

# Message Queue

## Console Guide

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## Message query

The MQ console provides several message query methods to assist you in troubleshooting.

### Scenarios

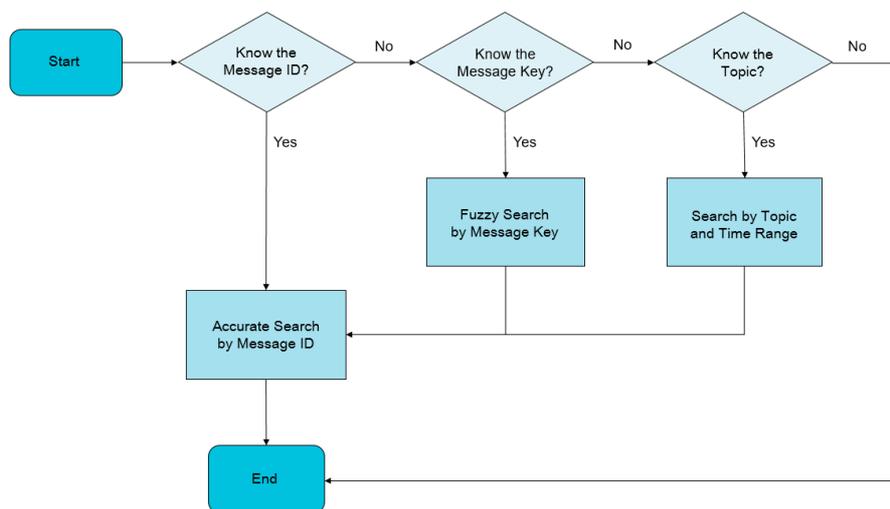
MQ provides you with three ways to query messages: by message ID, by message key, and by topic.

Their characteristics are compared as follows:

Method	Condition	Type	Description
By message ID	Topic + message ID	Exact query	By specifying the topic and message ID, you can locate any message precisely and obtain the properties of the message.
By message key	Topic + message key	Fuzzy query	By specifying the topic and message key, you can query the latest 64 messages with the specified key. It is suggested that the message producer set a key as unique as possible for each message, to ensure that the number of messages with the same key does not exceed 64. Otherwise, some messages could be missed in the query.
By topic	Topic + time range	Range query	By specifying the topic and time range, you can obtain all the

		<p>messages that meet the conditions in batches. The query volume is large and only fuzzy matching can be implemented.</p>
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**Recommended query process:**



## By message ID

Exact matching can be implemented if you query by message ID. You can obtain an exact message by specifying its topic and message ID. Therefore, we recommend that you print the message ID to the log after the message is sent upon producer calling, to facilitate exact query and troubleshooting.

Take Java SDK for example. The message ID can be obtained as follows:

```

    SendResult sendResult = producer.send(msg);
    String msgId = sendResult.getMessageId();
  
```

## Query results

After querying a message, you can view its basic properties, body download link, and consumption status on the Message Details page.

The delivery status is calculated by MQ based on the consumption progress of each group ID. The following table describes the delivery statuses.

**Note:** The delivery status is only an estimation based on the consumption progress. To get more detailed consumption information, use the message tracing function. The message tracing function displays the complete link of the message. For more information, see [Query message traces](#).

## Delivery statuses

Delivery status	Possible reasons
Subscribed to, and consumed at least once	The group ID has consumed this message normally.
Subscribed to, but filtered out by a filter expression, check the tag	The group ID has not subscribed to the tag of the message, and therefore, the message has been filtered out. To check the subscription of a group ID, go to the <b>Consumers</b> page in the console and click <b>Consumer Status</b> in the Actions column.
Subscribed to, but not consumed	The group ID has subscribed to the message, but has not yet consumed it. This can be caused by slow consumption or an exception-caused consumption block.
Messages are subscribed but the consumer is offline. Please use the message tracing function for accurate message queries.	The group ID has subscribed to the message, but is offline. Check the reason why the consumer is offline.
Unknown exception	An unlisted exception occurred. Submit a ticket to seek help from Customer Services.

## Consumption verification

MQ provides a consumption verification function that allows pushing a specified message to a designated online client to detect whether the logic and result of message consumption by the client are as expected.

**Note:** The consumption verification function is only for verifying whether the consumption logic on the client is normal and does not affect a normal message receiving process, so consumption status and other information of the message does not change after clicking for consumption verification.

## By message key

The mechanism of query by message key is that MQ creates an index for the messages according to message keys that you provide, so that when you query by message key, the messages matching the index can be found and returned.

**Note:**

- The condition for query by message key is the message key property you set.
- Only the most recent 64 messages that meet the condition can be returned in a query by message key. Therefore, we recommend that you set a key as unique as possible and make a service distinction.

**To set a message key:**

```

Message msg = new Message("Topic", "*", "Hello MQ".getBytes());
/**
 * Set the key to be retrieved for each message. The key value represents the key attribute of the message. Set it as
 * unique as possible.
 * If you have trouble in receiving a message, you can query the message in the MQ console. Messages can be sent
 * and received as usual even if this attribute is not set.
 */
msg.setKey("TestKey"+System.currentTimeMillis());

```

## By topic

If you cannot retrieve any data using the preceding two methods, query messages by topic. You can specify the topic and message sending time range to retrieve messages in batches and then locate the data that you are concerned about.

### Note:

- Query by topic is a range query for obtaining all messages meeting the time condition under the topic, so the number of retrieved messages is large and we recommend that you shorten the query interval to the greatest extent.
- Query by topic involves a large amount of data, which is usually displayed on multiple pages.

## Query Message Trace

This topic introduces the basic principles, scenarios, and use cases of MQ message tracing.

**Note:** MQ supports message tracing over TCP currently.

## Basic principles

**Definition:** Message tracing shows the complete links of a message from its issuance by the producer to its consumption by a consumer, and consists of the time, location, and other information on every node.

**Principles:** In MQ, a complete link of a message consists of the producer, service provider, and consumer. Each role adds relevant information to the trace when it processes the message. The information is aggregated to reflect the current status of a message, providing robust data support for troubleshooting in production environments.

### Message trace data

Producer information	Consumer information	Service provider information
Production client information	Consumption client	The message topic.

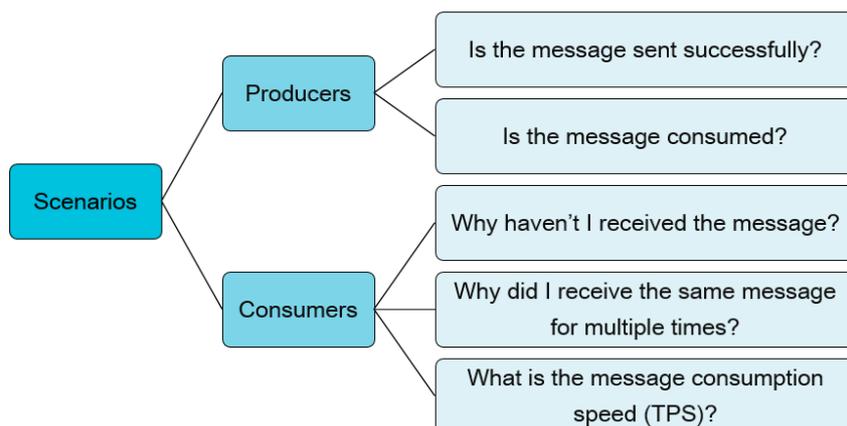
	information	
Sending time	Delivery time, number of delivery retries	Message storage region
Sent or not	Consumed or not	Message key
Sending duration	Consumption duration	Message tag

#### Message trace query rules:

Message type	Time that can be queried	Query description
Normal message	After the message is sent	Sending trace is generated once the message is sent. If the message is not consumed yet, Not Consumed appears. Once it is consumed, the delivery and consumption information appears.
Ordered message	After the message is sent	Sending trace is generated once the message is sent. If the message is not consumed yet, Not Consumed appears. Once it is consumed, the delivery and consumption information appears.
Scheduled and delayed messages	After the current system time reaches the specified message consumption time	If the current system time does not reach the specified message consumption time, the trace can be queried while the message cannot.
Transactional message	After the message is sent	Sending trace is generated once the message is sent. Before the transaction is committed, the trace can be queried while the message cannot.

## Scenarios

You can use the message tracing tool for troubleshooting when messages are not sent and received as expected in the production environment. Query the trace of a message by its properties (message ID, message key, or topic) to check the sending and receiving status of the message, helping diagnose the problem.



### Example:

Assume that you find out that you have not received a message as expected based on the log information. Perform the following steps to troubleshoot the issue with message tracing:

Collect the information about the message that you suspect went wrong, including the message ID, message key, topic, and approximate sending time.

Log on to the MQ console, and create a query task with the collected information to query the message trace.

Check the results and analyze for the cause. If the trace shows that the message has not been consumed, you can go to the **Consumers** page to check whether there are any messages accumulated.

If the message has been consumed, locate the corresponding client and the message delivery time in the consumption information, and log on to the client to view the log.

The use of message tracing does not bring additional access costs to the service provider, but you must ensure that the client SDK version supports this feature. After a message is sent or received normally, you can query the message by the message attribute in the MQ console.

## Access conditions

The message tracing function is currently supported on Java clients (1.2.7 and later), C++, and .NET clients. For more client information, check the upgrade prompt in the console. Upgrade your client SDK to the latest version if necessary.

## Create a trace query task

In the left-side navigation pane of the MQ console, choose **Message Tracing**. On the page that is displayed, click **Create Query Task** in the upper-right corner.

The message tracing function supports three query types. Select a query type and specify the query conditions. The three query types are described as follows:

- By message ID: You must specify the unique message ID, topic name, and approximate sending time (time range) of a message.
- By message key: You must specify the message key, topic, and approximate sending time (time range) of a message. This query method is suitable for scenarios where the message ID is not recorded but the message key is.
- Query by topic: You must specify the topic and approximate sending time (time range) for batch query. This query method is suitable for scenarios where neither the message ID nor message key is recorded and the volume of messages is relatively small.

**Note:**

- Set the time range as accurately as possible to narrow the query scope and speed up the query.
- Query by message ID is recommended for its exact matching and fast speed.
- Query by message key is a fuzzy query, and is suitable for scenarios where the message ID is not recorded but a business-distinctive message key is set. A maximum of 1,000 traces can be displayed for a query by message key.
- Query by topic is a range query. It is not recommended because it is difficult to locate the needed message among a great number of messages within a time range with limited distinction.

## Manage query tasks

After you created a query task, the MQ backend executes the query task asynchronously, and sends the task status to the **Query Task** page. When the query task is completed, **Query Complete** appears in the **Task Status** column. Otherwise, **Querying** appears.

Depending on the task status, you can choose to view the trace or delete the query task.

## View message traces

After the query is complete, click **Details** to view the message trace. If no results appear, click the link in the dialog box to check the cause.

If the trace is queried, the brief trace information appears, including the message attributes and receiving status.

## View trace link

Click **Details**. On the page that is displayed, click **View Trace** to check the complete trace link.

The message trace link consists of three parts:

- Producer information
- Topic information
- Consumer information

In query by message key and query by topic, if multiple traces are displayed, you can page up and down to view the traces.

## Message tracing terms

The following table describes relevant terms of message tracing:

Link component	Field	Description
Producer	Sending Time	The timestamp when the message was sent from the sender.
Producer	Sending Duration	The time (in ms) taken by the sender to send a message by calling the send method.
Topic	Region	The region where the message is stored.
Consumer	Duration	The time that the receiver takes to execute the consumeMessage method after the message is pushed to the client.
Consumer	Delivery Time	The timestamp when the receiver executes the consumeMessage method to start message consumption.

## Status information

In the message tracing task list, click **Details** of a task. **Sending Status** and **Consumption Status** of the message appear. In addition, the message sending status and consumption status appear in the **Producer** and **Consumer** information areas in the message trace link. The statuses that may be displayed are as follows:

Category	Status	Description
Sending status	Sent	The message is sent and stored on the broker.
Sending status	Sending Failed	The message failed to be sent and is not stored on the broker. You need to try again.

Sending status	Message Standing By	The message is a scheduled or delayed message and it has not reached the delivery time.
Sending status	Transaction Uncommitted	The message is a transactional message and has not been submitted.
Sending status	Message Rolled Back	The message is a transactional message and has been rolled back.
Consumption status	All Succeeded	All deliveries of the message have been consumed.
Consumption status	Partially Succeeded	Certain deliveries of the message failed, or the consumption fails but the retry is successful.
Consumption status	All Failed	All delivered messages failed to be consumed.
Consumption status	Not Consumed	The message has not been delivered to any consumer.
Consumption status	Consumption Result Unreturned	The message consuming method has not returned any results yet, or has been interrupted, and therefore, the consumption status is not returned to the broker.
Consumption status	Consumed	The message has been consumed.
Consumption status	Consumption Failed	The message consuming method returned a failure result, or the consuming method threw an exception.

If you have any questions about the result of a trace query, see [Message tracing](#) in the FAQ.

## View consumer status

### Overview

The MQ console allows you to check the consumer status for troubleshooting message consumption exceptions. This function allows you to view comprehensive information about consumer instances of

a group ID, as well as information about a single consumer instance. The information includes online status, subscription relationship, consumption TPS, message accumulation amount, and JStack. You can use the information to locate the causes for message consumption exceptions.

Generally, the cause of a message consumption exception is complicated. Consumer status information in the console is usually not enough to troubleshoot the problem. In this case, you need to perform further troubleshooting through log analysis and business scenario analysis.

For more information about typical troubleshooting scenarios related to consumer status query, see **Typical scenarios**.

## Typical scenarios

Consumer status queries are often used in the following two troubleshooting scenarios:

Subscription inconsistency

Confirmation: On the **Consumer Status** page, the value of **Subscription Consistency** is **No**.

Solution: For more information about how to handle subscription inconsistency, see **What should I do after receiving a subscription inconsistency alarm**.

Message accumulation alarm

Confirmation: On the **Consumer Status** page, the value of **Real-time Message Accumulation** is large.

Solution: For more information about how to handle message accumulation alarms, see **What should I do if I receive a message accumulation alarm**.

## Procedure

### View comprehensive information about a group ID

To view the comprehensive information about the consumer instances of a specific group ID, perform the following steps:

Log on to the MQ console.

In the left-side navigation pane, choose **Groups**.

On the **Groups** page, locate the row that contains the target group ID and click **Consumer Status** in the **Actions** column.

## Field description

The following table describes the main fields on the Consumer Status page:

Field	Description
Online	The value is <b>Yes</b> once the group ID has one consumer instance online. In such case, you can view the information about all online consumer instances in the <b>Connection Information</b> area. If none of the consumer instances of the group ID is online, the value is <b>No</b> .
Subscription Consistency	Indicates whether the subscription information of all consumer instances of the group ID are consistent. For more information about subscription consistency, see <b>Subscription consistency</b> .
Real-Time Consumption Rate	The total transactions per second (TPS) at which messages are received by the consumer instance group under the group ID. Unit: messages/s.
Real-Time Message Accumulation	The total number of messages not consumed by the consumer instance group under the group ID.
Latest Consumption Time	The time when the consumer instance group under the group ID last consumed a message.
Latency	The difference between the production time of the earliest unconsumed message and the current time.

## View information about a single consumer instance of a specific group ID

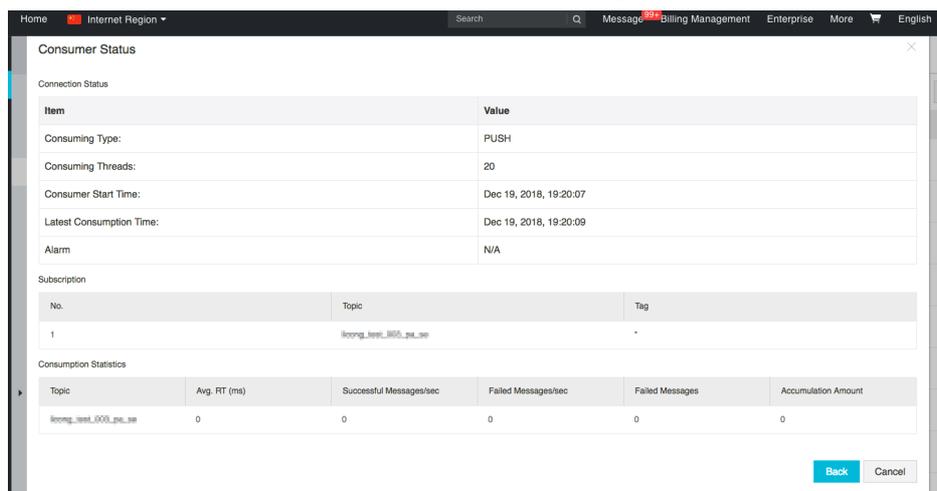
If the online status of the group ID is **Yes**, you can view information about each online consumer instance under the group ID in the **Connection Information** area, including the client ID, host/public IP address, current process ID, and message accumulation amount.

### View more information

If you want to view more information about a specific consumer instance, click **Detailed Information** in the **Detailed Information** column.

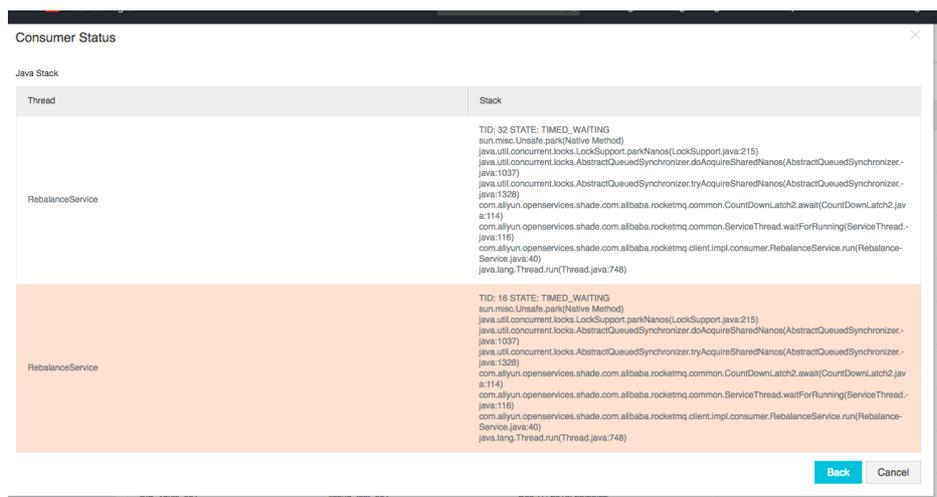
A page shown in the following figure appears, showing the number of consumption threads,

consumption start time, subscription, and message consumption statistics.



## View JStack information

If you want to view the JStack information of the current process for a specific consumer instance, locate the row that contains the target consumer instance and click **JStack** in the **JStack** column. The following figure shows the displayed information:



## Reset consumer offset

You can reset the consumer offset to skip the accumulated messages instead of consuming them, or to consume messages after a certain time point whether or not these messages have been consumed before.

**Note:** MQ does not support resetting consumer offsets in broadcasting consumption mode or by

message ID, message key, or tag currently.

## Procedure

In the left-side navigation pane of the MQ console, choose **Groups**.

Locate the group ID and the corresponding topic of the consumer offset that needs to be reset, and click **More** in the **Actions** column and then click **Reset Consumer Offset**.

In the **Reset Consumer Offset** dialog box, select Skip All Accumulated Messages to Consume from the Latest One or Reset by Time Point. The two options are described as follows:

**Skip All Accumulated Messages to Consume from the Latest One:** If this option is selected, the group ID skips all accumulated (unconsumed) messages under the topic and starts to consume from the latest message sent.

**Note:** It takes no effect on messages for which the system returns "reconsumeLater", that is, the messages that are subjected to a retry procedure.

**Reset by Time Point:** If this option is selected, a time selection widget appears. Select a specific time in the widget. Only the messages that are sent after the selected time are consumed.

**Note:**

The time range allowed for the time selection widget ranges from the production time of the earliest message stored in the topic to that of the latest message stored in the topic.

If the selected time falls out of the allowed time range, the system processes the time range with the following logic:

If the selected time is earlier than the earliest start time allowed, the consumer offset is reset to the earliest start time allowed.

If the selected time is later than the latest end time allowed, the consumer offset is reset to the latest end time allowed.

1. Click **OK** to reset the consumer offset.

## Dead-letter queue

### Overview

Dead-letter queues are used to process messages that cannot be consumed. When a message fails to be consumed for the first time, MQ automatically retires the consumption of the message. If the message still cannot be consumed after the maximum number of retries is reached, the message cannot be properly consumed. Instead of immediately discarding the message, MQ sends it to a particular queue of the corresponding consumer.

In MQ, a message that cannot be properly consumed is called a **dead-letter message**, which is stored by a particular queue named **dead-letter queue**.

Dead-letter messages have the following features:

- They can no longer be properly consumed.
- They have a valid period that is the same as that of a normal message, namely, three days. After three days, the message is deleted automatically. Therefore, process dead-letter messages within the three days after being produced.

The dead-letter queue has the following features:

- A dead-letter queue corresponds to a group ID rather than a consumer instance.
- When no dead-letter messages are produced for a group ID, MQ does not create a dead-letter queue for it.
- A dead-letter queue contains all the dead-letter messages of the corresponding group ID regardless of the message topic.

In the MQ console, you can query, export, and resend dead-letter messages.

### Query dead-letter messages

MQ provides two methods for querying dead-letter messages:

- By group ID
- By message ID

The differences between the methods are as follows:

Method	Condition	Type	Description
By group ID	Group ID + time	Range query	After you specify the

	range		group ID and time range, all the qualified messages are displayed in batches. The query volume is large and only fuzzy matching can be implemented.
By message ID	Group ID + message ID	Exact query	The group ID and message ID exactly identifies a message.

## By group ID

You can batch query all the dead-letter messages of a group ID within a certain time range by specifying their group ID and time range.

**Note:** The time range of a dead-letter message refers to the period from the time when the maximum number of message sending retries is reached to the time when it is sent to the dead-letter queue.

The procedure is as follows:

1. In the left-side navigation pane of the MQ console, choose **Dead-Letter Queue**.
2. On the **Dead-Letter Queue** page, click the **By Group ID** tab.
3. In the group ID text box, enter keywords and select the displayed group ID, or select the target group ID from the drop-down list.
4. Set the start time and end time.
5. Click **Search**. All dead-letter messages that meet the preceding conditions are displayed.
6. Locate the row that contains the target dead-letter message, and click **View Details** in the **Actions** column to view the details of the message, including its basic properties, message body download link, message trace, and delivery status.

## By message ID

Exact matching is implemented if you query by message ID. You can precisely locate any message by specifying its group ID and message ID.

The procedure is as follows:

1. In the left-side navigation pane of the MQ console, choose **Dead-Letter Queue**.
2. On the **Dead-Letter Queue** page, click the **By Message ID** tab.
3. In the group ID text box, enter keywords and select the displayed group ID, or select the target group ID from the drop-down list.
4. In the message ID text box, enter the message ID that you want to search.
5. Click **Search**. All dead-letter messages that meet the preceding conditions are displayed.
6. Locate the row that contains the target dead-letter message, and click **View Details** in the

**Actions** column to view the details of the message, including its basic properties, message body download link, message trace, and delivery status.

## Export dead-letter messages

If you cannot process dead-letter messages for the moment, export them from the MQ console in case that they expire.

The MQ console provides **Single Export** and **Batch Export** of dead-letter messages. The exported file is in CSV format.

The exported messages cover the following information:

Field	Description
topic	The message topic.
msgId	The message ID.
bornHost	The URL of the producer that produces the message.
bornTimestamp	The time when the message is produced.
storeTimestamp	The time when the message turns into a dead-letter message.
reconsumeTimes	The number of consumption failures.
properties	The message properties in JSON format.
body	The message body in base64 coding format.
bodyCRC	The message body CRC.

### Single export

After you locate the row that contains the target dead-letter message using any method in the MQ console, click **Export** in the **Actions** column to export it.

### Batch export

After you locate the target dead-letter messages by group ID in the MQ console, select the target dead-letter messages, and click **Batch Export** to export all the selected dead-letter messages.

## Resend dead-letter messages

A message entering into the dead-letter message queue indicates that, for some reason, it cannot be consumed properly. As a result, you must process it specifically. After troubleshooting and bug fixing, you can resend the message in the MQ console for consumption.

**Note:** A dead-letter message is not deleted from the dead-letter queue immediately after being resent.

## Single resend

After you locate the row that contains the target dead-letter message using any method in the MQ console, click **Resend** in the **Actions** column to resend it.

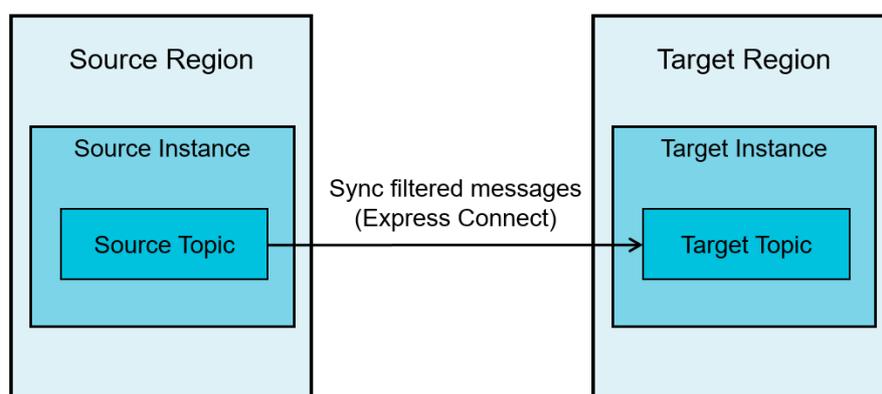
## Batch resend

After you locate the target dead-letter messages by group ID in the MQ console, select the target dead-letter messages, and click **Batch Resend** to resend all the selected dead-letter messages.

# Message router

## Background information

Message routers are often used to synchronize messages between different regions to ensure data consistency. Relying on Express Connect developed by Alibaba Cloud based on its superb infrastructure (there is no need to activate Express Connect separately), MQ message routers allow you to efficiently synchronize messages from countries to countries and regions to regions. The following figure shows the implementation.



The MQ message routers allow you to synchronize messages under a topic of an instance in one region to another topic of a specified instance in another region by specifying the source region, target region, source instance, target instance, source topic, and target topic, and configuring the message filtering rules (such as by tag) and the synchronization start point.

**Note:**

Relay message routing is not supported. For example, messages cannot be synchronized from region A to region B and then to region C. If needed, create a task to synchronize messages from region A to region C directly.

Currently, message routers are not supported in Internet.

The message types of the source topic and target topic must be consistent. If the message type of the source topic is normal message, that of the target topic to be synchronized should also be normal message.

Considering the number of messages to be synchronized and the network bandwidth bottleneck, message synchronization may encounter certain latency. That is, the time when the message arrives at the target topic is later than the time when the message enters the source topic.

## Create a message router task

You can log on to the MQ console, create a cross-region message synchronization task based on your business needs, and track and manage the task.

### Prerequisites

Before creating a message router task, make sure that the source and target regions of the message to be synchronized support the message router function.

The source instance, source topic, target instance, and target topic have been created and available. The message types of the source topic and target topic are the same.

For more information about how to create an instance and a topic, see the procedures for creating a resource in [Quick start for primary accounts](#) or [Quick start for sub-accounts](#) according to the type of your account.

### Procedure

To create a message synchronization task, perform the following steps:

Log on to the MQ console.

In the left-side navigation pane, choose **Message Router**.

In upper-right corner of the **Message Router** page, click **Create Task**.

In the **Create Task** dialog box, set the following parameters and click **OK**. The following table describes the parameters.

Parameter	Description
Source Region	Select the source region of the instance of the topic for the message that you want to synchronize.
Source Instance	Select the source instance of the topic for the message that you want to synchronize.
Source Topic	Enter the name of the source topic of the message that you want to synchronize.
Target region	Select the target region of the instance of the topic for the message that you want to synchronize.
Target Instance	Select the target instance of the topic for the message that you want to synchronize.
Target Topic	Enter the name of the target topic of the message that you want to synchronize.
Sync Starting Point	Select the message synchronization starting point in the message queue of the source topic. All the messages that queue up after the specified point are synchronized to the target topic. Currently, only Last Offset is supported, that is, starting synchronization from the latest message in the queue.
Filtering Rule	Enter the filtering rule. Only the message filtered according to the rule can be synchronized. You can filter messages by tag, that is, directly entering the tag name such as "TagA" . For more information, see <a href="#">Message filtering</a> .
Description	Enter the specific description or remarks for the message synchronization task for distinguishing and recording.

After the task is created, it is displayed in the task list on the **Message Router** page.

**Note:** After the message router task is created successfully, the task is in the **Initializing** state, and you need to **start** the task manually.

On the **Message Router** page, you can **search**, **start**, **stop**, **view**, and **delete** the created task. You can

also edit filtering rules for the task.

## Search for a task

On the **Message Router** page, set **Source** and **Target**, and click **Search** to query the required task.

## Start and stop a task

In the task list on the **Message Router** page, locate the row that contains the target task, and click **Start** or **Stop** in the **Actions** column.

After the task is started, the status of the task changes to **Running**.

After the task is stopped, the status of the task changes to **Stopped**.

## Delete a task

**Prerequisites:** You must stop the task before deleting it.

In the task list on the **Message Router** page, locate the row that contains the target task, and click **Delete** in the **Actions** column.

The deleted task is no longer displayed in the search results.

## View task details

In the task list on the **Message Router** page, locate the row that contains the target task, and click **View Details** in the **Actions** column to view the task details and message details. You can also edit the filtering rule.

The following table describes the key fields in the Task Details area.

Parameter	Description
Task Status	The task status can be <b>Initializing</b> , <b>Running</b> , or <b>Stopped</b> .
Sync TPS	The TPS value of messages transmitted per second in message synchronization, measured once a minute.
Message Delay	The time difference between the latest synchronization point and the latest message.
Message Accumulation Amount	The number of messages that have not been synchronized yet.

Latest Sync Time	The time when the last message synchronization occurred.
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## Edit a filtering rule

**Prerequisites:** You must stop the task before editing the filtering rule.

In the **Filtering Rule** field of the **Task Details** area, click the edit icon to edit the filtering rule.

# Subscription Relationship

In the MQ console, you can view the subscription relationship between group IDs and topics in real time, that is, you can check the topics that a group ID subscribed to and the group IDs that have subscribed to a certain topic.

**Note:** Only group IDs in online status appear in the subscription relationship.

## View group IDs subscribed to a topic

### Prerequisites

At least one group ID subscribed to the topic is online.

### Procedure

Log on to the MQ console.

In the left-side navigation pane, choose **Topics**.

On the **Topics** page, locate the row that contains the target topic and click **Subscription** in the **Actions** column.

### Verification

In the **Subscription** dialog box, the topic name, sending time of the latest message, all the online group IDs that subscribed to the topic, and their consumption modes appear.

You can also click **Consumer Status** in the **Actions** column to view the message consumption details of the group ID.

## View subscribed topics of a group ID

### Prerequisites

A group ID is in online status.

### Procedure

Log on to the MQ console.

In the left-side navigation pane, choose **Groups**.

On the **Groups** page, locate the row that contains the target group ID and click **Subscription** in the **Actions** column.

### Verification

In the **Subscription** dialog box, the group ID name, online status, consumption mode, all subscribed topics, and the message filtering rules of these topics appear.

## Statistics

The statistics function allows you to collect the statistics about message production and consumption. It allows you to view not only the total quantity of messages that a topic received from the broker or the message receiving TPS of the topic during a certain period of time, but also the total quantity of messages that a topic sent to a group ID or its message sending TPS to that group ID during a certain period of time.

### View message production data

You can view the total number of messages or receiving TPS of a topic from the broker within the specified period.

The procedure is as follows:

Log on to the MQ console. In the left-side navigation pane, choose **Statistics**.

On the **Statistics** page, click the **Message Production** tab.

Select the required topic from the **Topic** drop-down list.

Set other parameters as required and click **Search**.

Field description:

- **Collection Type:** The options include Total Quantity and TPS. Total Quantity shows the total quantity of messages that the topic received from the broker within a collection cycle, and TPS shows the average message receiving TPS of the topic.
- **Collection Cycle:** The options include Every 1 Minute, Every 10 Minutes, Every 30 Minutes, and Every 1 Hour. The collection cycle is the data collection interval. Therefore, the shorter the cycle, the more frequent the collection is, and the more detailed the message production statistics are.
- **Time Range:** MQ allows you to query messages produced within the last three days.

Query results are displayed in a chart.

## View message consumption data

You can view the total number of messages of a topic that are delivered to a group ID or the delivery TPS within the specified period.

The procedure is as follows:

Log on to the MQ console. In the left-side navigation pane of the MQ console, choose **Statistics**.

On the **Statistics** page, click the **Message Consumption** tab.

Select the group ID and topic from the **Group ID** and **Topic** drop-down lists respectively.

Set other parameters as required and click **Search**.

Field description:

- **Collection Type:** The options include Total Quantity and TPS. Total Quantity indicates the total number of messages that the topic delivers to the group ID in each collection cycle, and TPS indicates the average TPS of the messages that the

- topic delivers to the group ID in each collection cycle.
- **Collection Cycle:** The options include Every 1 Minute, Every 10 Minutes, Every 30 Minutes, and Every 1 Hour. The collection cycle is the data collection interval. Therefore, the shorter the cycle, the more frequent the collection is, and the more detailed the message consumption statistics are.
  - **Time Range:** MQ allows you to query messages consumed within the last three days.

Query results are displayed in a chart.

## Monitoring

MQ allows you to monitor the consumption status of messages under the topics that you subscribe to, and sends alarms by SMS in case of exceptions, helping you learn about the message consumption status in real time and handle consumption exceptions.

To use the monitoring function, you must subscribe to a topic through a group ID first, and then configure the related monitoring items. When the consumer is online and the number of accumulated messages or the latency exceeds the defined threshold, MQ sends an SMS to the alarm recipient.

### Create a monitoring item

To monitor the message consumption status of a group ID, perform the following steps to create a monitoring item:

Log on to the MQ console. In the left-side navigation pane, choose **Monitoring**.

On the **Monitoring Items** page, click **Add Monitoring Item** in the upper-right corner.

In the **Add Monitoring Item** dialog box, set desired parameters and click **OK**. The new monitoring items appear on the **Monitoring Items** page.

Field description:

- **Group ID:** indicates the group ID to be monitored.
- **Topic:** indicates the topic that the group ID subscribed to.
- **Accumulation Threshold:** indicates the alarm threshold for the number of accumulated messages. The valid threshold ranges from 1 to 100,000,000. If

messages are accumulated when the group ID that you want to monitor consumes messages under the specified topic, and the number of accumulated messages exceeds the threshold, MQ sends a notification to the alarm recipient by SMS.

- **Latency Threshold:** indicates the consumption latency. Consumption latency is the interval between the latest time when the group ID consumes the messages of the specified topic and the time when the last message of the topic is sent to the group ID. The minimum threshold is 1 minute.
- **Alarm Time Range:** The alarm time is accurate to the minute, ranging from 00:00 to 23:59. You will receive an alarm message only within the specified time range.
- **Frequency:** The options include Every 5 Minutes, Every 15 Minutes, and Every 30 Minutes.
- **Alarm Recipient:** The information includes the recipient's nickname and phone number. The length of the nickname must be within 32 characters.

## Manage monitoring items

On the **Monitoring Items** page, you can edit, disable, and delete created monitoring items. You can also click **Enable** in the Actions column to enable a disabled monitoring item.