

1. Hands On: Kafka Cluster Installation Steps

Kafka & ZooKeeper Cluster:

1) Prereq:

Ubuntu server 14.04

Java

Server 1: kafka 1-1

192.168.0.115

129.114.110.10

Server 2: Kafka 1-2

192.168.0.113

129.114.110.12

Server 3 : Kafka 1-3

192.168.0.114

129.114.111.15

2) Java Installation:

```
$ sudo apt-get update
$ sudo apt-get install default-jre
$ sudo apt-get install default-jdk
```

3) Install ZooKeeper:

```
$ wget http://apache.claz.org/zookeeper/zookeeper-3.4.6/zookeeper-3.4.6.tar.gz
$ tar -xzf zookeeper-3.4.6.tar.gz
$ cd zookeeper-3.4.6
$ cp conf/zoo_sample.cfg conf/zoo.cfg
```

Edit the zoo.cfg

```
ticketTime=2000  
initLimit = 10  
syncLimit = 5  
dataDir = /var/zookeeper/data  
ClientPort = 2181  
maxClientCnxns = 60  
autopurge.snapRetainCount = 3  
autopurge.purgeInterval=1  
server.1=192.168.0.115:2888:3888  
server.2=192.168.0.113:2888:3888  
server.3=192.168.0.114:2888:3888
```

make a directory

```
$ sudo mkdir -p /var/zookeeper/data
```

Turn off the Ubuntu Firewall to grant the “echo” permission for the server

```
$ sudo ufw status  
$ sudo ufw enable  
$ sudo ufw status verbose  
$ sudo ufw disable
```

write the following line

```
$ chmod 777 /var/zookeeper/data/myid  
$ chmod -R 777 /var/zookeeper/data/myid
```

run the following permission

```
$ echo "1" > /var/zookeeper/data/myid  
$ echo "2" > /var/zookeeper/data/myid  
$ echo "3" > /var/zookeeper/data/myid
```

type the following if *chmod 777 doesn't work

```
$ sudo -i  
# OR  
$ sudo bash -c "echo "1" > /var/zookeeper/data/myid"  
$ sudo bash -c "echo "2" > /var/zookeeper/data/myid"  
$ sudo bash -c "echo "3" > /var/zookeeper/data/myid"
```

#start the zookeeper service on each servers

```
$ cd zookeeper-3.4.6  
$ ./bin/zkServer.sh start
```

Download kafka latest version i.e. kafka_2.11_0.9.0.0.tgz & extract it

```
$ wget http://mirrors.advancedhosters.com/apache/kafka/0.9.0.0/kafka_2.11-0.9.0.0.tgz
$ tar -xzf kafka_2.11-0.9.0.0.tgz
$ cd kafka_2.11-0.9.0.0
```

now if you want to run multiple kafka broker you can run in odd numbers only (1,3,5...etc)

#just copy the kafka config file (kafka/server.properties) to the respective number of brokers

```
$ cp config/server.properties config/server_1.properties
$ cp config/server.properties config/server_2.properties
```

With server.properties:

```
broker.id=0
listeners=PLAINTEXT://:9092 # Optional & change accordingly
port=9092
log.dir=/tmp/kafka0-logs
host.name=192.168.0.115
zookeeper.connect=192.168.0.115:2181,192.168.0.113:2181,192.168.0.114:2181
zookeeper.connection.timeout.ms=12000
```

With server_1.properties:

```
broker.id=1  
listeners=PLAINTEXT://:9093    # Optional and Changes accordingly  
port=9093  
log.dir=/tmp/kafka1-logs  
host.name=192.168.0.113  
zookeeper.connect=192.168.0.115:2181,192.168.0.113:2181,192.168.0.114:2181  
zookeeper.connection.timeout.ms=12000
```

With server_2.properties:

```
broker.id=2  
listeners=PLAINTEXT://:9094  
port=9094  
log.dir=/tmp/kafka2-logs  
host.name=192.168.0.114  
zookeeper.connect=192.168.0.115:2181,192.168.0.113:2181,192.168.0.114:2181  
zookeeper.connection.timeout.ms=12000
```

Run the 3 Kafka Brokers on all nodes (run with nohup in background)

```
$ nohup ./bin/kafka-server-start.sh config/server.properties  
$ nohup ./bin/kafka-server-start.sh config/server_1.properties  
$ nohup ./bin/kafka-server-start.sh config/server_2.properties
```

if the above step doesn't work, start zookeeper server

```
$ cd zookeeper-3.4.6  
$ ./bin/zkServer.sh stop  
$ bin/zookeepr.server.stop.sh config/zookeeper.properties  
$ bin/zookeepr.server.start.sh config/zookeeper.properties
```

after that type into the system

```
$ hostname
```

add this hostname to /etc/hosts

```
$ sudo vi /etc/hosts
```

now start kafka broker

```
$ nohup ./bin/kafka-server-start.sh config/server.properties  
$ nohup ./bin/kafka-server-start.sh config/server_1.properties  
$ nohup ./bin/kafka-server-start.sh config/server_2.properties
```

Create Topic

```
$ bin/kafka-topic.sh --create --zookeeper localhost:2181 --replication-factor 1 --partitions  
1 --topic test
```

List the Topic

```
$ bin/kafka-topics.sh --list --zookeeper localhost:2181
```

Start the Producer

```
$ bin/kafka-console-producer.sh --broker-list localhost:9092 --topic test
```

Start the Consumer

```
$ bin/kafka-console-consumer.sh --zookeeper localhost:2181 --topic test --from-beginning
```

write something on producer window & see the MAGIC, you would see those message queues on to the Consumer window.