Distributed Message Service for Kafka

FAQs

Issue 01

Date 2022-11-24





Copyright © Huawei Technologies Co., Ltd. 2022. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions

HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd. All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Contents

1 Instances	1
1.1 Why Can't I View the Subnet and Security Group Information When Creating a DMS Instance?	1
1.2 How Do I Select Storage Space for a Kafka Instance?	1
1.3 How Do I Choose Between High I/O and Ultra-high I/O?	1
1.4 Which Capacity Threshold Policy Should I Use?	2
1.5 Which Kafka Versions Are Supported?	2
1.6 What Is the ZooKeeper Address of a Kafka Instance?	2
1.7 Are Kafka Instances in Cluster Mode?	2
1.8 Can I Modify the Connection Address for Accessing a Kafka Instance?	2
1.9 How Long Are Kafka SSL Certificates Valid for?	3
1.10 How Do I Synchronize Data from One Kafka Instance to Another?	3
1.11 How Do I Change the SASL_SSL Setting of a Kafka Instance?	3
1.12 Will a Kafka Instance Be Restarted After Its Enterprise Project Is Modified?	3
1.13 Are Kafka Brokers and ZooKeeper Deployed on the Same VM or on Different VMs?	3
1.14 Can I Delete a Kafka Instance Billed in Yearly/Monthly Mode?	4
1.15 Which Cipher Suites Are Supported by Kafka?	4
1.16 Do Kafka Instances Support Disk Encryption?	4
1.17 Does Specification Modification Affect Services?	4
1.18 Can I Change the VPC and Subnet After a Kafka Instance Is Created?	4
1.19 Where Can I Find Kafka Streams Use Cases?	4
1.20 Can l Upgrade Kafka Instances?	4
1.21 Why Is the Version on the Console Different from That in Kafka Manager?	4
1.22 How Do I Bind an EIP Again?	5
2 Connections	6
2.1 Troubleshooting Kafka Connection Exceptions	6
2.2 How Do I Select and Configure a Security Group?	8
2.3 Can I Access a Kafka Instance Over a Public Network?	11
2.4 How Many Connection Addresses Does a Kafka Instance Have by Default?	11
2.5 Do Kafka Instances Support Cross-Region Access?	11
2.6 Do Kafka Instances Support Cross-VPC Access?	12
2.7 Do Kafka Instances Support Cross-Subnet Access?	12
2.8 Does DMS for Kafka Support Authentication with Kerberos?	12
2.9 Does DMS for Kafka Support Password-Free Access?	12

2.10 Obtaining Kafka Clients	12
2.11 How Do I Obtain the Public Access Address After Public Access Is Enabled?	12
2.12 Does DMS for Kafka Support Authentication on Clients by the Server?	13
2.13 Can I Use PEM SSL Truststore When Connecting to a Kafka Instance with SASL_SSL Enabled?	13
2.14 What Are the Differences Between JKS and CRT Certificates?	13
2.15 Which TLS Version Does DMS for Kafka Support?	13
2.16 Is There a Limit on the Number of Client Connections to a Kafka Instance?	13
2.17 How Many Connections Are Allowed from Each IP Address?	13
2.18 Can I Change the Private Network Addresses of a Kafka Instance?	14
2.19 Is the Same SSL Certificate Used for Different Instances?	14
3 Topics and Partitions	15
3.1 Is There a Limit on the Number of Topics in a Kafka Instance?	15
3.2 Why Is Partition Quantity Limited?	
3.3 Can I Change the Partition Quantity?	17
3.4 Why Do I Fail to Create Topics?	17
3.5 Do Kafka Instances Support Batch Importing Topics or Automatic Topic Creation?	17
3.6 Why Do Deleted Topics Still Exist?	17
3.7 Why Can't I See "Create Topic" and "Delete Topic" Buttons on the Topic Management Page?	
3.8 Can I View the Disk Space Used by a Topic?	17
3.9 Can I Add ACL Permissions for Topics?	18
3.10 What Should I Do If Kafka Storage Space Is Used Up Because Retrieved Messages Are Not Delet	
3.11 How Do I Increase the Partition Quantity?	
3.12 Will a Kafka Instance Be Restarted After Its Automatic Topic Creation Setting Is Modified?	
3.13 How Do I Disable Automatic Topic Creation?	
3.14 Can I Delete Unnecessary Topics in a Consumer Group?	
3.15 What Can I Do If a Consumer Fails to Retrieve Messages from a Topic Due to Insufficient Permissions?	
3.16 Why Does an Instance Contain Default Topicstrace andconsumer_offsets?	
4 Consumer Groups	
•	
4.1 Do I Need to Create Consumer Groups, Producers, and Consumers for Kafka Instances? 4.2 Do I Need to Unsubscribe from a Topic Before Deleting a Consumer Group?	
4.3 Will a Consumer Group Without Active Consumers Be Automatically Deleted in 14 Days?	
4.4 Why Do I See a Deleted Consumer Group on Kafka Manager?	
5 Messages	23
5.1 What Is the Maximum Size of a Message that Can be Created?	
5.2 Why Does Message Poll Often Fail During Rebalancing?	
5.3 Why Can't I Query Messages on the Console?	
5.4 What Can I Do If Kafka Messages Are Accumulated?	
5.5 Why Do Messages Still Exist After the Retention Period Elapses?	
5.6 Do Kafka Instances Support Delayed Message Delivery?	
5.7 How Do I View the Number of Accumulated Messages?	

5.8 Why Is the Message Creation Time Displayed as Year 1970?	.26
6 Kafka Manager	27
6.1 Can I Configure a Kafka Manager Account to Be Read-Only?	. 27
6.2 Why Can't I See Broker Information After Logging In to Kafka Manager?	.27
6.3 Yikes! Insufficient partition balance when creating topic : projectman_project_enterprise_project Try	
6.4 Can I Query the Body of a Message by Using Kafka Manager?	. 28
6.5 Can I Change the Port of the Kafka Manager Web UI?	. 28
6.6 Which Topic Configurations Can Be Modified on Kafka Manager?	. 28
6.7 Why Is Information Displayed on Kafka Manager Inconsistent with Cloud Eye Monitoring Data?	
5.8 How Do I Change a Partition Leader for a Topic in Kafka Manager?	. 29
7 Monitoring & Alarm	33
7.1 Why Can't I View the Monitoring Data?	.33
7.2 Why Is the Monitored Number of Accumulated Messages Inconsistent with the Message Quantity Displayed on the Kafka Console?	
7.3 Why Is a Consumer Group Still on the Monitoring Page After Being Deleted?	. 33

Instances

1.1 Why Can't I View the Subnet and Security Group Information When Creating a DMS Instance?

This may be because you do not have the **Server Administrator** and **VPC Administrator** permissions. For details about how to add permissions to a user group, see **Modifying User Group Permissions**.

1.2 How Do I Select Storage Space for a Kafka Instance?

The storage space is the space for storing messages (including messages in replicas), logs and metadata. When specifying storage space, specify the disk type and disk size. For more information about disks, see **Disk Types and Performance**.

For example, if the required disk size to store data for the retention period is 100 GB, the disk capacity must be at least: 100 GB x Number of replicas + 100 GB (reserved space). In a Kafka cluster, each node uses a 33 GB disk to store logs and ZooKeeper data. Therefore, the actual available storage space is less than the purchased storage space.

The number of replicas (3 by default) can be configured when you create a topic. If automatic topic creation has been enabled, each automatically created topic has three replicas by default. You can change this quantity by setting **default.replication.factor** on the **Parameters** tab page.

1.3 How Do I Choose Between High I/O and Ultra-high I/O?

- High I/O: The average latency is 1 to 3 ms, and the maximum bandwidth is 150 MB/s (read + write).
- Ultra-high I/O: The average latency is 1 ms, and the maximum bandwidth is 350 MB/s (read + write).

You are advised to select ultra-high I/O, because ultra-high I/O disks deliver much higher bandwidth than high I/O.

1.4 Which Capacity Threshold Policy Should I Use?

The following policies are supported:

• Stop production

When the memory usage reaches the disk capacity threshold (95%), new messages will no longer be created, but existing messages can still be retrieved until they are discarded. The default retention time is three days. This policy is suitable for scenarios where no data losses can be tolerated.

Automatically delete

When the memory usage reaches the disk capacity threshold (95%), messages can be created and retrieved, but 10% of the earliest messages will be deleted to ensure sufficient disk space. This policy is suitable for scenarios where no service interruption can be tolerated. Data may be lost.

Select a proper policy based on requirements for data and service reliability. Both policies are only used for handling extreme scenarios. **To avoid extreme** scenarios, buy sufficient disk space in the first place.

1.5 Which Kafka Versions Are Supported?

Kafka v1.1.0, v2.3.0, and v2.7.

1.6 What Is the ZooKeeper Address of a Kafka Instance?

Kafka instances are managed using ZooKeeper. Opening ZooKeeper may cause misoperations and service losses. ZooKeeper is used only within Kafka clusters and does not provide services externally.

You can use open-source Kafka clients to connect to Kafka instances and call the native APIs to create and retrieve messages.

1.7 Are Kafka Instances in Cluster Mode?

Yes. A Kafka instance is a cluster that consists of three or more brokers.

1.8 Can I Modify the Connection Address for Accessing a Kafka Instance?

No. You must access a Kafka instance through one of the following ports:

Accessing a Kafka instance without SASL:
 The port varies with the access mode:

- Intra-VPC access: port 9092
- Public access: port **9094**
- Cross-VPC access and DNAT access: port 9011
- Accessing a Kafka instance with SASL:

The port varies with the access mode:

- Intra-VPC access: port 9093
- Public access: port **9095**
- Cross-VPC access and DNAT access: port 9011

Ensure that correct rules have been configured for the security group of the instance. For details, see **How Do I Select and Configure a Security Group?**

1.9 How Long Are Kafka SSL Certificates Valid for?

The certificates are valid for more than 15 years. You do not need to worry about certificate expiration. The certificates are used for one-way authentication when enabling SASL for Kafka instances.

1.10 How Do I Synchronize Data from One Kafka Instance to Another?

Unfortunately, you cannot synchronize two Kafka instances in real time. To migrate services from one instance to another, create messages to both instances. After all messages in the original instance have been retrieved or aged, you can migrate services to the new instance. For details, see Migrating Kafka Services.

1.11 How Do I Change the SASL_SSL Setting of a Kafka Instance?

The SASL_SSL setting cannot be changed once the instance has been created. Be careful when configuring this setting during instance creation. If you need to change the setting, you must create another instance.

1.12 Will a Kafka Instance Be Restarted After Its Enterprise Project Is Modified?

No. A Kafka instance will not be restarted if you modify its enterprise project.

1.13 Are Kafka Brokers and ZooKeeper Deployed on the Same VM or on Different VMs?

Kafka brokers and ZooKeeper are deployed on the same VM.

1.14 Can I Delete a Kafka Instance Billed in Yearly/ Monthly Mode?

Yes. Log in to the Kafka console, locate the row that contains the instance, and choose **More** > **Unsubscribe**.

1.15 Which Cipher Suites Are Supported by Kafka?

For security purposes, **TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256** is supported.

1.16 Do Kafka Instances Support Disk Encryption?

No. Kafka instances do not support disk encryption.

1.17 Does Specification Modification Affect Services?

No. Broker quantity increase and storage space expansion do not affect services.

1.18 Can I Change the VPC and Subnet After a Kafka Instance Is Created?

No. Once an instance is created, its VPC and subnet cannot be changed.

1.19 Where Can I Find Kafka Streams Use Cases?

You can find Kafka Streams use cases on the official Kafka website.

1.20 Can I Upgrade Kafka Instances?

No. Kafka instances cannot be upgraded once they are created. To use a higher Kafka version, create another Kafka instance.

1.21 Why Is the Version on the Console Different from That in Kafka Manager?

The version displayed on the console is used for your instance. Kafka Manager uses the common configuration of open-source Kafka 2.2.0. Therefore, the version displayed in Kafka Manager is 2.2.0, which is irrelevant to the version of your Kafka instance.

1.22 How Do I Bind an EIP Again?

On the DMS for Kafka console, click the name of the target Kafka instance. Disable **Public Access** in the **Connection** section on the **Basic Information** tab page, and then enable it again. Select the EIP to be bound.

2 Connections

2.1 Troubleshooting Kafka Connection Exceptions

Overview

This section describes how to troubleshoot Kafka connection problems.

Problem Classification

If the connection to a Kafka instance is abnormal, perform the following operations to troubleshoot the fault:

- Checking the Network
- Checking Consumer and Producer Configurations
- Common Errors on Java Clients
- Common Errors on the Go Client

Checking the Network

Before connecting to a Kafka instance, ensure that the client and the instance are interconnected. If they cannot be connected, check the network connection.

For example, if you have enabled SASL_SSL to access the Kafka instance, run the following command:

curl -kv {ip}:{port}

• If the network is normal, information similar to the following is shown:

```
[root@ecs-5d2f ~]# curl -kv 192.168.0.52:9093
* Rebuilt URL to: 192.168.0.52:9093/
* Trying 192.168.0.52...
* TCP NODELAY set
* Connected to 192.168.0.52 (192.168.0.52) port 9093 (#0)
> GET / HTTP/1.1
> Host: 192.168.0.52:9093
> User-Agent: curl/7.61.1
> Accept: */*
>
Warning: Binary output can mess up your terminal. Use "--output -" to tell Warning: curl to output it to your terminal anyway, or consider "--output Warning: <FILE>" to save to a file.
* Failed writing body (0 != 7)
* Closing connection 0
```

• If the network is abnormal or disconnected, information similar to the following is shown:

```
[root@ecs-5d2f ~]# curl -kv 192.168.0.52:9093
* Rebuilt URL to: 192.168.0.52:9093/
* Trying 192.168.0.52...
* TCP_NONFLAY set
* connect to 192.168.0.52 port 9093 failed: Connection timed out
* Failed to connect to 192.168.0.52 port 9093: Connection timed out
* Closing connection 0
curl: (7) Failed to connect to 192.168.0.52 port 9093: Connection timed out
```

Solution:

- Check whether the client and the Kafka instance are in the same VPC. If they
 are not in the same VPC, refer to Do Kafka Instances Support Cross-VPC
 Access?
- Check whether the security group rules are correctly configured. For details, see How Do I Select and Configure a Security Group?

Checking Consumer and Producer Configurations

View logs to check whether the parameters printed during the initialization of the consumer and producer are the same as those set in the configuration files.

If they are different, check the parameters in the configuration file.

Common Errors on Java Clients

• Domain name verification enabled

The following error is displayed:

```
at java.lang.Thread.run(Thread.java:748)

Caused by: javax.net.ssl.SSLHandshakeException: General SSLEngine problem
at sun.security.ssl.SSLEngine Impl.fatal(SSLEngine Impl.java:192)
at sun.security.ssl.SSLEngine Impl.fatal(SSLEngine Impl.java:198)
at sun.security.ssl.Handshaker.fatalSSCHandshaker.java:318)
at sun.security.ssl.Handshaker.fatalSSCHandshaker.java:3180
at sun.security.ssl.Handshaker.fatalSSCHandshaker.java:1319)
at sun.security.ssl.LollentHandshaker.processPessage(ClientHandshaker.java:1639)
at sun.security.ssl.Handshaker.processPessage(ClientHandshaker.java:223)
at sun.security.ssl.Handshaker.java:9780
at org.apache.kafka.common.network.SslTransportLayer.java:1459)
at org.apache.kafka.common.network.SslTransportLayer.pruhlelegatedTasks(SslTransportLayer.java:482)
at org.apache.kafka.common.network.SslTransportLayer.java:1459
at org.apache.kafka.common.network.SslTransportLayer.java:1480
...7 more

Caused by: java.security.cert.CertificateException: No subject alternative names matching IP address 18.166.37.165 found at sun.security.stl.HostnameChecker.match(HostnameChecker.java:168)
at sun.security.stl.HostnameChecker.match(HostnameChecker.java:168)
at sun.security.stl.SSB9TrustManagerImpl.checkTeusted(XSB9TrustManagerImpl.java:261)
at sun.security.ssl.XSB9TrustManagerImpl.checkTeusted(XSB9TrustManagerImpl.java:142)
at sun.security.ssl.XSB9TrustManagerImpl.checkTeusted(XSB9TrustManagerImpl.java:141)
at sun.security.ssl.XSB9TrustManagerImpl.checkTeusted(XSB9TrustManagerImpl.java:142)
at sun.security.ssl.XSB9TrustManagerImpl.checkTeusted(XSB9TrustManagerImpl.java:142)
at sun.security.ssl.XSB9TrustManagerImpl.checkTeusted(XSB9TrustManager
```

Solution: Check the **consumer.properties** and **producer.properties** files, in which the **ssl.endpoint.identification.algorithm** parameter must be left empty, indicating that domain name verification is disabled.

ssl.endpoint.identification.algorithm=

• SSL certificate failing to be loaded

The following error is displayed:



Solution:

- a. Check whether the **client.truststore.jks** file exists in the corresponding address
- b. Check the permissions on the processes and files.
- c. Check whether the ssl.truststore.password parameter in the consumer.properties and producer.properties files is correctly set. ssl.truststore.password is the server certificate password, which must be set to dms@kafka and cannot be changed. ssl.truststore.password=dms@kafka

• Incorrect topic name

The following error is displayed:



Solution: Create another topic or enable the automatic topic creation function.

Common Errors on the Go Client

The Go client fails to connect to Kafka over SSL and the error "first record does not look like a TLS handshake" is returned.

Solution: Enable the TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 cipher suite (which is disabled by default).

2.2 How Do I Select and Configure a Security Group?

Kafka instances can be accessed within a VPC, across VPCs, through DNAT, or over public networks. Before accessing a Kafka instance, configure a security group.

Intra-VPC Access

Step 1 Check whether the client and instance use the same security group.

• If they use the same security group, check whether the security group has the default inbound rule that allows communication among ECSs within the security group and the default outbound rule that allows all outbound traffic. If these rules are available, you do not need to add more rules. If these rules are not available, add rules according to Table 2-1.

- accountly group rates							
Directi on Protocol		Port	Source	Description			
Inboun d	ТСР	9092	0.0.0.0/0	Accessing an instance within a VPC (with SSL encryption disabled)			
Inboun d	ТСР	9093	0.0.0.0/0	Accessing an instance within a VPC (with SSL encryption enabled)			

Table 2-1 Security group rules

• If they use different security groups, go to **Step 2**.

Step 2 Configure security group rules as follows.

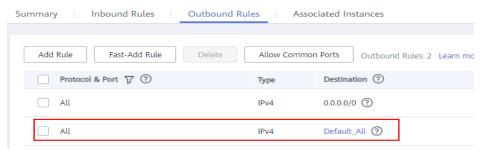
Assume that the security groups of the client and Kafka instance are **sg-53d4** and **Default_All**, respectively. You can specify a security group or IP address as the destination in the following rule. A security group is used as an example.

To ensure that your client can access the Kafka instance, add the following rule to the security group configured for the client:

Table 2-2 Security group rule

Direction	Protocol & Port	Destination
Outbound	All	Default_All

Figure 2-1 Configuring a security group for the client



To ensure that your client can access the Kafka instance, add the following rule to the security group configured for the instance.

Table 2-3 Security group rule

Direction	Protocol & Port	Source
Inbound	All	sg-53d4

Figure 2-2 Configuring the security group for the Kafka instance



----End

Cross-VPC and DNAT-based Instance Access

Configure security group rules according to Table 2-5.

Table 2-4 Security group rules

Directio n	Protocol	Port	Source	Description
Inbound	TCP	9011	198.19.128.0 /17	Accessing a Kafka instance using VPC Endpoint (VPCEP)
Inbound	ТСР	9011	0.0.0.0/0	Accessing a Kafka instance using DNAT

Public Access

Configure security group rules according to Table 2-5.

Table 2-5 Security group rules

Directio n	Protocol	Port	Source	Description
Inbound	ТСР	9094	0.0.0.0/0	Access Kafka through the public network (without SSL encryption).
Inbound	ТСР	9095	0.0.0.0/0	Access Kafka through the public network (with SSL encryption).

2.3 Can I Access a Kafka Instance Over a Public Network?

Yes. For details, see the instance access instructions.

2.4 How Many Connection Addresses Does a Kafka Instance Have by Default?

The number of connection addresses of a Kafka instance is the same as the number of brokers of the instance. The following table lists the number of brokers corresponding to each flavor.

Table 2-6 Kafka instance specifications

Flavor	Broke rs	Maxi mum TPS per Broke r	Maximu m Partitio ns per Broker	Maximu m Consume r Groups per Broker	Maximu m Client Connecti ons per Broker	Storage Space
kafka. 2u4g.clust er	3–30	30,00 0	250	20	2000	300 GB- 300,000 GB
kafka. 4u8g.clust er	3–30	100,0 00	500	100	4000	300 GB- 600,000 GB
kafka. 8u16g.clus ter	3–30	150,0 00	1000	150	4000	300 GB- 900,000 GB
kafka. 12u24g.cl uster	3-30	200,0 00	1500	200	4000	300 GB- 900,000 GB
kafka. 16u32g.cl uster	3–30	250,0 00	2000	200	4000	300 GB- 900,000 GB

2.5 Do Kafka Instances Support Cross-Region Access?

Yes. You can access a Kafka instance across regions over a public network or by using direct connections.

2.6 Do Kafka Instances Support Cross-VPC Access?

Yes. You can use one of the following methods to access a Kafka instance across VPCs:

- Establish a VPC peering connection to allow two VPCs to communicate with each other. For details, see VPC Peering Connection.
- Use VPC Endpoint (VPCEP) to establish a cross-VPC connection. For details, see Cross-VPC Access to a Kafka Instance.

2.7 Do Kafka Instances Support Cross-Subnet Access?

Yes.

If the client and the instance are in the same VPC, cross-subnet access is supported.

2.8 Does DMS for Kafka Support Authentication with Kerberos?

No, Kerberos authentication is not supported. Kafka supports client authentication with SASL and API calling authentication using tokens and AK/SK.

To access an instance in SASL mode, you need the **certificates** provided by DMS for Kafka. For details, see **Accessing a Kafka Instance with SASL**.

2.9 Does DMS for Kafka Support Password-Free Access?

Yes. No password is required for accessing a Kafka instance with SASL disabled. For details, see Accessing a Kafka Instance Without SASL.

2.10 Obtaining Kafka Clients

Kafka instances are fully compatible with open-source clients. You can obtain **clients in other programming languages** and access your instance as instructed by the official Kafka website.

2.11 How Do I Obtain the Public Access Address After Public Access Is Enabled?

Click the name of your Kafka instance. In the **Connection** section on the **Basic Information** tab page, view **Instance Address (Public Network)**.

For details about how to connect to a Kafka instance, see **the instance access instructions**.

2.12 Does DMS for Kafka Support Authentication on Clients by the Server?

No.

2.13 Can I Use PEM SSL Truststore When Connecting to a Kafka Instance with SASL_SSL Enabled?

No. You can only use JKS certificates for connecting to instances in Java.

2.14 What Are the Differences Between JKS and CRT Certificates?

JKS certificates are used for connecting to instances in Java and CRT certificates are used for connecting to instances in Python.

2.15 Which TLS Version Does DMS for Kafka Support?

TLS 1.2.

2.16 Is There a Limit on the Number of Client Connections to a Kafka Instance?

Yes. The maximum allowed number of client connections varies by instance specifications.

- If the flavor is **kafka.2u4g.cluster**, a maximum of 2000 client connections are allowed
- If the flavor is **kafka.4u8g.cluster**, a maximum of 4000 client connections are allowed.
- If the flavor is **kafka.8u16g.cluster**, a maximum of 4000 client connections are allowed.
- If the flavor is **kafka.12u24g.cluster**, a maximum of 4000 client connections are allowed.
- If the flavor is **kafka.16u32g.cluster**, a maximum of 4000 client connections are allowed.

2.17 How Many Connections Are Allowed from Each IP Address?

Each Kafka broker allows a maximum of 1000 connections from each IP address by default. Excess connections will be rejected. You can change the limit by **modifying the Kafka parameters**.

2.18 Can I Change the Private Network Addresses of a Kafka Instance?

No, and you cannot specify the IP addresses.

2.19 Is the Same SSL Certificate Used for Different Instances?

Yes. All Kafka instances and users use the same SSL certificate.

To obtain the SSL certificate, perform the following steps:

Step 1 On the Kafka console, click the name of your instance.

Step 2 In the **Connection** area, click **Download** next to **SSL Certificate**.

----End

3 Topics and Partitions

3.1 Is There a Limit on the Number of Topics in a Kafka Instance?

The number of topics is related to the total number of topic partitions and the number of partitions in each topic. There is an upper limit on the aggregate number of partitions of topics. When this limit is reached, no more topics can be created.

The partition limit varies depending on the flavor, as shown in the following table.

Table 3-1 Kafka instance specifications

Flavor	Broke rs	Maxi mum TPS per Broke r	Maximu m Partitio ns per Broker	Maximu m Consume r Groups per Broker	Maximu m Client Connecti ons per Broker	Storage Space
kafka. 2u4g.clust er	3–30	30,00 0	250	20	2000	300 GB- 300,000 GB
kafka. 4u8g.clust er	3–30	100,0 00	500	100	4000	300 GB- 600,000 GB
kafka. 8u16g.clus ter	3–30	150,0 00	1000	150	4000	300 GB- 900,000 GB
kafka. 12u24g.cl uster	3–30	200,0 00	1500	200	4000	300 GB- 900,000 GB

Flavor	Broke rs	Maxi mum TPS per Broke r	Maximu m Partitio ns per Broker	Maximu m Consume r Groups per Broker	Maximu m Client Connecti ons per Broker	Storage Space
kafka. 16u32g.cl uster	3–30	250,0 00	2000	200	4000	300 GB- 900,000 GB

3.2 Why Is Partition Quantity Limited?

Kafka manages messages by partition. If there are too many partitions, message creation, storage, and retrieval will be fragmented, affecting the performance and stability. If the total number of partitions of topics reaches the upper limit, you cannot create more topics.

The partition limit varies depending on the flavor, as shown in the following table.

Table 3-2 Kafka instance specifications

Flavor	Broke rs	Maxi mum TPS per Broke r	Maximu m Partitio ns per Broker	Maximu m Consume r Groups per Broker	Maximu m Client Connecti ons per Broker	Storage Space
kafka. 2u4g.clust er	3–30	30,00 0	250	20	2000	300 GB- 300,000 GB
kafka. 4u8g.clust er	3-30	100,0 00	500	100	4000	300 GB- 600,000 GB
kafka. 8u16g.clus ter	3–30	150,0 00	1000	150	4000	300 GB- 900,000 GB
kafka. 12u24g.cl uster	3-30	200,0 00	1500	200	4000	300 GB- 900,000 GB
kafka. 16u32g.cl uster	3-30	250,0 00	2000	200	4000	300 GB- 900,000 GB

3.3 Can I Change the Partition Quantity?

No. If you want to use fewer partitions, delete the corresponding topic, create another one, and specify the desired number of partitions.

3.4 Why Do I Fail to Create Topics?

Possible cause: The aggregate number of partitions of created topics has reached the upper limit. The maximum number of partitions varies with instance specifications. For details, see **Specifications**.

Solution: Scale up the instance or delete unnecessary topics.

3.5 Do Kafka Instances Support Batch Importing Topics or Automatic Topic Creation?

Automatic topic creation is supported, but batch topic import is not supported. You can only export topics in batches.

Enable automatic topic creation using one of the following methods:

- When creating an instance, enable automatic topic creation.
- After an instance is created, enable automatic topic creation on the **Basic Information** tab page.

3.6 Why Do Deleted Topics Still Exist?

This may be because automatic topic creation has been enabled and a consumer is connecting to the topic. If no existing topics are available for message creation, new topics will be automatically created.

To solve this problem, disable automatic topic creation.

3.7 Why Can't I See "Create Topic" and "Delete Topic" Buttons on the Topic Management Page?

This may be because the account is in arrears. After you top up, the functions can be used.

3.8 Can I View the Disk Space Used by a Topic?

Yes. Use either of the following methods to check the disk space used by a topic:

 Click next to the Kafka instance name to go to the Cloud Eye console. On the Queues tab page, set Queue to the name of the topic whose disk space you want to view and Scope to Basic monitoring. The Message Size metric reflects the message size of the selected topic. Click the desired Kafka instance to view its details. In the navigation pane, choose Monitoring. On the By Topic tab page, set Topic to the name of the topic whose disk space you want to view and Monitoring Type to Basic monitoring. The Message Size metric reflects the message size of the selected topic.

3.9 Can I Add ACL Permissions for Topics?

If you have enabled SASL_SSL for your Kafka instance, you can configure ACL permissions for your topics. On the **Topics** tab page of the Kafka console, click **Grant User Permission** in the row that contains the topic for which you want to configure user permissions.

For details, see **Granting Permissions to a SASL_SSL User**.

3.10 What Should I Do If Kafka Storage Space Is Used Up Because Retrieved Messages Are Not Deleted?

Messages are not deleted immediately after being retrieved. They are deleted only when the aging time expires.

You can shorten the aging time or expand the storage space.

3.11 How Do I Increase the Partition Quantity?

You can increase the partition quantity by adding brokers.

To do so, go to the Kafka console, locate the row that contains the desired instance, and choose **More** > **Modify Specifications**. On the page that is displayed, add brokers as required. For details, see **Modifying Instance Specifications**.

3.12 Will a Kafka Instance Be Restarted After Its Automatic Topic Creation Setting Is Modified?

Yes. A Kafka instance will be restarted if you enable or disable automatic topic creation for it.

3.13 How Do I Disable Automatic Topic Creation?

- 1. On the Kafka console, click the name of your instance.
- In the Instance Information section of the Basic Information tab page, click
 next to Automatic Topic Creation to disable automatic topic creation.
 You can view the execution status of the task on the Background Tasks tab page.

3.14 Can I Delete Unnecessary Topics in a Consumer Group?

Yes, just simply unsubscribe from it on the Kafka client.

3.15 What Can I Do If a Consumer Fails to Retrieve Messages from a Topic Due to Insufficient Permissions?

Symptom: Different consumers in a consumer group have different topic permissions. When a consumer attempts to retrieve messages from a topic, the error message "Not authorized to access topics." is displayed, and the message retrieval fails.

```
© Tests passed: 1 of 1 test - 40 s 771 ms

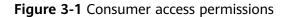
"C:\Program Files\H ==i\jdk1. 8. 0_242\bin\java. exe"...

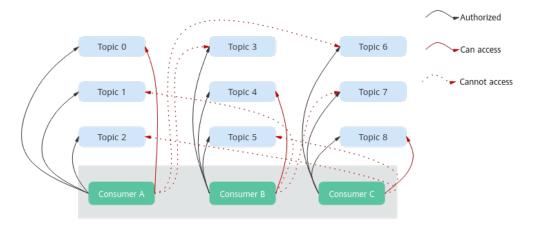
the numbers of topic:0

org. apache. kafka. common. errors. TopicAuthorizationException: Not authorized to access topics: [huanwei-gongce-basic, topic-huanwei-data]
```

Analysis: When assigning partitions, the leader of the consumer group does not consider the permissions of individual consumers. Instead, the leader assigns partitions based on the overall subscription of the consumer group. In this case, consumers may be assigned topics that they do not have access to.

For example, consumers A, B, and C are in the same consumer group. Consumer A has subscribed to and has permissions to access Topics 0, 1, and 2; consumer B has subscribed to and has permissions to access Topics 3, 4, and 5; consumer C has subscribed to and has permissions to access Topics 6, 7, and 8. Assume that each topic has only one partition. Based on the partition assignment determined by the leader, consumer A may be assigned Topics 0, 3, and 6; consumer B is assigned Topics 1, 4, and 7; and consumer C is assigned Topics 2, 5, and 8. In this case, consumer A does not have permissions to access Topics 3 and 6, resulting in the error.





Solution:

- If all consumers must be in the same consumer group (**group.id** is the same), grant the same topic access permissions to all the consumers.
- If the consumers do not need to be in the same consumer group, change the value of **group.id** to ensure that each consumer is in a separate consumer group.

3.16 Why Does an Instance Contain Default Topics trace and consumer offsets?

Symptom: Topics named __trace and __consumer_offsets are found on Kafka Manager.





Topic ↑↓	# Partitions ↑↓	# Brokers ↑↓	Brokers Spread %
_consumer_offsets	50	3	100
trace	9	3	100
topic-01	3	3	100

Handling method: __trace and __consumer_offsets are preset topics in a Kafka instance. You are not advised to delete them. If they are deleted, the instance may become unavailable.

4 Consumer Groups

4.1 Do I Need to Create Consumer Groups, Producers, and Consumers for Kafka Instances?

No. They are generated automatically when you use the instance.

For details about creating and retrieving messages after connecting to a Kafka instance, see Accessing a Kafka Instance Without SASL.

4.2 Do I Need to Unsubscribe from a Topic Before Deleting a Consumer Group?

No. You can directly delete the consumer group.

4.3 Will a Consumer Group Without Active Consumers Be Automatically Deleted in 14 Days?

Yes.

Kafka uses the **offsets.retention.minutes** parameter to control how long to keep offsets for a consumer group. If offsets are not committed within this period, they will be deleted. The default value of **offsets.retention.minutes** is 20,160 minutes (14 days).

If Kafka determines that there are no active consumers in a consumer group (for example, when the consumer group is empty) and there are no offsets, Kafka will delete the consumer group.

4.4 Why Do I See a Deleted Consumer Group on Kafka Manager?

After a consumer group is deleted on a client, it no longer exists, but may still be displayed on Kafka Manager because of Kafka Manager's cache.

Use either of the following methods to solve the problem:

- Restart Kafka Manager.
- Kafka Manager displays only the consumer groups that have retrieval records in the last 14 days. If you do not want to restart Kafka Manager, wait for 14 days until the consumer group is automatically cleared.

5 Messages

5.1 What Is the Maximum Size of a Message that Can be Created?

10 MB.

5.2 Why Does Message Poll Often Fail During Rebalancing?

Rebalancing is a process where partitions of topics are re-allocated for a consumer group.

In normal cases, rebalancing occurs inevitably when a consumer is added to or removed from a consumer group. However, if a consumer is regarded as abnormal and removed from the consumer group, message retrieval may fail.

This may happen in the following scenarios:

1. Heartbeat requests are not sent in time.

A consumer sends heartbeat requests to the broker at the interval specified by **heartbeat.interval.ms**. If the broker does not receive any heartbeat request from the consumer within the period specified by **session.timeout.ms**, the broker considers that the consumer is abnormal and removes the consumer from the consumer group, triggering rebalancing.

2. The interval between retrievals is too long.

The maximum number of messages that a consumer can retrieve at a time is specified by **max.poll.records**. In most cases, a client processes the retrieved data before starting the next retrieval. The processing may be prolonged when a large number of messages are retrieved at a time and cannot be processed within the time specified by **max.poll.interval.ms**, or when an exception occurs during the process (for example, data needs to be written to the backend database, but the backend database pressure is too high, resulting in high latency). If the consumer does not send the next retrieval request within the time specified by **max.poll.interval.ms**, the broker

considers that the consumer is inactive and removes it from the consumer group, triggering rebalancing.

Solutions and Troubleshooting Methods

Scenario 1: Heartbeat requests are not sent in time.

Solution: Set the value of **session.timeout.ms** to three times the value of **heartbeat.interval.ms**.

Scenario 2: The interval between retrievals is too long.

Troubleshooting methods:

- 1. Check the time required for processing a single message and whether the time required for processing a specified number (max.poll.records) of messages exceeds the time specified by max.poll.interval.ms.
- 2. Check whether message processing requires network connections, such as writing data to the database and calling backend APIs, and whether the backend is normal in rebalancing scenarios.

5.3 Why Can't I Query Messages on the Console?

- Possible cause 1: The message has been aged.
 Solution: Change the aging time.
- **Possible cause 2**: The createTime timestamp of the message is incorrect.

 On the console, messages are queried based on the timestamp, which is generated by the client. Different clients have different processing policies. The default value may be **0** or **-1**. As a result, message may fail to be queried. **Solution**: Check whether the value of createTime is correctly configured.
- Possible cause 3: The disk usage exceeds 95%, and Capacity Threshold
 Policy is set to Automatically delete.
 - If Capacity Threshold Policy is set to Automatically delete, the earliest 10% of messages will be deleted when 95% of the disk capacity is used, to ensure sufficient disk space. In this case, the messages that do not reach the aging time are also deleted and cannot be gueried.

Solution: Modify the capacity threshold policy or expand the disk capacity. If **Capacity Threshold Policy** is set to **Stop production**, new messages will no longer be created when the disk usage reaches the capacity threshold (95%), but existing messages can still be retrieved until the aging time arrives. This policy is suitable for scenarios where no data losses can be tolerated.

5.4 What Can I Do If Kafka Messages Are Accumulated?

Symptom: An alarm is generated for the **Accumulated Messages** metric.

Solution: Log in to Kafka Manager, find the consumer group where messages are accumulated, and check whether any consumer is retrieving messages in the

consumer group. If yes, accelerate the retrieval on the service end. If no, delete unused consumer groups on the customer end.

5.5 Why Do Messages Still Exist After the Retention Period Elapses?

If the aging time has been set for a topic, the value of the **log.retention.hours** parameter does not take effect for the topic. The value of the **log.retention.hours** parameter takes effect only if the aging time has not been set for the topic.

Possible cause 1: The segment files are in use.

Solution: Wait until the segment is no longer in use or delete the topic where messages have reached their retention period.

Possible cause 2: In a topic, there is a message whose **CreateTime** is a future time. For example, assume that it is January 1, and the **CreateTime** is February 1. The message will not be aged after 72 hours from now. As a result, messages created subsequently will also not be aged.

Solution: Delete the topic where the **CreateTime** of a message is a future time.

5.6 Do Kafka Instances Support Delayed Message Delivery?

No.

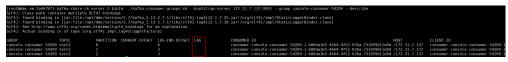
5.7 How Do I View the Number of Accumulated Messages?

View the number of accumulated messages using any of the following methods:

- On the Consumer Groups page of an instance, click the name of the
 consumer group whose accumulated messages are to be viewed. The
 consumer group details page is displayed. On the Consumer Offset tab page,
 view the number of messages accumulated in each topic of your target
 consumer group. For details, see Querying Consumer Group Details.
- On the Monitoring tab page of an instance, click the By Consumer Group tab. Select the desired consumer group for Consumer Group and All queues for Queue. The Consumer Available Messages metric reflects the number of messages accumulated in all topics of this consumer group. For details about viewing the monitoring data, see Viewing Metrics.
- On the Consumer Groups tab page of the Cloud Eye console, click the By Consumer Group tab. Select the desired consumer group for Consumer Group and All queues for Queue. The Consumer Available Messages metric reflects the number of messages accumulated in all topics of this consumer group. For details about viewing the monitoring data, see Viewing Metrics.
- On the Kafka client, run the kafka-consumer-groups.sh --bootstrap-server {Kafka connection address} --describe --group {Consumer group} command

in the /{directory where the CLI is located}/kafka_{version}/bin/ directory to view the number of messages accumulated in each topic of the consumer group. LAG indicates the total number of messages accumulated in each topic.

Figure 5-1 Viewing the total number of messages accumulated in each topic



◯ NOTE

If SASL authentication is enabled for the Kafka instance, the --command-config *{SASL authentication configuration file consumer.properties}* parameter must be added to the preceding command. For details about the configuration file consumer.properties, see the CLI access instructions provided in Accessing a Kafka Instance with SASL.

5.8 Why Is the Message Creation Time Displayed as Year 1970?

The message creation time is specified by **CreateTime** when a producer creates messages. If this parameter is not set during message creation, the message creation time is year 1970 by default.

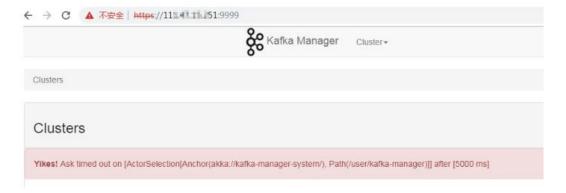
6 Kafka Manager

6.1 Can I Configure a Kafka Manager Account to Be Read-Only?

No. You cannot configure a Kafka Manager account to be read-only.

6.2 Why Can't I See Broker Information After Logging In to Kafka Manager?

Symptom: The Kafka Manager page is displayed, but the broker information cannot be displayed.



Cause: This is an issue with the open-source Kafka. To solve the problem, contact customer service and restart Kafka Manager.

6.3 Yikes! Insufficient partition balance when creating topic: projectman_project_enterprise_project Try again.

Symptom:

The topic cannot be created in Kafka Manager, and the error message "Yikes! Insufficient partition balance when creating topic: projectman_project_enterprise_project Try again." is displayed.

Cause: The number of partitions exceeds the upper limit and no more topics can be created.

Solution: Increase the instance specifications, which will automatically increase the allowed number of partitions.

6.4 Can I Query the Body of a Message by Using Kafka Manager?

No. Kafka Manager does not support message body querying.

6.5 Can I Change the Port of the Kafka Manager Web UI?

No.

6.6 Which Topic Configurations Can Be Modified on Kafka Manager?

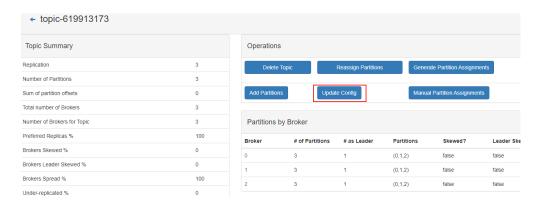
On Kafka Manager, the following topic configurations can be modified: max.message.bytes, segment.index.bytes, segment.jitter.ms, min.cleanable.dirty.ratio, retention.bytes, file.delete.delay.ms, compression.type, flush.ms, cleanup.policy, unclean.leader.election.enable, flush.messages, retention.ms, min.insync.replicas, delete.retention.ms, preallocate, index.interval.bytes, segment.bytes, and segment.ms.

Perform the following steps to modify the topic configurations:

- Log in to Kafka Manager.
- 2. Click kafka_cluster.
- 3. Choose **Topic** > **List**.



- 4. Click a topic whose configurations you want to modify.
- Click Update Config.



6.7 Why Is Information Displayed on Kafka Manager Inconsistent with Cloud Eye Monitoring Data?

Symptom: After a consumer group is deleted from the backend, the consumer group is not displayed on Cloud Eye but still exists on Kafka Manager.

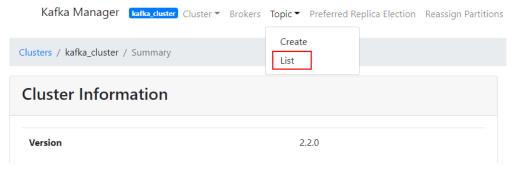
Cause: Kafka Manager has cache data.

Solution: Log in to the Kafka console, locate the row that contains the target instance, and choose **More** > **Restart Kafka Manager**.

6.8 How Do I Change a Partition Leader for a Topic in Kafka Manager?

Perform the following steps:

- 1. Log in to Kafka Manager.
- 2. Choose **Topic** > **List**.



Click the topic name (for example, topic-test) for which a partition leader is to be modified.



Showing 1 to 3 of 3 entries

4. Click Manual Partition Assignments.

Figure 6-1 Topic details

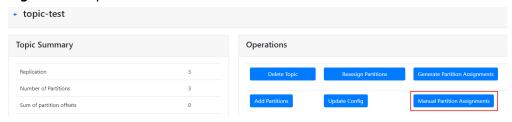
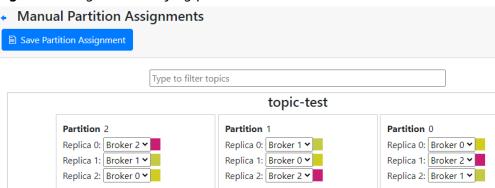
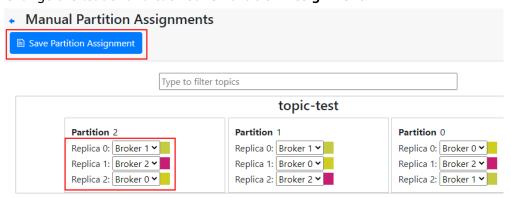


Figure 6-2 Page for modifying partition leaders



For example, in the preceding figure, the leader (Replica 0) of Partition 2 is on Broker 2.

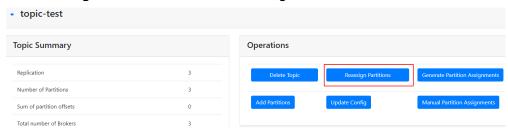
5. Change the leader and click Save Partition Assignment.



If the modification is successful, the information shown in the following figure is displayed.



- 6. Click Go to topic view.
- 7. Click **Reassign Partitions** to save the change.



After the change is saved, the information shown in the following figure is displayed.

Clusters / kafka_cluster / Topics / topic-test / Run Reassign Partitions

Run Reassign Partitions - topic-test

Done!

Go to reassign partitions.

8. In the breadcrumb navigation, click the topic name. On the topic details page that is displayed, view the partition details.

Partition Information					
Partition	Latest Offset	Leader	Replicas	In Sync Replicas	
0	0	0	(0,2,1)	(0,2,1)	
1	0	1	(1,0,2)	(1,0,2)	
2	0	1	(1,2,0)	(2,1,0)	

As shown in the preceding figure, the leader of partition 2 has been changed from 2 to 1.

Monitoring & Alarm

7.1 Why Can't I View the Monitoring Data?

The possible causes are as follows:

- The topic name starts with a special character, such as a number sign (#).
- The consumer group name starts with a special character, such as a number sign (#).

To solve the problem, delete topics and consumer groups whose names contain the special character.

7.2 Why Is the Monitored Number of Accumulated Messages Inconsistent with the Message Quantity Displayed on the Kafka Console?

Symptom: The monitoring data shows that there are 810 million accumulated messages. However, the Kafka console shows that there are 100 million messages in all six topics of the instance.

Analysis: The two statistics methods are different. The Kafka console shows the number of messages that have not been retrieved. The monitoring data shows the number of accumulated messages in the topics multiplied by the number of consumer groups.

7.3 Why Is a Consumer Group Still on the Monitoring Page After Being Deleted?

The monitoring data is reported every minute. The reported data will be displayed on the monitoring page after being sorted. This process takes less than 20 minutes. After deleting a consumer group, you can wait for a while before checking the latest monitoring data.