

TDMQ for Apache Pulsar

Operation Guide

Product Documentation



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Operation Guide

Cluster Management

Creating Cluster

Last updated : 2024-06-28 11:31:37

Overview

Cluster is a resource dimension in TDMQ for Apache Pulsar, and namespaces, topics, and role permissions of different clusters are completely isolated from each other. Each cluster has its own resource limits, such as the total number of topics and message retention period. It is common for the development, test, and production environments to use their respective dedicated clusters.

Clusters are divided into virtual clusters and professional clusters:

Virtual cluster: Virtual computing and storage resources are used and automatically allocated based on usage.

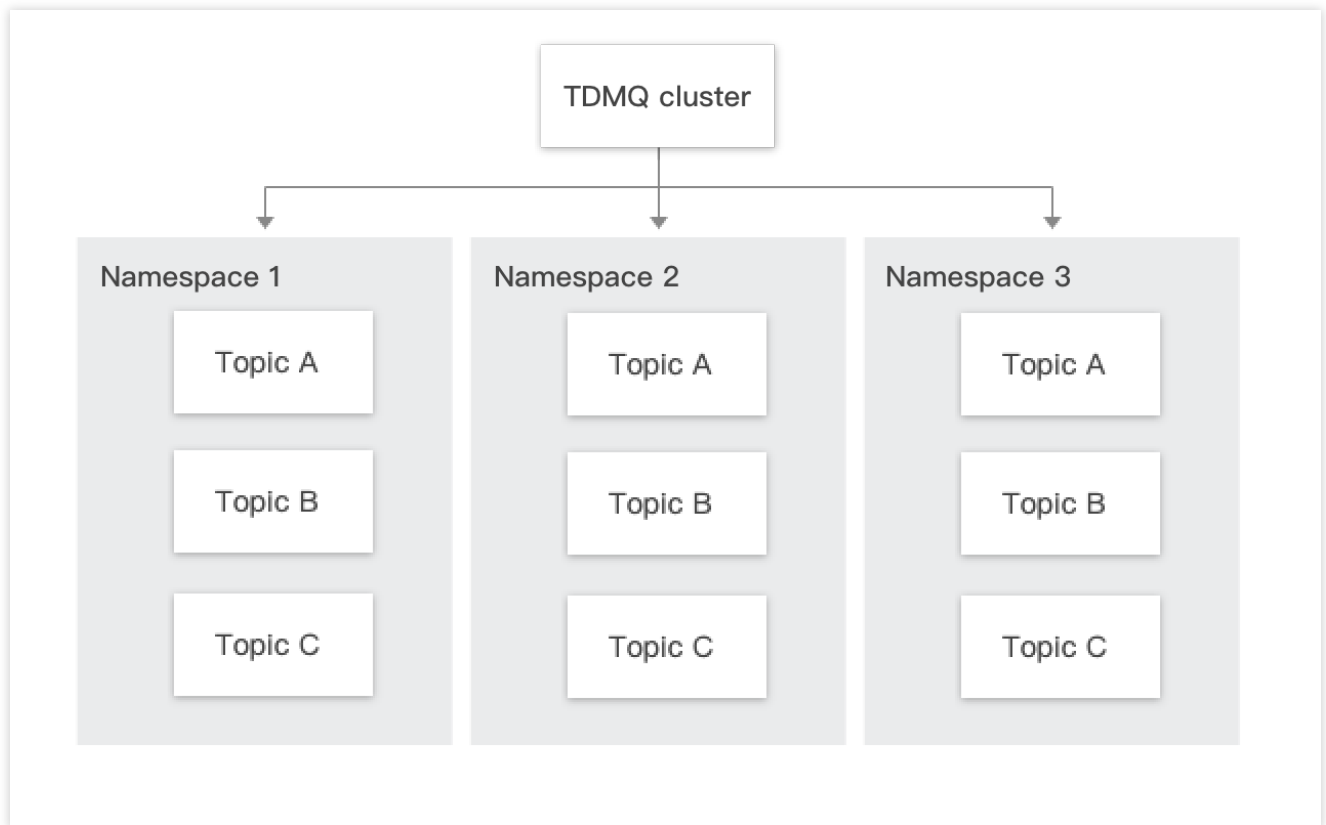
There are certain use limits. You don't need to pay for resources, and you can create up to 5 virtual clusters under each account.

Professional cluster: Physical resources are exclusive, and data is secure. There are almost no use limits. Resource usage fees will be charged even if resources are idle.

Note:

Currently, clusters are available in multiple versions. For more information, see [Cluster Version Updates](#).

TDMQ for Apache Pulsar resource hierarchy



Directions

Creating a cluster

1. Log in to the [TDMQ for Apache Pulsar console](#) and enter the **Cluster** page.
2. On the **Cluster** page, select the region and click **Create Cluster** to enter the **Create Cluster** window.
3. In the **Create Cluster** window, select the cluster type and set the cluster attributes:

Cluster type: For a comparison of the differences between virtual clusters and pro clusters, see [Product Selection](#).

Billing mode: Virtual clusters support the pay-as-you-go, whereas pro clusters support the monthly subscription. For more details, see [Billing Overview](#).

Region: Select a region closest to your business. Cloud products in different regions cannot communicate over the private network. The choice cannot be changed after purchase. Choose with caution. For example, cloud servers in the Guangzhou region cannot access clusters in the Shanghai region over the private network. For cross-region private network communication, see [Peering Connection](#).

Deployment mode: The po cluster supports deployment in three different availability zones. This feature is in public beta and currently not charged. For more details, see [Cross Availability Zone Deployment](#).

Cluster specification: Select the cluster specifications that suit your business needs. For a description of different cluster configurations, see [Pro Cluster Specifications](#).

Storage specification: Select the storage specifications that suit your business needs. The Pulsar pro cluster is deployed with 3 replicas by default.

Virtual Private Cloud: Bind the newly purchased cluster's access point domain name to the specified Virtual Private Cloud.

Public network access: It is not enabled by default. To enable it, [submit a ticket](#) for application. We recommend you only enable this option for development and test clusters as it cannot be disabled once enabled.

Cluster name: Set the name of the environment, which can contain up to 64 digits, letters, and special symbols (-_=:.).

Resource tag: Set a resource tag. For more information, see [Managing Resource with Tag](#).

4. Select **I have read and agree to TDMQ Terms of Service**, and then click **Buy Now**.

5. On the order payment page, click **Pay**, and within 3-5 minutes, the created cluster will be visible on the cluster management list page.

Note:

Each user can create up to 5 virtual clusters.

Cluster

Guangzhou

Virtual Cluster

Pro cluster

Create Cluster

Edit Resource Tag

Search by keyword

<input type="checkbox"/>	Cluster ID/...	Version	Status ▼	Cluster Specification	Network	Billing Mode	Resource Tag
<input type="checkbox"/>	<div><div>pulsar-</div><div>test-</div></div>		Normal	PULSAR.P1.MINI2	<div>VPC<div>vpc-</div></div> <div>Subnet<div>su-</div></div>	<div>Monthly subscription</div> <div>Renew</div> <div>Expire at 2024-05-08 15:00:52</div>	<div></div>

Subsequent steps

1. [Get the access address](#) to get the connection information of the server.
2. Create a namespace as instructed in [Namespace](#) in the cluster.
3. Create a role as instructed in [Role and Authentication](#) in the cluster and grant it the production/consumption permissions of the namespace.
4. Create a topic as instructed in [Topic Management](#) in the namespace.
5. Write a demo as instructed in [SDK Overview](#) and configure the connection information and token for message production/consumption.

Viewing cluster details

On the **Cluster Management** list page, click the ID of the target cluster to enter the cluster details page, where you can view the following information:

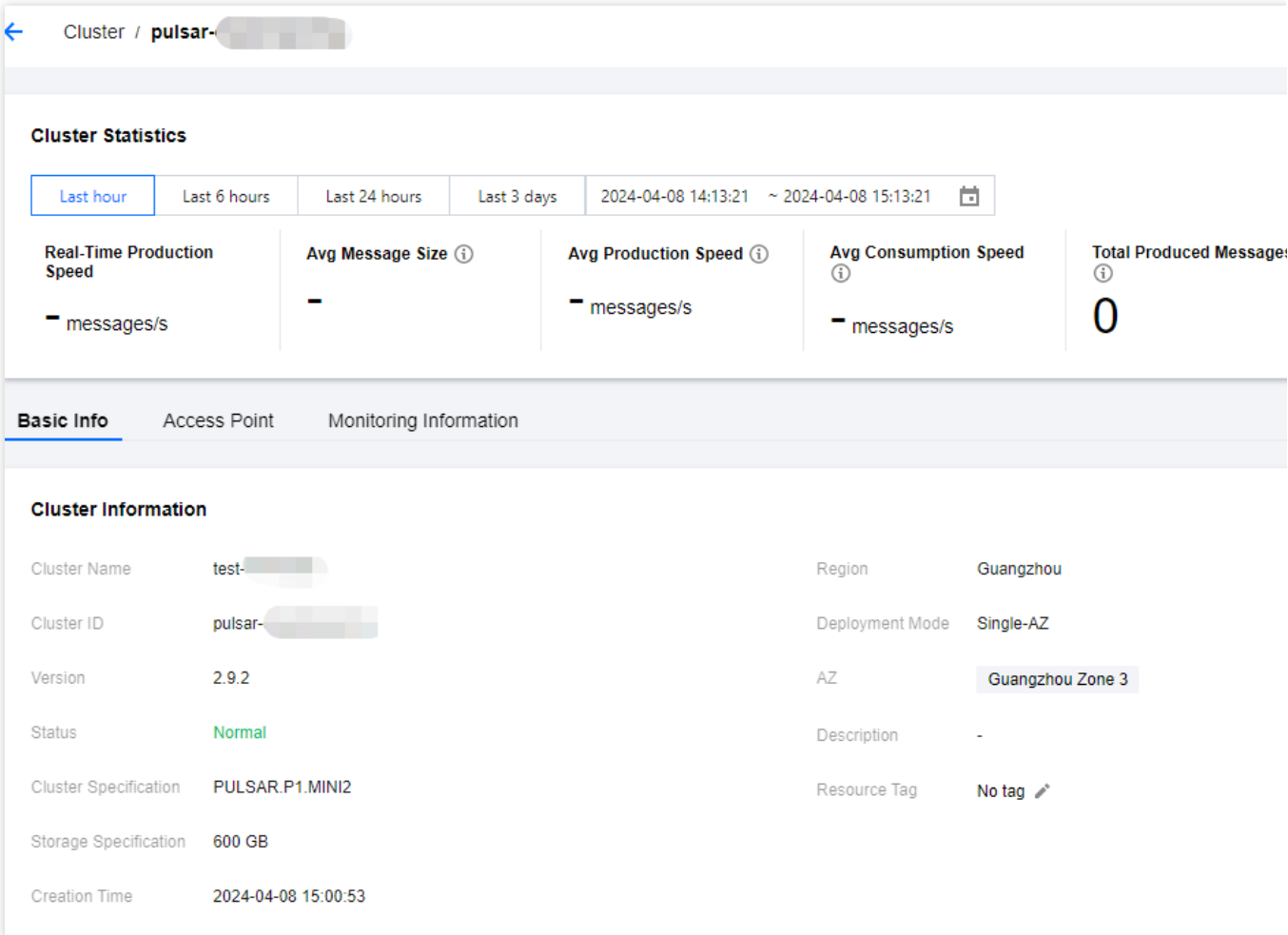
Professional Cluster

Virtual Cluster

Metrics	Description
Real-Time Production	The number of messages produced to the cluster per second at the current time.

Speed	
Average Message Size	The average size of message data within the selected time range, including the size of the message header and body.
Average Production Speed	The average rate at which messages are produced to the cluster within the selected time range.
Average Consumption Speed	The average rate at which the cluster pushes messages to clients within the selected time range.
Total Produced Messages	The number of messages produced to the cluster within the selected time range.
Storage Use	At the last time point of the selected time range, the actual size of message data consumed by storage. (This value changes only with the end point of the time range).

Basic information of the cluster: cluster name/ID, version, access address, region, cluster specification, billing mode, etc.



Cluster statistics: Displays the average message size, average production and consumption rate, number of produced messages, and cumulative storage duration within a specific time range.

Note :

Statistics data is not supported for clusters on version 2.6.x.

Metrics	Description
Average Message Size	The average size of message data within the selected time range, including the size of the message header and body.
Production Speed	The average rate at which messages are produced to the cluster within the selected time range.
Consumption Speed	The average rate at which the cluster pushes messages to clients within the selected time range.
Produced Messages	The number of messages produced to the cluster within the selected time range.
Actual Storage Usage	At the last time point of the selected time range, the actual size of message data consumed by storage. (This value changes only with the end point of the time range).

Basic information of the cluster: Cluster name/ID, version, access address (can only view in clusters v2.7.1 and above), region, billing mode, creation time, description, resource tags.

Cluster configuration:

Cluster Overview

Access Point

Cluster Statistics

Last 24 hours

Last 3 days

Last 7 days

2024-04-07 16:23:43 ~ 2024-04-08 16:23:43

Avg Message Size

Production Speed

Consumption Speed

Produced Messages

-

messages/s

messages/s

0

Basic Info

Delete

Name

ID

Version

VPC Access Address

Public Network Access Address

Region

Billing Mode

Creation Time

Description

Resource Tag

Test

pulsar-

2.9.2

http://g-

This option is disabled by default. To enable it, [submit a ticket](#)

Guangzhou

Pay as you go

2023-07-19 17:45:54

No tag

Cluster Configuration

Max Production TPS per Topic Partition

Max Consumption TPS per Topic Partition

Max Production Bandwidth per Topic Partition

Max Consumption Bandwidth per Topic Partition

Max Namespaces

Max Topics

Max Message Storage

Max Retention Period

Max Message Delay

5000 messages/s

10000 messages/s

50 MB/s

50 MB/s

50(0 used/50)

1000(0 used/1000)

100 GB(0.00% allocated)

15 days

10 days

Cluster Configuration	Configuration Instructions
Max Production TPS per Topic Partition	Maximum number of messages that can be produced per second per single Topic partition.
Max Consumption TPS per Topic Partition	Maximum number of messages that can be pushed to the client per second per single Topic partition.
Max Production Bandwidth per Topic Partition	Maximum message size that can be produced per second per single Topic partition.
Max Consumption Bandwidth per Topic Partition	Maximum message size that can be pushed to the client per second per single Topic partition.
Max Namespaces	Maximum number of namespaces that can be created within a cluster.
Max Topics	Maximum number of Topics that can be created per namespace.

Max Message Storage	Maximum disk capacity used by message backlog, exceeding this will prevent the production of new messages (under normal circumstances, message backlog should not be too large. If such a situation occurs, check whether the business is normally consuming messages).
Max Retention Period	Maximum message retention period that can be configured. A shorter period can be configured at the namespace level.
Max Message Delay	Maximum message consumption time delay.

Getting the access address

On the **Cluster Management** list page, click **Access Address** in the **Operation** column of the target cluster. You can get the access address in the following ways:

Note:

A cluster can be configured with multiple access points. Currently only VPC network access is supported. For configuration method, see [VPC Access](#).

The screenshot shows the Tencent Cloud console interface for managing Pulsar clusters. At the top, there are tabs for 'Virtual Cluster' and 'Pro cluster'. Below the tabs, there are buttons for 'Create Cluster' and 'Edit Resource Tag'. A search bar is also present. The main table lists clusters with columns: Cluster ID/Name, Version, Status, Cluster Specification, Network, Billing Mode, and Resource Tag. A cluster named 'pulsar-test' is shown with version 2.9.2 and status 'Normal'. The 'Network' column indicates 'VPC' and 'Subnet'. On the right side, a sidebar shows the 'API Call Address' section, which includes 'VPC Access Address' and 'Public Network Access Address'. The 'Public Network Access Address' is disabled by default, with a link to 'submit a ticket'.

Pro Cluster Send-Receive Ratio Configuration

Configuration path: **Pro Cluster Details** > **Basic Information** > **Cluster Configuration** > **Send-Receive Ratio Configuration Item**. At the top right corner, click **Edit** for configuration.

Upgrading Cluster

Last updated : 2024-06-28 11:31:36

Overview

If the current cluster specifications and storage specifications do not meet your business needs, you can upgrade both the cluster specifications and storage specifications in the console.

Note:

Currently, only pro clusters support upgrading cluster specifications. Virtual clusters do not support this upgrade. Theoretically, the upgrade process should be seamless for the business. However, during server-side Rebalance Topic operations, clients may experience disconnections followed by reconnections.

Directions

1. Log in to the [TDMQ for Apache Pulsar console](#).
2. In the left sidebar, choose **pulsar** > **Cluster Management**. In the cluster management list, find the target cluster, and click the operation column's **More** > **Upgrade**.

The screenshot displays the 'Cluster Management' interface in the Tencent Cloud console. At the top, there are tabs for 'Virtual Cluster' and 'Pro cluster', with 'Pro cluster' being the active tab. Below the tabs, there are buttons for 'Create Cluster' and 'Edit Resource Tag', and a search bar labeled 'Search by keyword'. The main area contains a table with the following columns: 'Cluster ID/Name', 'Version', 'Status', 'Cluster Specification', 'Network', 'Billing Mode', and 'Resource Tag'. A single cluster is listed with the ID 'pulsar-...', version '2.9.2', status 'Normal', specification 'PULSAR.P1.MINI2', and a 'Monthly subscription' billing mode with a 'Renew' button and an expiration date of '2024-05-08 16:37:07'. At the bottom, it shows 'Total items: 1' and a pagination control set to '20 / page'.

Cluster ID/Na...	Version	Status	Cluster Specification	Network	Billing Mode	Resource Tag
pulsar-...	2.9.2	Normal	PULSAR.P1.MINI2	VPC vpc-... Subnet sub-...	Monthly subscription Renew Expire at 2024-05-08 16:37:07	

3. After selecting the target cluster specifications, click **Confirm Adjustment**.

Adjust Configuration

Current Configuration	Cluster Specification	Storage Specification	Expiration Time
	PULSAR.P1.MINI2	200GB × 3	2024-05-08 16:37:07

Target Cluster Specification	PULSAR.P1.MINI2	PULSAR.P1.SMALL4	PULSAR.P1.SMALL6	PULSAR.P1.LARGE2
	PULSAR.P1.MEDIUM15	PULSAR.P1.MEDIUM20	PULSAR.P1.MEDIUM40	PULSAR.P1.LARGE40
	PULSAR.P1.MEDIUM100	PULSAR.P1.LARGE150	PULSAR.P1.LARGE200	PULSAR.P1.LARGE400
	PULSAR.P1.LARGE600	PULSAR.P1.LARGE1000		

PULSAR.P1.SMALL4 specification: Total messaging TPS: 4000, peak bandwidth: 90 MB/s
Note: The messaging TPS is calculated with a message size of 4 KB as the unit. The calculation rules for API call: general and special messages. For detailed rules, see [Billing Overview](#).

Target Storage Specification	<div><div>−</div><div>200</div><div>+</div></div> GB × 3
TDMQ for Pulsar pro cluster is deployed with 3 replicas by default, and the storage fees are the unit price multiplied by 3.	

Configuration Upgrade Fees 26USD/month

Confirm the Adjustment

Cancel

Returning Cluster

Last updated : 2024-06-28 11:31:37

Overview

You can delete a TDMQ for Apache Pulsar cluster when it is no longer needed.

The lifetime of a TDMQ for Apache Pulsar cluster refers to the states a cluster goes through from startup to release. By managing the cluster reasonably from startup to deletion, you can ensure that applications running on the cluster can provide services efficiently and economically. The cluster has the following statuses:

Status	Attribute	Description
Creating	Intermediate status	After the cluster is created, it enters the status before running.
Normal	Steady status	The cluster is in a normal operating status, indicating that the condition of your nodes, disk utilization rate, and other metrics are all within the normal range.
Deleting	Intermediate status	The cluster is being deleted through the console or API.
Isolated	Intermediate status	The cluster is overdue and has entered a 7-day isolation period. Instances in isolation cannot produce or consume, and data and configurations saved within the cluster will not be deleted.
Provisioning Failed	Intermediate status	You have purchased a cluster through the console or API and the charge was successful, but the cluster allocation failed. In this case, contact us .
Deletion Failed	Steady status	The cluster was manually deleted or not renewed within 7 days of its expiration, resulting in TDMQ for Apache Pulsar failing to release resources.

Directions

Manual Deletion

For clusters that have not yet expired, you can choose to manually delete them. The steps are as follows:

1. Log in to the [TDMQ for Apache Pulsar console](#).
2. In the left sidebar, choose **Pulsar > Cluster Management**. On the cluster management page, click the operation column's **More> Return**.
3. In the instance termination confirmation pop-up, check the Refund Information, and click **Return** to delete the cluster.

Terminate Instance

You have selected 1 instance. [View Details](#) ▲

No.	Cluster ID	Cluster Name	Operati
1	pulsar-zpqazwwgrbre	test-huanhuan	Can be

Are you sure you want to terminate the selected TDMQ for Pulsar instance?

- Once terminated, all data will be cleared and cannot be recovered. Please back up your data in advance.
- After the resources are terminated, the normal refund will be returned to your account based on the proportion and free credits paid for the purchase.
- The discount or voucher you used when purchasing the instance is **not refundable**.

Refund Policy ☒ I have read and agree to [Refund Policy](#) [↗](#)

Return

Cancel

Note:

After termination, all data will be cleared and cannot be recovered. Backup data in advance.

Automatic Deletion upon Expiration/Overdue

After an instance expires/is overdue, it can be retained in the console for up to 7 calendar days. If you complete the renewal within 7 days after expiry, you can continue to use it. For more details, see [Payment Overdue](#).

If you do not renew your TDMQ for Apache Pulsar cluster within 7 days (including the 7th day) of its expiration, the system will start releasing resources at midnight on the 8th day after expiration. The data in the expired instances will be cleared and cannot be recovered.

Note:

Clusters in a quarantined state cannot produce or consume, but the data and configurations saved within the cluster will not be deleted.

For clusters in a quarantined state within 7 days, you can go to the cluster list page in the console, and click Renew in the operation column. Once the renewal is successful, the cluster will return to a running state and can be used normally.

VPC Access

Last updated : 2024-06-28 11:31:36

Overview

This document describes how to implement mutual access between the resources in your current VPC and TDMQ for Apache Pulsar. Therefore, it can be ensured that the deployed producer/consumer clients can properly communicate with TDMQ for Apache Pulsar.

Prerequisites

You have purchased CVM or TKE resources and configured a VPC.

Directions

1. Log in to the [TDMQ for Apache Pulsar console](#). Enter the **Cluster Managent** page, and click the ID of the target cluster to enter the basic information page.
2. Select the **Access Point** tab, and click **Create**. In the new VPC access point dialog box, select the VPC and subnet, and fill in the remarks.

VPC: Select the VPC network where your deployed producer or consumer resides.

Subnet: Select the subnet according to your IP allocation method.

3. Click **Submit** to complete the access to the VPC network.

Create Access Point

Route Type

VPC Network

VPC

vp

If no suitable networks are available, you can [create a VPC](#).

Subnet

sl

If no suitable subnets are available, you can [create one](#).

OK

Cancel

4. Configure a security group policy. Ensure that the security group hosting the test program allows traffic through on TCP ports 6000-7000.

Note

You can copy the access point address from the address bar within the access point list. For detailed information, see [SDK Overview](#).

Direct Connection/Cross-Region Access

Last updated : 2024-08-19 16:20:04

Background

VPC access points provided by the TDMQ for Apache Pulsar only support client access in the same region VPC network. Users accessing through Direct Connect or across regions cannot directly access through the VPC access point.

For users in the above-mentioned access scenario, they need to configure the domain name parsing of the access point to gain access.

Access Through Direct Connect

Step 1: Obtaining the VIP Address of the Cluster Access Point

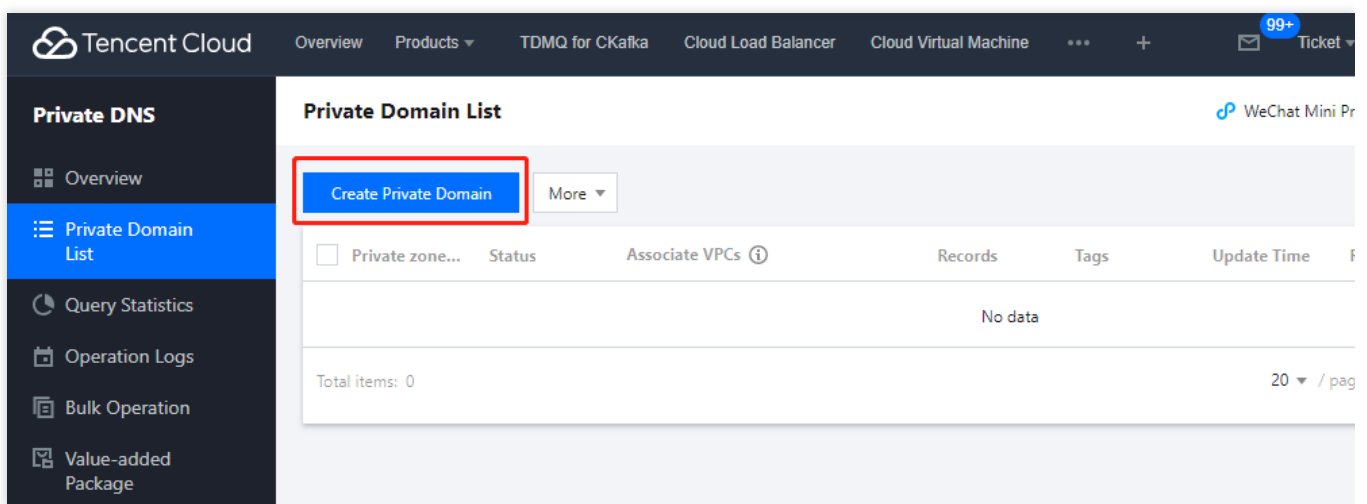
The current feature has not yet been productized, and the VIP Address can be accessed through [submitting a ticket](#) or post-sales architecture.

Step 2: Configuring Domain Name Parsing

Use Private DNS for domain name parsing, and configure the domain name to parse to the VIP provided by the product side.

1. Creating a Private Domain

Click to enter the [Private DNS Console](#), and then click **Private Domain List**.



Enter the creation page.

Tencent Cloud Overview Products TDMQ for CKafka Cloud Load Balancer Cloud Virtual Machine 99+ Ticket

Private DNS

- Overview
- Private Domain List**
- Query Statistics
- Operation Logs
- Bulk Operation
- Value-added Package

Create Private Domain

Domain:

Only supports domains that can be registered on the public network, that is, comply with IANA standards, such as .com, .cn, .net, .org, .edu, .gov, .mil, .int, .arpa, .id, .info, .biz, .us, .uk, .de, .fr, .it, .jp, .kr, .au, .br, .ca, .ch, .cl, .co, .cz, .dk, .fi, .gr, .hk, .hu, .in, .io, .is, .it, .jp, .kr, .kz, .lt, .lv, .lu, .ly, .ma, .me, .mg, .mk, .ml, .mn, .mo, .mp, .mq, .mr, .ms, .mt, .mv, .mw, .mx, .my, .nz, .om, .pe, .pg, .ph, .pk, .pl, .pt, .py, .ro, .rs, .ru, .sa, .sc, .sd, .se, .sg, .sh, .si, .sk, .sl, .sm, .sn, .so, .sr, .st, .sv, .sw, .sx, .sy, .sz, .td, .tg, .th, .tk, .tl, .tm, .tn, .to, .tr, .tt, .tv, .tw, .tz, .ua, .ug, .us, .uy, .uz, .ve, .vg, .vi, .vn, .vu, .wf, .ws, .ye, .yt, .za, .zm, .zw.

Associate VPCs

Select Account: 35 [redacted] com) (current account) + Add Account

Select VPCs: China(Hong Kong) Enter an ID/name

ID/Name	Region
<input type="checkbox"/> vpc-3a1oai8o test	China(Hong Kong)

Selected (0)

ID/Name

If the existing VPCs do not meet your needs, go to the [VPC console](#)

Tags (Optional): Tag Key Tag Value + Add Paste

If you have not created any tag or the existing tags do not meet your needs, go to the [Tag console](#) to create or manage tags.

Remarks (Optional): Max 60 characters

CNAME flattening ☐ Disable ☒ Enable

Subdomain Recursive DNS ☐ Disable ☒ Enable

Confirm Cancel

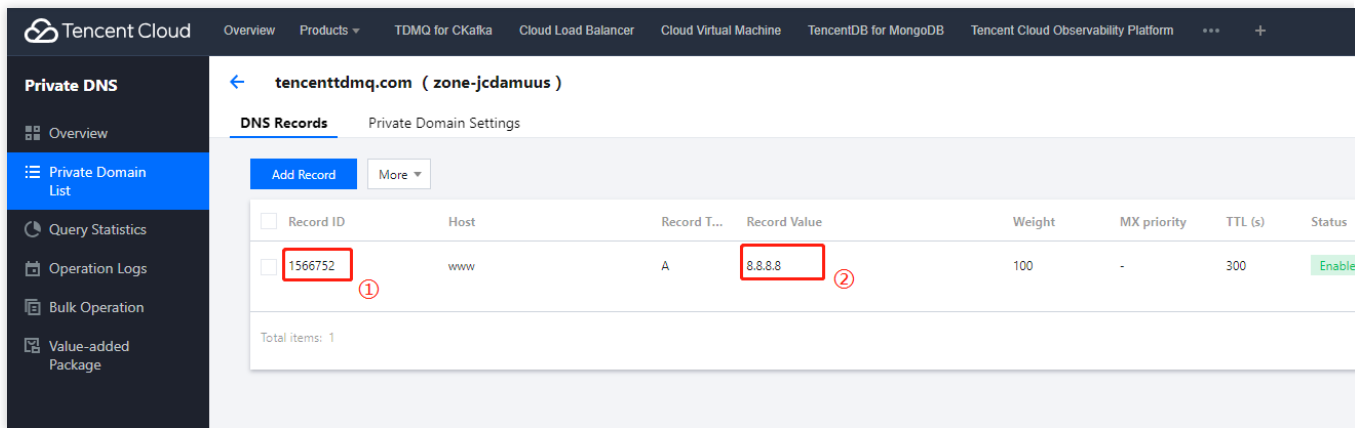
In section 1, fill in the TDMQ for Apache Pulsar access point domain name.

In section 2, configure the region and VPC network where the client is located.

In section 3, enable recursive parsing of subdomains.

2. Adding Domain Name Parsing Records

After creation, click to enter the created private domain and set the domain name parsing records.



In section 1, fill in the domain name prefix. It is recommended that the field be cluster id.vpcid.pulsar.ap-region.qcloud.

In section 2, fill in the VIP provided by the product side.

After you fill in the information, save and submit. Then, the client will request verification.

Cross-Region Access

Cross-region access requires using the [Cloud Connect Network](#) product to establish a network access channel.

For details on the configuration, please see the Cloud Connect Network [Operation Guide](#), and follow these directions:

1. [Create a Cloud Connect Network instance](#)
2. [Associating a Network Instance](#)

Namespace

Last updated : 2024-06-28 11:31:36

Overview

Namespace is a resource management concept in TDMQ for Apache Pulsar. It can typically be used to isolate different business scenarios and to configure dedicated settings, such as message retention period. Different namespaces are isolated from each other in terms of topics, subscriptions, and role permissions.

This document describes how to create multiple namespaces in TDMQ for Apache Pulsar to use the same TDMQ for Apache Pulsar cluster in different scenarios.

Note:

Topic and subscription names must be unique in the same namespace.

Directions

Note:

If the TDMQ for Apache Pulsar cluster you create is on v2.6.1, a default namespace called `default` will be created with a default message TTL of 7 days. This namespace can be modified but not deleted.

If the TDMQ for Apache Pulsar cluster you create is on v2.7.1 or later, no default namespace will be automatically created.

Creating a namespace

1. Log in to the [TDMQ for Apache Pulsar console](#) and enter the **Namespace** page.
2. On the **Namespace** page, select a region and click **Create**.
3. In the **Create Namespace** dialog box, configure the namespace attributes:

Namespace Name: Enter the namespace name, which is required and cannot be modified after creation. The name can contain up to 128 letters, digits, and symbols "-_=:."

Message TTL: Set the acknowledgement timeout for an unconsumed message. The message will not be processed if it is not acknowledged within the timeout. Value range: 60 seconds to 24 hours.

Message retention policy

Deletion after consumption: Messages will be cleared within a certain period of time after being acknowledged successfully to save storage space.

Note:

If there are no subscriptions under a topic, the messages just produced will be asynchronously cleared.

Persistent retention: No matter whether messages are consumed or not, they will be stored persistently within the maximum retention period and maximum storage space and then deleted chronologically after the limit is reached.

Auto-Create Subscription: Whether a subscription can be automatically created by the client.

Description: Enter the namespace descriptions.

4. Click **Save**.

Create ✕

Namespace Name *

This field is required and can contain up to 128 digits, letters, or symbols (-_=:.).

Message TTL * hour ▼

ACK timeout of an unconsumed message. The message will not be processed if it is not acknowledged within the ACK timeout. Range: 60 seconds-15 days

Message Retention Policy ⓘ ☒ Deletion after consumption ☐ Persistent retention

Description

Up to 128 characters

Save **Cancel**

Note:

After the above steps, you can create a topic in the namespace as instructed in [Topic Management](#) to produce and consume messages.

Modifying a namespace

You can modify a namespace in the following steps:

1. On the [Namespace](#) list page, click **Edit** in the **Operation** column of the target namespace to enter the editing page.
2. Modify the message retention period or description and click **Save**.

Deleting a namespace

You can delete a created namespace in the following steps:

1. On the [Namespace](#) list page, click **Delete** in the **Operation** column of the target namespace.
2. In the pop-up deletion confirmation window, click **OK**, and the namespace will be deleted.

Note:

A namespace with topics cannot be deleted.

A role cannot be deleted if it has permissions configured in namespaces.

A namespace associated with VPCs cannot be deleted.

Topic Management

Last updated : 2024-06-28 11:31:37

Overview

Topic is a core concept in TDMQ for Apache Pulsar. It is usually used to categorize and manage various messages produced by the system in a centralized manner; for example, messages related to transactions can be placed in a topic named "trade" for other consumers to subscribe to.

In actual application scenarios, a topic often represents a business category. You can decide how to design different topics based on your system and data architectures.

This document describes how to use topics to categorize and manage messages in TDMQ for Apache Pulsar.

Prerequisite

You have created a namespace.

Directions

Creating a topic

1. Log in to the [TDMQ for Apache Pulsar console](#) and click **Topic** on the left sidebar.
2. On the topic management page, click **Create** to pop up the **Create Topic** window.
3. In the **Create Topic** window, enter the following information:

Create Topic

!

There are 2 topic partitions in the current region, and (10) more will be created. No resource fees will be charged as the free tier (2000) is not exceeded.

Region

Guangzhou

Namespace

ns-test

Topic Name *

trade_msg

This field is required and can contain up to 128 digits, letters, or symbols (-_=:.).

Topic Type ⓘ *

Persistent

Partitioned Topic ⓘ

☒

Partition Count *

132

-10+

You can select multiple partitions to optimize the message production and consumption performance of a single topic, but this does not guarantee that the messages will be produced or consumed in the proper sequence. The number of consumers in Pulsar is not limited by that of partitions.

Description

Please enter the description

Up to 128 characters

Fees

Note: We offer a free tier of 2000 topic partitions for all clusters, and only the excess beyond the free tier is billed.

Save

Cancel

Topic Name: This field is required and can contain up to 128 digits, letters, and symbols "-_=:.".

Topic Type: **Persistent** or **Non-persistent**.

Persistent: Persistently stored messages are stored in the disk with multiple replicas to avoid message loss. Such messages are suitable for scenarios that require high data reliability such as financial or business transactions.

Non-persistent: Non-persistently stored messages are directly delivered to an online subscriber and will be deleted upon successful delivery. They will be directly deleted if there are no online subscribers. Such messages are suitable for stream processing or other scenarios that do not require high data reliability. They can only be sent and received as general messages and don't support features such as query, tracing, delaying, filtering, and rewinding.

Note:

For a non-persistent topic, enter a complete topic name prefixed with `non-persistent://`.


Partitioned Topic:


Pulsar guarantees that messages in a single partition are sequential. If there is only one partition in a topic, messages are globally sequential there.

Multi-partition topics have better performance than single-partition topics. To balance performance and sequence, you can use the Key-Shared subscription mode as instructed in [Subscription Mode](#) to make messages partitionally sequential. You only need to mark messages that need to be sequential with the same key and deliver them to the same partition.

Description: Enter the topic descriptions of up to 128 characters.

4. Click **Save**, and you can see the created topic in the topic list.

Create Delete								
<input type="checkbox"/> Topic Name	Monitoring	Type ⓘ	Creator	Partition	Client	Creation Time		
<input type="checkbox"/> pulsar-****/namespace/topicName		Persistent a...	User	2	Producer 0/1000 Consumer 0/2000	Creation Time	2022-03-09 18:13:51	Update Time 2022-03-09 18:13:51

Parameter	Description
Topic Name	The topic name in the format of <code>pulsar-****/namespace/topicName</code>
Monitoring	Click  to view the topic monitoring details. For more information on monitoring metrics, see Viewing Monitoring Information .
Type	The message type, including general, globally sequential, and partitionally sequential. For more information, see Message Type .
Creator	User or **System
Partition Count	The number of topic partitions

Client	<p>Producer: It displays the number of producers/the maximum number of producers. Click it to enter the producer details page. For more information, see Producer Management.</p> <p>Consumer: It displays the number of consumers/the maximum number of consumers. Click it to enter the consumer details page. For more information, see Subscription Management.</p> <p>Note: When the value is displayed in orange (warning), the fraction has reached 80%. When it is displayed in red (error), the fraction has reached 90%, in which case you need to close unnecessary client connections.</p>
Creation Time	The creation time of the topic
Description	The topic descriptions

Querying a topic

You can search for topics by topic name in the search box in the top-right corner of the [Topic](#) page. TDMQ for Apache Pulsar will perform a fuzzy match and display the search results.

You can also filter topics by **Type** and **Creator** in the topic list.

Editing a topic

1. On the [Topic](#) page, click **Edit** in the **Operation** column of the target topic.
2. In the pop-up window, you can edit the number of topic partitions (which is 1 for globally sequential messages and cannot be modified) as well as the description.
3. Click **Submit** to complete your edits.

Sending a message

You can manually send a message to the specified topic in the TDMQ for Apache Pulsar console.

1. On the [Topic](#), click **Send Message** in the **Operation** column of the target topic.
2. In the pop-up dialog box, enter the message content. The message size is up to 64 KB.

Send Message

Region

Guangzhou

Namespace Name

test

Topic Name

winystest

Message Content

Please enter the message content

Send

Cancel

3. Click **Submit** to send the message. After the message is sent, it can be consumed by any subscribers to the topic.

Adding a subscription

You can manually create a subscription in the TDMQ for Apache Pulsar console.

1. On the [Topic](#) page, click **Add Subscription** in the **Operation** column of the target topic.
2. Enter the subscription name and description in the pop-up window.

Subscription Name: It can contain up to 64 characters.

Auto-Create Retry & Dead Letter Queue: You can choose whether to automatically create a retry letter topic and a dead letter topic.

Description: Enter descriptions of up to 200 characters.

Add Subscription ✕


Subscription Name

Enter the subscription name

Up to 64 characters

Auto-Create Retry & Dead Letter Queue

☐

If you enable this option, the system will automatically create such queues. For details, see [retry/dead letter mechanism](#) 

Description

Please enter the description

Save

Cancel

3. Click **Save** to complete the creation.

You can click **View Subscription** in the **Operation** column of a topic to view its subscriptions, and the subscription just created will be displayed in the list.

Note:

If you select **Auto-Create Retry & Dead Letter Queue**, TDMQ for Apache Pulsar will automatically create a retry topic and a dead letter topic, which will be displayed in the topic list as two new topics named "subscription name + RETRY" and "subscription name + DLQ", respectively.

For the concepts and usage of retry letter and dead letter topics, see [Retry Letter Topic and Dead Letter Topic](#).

Deleting a topic

Note:

After a topic is deleted, all unconsumed messages retained in it will be cleared; therefore, proceed with caution.

1. On the **Topic** page, click **More > Delete** in the **Operation** column of the target topic. You can also select multiple topics and click **Delete** at the top of the topic list.
2. In the pop-up window, click **Delete**.

Force Deletion: After this option is enabled, a topic will be forcibly deleted even if it has subscriptions. Its subscriptions will also be deleted.

Are you sure you want to delete the subscription below?



It will still subscribe to other topics after it is deleted.

Force Deletion



Namespace ID	Topic	Subscribe
test	winystest	sutest

OK

Cancel

Subscription Management

Last updated : 2024-06-28 11:31:37

Overview

In the TDMQ for Apache Pulsar console, a subscription represents a specific consumer and its subscription to a topic. A consumer can consume all messages in a topic after subscribing to it. One subscription can subscribe to multiple topics; for example, after a subscription is created under a topic, it will subscribe to both the current topic and the automatically created retry queue topic.

This document describes how to configure the subscriptions to a topic in **Subscription Management** in TDMQ for Apache Pulsar.

Prerequisites

You have created a namespace and a topic.

You have created a message producer and consumer based on the SDK provided by TDMQ for Apache Pulsar, and they run properly.

Directions

Viewing subscription details

1. Log in to the [TDMQ for Apache Pulsar console](#) and click **Topic Management** on the left sidebar.
2. On the **Topic Management** list page, click **View Subscription/Consumer** in the **Operation** column of the target topic to enter the subscription list.
3. In the subscription list, the first-level list displays all subscriptions to the current topic. After expanding the second-level list, you can see the consumer instances connected to each subscription and the consumption progress of each segment.

Producer

Consumer

Create

Delete

<input type="checkbox"/>	Subscription Name	Topic	Monitori...	Status	Subscription Mode	Heaped Messages
<input type="checkbox"/>		winystest		Offline	Unknown	0

Connected Instance for Consumption

Consumer Name	Client Address	Partition ID	Version
No data yet			

Consumption Progress

Partition ID	Consumption Speed (messages/sec)	Consumption Bandwidth (byte/sec)
0	0	0
1	0	0

Total items: 1

Setting an offset

1. In the subscription list, click **Offset Settings** in the **Operation** column to manually set the consumer offset for each subscription by time (that is, specify the time point from which the consumers under the subscription start to consume messages).
2. Click **Submit**.

Offset Settings ×

Dimension

Time

Time *

2022-07-29 11:42:36

Save

Cancel

Recreating retry/dead letter topics

As you can manually delete a topic, if you want the deleted retry/dead letter topics to be created again by the system, you can click **Recreate Retry/Dead Letter Queues** in the **Operation** column of the subscription.

Deleting a subscription


Note:

When a subscription under a topic is deleted, if it has also subscribed to other topics (including the automatically created retry/dead letter topics), it will not be removed from such topics.

1. In the subscription list, click **More > Delete** in the **Operation** column of the target subscription. You can also select multiple subscriptions and click **Delete** at the top of the subscription list.
2. In the pop-up window, click **Submit**.

Force deletion: After this option is enabled, a subscription will be forcibly deleted even if it has active consumer connections.

Are you sure you want to delete the subscription below? ✕

 It will still subscribe to other topics after it is deleted.

Force Deletion ☐

Namespace ID	Topic	Subscribe
test	winystest	sutest

OK

Cancel

Producer Management

Last updated : 2024-06-28 11:31:37

Overview

This document describes how to view the details of a producer connected to a topic in the TDMQ for Apache Pulsar console, so that you can stay up to date with the status of the connected producer and troubleshoot problems promptly.

Directions

1. Log in to the [TDMQ for Apache Pulsar console](#) and click **Topic Management** on the left sidebar.
2. On the **Topic Management** list page, click **View Producer** in the **Operation** column of the target topic to enter the producer list.

Producer

Consumer

Producer Overview

Current Production TPS

0 messages/sec

Current Production Throughput

0 Byte/s

Current Producers ⓘ

0

Query t

Producer ID	Producer Name	Producer Address	Client Version	Message Production Rate ⚡	Message
No data yet					

Total items: 0

Producer overview

Current Production TPS: Total number of messages produced by producers currently connected to the topic per second.

Current Production Throughput: Size of messages produced by producers currently connected to the topic per second.

Current Producers: Total number of producers currently connected to the topic (the listed items are combinations of producers and partitions; therefore, if there are multiple AZs, the number of producers displayed on the overview page

will be less than the number of listed items).

Current Message Storage Size: Total size of messages currently stored in the topic memory.

Producer details

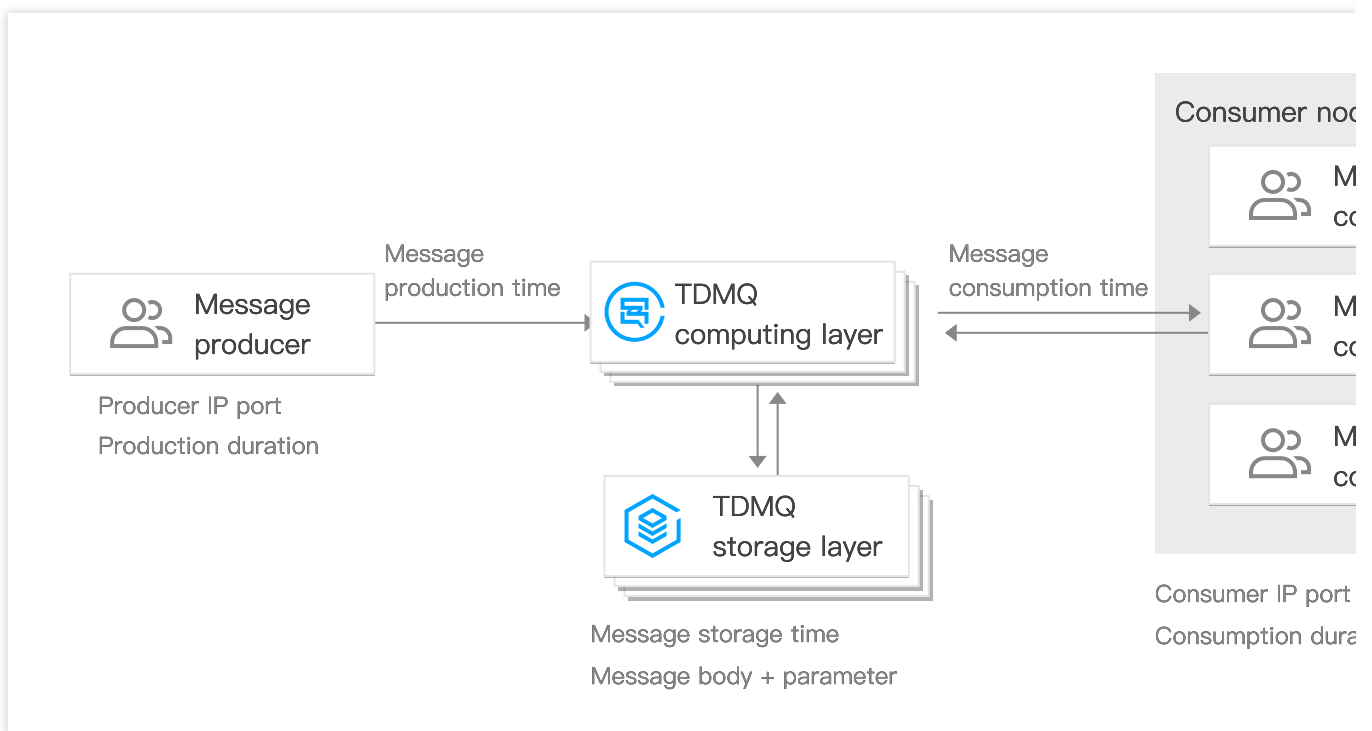
Parameter	Description
Producer ID	Producer ID.
Producer Name	Message producer name.
Producer Address	Message producer address and port.
Client Version	Pulsar client version.
Message Production Rate (Messages/Sec)	Number of messages produced by producers to the topic per second.
Message Production Throughput (Mbps)	Size of messages produced by producers per second.
Avg Message Size (Bytes)	Average size of messages produced by producers to the topic.

Message Query and Trace

Last updated : 2024-06-28 11:31:37

TDMQ for Apache Pulsar records the complete flow in which a message is sent from the producer to the TDMQ for Apache Pulsar server and then consumed by the consumer, and then displays the flow as a message trace in the console.

A message trace records the entire process in which the message is sent from the producer to the TDMQ for Apache Pulsar server and eventually to the consumer, including the duration of each stage (accurate down to the microsecond), execution result, producer IP, and consumer IP.



Overview

You can use the message query feature in the TDMQ for Apache Pulsar console to view the content, parameters, and trace of a specific message by time or by the message ID displayed in the log. This enables you to:

- View the specific content and parameters of the message.

- View from which producer IP a message was sent, whether it was sent successfully, and the specific time when it arrived at the server.

- View whether the message was persistently stored.

- View which consumers consumed the message, whether it was consumed successfully, and the specific time when its consumption was acknowledged.

Query Limits

You can query up to 65,536 messages at a time.

Prerequisites

Directions

1. Log in to the [TDMQ for Apache Pulsar console](#) and click **Message Query** on the left sidebar.
2. On the **Message Query** page, select the region and environment first and then the time range for query. If you know the message ID, you can also enter it for exact match query.
3. Click **Query**, and the list below will display paginated results.

Message Query

Shanghai

Current Cluster

test(pulsar-cluster-1-1d3)

Namespace

test

Time Range

Last 6 hours

Last 24 hours

Last 3 days

2021-11-29 17:33:45 ~ 2021-12-02 17:33:45

Topic

867

Message ID

Please enter the message ID

Query

Message ID	Producer	Producer Address	Message Creation Time
60610105:0:0	tdmq_sh_192-3101309	9.143.194.34:40169	2021-12-01 14:39:43,722

4. Click **View Details** in the **Operation** column of the target message to view its basic information, content (message body), and parameters.

[←](#) Message Query / 60610105:0:0

Details

Message Trace

Basic Info

ID	60610105:0:0
Producer	-
Producer Address	-
Message Creation Time	2021-12-01 14:39:43

Message Body

gjh

Parameter Details

```
{  
  "publish-time": "2021-12-01T14:39:43.721+08:  
}
```

5. Click **View Message Trace** in the **Operation** column or select the **Message Trace** tab on the details page to view the trace of the message. For more information, see [Message Trace Query Result Description](#).

← Message Query / 60610105:0:0

Details

Message Trace

● Message Production

Production Address 9.143.194.34:40169

Production Time 2021-12-01 14:39:43,722

Time Consumed 0.004ms

Production Status Succeeded

● Message Storage

Storage Time 2021-12-01 14:39:43,726

Storage Status Succeeded

● Message Consumption

Consumer Group Name	Consumption Address	Consumption Time	Time Consumed (ms)
No data yet			

Total items: 0

Message Trace Query Result Description

A message trace query result consists of three parts: message production, message storage, and message consumption.

Message production

Parameter	Description
Producer Address	Address and port of the producer.
Production Time	The time when the TDMQ for Apache Pulsar server acknowledged message receipt, accurate down to the millisecond.
Sending Duration	The time it took to send the message from the producer to the TDMQ for Apache Pulsar server, accurate down to the microsecond.
Production Status	Message production success or failure. If the status is Failed , it is generally because the header of the message was lost during sending, and the above fields may be empty.

Message storage

Parameter	Description
Storage Time	The time when the message was persistently stored (TDMQ for Apache Pulsar currently adopts the strong consistency mode where messages will be acknowledged only after being stored, so the storage time is the same as the production time; if in high performance mode, they are different).
Storage Status	Message storage success or failure. If the status is Failed , the message failed to be stored on the disk, which is possibly because the underlying disk was damaged or full. In this case, submit a ticket for assistance as soon as possible.

Message consumption

Message consumption is displayed in the form of a list. TDMQ for Apache Pulsar supports multi-subscription mode, where a message may be consumed by multiple consumers in multiple subscriptions.

The information displayed in the list is as described below:

Parameter	Description
Consumer Group Name	Subscription name.
Consumer Address	Address and port of the consumer receiving the message.
Consumption Time	The time when the TDMQ for Apache Pulsar server received an acknowledgment (ack) from the consumer.
Consumption Duration	Elapsed time between message delivery by the server to the consumer and ack receipt by the server from the consumer, accurate down to the microsecond.
Consumption Status	Message consumption success or failure. This field will be displayed as Failed if the consumer returns a negative-acknowledgment (nack).

Monitoring and Alarms

Cluster Monitoring

Last updated : 2024-08-19 16:26:10

Overview

TDMQ for Apache Pulsar supports cluster monitoring features, including computing metrics, storage metrics, and statistical distribution of message size for clusters. You can analyze cluster usage based on these monitoring data and process potential risks promptly. You can also set alarm rules for monitoring item, so you can receive alarm messages when there are data exceptions, address risks promptly, and ensure the stable operation of the system.

Monitoring Metric

The cluster monitoring metrics supported by the TDMQ for Apache Pulsar are as follows:

Key Metric Monitoring

Metric Type	Metrics	Unit
Computing Metrics	Pulsar Cluster TPS	Count/s
	Production TPS Peak	Count/s
	Consumption TPS Peak	Count/s
	Production Bandwidth Peak	Bytes/s
	Consumption Bandwidth Peak	Bytes/s
Storage Metrics	Storage Usage	Bytes

Message Size Distribution Statistics



1. Log in to the [TDMQ for Apache Pulsar console](#).
2. Go to the **Cluster Management** page, and click the target cluster's ID to enter the basic information page.
3. Select the **Monitoring Information** tab. After selecting the time range and time granularity, you can view the cluster monitoring data.

Topic Monitoring

Last updated : 2024-08-19 16:24:22

Overview

TDMQ for Apache Pulsar allows you to monitor the topic resources created under your account, so that you can keep track of the status of your topics in real time and troubleshoot possible issues to ensure stable business operations. This document describes how to view monitoring metrics and their descriptions in the TDMQ console.

Descriptions of Monitoring Metrics

Metrics	Description
Production Rate (Count/s)	Number of messages sent to the topic by producers per second in the selected time range.
Consumption Rate (Count/s)	Number of messages consumed by all consumers under the topic per second in the selected time range.
Production Traffic (Bytes/s)	Data size of messages sent to the topic by producers per second in the selected time range.
Consumption Traffic (Bytes/s)	Data size of messages consumed by all consumers under the topic per second in the selected time range.
Heaped Message Size (Bytes/s)	Size of heaped messages.
Number of Producers (Count)	Number of producers producing messages to the topic.
Number of Consumers (Count)	Number of subscribers to the topic.

Viewing Monitoring

1. Log in to the [TDMQ for Apache Pulsar Console](#).
2. In the left sidebar, click **Topic** , and select the region, cluster, and namespace resources.
3. In the Topic list, find the target Topic, click **Monitoring** column



icon, and select the time range and granularity. Then you can view the monitoring data of Topic.

Alarm Configuration

Last updated : 2024-06-28 11:31:37

Overview

Tencent Cloud provides the Cloud Monitor service for all users by default; therefore, you do not need to manually activate it. Cloud Monitor will start collecting monitoring data only after a Tencent Cloud product is used.

TDMQ for Apache Pulsar allows you to monitor the resources created under your account, so that you can keep track of the status of your resources in real time. You can configure alarm rules for monitoring metrics. When a monitoring metric reaches the set alarm threshold, Cloud Monitor will notify you of exceptions in time via the notification channels you specified.

Directions

Configuring alarm policy

An alarm policy can determine whether an alarm notification should be sent based on the comparison between the monitoring metric and the given threshold in the selected time period. You can promptly take appropriate precautionary or remedial measures when the alarm is triggered by a TDMQ for Apache Pulsar status change. Properly configured alarm policies help improve the robustness and reliability of your applications.

Note:

Be sure to configure alarms for your instance to prevent exceptions caused by traffic spikes or specification limits.

1. Log in to the [CM console](#).
2. On the left sidebar, select **Alarm Configuration** > **Alarm Policy** and click **Create**.
3. On the **Alarm Policy** page, select a policy type and instance and set the alarm rule and notification template.

Policy Type: select **TDMQ alarm**.

Alarm Object: select the TDMQ for Apache Pulsar resource for which to configure the alarm policy.

Trigger Condition: you can select **Select template** or **Configure manually**. The latter is selected by default. For more information on manual configuration, see the description below. For more information on how to create a template, see [Creating trigger condition template](#).

Note :

Metric: for example, if you select 1 minute as the statistical period for the "message retention volume" metric, then if the message retention volume exceeds the threshold for N consecutive data points, an alarm will be triggered.

Alarm Frequency: for example, "Alarm once every 30 minutes" means that there will be only one alarm triggered every 30 minutes if a metric exceeds the threshold in several consecutive statistical periods. Another alarm will be triggered only if the metric exceeds the threshold again in the next 30 minutes.

Notification Template: you can select an existing notification template or create one to set the alarm recipient objects and receiving channels.

4. Click **Complete**.

For more information on alarms, see [Creating Alarm Policy](#).

Creating trigger condition template

1. Log in to the [CM console](#).

2. On the left sidebar, click **Trigger Condition Template** to enter the template list page.

3. Click **Create** on the **Trigger Condition Template** page.

4. On the **Create Template** page, configure the policy type.

Policy Type: select **TDMQ alarm**.

Use preset trigger condition: select this option and the system recommended alarm policy will be displayed.

5. After confirming that everything is correct, click **Save**.

6. Return to the **Create Alarm Policy** page, click **Refresh**, and the alarm policy template just configured will be displayed.

Connecting to Prometheus

Last updated : 2024-06-28 11:31:37

TDMQ for Apache Pulsar supports integrating pro cluster monitoring data into users' self-built Prometheus, which facilitates the observation of the TDMQ cluster's operations. It also allows for timely HPA of business workloads through Prometheus monitoring data, making overall online ops more automated.

Advanced Usage:

Using the standard Prometheus monitoring format, you can access data with your own Prometheus through our provided Exporter;

For instance, configuring a Prometheus data source in Grafana or accessing Prometheus data with K8s for Workload HPA, etc.

User Guide

1. Log in to the [TDMQ for Apache Pulsar Pro Cluster console](#).
2. In the left sidebar, choose **Cluster Management**, and click the target instance's ID to enter the instance basic information page.
3. Click to enter the **Monitoring Information** Sheet page.
4. In the top right corner, click the **TMP Entry Access** button to **Access Monitoring Targets**, and select the appropriate network type and network configuration.
5. Click **Submit** to access a set of monitoring targets.
6. Modify the configuration file `prometheus.yml` to add a `node_exporter` scraping task.



```
job_name: prometheus-tdmq-pulsar
honor_timestamps: true
scrape_interval: 60s
metrics_path: /tencent-cloud-metrics/
scheme: http
static_configs:
- targets:
  - 10.x.x.x:10001
  - 10.x.x.x:10002
```

When `honor_timestamps` is set to **true**, Prometheus will use the timestamps provided by the Exporter for its metrics rather than using the timestamps at which the Prometheus server receives these metrics.

`scrape_interval` , the frequency of scraping monitoring metrics data. Currently at **minute-level**.

`metrics_path` , the path to access monitoring metrics. Set it to **/tencent-cloud-metrics/**.

`scheme` , the protocol for accessing resources in the configuration. Currently it only supports **http**.

7. Access the corresponding visualization interface to view the configured monitoring metrics.

Note:

1. This feature provides monitoring data at the cluster level, Topic level, and subscription level for pro clusters, aligning perfectly with the metric items on the console. However, unlike the console, where the monitoring data is pre-aggregated, the data through Prometheus is post-aggregated and requires you to manually aggregate and display it on the Grafana dashboard.
2. Due to the different paths of monitoring data collection and different aggregation logic, the data captured by this feature may differ in specific values from the data displayed on the user console.
3. This feature is only supported by pro clusters.

Permission Management

Permission Management Overview

Last updated : 2024-08-19 16:35:36

This document introduces the permission management content for the TDMQ for Apache Pulsar.

Permission Management and Control Service	Introduction	Related Links
CAM	CAM is an access management service provided by Tencent Cloud, which helps you to manage access to Tencent Cloud services and resources securely and conveniently. You can use CAM to create sub-users, user groups, and roles, and control their access scope through policies. For more details, see Tencent Cloud Cloud Access Management product .	-
JWT	JWT is an authentication tool provided by TDMQ for Apache Pulsar, which is used for securely producing and consuming messages. You can access the corresponding Topic resources by configuring the Token in the client parameters.	Role and Authentication JWT Authentication Configuration

Pulsar Instance Permission Management

Granting Sub-Account Access Permissions

Last updated : 2024-08-19 16:39:56

Basic Concepts of CAM

The root account authorizes sub-accounts by binding policies, which can be precisely set at the **[API, resource, user/user group, allow/deny, condition]** dimension.

Account System

Root account: Owns and has unrestricted access to all Tencent Cloud resources.

Sub-account: Includes sub-users and collaborators.

Sub-user: Created by the main account and completely belongs to the root account that created the Sub-user.

Collaborator: A user with a main account identity added as a collaborator to the current root account, becoming one of its sub-accounts and able to switch back to the root account identity

Identity credentials: Includes log-in credentials and access certificates. **Log-in credentials** refer to a user's log-in name and password. **Access certificates** refer to Tencent Cloud API keys (SecretId and SecretKey).

Resource and Permission

Resource: An object being operated in Tencent Cloud services, such as a CVM instance, a COS bucket, or a VPC instance

Permission: An authorization to allow or disallow some users to perform certain operations. By default, **a root account has full access to all the resources under the account**, while **a sub-account does not have access to any resources under the root account**.

Policy: A syntax rule that defines and describes one or more permissions. **The root account** performs authorization by **associating policies** with users/user groups.

Sub-Account Using Pulsar

To ensure that the sub-account can successfully use Pulsar, the root account needs to authorize the sub-account. Root account logs in to [CAM Console](#), finds the corresponding sub-account in the sub-account list, and clicks the **Authorize** in the operation column.

Pulsar offers two preset policies for sub-accounts: QcloudTDMQReadOnlyAccess and QcloudTDMQFullAccess. The former can only view related information in the console, while the latter can perform read-write operations in the product console.

Associate Policy

Select Policies (902 Total)

Support search by policy name/description/remarks

Policy Name	Policy Type
<input checked="" type="checkbox"/> AdministratorAccess This policy allows you to manage all users under your account an...	Preset Policy
<input type="checkbox"/> QCloudResourceFullAccess This policy allows you to manage all cloud assets in your account...	Preset Policy
<input type="checkbox"/> ReadOnlyAccess This policy authorizes you with the read-only access to all cloud a...	Preset Policy
<input type="checkbox"/> QCloudFinanceFullAccess This policy allows you to manage all financial items in your accou...	Preset Policy

0 selected

Policy Name

Policy 1

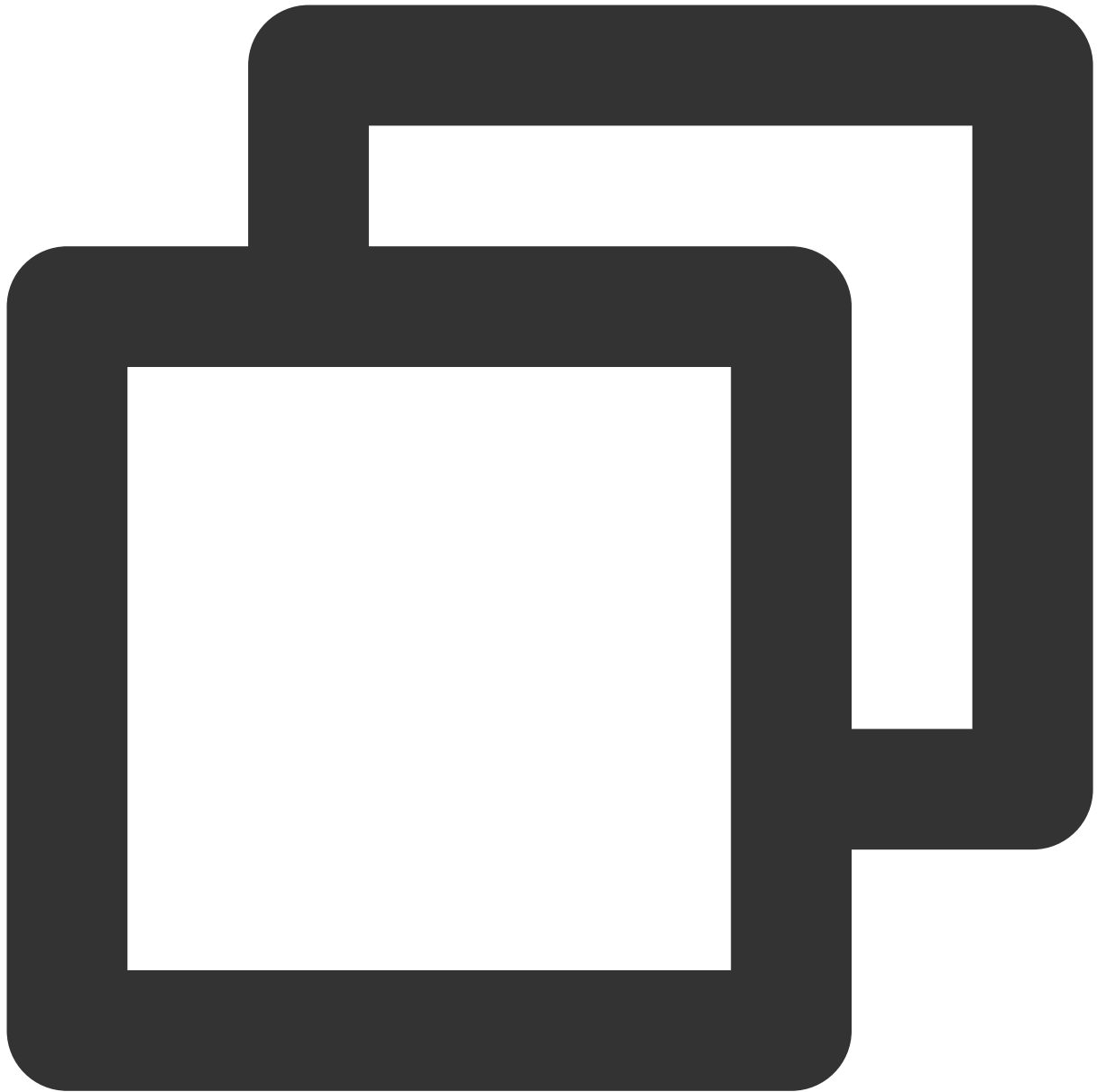
OK

Cancel

In addition to the above preset policies, for ease of use, the root account needs to grant the sub-accounts appropriate permissions to call other cloud services based on actual needs. The use of Pulsar involves the following API permissions of various cloud services:

Tencent Cloud Services	API Name	API Function	Corresponding Role in Pulsar
TCOP (Monitor)	GetMonitorData	Query metric monitoring data.	View the corresponding monitoring metrics displayed in the console.
TCOP (Monitor)	DescribeDashboardMetricData	Query metric monitoring data.	View the corresponding monitoring metrics displayed in the console.
Resource Tag (Tags)	DescribeResourceTagsByResourceIds	Query resource tag.	View cluster resource tags.

To grant the sub-account the above permissions, for the root account, you need to go to the [CAM Console](#) on the **Policies** page, and perform the **Create Custom Policy** operation. Click **Create by****Policy Syntax** for creation, then select **Blank Template**, and enter the following policy syntax:



```
{
  "version": "2.0",
  "statement": [
    {
      "effect": "allow",
      "action": [
        "monitor:GetMonitorData",
        "monitor:DescribeDashboardMetricData",
        "tag:DescribeResourceTagsByResourceIds"
      ],
      "resource": [
```

```
    " * "
  ]
}
]
```

Create by Policy Syntax

1 Select Policy Template > 2 Edit Policy

Policy Name *

After the policy is created, its name cannot be modified.

Description

Policy Content [Use Legacy Version](#)

```
1 {
2   "version": "2.0",
3   "statement": [
4     {
5       "effect": "allow",
6       "action": [
7         "monitor:GetMonitorData",
8         "monitor:DescribeDashboardMetricData",
9         "tag:DescribeResourceTagsByResourceIds"
10      ],
11       "resource": [
12         "*"
13      ]
14     }
15   ]
16 }
17
```

[Previous](#)[Complete](#)

After the policy is created, associate the newly created policy with the sub-account as shown below:

Create Custom PolicyDelete

All PoliciesPreset PolicyCustom Policies

Search by policy name

<input type="checkbox"/>	Policy Name	Service Type ▾	Description	Last Modified
<input type="checkbox"/>	policygen- <div></div>	-	-	2024-08-06 17:55:44
<input type="checkbox"/>	policygen- <div></div>	-	-	2023-11-24 10:31:20

Granting Sub-Account Operation-Level Permissions

Last updated : 2024-08-19 16:40:40

Overview

This document guides you on how to use the Tencent Cloud root account to grant operation-level authorization to a sub-account. You can grant different read and write permissions to the sub-account based on actual needs.

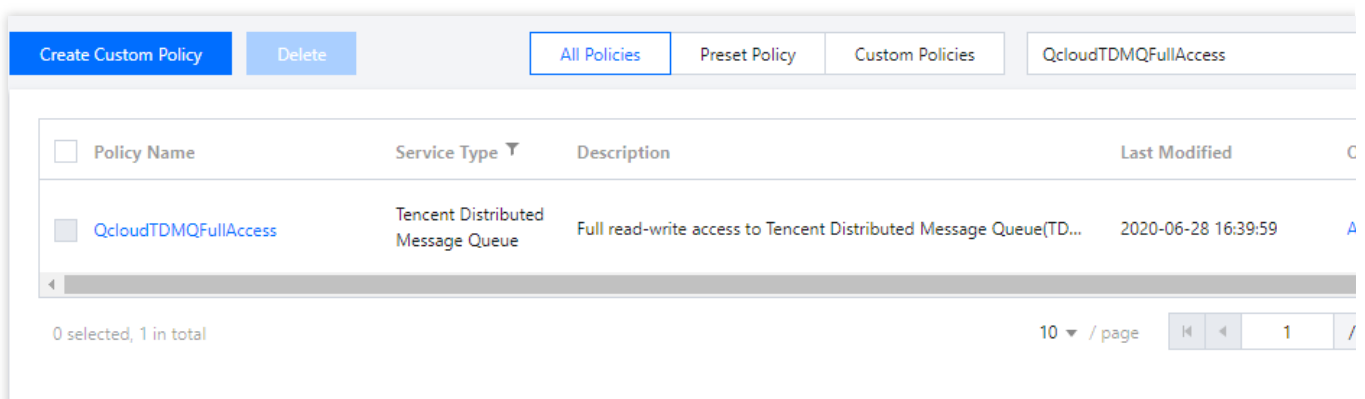
Directions

Granting Full Read/Write Permissions

Note

After full read and write permissions are granted to the sub-account, the sub-account will have **full read and write capability of all resources** under the root account.

1. Log in to the [CAM Console](#) with the root account.
2. In the left sidebar, click **Policies** to enter the Policy Management List Page.
3. In the search bar on the right, enter **QcloudTDMQFullAccess** to search.



4. In the search results, click **QcloudTDMQFullAccess** to **associate users/groups**, and select the sub-account that needs to be authorized.

Associate User/User Group/Role

Select Users (14 Total)

Support multi-keyword search by user name/ID/SecretId/mobi

Users

Switch to User Groups...

☒

Users

☒

Users

☐

Users

☐

Users

☐

Users

☐

Users

Support for holding shift key down for multiple selection

(2) selected

Name	Type
	Users
	Users

OK

Cancel

5. Click **Confirm** to complete the authorization. This policy will display in the user's policy list.

Permission

Service

Group (0)

Security

API Key

Tag Policy

Permissions Policy

Associate Policy

Disassociate Policy

Search for policy

Policy Name	Description	Association Type	Policy Type	Association Time
QcloudTDMQFullAccess	Full read-write access to Tence...	Associated directly	Preset Policy	2024-08-07 10:44:21

Granting Read-Only Permission

Note

After the read-only permission is granted to the sub-account, the sub-account will have **read-only capability** over **all resources** under the root account.

1. Log in to the [CAM Console](#) with the root account.
2. In the left sidebar, click **Policies** to enter the Policy Management List Page.
3. In the search bar on the right, enter **QcloudTDMQReadOnlyAccess** to search.

Policies

Associate users or user groups with policies to grant permissions.

Create Custom Policy Delete All Policies Preset Policy Custom Policies QcloudTDMQReadOnlyAccess

<input type="checkbox"/> Policy Name	Service Type	Description	Last Modified	Oper
<input type="checkbox"/> QcloudTDMQReadOnlyAccess	Tencent Distributed Message Queue	Read-only access to Tencent Distributed Message Queue(TDMQ)	2020-06-28 16:39:41	Associate

0 selected, 1 in total 10 / page 1 / 1 p

4. In the search results, click **QcloudTDMQReadOnlyAccess** to select the **associated user/group** you want to authorize for the sub-account.

Associate User/User Group/Role

Select Users (14 Total)

Support multi-keyword search by user name/ID/SecretId/mobi

Users

Switch to User Groups...

Users

Users

Users

Users

Users

Users

Users

Support for holding shift key down for multiple selection

(2) selected

Name	Type
	Users
	Users

OK

Cancel

5. Click **Confirm** to complete the authorization. This policy will display in the user's policy list.

PermissionServiceGroup (0)SecurityAPI KeyTag Policy

Permissions Policy

Associate PolicyDisassociate Policy

Search for policy

Policy Name	Description	Association Type	Policy Type	Association Time	Operate
QcloudTDMQReadOnlyAccess	Read-only access to Tencent Di...	Associated directly	Preset Policy	2024-08-07 10:51:21	Dis
QcloudTDMQFullAccess	Full read-write access to Tence...	Associated directly	Preset Policy	2024-08-07 10:44:21	Dis

Granting Sub-Account Resource-Level Permissions

Last updated : 2024-08-19 16:41:48

Overview

This task guides you to grant resource-level permissions to a sub-account using the root account. The sub-account with the granted permissions can have control capability over a specific resource.

Prerequisites

You have a Tencent Cloud root account and have already activated the CAM service.

You have at least one sub-account under the root account, and the authorization has been completed according to sub-account access authorization.

You have at least one Pulsar instance.

Directions

You can use the policy feature of the CAM console to authorize the Pulsar resources owned by the root account to sub-accounts. Detailed Pulsar **resource authorization to sub-accounts** is as follows. This example demonstrates how to authorize a cluster resource to a sub-account, with similar directions for other types of resources.

Step 1: Obtaining a Pulsar Cluster ID

1. Log in to the [TDMQ for Apache Pulsar console](#) using the **root account**, select an existing cluster instance, and click to enter its details page.
2. In the **Basic Information**, the field **ID** represents the ID of the current Pulsar cluster.

Basic Info

Access Point

Monitoring Information

Cluster Information

Cluster Name

test-

Cluster ID

pulsar

Version

2.9.2

Status

Normal

Cluster Specification

PULSAR.P1.MINI2

Storage Specification

600 GB

Creation Time

2024-04-08 16:27:48

Region

Guangzhou

Deployment Mode

Single-AZ

AZ

Guangzhou Zone 3

Description

-

Resource Tag

No tag

Step 2: Creating a Authorization Policy

1. Enter the [CAM Console](#), and click [Policies](#) in the left sidebar.
2. Click **Create custom Policy**, and select **Create by Policy Generator**.
3. In the visual policy generator, keep the **Effect** as **Allow**. In the **Service** field, enter TDMQ for filtering, and select **Message Queue TDMQ (tdmq)** from the results.

Visual Policy Generator JSON

Tencent Distributed Message Queue(0 actions)



Effect *

☒ Allow ☐ Deny

Service *

Please select a service

TDMQ



☒ Tencent Distributed Message Queue (tdmq)

☐ All Services (*)

4. In **Action**, choose **All actions**, or you can select the operation types according to your needs.

Note:

Some APIs do not support resource-level authorization at the moment, which is based on the display on the console page. For a list of APIs that support resource-level authorization, you can see the list of APIs that support resource-level authorization in the appendix of this document.

1 Edit Policy > 2 Associate User/User Group/Role

Visual Policy Generator JSON

Tencent Distributed Message Queue(All actions)

Effect *	<input checked="" type="radio"/> Allow <input type="radio"/> Deny
Service *	Tencent Distributed Message Queue (tdmq)
Action *	<div>Select actions</div> <div><input checked="" type="checkbox"/> All actions (tdmq:*) Show More</div> <div>Add Custom Action</div> <div>Action Type</div> <div><input checked="" type="checkbox"/> Read (65 selected) Show More</div> <div><input checked="" type="checkbox"/> Write (123 selected) Show More</div> <div><input checked="" type="checkbox"/> List (40 selected) Show More</div> <div><input checked="" type="checkbox"/> Others (1 selected) Show More</div>

5. In **Resources**, select **specific resource**, and find Add Custom Resources in six stages. In the pop-up sidebar dialog, enter the **cluster prefix** and **resource ID**. For the obtaining process, see [Step 1](#).

namespace	Specify a namespace six-segment resource description for CreateRocketMQGroup and DescribeRocketMQGroup. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	<h3>Add a six-segment resource description</h3> <p>Six-segment resource description [?] uni Tencent Cloud resource object.</p> <p>qcs::tdmq:uin/200018436951:cluster/g</p> <p>Service * <input type="text" value="tdmq"/></p> <p>Region * <input type="text" value="All"/></p> <p>Account * <input type="text" value="uii"/></p> <p>Resource Prefix * <input type="text" value="cluster"/></p> <p>Resource * <input type="text" value="pulsar"/></p>
group	Specify a group six-segment resource description for DescribeRocketMQConsumer. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
exchange	Specify an exchange six-segment resource description for DeleteAMQPExchange and DescribeAMQPExchange. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
environmentRoles	Specify an environmentRoles six-segment resource description for DescribeEnvironment. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
environmentRole	Specify an environmentRole six-segment resource description for CreateEnvironment. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
environmentId	Specify an environmentId six-segment resource description for DescribeEnvironment. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
environment	Specify an environment six-segment resource description for DescribeRocketMQEnvironment. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
dlq	Specify a dlq six-segment resource description for DescribeCmqDeadLetterSourceConfiguration. Add a six-segment resource description to restrict the access.	
consumer	Specify a consumer six-segment resource description for ResetRocketMQConsumer. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
cmqtopic	Specify a cmqtopic six-segment resource description for DescribeCMQTopicTraceData. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
cmqueue	Specify a cmqueue six-segment resource description for DescribeCMQQueueTraceData. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
clusterId	Specify a clusterId six-segment resource description for CreateRocketMQSmoothMigration. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
cluster	Specify a cluster six-segment resource description for DescribeAMQPCluster and DescribeAMQPClusterDetail. <input type="checkbox"/> Any resource of this type Add a six-segment resource description to restrict the access.	
AckTopic	Specify an AckTopic six-segment resource description for AcknowledgeMessage. Add a six-segment resource description to restrict the access.	

Condition ☐ Source IP [\[?\]](#)
[Add other conditions](#)

6. Click Next, and fill in the policy name as required.

7. Click **select user** or **select user group**, and choose the user or user group to grant resource permissions to.

✓ Edit Policy

>

2 Associate User/User Group/Role

Basic Info

Policy Name *

policyger

After the policy is created, its name cannot be modified.

Description

Please enter the policy description

Associate User/User Group/Role

Authorized Users

Select Users

Authorized User Groups

Select User Groups

Grant Permission to Role

Select Role

Previous

Complete

8. Click **Complete**, and the sub-account that is granted the resource permissions has the capability to access the related resource.

List of APIs Supporting Authorization at Resource-Level

TDMQ for Apache Pulsar supports resource-level authorization. You can grant a specified sub-account API permissions for specific resources.

APIs supporting resource-level authorization include:

API Name	API Description	Resource Type	Six-Segment Example of Resource
DescribeClusterDetail	Gets the cluster detail.	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluster
DescribeClusters	Gets the	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluster

	cluster list.		
ModifyCluster	Modifies the cluster.	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
DeleteCluster	Deletes the cluster.	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
CreateRole	Creates a role.	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
DeleteRoles	Deletes a role.	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
CreateEnvironment	Creates an environment.	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
CreateTopic	Creates a topic.	environment	qcs::tdmq:\${region}:uin/\${uin}:envir
ModifyEnvironmentAttributes	Modifies the environmental attribute.	environment	qcs::tdmq:\${region}:uin/\${uin}:envir
DeleteEnvironments	Deletes the environment.	environment	qcs::tdmq:\${region}:uin/\${uin}:envir
DescribeEnvironments	Gets the environment list.	environmentId	qcs::tdmq:\${region}:uin/\${uin}:envir
DescribeEnvironmentAttributes	Gets the environment attribute.	environmentId	qcs::tdmq:\${region}:uin/\${uin}:envir
DescribeEnvironmentRoles	Gets the environment role list.	environmentRoles	qcs::tdmq:\${region}:uin/\${uin}:envir
CreateEnvironmentRole	Creates the environment role authorization.	environmentRole	qcs::tdmq:\${region}:uin/\${uin}:envir
DeleteEnvironmentRoles	Deletes the environment role authorization.	environmentRole	qcs::tdmq:\${region}:uin/\${uin}:envir

ModifyEnvironmentRole	Modifies the environment role authorization.	environmentRole	qcs::tdmq:\${region}:uin/\${uin}:enviro
DescribeMsgTrace	Message trace.	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DescribeMsg	Message details.	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DescribeTopicMsgs	Message query.	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DescribeTopics	Queries the topic list.	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DescribeProducers	Gets the producer list.	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DeleteTopics	Batch deletes topics.	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
ModifyTopic	Modifies the topic.	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
CreateSubscription	Creates a subscription relationship for a topic.	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
ResetMsgSubOffsetByTimestamp	Performs message retrospection based on timestamp, accurate to milliseconds.	subscription	qcs::tdmq:\${region}:uin/\${uin}:subsc
DeleteSubscriptions	Deletes the subscription relationship.	subscription	qcs::tdmq:\${region}:uin/\${uin}:subsc
DescribeRealTimeSubscription	Real-time consumption and	subscription	qcs::tdmq:\${region}:uin/\${uin}:subsc

	subscription list.		
DescribeSubscriptions	Consumption and subscription list.	subscription	qcs::tdmq:\${region}:uin/\${uin}:subs
ModifyRole	Modifies the role.	role	qcs::tdmq:\${region}:uin/\${uin}:role/\$
DescribeRoles	Obtains the list of the role.	role	qcs::tdmq:\${region}:uin/\${uin}:role/\$

List of APIs not Supporting Authorization at Resource-Level

API Name	API Description
CreateCluster	Creates a cluster.

Granting Sub-Account Tag-Level Permissions

Last updated : 2024-08-19 16:42:37

Overview

This task guides you on how to authorize sub-accounts to access resources under a specific tag using the root account by tag-based authentication. The authorized sub-account can then manage resources with the corresponding tag.

Prerequisites

You should have a Tencent Cloud root account and have already activated the Tencent Cloud Access Management Service.

You should have at least one sub-account under the root account, and the authorization has been completed according to sub-account access authorization.

You should have at least one Pulsar Cluster Resource Instance.

You should have at least one **Tag**. If you don't have one, you can go to the [Tag console](#) > **Tag list** to create one.

Directions

You can use the policy feature in the CAM console to grant sub-accounts read and write permissions to the Pulsar resources that are owned by the root account and bound to tag, through the method of **authorizing by Tag**. The detailed directions for **granting resource permissions to sub-accounts by Tag** are as follows.

Step 1: Binding Tags to the Resource

1. Use the **root account** to log in to the [TDMQ for Apache Pulsar console](#), and go to the cluster management page.
2. Select the target cluster, click **Edit Resource Tag** at the top left corner, and bind the resource tag for the cluster.

Edit Tag

Notes

- Tags are used to manage resources by category in different dimensions. If the existing tags don't meet your requirements, you can [manage tags](#).

1 resource(s) selected

tag_44459

num33453

+ Add

> Paste

OK

Cancel

Step 2: Authorizing by Tag

- Go to the [CAM Console](#), and click [Policies](#) in the left sidebar.
- Click **Create Custom Policy**, and select **Authorize by Tag**.
- In the visual policy generator, enter tdmq in the **Service** field to filter. From the results, select **Tencent Distributed Message Queue (TDMQ) (tdmq)**. In **Operations**, choose **All Operations**, or select the corresponding operations as needed.

Note:

Some APIs do not support tag authentication for now. See the console page for accurate information.

←

Authorize by Tag

1

Edit Policy

>

2

Associate User/User Group/Role

Visual Policy Generator

JSON

Add Services and Operations

Add

▼ Tencent Distributed Message Queue(All actions)

Service *	Tencent Distributed Message Queue (tdmq)
Action *	All actions (*)

Select Tag (resource_tag) ⓘ

tag_44459

▼

num33453

▼

✕

+ Add

📄 Paste

If existing tags do not meet your requirements, [create one](#) ⓘ in the console.

Grant the "resource": "*" permission to APIs that don't support tag-based authorization

☒ Yes

☐ No

Next

Characters: 5013 (up to 6,144)

4. Click **Next**, and fill in the policy name as required.

5. Click **Select User** or **Select User Group**, and choose the user or user group to grant resource permissions to.

[←](#) **Authorize by Tag**

✓

Edit Policy

>

2

Associate User/User Group/Role

Basic Info

Policy Name *

policygen

After the policy is created, its name cannot be modified.

Description

Please enter the policy description

Associate User/User Group/Role

Authorized Users

Select Users

Authorized User Groups

Select User Groups

Grant Permission to Role

Select Role

Previous

Complete

6. Click **Complete**. The related sub-account will be able to control the resources under the specified tag according to the policy.

Unified Management of Resource Tags

You can also perform unified management of resource tags in the [Tag Console](#). Detailed operations are as follows:

1. Log in to the Tencent Cloud [Tag Console](#).
2. In the left sidebar, select **Resource Tag**. Choose the query conditions as needed, and select **TDMQ > Cluster** under **Resource Type**.
3. Click **Query Resources**.
4. In the results, select the required resources, and click **Edit Tag** to bind or unbind tags in batch.

Query and Tagging

Region: *

All

Resource type: *

Cluster

Tag:

tag_44459

:

num33453

Delete

Add

Query Resources

Reset

More

Edit Tag

Selected: 0/3

There may be resources that do not support direct jumping to details or the list.

Enter a resource ID/name

Role and Authentication

Last updated : 2024-06-28 11:31:36

Glossary

Role: different from a role in Tencent Cloud, a role in TDMQ for Apache Pulsar is a proprietary concept. It is the smallest unit of permission division performed by you in TDMQ. You can add multiple roles and assign them the production/consumption permissions of different namespaces.

Token: it is an authentication tool in TDMQ for Apache Pulsar. You can add a token in a client to access TDMQ for Apache Pulsar for message production/consumption. Tokens correspond to roles one by one, and each role has its own unique token.

Use Cases

You need to securely use TDMQ for Apache Pulsar to produce/consume messages.

You need to set production/consumption permissions of different namespaces for different roles.

For example, your company has departments A and B, and department A's system produces transaction data and department B's system performs transaction data analysis and display. In line with the principle of least privilege, two roles can be configured to grant department A only the permission to produce messages to the transaction system namespace and grant department B only the permission to consume messages. This helps greatly avoid problems caused by unclear division of permissions, such as data disorder and dirty business data.

Directions

Creating role

1. Log in to the [TDMQ for Apache Pulsar console](#) and click **Role Management** on the left sidebar to enter the **Role Management** page.
2. On the **Role Management** page, select the region and cluster and click **Create** to enter the **Create Role** page.
3. On the **Create Role** page, enter the role name and remarks:
Role Name: it can contain up to 32 digits, letters, and delimiters (underscore or hyphen).
Remarks (optional): enter remarks of up to 100 characters.
4. Click **Submit**.

Create ×

Region

Shanghai

Role

It can contain up to 32 digits, letters, or symbols ("_" or "-").

Description

It can contain up to 100 characters.

Save

Cancel

Granting permission to role

1. Find the newly created role in **Role Management** in the TDMQ for Apache Pulsar console and copy the role token in the following methods:

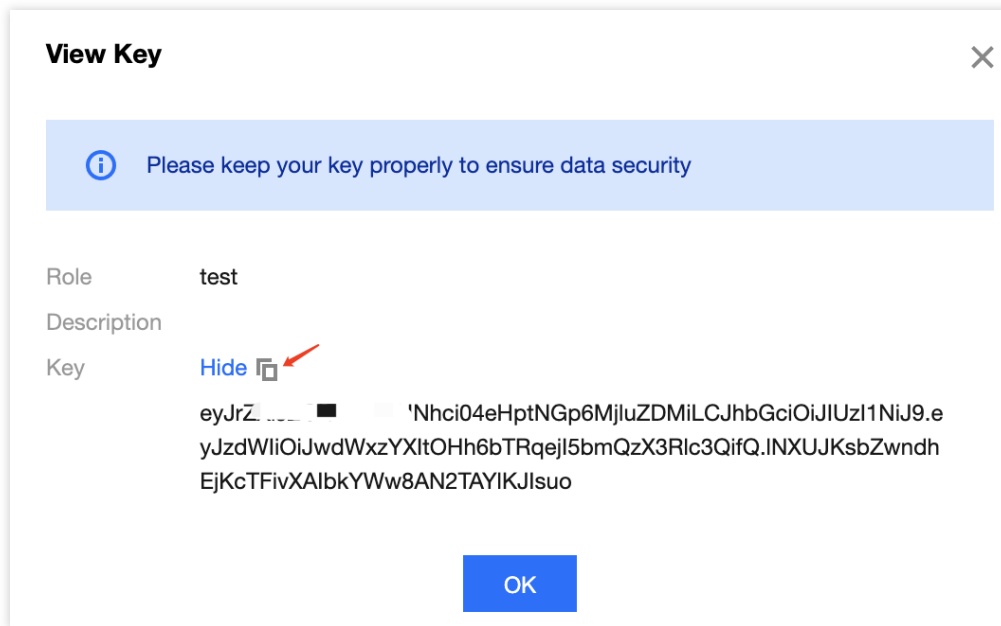
Method 1. Copy in the Token column

Method 2. View and copy in the Operation column

Click **Copy** in the **Token** column.

<div>CreateDelete</div>				
<input type="checkbox"/> Name	Key	Description	Creation Time	Last Updated
<input type="checkbox"/> test	Copy		2021-11-25 16:47:32	2021-11-25 16:4

Click **View Token** in the **Operation** column and click **Copy** in the pop-up window.



2. Add the copied role token to the client parameters. For directions on how to add the token parameter to the client code, see [JWT Authentication Configuration](#).

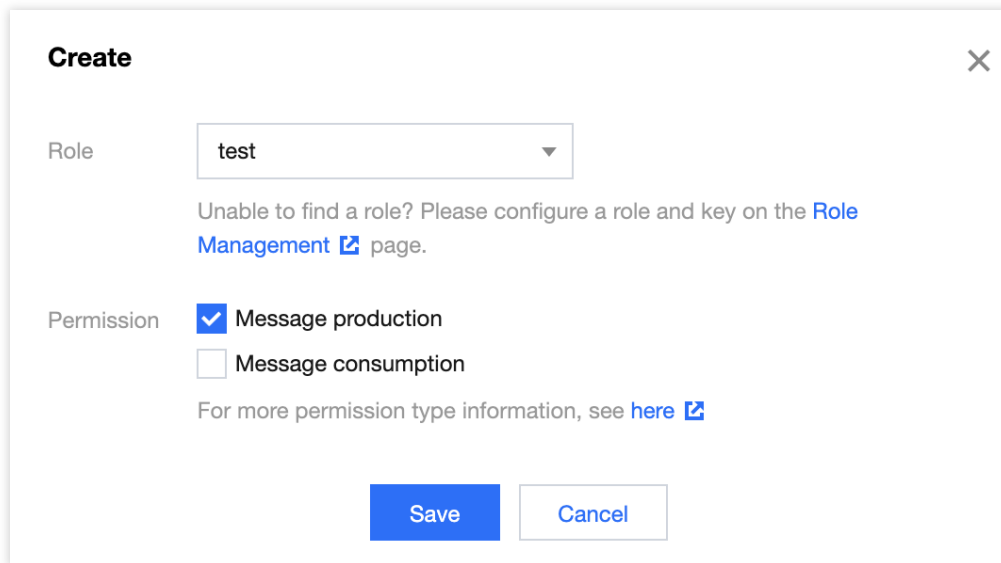
Note:

Token leakage may lead to data leakage; therefore, you should keep your token confidential.

3. In **Namespace** in the TDMQ for Apache Pulsar console, select the target namespace and click **Configure Permission** in the **Operation** column.

Create				
Namespace Name	Message TTL ⓘ	Message Retention Policy ⓘ	Max Retention Period/Storage Space ⓘ	
test	1 hour	Persistent retention	Max Retention Period	1 day
			Max Storage Space	10 GB

4. Click **Add Role**, find the role just created in the drop-down list, select the required permission, and click **Save**.



Create

Role: test

Unable to find a role? Please configure a role and key on the [Role Management](#) page.

Permission:

- ☒ Message production
- ☐ Message consumption

For more permission type information, see [here](#)

Save **Cancel**

5. Check whether the permission has taken effect.

You can run the configured client to access the topic resources in the namespace and produce/consume messages according to the configured permission. Check whether a no permission error is reported, and if not, the permission has been configured successfully.

Editing permission

1. In **Namespace** in the TDMQ for Apache Pulsar console, find the target namespace and click **Configure Permission** in the **Operation** column to enter the permission configuration list.
2. In the permission configuration list, click **Edit** in the **Operation** column of the target role.
3. In the pop-up window, modify the permission information and click **Save**.

Deleting permission

Note:

Before deleting a permission, make sure that the current business no longer uses the role to produce/consume messages; otherwise, a client exception may occur due to the failure to produce/consume messages.

A role cannot be deleted if it has permissions configured in namespaces.

1. In **Namespace** in the TDMQ for Apache Pulsar console, find the target namespace and click **Configure Permission** in the **Operation** column to enter the permission configuration list.
2. In the permission configuration list, click **Delete** in the **Operation** column of the target role.
3. In the pop-up window, click **OK**.

JWT Authentication Configuration

Last updated : 2024-06-28 11:31:37

Overview

TDMQ for Apache Pulsar provides the same JWT authentication method used by native Pulsar, which allows you to access TDMQ for Apache Pulsar resources by configuring the token in the client parameters. For directions on how to configure the relationships between different role tokens and TDMQ for Apache Pulsar resources in the console, see [Roles and Permissions](#).

This document describes how to configure JWT authentication in a TDMQ for Apache Pulsar client, so that you can securely use the client to produce and consume messages. You can also add a token when creating a client.

Authentication Configuration

Java client

Configure JWT authentication in a Java client:

Access sample for cluster on v2.7.1 or above

Access sample for cluster on v2.6.1



```
PulsarClient client = PulsarClient.builder()  
    // Access address, which can be copied from **Access Address** in the **Operat  
    .serviceUrl("http://*")  
    // Replace it with the role token displayed on the **Role Management** page  
    .authentication(AuthenticationFactory.token("eyJh****"))  
    .build();
```



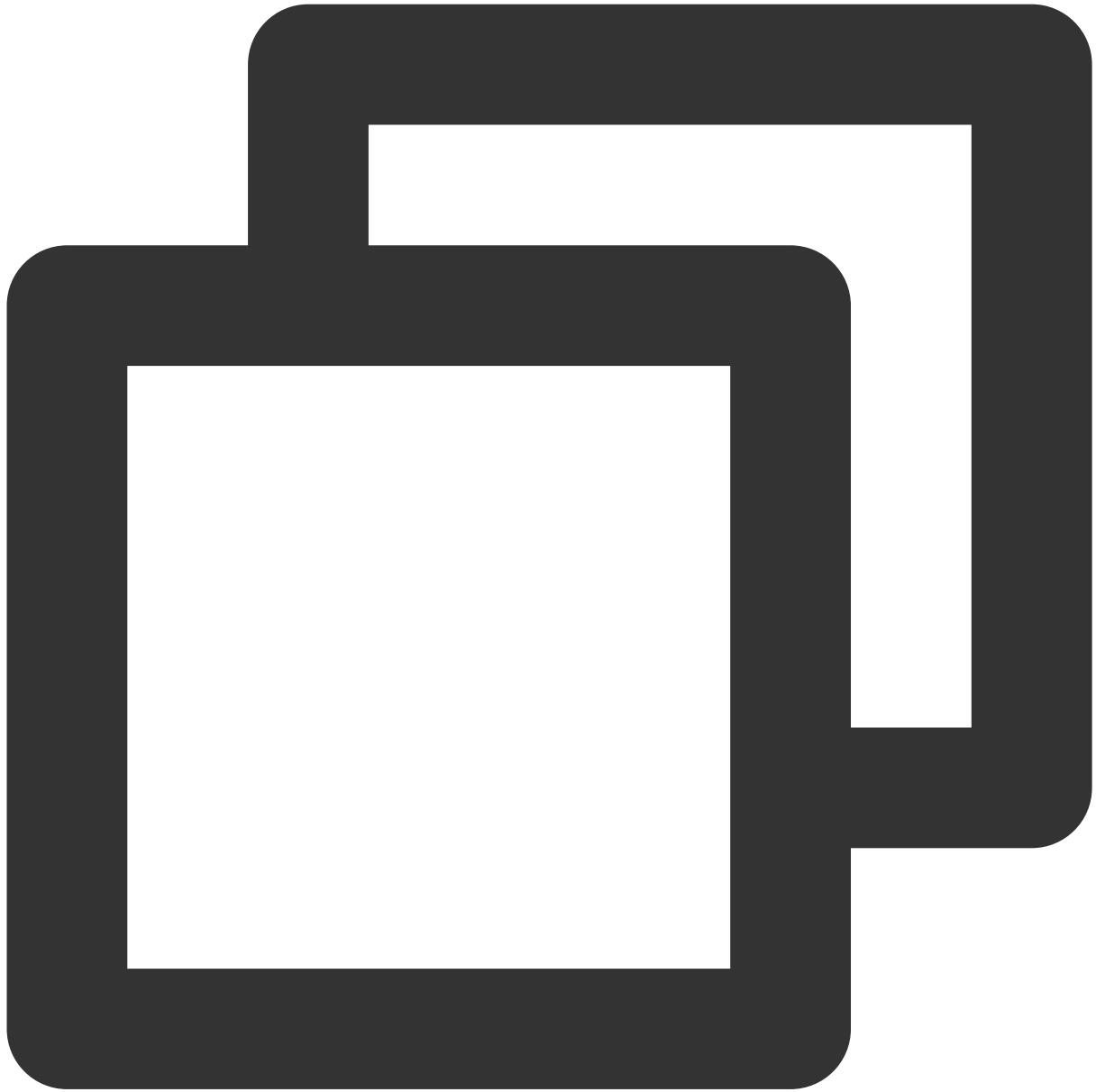
```
PulsarClient client = PulsarClient.builder()
    // Access address, which can be copied from the access point list in **Cluste
    .serviceUrl("pulsar://*.*.*.*:6000/")
    // Replace it with the role token displayed on the **Role Management** pag
    .authentication(AuthenticationFactory.token("eyJh****"))
    // Replace the value of `custom:` with the route ID in the access point li
    .listenerName("custom:1*****0/vpc-*****/subnet-*****")
    .build();
```

Go client

Configure JWT authentication in a Go client:

Access sample for cluster on v2.7.1 or above

Access sample for cluster on v2.6.1



```
client, err := NewClient(ClientOptions{
    // Access address, which can be copied from the access point list in **Cluste
    URL: "http://*",
    // Replace it with the role token displayed on the **Role Management** pag
    Authentication: NewAuthenticationToken("eyJh****"),
})
```



```
client, err := NewClient(ClientOptions{
    // Access address, which can be copied from the access point list in **Cluste
    URL: "pulsar://*.*.*.*:6000",
    // Replace it with the role token displayed on the **Role Management** pag
    Authentication: NewAuthenticationToken("eyJh****"),
    // Replace the value of `custom:` with the route ID in the access point li
    ListenerName: "custom:1300*****0/vpc-*****/subnet-*****",
})
```


Tag Management

Last updated : 2024-08-19 16:44:21

Overview

Tags are key-value pairs provided by Tencent Cloud to mark and identify resources in the cloud. They help you easily classify and manage the TDMQ for Apache Pulsar resources in many dimensions such as business, purpose, and owner.

Note

Tencent Cloud will not use the tags you set, and they will only be used for your management of the TDMQ for Apache Pulsar resources.

Use Limits

For the use limits of tags, see [Use Limits](#).

Operation Methods and Cases

Case Description

Case: A company has 6 TDMQ for Apache Pulsar clusters on Tencent Cloud, with the department, business scope, and owner information as described below:

Queue ID	Department	Business Scope	Owner
pulsar-rgxj35jgo3d1	E-commerce	Marketing campaigns	Tom
pulsar-rgxj35jgo3d2	E-commerce	Marketing campaigns	Harry
pulsar-rgxj35jgo3d3	Games	Game A	Jane
pulsar-rgxj35jgo3d4	Games	Game B	Harry
pulsar-rgxj35jgo3d5	Entertainment	Post-production	Harry
pulsar-rgxj35jgo3d6	Entertainment	Post-production	Tom

Taking pulsar-rgxj35jgo3d1 as an example, we can add the following three sets of tags to this instance:

Tag key	Tag value
dept	ecommerce
business	mkt
owner	Tom

Similarly, other queue resources can also set their corresponding tags based on their department, business scope, and owner.

Setting Tags in the TDMQ for Apache Pulsar Console

Taking the above scenario as an example, after you have designed the tag keys and tag values, you can log in to the TDMQ for Apache Pulsar console to set the tags.

1. Log in to the [TDMQ for Apache Pulsar console](#).
2. On the Cluster Management list page, select the region, check the clusters that need tag editing, and click **Edit Resource Tags** at the top of the page.

Create Cluster		Edit Resource Tag		Search by keyword				
<input checked="" type="checkbox"/>	Cluster ID/Name	Version	Status ▾	Cluster Specification	Network	Billing Mode	Resource Tag	Description
<input checked="" type="checkbox"/>	pulsar- te	2.9.2	Normal	PULSAR.P1.MINI2	VPC Subnet	vpc-fs6qq7yn subnet-8ah6a7rs	Monthly subscription Renew Expire at 2024-08-08 16:37:07	tag_44459: num33453

3. In the pop-up Edit Tag window, set the tag.

For example: Add three sets of tags to the cluster of pulsar-rgxj35jgo3d1.

Edit Tag

Notes

- Tags are used to manage resources by category in different dimensions. If the existing tags don't meet your requirements, you can [manage tags](#).

1 resource(s) selected

tag_44459

num33453

tag_26772

num91897

运营状态

运营中

+ Add

Paste

OK

Cancel

Note

If the existing tags do not meet your requirements, please go to [Tag Management](#) to create new tags.

4. Click **OK**. The system will display a successful modification prompt, and you can view the associated tags in the resource tag column of the cluster.

Create Cluster		Edit Resource Tag		Search by keyword				
<input type="checkbox"/>	Cluster ID/Name	Version	Status	Cluster Specification	Network	Billing Mode	Resource Tag	Description
<input type="checkbox"/>	<div><div>pulsar-</div><div></div></div>	2.9.2	Normal	PULSAR.P1.MINI2	<div>VPC vpc-fs6qq7yn</div> <div>Subnet subnet-8ah6a7rs</div>	<div>Monthly subscription</div> <div><div>Renew</div></div> <div>Expire at 2024-08-08 16:37:07</div>	<div>testgy</div> <div><div>tag_26772:nu</div><div>m91897</div></div> <div><div>tag_44459:</div><div>num33453</div></div>	

Filtering Resources by Tag Key

When you want to filter clusters that are bound to specific tags, use the following operations to filter them.

- In the search box at the top-right corner of the page, select **Tag**.
- In the window that pops up after **Tag**, select the tag you want to search for, and click **Confirm** to search.

For example: Select `Tag: owner:zhangsan` to filter out clusters bound to the tag key `owner:zhangsan`.

Create Cluster		Edit Resource Tag		Tag: tag_44459 : num33453				Search by keyword	
<input type="checkbox"/>	Cluster ID/Name	Version	Status	Cluster Specification	Network	Billing Mode	Resource Tag	Description	
<input type="checkbox"/>	pul- tu	2.9.2	Normal	PULSAR,P1,MINI2	VPC Subnet vpc-fs6qq7ym subnet-8ah6a7rs	Monthly subscription Renew Expire at 2024-08-08 16:37:07	test:gy tag_26772:num91897 tag_44459:num33453		

Editing Tag

1. On the cluster management list page, select the region, check the clusters that need tag editing, and click **Edit Resource Tags** at the top of the page.

Create Cluster		Edit Resource Tag		Search by keyword				
<input checked="" type="checkbox"/>	Cluster ID/Name	Version ⓘ	Status	Configuration	Billing Mode	Resource Tag ⓘ	Description	Operation
<input checked="" type="checkbox"/>	pr-je	2.9.2	Healthy	Max Namespaces 50 Max Topics 1000 Max Message Storage 100 GB Max Retention Period 15 day	Pay as you go Created at 2023-07-19 17:45:54	tag_44459:num33453		View Namespace
<input checked="" type="checkbox"/>	pr-je	2.9.2	Healthy	Max Namespaces 50 Max Topics 1000 Max Message Storage 100 GB Max Retention Period 15 day	Pay as you go Created at 2022-11-04 18:00:24			View Namespace

Note

You can batch edit tags for up to 20 resources at a time.

2. In the pop-up Edit Tag window, add, modify, or delete tags as needed.

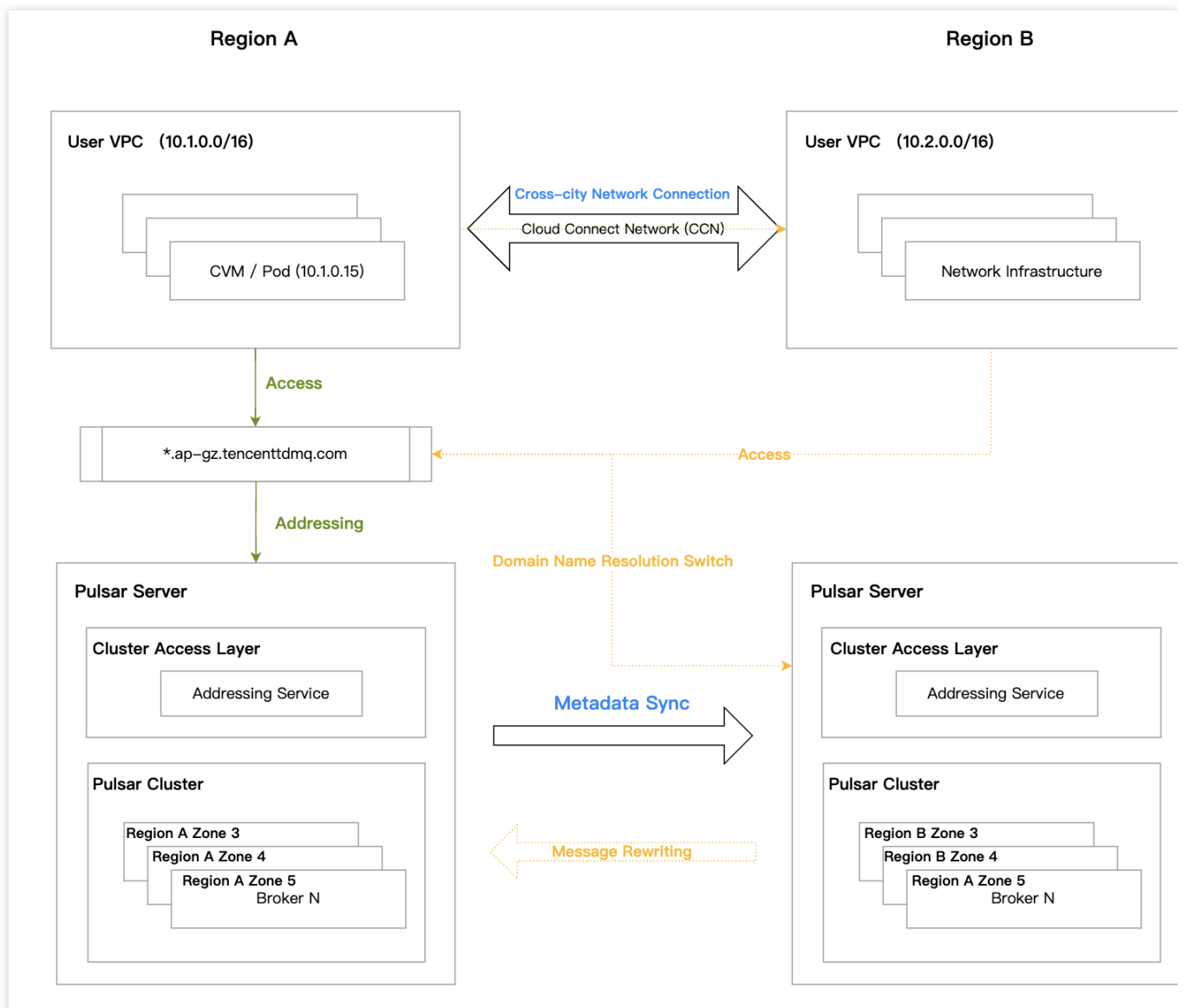
Cross-Region Disaster Recovery

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Overview

Messaging middleware plays a crucial role in the technical architecture of business systems. TDMQ Pulsar inherently supports multi-AZ disaster recovery. To address region-level disasters and enable quick business migration to ensure continuity, a **Cross-Region Disaster Recovery** solution has been introduced.

The introduction of the cross-region disaster recovery solution is as follows.



Under normal circumstances, to ensure the access of business to the Pulsar server in region A, users need to complete two main actions:

1. Establish cross-city network connections through [Cloud Connect Network](#) (CCN) to interconnect VPC networks across regions;
2. Synchronize metadata by establishing cluster metadata synchronization in two locations through the Pulsar console, including namespace, topic, subscription, role, etc.

When an exception occurs, the TDMQ for Apache Pulsar console provides a domain name resolution switch feature, redirecting the original domain name used in the Region A to the disaster recovery Region B's cluster. This avoids the need for clients to modify access point addresses, thus implementing a disaster recovery cluster solution for the Region B and ensuring business continuity.

After recovery from the exception in the Region A, users first need to decide whether to rewind the messages produced in the Region B back to the Region A to ensure message integrity. If rewinding is required, please contact our after-sales team for operation. Then, users can switch the access point domain name resolution back to the Region B's cluster. After the switchback operation, clients can access the Region A normally.

Operation Guide

Disaster Recovery Feature Launch Configuration

1. In the Backup region, create a professional cluster. On the cluster purchase page, you need to enable the [Cross-Region Disaster Recovery] switch and select the cluster to backup;

2. Through the console, configure the cluster's metadata synchronization link:

Replication link name: Define a name for the synchronization link.

Source cluster selection: Choose the Pulsar cluster for disaster recovery backup.

Destination cluster selection: Choose the created disaster recovery cluster in a different region. Only clusters with the same [Cluster IDs] will be displayed here.

Replication level: Supports two levels, cluster level and namespace level.

Cluster level is suitable for cold backup at the cluster level.

Namespace level, suitable for scenarios where clusters in two locations are both active, and different namespaces are distributed across different regions, with mutual primary-backup between regions.

Cloud Connect Network Ensures Cross-Region Network Connectivity

Based on [Cloud Connect Network](#), a network access channel is established between the production region and the backup region, enabling cross-region access to the backup cluster from clients in the production region during disasters.

For details on the configuration, please see the Cloud Connect Network [Operation Guide](#), and follow these steps:

1. [Create Cloud Connect Network Instance](#)
2. [Associate Network Instance](#)

In the Event of a Disaster

User decision. Client access switches to the backup region:

1. Initiate domain name resolution switch through the console (if available);
2. If the console is unavailable, customers can contact the after-sales architect to initiate switch from the TDMQ service side.

After Disaster Recovery

User decision. Client access switches back to the original region cluster:

1. User determines whether message rewinding is necessary. If rewinding is needed, please contact our after-sales team for operation;
2. Initiate domain name switch back through the console, and client access to the original region resumes normally.

Notes

1. Supported Scope

This feature is only supported by professional clusters.

2. Message Rewinding

Message rewinding is a prerequisite judgment when users switch traffic back to the original region. The purpose is to avoid data loss and ensure data integrity. Please be sure to decide whether to rewind before switching back the domain name.

User provided information:

List of Topics to be migrated, for example: cluster ID, namespace, or specific Topic list.

The start and end times, messages sent within this time range in the Topic are considered data to be migrated, with reference to the publishTime in the message header.

Impacts of message rewinding:

A large number of duplicate messages. The server inherently will not consider the complex state machine involved in the synchronization of offsets between the source and destination clusters. It will treat all migrated messages as new messages, even if the historical data already contains the same message, it is considered two different messages. If duplicate messages have a certain impact on the business, it is recommended that the client perform [Idempotent Processing](#).

Fewer messages are out of order.

3. About Roles

In the source cluster, there needs to be at least one Role that does not need to be bound to namespace. The goal is to ensure that during synchronization, the Role and Token can remain consistent with the disaster recovery cluster.

4. Cloud Connect Network Configuration

In Cloud Connect Network configuration, the VPC CIDRs created in two regions must not overlap. For example: Guangzhou 10.0.0.0/16 and Shanghai 10.1.0.0/16. In this way, Cloud Connect Network can connect these two VPCs without IP conflicts.

5. Time for Domain Name Switch to Take Effective

The domain name switch takes about 5 s to 5 mins to take effect, including two parts: domain name resolution switch and clients disconnecting and reconnecting to the new cluster's Broker.

6. After Switch During a Disaster

In the event of a disaster, after traffic switches to the disaster recovery cluster, try not to change the metadata in the backup cluster, including changing namespace attributes and creating new Topics.