TDMQ for CMQ

Getting Started

Product Documentation

Contents

Getting Started
Getting Started with Queue Model

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Overview

This document describes how to create a queue service from scratch and use the SDK for Java to test message sending and receiving. It helps you quickly understand the basic operations required for client access to TDMQ for CMQ.

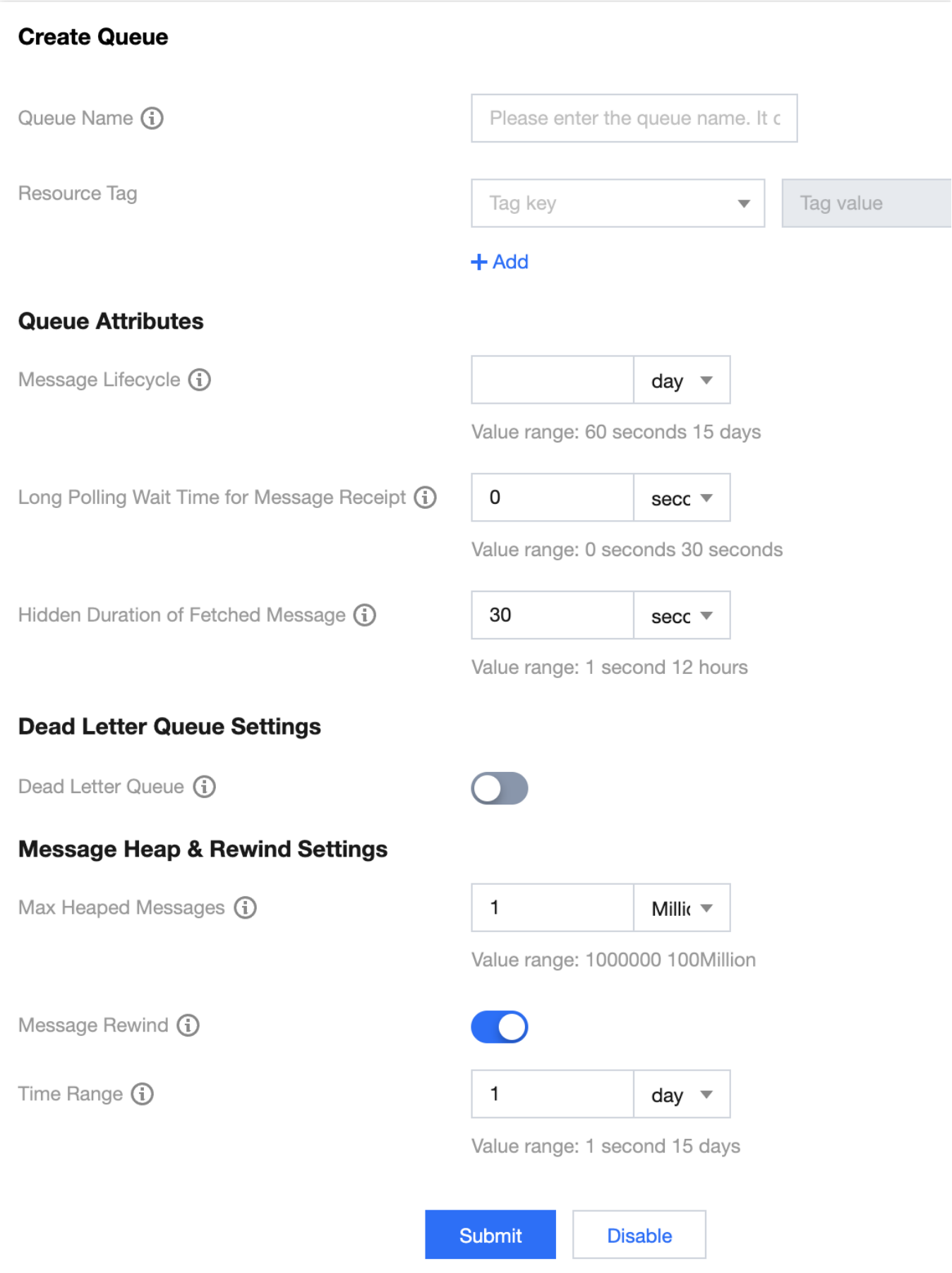
Prerequisites

You have signed up for a Tencent Cloud account.

Directions

Step 1. Create a queue service

1. Log in to the TDMQ for CMQ console.
2. Select **Queue Service** on the left sidebar, select the region, click **Create**, and configure the queue service attributes.



Attribute	Description	Value
Queue Name	It is the `QueueName` attribute of the queue.	It is the unique identifier of a resource and can be used to differentiate API calls. It cannot be changed once the queue is created. It is case-insensitive and cannot end with `-retry` or `-dlq`.
Resource Tag	It is optional and can help you easily categorize and manage TDMQ for CMQ resources in many dimensions. For detailed usage, see Managing Resource with Tag.	-
Maximum Message Unacknowledged Time	If the consumer client fails to acknowledge a received message within this time period, the server will automatically acknowledge the message.	It ranges from 30 seconds to 12 hours.
Long Polling Wait Time for Message Receipt	It is the `PollingWaitSeconds` attribute of the queue. Just like with long polling of Ajax requests, a message consumption request will return a response only after a valid message is fetched or the long-polling time elapses.	It ranges from 0 to 30 seconds. We recommend you set it to 3 seconds. A higher value may cause more duplicated messages.
Hidden Duration of Fetched Message	It is the `VisibilityTimeout` attribute of the queue. Each message has a default `VisibilityTImeout`, which starts counting after a worker receives a message. If the worker fails to complete processing the message within the period specified by this attribute, the message will be sent to and processed by another worker.	It ranges from 1 second to 12 hours.
Max Invisible Messages	If the client fails to acknowledge messages in a timely manner, an excessive number of invisible messages are generated. The	It is 100,000. If you need to increase the upper limit, contact technical support.

	generation of invisible messages will consume the memory; therefore, a capacity upper limit is set for each queue.	
Max Capacity for Heaped Messages	Message heap is generally caused by the production speed being greater than the consumption speed or the consumption being blocked. The heap will use disk space; therefore, a capacity upper limit is set for each queue.	It is 10 GB. If you need to increase the upper limit, contact technical support.
Dead Letter Queue	A dead letter queue is used to handle messages that cannot be consumed successfully after their retry limit has been reached. Rather than being discarded immediately, such messages will be sent to the consumer's specified dead letter queue.	-
Message Rewind	If the message rewind feature is not enabled, a message consumed by a consumer and confirmed for deletion will be deleted immediately. When enabling this feature, you need to specify the rewindable time range.	The rewindable time range must be equal to or shorter than the message lifecycle. We recommend you make it the same as the message lifecycle to facilitate troubleshooting.
Rewindable Time Range	If the message rewind feature is enabled, messages confirmed for deletion by the consumer will not be deleted immediately; instead, they will be stored for the maximum time configured here.	It ranges from 1 to 15 days. A higher value may cause higher storage fees. The maximum rewindable time point is the current time minus the configured rewindable time range. Messages cannot be rewound if produced before this time.
Rewindable Storage Space	After the message rewind feature is enabled, if the volume of persistently stored messages exceeds this maximum storage space, messages will be deleted by time (the oldest data will be deleted first).	It ranges from 1 to 10 GB. A higher value may cause higher storage fees.

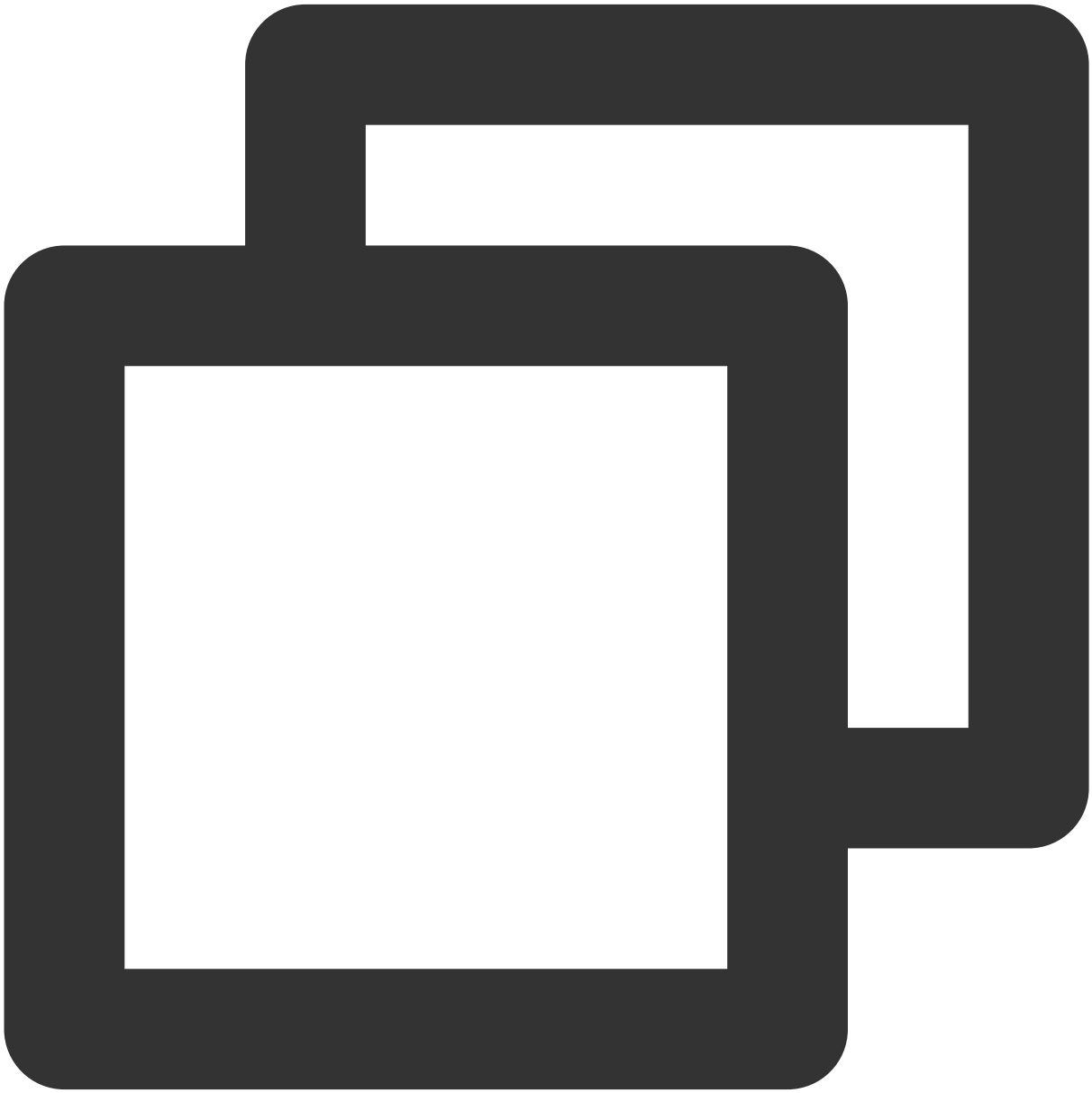
3. Click **Submit**, and you can see the created queue service in the queue service list.

Step 2. Use the SDK to send and receive messages

Note:

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

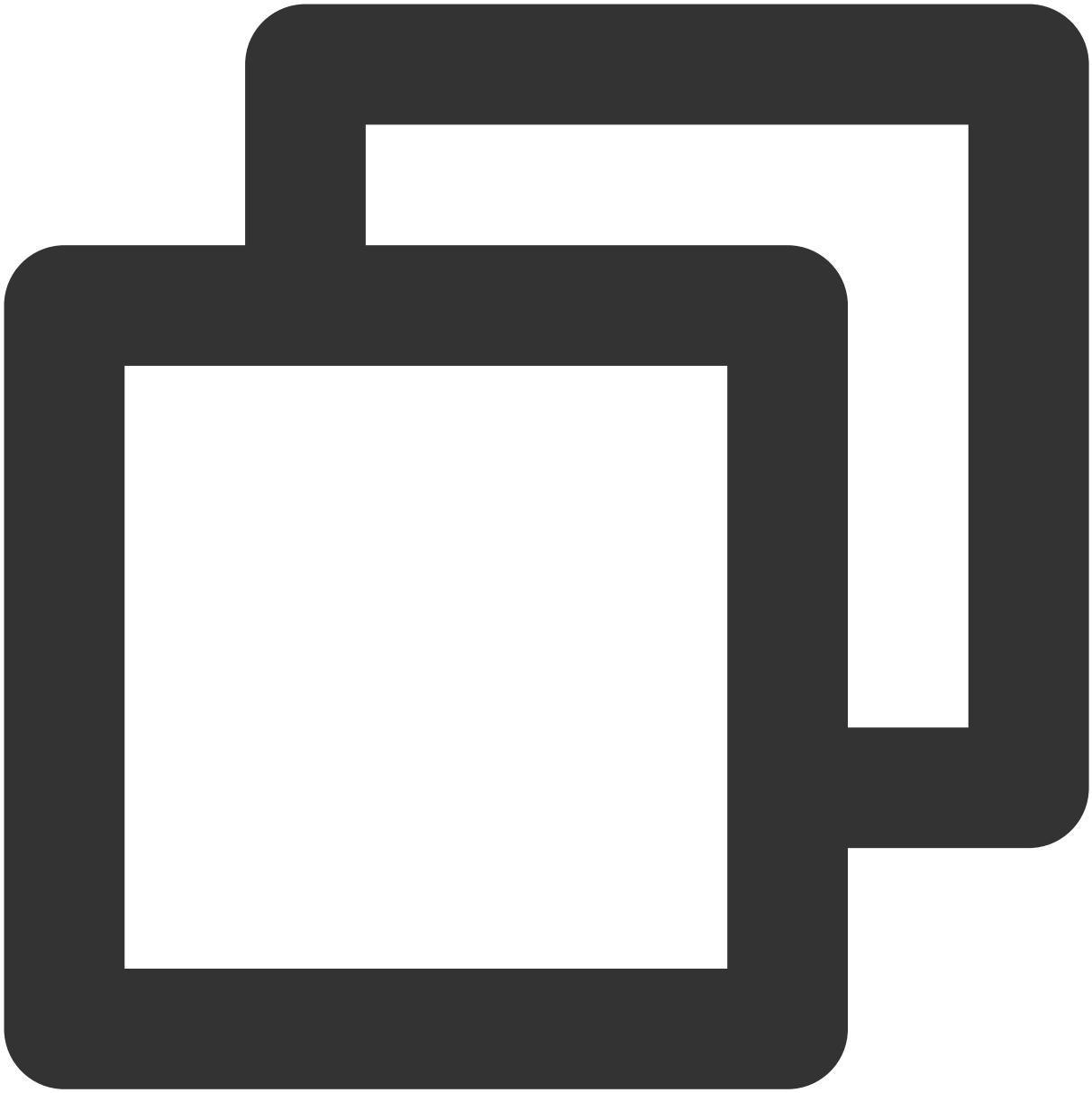
1. Download the demo and decompress it.
2. Import CMQ client dependencies.



```
<!-- cmq sdk --><!-- cmq sdk -->
<dependency>
```

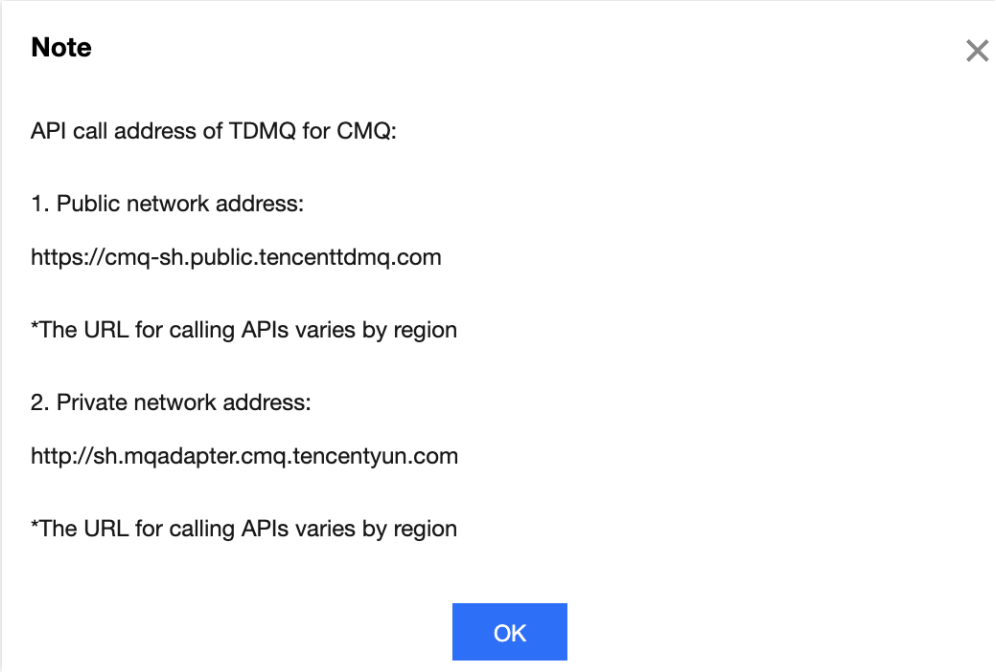
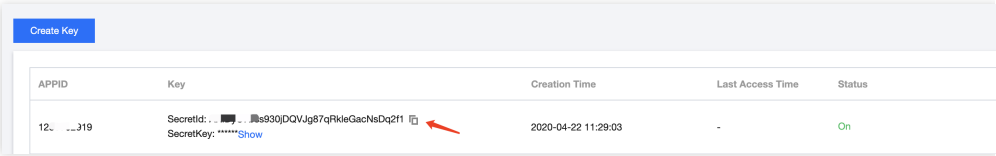
```
    <groupId>com.qcloud</groupId>
    <artifactId>cmq-http-client</artifactId>
    <version>1.0.7</version>
</dependency>

<!-- TencentCloud API SDK -->
<dependency>
    <groupId>com.tencentcloudapi</groupId>
    <artifactId>tencentcloud-sdk-java</artifactId>
    <version>3.1.423</version>
</dependency>
```

3. Send messages.

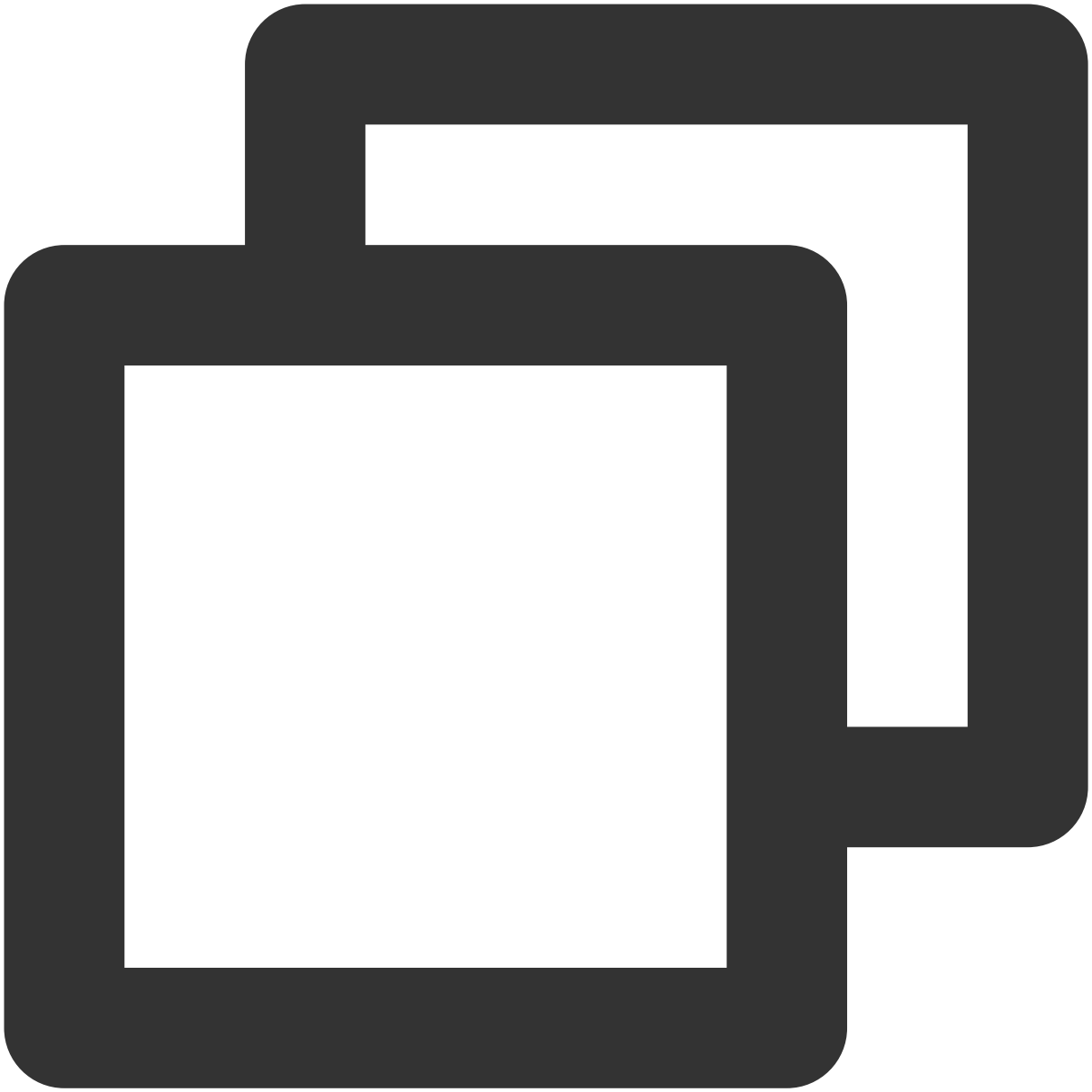


```
Account account = new Account(SERVER_ENDPOINT, SECRET_ID, SECRET_KEY);
Queue queue = account.getQueue(queueName);
String msg = "hello client, this is a message. Time:" + new Date();
CmqResponse response = queue.send(msg);
```

Parameter	Description
SERVER_ENDPOINT	API call address, which can be copied from Queue Service > API Request Address in the console.

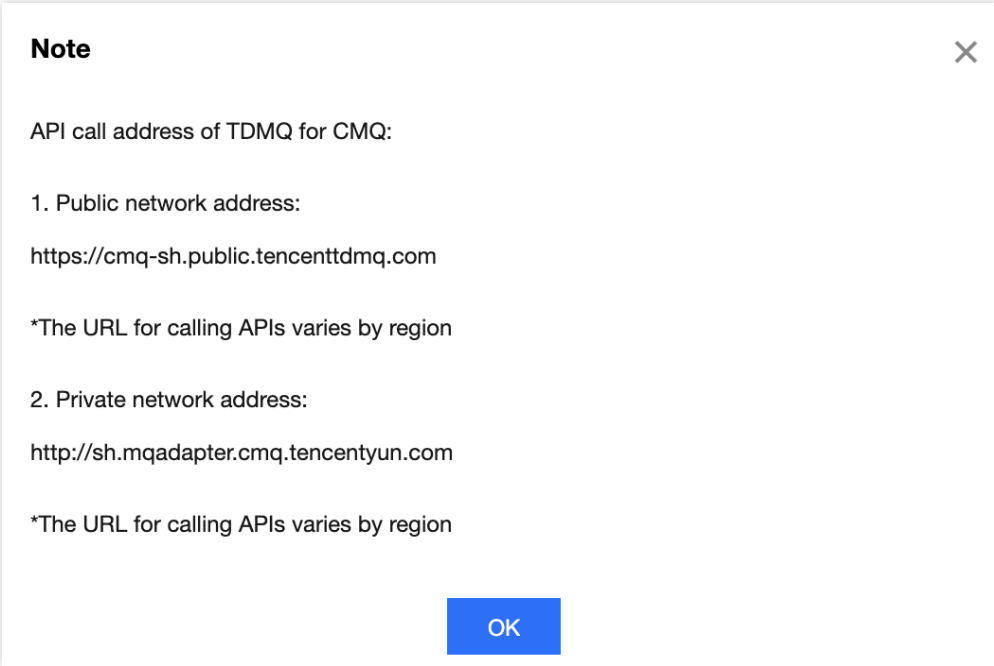
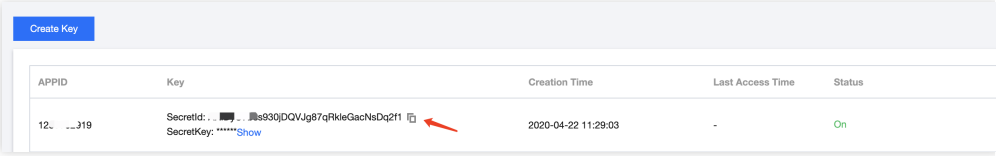
	
SECRET_ID, SECRET_KEY	TencentCloud API key, which can be copied on the Access Key > API Key Management console. 
queueName	Queue name, which can be obtained on the Queue Service page in the TDMQ for CMQ c

4. Consume messages.



```
Account account = new Account(SERVER_ENDPOINT, SECRET_ID, SECRET_KEY);
Queue queue = account.getQueue(queueName);
Message message = queue.receiveMessage();
// Successfully consumed messages are deleted. Retained messages can be delivere
queue.deleteMessage(message.receiptHandle);
```

Parameter	Description
SERVER_ENDPOINT	API call address, which can be copied from Queue Service > API Request Address in the

	console. 
SECRET_ID, SECRET_KEY	TencentCloud API key, which can be copied on the Access Key > API Key Management console. 
queueName	Queue name, which can be obtained on the Queue Service page in the TDMQ for CMQ c

Note:

Above is a brief introduction to message production and consumption. For more information, see Demo.

Getting Started with Topic Model

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Overview

This document describes how to create a topic and use the SDK for Java to test message sending and receiving, so as to help you quickly understand the basic operations required for client access to TDMQ for CMQ.

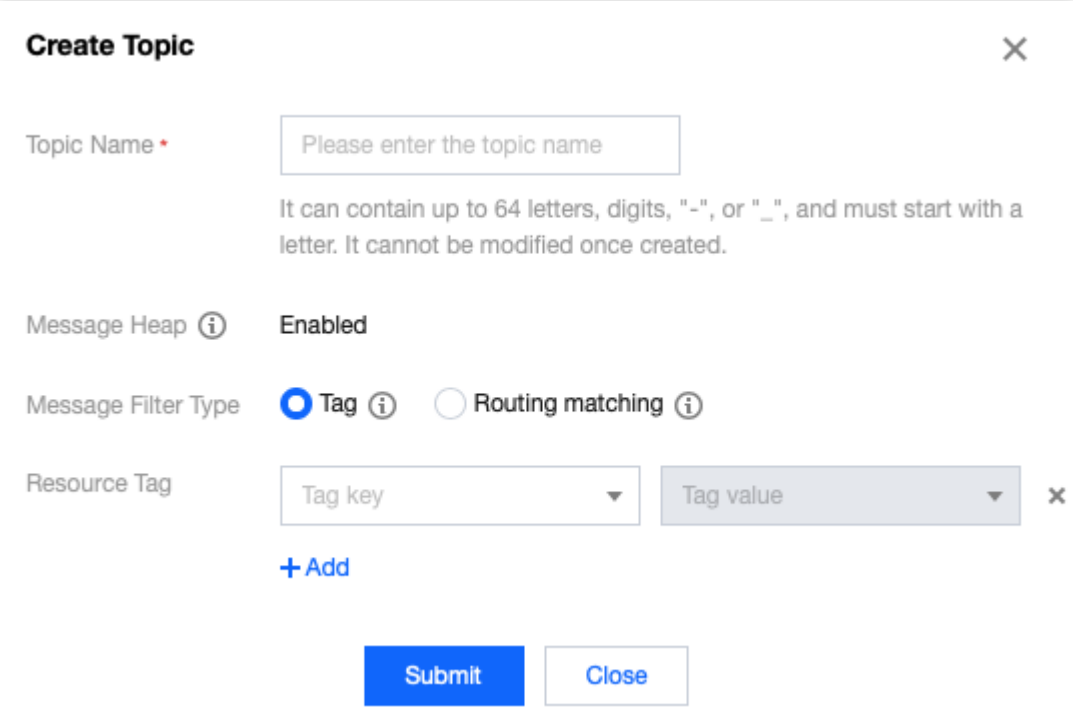
Prerequisite

You have signed up for a Tencent Cloud account.

Directions

Step 1. Create a topic

1. Log in to the TDMQ for CMQ console.
2. Select **Topic Subscription** on the left sidebar, select a region, click **Create**, and enter the topic name.



Topic Name: It can contain up to 64 letters, digits, "-", or "_", and must start with a letter. It cannot be modified once created.

Message Heap: If this option is enabled, messages that failed to be pushed to or received by the subscriber will be temporarily heaped in the topic.

Message Filter Type:

Tag: TDMQ for CMQ can match message tags for production and subscription, which can be used for message filtering. For detailed rules, see Tag Key Matching Feature Description.

Routing matching: The binding key and routing key are used together and are fully compatible with the topic match mode of RabbitMQ. The routing key carried when a message is sent is added by the client, and the binding key carried when a subscription is created is the binding relationship between the topic and the subscriber. For detailed rules, see Routing Key Matching Feature Description.

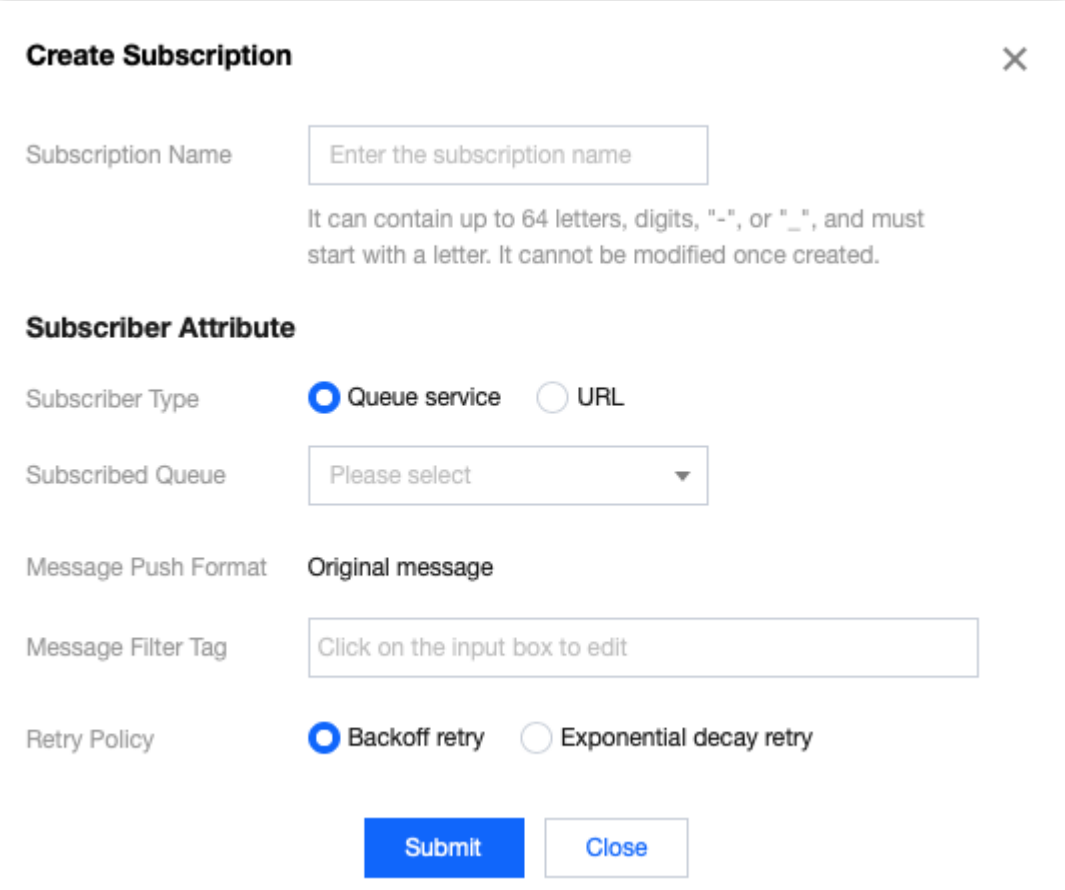
Resource Tag: It is optional and can help you easily categorize and manage TDMQ for CMQ resources in many dimensions. For detailed usage, see Managing Resource with Tag.

3. Click **Submit**, and you can see the created topic in the topic subscription list.

Step 2. Create a subscription

A topic can publish messages only if it is subscribed to by at least one subscriber. If there are no subscribers, messages in the topic will not be delivered, and message publishing will be meaningless.

1. On the **Topic Subscription** page, click the ID of the topic you just created to enter the topic details page.
2. Select the **Subscriber** tab at the top, click **Create**, and enter the subscriber information.



Subscriber Type

Queue service: you can select a queue for the subscriber to receive published messages.

URL: Subscribers can process messages on their own without using queues. For more information, see Delivering Message.

Subscriber Tag: When adding a subscriber, you can add filter tags (FilterTag), so that the subscriber can receive only messages with the specified tags. Up to five tags can be added for one subscriber. As long as a tag matches a topic filter tag, the subscriber can receive messages delivered by the topic. If a message does not have any tag, the subscriber cannot receive it.

Tag: For detailed rules, see Tag Key Matching Feature Description.

Routing matching: For detailed rules, see Routing Key Matching Feature Description.

Retry Policy: After a message is published by a topic, it will automatically be pushed to the subscription. If the push fails, there are two retry policies:

Backoff retry: An attempt will be retried three times at random intervals between 10 and 20 seconds. After three retries, the message will be discarded for the subscriber and will not be retried again.

Exponential decay retry: An attempt will be retried 176 times at exponentially increasing intervals: 2^0 second, 2^1 seconds, ..., 512 seconds, 512 seconds, ..., 512 seconds. The total retry duration is 1 day. This is the default retry policy.

3. Click **Submit**, and you can see the created subscriber in the subscriber list.

Step 3. Use the SDK to send and receive messages

Note:

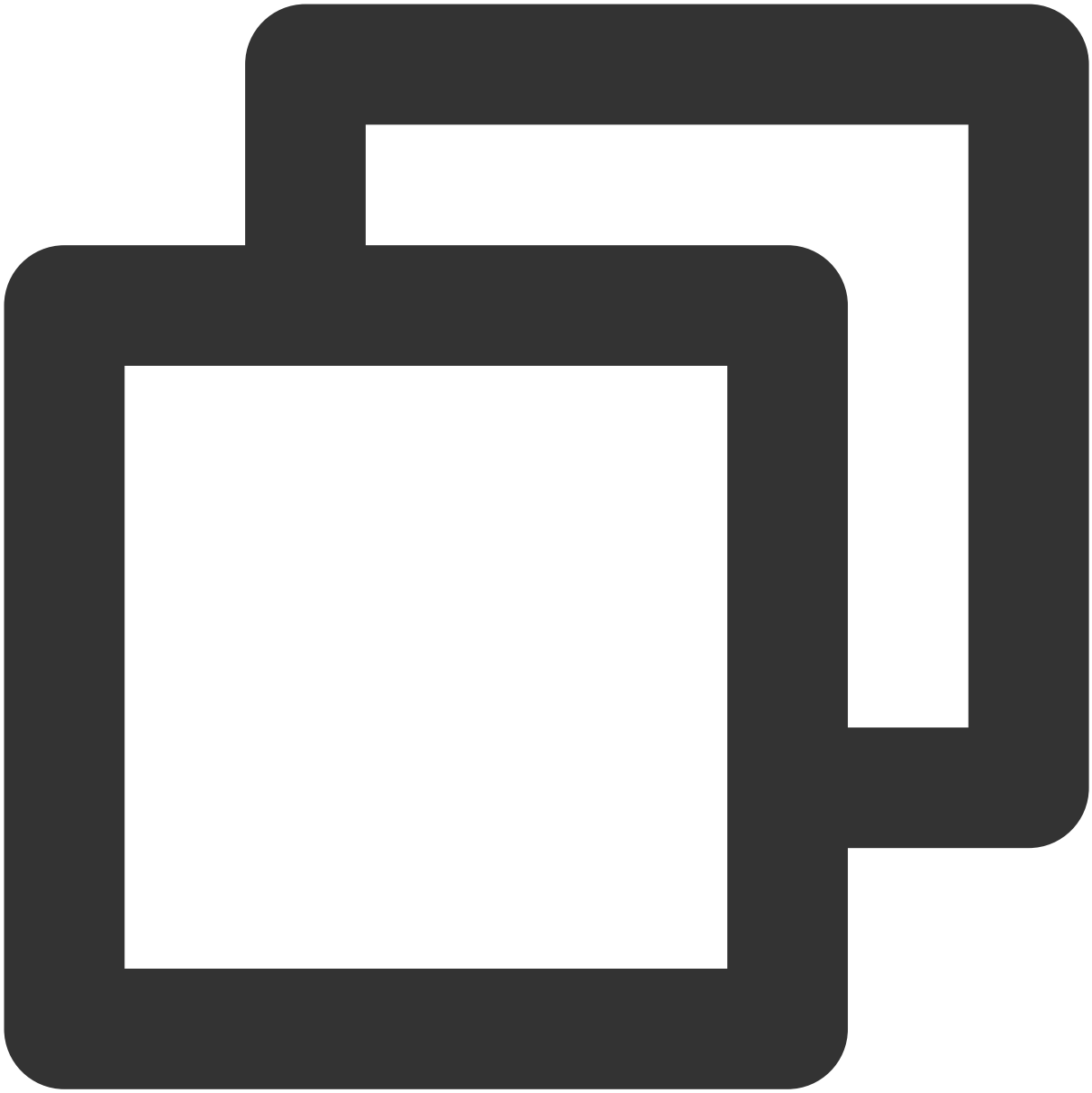
The following takes Java as an example. For clients in other languages, see the SDK Documentation.

1. Download the demo and decompress it.
2. Import CMQ client dependencies.

```
 <!-- cmq sdk -->
<dependency>
    <groupId>com.qcloud</groupId>
    <artifactId>cmq-http-client</artifactId>
```

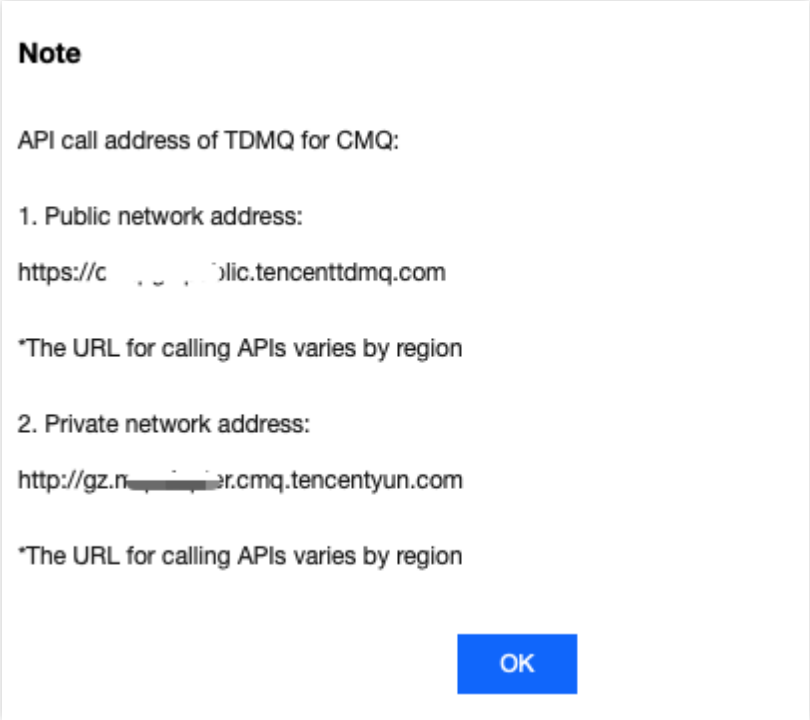
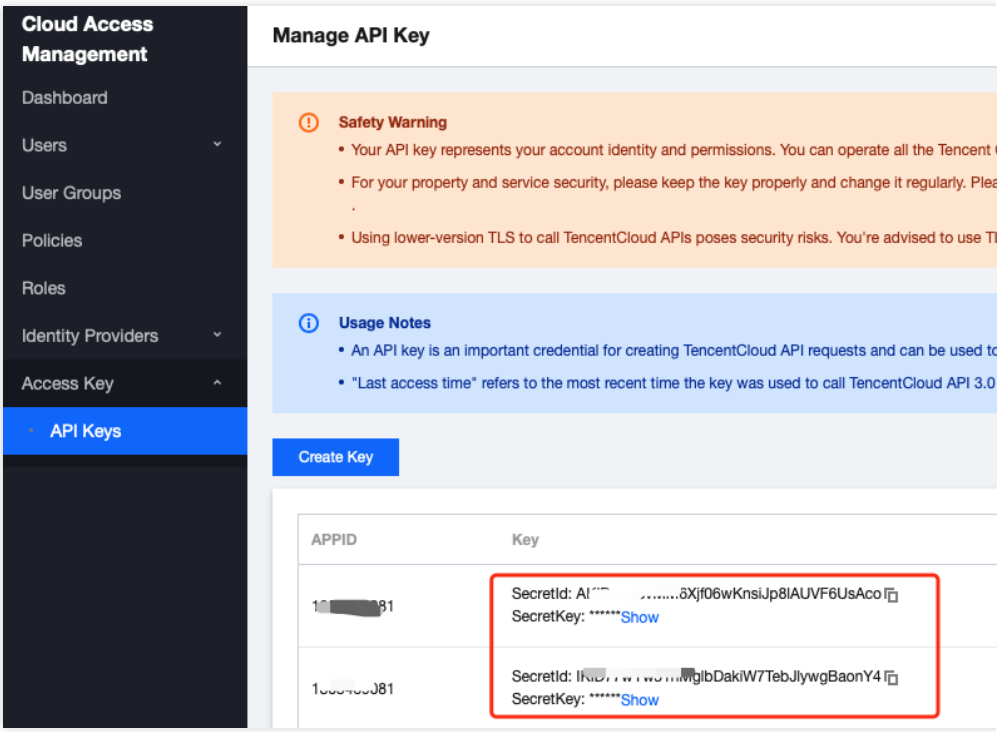
```
    <version>1.0.7</version>
</dependency>

<!-- TencentCloud API SDK -->
<dependency>
    <groupId>com.tencentcloudapi</groupId>
    <artifactId>tencentcloud-sdk-java</artifactId>
    <version>3.1.423</version>
</dependency>
```

3. Create a topic object.

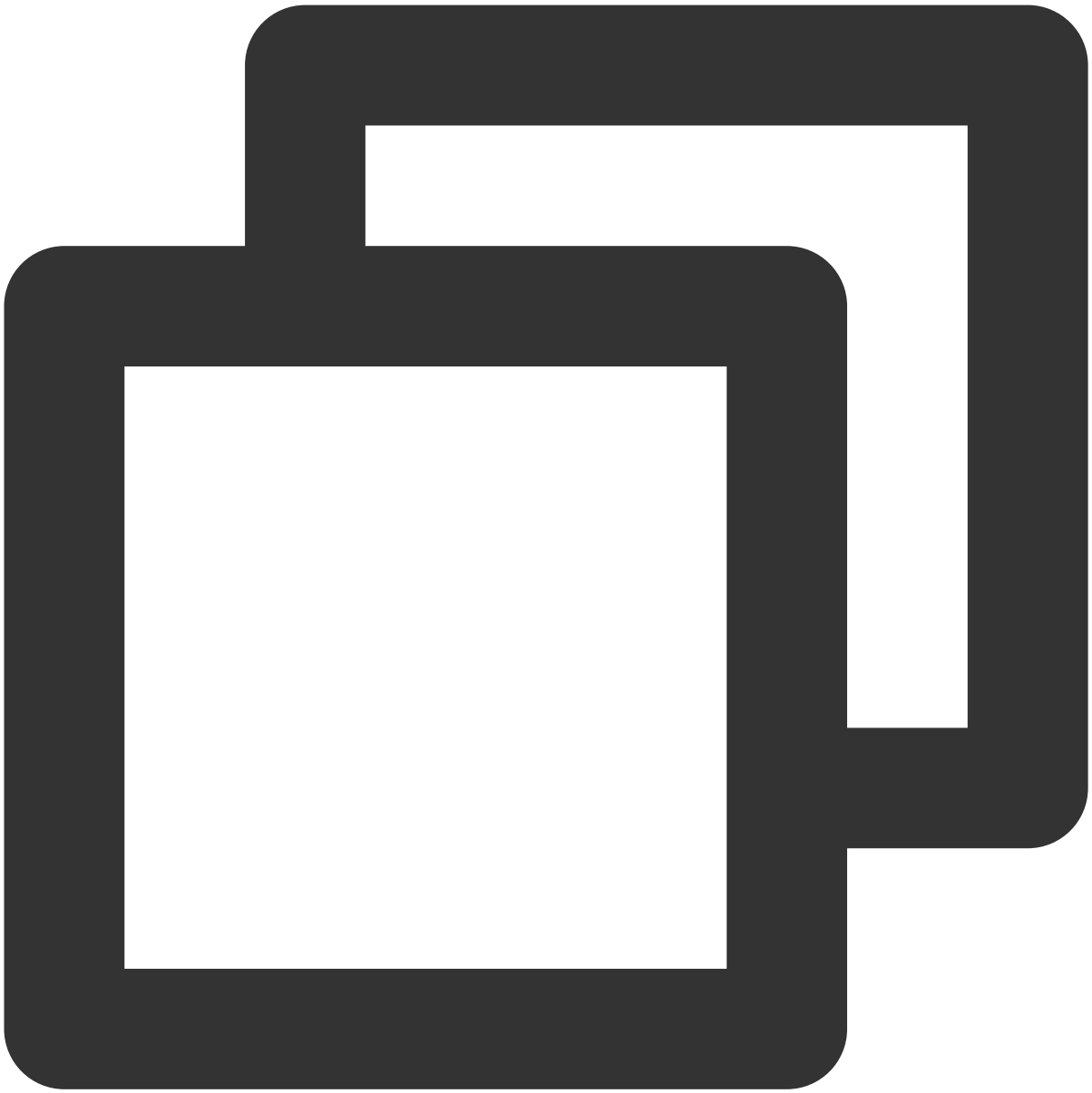


```
Account account = new Account(SERVER_ENDPOINT, SECRET_ID, SECRET_KEY);
Topic topic = account.getTopic(topicName);
```

Parameter	Description
SERVER_ENDPOINT	API call address, which can be copied from Topic Subscription > API Request Address in TDMQ for CMQ console.

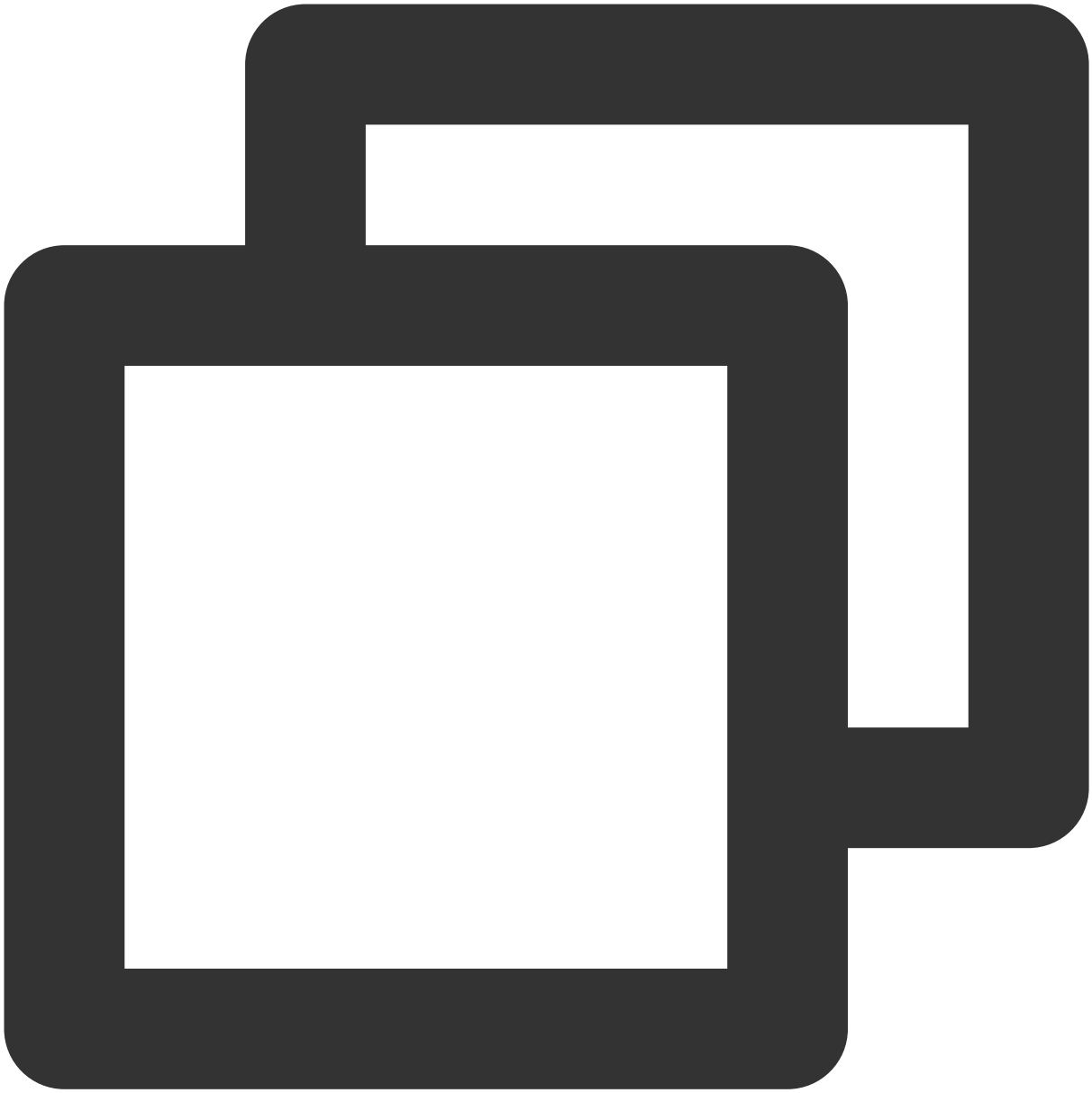
	
SECRET_ID, SECRET_KEY	TencentCloud API key, which can be copied on the Access Key > Manage API Key page CAM console. 
topicName	Topic subscription name, which can be obtained on the Topic Subscription page in the TI for CMQ console.

4. Send tag messages.



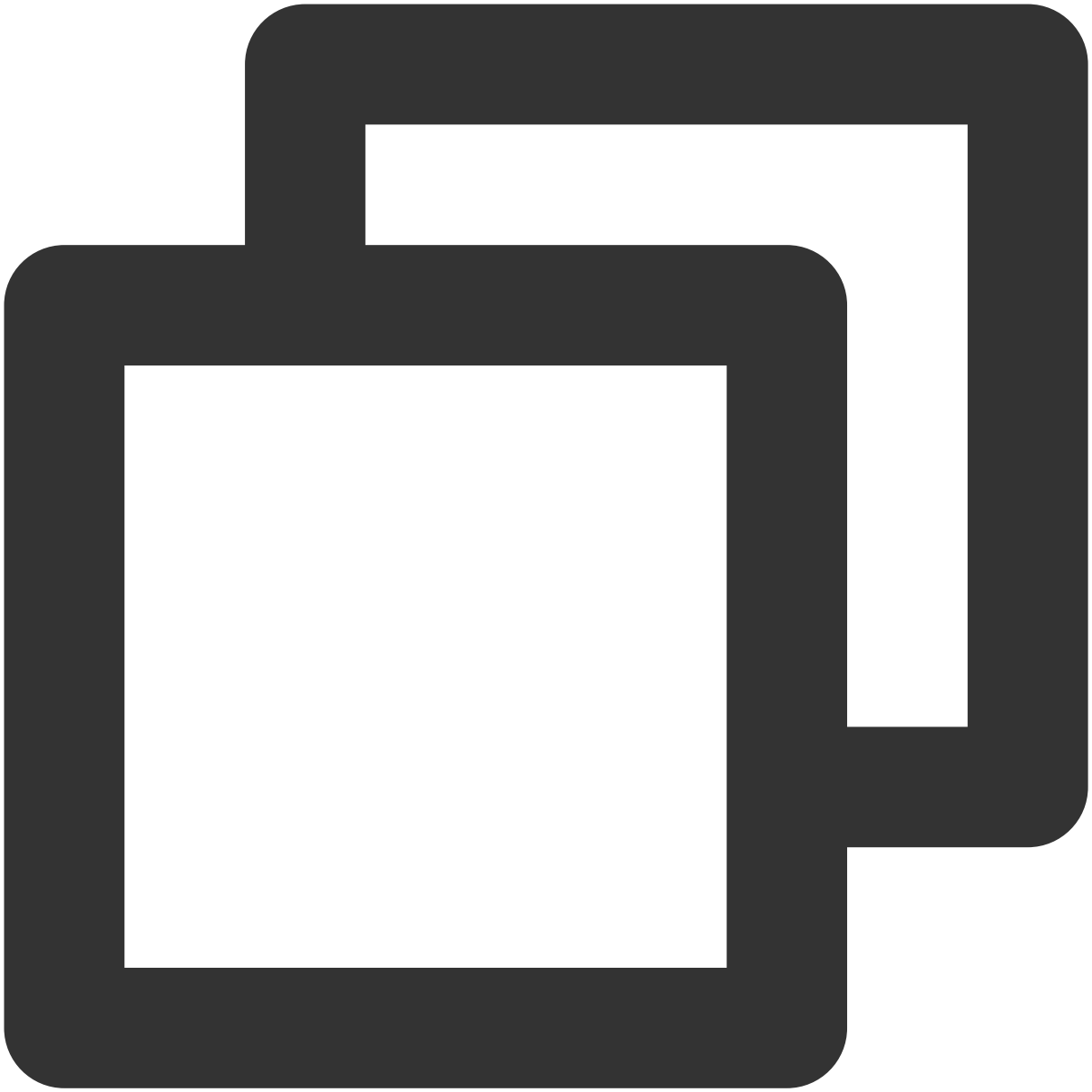
```
String msg = "hello client, this is a message. tag=TAG1. Time:" + new Date();
List<String> tags = Collections.singletonList("TAG1");
String messageId = topic.publishMessage(msg, tags, null);
```

5. Send route messages.



```
String msg = "hello client, this is a message. route(abc) Time:" + new Date()
String messageId = topic.publishMessage(msg, "abc");
```

6. Consume messages in the queue corresponding to the subscriber.



```
Account account = new Account(SERVER_ENDPOINT, SECRET_ID, SECRET_KEY);
Queue queue = account.getQueue(queueName);
Message message = queue.receiveMessage();
// Successfully consumed messages are deleted. Retained messages can be deliv
queue.deleteMessage(message.receiptHandle);
```

Note:

The above is a brief introduction to the message production and consumption in TDMQ for CMQ. For more information, see Demo.