

# Alibaba Cloud Alibaba Cloud CDN

## Service Management

Issue: 20190912

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# Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 <b>Danger:</b> Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 <b>Warning:</b> Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 <b>Notice:</b> Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	 <b>Note:</b> You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
<b>Bold</b>	It is used for buttons, menus, page names, and other UI elements.	Click OK.
<code>Courier</code> font	It is used for commands.	Run the <code>cd / d C :/ windows</code> command to enter the Windows system folder.
<i>Italics</i>	It is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[ ] or [a b]	It indicates that it is an optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>

Style	Description	Example
<code>{}</code> or <code>{a b}</code>	It indicates that it is a required value, and only one item can be selected.	<code>swich {stand   slave}</code>



# Contents

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Legal disclaimer.....	I
Generic conventions.....	I
1 Overview.....	1
2 Monitor data.....	3
3 Use the statistical analysis function.....	6
4 Usage Query.....	8
4.1 Overview.....	8
4.2 Query usage.....	8
4.3 Query bills.....	10
4.4 Export a bill.....	11
4.5 Export details.....	12
4.6 Resource plans.....	14
5 Certificate service.....	15
5.1 Configure an HTTPS certificate.....	15
6 Refresh and preload.....	24
6.1 Overview.....	24
6.2 Configure the refresh and preload function.....	25
6.3 Refresh and preload FAQ.....	27
7 Log Management.....	31
7.1 Overview.....	31
7.2 Download logs.....	31
7.3 Log storage.....	33
8 Diagnostic tools.....	37
9 Domain Names.....	38
9.1 HTTPDNS.....	38
10 Service management FAQ.....	40

# 1 Overview

If you want to manage CDN resources through data monitoring, statistical analysis, usage query, refresh and preload, and log analysis, then you can use the service management functions in the CDN console. These functions enable you to analyze the status of CDN in real time and make business decisions promptly.

CDN supports the following service management functions:

Function	Reference	Description	Default
Data monitoring	<a href="#">#unique_4</a>	Allows you to learn the status of CDN through resource monitoring and real-time monitoring.	N/A
Statistical analysis	<a href="#">#unique_5</a>	Allows you to learn the status of CDN through analysis of retrieved data.	N/A
Usage query	<a href="#">#unique_6</a>	You can query data transfer usage, bandwidth usage, or number of requests within a specified time range, for a specified domain, or in a specified region .	N/A
	<a href="#">#unique_7</a>	You can query all bill statements under the current CDN user account by day or by month. You can also query billing statements by billing method. The billing methods supported by CDN include pay by data transfer, pay by added value, and pay by real-time log entries.	N/A
	<a href="#">#unique_8</a>	You can query all bill statements under the current CDN user account by day or by month, and then save the bill statement data to a PDF file.	N/A
	<a href="#">#unique_9</a>	You can create a bill statement export task and then save the data to an EXCEL file.	N/A
	<a href="#">#unique_10</a>	If you have purchased CDN data transfer plans, check the data transfer plan details to make sure that you use the data transfer plans properly.	N/A

Function	Reference	Description	Default
HTTPS certificates	<a href="#">#unique_11</a>	HTTPS certificates provide protection for CDN resources. With this function enabled, data transmission between clients and servers are encrypted to protect the resources on the origin sites.	Disabled
Refresh and preload	<a href="#">#unique_12</a>	The refresh function forces CDN nodes to retrieve the latest content from origin sites. The preload function loads frequently queried content to CDN nodes before peak hours to accelerate content delivery.	N/A
Log management	<a href="#">#unique_13</a>		N/A
	<a href="#">#unique_14</a>		N/A
Diagnostic tools	<a href="#">#unique_15</a>	URL authentication helps you prevent unauthorized downloads and use of resources on origin sites.	N/A

## 2 Monitor data

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The Data Monitoring module includes resource monitoring and real-time monitoring. You can use the data monitoring function to learn about the running status of CDN.

### Procedure

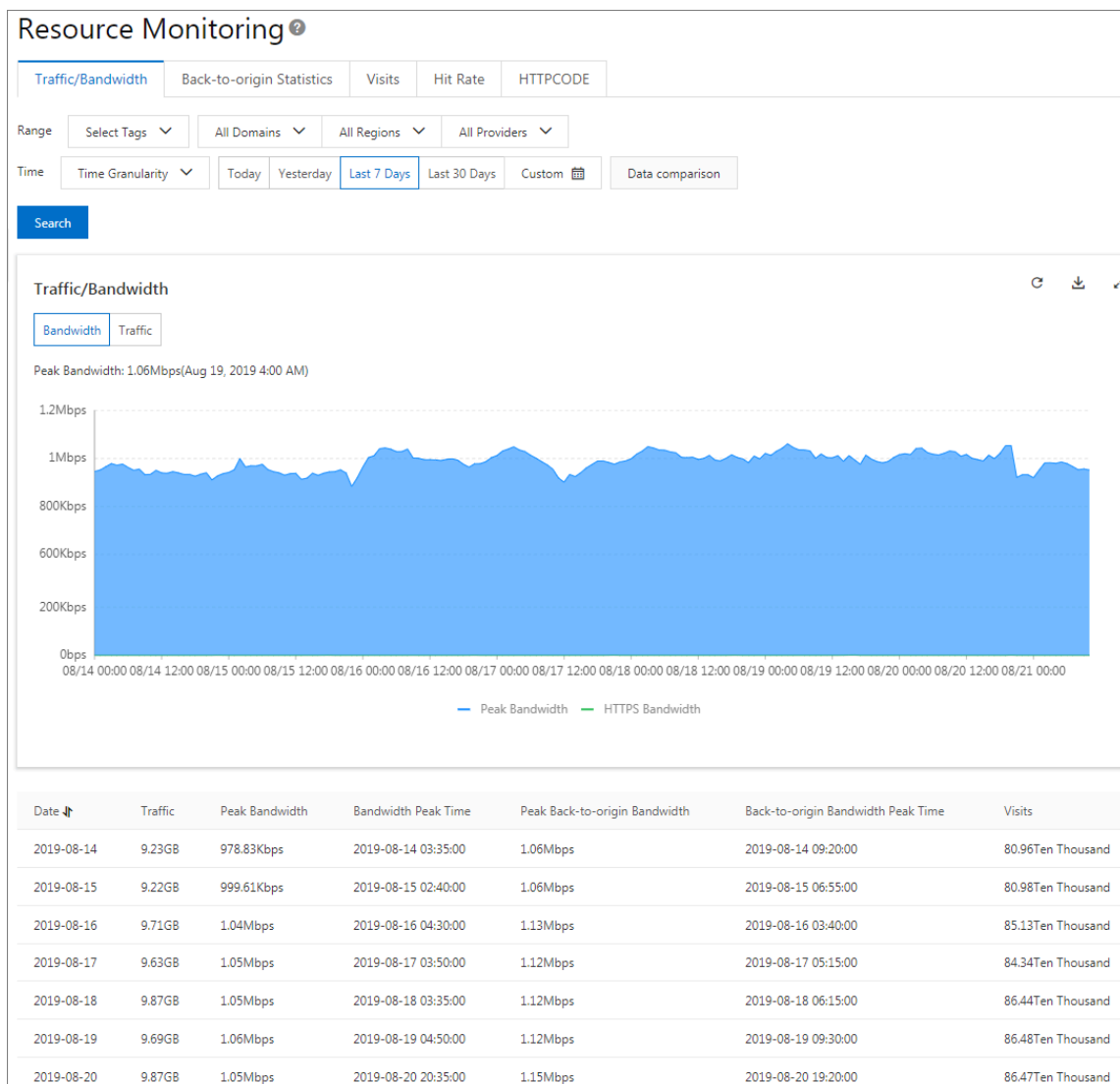
1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, choose Monitoring > Resource Monitoring or Real-time Monitoring.
3. On the Resource Monitoring or Real-time Monitoring page, select monitoring items and metrics as needed and click Search.

- Resource monitoring

You can view and download the details about the following metrics by domain name, region, provider, time granularity (1 minute, 5 minutes, or 1 hour), and time range (today, yesterday, last seven days, last 30 days, or a custom period).

Item	Metric
Traffic/Bandwidth	Bandwidth and traffic
Back-to-origin Statistics	Back-to-origin bandwidth and back-to-origin traffic
Visits	Requests and QPS
Hit Rate	None

Item	Metric
HTTPCODE	5xx, 4xx, 3xx, and 2xx status codes



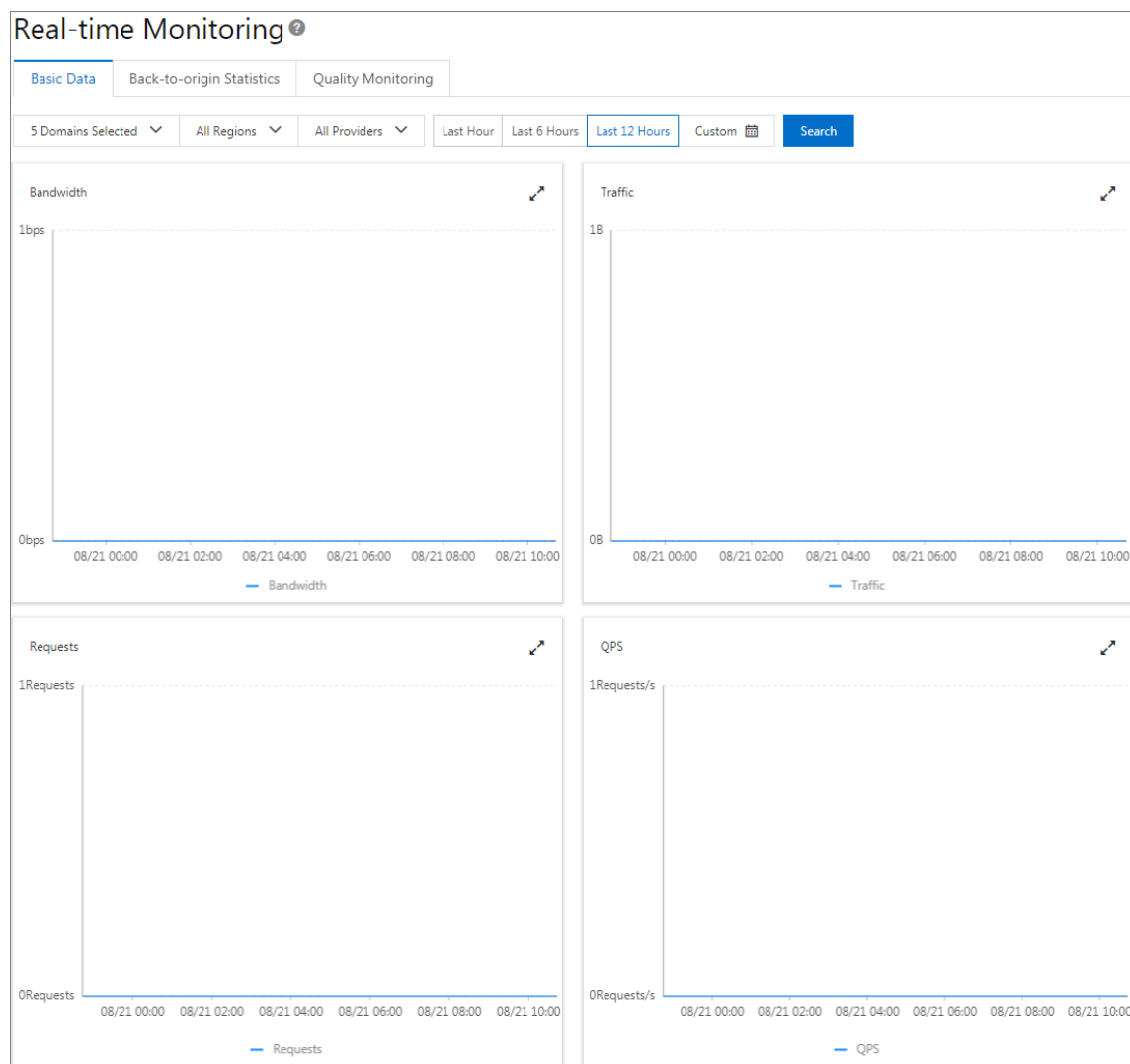
The data shown in the resource monitoring line chart differs slightly from the billing data. For example, a 30-day resource statistics line chart is plotted at 14,400s intervals, while the billing data is plotted at 300s intervals. The line chart does not take into account certain points and is mainly used to show the

bandwidth trend. The billing data has finer granularity to help you calculate the actual bandwidth usage.

- Real-time monitoring

You can view the details about the following metrics by domain name, region, provider, and time range (last hour, last 6 hours, last 12 hours, or a custom period).

Item	Metric
Basic Data	Bandwidth, traffic, requests, and QPS
Back-to-origin Statistics	Back-to-origin bandwidth and back-to-origin traffic
Quality Monitoring	Request hit rate, byte hit rate, 5xx, 4xx, 3xx, and 2xx status codes



## 3 Use the statistical analysis function

You can use the statistical analysis function to check the offline analysis data of CDN domains in the last day and earlier to learn about the running status of CDN.

### Context

The Statistics module consists of five parts: PV/UV, By Region/Provider, Popular Referers, Popular URLs, and Domain Name Ranking. You can export detailed raw data such as network bandwidth, traffic, domain name rankings based on traffic proportion, and visitor and provider distribution.



#### Note:

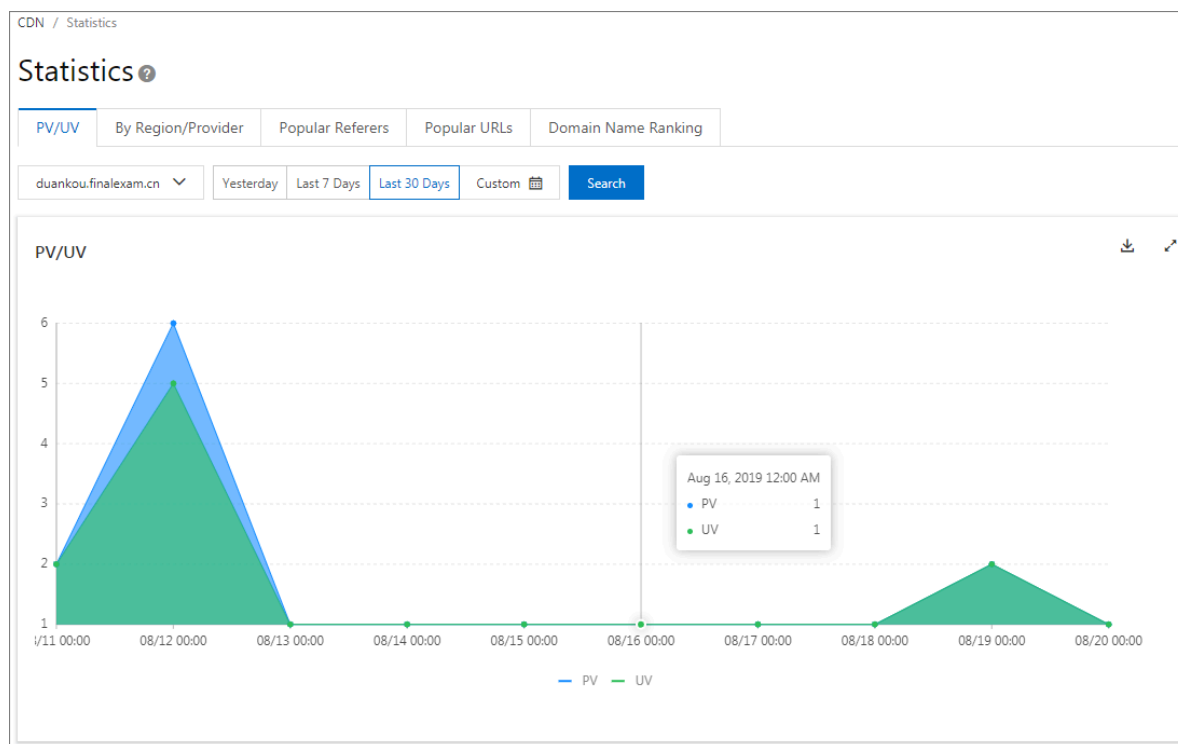
The granularity for collecting raw data varies by time range, which is 300s for daily export, 3600s for weekly export data, and 14,400s for monthly export.

### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, select Statistics.
3. On the Statistics page, select monitoring items and metrics and click Search.

Item	Metric	Time range
PV/UV	PV, UV, user distribution by region , and provider proportion	Yesterday, last seven days, last 30 days, and a custom period ( within 90 days)
By Region/ Provider	Ranking, region, total traffic, traffic proportion, visits, visit proportion, and response time	Yesterday, last seven days, last 30 days, and a custom period ( within 90 days)
Domain Name Ranking	Visit rankings of CDN domains	Yesterday, last seven days, last 30 days, and a custom period ( within 90 days)
Popular Referers	Traffic, traffic proportion, visits, and visit proportion	Yesterday and a custom period ( within 90 days)

Item	Metric	Time range
Popular URLs	Traffic, traffic proportion, visits, and visit proportion	Yesterday and a custom period (within 90 days)



## 4 Usage Query

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### 4.1 Overview

Before you use CDN to accelerate content delivery, we recommend that you learn and understand the resource usage of CDN and its pricing details first. This can help you make business decisions efficiently.

CDN supports the following resource usage query functions:

Function	Description
<a href="#">#unique_6</a>	You can query data transfer usage, bandwidth usage, or number of requests within a specified time range, for a specified domain, or in a specified region.
<a href="#">#unique_7</a>	You can query all bill statements under the current CDN user account by day or by month. You can also query billing statements by billing method. The billing methods supported by CDN include pay by data transfer, pay by added value, and pay by real-time log entries.
<a href="#">#unique_8</a>	You can query all bill statements under the current CDN user account by day or by month, and then save the bill statement data to a PDF file.
<a href="#">#unique_9</a>	You can create a bill statement export task and then save the data to an EXCEL file.
<a href="#">#unique_10</a>	If you have purchased CDN data transfer plans, check the data transfer plan details to make sure that you use the data transfer plans properly.

### 4.2 Query usage

You can use this function to obtain usage data of a specific period of time, and analyze the data to make more informed business decisions. This topic describes the usage query function and how to query usage data.

#### Context

You can query data based on the following conditions:

- Domain or user.

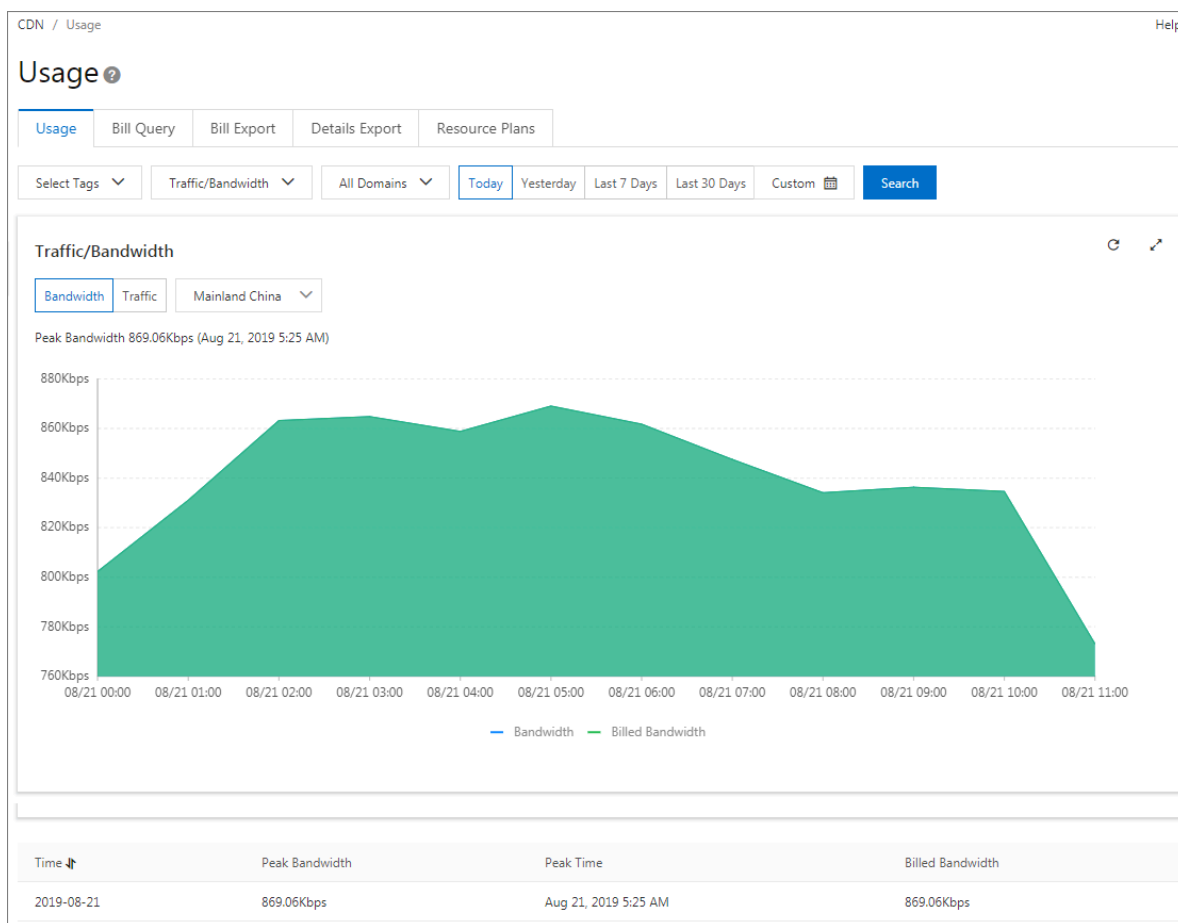
- Traffic, bandwidth, or number of requests.
- Billing region. For more information, see [#unique\\_21Billing regions](#).

**Note:**

You can specify a time range. You can query data of the last three months at most.

**Procedure**

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Usage.
3. On the Usage tab, select query conditions such as traffic/bandwidth, number of requests, domain, time range, and billing region, and click Search.

**Note:**

If you want to export bills or billing details, see [#unique\\_8](#) or [#unique\\_9](#).

## 4.3 Query bills

You can query CDN bills by day or by month as needed. CDN supports billing by data traffic, by value-added services, or by real-time log entries. You can query CDN bills to understand the billing details in a timely manner and make better business decisions. This topic describes how to query bills.

### Context

When you query bills, note the following:

- Query by day

You can query bills only for the current day or the previous 355 days. For example, the billing cycle can be from 2019-07-08 00:00:00 to 2019-07-08 23:59:59.

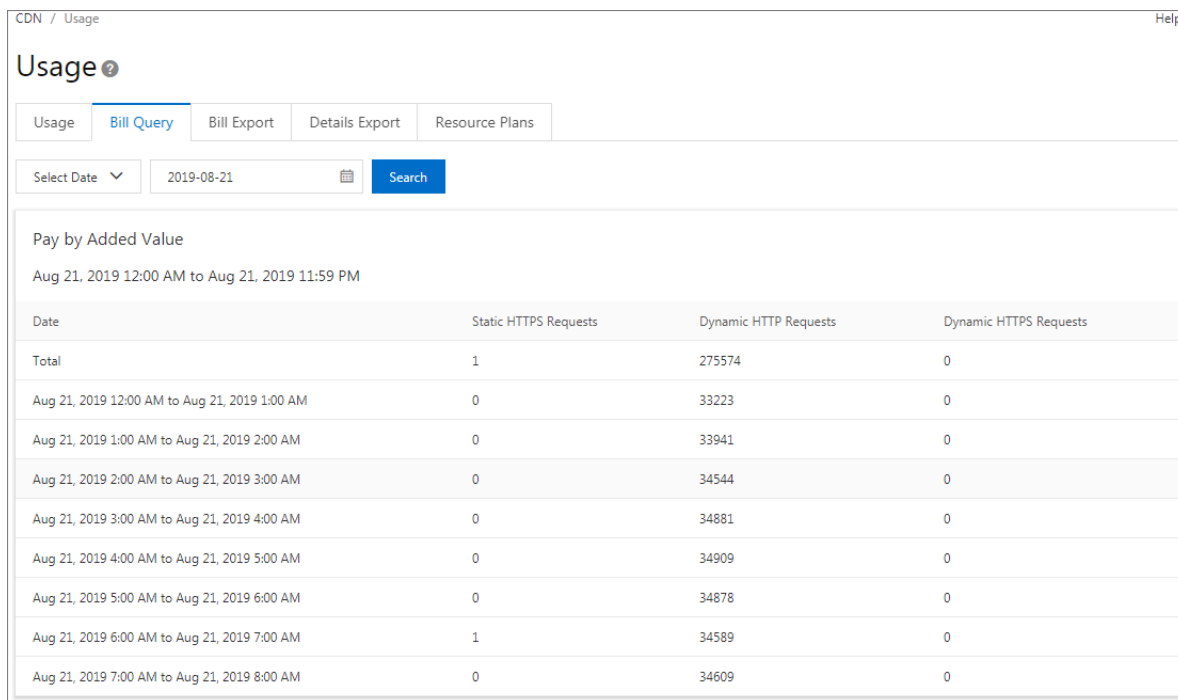
- Query by month

You can query bills only for the previous 12 months. For example, the billing cycle can be from 2019-06-01 00:00:00 to 2019-06-30 23:59:59.

### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Usage.
3. Click the Bill Query tab.

4. On the Bill Query tab, select Select Date or Select Month, set a specific time range, and then click Search.



CDN / Usage Help

### Usage ?

Usage Bill Query Bill Export Details Export Resource Plans

Select Date ▼ 2019-08-21 📅 Search

Pay by Added Value

Aug 21, 2019 12:00 AM to Aug 21, 2019 11:59 PM

Date	Static HTTPS Requests	Dynamic HTTP Requests	Dynamic HTTPS Requests
Total	1	275574	0
Aug 21, 2019 12:00 AM to Aug 21, 2019 1:00 AM	0	33223	0
Aug 21, 2019 1:00 AM to Aug 21, 2019 2:00 AM	0	33941	0
Aug 21, 2019 2:00 AM to Aug 21, 2019 3:00 AM	0	34544	0
Aug 21, 2019 3:00 AM to Aug 21, 2019 4:00 AM	0	34881	0
Aug 21, 2019 4:00 AM to Aug 21, 2019 5:00 AM	0	34909	0
Aug 21, 2019 5:00 AM to Aug 21, 2019 6:00 AM	0	34878	0
Aug 21, 2019 6:00 AM to Aug 21, 2019 7:00 AM	1	34589	0
Aug 21, 2019 7:00 AM to Aug 21, 2019 8:00 AM	0	34609	0

For more information about how to export bills or details, see [#unique\\_8](#) or [#unique\\_9](#).

## API operations

You can call the API to query the bill of a CDN domain for a specific billing cycle. For more information, see [#unique\\_23](#).

## 4.4 Export a bill

CDN provides the bill export feature for daily and monthly bills. You can download a PDF version of the bills to better understand billing details and make more informed business decisions. This topic describes how to export and download CDN bills.

### Context

You can export a daily or monthly CDN bill to compare it with the reports generated from Billing Management.

### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Usage.

3. On the right side of the page, click the Bill Export tab.
4. On the Bill Export tab, select Select Date or Select Month, and then click Create Export Task.
5. You can click Download or Delete in the Actions column corresponding to a bill to download or delete the bill.

Usage ?			
Usage	Bill Query	Bill Export	Details Export
Resource Plans			
Select Date	2019-08-29	Create Export Task	
Start Time	End Time	Status	Actions
Jul 1, 2019 12:00 AM	Jul 31, 2019 11:59 PM	Creating	Download   Delete
Aug 22, 2019 12:00 AM	Aug 22, 2019 11:59 PM	Creating	Download   Delete
Aug 5, 2019 12:00 AM	Aug 5, 2019 11:59 PM	Successful	Download   Delete
Apr 1, 2019 12:00 AM	Apr 30, 2019 11:59 PM	Successful	Download   Delete

For more information about CDN bills, see [#unique\\_9](#).

## 4.5 Export details

You can create a details export task to export a bill and download and save it as an Excel file to better understand billing details and review the usage you actually paid for. This topic describes how to export and download bills.

### Context

You can use the details export function to export bills based on different parameters such as data type and export content, so that you can calculate or review the usage you actually paid for.

The interval for each data item on the bill is five minutes.

### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Usage.
3. In the right-side section, click the Details Export tab.
4. On the Details Export tab, click Create Task.

5. You can set the task parameters based on your needs.

Parameter	Description
Task Name	The name of the bill export task
Data type	The data type of the bill to be exported. Valid values: <ul style="list-style-type: none"> <li>· Traffic/Bandwidth</li> <li>· Requests</li> </ul>
Query Period	The start and end time of the bill to export. You can export data of the last 31 days at most. Format: YYYY-MM-DD HH:mm:ss.
Export Content	The content to be exported. Valid values: <ul style="list-style-type: none"> <li>· Account</li> <li>· Domain</li> <li>· Group</li> </ul>
Domain name	When Export Content is set to Domain , you must select a domain name from the Domain Name drop-down list. You can select up to 100 domain names.
Group	When Export Content is set to Group , you must select a group from the Please select group drop-down list. After you select a group, all domain names in the group will be exported. You can select up to 100 groups.

Create Task

×

Task Name

Enter a task name

Data Type

Traffic/Bandwidth

Requests

Query Period

Start - End

📅

Export Content

Account

Domain

Group

Frequency

Once

OK

Cancel

6. Click OK.

7. You can click Download or Delete in the Actions column corresponding to an export task to download or delete the task.

## API

You can call API operations listed in the following table to implement the details export function.

Operation	Description
<a href="#">DescribeUserUsageDetailDataExportTask</a>	
<a href="#">CreateUsageDetailDataExportTask</a>	

## 4.6 Resource plans

If you have purchased a CDN resource plan, you can view the detailed information about the resource plan and use the resource plan based on the actual condition. This topic describes how to view resource plans.

### Context

Make sure that you have purchased a CDN resource plan for acceleration or a CDN resource plan for illicit content moderation. For more information about how to purchase resource plans, see [CDN/DCDN resource plans](#).

### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Usage.
3. Click the Resource Plans tab.

You can view the total capacity, the available capacity, effective time, expiry time, and status of each resource plan.

CDN / Usage <span>Help</span>						
Usage <span>?</span>						
Usage	Bill Query	Bill Export	Details Export	Resource Plans		
ID	Resource Plan Name	Total	Remaining	Effective Date <span>⬆</span>	Expiry Date <span>⬆</span>	Status
CDNFCWBAQ-cn-4580n4u022v	4580n4u022v	500GB	423.02GB	Jan 12, 2018 5:06 PM	Jan 13, 2019 12:00 AM	Invalid
CDNFCWBAQ-cn-4580n4u022v	4580n4u022v	100GB	85.68GB	Sep 10, 2018 5:43 PM	Sep 11, 2019 12:00 AM	Valid
CDNFCWBAQ-cn-4580n4u022v	4580n4u022v	100,000,000	100,000,000	Sep 11, 2018 7:52 PM	Sep 12, 2019 12:00 AM	Valid
CDNFCWBAQ-cn-4580n4u022v	4580n4u022v	100,000,000	100,000,000	Sep 11, 2018 7:52 PM	Sep 12, 2019 12:00 AM	Valid

## 5 Certificate service

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### 5.1 Configure an HTTPS certificate

HTTPS is an HTTP channel designed to enhance security. HTTPS provides better protection for content transmission through CDN, allowing clients to browse website content more securely and effectively at a high speed. This topic describes how to authenticate and configure HTTPS certificates.

#### Prerequisites

You must purchase an advanced HTTPS certificate or apply for a free HTTPS certificate in the [Alibaba Cloud Security console](#).

#### Context

Your HTTPS certificate files must be in `PEM` format. For more information, see [#unique\\_31/unique\\_31\\_Connect\\_42\\_section\\_cn2\\_rql\\_xdb](#).

HTTPS acceleration is a value-added service. After you enable HTTPS, HTTPS requests incur additional fees. The fee is separately charged based on HTTPS requests and is not covered by the CDN data transfer plan. For more information about the billing standards, see [#unique\\_32](#).

HTTPS certificates are divided into the following three types based on certification levels:

- A domain validated (DV) certificate has a safe lock and authenticates only the ownership of a domain, that is, the content of specified files in the domain or the .txt records related to the domain.
- An organization validated (OV) certificate is a standard SSL certificate that verifies the identity of an organization. OV certificates feature stricter authentication and a longer authentication period, therefore they are more secure than DV certificates. OV certificates are mostly used in the e-commerce, education, and gaming sectors.
- An extended validated (EV) certificate follows the guidelines maintained by the Certification Authority Browser Forum, also known as the CA/Browser Forum. An EV certificate is the SSL certificate of the highest certification level. Each EV certificate is identified by an object identifier (OID), which is a complete enterprise

name. EV certificates are widely used in sectors such as financial payment and online banking.

#### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click HTTPS Center.

### 3. On the Certificates page, click Add Certificate.

Add Certificate

1

Select Certificate

2

Associate Domain Name

3

OK

The updated certificate needs one minute to take effect in a minute on Alibaba Cloud.

Certificate Type

☐ Alibaba Cloud Security Certificate

☒ Upload Custom Certificate

☐ Free Certificate

Certificate Name

Public Key

Example for PEM-encoded certificate

Private Key

Example for PEM-encoded certificate

You can go to the SSL Certificates Service console [to manage and upload certificates.](#)

Next

Cancel

**4. On the Add Certificate page, configure the certificate parameters.**

The certificate parameters are described in the following table.

Parameter	Description
Certificate Type	<p>Alibaba Cloud Certificate</p> <p>You can apply for a free certificate or purchase an advanced certificate in the <a href="#">Alibaba Cloud Security console</a>.</p> <ul style="list-style-type: none"><li>Custom</li></ul> <p>If you cannot find a suitable certificate, you can</p>
Issue: 20190912	19

Parameter	Description
Certificate Name	When Certificate Type is set to Alibaba Cloud Certificate or Custom, you must enter the certificate name.
Content	When Certificate Type is set to Custom, you must enter the certificate content. For more information, click PEM Encoding Reference under the Content field.

Parameter	Description
Private Key	When Certificate Type is set to Custom, you must enter the private key. For more information, click PEM Encoding Reference under the Private Key field.

**5. Click Next.**

The screenshot shows the 'Add Certificate' dialog box with a progress bar at the top indicating three steps: 1. Select Certificate (completed), 2. Associate Domain Name (current step), and 3. OK. Below the progress bar, the 'Certificate Type' is set to 'Free Certificate'. The 'Select Domain' section contains a search bar with the placeholder 'Enter a value.' and a list of domain names with checkboxes:   
☐ aaa.pfytlm.xyz  
☐ 717.test.16tp.com  
☐ ip.pfytlm.xyz  
☐ yutantest0043.finalexam.cn  
☐ yutantest003.finalexam.cn  
At the bottom of the list is a link to '140 Items'. To the right of the list are two arrow buttons, '>' and '<'. Further right is another search box with the placeholder 'Enter a value.' and a search icon. Below this search box, the text 'Not Found' is displayed. At the bottom of the dialog, there are 'OK' and 'Cancel' buttons. A note at the bottom of the dialog states: 'Note: If the domains you choose has HTTPS cert, it will replace its cert.'

**6. Select the domain names, and click OK.****Note:**

If a selected domain name already has a certificate configured, this operation will replace the existing certificate.

Add Certificate

✓

Select Certificate

✓

Associate Domain Name

3

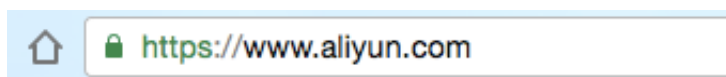
OK

Domain Name	Status
www.phytim.xyz	Successful

Done

#### 7. Verify that the HTTPS certificate takes effect.

An updated HTTPS certificate takes effect on the entire network within one minute . To verify if the HTTPS certificate takes effect, use HTTPS to access resources. If the URL in the address bar of the browser displays https in green, HTTPS acceleration is in effect.



## 6 Refresh and preload

### 6.1 Overview

CDN supports the resource refresh and preload features. The refresh feature allows you to force CDN nodes to communicate with origins and obtain the latest files. The preload feature allows you to preload popular resources during peak hours from origins to CDN nodes to improve resource access efficiency. This topic describes how the refresh and preload features work, the time required by a refresh or preload task to take effect, and the related API operations.

The concepts of refresh and preload in CDN are as follows:

- **Refresh:** After a URL refresh or directory refresh request is submitted, the content cached on the CDN node will forcibly expire. When you request resources from the CDN node, the CDN node directly forwards the request to the origin to query the corresponding resources. The CDN node then returns the resources to you and caches them. The refresh feature reduces the cache hit rate.
- **Preload:** After a URL preload request is submitted, the origin site automatically caches the corresponding resources to the CDN node. When you request the resources for the first time, you can obtain the latest resources directly from the CDN node cache without having the request rerouted to the origin site. The preload feature increases the cache hit rate.

The following table describes the refresh and preload features.

Category	How it works	Time to take effect	API operation
URL refresh	Specify files to force a CDN node to retrieve the latest files from the origin.	Within 5 minutes	<a href="#">RefreshObjectCaches</a>
Directory refresh	Specify directories to force a CDN node to retrieve the latest files in the directories from the origin.		<a href="#">RefreshObjectCaches</a>
URL preload	Specify files to actively preload corresponding resources from the origin to a CDN L2 node. As a result, users can directly hit the cache upon their first visits to these resources.		<a href="#">PushObjectCache</a>

## 6.2 Configure the refresh and preload function

Alibaba Cloud CDN supports resource refresh and preload. You can use the refresh function to force the CDN nodes to obtain the latest files from the origin. You can use the preload function to preload popular resources during business peak hours, improving resource access efficiency. This topic describes how to enable the refresh and preload function, and how to query the operation records.

### Context

The refresh and preload function supports URL refresh, directory refresh, and URL preload. For more information, see [#unique\\_36](#).

### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Refresh.
3. On the Refresh Cache tab, configure the refresh or preload function as needed.

Parameter	Description
Operation	<p>Operation types:</p> <ul style="list-style-type: none"><li>· Refresh</li></ul> <p>When you refresh the URLs for resources updated in the origin, the system automatically clears junk data on the CDN nodes. When the URLs are accessed again, the latest resources are obtained directly from the origin and cached to the CDN nodes.</p> <ul style="list-style-type: none"><li>· Preload</li></ul> <p>You can preload popular resources or CDN domains with low traffic during off-peak hours to increase the cache hit ratio.</p>
Object	<p>Object types:</p> <ul style="list-style-type: none"><li>· Directory</li></ul> <p>When <code>Operation</code> is set to <code>Refresh</code>, you must set this parameter.</p> <ul style="list-style-type: none"><li>· URL</li></ul> <p>When <code>Operation</code> is set to <code>Refresh</code> or <code>Preload</code>, you must set this parameter.</p>

Parameter	Description
URL	<p>When you need to refresh or preload multiple URLs, enter one URL per line. When you enter the URLs, note the limits for the following operations:</p> <ul style="list-style-type: none"> <li>• <b>Directory refresh</b> Each URL must start with <code>http://</code> or <code>https://</code>, and end with <code>/</code>. A single Alibaba Cloud account can refresh up to 100 directories per day. This can be done at one time.</li> <li>• <b>URL refresh</b> Each URL must start with <code>http://</code> or <code>https://</code>. A single Alibaba Cloud account can refresh up to 2,000 URLs per day. Each refresh operation can refresh up to 1,000 URLs each time.</li> <li>• <b>URL preload</b> Each URL must start with <code>http://</code> or <code>https://</code>. A single Alibaba Cloud account can preload up to 500 URLs per day. Each preload operation can preload up to 100 URLs each time.</li> </ul>

CDN / Refresh and Preload

## Refresh and Preload

Refresh Cache

Records

Operation

Refresh

Object

URL

URL Limits per day: URL refresh=2000, URL preload=500, and directory refresh=1000. A refresh task takes about 5 minutes to take effect.

TXT

Enter text or drag a file here.

2000 Objects Left

Submit

4. Click Submit.
5. Click the Records tab.
6. On the Records tab, set the time range and operation type, enter a domain name or URL, and then click Search.

You can check the resource refresh and preload records, including target, operation type, operation time, status, and progress.

#### API

You can call API operations listed in the following table to implement the resource refresh and preload function.

Operation	Description
<a href="#">PushObjectCache</a>	Preloads the content on the specified origin sites to L2 cache nodes.
<a href="#">DescribeRefreshQuota</a>	Queries the maximum number of URLs and directories that can be refreshed and preloaded daily, and the remaining number of URLs and directories.
<a href="#">DescribeRefreshTasks</a>	Queries the status of refresh and preload tasks.
<a href="#">RefreshObjectCaches</a>	Refreshes the files or directories on L2 cache nodes.

## 6.3 Refresh and preload FAQ

- [How can I actively preload files to a CDN node?](#)
- [How does CDN use the JAVA SDK to refresh the cache?](#)
- [How can I identify whether a CDN preload task is complete?](#)
- [How can I use CDN to refresh files?](#)

How can I actively preload files to a CDN node?

You can actively preload files to a CDN L2 node by using the preload feature. As a result, when a client visits a relevant URL, the CDN L1 node will retrieve data directly

from the CDN L2 node without requesting data from the origin. For more information about the preload feature, see [Refresh and Preload](#).

How does CDN use the JAVA SDK to refresh the cache?

Alibaba Cloud CDN provides SDKs for multiple languages including JAVA, Python, PHP, and .NET. For more information, see [#unique\\_41](#).

To use the JAVA SDK to refresh the cache, follow these steps:

### 1. Import the SDK to your project.

Add the following dependencies to the `pom.xml` file. For more information about SDK versions, see [#unique\\_41](#).

```
<dependencies>
  <dependency>
    <groupId>com.aliyun</groupId>
    <artifactId>aliyun-java-sdk-cdn</artifactId>
    <version>2.0.1</version>
  </dependency>
</dependencies>
```

### 2. Initialize the client.

The SDK uses an `IACSClient` instance to call the API. Therefore, before you initiate a call, initialize the `IACSClient` instance. Sample code is as follows.

```
public void init() throws ClientException {
    IClientProfile profile = DefaultProfile
        .getProfile("cn-hangzhou", "", "");
    client = new DefaultACSClient(profile);
}
```

### 3. Construct a refresh request.

A complete sample code is as follows.

```
package aliyun.sdk.cdn;
import com.aliyuncs.DefaultACSClient;
import com.aliyuncs.cdn.model.v20141111.RefreshObjectCachesRequest;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.http.HttpResponse;
import com.aliyuncs.profile.DefaultProfile;
import com.aliyuncs.profile.IClientProfile;
public class cdntest {

    public static DefaultACSClient client;
```

```

public static void main ( String [] args ) throws
ClientException {
    // TODO Auto-generated method stub
    init ();
    RefreshObjectCaches ();
}

public static void init () throws ClientException {
    IClientProfile profile = DefaultProfile .
getProfile ( " cn - hangzhou ", "", "" );
    client = new DefaultAcs Client ( profile );
}

public static void RefreshObjectCaches () {
    RefreshObjectCachesRequest request = new
RefreshObjectCachesRequest ();

    // The URI to refresh .
    request . setObjectPath ( " www . abc . com / abc / 1 .
png " );
    // The object type to refresh . The default
value is File .
    request . setObjectType ( " File " );

    try {
        HttpResponse httpResponse = client . doAction (
request );
        System . out . println ( httpResponse . getUrl ());
        System . out . println ( new String ( httpResponse
. getContent ());
        // todo something .
    } catch ( ServerException e ) {
        e . printStackTrace ();
    } catch ( ClientException e ) {
        e . printStackTrace ();
    }
}
}

```

If the issue still persists, [submit a ticket](#).

How can I identify whether a CDN preload task is complete?

After you send a preload request to a URL, you can check the Via header in the received response to identify whether the preload task is complete.

```

[root@i225bjxyb9nz /]# curl -I 'http://cdn-test-1234567890.com/test.json'
HTTP/1.1 200 OK
Server: Tengine
Content-Type: application/json
Content-Length: 42869
Connection: keep-alive
Vary: Accept-Encoding
Date: Fri, 25 Sep 2015 11:26:37 GMT
Accept-Ranges: bytes
ETag: "58C44DFA895E9186EC4B9452579DC2B3"
Last-Modified: Fri, 25 Sep 2015 02:08:52 GMT
x-oss-object-type: Normal
x-oss-request-id: 56052F6D41CEE037098700A3
Via: cache53.12et2-1[0,200-0,H], cache60.12et2-1[0,0], kun1un7.cn22[44,200-0,M], kun1un5.cn22[45,0]
Age: 24
X-Cache: MISS TCP_MISS dirn:-2:-2
X-Swift-SaveTime: Fri, 25 Sep 2015 11:27:01 GMT
X-Swift-CacheTime: 3348

```

- The first half of the Via header indicates the status of the L2 node. The **H** field indicates a hit. This indicates that the specified content has been preloaded to the L2 node and that you do not need to request the content from the origin.
- The second half of the Via header represents the status of the L1 node. The **M** field indicates that no cache is available on the L1 node and that the L1 node needs to request the content from the L2 node.

If the issue still persists, [submit a ticket](#).

How can I use CDN to refresh files?

- We recommend that you synchronize files of the origin by using version numbers instead of file names.
- To synchronize files that must be updated with the same name, submit a refresh task in the CDN console. For more information, see [Refresh and Preload](#).

## 7 Log Management

---

### 7.1 Overview

You can analyze CDN logs to locate and resolve issues to improve the overall performance of your CDN service. This topic describes the log functions of CDN.

#### Log functions

CDN supports the following log functions:

Function	Description
<a href="#">#unique_13</a>	You can query log data within the specified time range or for a specified domain name, and then download the log data.
<a href="#">#unique_14</a>	By default, CDN only stores log data for one month. You can import the log data to Object Storage Service (OSS) for persistent storage. This allows you to analyze the log data at any time.

#### Related products

The log management functions of CDN work with the following products:

- Function Compute

Function Compute is used in various CDN events, including log storage, refresh and preload, resource blocking, domain name addition and deletion, and domain name enabling and disabling. For more information about how these events are triggered, see [CDN event triggers](#).

For more information about Function Compute, see [What is Function Compute](#).

- OSS

For more information about OSS, see [#unique\\_44](#).

### 7.2 Download logs

This topic describes the instructions for using the log download function, log fields, and download procedures. You can use this function to check logs corresponding to the domains.

#### Context

**Instructions for using the log download function:**

- The typical latency to ingest log data is within 24 hours. However, it may also exceed 24 hours. You can query the generated log files in the Log Management module.
- Log files are generated once every hour. The log files are segmented based on the number of logs generated during the hour they were generated.
- You can download all logs generated in the last month.
- Naming convention: CDNDomain\_Year\_Month\_Date\_StartTime\_EndTime Example : www.test.com\_2018\_10\_30\_000000\_010000.gz

**Log field description:**

- Sample log

```
[ 9 / Jun / 2015 : 01 : 58 : 09 + 0800 ] 192 . 168 . 15 . 75 -
1542 "-" " GET http :// www . aliyun . com / index . html " 200
191 2830 MISS " Mozilla / 5 . 0 ( compatible ; AhrefsBot /
5 . 0 ; + http :// ahrefs . com / robot / )" " text / html "
```

- Log field description

Field	Description
[9/Jun/2015:01:58:09 +0800]	Time
192.168.15.75	Access IP
-	Proxy IP
1542	Response time (unit: ms)
"-"	Referer
GET	Method
http://www.aliyun.com/index.html	Accessed URL
200	HTTP status code
191	Request size (unit: Byte)
2830	Response size (unit: Byte)
MISS	Cache hit status
Mozilla/5.0 (compatible; AhrefsBot/5.0; +http://ahrefs.com/robot/)	UserAgent header
text/html	File type

**Procedure**

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Logs.
3. On the Log Download page, select a domain from the drop-down list and select a time range from the calendar, and then click Search.
4. Click Download in the Actions column corresponding to a log file to download the file.

CDN / Log Management

## Log Management

[Log Download](#) | [Log Storage](#) | [Real-time Logging](#) | [Real-time Log Data](#)

wangjie6.aliyunlive.com   You can download log data of the last month. [Log field description](#)

Log fields: time, access IP, proxy IP, response time, referer, method, accessed URL, HTTP status code, request size, response size, cache hit status, UserAgent header, and file type.

File Name	Start Time	End Time	Actions
wangjie6.aliyunlive.com_2019_08_31_040000_050000.gz	Aug 31, 2019 4:00 AM	Aug 31, 2019 5:00 AM	<a href="#">Download</a>

## API

You can call API operations to implement the log download function. For more information, see [#unique\\_46](#).

## 7.3 Log storage

The CDN log storage service uses Function Compute to store logs for an extended period of time. You can analyze the logs to further understand CDN service quality and client access behavior. This can help you make more informed decisions.

### Prerequisites

The CDN log storage service uses Function Compute to store logs. You must activate Function Compute before you can use the log storage service. After you authorize CDN to access Function Compute, CDN creates a Function Compute instance to store logs. You can also log on to the [Function Compute console](#) and use an existing Function Compute instance to store logs.

### Context

- The CDN offline log service stores logs for only one month. You can use the CDN log storage service to store logs to OSS, where logs can be stored for a longer period of time. This facilitates log storage and analysis.

- **Billing:** The log storage service is free of charge. However, you will consume Function Compute resources during the log storage process. You are charged when the amount of Function Compute resources consumed in each month exceeds the specified quota. For more information about Function Compute pricing, see [Function Compute billing methods](#).
- CDN is seamlessly integrated with Function Compute. This allows you to configure functions for processing a wide range of events and receive only events from the domains with specific name fields. After receiving events that meet the filtering criteria, CDN automatically calls functions to process the events.

### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Logs.
3. On the Log Management page, click the Log Storage tab.
4. On the Log Storage tab, click Activate Log Storage.
5. In the Authorize and Activate dialog box, enter a service name in the Service Name field, select an OSS bucket from the OSS Bucket drop-down list, and click Next.

Before you click Next, select the check box to agree that fees will be incurred by Function Compute after activating Log Storage.

Authorize and Activate

1 Select Trigger — 2 Select Domains — 3 Complete

Service Name

Services are used to manage resources in Function Compute. You can grant access permissions, configure logs, and create functions for a service. [Learn more](#)

1. Only English letters and numbers are allowed.  
2. The service name cannot start with a number.  
3. The service name must be 1 to 128 characters in length.

Trigger Name Automatically generated based on the service name

OSS Bucket

☐ I understand and agree that fees will be incurred by Function Compute after I activate Log Storage. [Function Compute pricing](#)

Next Cancel

6. Click the **Authorize** button next to **Service Authentication**.

On the RAM page, authorize Function Compute to write data to OSS and execute functions.

7. Click the **Authorize** button next to **Authorize Trigger**.

On the RAM page, authorize CDN to access Function Compute.

8. Select domains and click **Create**.

### Authorize and Activate

1 Select Trigger

2 Select Domains

3 Complete

Service Authorization

Authorize

Authorize Function Compute to write to OSS and execute functions

Trigger Role

AliyunCDNEventNotificationRole

Authorized

Authorize CDN to access Function Compute

Select Domains

Enter a value.

☐ isccc.finalexam.cn

☐ vediocdntest.finalexam....

☐ 6789.test.com

☐ fff.aliyuncs.com

☐ zengyin34.finalexam.cn

☐ 24 Items

>

<

Enter a value.

Not Found

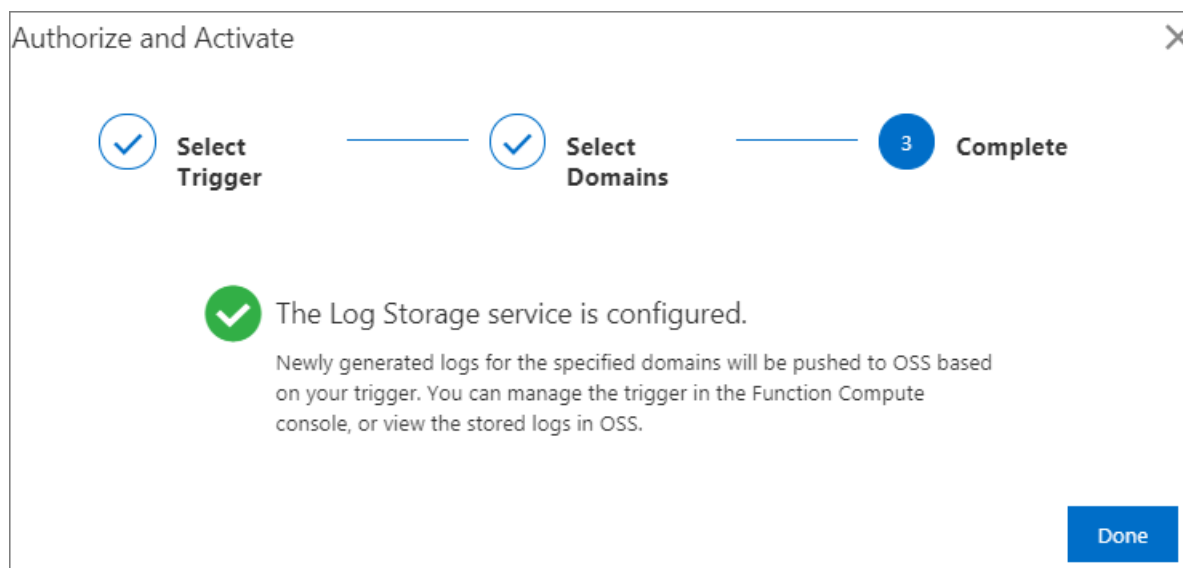
☐ 0 Items

We recommend that you bind a domain to one Function Compute service only. Binding a domain to multiple Function Compute services may result in service failures.

Create

Cancel

## 9. Click Done.



## API

You can call API operations listed in the following table to implement the log storage function.

Operation	Description
<a href="#">DescribeCustomLogConfig</a>	
<a href="#">DescribeDomainCustomLogConfig</a>	
<a href="#">ListDomainsByLogConfigId</a>	
<a href="#">ListUserCustomLogConfig</a>	

## 8 Diagnostic tools

You can use diagnostic tools to identify whether an IP address belongs to an Alibaba Cloud CDN node. This topic describes how to identify whether an IP address belongs to an Alibaba Cloud CDN node.

### Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, click Tools.



3. Enter the IP address to be checked, and click Check.

If the specified IP address belongs to an Alibaba Cloud CDN node, the check result is displayed as shown in the following figure. Otherwise, the "No matching records found" message is displayed.

Region	China-Hunan
Provider	ChinaNet
CDN Node	Yes

## 9 Domain Names

---

### 9.1 HTTPDNS

The HTTPDNS server of Alibaba Cloud CDN hosts DNS records that point to L2 CDN nodes in the world. When you want to access a resource in the CDN network, the client sends a DNS resolution request to the HTTPDNS server. After the HTTPDNS server receives the resolution request, it resolves the requested domain name and then returns IP addresses of the corresponding L2 nodes to the client. This topic describes HTTPDNS features and service endpoint.

#### Features

HTTPDNS is a DNS service that uses HTTP to access Alibaba Cloud CDN servers. It is designed to replace the current UDP-based DNS resolution service. DNS resolution requests are sent to the Alibaba Cloud HTTPDNS server, bypassing the local DNS server of the DNS service provider. This can prevent domain hijacking attacks and improve the accuracy of domain resolution.

The traditional DNS service uses the local DNS server of the DNS provider to resolve domain names. During this process, the domain may be hijacked, domain name resolution errors may occur, or the resolution request may be forwarded across networks. As a result, it may be time-consuming to connect to the requested website or you may fail to access the website. HTTPDNS is a new DNS service. It allows you to bypass the DNS provider's local DNS server and directly access Alibaba Cloud CDN servers. With HTTPDNS, you are able to get precise DNS resolution results in real time, without the need to worry about domain hijacking.

#### HTTPDNS service endpoint

You can send requests to the endpoint of the HTTPDNS service over HTTP to call the service.

- Endpoint: `http://umc.danuoyiali.cdn.com/multi_dns_resolve`.
- Method: `POST`.

- Parameter: `client_ip = x . x . x . x .`

If you use the same client to send HTTPDNS requests and receive responses, then you can ignore this parameter.

## Examples

The following examples show how to send HTTPDNS requests to call the DNS resolution service.

- Single domain name

- Sample request

```
# curl 'http://umc.danuoyi.alicdn.com/multi_dns_resolve?client_ip=192.168.253.16' -d 'd.tv.taobao.com'
```

- Sample response

```
{"dns":[{"host":"d.tv.taobao.com","ips":[{"ip":"192.168.23.240","spdy":0},{"ip":"192.168.23.250","spdy":0}],"ttl":300,"port":80}],"port":80}
```

- Multiple domain names

- Sample request

Specify the domain names that you want to resolve in the `body` of the POST request. Separate the domain names with spaces, tab stops, or line breaks.

```
# curl 'http://umc.danuoyi.alicdn.com/multi_dns_resolve?client_ip=192.168.253.16' -d 'd.tv.taobao.com vmtstvcn.alicdn.com'
```

- Sample response

The returned data is in JSON format. Create records on the client to cache the returned IP addresses, assign a time to live (TTL) value to each record, and then use round-robin to address client queries to the returned IP addresses.

```
{"dns":[{"host":"vmtstvcn.alicdn.com","ips":[{"ip":"192.168.23.250","spdy":0},{"ip":"192.168.23.240","spdy":0}],"ttl":300,"port":80},{"host":"d.tv.taobao.com","ips":[{"ip":"192.168.23.240","spdy":0},{"ip":"192.168.23.250","spdy":0}],"ttl":300,"port":80}],"port":80}
```

## 10 Service management FAQ

---

- Statistical analysis

[Why does CDN access log statistics differ from CNZZ statistics?](#)

- Log management

- [Why is there an entry with status code 408 in the CDN log?](#)
- [What is the meaning of status code 304 in the CDN log?](#)
- [How can I analyze CDN access logs?](#)

- Diagnostic tool

[How can I query the IP address of a CDN node?](#)

Why does CDN access log statistics differ from CNZZ statistics?

- CNZZ collects statistics by embedding a piece of JavaScript code in each Web page of a website. After a user visits a Web page, statistics can be collected only if the Web page is loaded successfully. If the Web page fails to be loaded or the Web page does not contain the JavaScript code, statistics cannot be collected. In addition, if a file or image on this website is referenced by another website, CNZZ cannot collect the corresponding statistics.
- CDN collects statistics based on every access request in the logs. Therefore, the statistics are more comprehensive. In addition, when CDN calculates page views (PVs), multiple PVs are counted if the same page contains multiple iframe tags.

If the issue still persists, .

Why is there an entry with status code 408 in the CDN log?

This log entry is resulted from the CDN health check on the origin site. The CDN upper-layer node sends a TCP request (similar to Telnet) to the origin site. This health check does not affect the origin site.

If the issue still persists, .

What is the meaning of status code 304 in the CDN log?

When a client successfully sends a request to the server for the first time, the server returns the correct content to the client with status code 200. The response also includes the last modification time of the content and an entity tag (ETag) to examine whether the content has been modified. When the server receives the next request

sent by the same client, the server checks whether the content has been modified since the last request based on the last modification time and ETag specified in the request. If no modification is made, the server returns status code 304 to the client, and the client directly loads the cached content. If the content has been modified, the server returns the client the latest content with the latest modification time and ETag.

**Example:**

As shown in the following figure, when the client requests an image for the first time, the server returns a response with status code 200. The response includes the Last-Modified and ETag fields.

When the client requests the image again, the last modification time and ETag are added to the request header. As shown in the following figure, the server checks whether the content has been modified based on the ETag and Last-Modified fields. If no modification is made, status code 304 is returned. If the content has been modified, the latest content is returned to the client with status code 200.

Therefore, it is normal that status code 304 is included in the server log information, CDN log information, or OSS log information. This indicates that the Web cache already contains the content and has not been modified since the last request. To update the local Web cache, press Ctrl + F5. As a result, the client clears the local Web cache and sends a request to the server. The server returns the requested content with status code 200.

If the issue still persists, .

**How can I analyze CDN access logs?**

In Linux, you can use the following commands to analyze CDN access logs:

- Query all entries with status code 200 in a log file.

```
grep -w "200" log_file |awk '{if($9=="200") print $0}' >200log.txt
```

- Print a specific column in a log file.

```
cat lolog_file |awk '{print $12}'
```

- Calculate the response size of a log file.

```
cat log_file | awk 'BEGIN {size=0} {size=size+$11} END{print "endsizeis",size/1024/1024,"M"} '
```

- Query the top 10 IP addresses by visits.

```
cat log_file | awk '{print $3}' | sort|uniq -c|sort -nr |head -10
```

For more information about CDN log fields, see [#unique\\_56](#).

If the issue still persists, .

How can I query the IP address of a CDN node?

You can use the diagnostic tool in the CDN console to check whether an IP address is the IP address of a CDN node. For more information, see [#unique\\_57](#).

If the issue still persists, .