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Operations Manual

Kingdee Apusic Distributed Message Queue
V2.0.6_for_rocketmq

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1 Preface

This document is the operations manual for Kingdee Apusic Distributed Message Queue for RocketMQ (Apusic Distributed Message Queue for RocketMQ, referred to as: ADMQ for RocketMQ), aimed at providing middleware operations personnel with standardized operational guidelines for ADMQ for RocketMQ, covering core scenarios such as installation and deployment, configuration optimization, daily operations, troubleshooting, and security hardening, ensuring stable, efficient, and secure operation of ADMQ for RocketMQ services.

1.1 Target Audience

This document is applicable to IT information business leaders, R&D managers, software project managers, software architects, and operations engineers.

1.2 Related Documents

To learn more about ADMQ for RocketMQ related information, please refer to the following ADMQ for RocketMQ product documentation set:

No.	Document	Description
1	Kingdee Apusic Distributed Message Queue for RocketMQ Quick Start Guide	Briefly introduces how to quickly get started with ADMQ for RocketMQ.
2	Kingdee Apusic Distributed Message Queue for RocketMQ Installation Manual	Details how to install ADMQ for RocketMQ on various operating systems, as well as starting and stopping ADMQ for RocketMQ services.
3	Kingdee Apusic Distributed Message Queue for RocketMQ Message Engine User Manual	Details the use, configuration, and management of ADMQ for RocketMQ message engine related functions and supporting tools.
4	Kingdee Apusic Distributed Message Queue for RocketMQ Console User Manual	Details the use and operation of ADMQ for RocketMQ console related functions.
5	Kingdee Apusic Distributed Message Queue for RocketMQ Development Manual	Details the development of ADMQ for RocketMQ client applications based on various development languages.
6	Kingdee Apusic Distributed Message Queue for RocketMQ Migration Manual	Details the migration from RocketMQ to ADMQ for RocketMQ.
7	Kingdee Apusic Distributed Message Queue for RocketMQ Operations Manual	Details monitoring, operation, security hardening, and other operational instructions for ADMQ for RocketMQ.
8	Kingdee Apusic Distributed Message Queue for RocketMQ Performance Optimization Manual	Details performance tuning instructions for ADMQ for RocketMQ.

1.3 Technical Support

ADMQ for RocketMQ products provide comprehensive technical support services. You can obtain technical support through the following methods:

- Website: www.apusic.com
- Phone: 400-855-5800
- Email: support@apusic.com
- Kingdee Cloud Community: <https://vip.kingdee.com/?productId=73&productLineId=14&lang=zh-CN>

When you obtain technical support, please provide the following information:

1. Your name
2. Company information and contact details
3. Operating system and its version
4. Product version number
5. Detailed logs, screenshots, etc. of exceptions and errors

2 Daily Operations

2.1 Service Management

2.1.1 Start Service

```
# Start NameServer
bin/rocketmq start nameserver

# Start Broker
bin/rocketmq start broker

# Start Console
bin/admq-service start
```

2.1.2 Stop Service

```
# Stop Broker
bin/rocketmq stop broker

# Stop NameServer
bin/rocketmq stop nameserver

# Stop Console
bin/admq-service stop
```

2.1.3 View Service Status

```
# View process
ps -ef | grep rocketmq

# View NameServer log
tail -f logs/namesrv.log

# View Broker log
tail -f logs/broker.log

# View cluster status
bin/mqadmin clusterList -n localhost:9876
```

2.1.4 Restart Service

```
# Stop first then start
bin/rocketmq stop broker
sleep 5
bin/rocketmq start broker
```

2.2 Log Management

2.2.1 Log Locations

Log Type	Path	Description
NameServer Log	logs/namesrv.log	NameServer runtime log
Broker Log	logs/broker.log	Broker runtime log
Console Log	/opt/admq-manager-V2.0.6/logs/	Console runtime log

2.2.2 Log Level Configuration

```
# View current log level
# Configure in conf/logback_namesrv.xml and conf/logback_broker.xml

# Dynamically adjust log level (via JMX or configuration files)
# Takes effect automatically after modifying logback configuration file
```

2.2.3 Log Rotation

```
# logback auto-rotation configuration
# Configure in logback_broker.xml:
# <rollingPolicy class="ch.qos.logback.core.rolling.TimeBasedRollingPolicy">
#     <fileNamePattern>${user.home}/logs/broker.%d{yyyy-MM-dd}.%i.log</fileNamePattern>
#     <maxHistory>30</maxHistory>
# </rollingPolicy>
```

2.3 Monitoring Checks

2.3.1 Daily Checklist

Check Item	Check Command	Normal Standard
NameServer Status	ps -ef grep mqnamesrv	Process exists

Broker Status	ps -ef grep mqbroker	Process exists
Cluster Status	mqadmin clusterList	All Brokers online
Disk Space	df -h	Above disk_free_limit
Memory Usage	free -m	Below vm_memory_high_watermark
Message Accumulation	mqadmin topicStatus	No abnormal accumulation
Consumption Lag	mqadmin consumerProgress	Lag within reasonable range

2.3.2 Health Check Script

```
Bash
# Built-in monitoring scripts
./bin/monitor-namesrv.sh
./bin/monitor-broker.sh
```

3 Configuration Management

3.1 Broker Configuration

3.1.1 broker.conf

Main configuration file, located at `conf/broker.conf`.

```
# Cluster configuration
brokerClusterName=AdmqCluster
brokerName=broker-a
brokerId=0

# NameServer address
namesrvAddr=node1:9876;node2:9876

# Storage configuration
storePathRootDir=/data/rocketmq/store
storePathCommitLog=/data/rocketmq/store/commitlog

# Flush configuration
flushDiskType=ASYNC_FLUSH
flushIntervalCommitLog=500

# Master-Slave configuration
brokerRole=ASYNC_MASTER
haMasterAddress=

# Message configuration
defaultTopicQueueNums=8
autoCreateTopicEnable=false
autoCreateSubscriptionGroup=false

# Rate limiting configuration
sendMessageThreadPoolNums=16
pullMessageThreadPoolNums=16
```

3.2 NameServer Configuration

```
# namesrv.properties
listenPort=9876
```

```
# Few other configurations, mainly JVM parameters
```

3.3 Dynamic Configuration

```
# View Broker configuration
bin/mqadmin getBrokerConfig -n localhost:9876 -b broker-a:10911

# Update Broker configuration
bin/mqadmin updateBrokerConfig -n localhost:9876 -b broker-a:10911 -k
sendMessageThreadPoolNums -v 32

# View NameServer configuration
bin/mqadmin getNameServerConfig -n localhost:9876

# Update NameServer configuration
bin/mqadmin updateNameServerConfig -n localhost:9876 -k key -v value
```

4 Troubleshooting

4.1 Common Issues and Solutions

4.1.1 NameServer Startup Failure

Symptom	Possible Cause	Solution
Port conflict	Port 9876 is occupied	Find and stop the occupying process
JDK not installed	JDK not installed or version too low	Install JDK 1.8+
Insufficient permissions	Incorrect directory permissions	Ensure correct directory permissions

4.1.2 Broker Startup Failure

Symptom	Possible Cause	Solution
NameServer unreachable	Network issue or configuration error	Check namesrvAddr configuration
Port conflict	Port 10911 is occupied	Modify listenPort
Insufficient disk space	Disk space below limit	Clean disk or adjust disk_free_limit
Configuration error	broker.conf format error	Check configuration file

4.1.3 Message Send Failure

Symptom	Possible Cause	Solution
Topic not created	Topic not created in advance	Create Topic or enable auto-creation
Broker unreachable	Network issue or Broker down	Check Broker status
Insufficient permissions	Incorrect ACL configuration	Check ACL configuration
Disk full	CommitLog directory full	Clean disk or adjust retention policy

4.1.4 Message Consumption Anomaly

Symptom	Possible Cause	Solution
Message accumulation	Consumer processing speed too slow	Add consumers or optimize consumption logic
Consumption lag	Network latency or complex consumption logic	Optimize consumption logic
Consumption failure	Business logic exception	Check business logic and retry mechanism
Duplicate consumption	Consumer did not correctly return consumption status	Ensure correct consumption status is returned

4.2 Troubleshooting Commands

```
# View cluster status
bin/mqadmin clusterList -n localhost:9876

# View Broker status
bin/mqadmin brokerStatus -n localhost:9876 -b broker-a:10911

# View Topic status
bin/mqadmin topicStatus -n localhost:9876 -t test-topic

# View consumer progress
bin/mqadmin consumerProgress -n localhost:9876 -g test-group

# View consumer connection
bin/mqadmin consumerConnection -n localhost:9876 -g test-group

# View producer connection
bin/mqadmin producerConnection -n localhost:9876 -t test-topic -g test-group

# View message
bin/mqadmin queryMsgByKey -n localhost:9876 -t test-topic -k test-key
bin/mqadmin queryMsgById -n localhost:9876 -i message-id

# View message trace
bin/mqadmin printMsg -n localhost:9876 -t test-topic

# View Broker statistics
bin/mqadmin brokerConsumeStats -n localhost:9876 -b broker-a:10911
```

5 Backup and Recovery

5.1 Configuration Backup

```
# Export Topic configuration
bin/mqadmin topicList -n localhost:9876 > topics-backup.txt

# Export consumer group configuration
bin/mqadmin consumerProgress -n localhost:9876 > consumer-groups-backup.txt

# Backup Broker configuration file
cp conf/broker.conf backup/broker.conf.$(date +%Y%m%d)

# Backup NameServer configuration file
cp conf/namesrv.properties backup/namesrv.properties.$(date +%Y%m%d)
```

5.2 Data Backup

5.2.1 CommitLog Backup

```
# CommitLog is the message storage file, located in the store/commitlog directory
# It is recommended to regularly back up the entire store directory

# Backup after stopping Broker
bin/rocketmq stop broker
tar czf backup/store-$(date +%Y%m%d).tar.gz store/
nohup bin/rocketmq start broker
```

5.2.2 Incremental Backup

```
# Use rsync for incremental backup
rsync -avz --delete store/ backup/store/
```

5.3 Periodic Backup Script

```
#!/bin/bash

BACKUP_DIR="/backup/rocketmq/$(date +%Y%m%d) "
```

```
mkdir -p $BACKUP_DIR

# Backup configuration
cp conf/broker.conf $BACKUP_DIR/
cp conf/namesrv.properties $BACKUP_DIR/

# Backup Topics and consumer groups
bin/mqadmin topicList -n localhost:9876 > $BACKUP_DIR/topics.txt
bin/mqadmin consumerProgress -n localhost:9876 > $BACKUP_DIR/consumer-groups.txt

# Compress backup
tar czf $BACKUP_DIR.tar.gz $BACKUP_DIR
rm -rf $BACKUP_DIR

# Keep backups from the last 7 days
find /backup/rocketmq -name "*.tar.gz" -mtime +7 -delete
```

6 Security Hardening

6.1 Network Security

6.1.1 Firewall Configuration

```
# Open necessary ports
firewall-cmd --permanent --add-port=9876/tcp      # NameServer
firewall-cmd --permanent --add-port=10911/tcp     # Broker
firewall-cmd --permanent --add-port=10909/tcp     # Broker VIP
firewall-cmd --permanent --add-port=10912/tcp     # Broker HA
firewall-cmd --permanent --add-port=12305/tcp     # Console HTTP
firewall-cmd --permanent --add-port=12306/tcp     # Console HTTPS
firewall-cmd --reload
```

6.1.2 TLS Configuration

```
# broker.conf
tls.server.mode=enforcing
tls.server.certPath=/path/to/server.crt
tls.server.keyPath=/path/to/server.key
tls.server.trustCertPath=/path/to/ca.crt

tls.client.keyPath=conf/auth/client.key
tls.client.keyPassword=123456
tls.client.certPath=conf/auth/client.pem
tls.client.trustCertPath=conf/auth/ca.pem
```

6.2 Access Control

6.2.1 ACL (1.0 - applicable to 4.x) Configuration

```
# conf/plain_acl.yml
globalWhiteRemoteAddresses:
  - 10.*.*.*
  - 192.168.*.*

accounts:
  - accessKey: admin
    secretKey: admin-password
```

```

whiteRemoteAddress:
admin: true
defaultTopicPerm: CREATE+WRITE+READ
defaultGroupPerm: CREATE+WRITE+READ

- accessKey: app-user
  secretKey: app-password
  whiteRemoteAddress:
  admin: false
  defaultTopicPerm: DENY
  defaultGroupPerm: SUB
  topicPerms:
    - app-topic=CREATE+WRITE+READ
  groupPerms:
    - app-group=READ

```

6.2.2 Enable ACL

```

# Update Broker configuration to enable ACL
bin/mqadmin updateBrokerConfig -n localhost:9876 -b broker-a:10911 -k aclEnable -
v true

# Restart Broker to take effect
bin/rocketmq stop broker
nohup bin/rocketmq start broker

```

6.2.3 ACL (2.0 - applicable to 5.x version) Configuration

6.2.4 Configuration File Modification

Modify broker.conf

```

# Enable authentication
authenticationEnabled = true
authenticationMetadataProvider =
org.apache.rocketmq.auth.authentication.provider.LocalAuthenticationMetadataProvider

# Enable authorization
authorizationEnabled = true
authorizationMetadataProvider =
org.apache.rocketmq.auth.authorization.provider.LocalAuthorizationMetadataProvider

# Initialize admin user (automatically created on first startup)

```

```
initAuthenticationUser = {"username":"rocketmq","password":"12345678"}

# Inter-component authentication credentials (used for Broker master-slave
synchronization, intra-cluster communication, etc.)
innerClientAuthenticationCredentials =
{"accessKey":"rocketmq","secretKey":"12345678"}
```

After modifying broker.conf, the cluster needs to be restarted

6.2.5 Configure mqadmin Tool

After enabling ACL, you need to configure the authentication credentials for the mqadmin tool to execute management commands.

Edit the `conf/tools.yml` file:

```
# Use initialized admin user credentials
accessKey: rocketmq
secretKey: 12345678
```

6.2.6 Create Business Users and Authorization

Producer

```
# Create producer user
bin/mqadmin createUser -n 127.0.0.1:9876 -c DefaultCluster \
  -u producer_user \
  -p producer123 \
  -t Normal

# Grant Topic send permission
bin/mqadmin createAcl -n 127.0.0.1:9876 -c DefaultCluster \
  -s User:producer_user \
  -r Topic:TestTopic \
  -a Pub \
  -d Allow
```

Consumer

```
# Create consumer user
bin/mqadmin createUser -n 127.0.0.1:9876 -c DefaultCluster \
  -u consumer_user -p consumer123 -t Normal

# Grant consumer consumption permission
```

```
bin/mqadmin createAcl -n 127.0.0.1:9876 -c DefaultCluster \
-s User:consumer_user -r Topic:TestTopic,Group:TestGroup -a Sub -d Allow
```

6.2.7 Verify Configuration

Send a test message using the Java client:

```
SessionCredentials credentials = new SessionCredentials("producer_user",
"producer123");
StaticSessionCredentialsProvider credentialsProvider =
    new StaticSessionCredentialsProvider(credentials);

ClientConfiguration clientConfiguration = ClientConfiguration.newBuilder()
    .setEndpoints("127.0.0.1:10911")
    .setCredentialProvider(credentialsProvider)
    .build();
// ... Create Producer and send message
```

6.3 Audit Log

```
# Enable audit log
# Configure audit appender in conf/logback_broker.xml
# Audit log records all management operations and message operations
```

7 Performance Monitoring

7.1 Prometheus Monitoring

7.1.1 Enable Prometheus Exporter

```
# Enable prometheus plugin
bin/mqadmin updateBrokerConfig -n localhost:9876 -b broker-a:10911 -k
metricsExporterType -v PROM
```

7.1.2 Monitoring Information

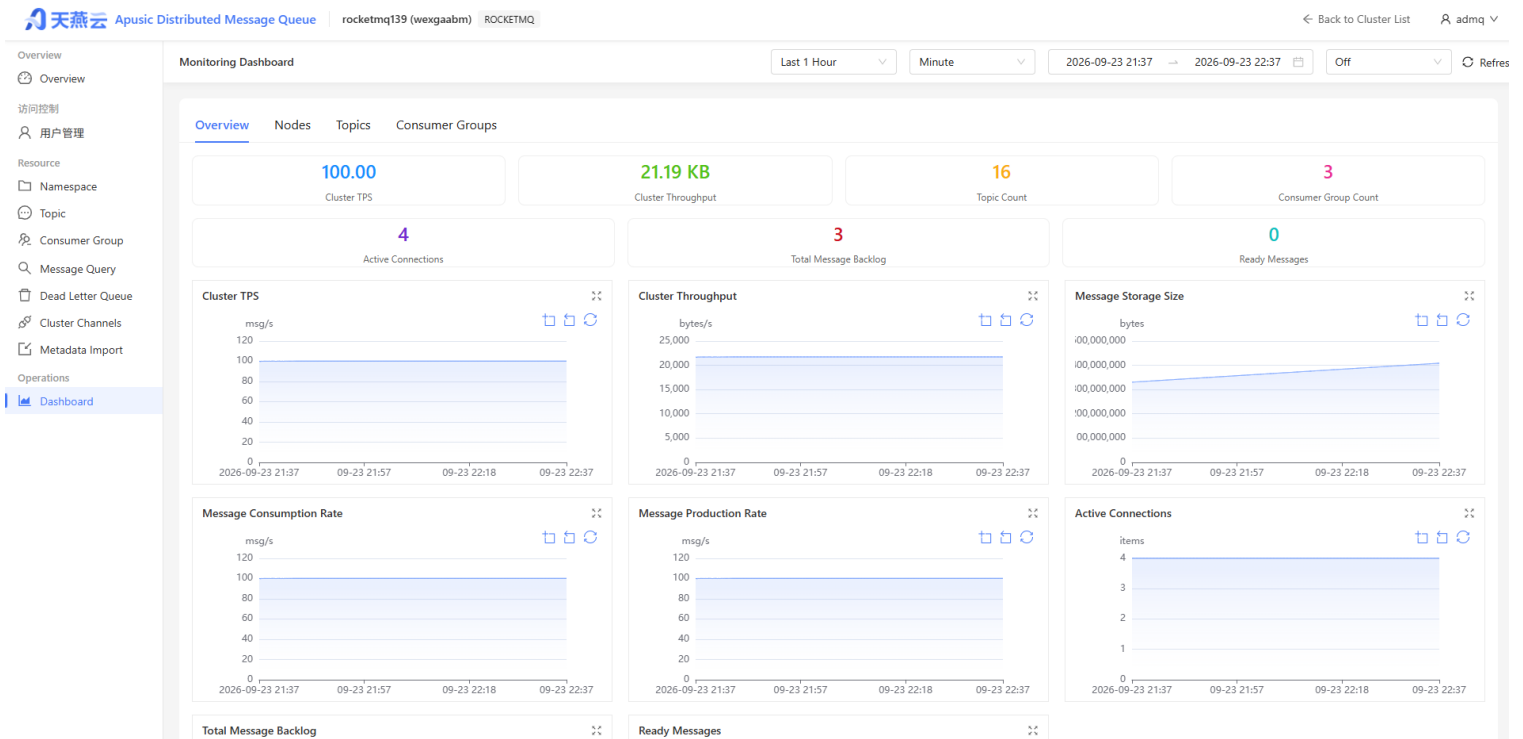
After enabling, the monitoring metrics are first displayed at <http://ip:5557/metrics> within the cluster;

Then the corresponding cluster information is collected via the Console's Prometheus component.

The screenshot shows the 'Scrape Targets' page in the Kingdee Apusic Distributed Message Queue console. The left sidebar contains navigation menus for Operations Management, Monitoring Center, Alert Center, Notification Center, Security Center, and System Settings. The 'Monitoring Center' menu is expanded, and 'Scrape Targets' is selected. The main content area shows a table of monitoring targets.

Job Name	Target Address	Cluster Type	Description	Auth Info	Created At	Sync Status	Scrape Status	Last Scrape Time	Scrape Duration	Status	Actions
activemq- xxtenciq- gddZfWd	http://172.20.140.139:7072/ metrics	ACTIVEMQ	-	No Auth	2026-09-23 21:01:39	Success	Down	2026-09-23 22:39:41	0.001s	Enabled	Edit Delete
mqtt- jjcpenk- gEhupoYF- api-v5- prometheu s- data_integr ation	http://172.20.140.139:18083 /api/v5/prometheus/data_i ntegration	ADMQ MQTT	-	No Auth	2026-09-23 18:44:50	Success	Up	2026-09-23 22:39:37	0.003s	Enabled	Edit Delete
mqtt- jjcpenk- gEhupoYF- api-v5- prometheu s-auth	http://172.20.140.139:18083 /api/v5/prometheus/auth	ADMQ MQTT	-	No Auth	2026-09-23 18:44:50	Success	Up	2026-09-23 22:39:34	0.003s	Enabled	Edit Delete
mqtt- jjcpenk- gEhupoYF- api-v5- prometheu s-stats	http://172.20.140.139:18083 /api/v5/prometheus/stats	ADMQ MQTT	-	No Auth	2026-09-23 18:44:50	Success	Up	2026-09-23 22:39:30	0.007s	Enabled	Edit Delete

The corresponding monitoring information is presented on the monitoring dashboard (the monitoring dashboard mainly displays information in four dimensions: cluster, node, topic, and subscription group).



8 Upgrade Maintenance

8.1 Version Upgrade

8.1.1 Pre-Upgrade Preparation

1. Back up configuration files and data
2. Review the version release notes
3. Verify the upgrade process in a test environment

8.1.2 Upgrade Steps

```
# 1. Stop Broker
bin/rocketmq stop broker

# 2. Back up data
cp -r store backup/store-$(date +%Y%m%d)

# 3. Upgrade software package
# Download the new version installation package and extract it
tar zxvf ADMQ-V2.0.6.534-RocketMQ-20260625.tar.gz -C /apusic/
unzip rocketmq-V5.3.4-all.zip
mv rocketmq-V5.3.4-all nameserver
cd /apusic/nameserver

unzip rocketmq-V5.3.4-all.zip
mv rocketmq-V5.3.4-all broker
cd /apusic/broker

# 4. Migrate configuration or dependency packages
cp conf/namesrv.properties /apusic/nameserver/conf/
cp conf/broker.conf /apusic/broker/conf/

# 5. Start services
cd /apusic/nameserver
bin/rocketmq start nameserver
cd /apusic/broker
bin/rocketmq start broker

# 6. Verify upgrade
bin/mqadmin brokerStatus -n localhost:9876 -b broker-a:10911
```

8.1.3 Cluster Rolling Upgrade

1. Upgrade one Broker node at a time
2. Confirm the node is back to normal before upgrading the next
3. Ensure the cluster always has an available Broker

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