

TDMQ for Apache Pulsar Getting Started Product Documentation





Copyright Notice

©2013-2025 Tencent Cloud. All rights reserved.

Copyright in this document is exclusively owned by Tencent Cloud. You must not reproduce, modify, copy or distribute in any way, in whole or in part, the contents of this document without Tencent Cloud's the prior written consent.

Trademark Notice

STencent Cloud

All trademarks associated with Tencent Cloud and its services are owned by the Tencent corporate group, including its parent, subsidiaries and affiliated companies, as the case may be. Trademarks of third parties referred to in this document are owned by their respective proprietors.

Service Statement

This document is intended to provide users with general information about Tencent Cloud's products and services only and does not form part of Tencent Cloud's terms and conditions. Tencent Cloud's products or services are subject to change. Specific products and services and the standards applicable to them are exclusively provided for in Tencent Cloud's applicable terms and conditions.



Contents

Getting Started

Using SDK to Send and Receive Normal Messages

Resource Creation and Preparation

Downloading and Running Demo

Using Message Retry and Dead Letter Queue

Using Share Subscription Mode to Consume Messages

Getting Started Using SDK to Send and Receive Normal Messages Resource Creation and Preparation

Last updated : 2024-12-02 17:03:07

Overview

This document describes how to create resources such as cluster and topic in the TDMQ for Apache Pulsar console and what you need to do in the console before running a client.

Prerequisites

You have signed up for a Tencent Cloud account as instructed in Signing Up.

Directions

Step 1. Create a cluster and configure the network

- 1. Log in to the TDMQ for Apache Pulsar console, enter the Cluster page, and select the target region.
- 2. Click **Create Cluster** to create a cluster.
- 3. Click Access Address in the Operation column of the created cluster.

Cluster ID/Name	Version (j)	Health Condition	Description	Resource Tag	Creation Time	Operation
ulsar-8x ,	2.7.2	Healthy	<i>li</i> *	\bigcirc	2021-11-25 16:37:33	View Namespace Access Address Delete

Note:

For more information on clusters, see Cluster Management.

The VPC access address does not support cross-region access. Make sure that the client and virtual cluster are in the same region.

Step 2. Create a namespace



On the Namespace page in the console, select the region and the cluster just created and click **Create** to create a namespace.

Create					Search by namespe Q 🌣
Namespace Name	Message TTL (j)	Message Retention Policy (j)	Max Retention Period/Storage Space (j)	Description	Operation
test	1 hour	Persistent retention	Max Retention Period 1 day Max Storage Space 10 GB		View Edit Configure Permissi Delete

Step 3. Create a role and configure permissions

1. On the Role Management page in the console, select the region and the cluster just created and click Create to

enter the Create Role page.

2. Enter the role name and remarks and click Submit.

3. Enter the Namespace page and click **Configure Permission** in the **Operation** column of the namespace just created to open its permission list.

4. On the **Configure Permissions** page, click **Add Role**, add the role just created, and assign the production and consumption permissions.

Create		×
Role	test 🔹	
	Unable to find a role? Please configure a role and key on the Role Management Z page.	
Permission	Message production	
	Message consumption	
	For more permission type information, see here 🛂	
	Save Cancel	

5. If the following is displayed, the permissions are configured successfully.

test	Message production, Message		2021-12-02 17:06:36	2021-12-02 17:06:36	Edit Delete
Role	Permission	Description	Creation Time	Last Updated	Operation

Step 4. Create a topic and subscription

- 1. On the Topic page, select the target region, cluster, and namespace and click **Create** to create a topic.
- 2. Click Create Subscription in the Operation column to create a subscription for the topic just created.
- 3. Click More > View Subscription/Consumer in the Operation column to view the subscription just created.

Create Delete						Search by topic nar	Q ¢
Topic Name	Monitori	Туре	Creator	Description		Operation	
867 pulsar-8x,0.400/test/867 1	ılı	General	User			Send Message Add Su	ubscriptior
Total items: 1					20 🔻 / page	View subscription Edit	age
						Delete	

Downloading and Running Demo

Last updated : 2024-12-02 17:03:07

Overview

This document describes how to download the demo, perform a simple test, and run a client after you purchase the TDMQ for Apache Pulsar and CVM services.

Notes

The following takes the Java client as an example. For clients in other languages, see SDK Overview.

Prerequisites

You have purchased a CVM instance.

Note:

The region and VPC of the cloud server should match those of the existing Pulsar cluster.

Directions

1. Download the demo here and configure relevant parameters.

About Maven dependencies

The dependencies in the pom.xml file are configured according to Pulsar's official dependencies. For more information, see Pulsar Java client.

Create a client

```
// One Pulsar client corresponds to one client connection
// In principle, one process corresponds to one client. Try to avoid repeated creat
// For the practical tutorial of clients and producers/consumers, see [Client Conne
```

Note:

serviceUrl is the access address, which can be viewed and copied on the Cluster page in the console.

Create Cluster Edit Res	source Tag	Search by keyword	Q ¢ ± ¢		
Cluster ID/Name	Version (j)	Health Condition	Description	Resource Tag Creation Time	Operation
bulsar-8	2.7.2	Healthy	<i>i</i>	API Call Address ①	View Namespace Access Address Delete
Total items: 1				VPC Access Address http://plu	< 1 /1 page ▶ ▶
				"∟ Public Network Access Address N/A	
				Enable Public Domain Name Access OK	

token is the role token, which can be copied on the Role Management page. Token leakage may lead to data

leakage; therefore, you should keep your token confidential.

Create a consumer process

Note:

You need to enter the complete path of the topic name, i.e., persistent://clusterid/namespace/Topic , where the clusterid/namespace/topic part can be copied directly from the Topic page in the console.

Topic Name	Monitori	Туре	Creator	Description	Operation
B67 pulsar-8 j_Ind3/test/867	di	General	User		Send Message Add Subscription More 🔻



You need to enter the subscription name in the subscriptionName parameter, which can be viewed on the

Consumption Management page.

Create a producer process

Note:

 $You \ need \ to \ enter \ the \ complete \ path \ of \ the \ topic \ name, \ i.e., \ \ persistent: //clusterid/namespace/Topic \ ,$

where the clusterid/namespace/topic part can be copied directly from the Topic page in the console.

Produce a message

```
for (int i = 0; i < 5; i++) {
    String value = "my-sync-message-" + i;
    // Send the message
    MessageId msgId = producer.newMessage().value(value.getBytes()).send();
    System.out.println("deliver msg " + msgId + ",value:" + value);
    }
    // Close the producer
    producer.close();</pre>
```

Consume a message

```
for (int i = 0; i < 5; i++) {
    // Receive a message corresponding to the current offset
    Message<byte[]> msg = consumer.receive();
    MessageId msgId = msg.getMessageId();
    String value = new String(msg.getValue());
    System.out.println("receive msg " + msgId + ",value:" + value);
    // Messages must be acknowledged once received; otherwise, the offset w
    consumer.acknowledge(msg);
}
```

2. Run the mvn clean package command in the directory of pom.xml or use the features of the IDE to package the entire project and generate an executable JAR file in the target directory.

▼		tdmq-java-client
		dependency-reduced-pom.xml
	▼	💼 target
		classes
		💓 tdmq-demo-cloud-1.0.0.jar
		🧭 original-tdmq-demo-cloud-1.0.0.jar
		maven-archiver
		surefire-reports
		test-classes
		generated-test-sources
		generated-sources
		maven-status
		tdmq-demo-cloud.iml
		pom.xml
		in conf
		🚞 sbin
		src src

3. After successful execution, upload the JAR file to the CVM instance. For directions, see Copying Local Files to CVMs.

4. Log in to the CVM instance and enter the directory of the JAR file just uploaded, where you can see that the file has been uploaded to the CVM instance.



```
[root@VM-1-7-tencentos ~]# java -jar tdmq-demo-cloud-1.0.0.jar
SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
>> pulsar client created.
>> pulsar consumer created.
>> pulsar producer created.
deliver msg 35:0:0:0,value:my-sync-message-0
deliver msg 110:0:0:0,value:my-sync-message-1
deliver msg 34:0:1:0,value:my-sync-message-2
deliver msg 110:1:0:0,value:my-sync-message-3
deliver msg 110:2:0:0, value: my-sync-message-4
receive msg 35:0:0:0, value:my-sync-message-0
receive msg 110:0:0:0,value:my-sync-message-1
receive msg 34:0:1:0, value:my-sync-message-2
receive msg 110:1:0:0,value:my-sync-message-3
receive msg 110:2:0:0,value:my-sync-message-4
[root@VM-1-7-tencentos ~]#
```

6. Log in to the TDMQ for Apache Pulsar console, click **Topic** > **Topic Name** to enter the consumption management page, and click the triangle below a subscription name to view the production and consumption records.

Consumption Progress				
Partition ID	Consumption Rate (Messages/Seco	Consumption Bandwidth (byte/s)	Progress Gap	Unacknowledged message (j)
0	0	0	0	View
1	0	0	0	View

7. Enter the Message Query page to view the message trace after running the demo.

Note:

You can only query the trace of one single message. If you enable the batch feature in the producer, only the first message in a batch can be queried for its trace.



Topic 867 Message ID Please enter the message ID Query Producer 60610105:0:0 tdmq_sh_pulsar_release-192			-
Topic 867 Message ID Please enter the message ID Query Producer	92-3101309 9.143.194.34:40169	2021-12-01 14:39:43,722	View Details View Message Tra
Topic Message ID Please enter the message ID	Producer Address	Message Creation Time	Operation
Topic B67 Message ID Please enter the message ID			
Topic 867			
Last o hours Last 24 hours Last 3 days	▼		
Time Bange Last 6 hours Last 24 hours Last 2 days	2021-11-29 17:13:01 ~ 2021-12-02 17:13:01		

The message trace is as follows:

Details	Message Trace				
	Message Production				
	Production Address 9.143.194.34:40169				
	Production Time 2021-12-01 14:39:43,72	22			
	Time Consumed 0.004ms				
	Production Status Succeeded				
	Message Storage				
	Storage Time 2021-12-01 14:39:43,726				
	Storage Status Succeeded				
	Message				
	Consumption				
					Search by consume
	Consumer Group Name	Consumption Address	Consumption Time	Time Consumed (ms)	Consumption Status
			No data yet		
	Total items: 0				20 💌 / page 🛛 🗐 🗐 🗐 🖓 🖓 🖓

Using Message Retry and Dead Letter Queue

Last updated : 2024-08-19 16:04:12

Overview

A retry Topic is a Topic designed to ensure that messages are consumed normally. If no normal response is received after a message is consumed by the consumer for the first time, it will enter the retry Topic. When a certain number of retries are reached, the retries are stopped and the messages will be delivered to the dead letter Topic. When messages enter the dead-letter queue, it indicates that the TDMQ for Apache Pulsar can no longer process it automatically. At this point, human intervention is generally required to handle these messages. You can write a

dedicated client to subscribe to the dead letter Topic to process such messages.

For more details on message retry and dead letter, please see the document Message Retry and Dead Letter Mechanisms.

This document uses the Demo provided on the official website as an example to introduce the features and usage of the message retry and dead letter queue.

Directions

Step 1. Creating a Pulsar Resource in the Console

1. Log in to the TDMQ for Apache Pulsar Console, and create a cluster and namespace.

2. In the left sidebar, select **Topic Management**, and check the cluster and namespace created in the introductory course for the current cluster and namespace.

3. Click Create, enter the Topic name and description, keep other options as default, click Save, and create a topic.

Торіс	🔇 Guangzhou	Current	Cluster test-		🔻 Na	mespace		Ŧ]		Т	opic Management Descri
Create	Delete]						Sear	ch by topic name			Q Ø
🗌 Тор	pic Name	Monitoring	Туре (ј) ▼	Creator T	Partitio	Client		Creation Tin	ie	Des	scription	Operation
D pi	-	di	Persistent/Partiti	User	2	Producer Consumer	0/1000 0/2000	Creation Tim Update Time	2024-08-06 15:58: 2024-08-06 15:58:	04 - 04		Send Message Add Subscript More 💌
Total iter	ms: 1									20 🔻 / page	₩ .	1 / 1 page

4. Click **Add Subscription** in the operation column of the created Topic, enter the subscription name, enable **automatically create retry & dead-letter queues**, and select the default suffix **Apache****Pulsar SDK (upper case)**. This creates a subscription relationship for the created Topic and enables retry & dead-letter queues.

Add Subscription	×
Subscription Name *	test
	Up to 128 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
SDK Name Suffix 🚯	Apache Pulsar SDK (upper case)
	Tencent Cloud SDK (lower case)
	The suffix format depends on the SDK you use.
Description	Please enter the description
Save	Cancel

5. After submission, you can see the automatically created retry queue and dead-letter queue by the system.

Торіс	🔇 Guangzhou 🔻	Current Cluster	í	v	Namespace			Ŧ			Та	opic Management Descr
Crea	Delete								Search by topic name			Q Ø
T T	opic Name	Monitoring	Туре (ј) ▼	Creator T	Partitio	Client		Creation Time		Description		Operation
	est-test-RETRY	ılı	Persistent/Partiti	System	1	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 16:02:00 2024-08-06 16:02:00	-		Send Message Add Subscription Mor
□ te F	retry-lette	r queue ılı	Persistent/Partiti	System	1	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 16:02:00 2024-08-06 16:02:00			Send Message Add Subscription Mor
D te	dead-lett	er queue ılı	Persistent/Partiti	User	2	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 15:58:04 2024-08-06 15:58:04			Send Message Add Subscription Mor
Total it	tems: 3									20 🔻 / page	н •	1 / 1 page

6. Click More > View Subscription/Consumer in the operation column to see the created subscriptions.

← puls							
Producer Consumer							
Create Delete					Search by subs	cription name	
Subscription Name	Торіс	Monitoring	Status	Subscription Mode	Heaped Messages	Description	Operation
□ → — □	test-test-DLQ	di	Offline	Unknown	0	-	Offset Settings Up More ▼
Total items: 1						20 🔻 / page 🛛 🖌 🔺	1 / 1 page

Step 2. Downloading the Demo and Configuring the Related Parameters

1. Download the Official Demo and decompress it.



2. Modify the Constant.java parameters.





Crate	Patels Import				
Name	Token	Description	Creation Time	Last Updated	Ор
test	Сору		2024-08-06 16:13:41	2024-08-06 16:13:41	Vie Del
Total items: 1				20 🔻 /	page H

Step 3. Producing Messages

1. Enter the /deadletter directory and modify the SimpleProducer.java parameters.



topic: Enter the name of the created topic. You need to provide the complete path, which is

persistent://clusterid/namespace/Topic. The parts clusterid/namespace/topic can be directly copied from the Topic Management Page in the console.

Topic 🔇	Guangzhou 🔻	Current Cluster	test	v	Namespace			Ŧ				ĩopic Management Descrip
Create	Delete								Search by topic name			Q Ø :
Topic Nar	ie	Monitoring	Туре (і) Т	Creator T	Partitio	Client		Creation Time		Description		Operation
D test-test-F	ETRY	di	Persistent/Partiti	System	1	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 16:02:00 2024-08-06 16:02:00			Send Message Add Subscription More
pu test-test-E	LQ	di	Persistent/Partiti	System	1	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 16:02:00 2024-08-06 16:02:00			Send Message Add Subscription More
pi test	Сору Го	di di	Persistent/Partiti	User	2	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 15:58:04 2024-08-06 15:58:04			Send Message Add Subscription More
Total items: 3										20 🔻 / page	H 4	1 / 1 page 🕨

2. Compile and run the SimpleProducer.java program to send messages. The result is as follows:



3. Log in to TDMQ for Apache Pulsar console. On the message query page, you can see the messages produced in the topic.

Time Range	Last 30 minutes	Last hour	Last 6 hours	Last 24 hours	Last 3 days	2024-08-06 15:46:42	~ 2024-08-06 16:16:42	ii -
Current Cluster	test-huanhuan(pulsar	-zpqazwwgrbre)		▼				
Namespace	test			▼				
Горіс	test			v				
Vlessage ID	Please enter the mes	age ID						
	Query							
essage ID		Produc	er		Producer Add	Iress	Message	Creation Time
						No data yet		

Step 4. Consuming Messages

1. Modify the parameters in RetryConsumer.java.



.retryLetterTopic: retry topic name.

.deadLetterTopic: dead letter topic name.

.topic: topic name.

You need to provide the complete path of the above 3 topics, which is

persistent://clusterid/namespace/Topic . The parts clusterid/namespace/topic can be directly copied from the Topic Management Page in the console.

Topic 🔇 Guangzhou 🔻	Current Cluster		v	Namespace			v			То	pic Management Descr
Create Delete								Search by topic r	name		Q Ø
Topic Name	Monitoring	Type (i) 🔻	Creator T	Partitio	Client		Creation Time		Description		Operation
test-test-RETRY	.lı erTopic	Persistent/Partiti	System	1	Producer Consumer	0/1000 0/2000	Creation Time 20 Update Time 20	024-08-06 16:02:00 024-08-06 16:02:00	-		Send Message Add Subscription Mor
test-test-DLQ	, ili	Persistent/Partiti	System	1	Producer Consumer	0/1000 0/2000	Creation Time 20 Update Time 20	024-08-06 16:02:00 024-08-06 16:02:00	-		Send Message Add Subscription Mor
test	ili	Persistent/Partiti	User	2	Producer Consumer	0/1000 0/2000	Creation Time 20 Update Time 20	024-08-06 15:58:04 024-08-06 15:58:04			Send Message Add Subscription Mor
Topic Total items: 3									20 🔻 / page	H 4	1 / 1 page

.subscriptionName: Enter the subscription name. It can be viewed on the Topic consumer interface.

Pro	ducer	Consumer								
c	reate	Delete						Search by sub	oscription name	
	Subs	cription Name	Торіс	Monitoring	Status	Subscription Mode	Heaped Messag	es	Description	Operation
	▶ test I		test-test-RETRY	ılı	Offline	Unknown	0			Offset Settings Update More 🔻

2. Compile and run the message retry program RetryConsumer.java. The result is as follows:

Rur	ı: _i	RetryConsumer ×
¢	1	/Library/Java/JavaVirtualMachines/jdk-15.0.2.jdk/Contents/Home/bin/java
	T	SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
~	•	SLF4J: Defaulting to no-operation (NOP) logger implementation
0	ר: ו	SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
- Š	Ħ	4月 28, 2023 5:14:31 下午 org.apache.pulsar.shade.io.netty.resolver.dns.DnsServerAddressS
Ð	-	警告: Can not find org.apache.pulsar.shade.io.netty.resolver.dns.macos.MacOSDnsServerAddu
	÷	>> pulsar client created.
-	-	>> pulsar consumer created.
*		receive msg 36:0:0:0,value:test dead letter message1.
		receive msg 40:0:0,value:test dead letter message1.
		receive msg 40:1:0,value:test dead letter message1.

3. Log in to the TDMQ for Apache Pulsar console. On the message query page, it is observed that the retry topic displays 2 messages, and the dead letter topic displays 1 message, indicating that after 2 attempts of message delivery, it was moved to the dead letter queue.

Message Query	🔇 Guangzhou 🔻							
Time Range	Last 30 minutes	Last hour	Last 6 hours	Last 24 hours	Last 3 days	2024-08-06 15:57:45	~ 2024-08-06 16:27:45	ö
Current Cluster				Ŧ				
Namespace				v				
Торіс	test-test-RETRY			v				
Message ID	Please enter the mess	age ID						
	Query							
Message ID		Produce	er		Producer Ad	dress	Message (Creation Time
						No data yet		
Total items: 0								
Message Query	🔇 Guangzhou 🔻							
Time Range	Last 30 minutes	Last hour	Last 6 hours	Last 24 hours	Last 3 days	2024-08-06 15:57:45	~ 2024-08-06 16:27:45	Ħ
Current Cluster	test-k			v				
Namespace	-			Ŧ				
Торіс	test-test-DLQ			Ŧ				
Message ID	Please enter the mess	age ID						
	Query							
Message ID		Produce	er		Producer Ad	dress	Message	Creation Tim
						No data yet		
Total items: 0								

Step 5. Consuming Dead Letter Messages

1. Modify the parameters in DeadConsumer.java.



.topic: Enter the dead letter topic name. You need to provide the complete path, which is

persistent://clusterid/namespace/Topic . The parts clusterid/namespace/topic can be

directly copied from the Topic Management Page in the console.

Topic Suangzhou 🔻	Current Cluster	t	×	Namespace			Ŧ			Topic Management Descri
Create Delete								Search by topic name		Q Ø
Topic Name	Monitoring	Type (j) ▼	Creator T	Partitio	Client		Creation Time		Description	Operation
E test-test-RETRY	di	Persistent/Partiti	System	1	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 16:02:00 2024-08-06 16:02:00		Send Message Add Subscription More
pu' test-test-DLQ	ili	Persistent/Partiti	System	1	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 16:02:00 2024-08-06 16:02:00		Send Message Add Subscription More

.subscriptionName: Enter the subscription name. It can be viewed on the Topic consumer interface.

← p.								
Producer Co	onsumer							
Create	lete						Search by subscription name	
Subscripti	on Name	Topic	Monitoring	Status	Subscription Mode	Heaped Messag	ges Description	Operation
📄 🕨 test Г		test-test-DLQ	ш	Offline	Unknown	0		Offset Settings Updat More ▼

2. Compile and run the message retry program RetryConsumer.java. The results are as follows:

Rur	າ: 🔳	RetryConsumer × DeadConsumer ×
¢	↑	/Library/Java/JavaVirtualMachines/jdk-15.0.2.jdk/Contents/Home/bin/java
	.1.	SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
	<u> </u>	SLF4J: Defaulting to no-operation (NOP) logger implementation
0	.	SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
ф,	Ħ	4月 28, 2023 5:24:16 下午 org.apache.pulsar.shade.io.netty.resolver.dns.DnsServerAddressStreamProviders <cl< th=""></cl<>
Ð	÷	警告: Can not find org.apache.pulsar.shade.io.netty.resolver.dns.macos.MacOSDnsServerAddressStreamProvider
	÷	>> pulsar client created.
-		>> pulsar consumer created.
*		Message received: test dead letter message1.
1		

3. Log in to the TDMQ for Apache Pulsar console. On the dead letter topic consumer page, if the number of heaped messages turns to 0, it indicates that the messages have been consumed.

÷	p					
Produ	cer Consumer					
Crea	te Delete				Search by	subscription name
	Subscription Name	Торіс	Monitoring Status	Subscription Mode	Heaped Messages	Description Operation
	r test I	test-test-DLQ	dl Offline	Unknown	0	Offset Settings Updat - More ▼
Co	nsumption Progress					
F	Partition ID	Consumption	n Rate (Messages/Second)	Consumption Bandwidth (byte/s)	Progress Gap	Unacknowledged message (j)
c		0		0	0	View
Co	nnected Instance for Consumpti	ion				
C	Consumer Name	Client Addre	55	Partition ID	Version	Start Time
				No data yet		

Using Share Subscription Mode to Consume Messages

Last updated : 2024-08-19 16:08:01

Overview

To meet the needs of different scenarios, Pulsar supports four subscription modes: Exclusive, Shared, Failover, and Key_Shared.

1. Exclusive mode (default): A subscription can only be associated with one consumer, and only this consumer can receive all messages from the topic. If this consumer can not run normally, consumption will be stopped.

2. Shared mode: Messages are distributed to different consumers through a round robin mechanism (customizable), and each message is sent to only one consumer. When a consumer disconnects, all messages sent to him that have not been acknowledged will be reallocated and distributed to other active consumers.

3. Failover mode: When there are multiple consumers, they are ordered lexicographically, and the first consumer is initialized as the sole receiver of messages. When the consumer disconnects from the system, all messages (both unacknowledged and new ones) are distributed to the next consumer in the queue.

4. Key_Shared mode: When there are multiple consumers, messages are distributed based on their keys. Messages with the same key are distributed to the same consumer.

For more information on subscription modes, see the document Subscription Modes.

This document uses the Demo provided on the official website as an example to introduce the features and usage of the Shared subscription mode.

Directions

Step 1. Creating a Pulsar Resource in the Console

1. Log in to TDMQ for Apache Pulsar Console, and create a cluster and namespace.

2. In the left sidebar, select the **Topic Management** tab, and check the created cluster and namespace for the current cluster and namespace.

3. Click **Create**, enter the Topic name and description, keep the other options as default, click Save, and create a topic.

ŀ	Topic	🔇 Guangzhou 🔻	Current Cluster			Namespace			v				Торі	c Management D	esci
	Create	Delete								Se	arch by topic name			Q	φ
	Торі	ic Name	Monitoring	Туре (ј) ▼	Creator T	Partitio	Client		Creation Time			Description	0	peration	
	test		di	Persistent/Partiti	User	2	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-0 2024-08-0	06 15:58:04 06 15:58:04	-	Si	end Message dd Subscription	Мо

4. Click Add Subscription in the operation column to create two subscription relationships for the created Topic.

5. Click **More** > **View Subscription**/**Consumer** in the operation column to see the created subscriptions.

← p							
Producer Consumer							
Create Delete						Search by subscription name	
Subscription Name	Торіс	Monitoring	Status	Subscription Mode	Heaped Messag	ges Description	Operation
► test1 In	test	di	Offline	Unknown	0	-	Offset Settings Updat More ▼
→ test I ⁻	test	di	Offline	Unknown	0		Offset Settings Updat More ▼

Step 2. Downloading the Demo and Configuring the Related Parameters

- 1. Download Official Demo and decompress it.
- 2. Modify the Constant.java parameters.





Create Delete Batch In	mport			Enter a keyword	
Name	Token	Description	Creation Time	Last Updated	Op
test	Сору	-	2024-08-06 16:13:41	2024-08-06 16:13:41	Vie Del
Total items: 1				20 💌 / p	page H

Step 3. Producing Messages

1. Go to the /simple directory and modify the SimpleProducer.java parameters.



topic: Enter the name of the created topic3. You need to provide the complete path, which is

persistent://clusterid/namespace/Topic. The parts clusterid/namespace/topic can be directly copied from the Topic Management Page in the console.

ŀ	Торіс	🔇 Guangzh	ou 🔻 Cur	rrent Cluster		•	Namespace		•	Topic Mana	agement Descrip
	Create	Delete							Search by topic name		Q Ø
	Тор	ic Name	Monitoring	Type 🔅 🔻	Creator T	Partitio	Client		Creation Time	Description	Operation
	test		ф	Persistent/Partiti	User	2	Producer Consumer	0/1000 0/2000	Creation Time 2024-08-06 15:58:0 Update Time 2024-08-06 15:58:0	4 - 4 -	Send Messa Add Subscri More ▼

2. Compile and run the SimpleProducer.java program to send messages. The result is as follows: you can see that the producer has sent 10 messages to the topic.

Run	i: 🔳] SharedConsumer1 $ imes$ is SharedConsumer2 $ imes$ impleProducer $ imes$
	1	/Library/Java/JavaVirtualMachines/jdk-15 <mark>.0.2.jdk/Contents/Ho</mark> me/bin/java
	.l.	SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
	<u> </u>	SLF4J: Defaulting to no-operation (NOP) logger implementation
0	?	SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
÷	E	4月 28, 2023 6:28:27 下午 org.apache.pulsar.shade.io.netty.resolver.dns.DnsServerAddress
Ð	-	警告: Can not find org.apache.pulsar.shade.io.netty.resolver.dns.macos.MacOSDnsServerAd
_	Ť	>> pulsar client created.
		>> pulsar producer created.
*		deliver msg 44:20:1:0,value:my-sync-message-0
		deliver msg 45:20:0:0,value:my-sync-message-1
		deliver msg 44:21:1:0,value:my-sync-message-2
		deliver msg 45:21:0:0,value:my-sync-message-3
		deliver msg 44:22:1:0,value:my-sync-message-4
		deliver msg 45:22:0:0,value:my-sync-message-5
		deliver msg 44:23:1:0,value:my-sync-message-6
		deliver msg 45:23:0:0,value:my-sync-message-7
		deliver msg 44:24:1:0,value:my-sync-message-8
		deliver msg 45:24:0:0,value:my-sync-message-9
		Process finished with exit code 0

Step 4. Consuming Messages

1. Go to the /submodule directory and modify the SharedConsumer1.java and SharedConsumer2.java program parameters.



topic: Enter the name of the created topic. You need to provide the complete path, which is persistent://clusterid/namespace/Topic. The parts clusterid/namespace/topic can be directly copied from the Topic Management Page in the console.

Торіс	🔇 Guangzh	ou 🔻 Cur	rrent Cluster		T	Namespace		*		Topic Mana	gement Descrip
Create	Delete							Search by top	ic name		Qφ
Тор	ic Name	Monitoring	Type (j) 🔻	Creator T	Partitio	Client		Creation Time		Description	Operation
test		dı	Persistent/Partiti	User	2	Producer Consumer	0/1000 0/2000	Creation Time Update Time	2024-08-06 15:58:04 2024-08-06 15:58:04	-	Send Messa Add Subscri More ▼

.subscriptionName: Enter the subscription name for the topic, which can be viewed in the Topic Consumers interface. For SharedConsumer1, enter the subscription name sub1, and for SharedConsumer2, enter the subscription name sub2.



← p	oul:						
Produc	cer Consumer						
Creat	e Delete				Search by subscript	ion name	(
	Subscription Name Topic	Monitoring	Status	Subscription Mode	Heaped Messages	Description	Operation
□・	test1 rīn test consumer2	di	Offline	Unknown	0	-	Offset Settings U¢ More ▼
•	^{test} ⊡ consumer1 ^{test}	di	Offline	Unknown	0	-	Offset Settings Up More ▼

2. Compile and run the Message Retry Program, SharedConsumer1.java, and SharedConsumer2.java. The result is as follows:



D

🗐 SharedConsumer2 🛛

/Library/Java/JavaVirtualMachines/jdk-15.0.2.jdk/Contents
SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerB
SLF4J: Defaulting to no-operation (NOP) logger implementa
<pre>SLF4J: See <u>http://www.slf4j.org/codes.html#StaticLoggerBi</u></pre>
4月 28, 2023 6:26:57 下午 org.apache.pulsar.shade.io.netty
警告: Can not find org.apache.pulsar.shade.io.netty.resolv
>> pulsar client created.
>> pulsar consumer2 created.
receive msg 45:10:0:0,value:my-sync-message-1
receive msg 45:11:0:0,value:my-sync-message-3
receive msg 45:12:0:0,value:my-sync-message-5
receive msg 45:13:0:0,value:my-sync-message-7
receive msg 45:14:0:0,value:my-sync-message-9
Process finished with exit code 0