Kiran PS Follow

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Kafka and Zookeeper MultiNode Cluster Setup

Apache Kafka

Apache Kafka is a distributed publish-subscribe based fault tolerant messaging system It is used in real-time streaming data architectures to provide real-time analytics and to get data between systems or applications and It uses Zookeeper to track status of kafka cluster nodes.

We can run the kafka in a single node broker or in a cluster mode with multiple nodes.
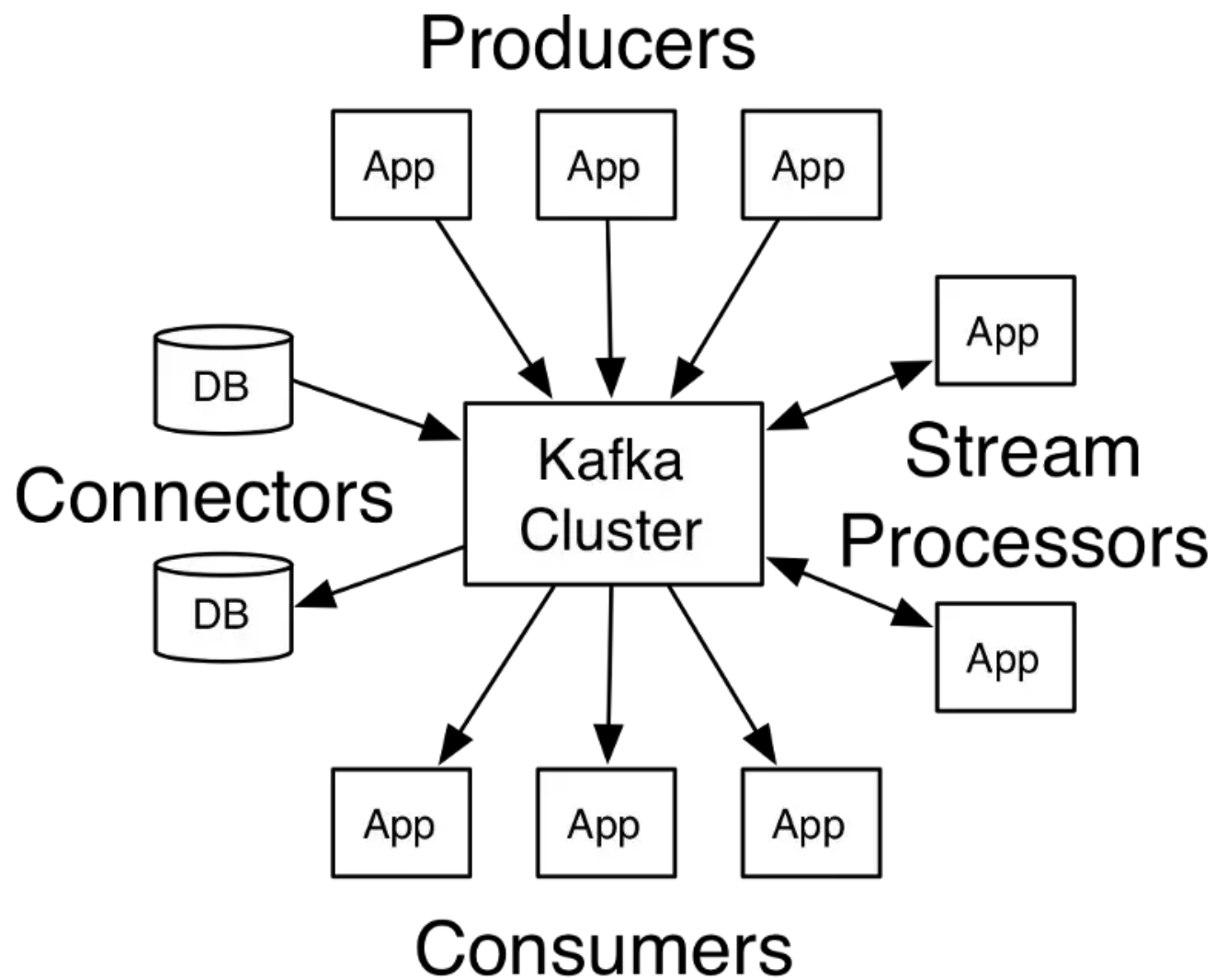
Topics :

- We can send a message/record to specific topic and we can read a message/data from the topic name.

- Producer applications write data to topics and consumer applications read from topics.

- Published messages will be stay in the kafka cluster untill a configurable retention period has passed by.

Producers :

- The application which sends the messages to kafka system.

- The published data will send to specific topic.

Consumers :

- The application which read/consume the data from the specific topic in the kafka system.

Broker :

- Every instance of Kafka that is responsible for message exchange is called a Broker

- One Kafka broker instance can handle hundreds of thousands of reads and writes per second

- Kafka broker leader election can be done by ZooKeeper.

Zookeeper

ZooKeeper is used for managing and coordinating Kafka broker, it service is mainly used to notify producer and consumer about the presence of any new broker in the Kafka system or failure of the broker in the Kafka system. We can use the zookeeper which is available in the apache kafka.

Apache ZooKeeper™

Downloading the Kafka and Zookeeper file :

#Open the Terminal and Run the below commands

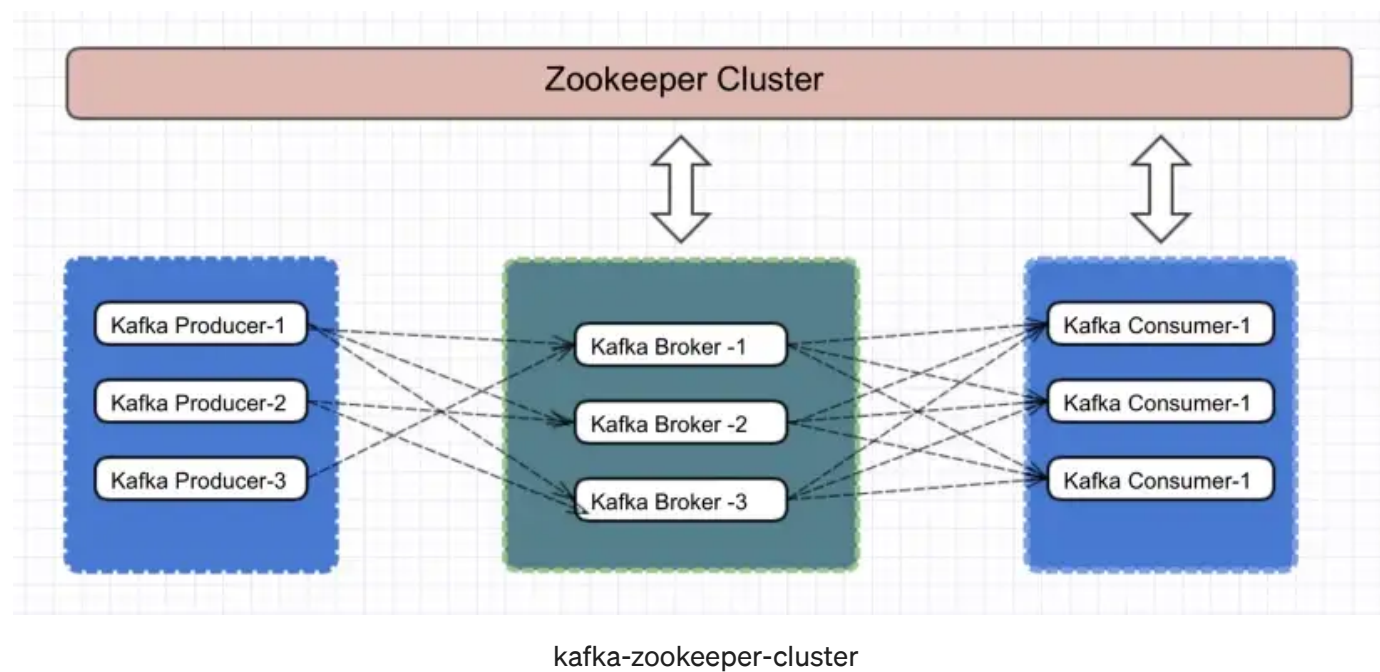cd /Users/kiran/Desktop/medium/ #go to the path where you want to

cd kafka

curl -k https://archive.apache.org/dist/kafka/0.10.0.0/kafka_2.11-0.10.0.0.tgz > kafka_2.11–0.10.0.0.tgz

tar -xzf kafka_2.11–0.10.0.0.tgz

cd kafka_2.11–0.10.0.0

kafka-zookeeper-cluster

1. **Creating the Zookeeper properties files**

cd /Users/kiran/Desktop/medium/kafka/kafka-2.0.0-src/config #go to the path where we downloaded the the Kafka

mv zookeeper1.properties zookeeper1.properties

cp zookeeper1.properties zookeeper2.properties

cp zookeeper1.properties zookeeper3.properties

2. **Create the data directry for all 3 zookeeper instance to store the data**

mkdir -p /Users/kiran/Desktop/medium/kafka/data/zookeeper1

mkdir -p /Users/kiran/Desktop/medium/kafka/data/zookeeper2

mkdir -p /Users/kiran/Desktop/medium/kafka/data/zookeeper3

3. Creating the unique id for each zookeeper instance

echo 1 > /Users/kiran/Desktop/medium/kafka/data/zookeeper3/myid

echo 3 > /Users/kiran/Desktop/medium/kafka/data/zookeeper3/myid

4. We have the zookeeper properties config file for 3 instances as below .

- **Zookeeper-Instance-1 : zookeeper1.properties**

vi zookeeper1.properties (add the below configuration scripts)

dataDir=/Users/kiran/Desktop/medium/kafka/data/zookeeper1

clientPort=2181

a non-production config

tickTime=2000

initLimit=5

syncLimit=2

server.1=localhost:2666:3666

maxClientCnxns=0

- **Zookeeper-Instance-2 : zookeeper2.properties**

vi zookeeper2.properties (add the below configuration scripts)

dataDir=/Users/kiran/Desktop/medium/kafka/data/zookeeper2

clientPort=2182

a non-production config

tickTime=2000

initLimit=5

syncLimit=2

server.1=localhost:2666:3666

server.2=localhost:2667:3667

vi zookeeper2.properties (add the below configuration scripts)

dataDir=/Users/kiran/Desktop/medium/kafka/data/zookeeper3

clientPort=2183

a non-production config

tickTime=2000

initLimit=5

syncLimit=2

server.1=localhost:2666:3666

server.2=localhost:2667:3667

server.3=localhost:2668:3668

maxClientCnxns=0

cd /Users/kiran/Desktop/medium/kafka/kafka_2.11–0.10.0.0

bin/zookeeper-server-start.sh config/zookeeper1.properties

#open new terminal

cd /Users/kiran/Desktop/medium/kafka/kafka_2.11–0.10.0.0

bin/zookeeper-server-start.sh config/zookeeper2.properties

#open new terminal

cd /Users/kiran/Desktop/medium/kafka/kafka_2.11–0.10.0.0

bin/zookeeper-server-start.sh config/zookeeper3.properties

6. Make sure all the Three zookeeper instances are running as shown in the below screenshots .

```
$ bin/zookeeper-server-start.sh config/zookeeper1.properties
[2018-10-09 21:09:02,106] INFO Reading configuration from: config/zookeeper1.properties (org.apache.zookeeper.server.quorum.QuorumPeerConfig)
[2018-10-09 21:09:02,109] INFO Defaulting to majority quorums (org.apache.zookeeper.server.quorum.QuorumPeerConfig)
[2018-10-09 21:09:02,113] INFO autopurge.snapRetainCount set to 3 (org.apache.zookeeper.server.DatadirCleanupManager)
[2018-10-09 21:09:02,113] INFO autopurge.purgeInterval set to 0 (org.apache.zookeeper.server.DatadirCleanupManager)
[2018-10-09 21:09:02,113] INFO Purge task is not scheduled. (org.apache.zookeeper.server.DatadirCleanupManager)
[2018-10-09 21:09:02,127] INFO Starting quorum peer (org.apache.zookeeper.server.quorum.QuorumPeerMain)
[2018-10-09 21:09:02,147] INFO binding to port 0.0.0.0/0.0.0.0:2181 (org.apache.zookeeper.server.NIOServerCnxnFactory)
[2018-10-09 21:09:02,169] INFO tickTime set to 2000 (org.apache.zookeeper.server.quorum.QuorumPeer)
[2018-10-09 21:09:02,169] INFO minSessionTimeout set to -1 (org.apache.zookeeper.server.quorum.QuorumPeer)
[2018-10-09 21:09:02,169] INFO maxSessionTimeout set to -1 (org.apache.zookeeper.server.quorum.QuorumPeer)
[2018-10-09 21:09:02,170] INFO initLimit set to 5 (org.apache.zookeeper.server.quorum.QuorumPeer)
[2018-10-09 21:09:02,181] INFO Reading snapshot /Users/kiran.s/Desktop/medium/kafka/data/zookeeper1/version-2/snapshot.200000000 (org.apache.zookeeper.server.persi
stence.FileSnap)
[2018-10-09 21:09:02,196] INFO My election bind port: localhost/127.0.0.1:3666 (org.apache.zookeeper.server.quorum.QuorumCnxManager)
[2018-10-09 21:09:02,204] INFO LOOKING (org.apache.zookeeper.server.quorum.QuorumPeer)
[2018-10-09 21:09:02,205] INFO New election. My id =  1, proposed zxid=0x200000000 (org.apache.zookeeper.server.quorum.FastLeaderElection)
[2018-10-09 21:09:02,207] INFO Notification: 1 (message format version), 1 (n.leader), 0x200000000 (n.zxid), 0x1 (n.round), LOOKING (n.state), 1 (n.sid), 0x3 (n.pe
erEpoch) LOOKING (my state) (org.apache.zookeeper.server.quorum.FastLeaderElection)
[2018-10-09 21:09:02,212] WARN Cannot open channel to 2 at election address localhost/127.0.0.1:3667 (org.apache.zookeeper.server.quorum.QuorumCnxManager)
java.net.ConnectException: Connection refused (Connection refused)
        at java.net.PlainSocketImpl.socketConnect(Native Method)
        at java.net.AbstractPlainSocketImpl.doConnect(AbstractPlainSocketImpl.java:350)
        at java.net.AbstractPlainSocketImpl.connectToAddress(AbstractPlainSocketImpl.java:206)
        at java.net.AbstractPlainSocketImpl.connect(AbstractPlainSocketImpl.java:188)
        at java.net.SocksSocketImpl.connect(SocksSocketImpl.java:392)
        at java.net.Socket.connect(Socket.java:589)
        at org.apache.zookeeper.server.quorum.QuorumCnxManager.connectOne(QuorumCnxManager.java:368)
        at org.apache.zookeeper.server.quorum.QuorumCnxManager.toSend(QuorumCnxManager.java:341)
        at org.apache.zookeeper.server.quorum.FastLeaderElection$Messenger$WorkerSender.process(FastLeaderElection.java:449)
        at org.apache.zookeeper.server.quorum.FastLeaderElection$Messenger$WorkerSender.run(FastLeaderElection.java:430)
        at java.lang.Thread.run(Thread.java:748)
[2018-10-09 21:09:02,214] WARN Cannot open channel to 3 at election address localhost/127.0.0.1:3668 (org.apache.zookeeper.server.quorum.QuorumCnxManager)
java.net.ConnectException: Connection refused (Connection refused)
        at java.net.PlainSocketImpl.socketConnect(Native Method)
        at java.net.AbstractPlainSocketImpl.doConnect(AbstractPlainSocketImpl.java:350)
        at java.net.AbstractPlainSocketImpl.connectToAddress(AbstractPlainSocketImpl.java:206)
```

Zookeeper-Instance-1

```
.o/bin/../libs/zookeeper-3.4.6.jar (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,326] INFO Server environment:java.library.path=/Users/kiran.s/Libra
em/Library/Java/Extensions:/usr/lib/java:. (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,326] INFO Server environment:java.io.tmpdir=/var/folders/dh/4p_6vp7
[2018-10-09 21:09:56,326] INFO Server environment:java.compiler=<NA> (org.apache.zookeep
[2018-10-09 21:09:56,326] INFO Server environment:os.name=Mac OS X (org.apache.zookeeper
[2018-10-09 21:09:56,326] INFO Server environment:os.arch=x86_64 (org.apache.zookeeper.s
[2018-10-09 21:09:56,326] INFO Server environment:os.version=10.12.6 (org.apache.zookeep
[2018-10-09 21:09:56,326] INFO Server environment:user.name=kiran.s (org.apache.zookeepe
[2018-10-09 21:09:56,326] INFO Server environment:user.home=/Users/kiran.s (org.apache.z
[2018-10-09 21:09:56,327] INFO Server environment:user.dir=/Users/kiran.s/Desktop/medium
[2018-10-09 21:09:56,328] INFO Created server with tickTime 2000 minSessionTimeout 4000
2/version-2 snapdir /Users/kiran.s/Desktop/medium/kafka/data/zookeeper2/version-2 (org.a
[2018-10-09 21:09:56,329] INFO LEADING - LEADER ELECTION TOOK - 240 (org.apache.zookeepe
[2018-10-09 21:09:56,348] INFO Follower sid: 1 : info : org.apache.zookeeper.server.quor
```

Zookeeper-Instance-2

```
[2018-10-09 21:09:56,326] INFO Server environment:java.io.tmpdir=/var/folders/dh/4p_6vp710w5ggqykzt2sg8tdp0ks8v/T/ (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,326] INFO Server environment:java.compiler=<NA> (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,326] INFO Server environment:os.name=Mac OS X (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,326] INFO Server environment:os.arch=x86_64 (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,326] INFO Server environment:os.version=10.12.6 (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,326] INFO Server environment:user.name=kiran.s (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,326] INFO Server environment:user.home=/Users/kiran.s (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,327] INFO Server environment:user.dir=/Users/kiran.s/Desktop/medium/kafka/kafka_2.11-0.10.0.0 (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,328] INFO Created server with tickTime 2000 minSessionTimeout 4000 maxSessionTimeout 40000 datadir /Users/kiran.s/Desktop/medium/kafka/data/zookeeper
2/version-2 snapdir /Users/kiran.s/Desktop/medium/kafka/data/zookeeper2/version-2 (org.apache.zookeeper.server.ZooKeeperServer)
[2018-10-09 21:09:56,329] INFO LEADING - LEADER ELECTION TOOK - 240 (org.apache.zookeeper.server.quorum.Leader)
[2018-10-09 21:09:56,348] INFO Follower sid: 1 : info : org.apache.zookeeper.server.quorum.QuorumPeer$QuorumServer@659b81b9 (org.apache.zookeeper.server.quorum.LearnerHan
dler)
[2018-10-09 21:09:56,359] INFO Synchronizing with Follower sid: 1 maxCommittedLog=0x0 minCommittedLog=0x0 peerLastZxid=0x200000000 (org.apache.zookeeper.server.quorum.Lea
rnerHandler)
[2018-10-09 21:09:56,359] INFO Sending DIFF (org.apache.zookeeper.server.quorum.LearnerHandler)
[2018-10-09 21:09:56,369] INFO Received NEWLEADER-ACK message from 1 (org.apache.zookeeper.server.quorum.LearnerHandler)
[2018-10-09 21:09:56,371] INFO Have quorum of supporters, sids: [ 1,2 ]; starting up and setting last processed zxid: 0x400000000 (org.apache.zookeeper.server.quorum.Lead
er)
```

Zookeeper-Instance-3

Kafka Broker Configuration :

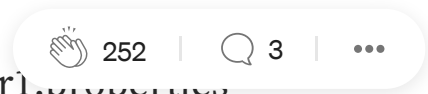We are going to create 3 Kafka broker Instance in the same node/system.

1. Creating the Server properties files

cd /Users/kiran/Desktop/medium/kafka/kafka-2.0.0-src/config

mv server.properties server1.properties

cp server1.properties server2.properties

cp server1.properties server3.properties

vi server1.properties (update the below configuration scripts)

broker.id=0

log.dirs=/tmp/kafka-logs-1

port=9093

advertised.host.name = localhost

zookeeper.connect=localhost:2181,localhost:2182,localhost:2183

- **Kafka Broker Instance 2 : server2.properties**

vi server2.properties (update the below configuration scripts)

broker.id=1

log.dirs=/tmp/kafka-logs-2

port=9094

- **Kafka Broker Instance 3 : server3.properties**

vi server3.properties (update the below configuration scripts)

broker.id=2

log.dirs=/tmp/kafka-logs-3

port=9095

advertised.host.name = localhost

zookeeper.connect=localhost:2181,localhost:2182,localhost:2183

3.**Running the Kafka Breoker Instances :**

#open new terminal

cd /Users/kiran/Desktop/medium/kafka/kafka_2.11–0.10.0.0

bin/kafka-server-start.sh config/server1.properties

bin/kafka-server-start.sh config/server2.properties

#open new terminal

cd /Users/kiran/Desktop/medium/kafka/kafka_2.11–0.10.0.0

bin/kafka-server-start.sh config/server3.properties

4. Make sure all the Three kafka broker instances are running as shown in the below screenshots .


```
2018-10-09 22:11:21,754] INFO zookeeper state changed (SyncConnected) (org.I0Itec.zkclient.ZkClient)
2018-10-09 22:11:21,797] INFO Loading logs. (kafka.log.LogManager)
2018-10-09 22:11:21,802] INFO Logs loading complete. (kafka.log.LogManager)
2018-10-09 22:11:21,904] INFO Starting log cleanup with a period of 300000 ms. (kafka.log.LogManager)
2018-10-09 22:11:21,905] INFO Starting log flusher with a default period of 9223372036854775807 ms. (kafka.log.LogManager)
2018-10-09 22:11:22,010] INFO Awaiting socket connections on 0.0.0.0:9093. (kafka.network.Acceptor)
2018-10-09 22:11:22,015] INFO [Socket Server on Broker 0], Started 1 acceptor threads (kafka.network.SocketServer)
2018-10-09 22:11:22,037] INFO [ExpirationReaper-0], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
2018-10-09 22:11:22,038] INFO [ExpirationReaper-0], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
2018-10-09 22:11:22,184] INFO [ExpirationReaper-0], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
2018-10-09 22:11:22,186] INFO [ExpirationReaper-0], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
2018-10-09 22:11:22,204] INFO [Group Metadata Manager on Broker 0]: Removed 0 expired offsets in 7 milliseconds. (kafka.coordinator.GroupMetadataManager)
2018-10-09 22:11:22,206] INFO [GroupCoordinator 0]: Starting up. (kafka.coordinator.GroupCoordinator)
2018-10-09 22:11:22,206] INFO [GroupCoordinator 0]: Startup complete. (kafka.coordinator.GroupCoordinator)
2018-10-09 22:11:22,227] INFO [ThrottledRequestReaper-Produce], Starting  (kafka.server.ClientQuotaManager$ThrottledRequestReaper)
2018-10-09 22:11:22,228] INFO [ThrottledRequestReaper-Fetch], Starting  (kafka.server.ClientQuotaManager$ThrottledRequestReaper)
2018-10-09 22:11:22,256] INFO Will not load MX4J, mx4j-tools.jar is not in the classpath (kafka.utils.Mx4jLoader$)
2018-10-09 22:11:22,283] INFO Creating /brokers/ids/0 (is it secure? false) (kafka.utils.ZKCheckedEphemeral)
2018-10-09 22:11:22,310] INFO Result of znode creation is: OK (kafka.utils.ZKCheckedEphemeral)
2018-10-09 22:11:22,365] INFO Registered broker 0 at path /brokers/ids/0 with addresses: PLAINTEXT -> EndPoint(localhost,9093,PLAINTEXT) (kafka.utils.ZkUtils)
2018-10-09 22:11:22,423] INFO Kafka version : 0.10.0.0 (org.apache.kafka.common.utils.AppInfoParser)
2018-10-09 22:11:22,424] INFO Kafka commitId : b8642491e78c5a13 (org.apache.kafka.common.utils.AppInfoParser)
2018-10-09 22:11:22,426] INFO [Kafka Server 0], started (kafka.server.KafkaServer)
```

Kafka Broker Instance 1

```
apache.zookeeper.ClientCnxn)
[2018-10-09 22:11:21,754] INFO zookeeper state changed (SyncConnected) (org.I0Itec.zkclient.ZkClient)
[2018-10-09 22:11:21,797] INFO Loading logs. (kafka.log.LogManager)
[2018-10-09 22:11:21,802] INFO Logs loading complete. (kafka.log.LogManager)
[2018-10-09 22:11:21,904] INFO Starting log cleanup with a period of 300000 ms. (kafka.log.LogManager)
[2018-10-09 22:11:21,905] INFO Starting log flusher with a default period of 9223372036854775807 ms. (kafka.log.LogManager)
[2018-10-09 22:11:22,010] INFO Awaiting socket connections on 0.0.0.0:9093. (kafka.network.Acceptor)
[2018-10-09 22:11:22,015] INFO [Socket Server on Broker 0], Started 1 acceptor threads (kafka.network.SocketServer)
[2018-10-09 22:11:22,037] INFO [ExpirationReaper-0], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
[2018-10-09 22:11:22,038] INFO [ExpirationReaper-0], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
[2018-10-09 22:11:22,184] INFO [ExpirationReaper-0], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
[2018-10-09 22:11:22,186] INFO [ExpirationReaper-0], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
[2018-10-09 22:11:22,204] INFO [Group Metadata Manager on Broker 0]: Removed 0 expired offsets in 7 milliseconds. (kafka.coordinator.GroupMetadataManager)
[2018-10-09 22:11:22,206] INFO [GroupCoordinator 0]: Starting up. (kafka.coordinator.GroupCoordinator)
[2018-10-09 22:11:22,206] INFO [GroupCoordinator 0]: Startup complete. (kafka.coordinator.GroupCoordinator)
[2018-10-09 22:11:22,227] INFO [ThrottledRequestReaper-Produce], Starting  (kafka.server.ClientQuotaManager$ThrottledRequestReaper)
[2018-10-09 22:11:22,228] INFO [ThrottledRequestReaper-Fetch], Starting  (kafka.server.ClientQuotaManager$ThrottledRequestReaper)
[2018-10-09 22:11:22,256] INFO Will not load MX4J, mx4j-tools.jar is not in the classpath (kafka.utils.Mx4jLoader$)
[2018-10-09 22:11:22,283] INFO Creating /brokers/ids/0 (is it secure? false) (kafka.utils.ZKCheckedEphemeral)
[2018-10-09 22:11:22,310] INFO Result of znode creation is: OK (kafka.utils.ZKCheckedEphemeral)
[2018-10-09 22:11:22,365] INFO Registered broker 0 at path /brokers/ids/0 with addresses: PLAINTEXT -> EndPoint(localhost,9093,PLAINTEXT) (kafka.utils.ZkUtils)
[2018-10-09 22:11:22,423] INFO Kafka version : 0.10.0.0 (org.apache.kafka.common.utils.AppInfoParser)
[2018-10-09 22:11:22,424] INFO Kafka commitId : b8642491e78c5a13 (org.apache.kafka.common.utils.AppInfoParser)
[2018-10-09 22:11:22,426] INFO [Kafka Server 0], started (kafka.server.KafkaServer)
```

Kafka Broker Instance 2

```
apache.zookeeper.ClientCnxn)
[2018-10-09 22:04:18,144] INFO zookeeper state changed (SyncConnected) (org.I0Itec.zkclient.ZkClient)
[2018-10-09 22:04:18,193] INFO Loading logs. (kafka.log.LogManager)
[2018-10-09 22:04:18,197] INFO Logs loading complete. (kafka.log.LogManager)
[2018-10-09 22:04:18,338] INFO Starting log cleanup with a period of 300000 ms. (kafka.log.LogManager)
[2018-10-09 22:04:18,339] INFO Starting log flusher with a default period of 9223372036854775807 ms. (kafka.log.LogManager)
[2018-10-09 22:04:18,344] WARN No meta.properties file under dir /tmp/kafka-logs-2/meta.properties (kafka.server.BrokerMetadataCheckpoint)
[2018-10-09 22:04:18,398] INFO Awaiting socket connections on 0.0.0.0:9094. (kafka.network.Acceptor)
[2018-10-09 22:04:18,403] INFO [Socket Server on Broker 1], Started 1 acceptor threads (kafka.network.SocketServer)
[2018-10-09 22:04:18,419] INFO [ExpirationReaper-1], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
[2018-10-09 22:04:18,420] INFO [ExpirationReaper-1], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
[2018-10-09 22:04:18,542] INFO [ExpirationReaper-1], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
[2018-10-09 22:04:18,548] INFO [ExpirationReaper-1], Starting  (kafka.server.DelayedOperationPurgatory$ExpiredOperationReaper)
[2018-10-09 22:04:18,563] INFO [GroupCoordinator 1]: Starting up. (kafka.coordinator.GroupCoordinator)
[2018-10-09 22:04:18,564] INFO [GroupCoordinator 1]: Startup complete. (kafka.coordinator.GroupCoordinator)
[2018-10-09 22:04:18,564] INFO [Group Metadata Manager on Broker 1]: Removed 0 expired offsets in 7 milliseconds. (kafka.coordinator.GroupMetadataManager)
[2018-10-09 22:04:18,578] INFO [ThrottledRequestReaper-Produce], Starting  (kafka.server.ClientQuotaManager$ThrottledRequestReaper)
[2018-10-09 22:04:18,579] INFO [ThrottledRequestReaper-Fetch], Starting  (kafka.server.ClientQuotaManager$ThrottledRequestReaper)
[2018-10-09 22:04:18,598] INFO Will not load MX4J, mx4j-tools.jar is not in the classpath (kafka.utils.Mx4jLoader$)
[2018-10-09 22:04:18,620] INFO Creating /brokers/ids/1 (is it secure? false) (kafka.utils.ZKCheckedEphemeral)
[2018-10-09 22:04:18,637] INFO Result of znode creation is: OK (kafka.utils.ZKCheckedEphemeral)
[2018-10-09 22:04:18,657] INFO Registered broker 1 at path /brokers/ids/1 with addresses: PLAINTEXT -> EndPoint(localhost,9094,PLAINTEXT) (kafka.utils.ZkUtils)
[2018-10-09 22:04:18,660] WARN No meta.properties file under dir /tmp/kafka-logs-2/meta.properties (kafka.server.BrokerMetadataCheckpoint)
[2018-10-09 22:04:18,787] INFO Kafka version : 0.10.0.0 (org.apache.kafka.common.utils.AppInfoParser)
[2018-10-09 22:04:18,787] INFO Kafka commitId : b8642491e78c5a13 (org.apache.kafka.common.utils.AppInfoParser)
[2018-10-09 22:04:18,788] INFO [Kafka Server 1], started (kafka.server.KafkaServer)
[2018-10-09 22:05:53,884] INFO Creating /controller (is it secure? false) (kafka.utils.ZKCheckedEphemeral)
[2018-10-09 22:05:53,888] INFO Result of znode creation is: OK (kafka.utils.ZKCheckedEphemeral)
[2018-10-09 22:05:53,889] INFO 1 successfully elected as leader (kafka.server.ZookeeperLeaderElector)
[2018-10-09 22:05:54,050] INFO New leader is 1 (kafka.server.ZookeeperLeaderElector$LeaderChangeListener)
```

Kafka Broker Instance 3

5. Creating a new Topic

bin/kafka-topics.sh — create — zookeeper localhost:2181,localhost:2182,localhost:2183 — replication-factor 2 — partitions 1 — topic test

```
$ bin/kafka-topics.sh --create --zookeeper localhost:2181,localhost:2182,localhost:2183 --replication-factor 2 --partitions 1 --topic test
Created topic "test".
```

Create topic

6. Listing the topic which are created in the zookeeper

#open new terminal and execute the script

bin/kafka-topics.sh — list — zookeeper localhost:2181,localhost:2182,localhost:2183

```
$ bin/kafka-topics.sh --list --zookeeper localhost:2181,localhost:2182,localhost:2183
test
```

topic lists

7. Running the Kafka Producer

The Producer can send messages to **test** topic by typing the messages in the

bin/kafka-console-producer.sh — broker-list localhost:9093,localhost:9094,localhost:9095 — topic test

Hello World #Enter the message you want to send to kafka topic

```
$ bin/kafka-console-producer.sh --broker-list localhost:9093,localhost:9094,localhost:9095 --topic test
Hello World
Kafka Producer Testing
```

Kafka Producer

8. Running the Kafka Consumer.

The Consumer will display the data in the terminal/console as soon as publisher sents the data to the topic.

#open new terminal

bin/kafka-console-consumer.sh — zookeeper localhost:2181,localhost:2182,localhost:2183 — topic test — from-beginning

```
$ bin/kafka-console-consumer.sh --zookeeper localhost:2181,localhost:2182,localhost:2183 --topic test --from-beginning
Hello World
```