To follow along with this course and practice the concepts we cover, you will need your own Kafka cluster. This lesson will guide you through the process of setting up your own three-broker Kafka cluster using Confluent Community.

Relevant Documentation

- Confluent Manual Install using Systemd on Ubuntu and Debian

Lesson Reference

1. On all three nodes, add the GPG key and package repository, then install Confluent and Java:

```
wget -qO - https://packages.confluent.io/deb/5.2/archive.key | sudo apt-key add -
```

```
sudo add-apt-repository "deb [arch=amd64] https://packages.confluent.io/deb/5.2 stable main"
```

```
sudo apt-get update && sudo apt-get install -y openjdk-8-jdk confluent-community-2.12
```

2. On all three nodes, edit the `hosts` file:

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

3. Add the following to the `hosts` file on all three servers. Use the private IP addresses of your three servers (you can find them in Cloud Playground):

```
<server 1 private IP> zoo1
<server 2 private IP> zoo2
<server 3 private IP> zoo3
```

4. Save and exit the file on each server.

5. On each server, edit the Zookeeper config file:

```
sudo vi /etc/kafka/zookeeper.properties
```

6. Delete the contents of the config file, and add the following:

```
tickTime=2000
dataDir=/var/lib/zookeeper/
clientPort=2181
initLimit=5
syncLimit=2
server.1=zoo1:2888:3888
server.2=zoo2:2888:3888
server.3=zoo3:2888:3888
autopurge.snapRetainCount=3
autopurge.purgeInterval=24
```

7. Save and exit the file on each server.

8. Set the Zookeeper ID for each server:

```
sudo vi /var/lib/zookeeper/myid
```

9. On each server, set the contents of `/var/lib/zookeeper/myid` to the server's ID:

    - On Server 1, enter `1`.
    - On Server 2, enter `2`.
    - On Server 3, enter `3`.

10. Save and exit the file on each server.

11. On each server, edit the Kafka config file:

```
sudo vi /etc/kafka/server.properties
```

    Now, we need to edit the `broker.id`, `advertised.listeners`, and `zookeeper.connect` in the config file.

12. Set `broker.id` to the appropriate ID for each server (`1` on Server 1, `2` on Server 2, and `3` on Server 3).

13. For `advertised.listeners`, un-comment the line and change `your.host.name` to the hostname for each server — `zoo1`, `zoo2`, or `zoo3` — as appropriate.

14. In each config file, set `zookeeper.connect` to `zoo1:2181`.

15. On each server, start and enable the Zookeeper service:

```
sudo systemctl start confluent-zookeeper
```

```
sudo systemctl enable confluent-zookeeper
```

16. Wait a few seconds, and then do the same for the Kafka service on each server:

```
sudo systemctl start confluent-kafka
```

```
sudo systemctl enable confluent-kafka
```

17. Check the services on each server to make sure they are running. Both services should be `active (running)` on all three servers:

```
sudo systemctl status confluent*
```

    They should both be in the `active (running)` state on all servers.

18. Test your cluster by listing the current topics:

```
kafka-topics --list --bootstrap-server localhost:9092
```

Since you have not created any topics yet, you will only see a default topic. The output should look like this:

```
__confluent.support.metrics
```