, enter the corresponding configuration information:

Set fields such as `secret_id` , `secret_key` , `cos_region` , `cos_bucket` , and `scf_region` .

If you set the function name as instructed in step B and do not want to modify it, you can retain the original value of `scf_function` .

The default value of `cdn_host` is an empty array (i.e., the logs of all domain names under the account will be stored). If needed, you can enter the list of specified domain names.



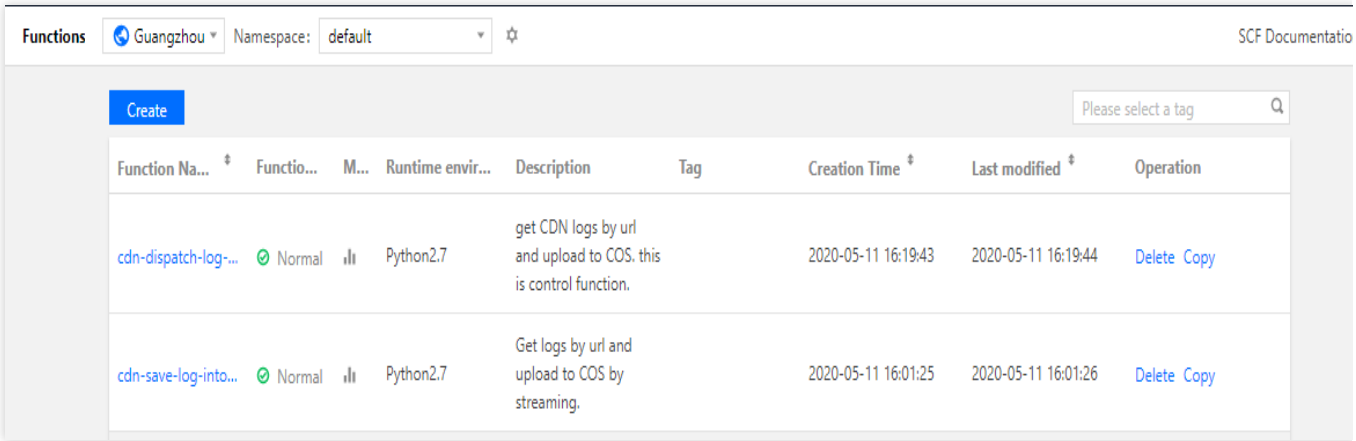
6. Click **Save**.

7. Click **Test** to check whether the code runs properly. After the testing program stops running, you can access the COS Console and check whether the corresponding logs are stored in COS.

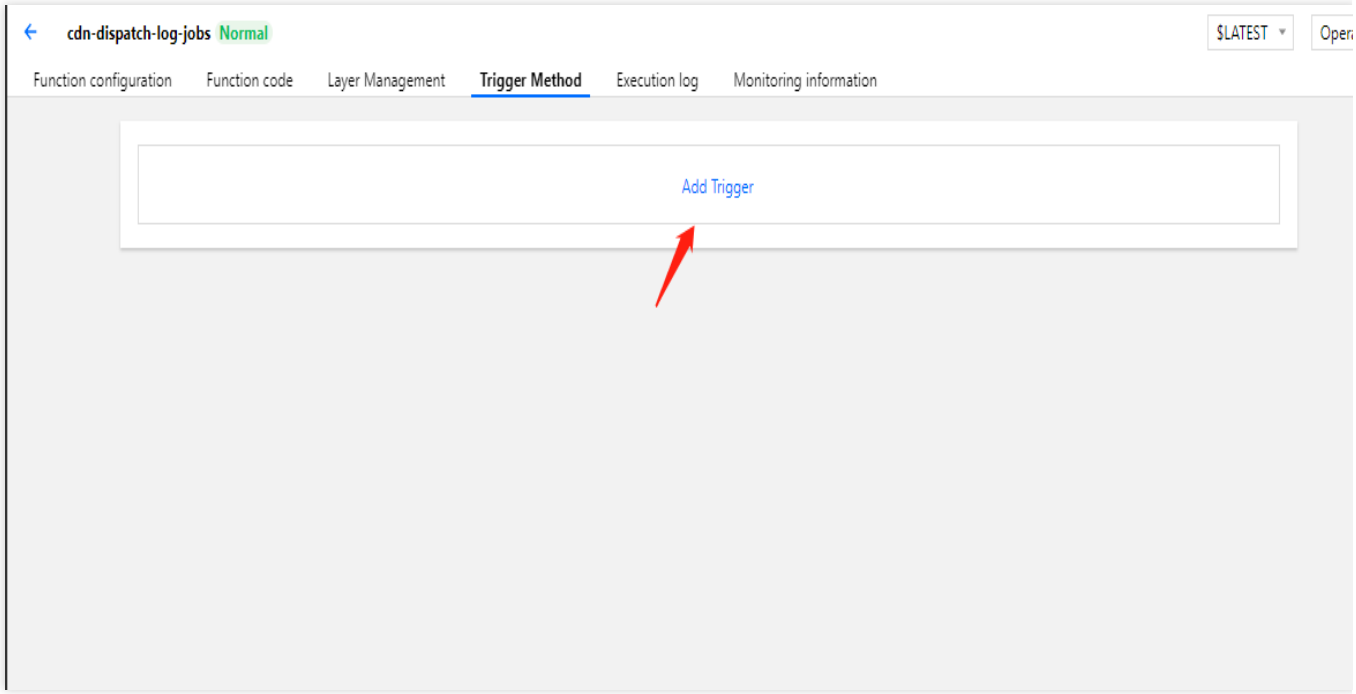
D. Configure the timer

After you create the two functions above, the list on the SCF Console will be as shown below:

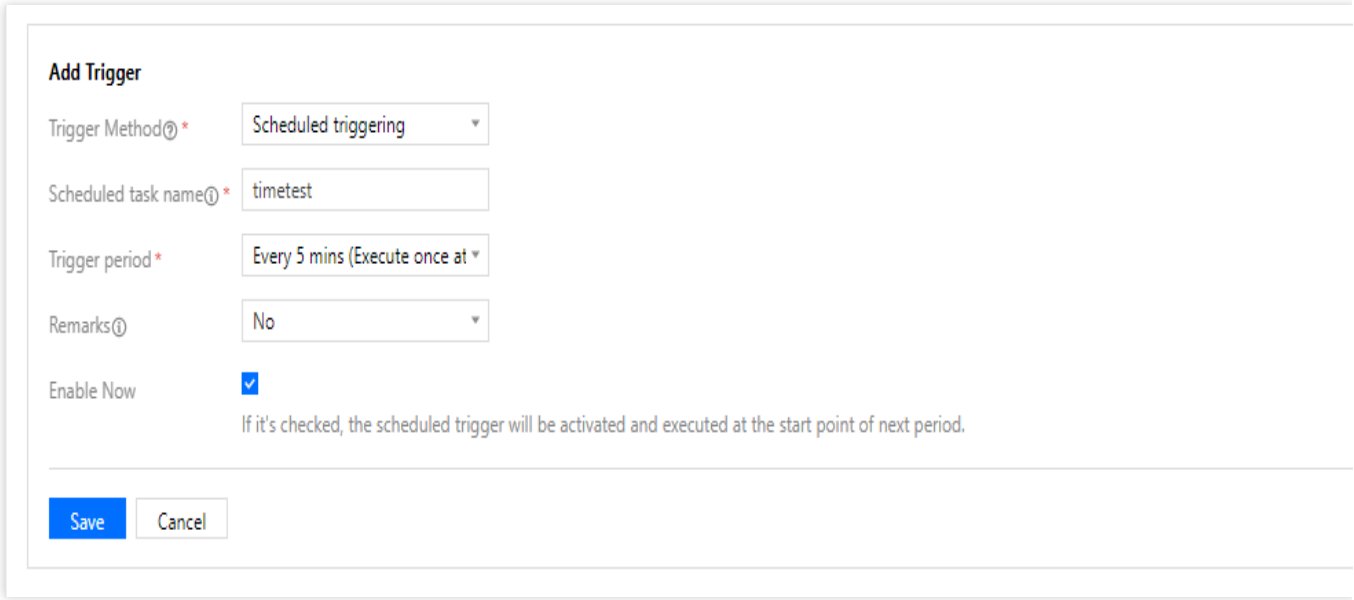
1. Click **cdn-dispatch-log-jobs** to access its details.



2. Click the **Trigger Management** tab and click **Create a Trigger**.



3. Select **Scheduled triggering** as the trigger method, enter a custom scheduled task name, select **Every 5 mins** as the trigger period, and click **Submit**.



Once you complete all the steps above, CDN logs will be regularly stored into COS.