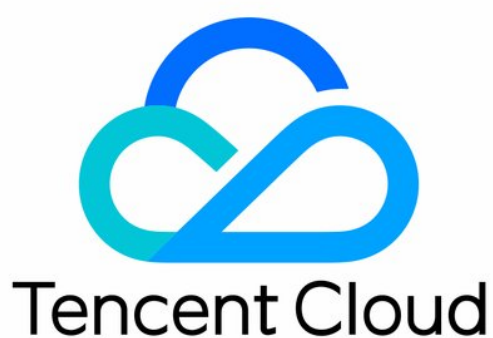


TDMQ for Pulsar

Operation Guide

Product Documentation



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Operation Guide

Cluster Management

Creating Cluster

Last updated : 2024-04-25 15:34:59

Overview

Cluster is a resource dimension in TDMQ for 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.

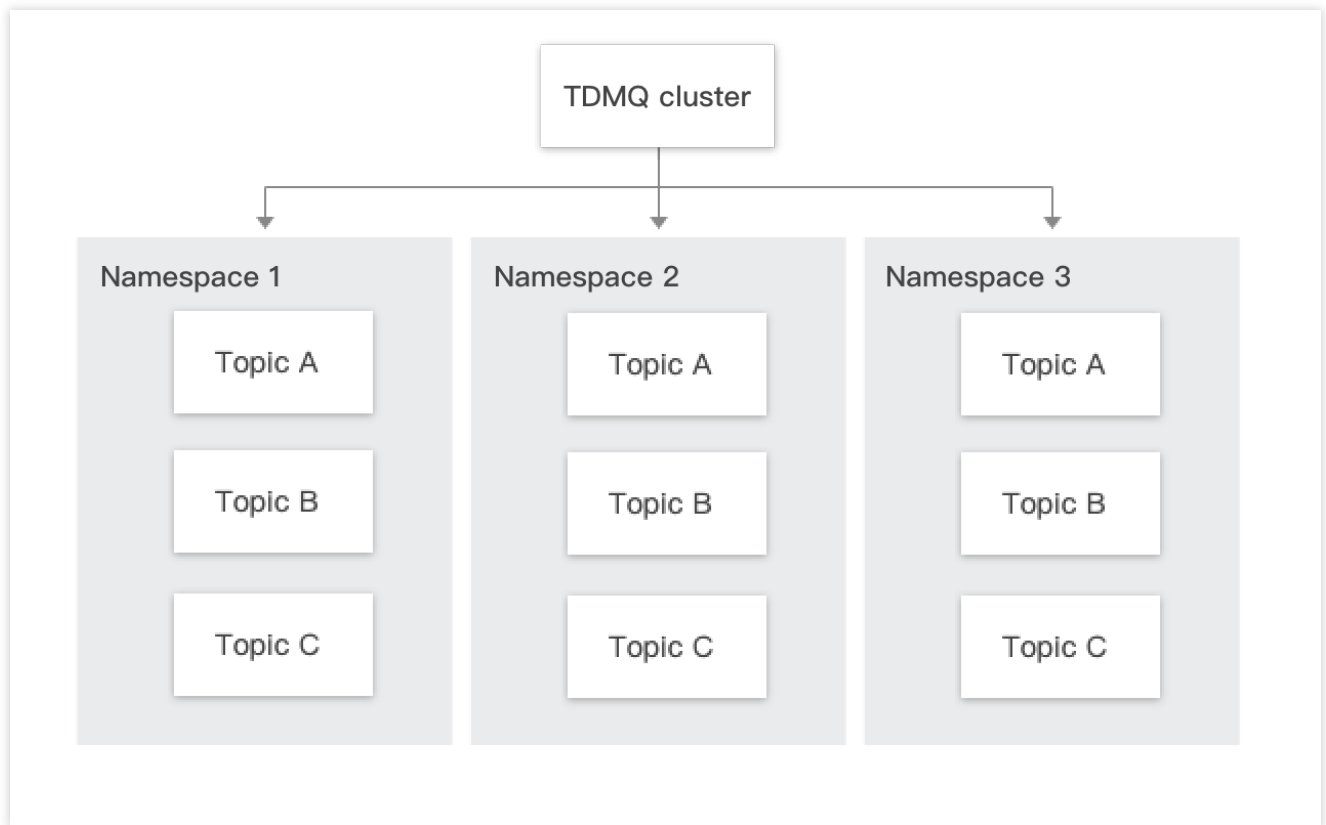
There are certain use limits. You don't need to pay for resources, and you can create up to 5 virtual clusters under each account.

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 Pulsar resource hierarchy



Directions

Creating a cluster

1. Log in to the [TDMQ for 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 (-_=:).

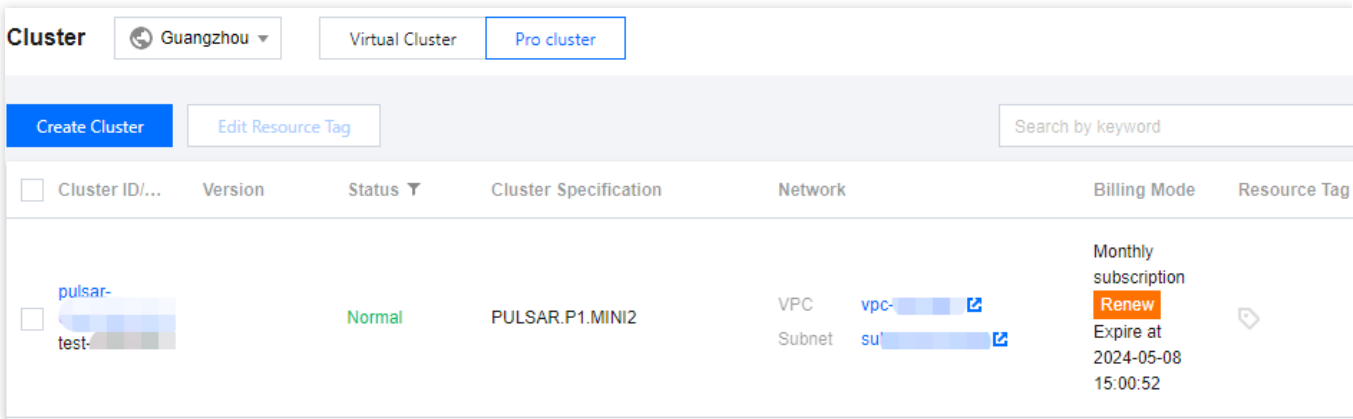
Resource tag: Set a resource tag. For more information, see [Managing Resource with Tag](#).

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.



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:

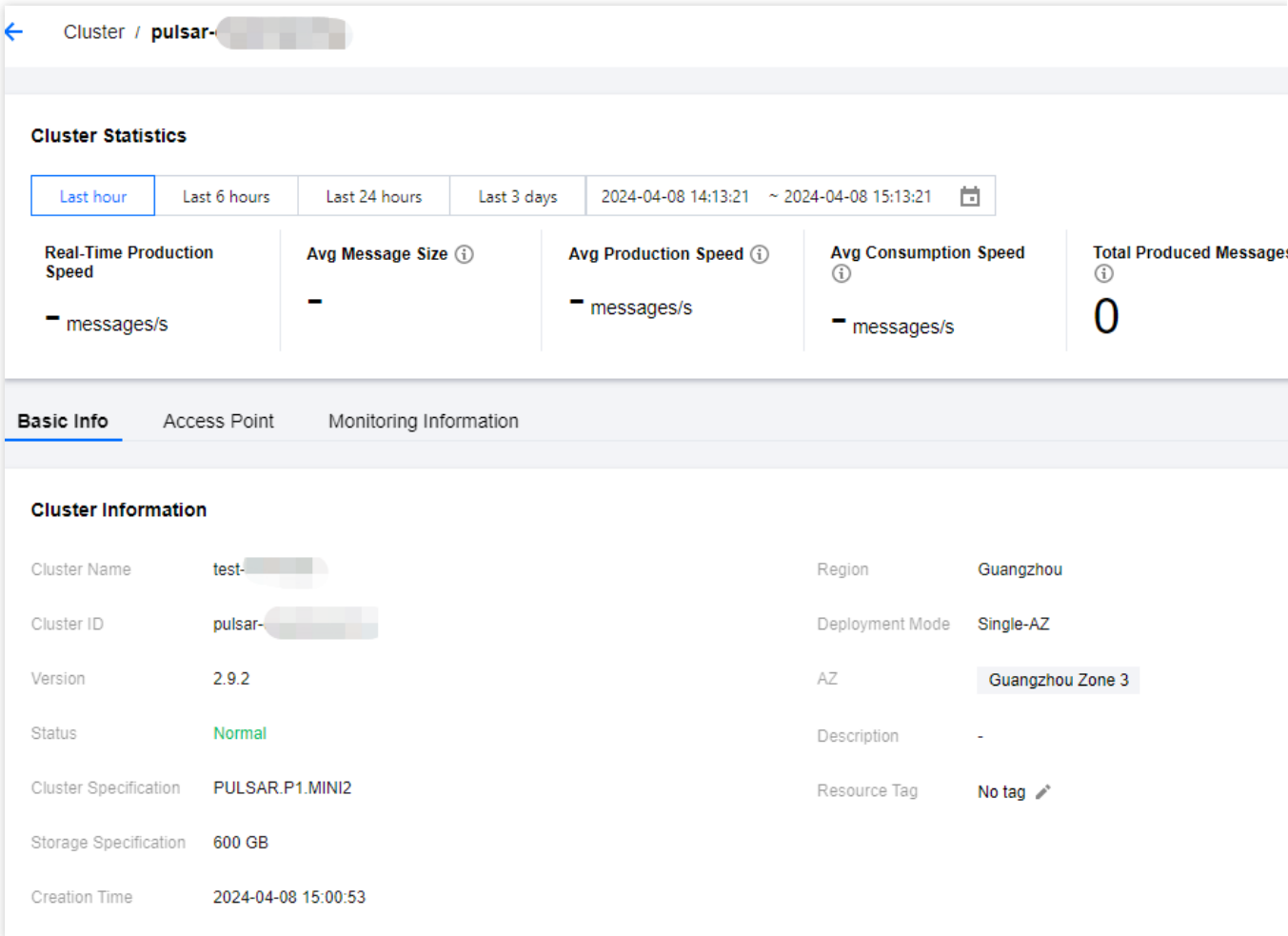
Professional Cluster

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 OverviewAccess 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

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

Delete

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.

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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 'Cluster Management' page in the Tencent Cloud console. At the top, there are tabs for 'Virtual Cluster' and 'Pro cluster', with 'Pro cluster' selected. Below the tabs are buttons for 'Create Cluster' and 'Edit Resource Tag', and a search bar. A table lists the clusters with columns: Cluster ID/Name, Version, Status, Cluster Specification, Network, Billing Mode, and Resource Tag. One cluster is visible with ID 'pulsar-...', version '2.9.2', status 'Normal', and specification 'PULSAR.P1.MINI2'. To the right of the table, a modal titled 'API Call Address' is open, showing 'VPC Access Address' and 'Public Network Access Address'. The 'Public Network Access Address' is disabled, 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 : 2024-04-25 15:35:19

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 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**.

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.LARGE4
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

−

200

+

GB × 3

TDMQ for Pulsar pro cluster is deployed with 3 replicas by default, and the storage fees are the unit price multiplied by the number of replicas.

Configuration Upgrade Fees

26USD/month

Confirm the Adjustment

Cancel

Returning Cluster

Last updated : 2024-04-25 15:36:16

Overview

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

The lifetime of a TDMQ for 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 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 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 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 : 2024-04-25 15:36:30

Overview

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

Prerequisites

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

Directions

1. Log in to the [TDMQ for 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](#).

Namespace

Last updated : 2024-01-03 14:21:46

Overview

Namespace is a resource management concept in TDMQ for 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 Pulsar to use the same TDMQ for Pulsar cluster in different scenarios.

Note:

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

Directions

Note:

If the TDMQ for 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 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 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 : 2024-01-03 14:21:46

Overview

Topic is a core concept in TDMQ for 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 Pulsar.

Prerequisite

You have created a namespace.

Directions

Creating a topic

1. Log in to the [TDMQ for 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 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 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 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 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 : 2024-01-03 14:21:46

Overview

In the TDMQ for 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 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 Pulsar, and they run properly.

Directions

Viewing subscription details

1. Log in to the [TDMQ for 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 : 2024-01-03 14:21:46

Overview

This document describes how to view the details of a producer connected to a topic in the TDMQ for 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 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.

JWT Authentication Configuration

Last updated : 2024-01-03 14:21:46

Overview

TDMQ for Pulsar provides the same JWT authentication method used by native Pulsar, which allows you to access TDMQ for 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 Pulsar resources in the console, see [Roles and Permissions](#).

This document describes how to configure JWT authentication in a TDMQ for 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();
```



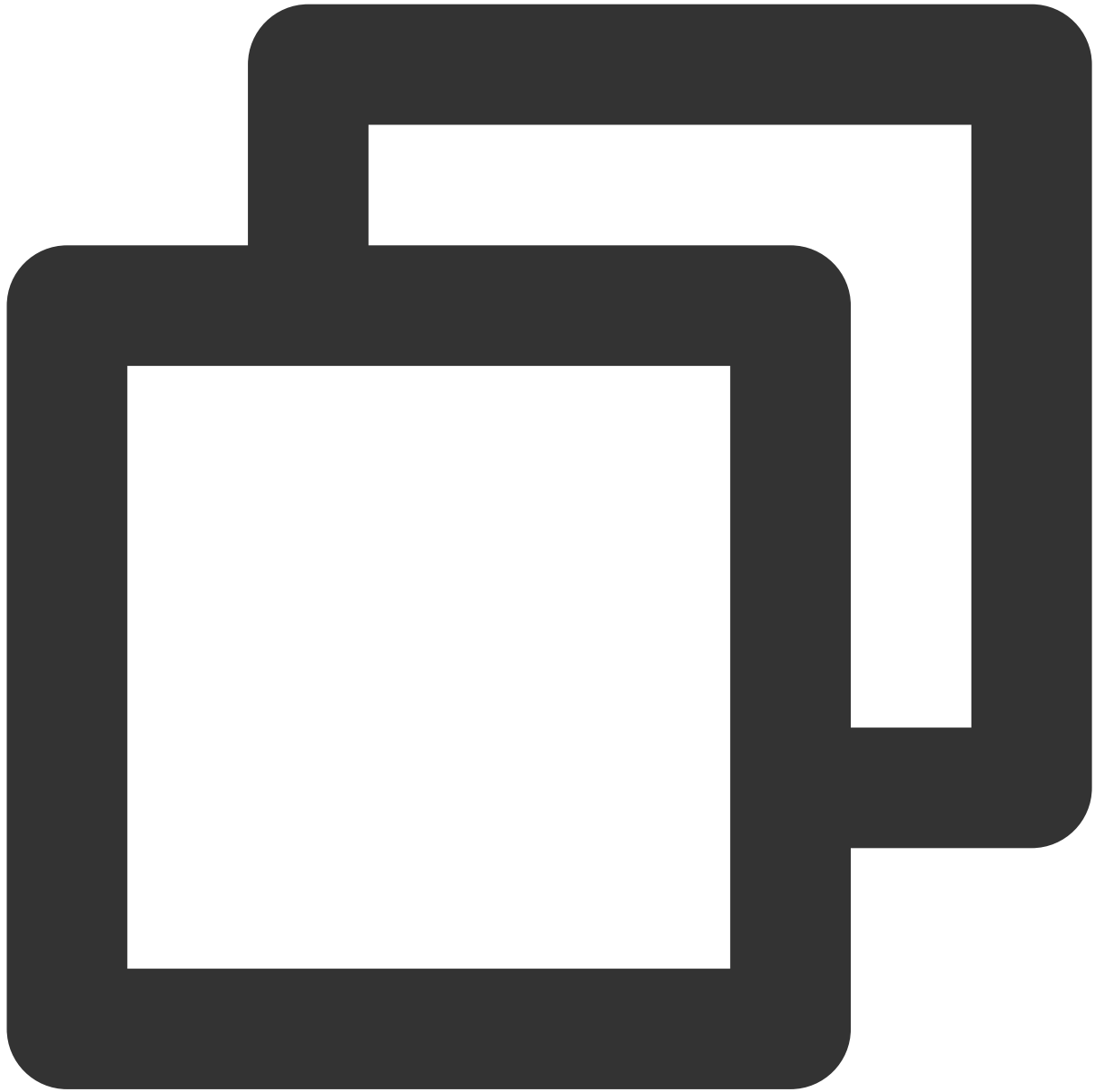
```
PulsarClient client = PulsarClient.builder()
    // Access address, which can be copied from the access point list in **Cluste
    .serviceUrl("pulsar://*.*.*.*:6000/")
    // Replace it with the role token displayed on the **Role Management** pag
    .authentication(AuthenticationFactory.token("eyJh****"))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

Go client

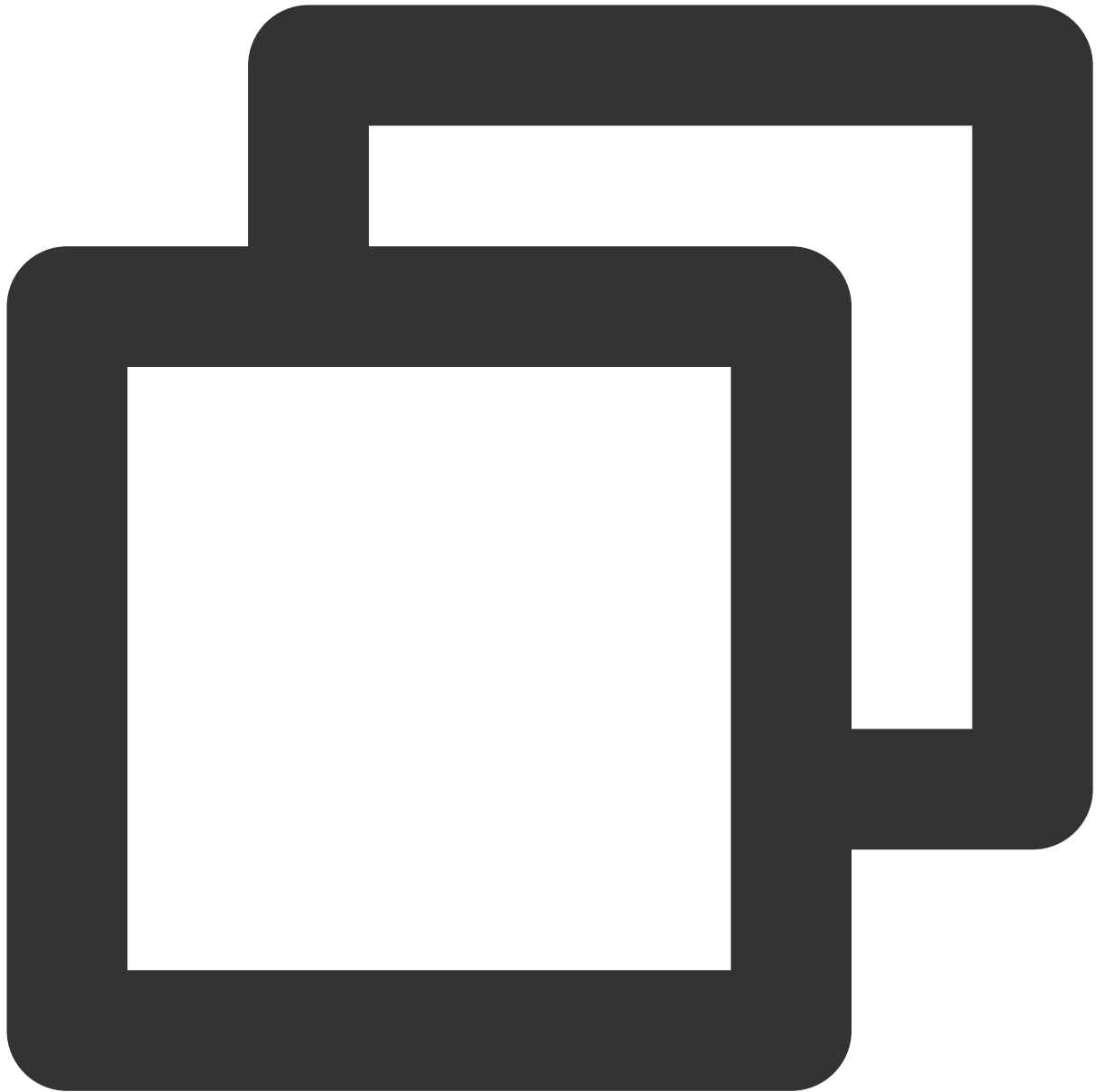
Configure JWT authentication in a Go client:

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*****"),
})
```

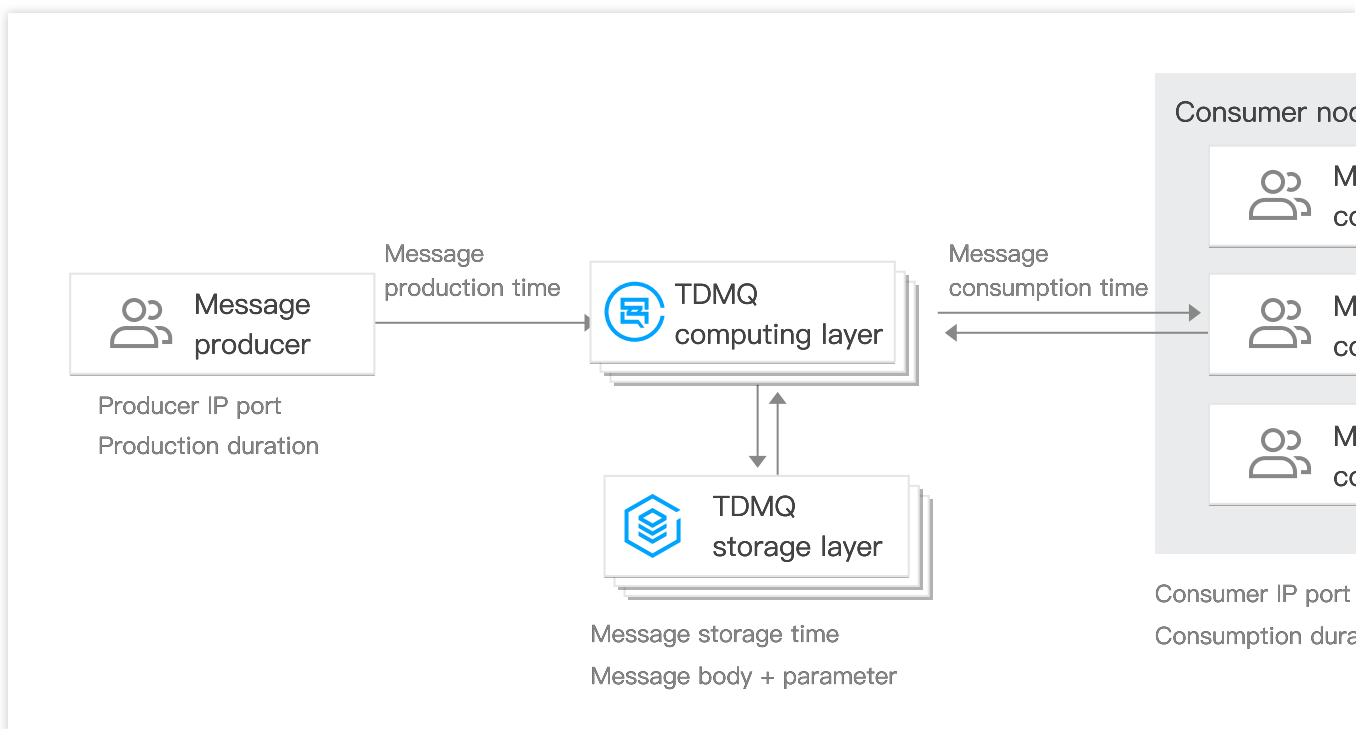


```
client, err := NewClient(ClientOptions{
    // Access address, which can be copied from the access point list in **Cluste
    URL: "pulsar://*.*.*.*:6000",
    // Replace it with the role token displayed on the **Role Management** pag
    Authentication: NewAuthenticationToken("eyJh****"),
    //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

Message Query and Trace

Last updated : 2024-01-03 14:21:46

TDMQ for Pulsar records the complete flow in which a message is sent from the producer to the TDMQ for 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 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 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.

- View the MQ's message processing latency to analyze the performance of the distributed system.

You can query messages in the last 3 days.

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

You have deployed the producer and consumer services as instructed in the [SDK documentation](#), and they produced and consumed messages in the last 7 days.

1. Log in to the [TDMQ for 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.

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 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 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 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 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 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).

Pulsar Instance Permission Management

Last updated : 2024-01-03 14:21:46

Basic CAM Concepts

A root account authorizes sub-accounts by binding policies. The policy settings can be specific to the level of **API, Resource, User/User Group, Allow/Deny, and Condition**.

Account

Root account: it owns all Tencent Cloud resources and can access any of its resources.

Sub-account: it includes sub-users and collaborators.

Sub-user: it is created and fully owned by a root account.

Collaborator: it has the identity of a root account. After it is added as a collaborator of the current root account, it becomes one of the sub-accounts of the current root account and can switch back to its root account identity.

Identity credential: it includes login credentials and access certificates. **Login credential** refers to a user's login name and password. **Access certificate** refers to Tencent Cloud API keys (`SecretId` and `SecretKey`).

Resource and permission

Resource: it is an object manipulated in Tencent Cloud services. TDMQ for Pulsar resources include clusters, namespaces, topics, and subscriptions.

Permission: it is an authorization that allows or forbids users to perform certain operations. By default, **a root account has full access to all resources under it**, while **a sub-account does not have access to any resources under its root account**.

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

[View CAM documentation >>](#)

CAM Documentation

Document Description	Link
Relationship between policy and user	Policy
Basic policy structure	Policy Syntax
CAM-Enabled products	CAM-Enabled Products

List of APIs Supporting Resource-Level Authorization

TDMQ for Pulsar supports resource-level authorization. You can grant a specified sub-account the API permission of a specified resource.

APIs supporting resource-level authorization include:

API	Description	Resource Type	Six-Segment Example of Resource
DescribeClusterDetail	Gets cluster details	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
DescribeBindClusters	Gets the list of dedicated clusters	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
DescribeClusters	Gets the list of clusters	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
ModifyCluster	Modifies cluster	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
DeleteCluster	Deletes cluster	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
CreateRole	Creates role	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
DeleteRoles	Deletes role	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
CreateEnvironment	Creates environment	cluster	qcs::tdmq:\${region}:uin/\${uin}:cluste
CreateTopic	Creates topic	environment	qcs::tdmq:\${region}:uin/\${uin}:enviro
ModifyEnvironmentAttributes	Modifies environment attributes	environment	qcs::tdmq:\${region}:uin/\${uin}:enviro
DeleteEnvironments	Deletes environment	environment	qcs::tdmq:\${region}:uin/\${uin}:enviro
DescribeEnvironments	Gets the list of environments	environmentId	qcs::tdmq:\${region}:uin/\${uin}:enviro
DescribeEnvironmentAttributes	Gets environment attributes	environmentId	qcs::tdmq:\${region}:uin/\${uin}:enviro

DescribeEnvironmentRoles	Gets the list of environment roles	environmentRoles	qcs::tdmq:\${region}:uin/\${uin}:enviro
CreateEnvironmentRole	Creates environment role	environmentRole	qcs::tdmq:\${region}:uin/\${uin}:enviro
DeleteEnvironmentRoles	Deletes environment role	environmentRole	qcs::tdmq:\${region}:uin/\${uin}:enviro
ModifyEnvironmentRole	Modifies environment role	environmentRole	qcs::tdmq:\${region}:uin/\${uin}:enviro
DescribeMsgTrace	Queries message trace	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DescribeMsg	Queries message details	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DescribeTopicMsgs	Queries message	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DescribeTopics	Queries the list of topics	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DescribeProducers	Gets the list of producers	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
DeleteTopics	Batch deletes topics	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
ModifyTopic	Modifies topic	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
CreateSubscription	Creates subscription to topic	topic	qcs::tdmq:\${region}:uin/\${uin}:topic/
ResetMsgSubOffsetByTimestamp	Rewinds message by	subscription	qcs::tdmq:\${region}:uin/\${uin}:subsc

	timestamp, accurate down to the millisecond		
DeleteSubscriptions	Deletes subscription	subscription	qcs::tdmq:\${region}:uin/\${uin}:subsc
DescribeRealTimeSubscription	Queries the list of real- time consumption subscriptions	subscription	qcs::tdmq:\${region}:uin/\${uin}:subsc
DescribeSubscriptions	Queries the list of consumption subscriptions	subscription	qcs::tdmq:\${region}:uin/\${uin}:subsc
ModifyRole	Modifies role	role	qcs::tdmq:\${region}:uin/\${uin}:role/\$
DescribeRoles	Gets the list of roles	role	qcs::tdmq:\${region}:uin/\${uin}:role/\$

List of APIs Not Supporting Resource-Level Authorization

API	Description
CreateCluster	Creates cluster

Authorization Scheme Examples

Full access policy

Grant a sub-user full access to the TDMQ for Pulsar service (for creating, managing, etc.).

1. Log in to the [CAM console](#).
2. Click **Policy** on the left sidebar.
3. In the policy list, click **Create Custom Policy**.
4. In the **Select Policy Creation Method** pop-up window, select **Create by Policy Generator**.
5. On the **Edit Policy** page, click **Import Policy Syntax** in the top-right corner.

6. On the **Import Policy Syntax** page, search for **TDMQ**, select **QcloudTDMQFullAccess** in the search results, and click **OK**.
7. On the **Edit Policy** page, click **Next**, enter the policy name and description, and select the user/user group you want to associate.
8. Click **Complete**.

Read-Only access policy

The following uses granting the read-only permission of a topic as an example.

1. Log in to the [CAM console](#).
2. Click **Policy** on the left sidebar.
3. In the policy list, click **Create Custom Policy**.
4. In the **Select Policy Creation Method** pop-up window, select **Create by Policy Generator** and enter the policy information.

← Create by Policy Generator

1 Edit Policy > 2 Associate Users/User Groups

Visual Policy Generator JSON

▼ Tencent Distributed Message Queue(All actions)

Effect * ☒ Allow ☐ Deny

Service * [Tencent Distributed Message Queue \(tdmq\)](#)

Action * [Collapse](#)

Select actions

☒ All actions (tdmq:*) [Show More](#)

Action Type

☒ Read (16 selected) [Show More](#)

☒ Write (62 selected) [Show More](#)

☒ List (23 selected) [Show More](#)

Resource * [Select resources.](#)

Condition ☐ Source IP ⓘ

[Add other conditions.](#)

+ [Add Permissions](#)

Next

Characters: 128(up to 6,144)

Parameter	Description
Effect	Select Allow
Service	Select TDMQ
Action	Select Read operation
Resource	<p>Select Specific resources and click Add six-segment resource description</p> <p>Region: select the resource region</p> <p>Account: it is automatically populated</p> <p>Resource Prefix: topic</p> <p>Enter the name of the topic you want to authorize</p>

Condition	Allow access to specified operations only when the request is from the specified IP range
-----------	---

5. Click **Next**, enter the policy name and description, and select the user/user group you want to associate.

6. Click **Complete**.

Role and Authentication

Last updated : 2024-01-03 14:21:46

Glossary

Role: different from a role in Tencent Cloud, a role in TDMQ for 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 Pulsar. You can add a token in a client to access TDMQ for 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 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 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 Pulsar console and copy the role token in the following methods:

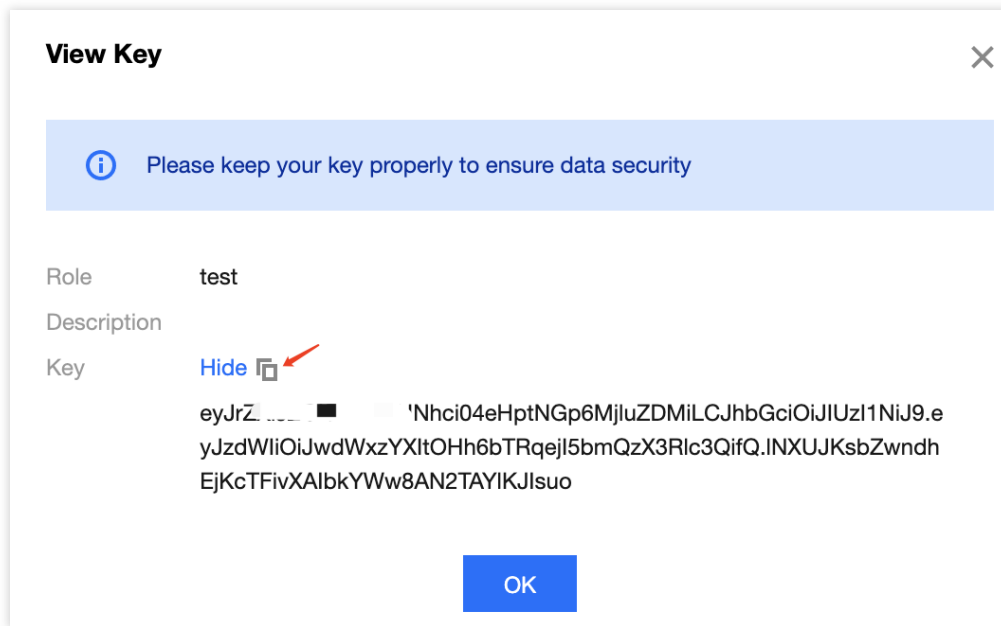
Method 1. Copy in the Token column

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](#).

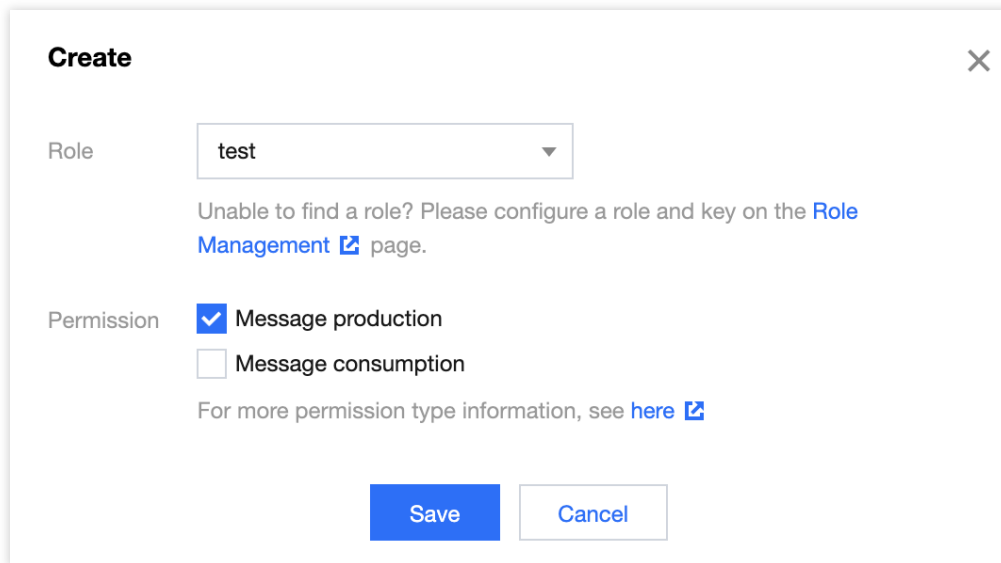
Note:

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

3. In [Namespace](#) in the TDMQ for 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 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 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**.

Monitoring and Alarms

Viewing Monitoring Information

Last updated : 2024-01-03 14:21:46

Overview

TDMQ for 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.

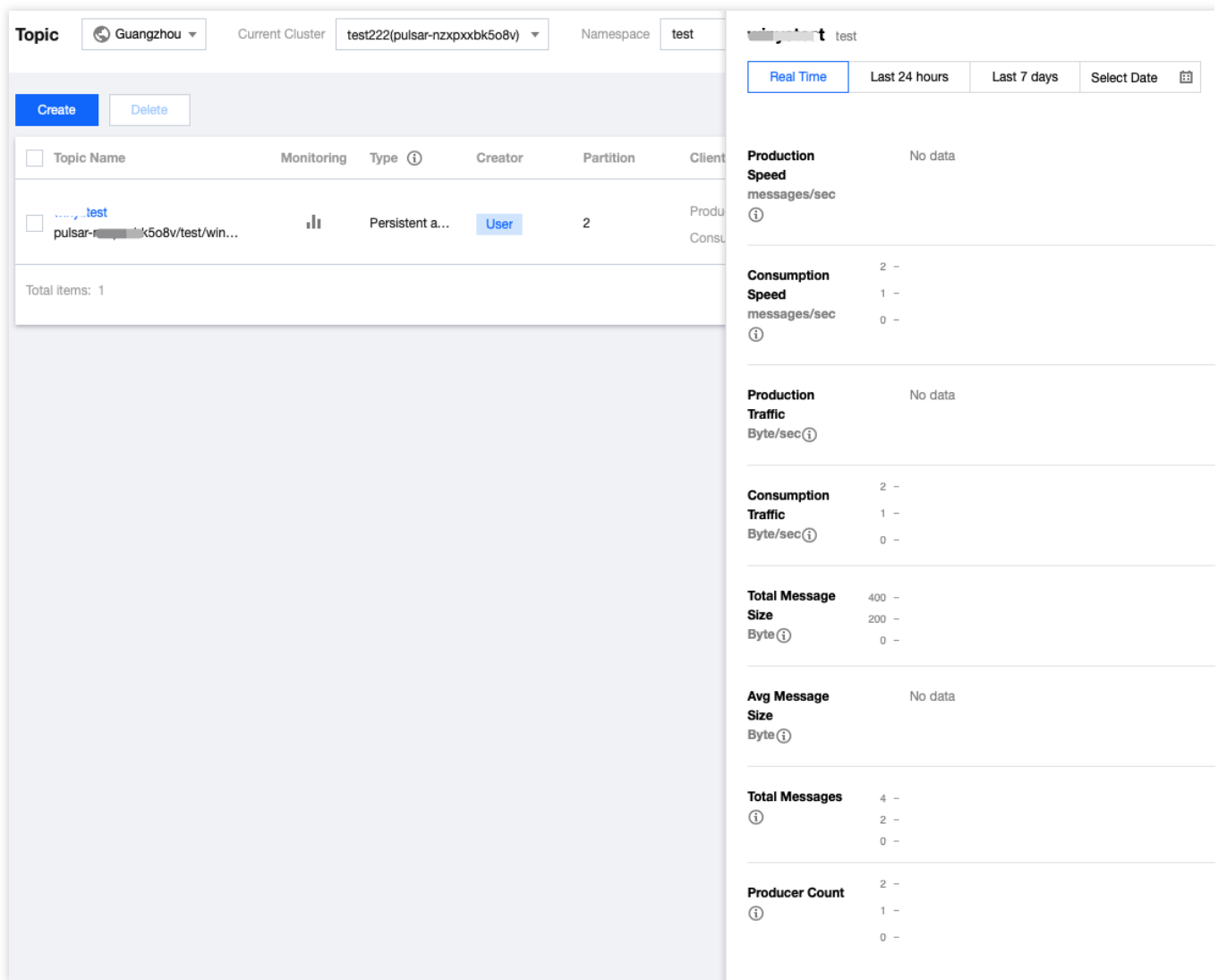
Directions

1. Log in to the [TDMQ for Pulsar console](#).
2. On the left sidebar, click **Topic Management** and select the region, cluster, and namespace.
3. In the topic list, find the target topic, click



in the **Monitoring** column, select the time range and granularity, and you can view the topic monitoring data.

Monitoring information display



Descriptions of monitoring metrics

Metric	Description
Production Speed (Messages/Sec)	Number of messages sent to the topic by producers per second in the selected time range.
Consumption Speed (Messages/Sec)	Number of messages consumed by all consumers under the topic per second in the selected time range.
Production Traffic (Byte/sec)	Data size of messages sent to the topic by producers per second in the selected time range.
Consumption Traffic (Byte/sec)	Data size of messages consumed by all consumers under the topic per second in the selected time range.
Total Message Size (Byte)	Size of heaped messages.

Avg Message Size (Byte)	Average size of produced messages.
Total Messages	Total number of produced messages.
Producer Count	Number of producers producing messages to the topic.
Subscriber Count	Number of subscribers to the topic.

Alarm Configuration

Last updated : 2024-01-03 14:22:51

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 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 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 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 : 2024-04-25 15:37:01

TDMQ for 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.

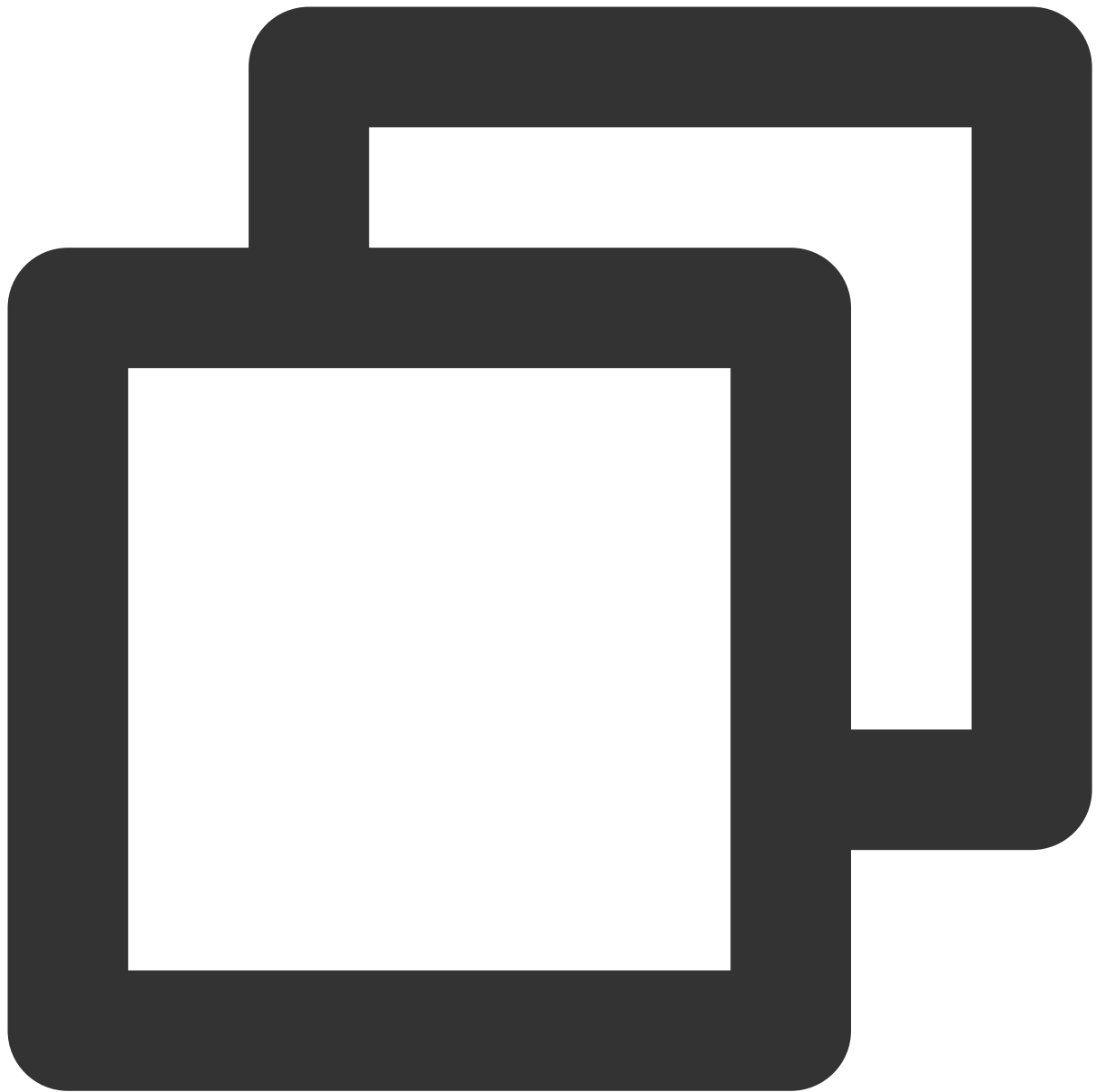
Advanced Usage:

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 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.

Tag Management

Managing Resource with Tag

Last updated : 2024-01-03 14:21:46

Overview

A tag is a key-value pair provided by Tencent Cloud to identify a resource in the cloud. You can use tags to easily categorize and manage TDMQ for 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 TDMQ for Pulsar resources.

Use limits

The use limits of tags are as follows:

Limit Type	Description
Quantity	Each Tencent Cloud resource can have up to 50 tags.
Tag key	Do not create tag keys prefixed with <code>qcloud</code> , <code>tencent</code> , or <code>project</code> because they are reserved for the system. A tag key can contain up to 255 digits, letters, and symbols <code>+=.@-</code> .
Tag value	It can be either an empty string or a string of up to 127 digits, letters, and symbols <code>+=.@-</code> .

Directions and Use Cases

Use case

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

Queue ID	Business Group	Business Scope	Owner
pulsar-rgxj35jgo3d1	E-commerce	Marketing	John

pulsar-rgxj35jgo3d2	E-commerce	Marketing	Harry
pulsar-rgxj35jgo3d3	Gaming	Game A	Jane
pulsar-rgxj35jgo3d4	Gaming	Game B	Harry
pulsar-rgxj35jgo3d5	Entertainment	Post-production	Harry
pulsar-rgxj35jgo3d6	Entertainment	Post-production	John

You can add the following three tags to the `pulsar-rgxj35jgo3d1` cluster:

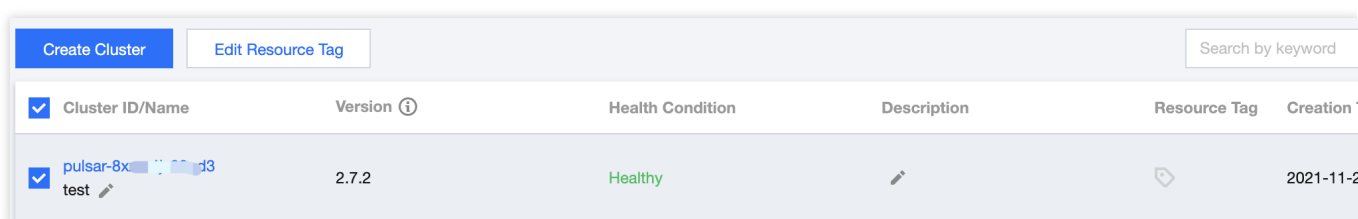
Tag Key	Tag Value
dept	ecommerce
business	mkt
owner	john

Similarly, you can also set appropriate tags for other resources based on their department, business scope, and owner information.

Setting tags in the TDMQ for Pulsar console

After designing the tag keys and values as detailed above, you can log in to the TDMQ for Pulsar console to set tags.

1. Log in to the [TDMQ for Pulsar console](#).
2. On the **Cluster Management** page, select the target region and cluster and click **Edit Resource Tag** at the top of the page.



3. Set tags in the **Edit Tag** pop-up window.

For example, add three tags for the `pulsar-rgxj35jgo3d1` cluster.

Edit Tags

The tag is used to manage resources by category from different dimensions. If the existing tag does not meet your requirements, please go to [Manage Tags](#)

1 resource selected

business	mkt	x
dept	ecommerce	x
owner	zhangsan	x

+ Add

OK Cancel

Note:

If existing tags cannot meet your needs, go to the [Tag] console(<https://console.tencentcloud.com/tag/taglist!2ec512a4e347ea6fc304960dfe8b3d58>) to create more.

4. Click **OK**, and you will be prompted that the tags have been modified successfully. You can view the tags bound to a cluster in its **Resource Tag** column.

Create Cluster		Edit Resource Tag		Search by keyword	
Cluster ID/Name	Version	Health Condition	Description	Creation Time	
<input checked="" type="checkbox"/> pulsar-8xzm4jz29nd3 test	2.7.2	Healthy		3	2021-11-2

Filtering resources by tag key

You can filter clusters bound to a specific tag in the following steps:

1. Select **Tag** in the search box at the top-right corner of the page.
2. In the pop-up window, select the tag you want to search for and click **OK**.

For example, if you select `Tag: owner:john`, you can filter clusters bound to the tag key `owner:john`.

Create Cluster

Edit Resource Tag

Tag: owner : zhangs

<input checked="" type="checkbox"/>	Cluster ID/Name	Version ⓘ	Health Condition	Description	Resource Tag	Creation
1 result found for "Tag:owner : zhangsan" Back to list						
<input checked="" type="checkbox"/>	pulsar-8xzm4jz29nd3 test	2.7.2	Healthy		3	2021-11-

Editing Tag

Last updated : 2024-01-03 14:21:46

Overview

This document describes how to edit resource tags.

Use Limits

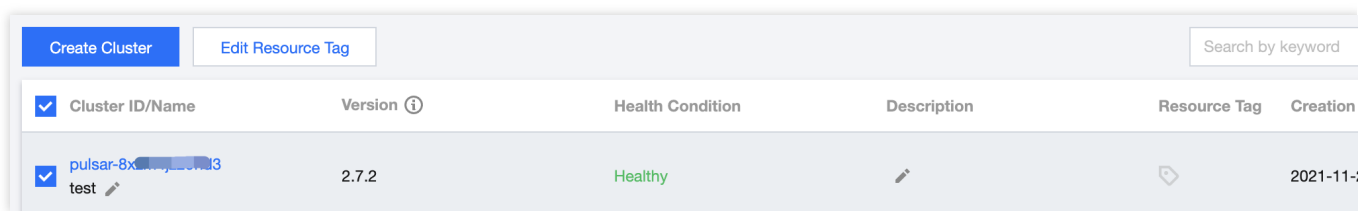
For the use limits of tags, see [Managing Resource with Tag - Use Limits](#).

Prerequisites

You have logged in to the [TDMQ for Pulsar console](#).

Directions

1. On the **Cluster Management** page, select the target region and cluster and click **Edit Resource Tag** at the top of the page.



The screenshot shows the 'Cluster Management' page in the Tencent Cloud console. At the top, there are two buttons: 'Create Cluster' (in blue) and 'Edit Resource Tag' (in white). To the right of these buttons is a search bar labeled 'Search by keyword'. Below the buttons is a table with the following columns: 'Cluster ID/Name', 'Version', 'Health Condition', 'Description', 'Resource Tag', and 'Creation'. The table contains one row with the following data: 'pulsar-8x...3 test' (with a checkmark in the first column), '2.7.2', 'Healthy', a pencil icon, a tag icon, and '2021-11-...'.

Search by keyword					
Cluster ID/Name	Version	Health Condition	Description	Resource Tag	Creation
<input checked="" type="checkbox"/> pulsar-8x...3 test	2.7.2	Healthy			2021-11-...

Note:

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

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

Use Cases

For directions on how to use tags, see [Managing Resource with Tag](#).

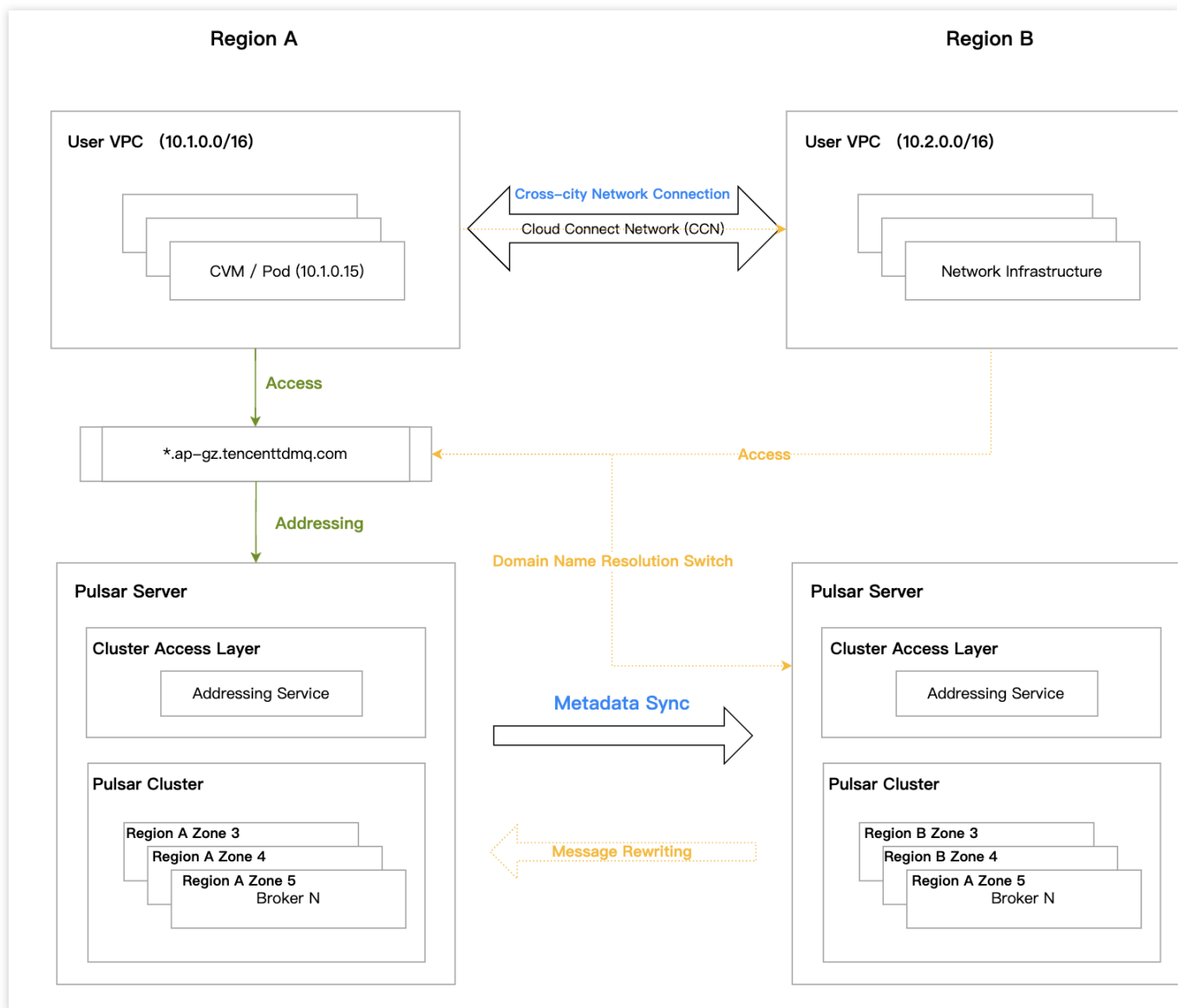
Cross-Region Disaster Recovery

Last updated : 2024-03-25 16:02:07

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 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.