

# Alibaba Cloud

CDN

Service Management









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# Document conventions

Style	Description	Example
 <b>Danger</b>	A danger notice 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.
 <b>Warning</b>	A warning notice 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 restart an instance.
 <b>Notice</b>	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 <b>Notice:</b> If the weight is set to 0, the server no longer receives new requests.
 <b>Note</b>	A note indicates supplemental instructions, best practices, tips, and other content.	 <b>Note:</b> You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click <b>Settings</b> > <b>Network</b> > <b>Set network type</b> .
<b>Bold</b>	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click <b>OK</b> .
Courier font	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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# 1.Functions and features

Alibaba Cloud CDN provides a wide array of functions and features that you can use to manage domain names added to Alibaba Cloud CDN. You can use these features to monitor domain names, query monitoring data, refresh and prefetch resources, manage logs, query IP addresses, query events, manage SLS certificates, enable protection, and manage resource quotas.

## ? Note

The following table describes the service management features.

Feature	References	Description
Monitoring and usage analytics	Resource monitoring	Allows you to query information about domain names accelerated by Alibaba Cloud CDN so that you can monitor the performance of Alibaba Cloud CDN. The information includes network traffic, bandwidth, back-to-origin network traffic, back-to-origin bandwidth, the number of requests, the number of queries per second, cache hit ratios, HTTP status codes, and HTTP status codes returned to requests that are redirected to the origin servers.
	Real-time monitoring	Allows you to query basic information about your accelerated domain names, back-to-origin network traffic, and the acceleration performance in real time. The basic information about accelerated domain names includes bandwidth, network traffic, the number of requests, and the number of queries per second. Allows you to detect anomalies in network traffic and locate errors at the earliest opportunity.
	Query resource usage	Allows you to query statistics such as network traffic, bandwidth, requests, and real-time log entries in regions outside or inside the Chinese mainland, and check the billable items and metering data of Alibaba Cloud CDN.
	EdgeScript monitoring	Allows you to query the execution status of scripts for a specified accelerated domain name. You can check whether scripts are executed at the edges as expected.
Refresh and prefetch	Refresh and prefetch resources	The refresh feature removes resources from edge nodes and enables edge nodes to redirect requests to origin servers. The prefetch feature prefetches resources from origin servers to edge nodes during off-peak hours and accelerates content delivery.
	Download log data	Allows you to query and download log data of specified domain names within specified time periods.
	Manage the SLR for log storage	When you enable the log storage feature of Alibaba Cloud CDN, the system automatically creates the service-linked role (SLR) AliyunServiceRoleForCDNLogDelivery. Alibaba Cloud CDN can assume this SLR to access resources in Object Storage Service (OSS) and Data Lake Analytics (DLA).

Feature	References	Description
Log management	<a href="#">Use DLA to process and persist log data to OSS</a>	Enables Alibaba Cloud CDN to automatically persist logs in a specified OSS bucket. In addition, you can use DLA to analyze the logs.
	<a href="#">Grant a RAM user permissions on log storage</a>	Authorizes Resource Access Management (RAM) users to activate or manage the log storage feature. In addition, you can attach policies to RAM users to implement fine-grained permission control.
	<a href="#">Use Function Compute to deliver logs</a>	如果您需要将日志保存更长时间，则可以将日志转存至OSS，方便您根据实际情况对日志进行保存和分析。
	<a href="#">Customize an operations report template and create a tracking task</a>	Allows you to query offline analytics data of accelerated domain names in specified time periods. You can gain insights into the status of accelerated domain names and your business by analyzing the data.
IP tool	<a href="#">Query IP addresses</a>	Allows you to query whether an IP address belongs to an edge node, and the region and Internet service provider (ISP) to which an IP address belongs.
Event query	<a href="#">Query events about Alibaba Cloud CDN</a>	Allows you to use ActionTrail to query events about Alibaba Cloud CDN. You can view the time, region, and domain name of an event.
Certificate Management Service	<a href="#">Configure an SSL certificate for multiple domain names</a>	SSL certificates are used to encrypt data transmission between clients and servers. This enables secure and efficient retrieval of resources from origin servers.
	<a href="#">Query SSL certificates of domain names</a>	Allows you to query SSL certificates configured for your domain names, and check the status of the certificates.
Security	<a href="#">Prevent high bills</a>	Protects domain names from attacks and flooding. This can prevent high bills caused by spikes in data transfer or bandwidth usage.
	<a href="#">Introduction to sandboxes</a>	Provides causes of sandboxed domain names and relevant solutions.
RAM user permission management	<a href="#">Manage Alibaba Cloud CDN as a RAM user</a>	Allows you to use RAM users to manage domain names by group. You can grant RAM users permissions on different API operations as needed to regulate access control.
	<a href="#">Authorize a RAM user to prefetch and refresh resources</a>	Allows you to grant RAM users permissions on the refresh or prefetch operation by attaching system or custom policies to the RAM users.

Feature	References	Description
	<a href="#">Revoke the permissions that allow a RAM user to change the metering method</a>	Allows you to use custom policies to forbid RAM users from changing the metering method of Alibaba Cloud CDN.

## 2. Monitoring and usage analytics

### 2.1. Monitoring overview

Alibaba Cloud Content Delivery Network (CDN) supports monitoring and allows you to query monitoring data. The monitoring feature supports the following functions: resource monitoring, real-time monitoring, resource usage monitoring, and EdgeScript (ES) monitoring. These functions monitor different metrics and allow you to query monitoring data, such as network traffic, bandwidth usage, and resource usage in different billable regions. This helps you make informed business decisions.

The following table describes the monitoring and analytics functions.

Function	Description
Resource monitoring	Allows you to query information about domain names accelerated by Alibaba Cloud CDN so that you can monitor the performance of Alibaba Cloud CDN. The information includes network traffic, bandwidth, back-to-origin network traffic, back-to-origin bandwidth, the number of requests, the number of queries per second, cache hit ratios, HTTP status codes, and HTTP status codes returned to requests that are redirected to the origin servers.
Real-time monitoring	Allows you to query basic information about your accelerated domain names, back-to-origin network traffic, and the acceleration performance in real time. The basic information about accelerated domain names includes bandwidth, network traffic, the number of requests, and the number of queries per second. This helps you detect anomalies in network traffic and locate errors at the earliest opportunity.
Query resource usage	Allows you to query resource usage and billing details about Alibaba Cloud CDN resources in mainland China or in other billable regions. You can query network traffic, bandwidth values, the number of requests, and the number of log entries that are delivered to a specified location in real time. You can export billing details about all billable items by day or by month, and resource usage details that are collected every 5 minutes about accelerated domain names in each billable region. These details help you monitor the billable items and resource usage of Alibaba Cloud CDN.
EdgeScript monitoring	Allows you to query the execution status of scripts for a specified accelerated domain name. You can check whether scripts are executed at the edges as expected.

### 2.2. Resource monitoring

Alibaba Cloud CDN supports the resource monitoring feature, which allows you to query monitoring data of domain names accelerated by Alibaba Cloud CDN. The monitoring data includes network traffic, bandwidth, back-to-origin traffic, back-to-origin bandwidth, the number of requests, the number of queries per second, cache hit ratios, HTTP status codes, and HTTP status codes returned to requests that are redirected to the origin servers. You can make informed business decisions based on the monitoring data.

#### Features

##### Time granularity

You can query resource monitoring data in the Alibaba Cloud CDN console or by calling API operations. However, the maximum time range that you can query and the maximum period of time within which historical data is available are different. The following table describes the maximum time range to query, the time period within which historical data is available, and data delay.

- In the Alibaba Cloud CDN console:

Time granularity	Maximum time range to query	Historical data available	Data delay
5 minutes	3 days	90 days	15 minutes
1 hour	31 days	90 days	4 hours
1 day	90 days	90 days	04:00 on the next day

- Call API operations:

Time granularity	Maximum time range to query	Historical data available	Data delay
5 minutes	3 days	93 days	15 minutes
1 hour	31 days	186 days	4 hours
1 day	366 days	366 days	04:00 on the next day

## Differences between resource monitoring and real-time monitoring


Resource monitoring and real-time monitoring are different in terms of time granularity, data delay, and time period within which historical data is available. For more information about the time granularity supported by real-time monitoring, see [Real-time monitoring](#).

## Monitored items and monitoring metrics

The resource monitoring feature monitors the following items. You can specify filter conditions, such as accelerated domain names, regions, and Internet service providers (ISPs), to filter monitoring data. You can also export monitoring data.

### Note

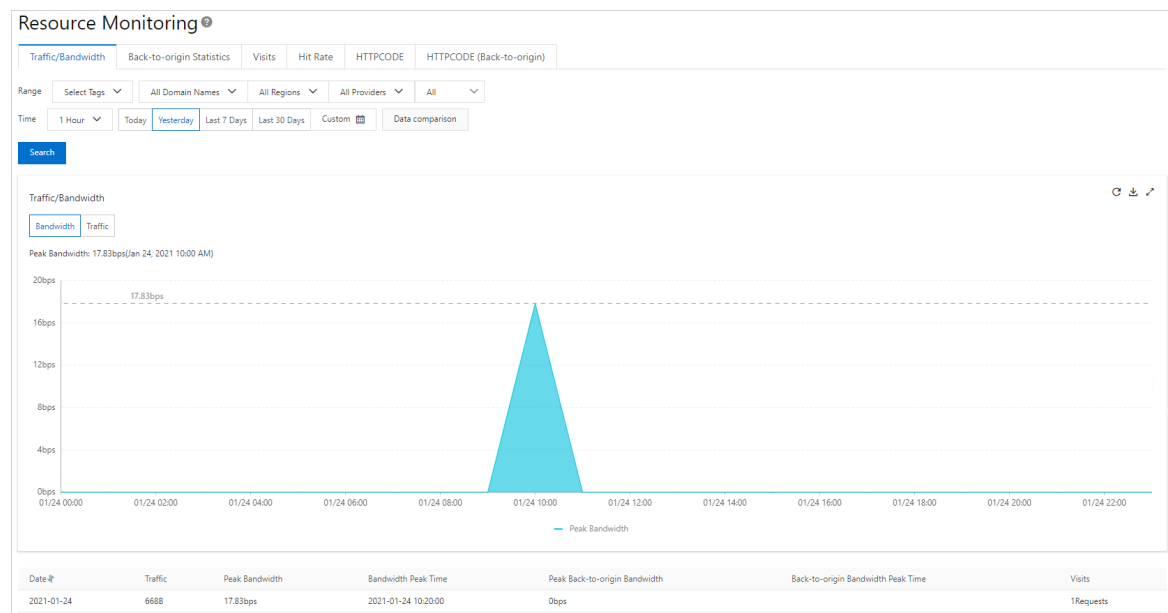
- Resource monitoring collects data based on the region and ISP of client IP addresses. Fees are calculated based on the amount of data transfer on Alibaba Cloud CDN edge nodes, the amount of bandwidth resources consumed, and the number of requests in each billable region. The resource monitoring data and the billing data may be slightly different due to different collection methods. The line chart of resource monitoring displays the trend of bandwidth usage. For more information about the metering data of bills, see [Query resource usage](#).
- Data is collected and calculated by calling API operations. For more information, see the API references.

Monitored item	Metric	API operation
<b>Traffic/Bandwidth</b>	Monitors the bandwidth and network traffic of accelerated domain names. You can query monitoring data by region, ISP, and protocol. Supported protocols are HTTP, HTTPS, QUIC, IPv4, and IPv6.	<ul style="list-style-type: none"> <li>• <a href="#">DescribeDomainBpsDataByLayer</a></li> <li>• <a href="#">DescribeDomainsUsageByDay</a></li> </ul>
<b>Back-to-origin Statistics</b>	Monitors the back-to-origin bandwidth and back-to-origin traffic for accelerated domain names.	<ul style="list-style-type: none"> <li>• <a href="#">DescribeDomainSrcBpsData</a></li> <li>• <a href="#">DescribeDomainSrcTrafficData</a></li> </ul>
<b>Visits</b>	<p>Monitors the number of requests and the number of queries per second (QPS) sent to accelerated domain names. You can query monitoring data by region, ISP, and protocol. Supported protocols are HTTP, HTTPS, QUIC, IPv4, and IPv6.</p> <div> <p> <b>Note</b></p> <ul style="list-style-type: none"> <li>• The number of requests refers to the total number of requests during a collection interval. For example, if data is collected every 5 minutes, the number of requests refers to the total number of requests within 5 minutes.</li> <li>• The value of QPS refers to the number of requests per second.</li> </ul> </div>	<a href="#">DescribeDomainQpsDataByLayer</a>
<b>Hit Rate</b>	Monitors the byte hit ratios and request hit ratios of accelerated domain names.	<ul style="list-style-type: none"> <li>• <a href="#">DescribeDomainHitRateData</a></li> <li>• <a href="#">DescribeDomainReqHitRateData</a></li> </ul>
<b>HTTPCODE</b>	Monitors the HTTP status codes, including HTTP 2xx, HTTP 3xx, HTTP 4xx, and HTTP 5xx status codes, returned from accelerated domain names.	<a href="#">DescribeDomainHttpCodeDataByLayer</a>
<b>HTTPCODE (Back-to-origin)</b>	Monitors the HTTP status codes, including HTTP 2xx, HTTP 3xx, HTTP 4xx, and HTTP 5xx status codes, returned from origin servers.	<a href="#">DescribeDomainSrcHttpCodeData</a>

## Procedure

- 1.
2. In the left-side navigation pane, choose **Monitoring & Usage Analytics > Resource Monitoring**.
3. On the **Resource Monitoring** page, select the monitoring item and metric that you want to query and click **Search**.

The system displays monitoring data based on the specified items and filter conditions. Then, you can analyze or export the monitoring data.



## 2.3. Real-time monitoring

Alibaba Cloud CDN supports the real-time monitoring feature. This feature allows you to query the basic information, back-to-origin traffic, and acceleration performance of an accelerated domain name. The basic information includes bandwidth, network traffic, the number of requests, and the number of queries per second. Real-time monitoring allows you to detect anomalies in network traffic and locate errors at the earliest opportunity.

### Features

#### Time granularity

You can query monitoring data in the Alibaba Cloud CDN console or by calling API operations. However, the time granularity, the maximum time range that you can query, and the maximum period of time within which historical data is available are different. The following table describes the maximum time range to query, the time period within which historical data is available, and data delay.

- In the Alibaba Cloud CDN console:

Time granularity	Maximum time range to query	Historical data available	Data delay
1 minute	1 hour	7 days	5 minutes
5 minutes	3 days	7 days	15 minutes

- Call API operations:

Time granularity	Maximum time range to query	Historical data available	Data delay
1 minute	1 hour	7 days	5 minutes

Time granularity	Maximum time range to query	Historical data available	Data delay
5 minutes	3 days	93 days	15 minutes
1 hour	31 days	186 days	4 hours

## Differences between resource monitoring and real-time monitoring

Real-time monitoring and resource monitoring are different in terms of time granularity, data delay, and time period within which historical data is available. For more information about the time granularity supported by resource monitoring, see [Resource monitoring](#).

## Monitored items and metrics

The following table describes the monitored items. You can query metrics such as bandwidth and network traffic by specifying query conditions, for example, domain name, region, Internet service provider (ISP), and time range.

### Note

- Real-time monitoring collects data based on the region or ISP that client IP addresses belong. Fees are calculated based on the amount of data transfer on CDN edge nodes, the amount of bandwidth resources consumed, and the number of requests in each billable region. The resource monitoring data and the billing data may be slightly different due to different collection methods. The line chart of real-time monitoring displays the trend of bandwidth usage. For more information about the metering data of bills, see [Query resource usage](#).
- Data is collected and calculated by calling API operations. For more information, see the API references.

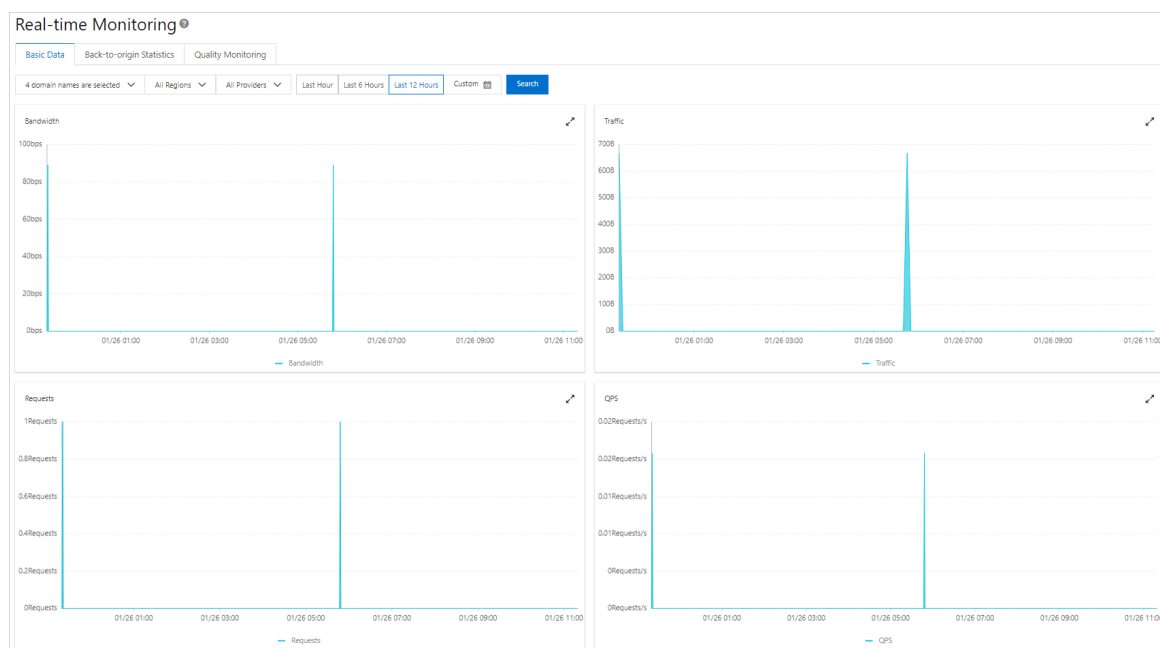
Monitored item	Metric	API operation
<b>Basic Data</b>	Monitors the bandwidth values, network traffic, number of requests, and number of queries per second for accelerated domain names.	<ul style="list-style-type: none"><li><a href="#">DescribeDomainRealTimeBpsData</a></li><li><a href="#">DescribeDomainRealTimeQpsData</a></li><li><a href="#">DescribeDomainRealTimeTrafficData</a></li></ul>
<b>Back-to-origin Statistics</b>	Monitors the back-to-origin bandwidth and back-to-origin traffic for accelerated domain names.	<ul style="list-style-type: none"><li><a href="#">DescribeDomainRealTimeSrcBpsData</a></li><li><a href="#">DescribeDomainRealTimeSrcTrafficData</a></li></ul>

Monitored item	Metric	API operation
Quality Monitoring	Monitors the cache ratios, byte hit ratios, HTTP 2xx status codes, HTTP 3xx status codes, HTTP 4xx status code, and HTTP 5xx status codes for accelerated domain names.	<ul style="list-style-type: none"> <li>DescribeDomainRealTimeReqHitRateData</li> <li>DescribeDomainRealTimeReqHitRateData</li> <li>DescribeDomainRealTimeHttpCodeData</li> </ul>

## Procedure

- 1.
2. In the left-side navigation pane, choose **Monitoring & Usage Analytics > Real-time Monitoring**.
3. On the **Real-time Monitoring** page, select the monitoring item and metric that you want to query and click **Search**.

The system displays monitoring data based on the specified item and filter conditions. Then, you can analyze the data.




## 2.4. Resource usage

### 2.4.1. Query resource usage

Alibaba Cloud Content Delivery Network (CDN) allows you to query resource usage and resource billing details in mainland China or in other billable regions. You can query network traffic, bandwidth values, the number of requests, and the number of log entries that are delivered to a specified location in real time. You can export billing details about all billable items by day or by month, and resource usage details about accelerated domain names in each billable region that are collected every 5 minutes. These details help you monitor the billable items and resource usage of Alibaba Cloud CDN.

## Overview

You can perform the following operations to query resource usage or billing details based on specified query conditions.

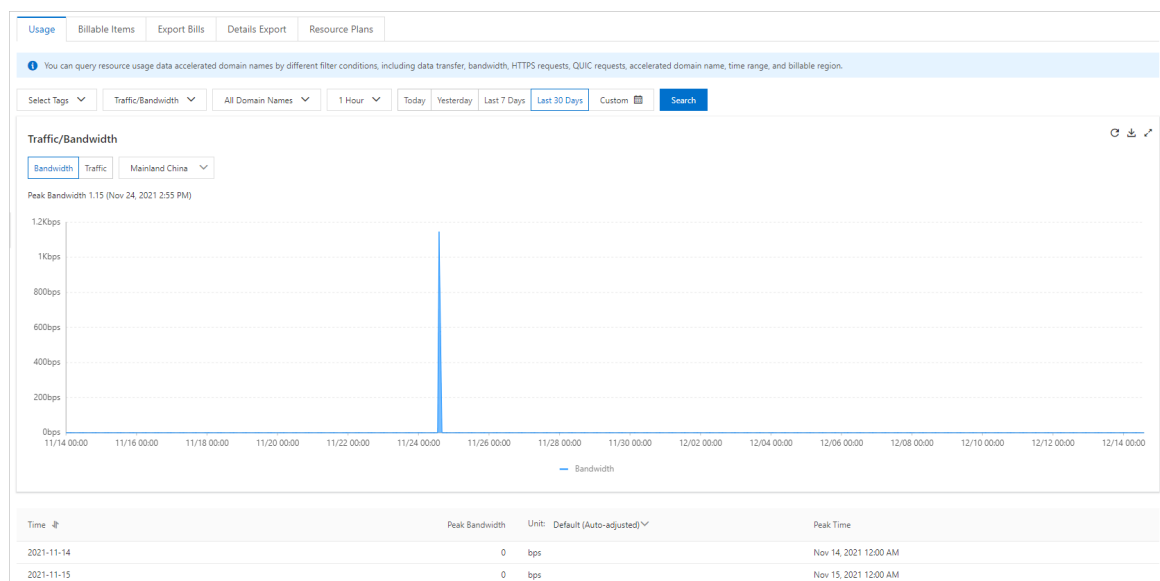
Operation	Description	API references
Usage	<p>Allows you to query resource usage of accelerated domain names. You can set different filter conditions to query specific usage information. For example, you can query bandwidth values, network traffic, and the number of HTTPS or QUIC requests. You can query information by accelerated domain name, time range, and billable region.</p> <div><p> <b>Note</b> If the metering method is pay-by-95th-percentile-bandwidth per month, the system displays the estimated 95th percentile bandwidth values within the specified time range. The estimated bandwidth values are represented by a dotted line in the bandwidth chart. The estimated bandwidth values are for reference only. The actual bandwidth values in the bills that are issued on the first day of each month shall prevail. The bill of the current month is issued on the first day of the next month.</p></div>	<a href="#">DescribeDomainUsageData</a>
Billable Items	<p>Allows you to query bills of Alibaba Cloud CDN by day or by month. The billable items include data transfer, real-time log delivery, value-added services, and QUIC requests.</p> <ul style="list-style-type: none"><li>Query bills by day</li></ul> <p>You can query bills generated on the current day or within the last 355 days. For example, the billing cycle can be from 00:00:00 (UTC+8) on July 8, 2019 to 23:59:59 (UTC+8) on July 8, 2019.</p> <ul style="list-style-type: none"><li>Query bills by month</li></ul> <p>You can query bills generated in the current month or within the last 11 months. For example, the billing cycle can be from 00:00:00 (UTC+8) on June 1, 2019 to 23:59:59 (UTC+8) on June 30, 2019.</p>	<a href="#">DescribeCdnUserBillHistory</a>
Export Bills	<p>Allows you to export bills of Alibaba Cloud CDN by day or by month. You can export billing details to a PDF file, and check the billing details in the PDF file.</p>	<ul style="list-style-type: none"><li><a href="#">CreateUserUsageDataExportTask</a></li><li><a href="#">DescribeUserUsageDataExportTask</a></li></ul>

Operation	Description	API references
<b>Details Export</b>	<p>Allows you to create tasks to export billing details. You can export billing details within the last 31 days. After a task is created, it exports billing details to a file on your on-premises computer.</p> <p>The billing details of each billable item are collected every 5 minutes. The billing details are export to an EXCEL file. You can check the billable items and the billing details to ensure that the fees are correctly calculated.</p>	<ul style="list-style-type: none"> <li>• <a href="#">CreateUsageDetailDataExportTask</a></li> <li>• <a href="#">DescribeUserUsageDetailDataExportTask</a></li> </ul>
<b>Resource Plans</b>	Allows you to query details about resource plans. You can query the total capacity, remaining capacity, effective time, expiration time, and status of each resource plan.	<a href="#">DescribeCdnUserResourcePackage</a>

## Procedure

- 1.
- 2.
3. On the **Usage** page, select the item and set the query conditions.

The system displays data based on the specified item and query conditions.



## 2.4.2. Query resource usage

Alibaba Cloud CDN allows you to query the data transfer, bandwidth, number of HTTPS requests, and the number of QUIC requests of domain names in specified regions based on filter conditions, including tags, time, domain names, and billable items.

### Time granularity

You can query resource usage in the Alibaba Cloud CDN console or by calling API operations. However, the maximum time range that you can query and the maximum period of time within which historical data is available are different. The following table describes the maximum time range to query, the period within which historical data is available, and data delay.

- In the Alibaba Cloud CDN console:

Time granularity	Maximum time range to query	Historical data available	Data delay
5 minutes	3 days	93 days	15 minutes
1 hour	31 days	180 days	4 hours
1 day	31 days	180 days	04:00 on the next day

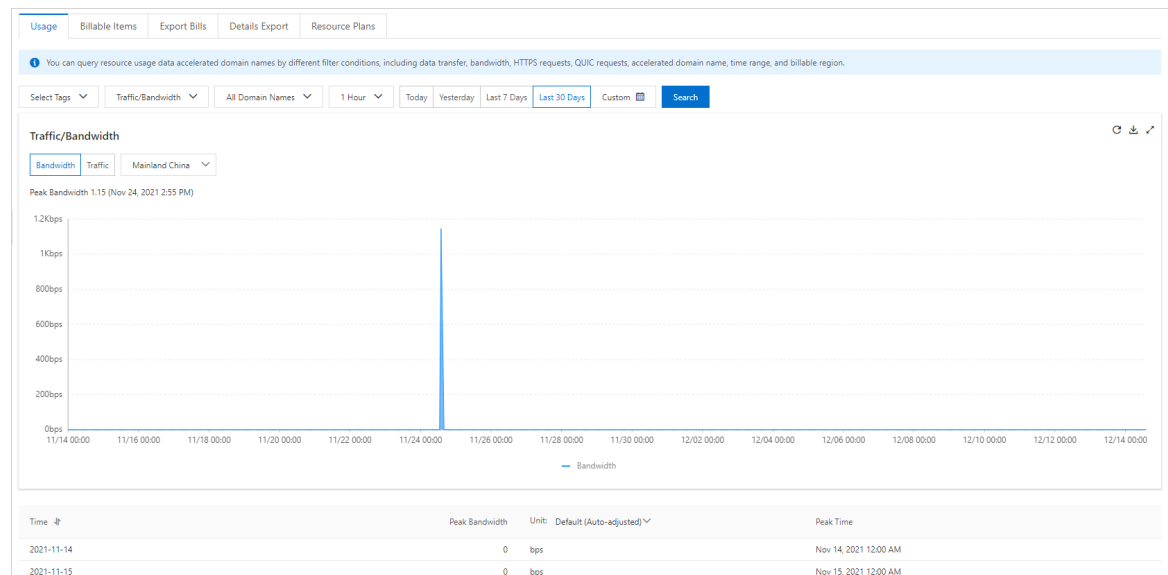
- Call API operations:

Time granularity	Maximum time range to query	Historical data available	Data delay
5 minutes	3 days	93 days	15 minutes
1 hour	31 days	186 days	4 hours
1 day	366 days	366 days	04:00 on the next day

## Query resource usage details

- 1.
- 2.
3. On the **Usage** page, select an item that you want to query and set the filter conditions.

The following figure shows the resource usage data of the last 30 days of all domain names. The table below the chart lists the resource usage data collected every day.



## Related API operations

**DescribeDomainUsageData:** queries the usage data of domain names in a specified billable region.

## 2.4.3. Summarize resource usage

Alibaba Cloud CDN allows you to summarize resource usage data of all your accelerated domain names by day or by month. Usage data is categorized based on billable items and exported to a PDF file.

### Summarize usage data by day or by month

**Note** You can query usage data up to the last 12 months.

- Summarize usage data by day: You can query usage data of the current day or a day within the last 355 days.
- Summarize usage data by month: You can query usage data of the current month or a month within the last 11 months.

- 
- 
- On the **Billable Items** tab, select **Select Date** or **Select Month**, select a date or a month, and then click **Search**.

The screenshot shows the 'Billable Items' tab in the Alibaba Cloud CDN console. At the top, there are tabs for 'Usage', 'Billable Items', 'Export Bills', 'Details Export', and 'Resource Plans'. Below the tabs, there is a message: 'You can export resource usage data by day or by month. Usage data is classified into the following billable items: data transfer, real-time log deliveries, value-added services, and QUIC requests.' Below this message, there is a 'Select Date' dropdown menu with a date selector set to '2022-01-13' and a 'Search' button. Below the search bar, there are four sections, each with a title and a table. The first section is 'Pay by 95th Percentile Bandwidth' with a table that has columns for Date, Mainland China, Asia Pacific 1, Asia Pacific 2, Asia Pacific 3, North America, South America, Europe, and Middle East & Africa. The second section is 'Pay by Real-time Log Entries' with a table that has columns for Date and Requests. The third section is 'Pay by Value-added Services' with a table that has columns for Date, Static HTTPS Requests, Dynamic HTTP Requests, and Dynamic HTTPS Requests. The fourth section is 'QUIC Requests' with a table that has columns for Date, Dynamic QUIC requests, and Number of static QUIC requests. All sections display 'No results found.'

### Related API operations

**DescribeCdnUserBillHistory**: queries the billing history of Alibaba Cloud CDN.

## 2.4.4. Export usage data of all domain names

You can export resource usage data of all your accelerated domain names by day or by month. Usage data is categorized by billable item and exported to a PDF file.

### Export usage data by day or by month

**Note** You can export usage data up to the last year by day or by month.

- Export usage data by day: You can export usage data of any day within the last 355 days, including the current day.
- Export usage data by month: You can export usage data of any month within the last 11 months, including the current month.

- 1.
- 2.
3. On the **Export Bills** tab, click **Select Date** or **Select Month**, select the day or month from which you want to export usage data, and then click **Create Export Task**.

Start Time	End Time	Status	Actions
Nov 1, 2021 12:00 AM	Nov 30, 2021 11:59 PM	Successful	<a href="#">Download</a> <a href="#">Delete</a>

4. After the task is completed, click **Download**. Then, you can view usage details in the downloaded file.

## Related API operations

- **CreateUsageDetailDataExportTask**: Creates a task to export resource usage data to a PDF file.
- **CreateUserUsageDataExportTask**: Creates a task to export resource usage details to an Excel file.

## 2.4.5. Export billing details

Alibaba Cloud CDN allows you to export billing details by domain name, time, and account to an on-premises machine. You can check the resource usage details in the exported file.

### Export billing details

**Note**

- You can export billing details up to the last 12 months. The maximum time range that you can query is one month.
- Billing details are collected every 5 minutes and exported to an Excel file.

- 1.
- 2.
3. On the **Details Export** tab, click **Create Task**.

Create Task

Task Name

Enter a task name

Data Type

☒ Traffic/Bandwidth
 ☐ Requests

Query Period

From

-

To

Export Content

☒ Account
 ☐ Domain
 ☐ Group

Frequency

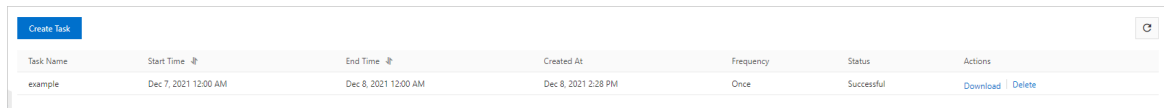
Once

OK

Cancel

Parameter	Description
Task Name	Enter a name for the export task.
Data Type	Valid values: <ul style="list-style-type: none"> <li>◦ <b>Traffic/Bandwidth</b></li> <li>◦ <b>Requests</b></li> </ul> Select an option based on your business requirements.
Query Period	Enter the start and end of the time range that you want to query. <div> <span>?</span> <b>Note</b> The maximum time range that you can query is 30 days.           </div>
Export content	Valid values: <ul style="list-style-type: none"> <li>◦ <b>Account</b></li> <li>◦ <b>Domain</b></li> <li>◦ <b>Group</b></li> </ul> Select an option based on your business requirements.
Frequency	The default value is <b>Once</b> . You cannot change the value.

4. Click **OK**.



Task Name	Start Time	End Time	Created At	Frequency	Status	Actions
example	Dec 7, 2021 12:00 AM	Dec 8, 2021 12:00 AM	Dec 8, 2021 2:28 PM	Once	Successful	<a href="#">Download</a> <a href="#">Delete</a>

- After the export task is completed, click **Download**.

## Related API operations

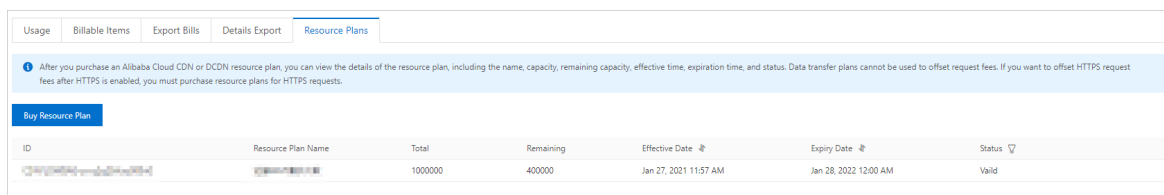
API operation	Description
<a href="#">CreateUsageDetailDataExportTask</a>	Creates a task to export resource usage details to an Excel file.
<a href="#">DescribeUserUsageDetailDataExportTask</a>	Queries export tasks that were used to export details about one or more domain names that belong to your Alibaba Cloud account. The exported data was collected every 5 minutes.
<a href="#">DeleteUsageDetailDataExportTask</a>	Deletes export tasks that were used to export billing details of your accelerated domain names.

## 2.4.6. Query details about resource plans

Alibaba Cloud CDN allows you to query the details about resource plans that you have purchased, including the resource plan name, total capacity, remaining capacity, effective time, expiration time, and status.

### Procedure

- 
- 
- On the **Resource Plans** tab, you can view details about the resource plans, including the resource plan name, total capacity, remaining capacity, effective time, expiration time, and status. You can also purchase resource plans on this tab.



ID	Resource Plan Name	Total	Remaining	Effective Date	Expiry Date	Status
		1000000	400000	Jan 27, 2021 11:57 AM	Jan 28, 2022 12:00 AM	Valid

- (Optional) You can click **Buy Resource Plan** to purchase resource plans based on your business requirements.

## Related API operations

- [DescribeCdnUserResourcePackage](#): queries the resource plans that you have purchased for Alibaba Cloud CDN.
- [DescribeDcdnUserResourcePackage](#): queries the information about the resource plans within your Alibaba Cloud account, including the total capacity, remaining capacity, effective time, expiration time, and status of each resource plan.

## Related information

- [Why am I still charged for resources after I purchase resource plans of Alibaba Cloud CDN?](#)

## 2.5. EdgeScript monitoring

EdgeScript (ES) supports the monitoring feature. You can query the monitoring data to check whether scripts are executed at the edges as expected.


### Context

ES allows you to create scripts to customize your Alibaba Cloud Content Delivery Network (CDN) service. If the standard features provided in the Alibaba Cloud CDN console cannot meet your configuration requirements, you can use ES to create custom scripts that support more complex request processing logic. ES provides a wide array of built-in functions that simplify the programming process. You can use simple syntax and logic to invoke these functions in custom scripts. For more information, see [Overview](#)

### Features

You can navigate to the EdgeScript page to query the status of scripts. You can query the monitoring data of scripts and errors within the last three months. The time range in each query can be up to one month.

Metric	Description
--------	-------------

Metric	Description
Status	<p>Indicates the status of each script. If you have configured a script for an accelerated domain name, the script can be in one of the following status after a client request arrives at a CDN node:</p> <ul style="list-style-type: none"><li>• NonExecution The script is not executed. For example, the script is set to be executed at the foot of the pipeline. This indicates that the script is executed only after all other scripts are executed. However, a request may be completed before it reaches the foot of the pipeline. For example, the request may be redirected or blocked by hotlink protection. In this case, the script at the foot of the pipeline is not executed.</li><li>• ExecutedAndHit The script is executed and the execution result is <b>return true</b>. This indicates that the request matches the logic in the script.</li><li>• ExecutedButNotHit The script is executed but the execution result is not <b>return true</b>. This indicates that the request does not match the logic in the script. For example, the script does not contain a <b>return true</b> statement, or the script automatically returns a <b>return false</b> result.</li><li>• Exception An error occurs while Alibaba Cloud CDN was executing the script. Typically, the error is caused by logic errors in the script or timeouts of script execution. For example, a parameter passed to the request is set to an invalid value or Alibaba Cloud CDN has been executing the script for more than 50 milliseconds. You can add the <b>_es_dbg extension</b> to the script and use the debugging tool in the upper-corner of the EdgeScript page to debug the code. Then, you can use the debugging information to troubleshoot the error. For more information about how to add the <b>_es_dbg extension</b>, see <a href="#">Use the Alibaba Cloud CDN to configure scripts</a>.</li></ul> <div><p> <b>Note</b> You can set <code>_es_dbg</code> to any value. Client requests must carry the same value. For example, if you set <code>_es_dbg=123</code> in the Alibaba Cloud CDN console, client requests must also carry <code>_es_dbg=123</code>.</p></div>

Metric	Description
Error	<p>Indicates that an error occurs while Alibaba Cloud CDN is executing the script. In this case, an error code is returned. Error codes and descriptions:</p> <ul style="list-style-type: none"><li>• 400: The script contains an unsupported function.</li><li>• 401: The number of parameters expected by the function is invalid.</li><li>• 402: The type of string does not match the one specified in the function.</li><li>• 403: The type of digit does not match the one specified in the function.</li><li>• 404: The type of dictionary does not match the one specified in the function.</li><li>• 405: The Boolean type does not match the one specified in the function.</li><li>• 406: The type of function does not match the one specified in the function.</li><li>• 407: The script timed out.</li><li>• 408: The number of times that Alibaba Cloud CDN has executed scripts has reached the upper limit.</li><li>• 409: The number of times that the script has been looped has reached the upper limit.</li><li>• 410: The number of times that the script has been looped has reached the upper limit.</li><li>• 499: An unknown error occurred.</li></ul>

## Procedure

- 1.
2. In the left-side navigation pane, choose **Monitoring & Usage Analytics > EdgeScript**.
3. On the **EdgeScript** page, click the **Status** or **Error** tab.
4. Select the domain name that you want to query, set the time range to query, and then click **Query**.

The system returns scripts that are in one of the preceding states or error codes based on the specified query conditions.

## 3.Refresh and prefetch resources

Alibaba Cloud CDN allows you to refresh and prefetch resources. The refresh feature clears resources cached on Alibaba Cloud CDN edge nodes and retrieves the latest resources from origin servers. The prefetch feature enables the edge nodes to retrieve frequently accessed resources from origin servers during off-peak hours. This increases the cache hit ratio.

Go to the section that you are interested in:

- [Overview](#)
- [Scenarios](#)
- [Precautions](#)
- [Refresh resources](#)
- [Prefetch resources](#)
- [API references](#)

### Overview

Alibaba Cloud CDN supports the refresh and prefetch features. The following section describes how these features work:

- **Refresh:** clears all resources that are cached on the edge nodes. When an edge node receives a request, the edge node redirects the request to the origin server to retrieve the requested resources. The retrieved resources are returned to the client and cached on the node. The refresh feature reduces the cache hit ratio.
- **Prefetch:** prefetches resources from origin servers and caches the resources on the edge nodes. When an edge node receives a request, the edge node directly returns the requested resources to the client because the resources are already cached on the edge nodes. The prefetch feature increases the cache hit ratio.

### Scenarios

The following table describes the scenarios where the refresh or prefetch feature is commonly used.

Feature	Scenario
Refresh	<ul style="list-style-type: none"><li>• <b>Update and publish resources</b> After resources on your origin server are updated, you can submit the URLs or directories of the updated resources to Alibaba Cloud CDN. Then, Alibaba Cloud CDN refreshes the resources that are cached on the edge nodes. This ensures that visitors can retrieve up-to-date resources from the edge nodes.</li><li>• <b>Delete resources that violate the limits of Alibaba Cloud CDN</b> After you delete resources that violate the limits described in <a href="#">Limits</a> from your origin server, visitors can still access the resources because the resources are cached on the edge nodes. In this case, you must use the refresh feature to update the CDN cache so that the resources are deleted from the edge nodes.</li></ul>

Feature	Scenario
Prefetch	<ul style="list-style-type: none"><li>• <b>Provide support for major events</b> If you want to hold a major event, you can push the static resources of the event page to the edge nodes. After the event starts, visitors can access the static resources, which are already cached on the edge nodes. This accelerates content delivery.</li><li>• <b>Release installation packages</b> Before you release an installation or upgrade package of a product, you can push the package to the edge nodes. After the product is launched, visitors can download the package from the edge nodes. This accelerates content delivery and reduces loads on origin servers when a large number of visitors want to access your resources.</li></ul>

## Precautions

- After a refresh task is submitted and completed, some resources are removed from the edge nodes. When an edge node receives a request for the removed resources, the node redirects the request to the origin server to retrieve the resources. The retrieved resources are returned to the client and cached on the node. After multiple refresh tasks, a large amount of resources is removed from the edge nodes. This increases the number of requests that are redirected to the origin server. The back-to-origin routing process consumes more bandwidth resources and the origin server may be overwhelmed.
- After a refresh task is submitted and completed, the edge nodes immediately start to retrieve resources from the origin server. Therefore, a large number of refresh tasks cause a large number of concurrent download tasks. This increases the number of requests that are redirected to the origin server. The back-to-origin routing process consumes more bandwidth resources and the origin server may be overwhelmed.
- Resource Access Management (RAM) users must acquire required permissions before they can refresh or prefetch resources. For more information, see [Authorize a RAM user to prefetch and refresh resources](#).

## Refresh resources

For more information about how to automate refresh and prefetch tasks, see [Run a script to prefetch content](#).

- 1.
2. In the left-side navigation pane, click **Refresh & Prefetch**.
3. On the **Refresh/Prefetch** tab, create a refresh task.

Refresh Cache

Records

Operation

Refresh

Object

URL

URL

You can refresh at most 10000 URLs per day, prefetch at most 1000 URLs per day, and refresh at most 100 directories per day. You can query quota status, apply for quota increases, and set quota alerts in Quota Center. [Learn More](#)

TXT

Enter text or drag a file here.

10000 Remaining Refresh Quota

Submit


Parameter	Description
Operation	Select <b>Refresh</b> .
Operation Method	You can select <b>URL</b> or <b>Directory</b> .

Parameter	Description
URL	<ul style="list-style-type: none"> <li>Refresh resources based on URLs           <ul style="list-style-type: none"> <li>Each URL must start with <code>http://</code> or <code>https://</code>.</li> <li>Enter only one URL on each line.</li> <li>Each Alibaba Cloud account can submit up to 10,000 URLs per day and up to 1,000 URLs at a time. You can submit up to 1,000 URLs for each domain name per minute.</li> </ul> <p>If the daily peak bandwidth value of your workloads exceeds 200 Mbit/s, you can <a href="#">submit a ticket</a> to increase the upper limit. Alibaba Cloud will review your application and then increase the quota accordingly.</p> </li> <li>Refresh resources based on directories           <ul style="list-style-type: none"> <li>Each URL must start with <code>http://</code> or <code>https://</code> and end with a forward slash (/).</li> <li>Enter only one URL on each line.</li> <li>Each Alibaba Cloud account can submit up to 100 directories per day and up to 100 directories at a time. Subdirectories are supported. You can apply for a quota increase. After your application is approved, you can submit at most 1,000 directories at a time.</li> </ul> <p>If the daily peak bandwidth value of your workloads exceeds 200 Mbit/s, you can <a href="#">submit a ticket</a> to increase the upper limit. Alibaba Cloud will review your application and then increase the quota accordingly.</p> </li> </ul>

4. Click **Submit**.

5. Check the refresh progress.

After you submit a refresh task, you can check the progress and details on the **Records** tab. The progress depends on the number of subjects to be refreshed. It may take some time to complete the task.

 **Note** If **Auto CDN Cache Update** is enabled in the Object Storage Service (OSS) console, you cannot check the automatic refresh tasks in the Alibaba Cloud CDN console.

## Prefetch resources

For more information about how to automate refresh and prefetch tasks, see [Run a script to prefetch content](#).

- 1.
2. In the left-side navigation pane, click **Refresh & Prefetch**.
3. On the **Refresh/Prefetch** tab, create a prefetch task.

Refresh Cache

Records

Operation

Refresh

Object

URL

URL

You can refresh at most 10000 URLs per day, prefetch at most 1000 URLs per day, and refresh at most 100 directories per day. You can query quota status, apply for quota increases, and set quota alerts in Quota Center. [Learn More](#)

TXT

Enter text or drag a file here.

10000 Remaining Refresh Quota

Submit

Parameter	Description
Operation	Select <b>Prefetch</b> .
Operation Method	Only <b>URL</b> is supported.
URL	<ul style="list-style-type: none"><li>Each URL must start with <code>http://</code> or <code>https://</code>.</li><li>Enter only one URL on each line.</li><li>By default, each Alibaba Cloud account can submit up to 1,000 URLs per day. If the daily peak bandwidth value of your workloads exceeds 200 Mbit/s, you can <a href="#">submit a ticket</a> to increase the upper limit. Alibaba Cloud will review your application and then increase the quota accordingly.</li><li>Each Alibaba Cloud account can submit up to 100 URLs at a time.</li><li>The prefetch queue of each Alibaba Cloud account can contain up to 50,000 URLs. Alibaba Cloud CDN runs prefetch tasks based on the time at which you submit the URLs. If the number of URLs in the queue reaches 50,000, you cannot submit more URLs until the number drops below 50,000.</li><li>The time that a prefetch task takes is based on the average size of the files to be prefetched. The smaller the average file size, the less time the prefetch task takes.</li></ul>

4. Click **Submit**.
5. Check the prefetch progress.

After you submit a prefetch task, you can view the progress and details on the **Records** tab. The progress depends on the number of subjects to be prefetched. It may take some time to complete the task.

## API references

You can call API operations listed in the following table to refresh and prefetch resources.

API operation	Description
<a href="#">PushObjectCache</a>	Prefetches resources from origin servers to the edge nodes. This reduces loads on origin servers because visitors can hit cache upon their first visits.
<a href="#">RefreshObjectCaches</a>	Refreshes files on Alibaba Cloud CDN edge nodes. After files are refreshed, the original file content immediately becomes invalid. If clients request the original file content, Alibaba Cloud CDN redirects the requests to the origin server where the content is stored. Then, Alibaba Cloud CDN caches the latest content to the edge nodes and returns it to the clients. Alibaba Cloud CDN allows you to refresh content from multiple URLs at a time.
<a href="#">DescribeRefreshTasks</a>	Queries the status of refresh or prefetch tasks.
<a href="#">DescribeRefreshTaskById</a>	Queries the status of refresh or prefetch tasks by ID.
<a href="#">DescribeRefreshQuota</a>	Queries the maximum and remaining numbers of URLs and directories that can be refreshed, the maximum and remaining numbers of URLs that can be prefetched, and the maximum and remaining numbers of URLs and directories that can be blocked on the current day.
<a href="#">DescribeCdnUserQuota</a>	Queries the maximum and remaining quota.

## 4. Log Management

### 4.1. Offline logs

#### 4.1.1. Overview

You can analyze log data of Alibaba Cloud Content Delivery Network (CDN) to locate and resolve issues. This improves the overall performance of your CDN service. This topic describes the log management features of Alibaba Cloud CDN and related services.

#### Log management features

Alibaba Cloud CDN supports the following log management features.

Feature	Description
<a href="#">Download log data</a>	You can query logs of a specified time range or of a specified domain name. You can also download the returned logs.
<a href="#">Use Function Compute to deliver logs</a>	To retain log data for a longer period of time, import the log data to Object Storage Service (OSS). This allows you to analyze the log data at any time.

#### Related services

The log management features of Alibaba Cloud CDN can be integrated with the following services:

- **Function Compute**

Function Compute supports various events for Alibaba Cloud CDN. You can use Function Compute events to import log data of Alibaba Cloud CDN to another service, refresh and prefetch content, add domain names to be accelerated, delete accelerated domain names, enables accelerated domain names, and disables accelerated domain names. For more information about how these events are triggered, see [CDN event triggers](#).

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

- **Object Storage Service (OSS)**

For more information about OSS, see [What is OSS?](#).

#### 4.1.2. Download log data

This topic describes the usage notes and procedure for downloading log data, and the definitions of fields in a log entry. You can download and then analyze the log data of a domain name.


#### Context

Usage notes:

- **Log update delay:** Typically, log data is generated within 24 hours after an event occurs. However, in some cases, it may take more than 24 hours to generate log data.
- You can download log data generated within the last 30 days. If you want to retain log data for a longer period of time, you can use the log storage feature to deliver log data to an Object Storage

Service (OSS) bucket.

- Naming rule for log entries: Accelerated domain name\_year\_month\_day\_start time\_end time[extension field].gz. The extension field must start with an underscore (\_). Example: `example.com_2018_10_30_000000_010000_xx.gz`.

 **Note** Some log entries may not contain an extension field. Example: `example.com_2018_10_30_000000_010000.gz`.

The following table describes the fields in a log entry.

- Sample log entry

```
[9/Jun/2015:01:58:09 +0800] 192.168.0.1 - 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"
```

- Descriptions of log fields

Field	Description
<code>[9/Jun/2015:01:58:09 +0800]</code>	The start time of the log entry.
<code>192.168.0.1</code>	The IP address of the client that initiated the request.
<code>-</code>	The proxy IP address of the client.
<code>1542</code>	The response time. Unit: milliseconds.
<code>"-"</code>	The referer header field in the HTTP request.
<code>GET</code>	The request method.
<code>http://www.aliyun.com/index.html</code>	The requested URL.
<code>200</code>	The HTTP status codes.
<code>191</code>	The size of the request. Unit: byte.
<code>2830</code>	The size of the response. Unit: byte.
<code>MISS</code>	The cache hit status.
<code>Mozilla/5.0 (compatible; AhrefsBot/5.0; +http://ahrefs.com/robot/)</code>	The information about the proxy of the client.
<code>text/html</code>	The type of the requested file.

Field	Description
quic/https/http	The protocol over which the request was transmitted.

## Procedure

- 1.
- 2.
3. On the **Log Download** page, select a **domain name** and a **date**, and then click **Search**.
4. Find the log file that you want to download and click **Download** in the **Actions** column.

## Related API operations

You can call an API operation to download log data. For more information, see [DescribeCdnDomainLogs](#).

## 4.1.3. Use DLA to process and persist log data to OSS

Alibaba Cloud CDN allows you to process log data in Data Lake Analytics (DLA) and persist the log data in Object Storage Service (OSS). You can also use DLA to analyze the log data. This topic describes how to enable log storage.

Go to the section that you are interested in:

- [Prerequisites](#)
- [Background information](#)
- [Scenarios](#)
- [Billing](#)
- [Enable log storage](#)
- [Disable log storage](#)
- [FAQ](#)

## Prerequisites

Before you enable log storage, make sure that the following requirements are met:

- OSS is activated. To activate OSS, go to the [product page of OSS](#).
- DLA is activated. To activate DLA, go to the [product page of DLA](#).
- DLA and OSS are activated in the accelerated region of Alibaba Cloud CDN.

## Background information

Alibaba Cloud CDN supports the log storage feature, which is integrated with OSS and DLA. When you enable log storage, the system automatically creates the service-linked role AliyunServiceRoleForDCDNLogDelivery and grants it permissions on OSS and DLA. Alibaba Cloud CDN can assume this role to automatically deliver logs to OSS and DLA. For more information about the service-linked role, see [Manage the SLR for log storage](#).

## Scenarios

By default, the log storage feature of Alibaba Cloud CDN retains log data for 30 days. If you want to retain log data for a longer period of time or analyze log data, you can enable DLA for log storage. DLA allows you to persist and analyze log data based on business requirements.

## Billing

Log storage is free of charge. After log storage is enabled, you are charged for OSS and DLA.

- For more information about the billing rules of OSS, see [OSS Pricing](#).
- For more information about the billing rules of DLA, see [Billing methods](#).

### Notice

- After log storage is enabled, logs are delivered by DLA. You are charged for DLA even if you do not use DLA to analyze data.
- If you use DLA only to deliver log data but do not analyze log data, DLA consumes compute units (CUs) only for log delivery. No CU is consumed for log analytics.
- If you use DLA to analyze log data, CUs are consumed based on the number of log entries and the complexity of the log analytics model. CU consumption increases if the number of log entries increases or the complexity of the analytics model increases.

## Enable log storage

### Notice

- Logs are collected from CDN edge nodes and then directly delivered to OSS. Log integrity is not guaranteed. If you want to acquire complete log data, we recommend that you go to the **Log Download** tab to download logs. Make sure that the fields that you specify are the same as those in the logs.
- By default, Resource Access Management (RAM) users are not allowed to enable or manage log storage. You must first grant the RAM users the required permissions. For more information, see [Grant a RAM user permissions on log storage](#).
- If you want to grant a RAM user permissions to manage log storage, make sure that the authorized scope is set to **Alibaba Cloud Account**. For more information, see [Step 2: Grant permissions to the RAM user](#).
- If you want to manage log storage as a RAM user, make sure that the authorized scope of the RAM user is set to **Alibaba Cloud Account**. Otherwise, log storage may be disabled for some domain names.

- 1.
2. In the left-side navigation pane, choose **Logs > Offline Log**.
3. Click the **Log Storage** tab.
4. Click **Open Now**.
5. Set **Storage Location**.

- i. In the **Activate Log Storage** dialog box, set **Storage Location**.

 **Note**


- An OSS bucket is created in the specified region. The region cannot be changed after it is specified. Logs are delivered to the OSS bucket.
- If log storage is already enabled in Dynamic Route for CDN (DCDN) with a region specified, you cannot specify a region when you enable log storage in Alibaba Cloud CDN. By default, the regions for the log storage feature in Alibaba Cloud CDN and DCDN are the same.

Service country and region	Storage country and region	Description
Mainland China	<ul style="list-style-type: none"><li>■ China (Shanghai)</li><li>■ China (Beijing)</li><li>■ China (Hangzhou)</li></ul>	Three storage regions are supported: China (Shanghai), China (Beijing), and China (Hangzhou). Select a region based on your business requirements.
Other countries and regions	Singapore	Only this region is supported.
India	India (Mumbai)	Only this region is supported.
Europe	Germany (Frankfurt)	Only this region is supported.
US	US (Silicon Valley)	Only this region is supported.

- ii. Click **Activate Data Lake Analytics** and go to the next step.

6. Set **Delivery Rule**.

- i. In the **Activate Log Storage** dialog box, set **Transfer Field**, and select the accelerated domain names for which you want to enable log storage.

 **Note** You can view and select up to 500 domain names in the console. If you want to enable log storage for more domain names, .

You can specify one or more transfer fields. The transfer fields cannot be modified after they are specified. The following table describes the supported fields.

Field	Description	Example
contentType	Indicates the file types.	text/html
domain	Indicates the accelerated domain name.	example.com

Field	Description	Example
hitInfo	Indicates the cache hit status.	HIT
http2	Indicates the HTTP/2 protocol.	HTTP2
httpCode	Indicates the HTTP status code returned.	504 , 404 , 302 , 200
method	Indicates the request method. Valid values: GET and POST.	GET and POST
refer	Indicates the Referer header in HTTP requests.	"_"
remoteIP	Indicates the IP address of the client that initiated the request.	192.168.15.75
reqSize	Indicates the size of the request. Unit: bytes.	129
respSize	Indicates the size of the response. Unit: bytes.	129
rt	Indicates the response time. Unit: milliseconds.	1
schema	Indicates the protocol over which the request was transmitted. Valid values: HTTP and HTTPS.	HTTP and HTTPS
traceID	Indicates the unique ID of the request.	d35ba34115550716522547264e
ua	Indicates the information about the proxy of the client.	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/92.0.4515.159 Safari/537.36
unixtime	Indicates the timestamp of the request. Unit: seconds.	160734****
urlPath	Indicates the Uniform Resource Identifier (URI) of the request. No domain name information is included.	/index.html
urlRawQuery	Indicates the query string, which is the parameters that follow the question mark (?) in the URL.	x=1&y=1
userInfo	Indicates custom log fields.	N/A

- ii. Click **Activate**.

After you enable log storage, you can modify log storage rules or disable log storage on the **Log Storage** tab.

## Disable log storage

- 1.
2. In the left-side navigation pane, choose **Logs > Offline Log**.
3. Click the **Log Storage** tab.
4. Click **Close Delivery Task**.
5. Click **OK**.

You can delete the service-linked role `AliyunServiceRoleForCDNLogDelivery`. For more information, see [Delete AliyunServiceRoleForCDNLogDelivery](#).

## FAQ

What is the format of the files that are delivered to OSS after log storage is enabled?

Files delivered to OSS are in the Optimized Row Columnar (ORC) format. We recommend that you use [DLA](#) to analyze ORC files.

## 4.1.4. Use Function Compute to deliver logs

You can use Function Compute to deliver logs to Object Storage Service (OSS) where the logs can be persisted. You can view and analyze persisted logs based on business requirements. This topic describes how to use Function Compute to deliver logs to OSS.


This topic consists of the following sections:

- [Prerequisites](#)
- [Background information](#)
- [Scenarios](#)
- [Billing](#)
- [Enable Function Compute for log storage.](#)
- [Disable Function Compute for log storage](#)

### Prerequisites

Make sure that the following prerequisites are met before you can use Function Compute to deliver logs:

- OSS is activated. You can activate OSS on the [OSS product page](#) and create an OSS bucket where logs can be stored.
- Function Compute is activated. You can activate Function Compute in the [Function Compute console](#).

 **Note** Log on to the [Function Compute console](#) and use an existing Function Compute service to deliver log data.

### Background information

- Alibaba Cloud CDN allows you to use Function Compute to deliver logs to OSS. When you enable this feature, the service-linked role AliyunCDNEventNotificationRole is automatically created and assigned to Alibaba Cloud CDN. Alibaba Cloud CDN can assume this role to access Function Compute and automate log delivery.
- Alibaba Cloud CDN is integrated with Function Compute. This allows you to configure functions for [common events](#) and filter events by parameter such as domain name. This way, data can be collected from specific domain names. After Alibaba Cloud CDN receives events that meet the filter conditions, it automatically calls functions to process the events and delivers the log entries to OSS.

## Scenarios

The log storage feature of Alibaba Cloud CDN retains log data for 30 days free of charge. To persist log data, you can deliver log data to OSS. This facilitates log storage and analytics.

## Billing

The log storage feature is free of charge. OSS and Function Compute are billed based on the following rules:

- For more information about the billing rules of OSS, see [OSS pricing](#).
- Function Compute resources are consumed during the log delivery process. Function Compute provides a free quota each month. You are charged for the Function Compute resources that exceed the free quota. For more information, see [Function Compute billing methods](#).

## Enable Function Compute for log storage.

- 1.
2. In the left-side navigation pane, choose **Logs > Offline Logs**.
3. Click the **Function Compute for Log Storage** tab.
4. Click **Activate Log Storage**.
5. Set **Service Name** and **OSS Bucket** based on your business requirements, and click **Next**.

Before you can perform the next step, you must select I understand and agree that fees will be incurred by Function Compute after I activate 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 **Authorize** next to **Service Authentication**.

On the **Resource Access Management** page, set **Policy Name** and click **Confirm Authorization Policy**. This grants Function Compute permissions to write data to OSS and execute functions.

7. Click **Authorize** next to **Trigger Role**.

On the **Resource Access Management** page, click **Confirm Authorization Policy**. This grants Alibaba Cloud CDN permissions to access Function Compute.

8. In the **Select Domains** section, select one or more domain names to be associated with the Function Compute service and click **Create**.

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.

☐ test.finalexam.cn

☐ videocontest.finalexam.cn

☐ 6789-test.com

☐ 99.aliyuncs.com

☐ zengxin34.finalexam.cn

24 Items

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 **OK**.

Authorize and Activate

**Select Trigger** — **Select Domains** — **3 Complete**


The Log Storage service is configured.


Newly generated logs for the specified domains will be pushed to OSS based on your trigger. You can manage the trigger in the Function Compute console, or view the stored logs in OSS.

**Done**

## Disable Function Compute for log storage


To disable Function Compute for log storage, perform the following steps. Function Compute for log storage is no longer billed after it is disabled.

1. In the Alibaba Cloud CDN console, **disassociate the Function Compute service from all domain names**.
  - i.
  - ii. In the left-side navigation pane, choose **Logs > Offline Logs**.
  - iii. On the **Offline Logs** page, click the **Function Compute for Log Storage** tab.
  - iv. Click **Bind Domains** in the Actions column. In the dialog box that appears, select the domain names that you want to disassociate in the right-side list and click .
  - v. Click **OK**.
2. (Optional) Delete the function and service in the Function Compute console.

 **Note** When you enable Function Compute for log storage, a function and a service are created, or an existing function and an exiting service are used. When you disable Function Compute for log storage, you can delete the function and service to clear the settings.

- For more information about how to delete a function, see [Manage functions](#).
- For more information about how to delete a service, see [Manage services](#).

3. Delete log data from the OSS bucket in the OSS console.

 **Note** You are charged for log data that is stored in OSS buckets. We recommend that you delete log data that is no longer needed.

For more information about how to delete an OSS bucket, see [Delete a bucket](#).

## 4.1.5. Manage the SLR for log storage

When you enable the log storage feature of Alibaba Cloud Content Delivery Network (CDN), the system automatically creates the service-linked role (SLR) `AliyunServiceRoleForCDNLogDelivery`. Alibaba Cloud CDN can assume this SLR to access resources in Object Storage Service (OSS) and Data Lake Analytics (DLA).

### Background information

`AliyunServiceRoleForCDNLogDelivery` is an SLR. After you enable the log storage feature of Alibaba Cloud CDN, Alibaba Cloud CDN must assume this SLR before Alibaba Cloud CDN can access resources in OSS and DLA. Alibaba Cloud CDN can assume the SLR to store log data in other services. Make sure that the geographic location where the log data is stored complies with the regulations. For more information about the SLR, see [Service-linked roles](#).

### Create `AliyunServiceRoleForCDNLogDelivery`

If this is the first time you enable the log storage feature of Alibaba Cloud CDN, the system automatically creates the SLR `AliyunServiceRoleForCDNLogDelivery` and attaches the permission policy `AliyunServiceRolePolicyForCDNLogDelivery` to the SLR. Alibaba Cloud CDN can assume the SLR to access OSS and DLA after the log storage feature is enabled. The SLR allows you to perform the following operations on OSS and DLA:

- **OSS:** Create and query OSS buckets, write data to OSS buckets, query data in OSS buckets, and delete data from OSS buckets.

- DLA: Enable, query, and disable DLA tasks.

 **Note** If the SLR AliyunServiceRoleForCDNLogDelivery is already created for Alibaba Cloud CDN, the system does not create the SLR again.

The following code block shows the content of the permission policy:


```
{
  "Version": "1",
  "Statement": [
    {
      "Action": [
        "openanalytics:CreateInstance",
        "openanalytics:UpgradeInstance",
        "openanalytics:ReleaseInstance",
        "openanalytics:ExecuteSQL",
        "openanalytics:QueryExecute",
        "openanalytics:DescribeVirtualCluster",
        "openanalytics:ListSparkJob",
        "openanalytics:GetJobStatus",
        "openanalytics:GetJobDetail",
        "openanalytics:GetJobLog",
        "openanalytics:KillSparkJob",
        "openanalytics:SubmitSparkJob"
      ],
      "Resource": "*",
      "Effect": "Allow"
    },
    {
      "Action": [
        "oss:PutBucket",
        "oss:GetBucketInfo"
      ],
      "Effect": "Allow",
      "Resource": "acs:oss:*:*:alicdn-log-delivery-*"
    },
    {
      "Action": [
        "oss:GetObject",
        "oss:PutObject"
      ],
      "Effect": "Allow",
      "Resource": "acs:oss:*:*:alicdn-log-delivery-*/alicdn-offline-log/*"
    },
    {
      "Action": "ram:CreateServiceLinkedRole",
      "Resource": "*",
      "Effect": "Allow",
      "Condition": {
        "StringEquals": {
          "ram:ServiceName": "openanalytics.aliyuncs.com"
        }
      }
    }
  ]
}
```

```
{
  "Action": "ram:DeleteServiceLinkedRole",
  "Resource": "*",
  "Effect": "Allow",
  "Condition": {
    "StringEquals": {
      "ram:ServiceName": "logdelivery.cdn.aliyuncs.com"
    }
  }
}
```

## Delete AliyunServiceRoleForCDNLogDelivery

If you no longer use the log storage feature and want to delete the SLR AliyunServiceRoleForCDNLogDelivery, perform the following steps:

1. Disable log storage tasks
  - i.
  - ii. In the left-side navigation pane, choose **Logs > Offline Logs**.
  - iii. On the **Offline Logs** page, click the **Log Storage** tab.
  - iv. Find the storage task that you want to disable and click **Disable Storage Task** in the Actions column.
  - v. In the dialog box that appears, click **OK**.
2. Delete AliyunServiceRoleForCDNLogDelivery
  - i. Log on to the [RAM console](#).
  - ii. In the left-side navigation pane, choose **Identities > Roles**.
  - iii. In the **RAM Role Name** column, find the SLR AliyunServiceRoleForCDNLogDelivery and click **Delete** in the Actions column.

 **Note** If the SLR fails to be deleted, check whether log storage has been disabled.

## 4.1.6. Grant a RAM user permissions on log storage

### Context

#### Step 1: Create a custom permission policy

- 1.
- 2.
- 3.
4. Define the permission policy.  
Create a custom permission policy

← Create Custom Policy

\* Policy Name

rzzc

Note

Configuration Mode

☐ Visualized

☒ Script

Policy Document

Import an existing system policy

1 {

2 "Statement": [

3 {

4 "Action": "ram:CreateServiceLinkedRole",

5 "Resource": "acs:ram:\*:\*:role/\*",

6 "Effect": "Allow",

7 "Condition": {

8 "StringEquals": {

9 "ram:ServiceName": [

10 "logdelivery.cdn.aliyuncs.com"

11 ]

12 }

13 }],

14 },

15 {

OK

Return

Grant the RAM user full permissions on the log storage feature. Allow the RAM user to enable, manage, query, modify, and disable log storage. The following code block shows the content of the permission policy:

? Note

```

{
  "Statement": [
    {
      "Action": "ram:CreateServiceLinkedRole",
      "Resource": "acs:ram:*:*:role/*",
      "Effect": "Allow",
      "Condition": {
        "StringEquals": {
          "ram:ServiceName": [
            "logdelivery.cdn.aliyuncs.com"
          ]
        }
      }
    },
    {
      "Effect": "Allow",
      "Action": [
        "cdn:DescribeUserDomains",
        "cdn:CreateCdnDomainOfflineLogDelivery",
        "cdn:DescribeCdnOfflineLogDeliveryStatus",
        "cdn:DescribeCdnOfflineLogDelivery",
        "cdn:DescribeCdnOfflineLogDeliveryField",
        "cdn:DescribeCdnOfflineLogDeliveryRegions",
        "cdn:DisableCdnDomainOfflineLogDelivery",
        "cdn:DisableCdnOfflineLogDelivery",
        "cdn:EnableCdnDomainOfflineLogDelivery"
      ],
      "Resource": "acs:cdn:*:*:*"
    }
  ],
  "Version": "1"
}

```

The following table describes the API operations that can be defined in a custom permission policy.

API	Required	Function	Description
DescribeUserDomains	Yes	Queries all domain names that are added to Alibaba Cloud CDN.	If you grant a RAM user permissions on this API operation, the RAM user can query all domain names that are added to Alibaba Cloud CDN, and configure log storage for these domain names.
CreateCdnDomainOfflineLogDelivery	No	Enables log storage.	If you do not want a RAM user to enable log storage, do not grant the RAM user permissions on this API operation.
DescribeCdnOfflineLogDeliveryStatus	Yes	Queries whether log storage is enabled.	RAM users require permissions on this API operation if they want to query whether log storage is enabled, or enable log storage.

API	Required	Function	Description
DescribeCdnOfflineLogDelivery	Yes	Queries domain names that have log storage enabled.	If you grant a RAM user permissions on this API operation, the RAM user can query domain names that have log storage enabled.
DescribeCdnOfflineLogDeliveryField	Yes	Queries fields that are supported by log storage.	RAM users require permissions on this API operation if they want to query or enable log storage.
DescribeCdnOfflineLogDeliveryRegions	Yes	Queries regions in which log storage is supported.	N/A
DisableCdnDomainOfflineLogDelivery	No	Disables domain names that have log storage enabled.	If you grant a RAM user permissions on this API operation, the RAM user can disable domain names that have log storage enabled. Proceed with caution.
EnableCdnDomainOfflineLogDelivery	No	Creates a log storage task for a domain name.	If you grant a RAM user permissions on this API operation, the RAM user can create a log storage task for a domain name. Proceed with caution.
DisableCdnOfflineLogDelivery	No	Disables log storage.	If you grant a RAM user permissions on this API operation, the RAM user can disable log storage. If you want to use log storage again, you must enable and configure log storage. Proceed with caution.

5.

## Step 2: Grant permissions to the RAM user

1.

2.

3.

4.

5. In the **Add Permissions** panel, set the following parameters.

Parameter	Description
<b>Authorized Scope</b>	Select <b>Alibaba Cloud Account</b> , which specifies that the authorized scope is all resources that belong to the current Alibaba Cloud account. Do not select <b>Specific Resource Group</b> .
<b>Principal</b>	The current RAM user is selected by default.

Parameter	Description
Select Policy	Select <b>Custom Policy</b> , and click the name of the custom policy created in <b>Step 1</b> . The custom policy is then added to the right-side <b>Selected</b> list.

6.

7.

What's next

## 4.2. Customize an operations report template and create a tracking task

### Prerequisites

A domain name is added to Alibaba Cloud CDN. If no domain name is added to Alibaba Cloud CDN, add one. For more information, see [Add a domain name](#).

### Customize an operations report template

1.

2.

3.

4.

5.

### Create a tracking task

1.

2.

3.

4.

5. [Report IDs and metrics](#).

### Report IDs and metrics

The following table lists the report IDs and metrics.

Report ID	Metric	Name	Calculation method
1	TopUrlByAcc	Popular URLs by Request	Sorted by the number of URLs.

Report ID	Metric	Name	Calculation method
3	TopUrlByTraf	Popular URLs by Traffic	Sorted by network traffic. An increase of traffic increases the coefficient of the TCP packet header. For more information, see <a href="#">Why is the actual billed network traffic different from the network traffic reported by the logging feature?</a>
5	TopReferByAcc	Popular Referer by Request	Sorted by the number of visits.
7	TopReferByTraf	Popular Referer by Traffic	Sorted by network traffic. An increase of traffic increases the coefficient of the TCP packet header. For more information, see <a href="#">Why is the actual billed network traffic different from the network traffic reported by the logging feature?</a>
9	OriginTopUrlByAcc	Popular Back-to-origin URLs by Request	Sorted by number of URLs.
11	OriginTopUrlByTraf	Popular Back-to-origin URLs by Traffic	Sorted by network traffic. An increase of traffic increases the coefficient of the TCP packet header. For more information, see <a href="#">Why is the actual billed network traffic different from the network traffic reported by the logging feature?</a>
13	TopIpByAcc	Top Client IPs by Request	Sorted by the number of visits initiated by client IP addresses.
15	TopIpByTraf	Top Client IPs by Traffic	Sorted by network traffic. An increase of traffic increases the coefficient of the TCP packet header. For more information, see <a href="#">Why is the actual billed network traffic different from the network traffic reported by the logging feature?</a>
17	DomainByTraf	Popular Domain Names by Traffic	Sorted by network traffic of domain names.
19	DomainPvUv	PV/UV	
21	AreaTrafStat	Visit Distribution by Region	Collects statistics about the distribution of visits to a specific domain name within a region.
23	IsipTrafStat	Distribution of ISPs	Collects statistics about the ISPs used by clients.

## API references

API operation	Description
CreateCdnSubTask	Customize an operations report template.
CreateCdnDeliverTask	Creates a tracking task.
DescribeCdnSubList	Queries the operations report templates that you have created.
DescribeCdnReport	Queries data from operations reports.
DescribeCdnReportList	Queries all operations reports.
DescribeCdnDeliverList	Queries the tracking tasks that you have created.
UpdateCdnSubTask	Updates an operations report template.
UpdateCdnDeliverTask	Updates a tracking task.
DeleteCdnSubTask	Deletes an operations report template.
DeleteCdnDeliverTask	Deletes a tracking task.

## 5.Application center

The application center of Alibaba Cloud CDN provides tools and value-added services, such as IP query. You can easily find and use services in the application center.

The application center provides the following tools and services.


Category	Tool/Service	Description
Tools	IP query	You can query whether an IP address belongs to an Alibaba Cloud CDN edge node, and the region and Internet service provider (ISP) to which the IP address belongs.
	Monitoring	CloudMonitor is an all-in-one service that monitors Alibaba Cloud CDN in real time and generates alert events if anomalies are detected.
Edge security	HTTPS secure acceleration	HTTPS secure acceleration can be used to encrypt HTTPS connections between clients and Alibaba Cloud CDN edge nodes. HTTPS ensures data security during transmission.
	Certificate Management Service	Certificate Management Service collaborates with a variety of certificate authorities (CAs) inside and outside China. You can use Certificate Management Service to apply for and deploy certificates.
Video and image editing on edge nodes	Image editing	Image editing allows you to edit and distribute images on Alibaba Cloud CDN edge nodes. This simplifies the back-to-origin routing process, reduces the number of requests that are redirected to origin servers, and reduces loads on origin servers.

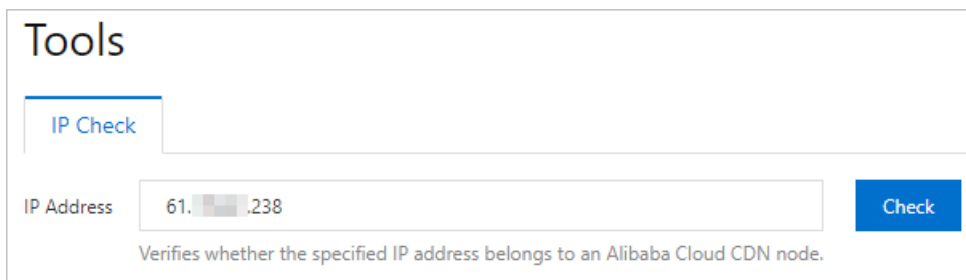
## 6. Query IP addresses

Alibaba Cloud Content Delivery Network (CDN) allows you to query whether an IP address belongs to a CDN node. You can query IP addresses in the Alibaba Cloud CDN console.

### Procedure

- 1.
2. In the left-side navigation pane, click **Tools**.
3. In the **IP Address** field, enter the IP address that you want to query and click **Check**.

 **Note** You can query IPv4 addresses and IPv6 addresses. You can query only one IP address at a time.



**Tools**

**IP Check**

IP Address  **Check**

Verifies whether the specified IP address belongs to an Alibaba Cloud CDN node.

4. View drift detection results.
- If the specified IP address belongs to a CDN node, the results show the following information about the IP address: **Region**, **Provider**, and **CDN Node**.

Region	China-gansu-lanzhou
Provider	telecom
CDN Node	Yes

- If the specified IP address does not belong to a CDN node, the result shows the following message: **No matching records found..**

### Related API operations

[DescribeInfo](#)

# 7. Query events about Alibaba Cloud CDN

This topic describes how to use ActionTrail to query events about Alibaba Cloud CDN.

## Background information


ActionTrail is a service that monitors and records the operations performed by your Alibaba Cloud account. The operations include your access to and use of cloud services by using the Alibaba Cloud Management Console, APIs, and SDKs. ActionTrail records these operations as events. You can download these events from the ActionTrail console or enable ActionTrail to deliver these events to Log Service Logstores or Object Storage Service (OSS) buckets. Then, you can perform behavior analytics, security analytics, resource change tracking, and compliance auditing based on the events. For more information, see [What is ActionTrail?](#)

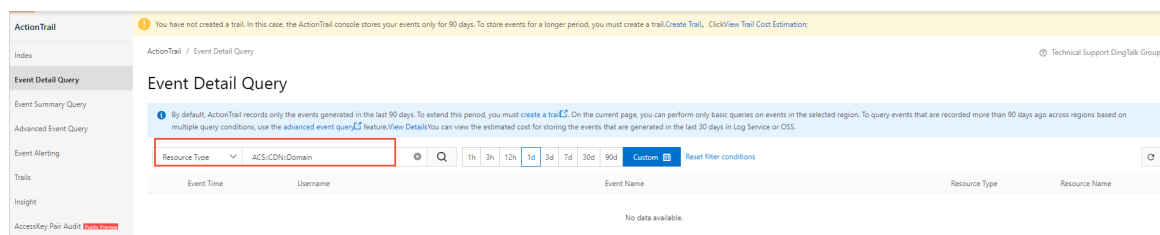
## Examples

ActionTrail allows you to query events about Alibaba Cloud CDN. You can query the details of an event to obtain information such as the time when the event is generated, the region where the event is generated, and the domain name involved.

For more information, see [CDN](#).

## Procedure

1. Log on to the [ActionTrail console](#).
2. In the left-side navigation pane, click **Event Detail Query**.
3. In the top navigation bar, select the region where the event that you want to query is generated.
4. Select **Resource Type** from the drop-down list, enter the **CDN** keyword in the search box, set a time range, and then click .



5. Move the pointer over the name of the event that you want to query in the **Event Name** column. Then, view the event details.
6. (Optional) To view an event log, click the plus icon (+) to the left of the event that you want to query, and then click **Event Detail**.

## 8.DCDN

Dynamic Route for Content Delivery Network (DCDN) is a product branch of Alibaba Cloud Content Delivery Network (CDN). DCDN can accelerate the delivery of static and dynamic content. DCDN provides an all-purpose solution to resolve issues such as high latency, packet loss, and service instability. These issues may occur in the following scenarios: your website contains both static and dynamic content, content is delivered across different Internet service providers, your network is unstable, only one origin server is used, network traffic spikes occur, and network congestion occurs. You can use DCDN to improve the overall performance of your website and accelerate content delivery to improve user experience.

For more information about DCDN, see the [documentation about DCDN](#).

## 9.SSL Certificates Service

### 9.1. Configure an SSL certificate for multiple domain names

Alibaba Cloud CDN supports HTTPS secure acceleration. You can upload a custom SSL certificate or select an SSL certificate from Certificate Management Service in the Alibaba Cloud CDN console. SSL certificates are required if you want to enable HTTPS to ensure the security of data transmission. This topic describes how to configure and renew an SSL certificate.

Go to the section that you are interested in:

- [Prerequisites](#)
- [Background information](#)
- [Configure or renew an SSL certificate](#)
- [Check whether HTTPS takes effect](#)
- [Related API operations](#)

#### Prerequisites

#### Background information

#### Configure or renew an SSL certificate

HTTPS secure acceleration is a value-added service. After you enable HTTPS, you are charged based on the number of HTTPS requests. You cannot use data transfer plans to offset the fees. For more information about the pricing of HTTPS secure acceleration, see [Billing of HTTPS requests for static content](#).

- 1.
- 2.
3. On the **Certificate Center** page, click **Add Certificate**.
4. On the **Add Certificate** page, set the following parameters.

Add Certificate

1 Select Certificate

2 Associate Domain Name

3 OK

Due to management changes made by certificate authorities, applications for free certificates may be affected. We recommend that you apply for certificate from SSL Certificates Service.

Certificate

☒ SSL Certificates Service

Source

☐ Upload Custom Certificate (Certificate+Private Key)

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

Certificate Name

Select

Certificate  
(Public Key)

Example for PEM-encoded certificate

Private Key

Sensitive information, and the private key is invisible

Example for PEM-encoded certificate

Next

Cancel

5. Click **Next**.
6. Associate one or more domain names with the certificate.

#### Note

- If a selected domain name is already associated with a certificate, the existing certificate will be replaced by the selected certificate in this step.
- If you set Certificate Source to **SSL Certificates Service** or **Custom Certificate (Certificate+Private Key)**, you can renew or deploy the specified certificate for multiple domain names at a time.

7. Click **OK** to deploy or update the certificate.

Check whether HTTPS takes effect

## 9.2. Query SSL certificates of domain names

This topic describes how to query the status of SSL certificates configured for domain names under your Alibaba Cloud account.

## Prerequisites

SSL certificates are configured for your domain names. For more information, see [Configure an SSL certificate for multiple domain names](#).

## Procedure

1. Log on to the [Alibaba Cloud CDN console](#).
2. In the left-side navigation pane, choose **Security & Protection > HTTPS Center**.
3. On the **HTTPS Center** page, view the information about an SSL certificate.

The **accelerated domain name** associated with the certificate, the **Certificate Name**, and the **Certificate Status** are displayed on this page. The following table describes the states of an SSL certificate.

Certificate state	Description
Valid	The SSL certificate is valid.
The specified domain name does not match the SSL certificate.	If the domain name and the SSL certificate do not match, you must update the certificate. For more information, see <a href="#">Configure an SSL certificate for multiple domain names</a> .
Expiring	The SSL certificate is about to expire. Renew your certificate at the earliest opportunity. For more information, see <a href="#">Renew a certificate</a> .
Expired	The SSL certificate has expired. You can renew the certificate based on your business requirements. For more information, see <a href="#">Configure an SSL certificate for multiple domain names</a> .

## API operations

You can call the related API operation to query the SSL certificates of your domain names. For more information, see [DescribeCdnHttpsDomainList](#).

# 10. Security and protection

## 10.1. Prevent high bills

This topic describes the causes of unexpected high bills and the solutions to them. If your domain name is vulnerable to attacks or is abused for data transmission, high bandwidth values or traffic spikes may occur. In this case, you may receive bills that are higher than expected.


### Potential risks


- If an attack occurs, you are charged for the bandwidth resources of Alibaba Cloud CDN and data transfer.
- If your domain name is abused for data transmission, high bandwidth values or traffic spikes may occur. This is similar to an attack, and you are charged for bandwidth resources and data transfer.

### Solutions

To ensure that Alibaba Cloud CDN runs as expected and prevent unexpected high bills, we recommend that you enable security features to manage network traffic. For more information, see the [product page of Anti-DDoS](#).

The following table lists the features that can be used to manage network traffic.

Feature	Description
Bandwidth cap	If you want to limit the amount of bandwidth resources that a domain name can consume, you can set a <b>bandwidth cap</b> for the domain name. After a bandwidth value reaches the specified bandwidth cap, Alibaba Cloud CDN disables acceleration for the domain name and requests destined for the domain name are directly sent to the origin server. For more information, see <a href="#">Configure a bandwidth cap</a> .
Bandwidth throttling	If you want to throttle bandwidth for Alibaba Cloud CDN, you can . <div> <b>Notice</b> After a bandwidth value reaches the specified threshold, the data transfer rate is throttled and packet loss may occur.</div>
Real-time monitoring	If you want to monitor the peak bandwidth values of a domain name in real time, you can use <b>CloudMonitor</b> . After a bandwidth value reaches the specified threshold, notifications are sent to the administrator of your Alibaba Cloud CDN service through text messages, emails, or DingTalk messages. This alerts you of potential risks. For more information, see the <a href="#">product page of CloudMonitor</a> .

Feature	Description
Spending management and alerts	<p>You can use the following features to monitor and control the expenses of your Alibaba Cloud CDN service. To configure these features, move your pointer over <b>Expenses</b> in the top navigation bar of the <b>console</b> and select <b>User Center</b>.</p> <ul style="list-style-type: none"><li>• Low balance alert: After this feature is enabled, notifications are sent to you through text messages if the balance in your Alibaba Cloud account drops below a specified value.</li><li>• Credit: After this feature is disabled, Alibaba Cloud CDN stops running immediately after an overdue payment occurs.</li><li>• High bill alert: After this feature is enabled, notifications are sent to you through text messages if a daily bill reaches a specified amount.</li></ul> <div><p> <b>Note</b> To ensure the integrity of the statistics and the accuracy of the bills, Alibaba Cloud CDN issues the bill about 3 hours after a billing cycle ends. Therefore, the time when the relevant fees are deducted from your account balance may be later than the time when the resources are consumed within the billing cycle. Alibaba Cloud does not provide consumption details of CDN resources in bills because Alibaba Cloud CDN is a distributed service. Other CDN providers adopt similar approaches.</p></div>

## 10.2. Introduction to sandboxes

This topic introduces sandboxes and their features and describes impacts on domain names that are in a sandbox.

### What is a sandbox?

Alibaba Cloud Content Delivery Network (CDN) provides content acceleration service to thousands of accelerated domain names. If an accelerated domain name is under attack, Alibaba Cloud CDN automatically adds the attacked domain name to a sandbox. This ensures that the CDN service of other users can work as expected. If the accelerated domain name is under severe attack, other accelerated domain names under the same account are also added to the sandbox. After an accelerated domain name is added to a sandbox, the domain name may be unavailable for a period of time.

### How do I check whether a domain name is added to a sandbox?

After an accelerated domain name is added to a sandbox, notifications will be sent to you through SMS. You can also log on to the Alibaba Cloud CDN console and check the status of the domain names.

### Can I remove domain names from sandboxes?

To ensure that other users can use their CDN service as expected, you are not allowed to remove domain names from sandboxes.

### What can I do if my accelerated domain name is added to a sandbox?

By default, Alibaba Cloud CDN does not provide protection against attacks. After an accelerated domain is added to a sandbox, the CDN service is not guaranteed and the domain name cannot be removed from the sandbox.

**Notice**

- Alibaba Cloud CDN reserves the right to disable the acceleration service for domain names that are frequently attacked and for domain names that are attacked due to violations of the Alibaba Cloud CDN limits. If your domain name is under attack due to violations of the Alibaba Cloud CDN limits, Alibaba Cloud CDN does not bear any responsibility and all fees incurred are borne by you.
- After an accelerated domain name is added to a sandbox, visits to the accelerated domain name continue to incur data transfer fees.
- If the accelerated region of a domain name is outside mainland China and the domain name does not have an Internet Content Provider (ICP) number, the domain name becomes unavailable after it is added to a sandbox.

# 11.RAM user permission management

## 11.1. Manage Alibaba Cloud CDN as a RAM user

Resource Access Management (RAM) allows you to manage domain names by group. You can grant RAM users permissions on different API operations as needed to regulate access control. This topic describes how to create a RAM user and grant permissions to the RAM user.

### Context

RAM is an Alibaba Cloud service that manages user identities and access permissions on resources. One Alibaba Cloud account can create multiple RAM users and grant permissions to RAM users as needed. RAM allows you to manage permissions that each user has on different resources. For more information, see [What is RAM?](#).

### Procedure

1. Create a RAM user.


For more information, see [Create a RAM user](#).

2. (Optional) Create a custom permission policy about Alibaba Cloud CDN.

RAM provides the following system permission policies: **AliyunCDNFullAccess** and **AliyunCDNReadOnlyAccess**. If you require finer-grained access control, you can create custom permission policies. For more information, see [Use RAM to manage CDN permissions](#).

- For more information about how to grant a RAM user permissions on refreshing and prefetching resources, see [Authorize a RAM user to prefetch and refresh resources](#).
- For more information about how to grant a RAM user permissions on changing the billing method of Alibaba Cloud CDN, see [Revoke the permissions that allow a RAM user to change the metering method](#).

3. Log on to the Alibaba Cloud CDN console as the RAM user.

 **Note** You cannot manage **DCDN** as a RAM user. The procedures for managing other features are the same between a RAM user and an Alibaba Cloud account.

Log on to the Alibaba Cloud Management Console as a RAM user at <http://signin.aliyun.com/customdomain.onaliyun.com/login.htm>. For more information, see [Log on to the Alibaba Cloud Management Console as a RAM user](#).

## 11.2. Authorize a RAM user to prefetch and refresh resources

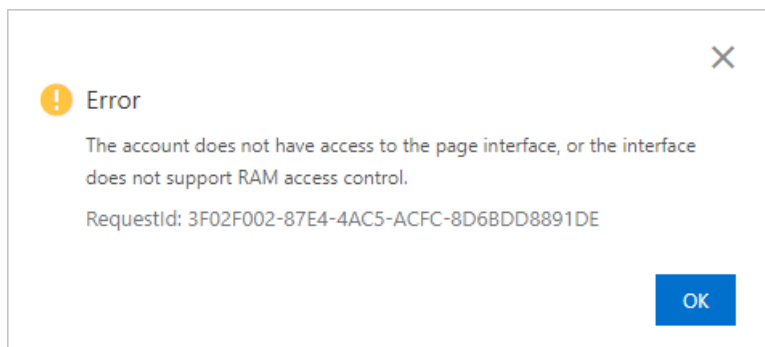
By default, Resource Access Management (RAM) users do not have permissions to prefetch or refresh resources. You can attach system or custom permission policies to a RAM user to allow the RAM user to prefetch and refresh resources.

## Prerequisites

A RAM user is created. If no RAM user is created, create one. For more information, see [Create a RAM user](#).

## Context

By default, RAM users do not have permissions to prefetch or refresh resources. If you log on to the Alibaba Cloud Content Delivery Network (CDN) console and attempt to prefetch or refresh resources as a RAM user, the following error message appears: **The account does not have access to the page interface, or the interface does not support RAM access control.** In this case, you must grant the required prefetch and refresh permissions to the RAM user.



RAM supports two types of permission policy: system permission policy and custom permission policy. You can attach a system or custom permission policy to the RAM to allow the RAM user to prefetch and refresh resources.

- System permission policy

System permission policies are automatically created by Alibaba Cloud and cannot be modified. A system permission policy grants RAM users full permissions on Alibaba Cloud CDN. System permission policies simplify the authorization process. For more information about how to attach a system permission policy to a RAM user, see [Method 1: Attach a system permission policy to a RAM user](#).

- Custom permission policy

You can create, update, and manage custom permission policies based on business requirements. Custom permission policies grant RAM users only specified permissions. For example, you can use a custom permission policy to allow a RAM user only to prefetch and refresh resources, or manage the log storage feature. In this case, the RAM user does not have permissions to perform operations other than the authorized ones. For more information about how to attach a custom permission policy to a RAM user, see [Method 2: Attach a custom permission policy to a RAM user](#).

## Method 1: Attach a system permission policy to a RAM user

1. Log on to the [RAM console](#).
2. In the left-side navigation pane, choose **Identities > Users**.
3. On the Users page, find the RAM user to which you want to grant permissions and click **Add Permissions** in the **Actions** column.

Create User Enter the User Logon Name, User ID or AccessKey ID					
<input type="checkbox"/>	User Logon Name/Display Name	Note	Last Login Date <sup>(1)</sup>	Created <sup>(1)</sup>	Actions
<input type="checkbox"/>	@1412009727186595.onaliyun.com		-	Jun 18, 2021, 13:37:11	<a href="#">Add to Group</a> <a href="#">Add Permissions</a> <a href="#">Delete</a>
<input type="checkbox"/>	@1412009727186595.onaliyun.com		Jun 22, 2021, 17:59:06	Jan 27, 2021, 14:40:22	<a href="#">Add to Group</a> <a href="#">Add Permissions</a> <a href="#">Delete</a>

4. In the **Add Permissions** panel, set the following parameters.

**Add Permissions**

! Before you grant permissions on a specified resource group for an Alibaba Cloud service, make sure that the Alibaba Cloud service supports resource groups. Click [here](#) to view Alibaba Cloud services that support resource groups. You can add a maximum of 5 policies at a time. To add more policies, repeat the operations.

\* Authorized Scope

☒ Alibaba Cloud Account 1

☐ Specific Resource Group

Enter a resource group name. ▾

\* Principal

@1412009727186595.onaliyun.com X

\* Select Policy

System Policy 2 Custom Policy + Create Policy

AliyunCDN 3

Authorization Policy Name	Description
AliyunCDNFullAccess 4	Provides full access to Alibaba Cloud CDN via...
AliyunCDNReadOnlyAccess	Provides read-only access to Alibaba Cloud CD...

Selected (1) Clear

AliyunCDNFullAccess X

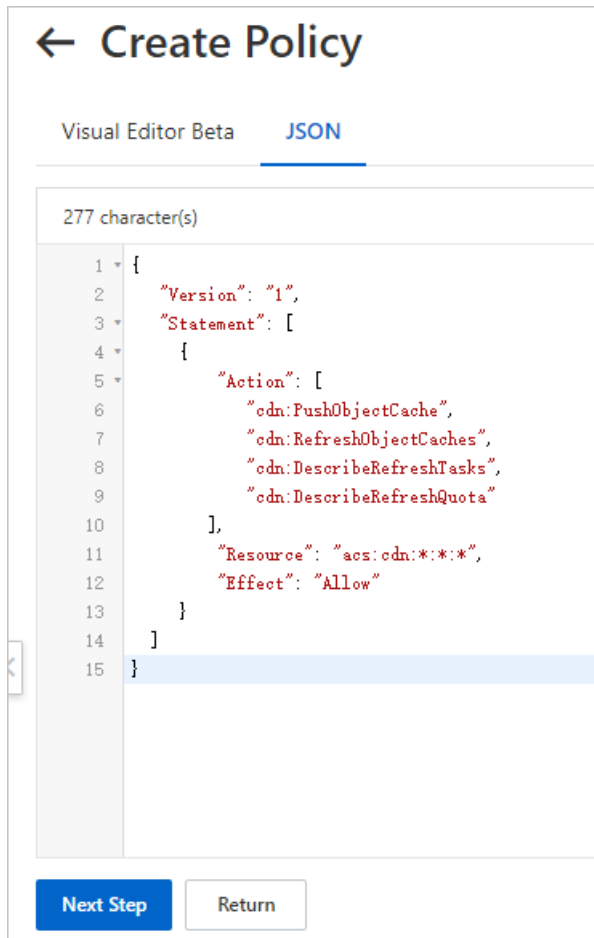
- Set Authorized Scope to **Alibaba Cloud Account**.
- Click the **System Policy** tab.
- Enter *AliyunCDN* in the search box. The system automatically displays all permission policies that are related to Alibaba Cloud CDN.
- Click **AliyunCDNFullAccess** to add the policy to the **Selected** list.

? **Note** The **AliyunCDNFullAccess** permission policy grants the RAM user full permissions on Alibaba Cloud CDN. The RAM user has permissions to call CDN API operations and manage all accelerated domain names.

- Click **OK**.
- Click **Complete**.

## Method 2: Attach a custom permission policy to a RAM user

- Create a custom permission policy.
  - Log on to the **RAM console**.
  - In the left-side navigation pane, choose **Permissions > Policies**.
  - On the Policies page, click **Create Policy**.
  - Choose **JSON**.



← Create Policy

Visual Editor Beta **JSON**

277 character(s)

```

1 {
2   "Version": "1",
3   "Statement": [
4     {
5       "Action": [
6         "cdn:PushObjectCache",
7         "cdn:RefreshObjectCaches",
8         "cdn:DescribeRefreshTasks",
9         "cdn:DescribeRefreshQuota"
10      ],
11      "Resource": "acs:cdn:*:*:*",
12      "Effect": "Allow"
13    }
14  ]
15 }

```

Next Step Return

Enter the following content. This permission policy grants the RAM user permissions on the prefetch and refresh API operations. The RAM user can call API operations to prefetch or refresh resources.

```

{
  "Version": "1",
  "Statement": [
    {
      "Action": [
        "cdn:PushObjectCache",
        "cdn:RefreshObjectCaches",
        "cdn:DescribeRefreshTasks",
        "cdn:DescribeRefreshQuota"
      ],
      "Resource": "acs:cdn:*:*:*",
      "Effect": "Allow"
    }
  ]
}

```

 **Note**

- All API operations of Alibaba Cloud CDN can be defined in custom permission policies. You can add other API operations to custom permission policies based on your business requirements. After you attach these policies to RAM users, the RAM users have permissions to call the specified API operations. For more information about the actions that you can authorize RAM users to perform, see [RAM authorization](#).
- The policy content must be expressed in a specific syntax structure to describe the authorized resource sets, operation sets, and authorization conditions. For more information, see [Policy structure and syntax](#) and [Policy elements](#).



vi. Click **Next Step**, set the basic information.

Parameter	Description
<b>Name</b>	Enter a name that is descriptive and easy to identify. <i>AliyunCdnRefresh</i> is used in this example.
<b>Note</b>	Optional. Enter remarks for the permission policy.

vi. Click **OK**.

2. Grant permissions to the RAM user.

- Log on to the [RAM console](#).
- In the left-side navigation pane, choose **Identities > Users**.
- On the Users page, find the RAM user to which you want to grant permissions and click **Add Permissions** in the **Actions** column.

Create User					
Enter the User Logon Name, User ID or AccessKey ID					
<input type="checkbox"/>	User Logon Name/Display Name	Note	Last Login Date	Created	Actions
<input type="checkbox"/>	 1412009727186595.onaliyun.com		-	Jun 18, 2021, 13:37:11	<a href="#">Add to Group</a> <a href="#">Add Permissions</a> <a href="#">Delete</a>
<input type="checkbox"/>	 1412009727186595.onaliyun.com		Jun 22, 2021, 17:59:06	Jan 27, 2021, 14:40:22	<a href="#">Add to Group</a> <a href="#">Add Permissions</a> <a href="#">Delete</a>

iv. In the **Add Permissions** panel, set the following parameters.

Add Permissions

Before you grant permissions on a specified resource group for an Alibaba Cloud service, make sure that the Alibaba Cloud service supports resource groups. Click [here](#) to view Alibaba Cloud services that support resource groups. You can add a maximum of 5 policies at a time. To add more policies, repeat the operations.

\* Authorized Scope

☒ Alibaba Cloud Account  
☐ Specific Resource Group

Enter a resource group name.

\* Principal

@1412009727186595.onaliyun.com

\* Select Policy

System Policy Custom Policy + Create Policy

AliyunCdnRefresh

Authorization Policy Name	Description
AliyunCdnRefresh	

Selected (1) Clear

AliyunCdnRefresh

Parameter	Description
<b>Authorized Scope</b>	Select <b>Alibaba Cloud Account</b> , which specifies that the authorized scope is all resources that belong to the current Alibaba Cloud account. Do not select <b>Specific Resource Group</b> .
<b>Principal</b>	The current RAM user is selected by default.
<b>Select Policy</b>	Click the <b>Custom Policy</b> tab. Enter the name of the custom permission policy created in <a href="#">Step 1</a> . The name of the custom permission policy in this example is <i>AliyunCdnRefresh</i> . After the system displays the policy, click its name to add it to the <b>Selected</b> list.

v. Click **OK**.

vi. Click **Complete**.

## What's next

[Log on to the Alibaba Cloud Management Console as a RAM user](#)

# 11.3. Revoke the permissions that allow a RAM user to change the metering method

You can create a custom policy in the Resource Access Management (RAM) console to revoke the permissions that allow a RAM user to change the metering method of Alibaba Cloud CDN. This topic describes how to create a custom policy in RAM to revoke the permissions on changing the metering method.

## Context

Alibaba Cloud CDN allows you to create RAM users to manage different types of workloads. RAM users that are granted the AliyunCDNFullAccess policy have full permissions on Alibaba Cloud CDN. For example, they can view data, manage domain names, and change the metering method of Alibaba Cloud CDN. If you want to revoke the permissions on changing the metering method but retain other permissions for a RAM user, you must create a custom policy in the RAM console. For more information about RAM user permissions, see [View the permissions of a RAM user](#).

## Procedure

1. Create a custom policy.
  - i. Log on to the [RAM console](#) with your Alibaba Cloud account.
  - ii. In the left-side navigation pane, choose **Permissions > Policies**.
  - iii. On the **Policies** page, click **Create Policy**.
  - iv. On the **Create Custom Policy** page, configure a custom policy.

Parameter	Description
<b>Policy Name</b>	Enter an informative name for easy identification. For example, you can name the policy RevokeMeteringMethodPermission.
<b>Note</b>	Optional. Enter remarks for the permission policy.


Parameter	Description
Configuration Mode	<p>Select <b>Script</b>. The following script is used to revoke the permissions on changing the metering method and retain other permissions:</p> <pre> {   "Statement": [     {       "Action": "cdn:*",       "Resource": "*",       "Effect": "Allow"     },     {       "Action": [         "cdn:OpenCdnService",         "cdn:ModifyCdnService"       ],       "Resource": "*",       "Effect": "Deny"     },     {       "Action": "ram:CreateServiceLinkedRole",       "Resource": "*",       "Effect": "Allow",       "Condition": {         "StringEquals": {           "ram:ServiceName": [             "cdn-waf.cdn.aliyuncs.com",             "cdn-ddos.cdn.aliyuncs.com"           ]         }       }     }   ],   "Version": "1" }</pre> <div>  <b>Note</b> <ul style="list-style-type: none"> <li>For more information about how to use the <code>Action</code> or <code>Resource</code> elements, see <a href="#">Policy elements</a>.</li> <li>You can also select <b>Visualized</b> and then click <b>Add Statement</b> to add custom statements.</li> </ul> </div>
Policy Document	Enter the content of the policy.

v. Click **OK**.

2. Attach the custom permission policy to a RAM user.

i. Log on to the [RAM console](#) with your Alibaba Cloud account.

- ii. Create a RAM user. This step is optional. For more information, see [Create a RAM user](#).

 **Note** If you have already created a RAM user, skip this step.

- iii. In the left-side navigation pane, choose **Identities > Users**.
- iv. On the Users page, find the RAM user to which you want to attach the permission policy and click **Add Permissions**.
- v. In the Add Permissions panel, set the following parameters.

Parameter	Description
<b>Authorized Scope</b>	Select <b>Alibaba Cloud Account</b> , which specifies that the authorized scope is all resources that belong to the current Alibaba Cloud account.
<b>Principal</b>	The RAM user created in the previous step is automatically selected.
<b>Select Policy</b>	Select <b>Custom Policy</b> . Search for the custom policy that was created in the <a href="#">Create a custom policy</a> step and click the policy name to add it to the right-side list. In this example, the name of the custom policy is <code>RevokeMeteringMethodPermission</code> .

- vi. Click **OK**.
- vii. Click **Complete**.

## 12.FAQ about service management

This topic provides answers to some frequently asked questions about the security features of Alibaba Cloud CDN.