

Exercise 2

Agenda: Learn Kafka partitions and fault tolerance using inbuilt console application

1. Go to home directory of kafka installation package
2. As we have just one physical machine and we are trying to mimic that as multiple, we need to create two separate config files for individual broker

```
cp config/server.properties config/server-1.properties
```

```
cp config/server.properties config/server-2.properties
```

Edit only following content in server-1.properties:

```
broker.id=1
listeners=PLAINTEXT://:9093
log.dir=/tmp/kafka-logs-1
```

Edit only following content in server-2.properties:

```
broker.id=2
listeners=PLAINTEXT://:9094
log.dir=/tmp/kafka-logs-2
```

3. Start both the servers

```
bin/kafka-server-start.sh config/server-1.properties &
```

```
bin/kafka-server-start.sh config/server-2.properties &
```

4. Create topic with replication of partitions

```
bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 3 --partitions  
1 --topic my-replicated-topic
```

Note: What if you run with

1. **--replication-factor 4**
2. **--partitions 3**

5. See the description of topic

```
bin/kafka-topics.sh --describe --zookeeper localhost:2181 --topic my-replicated-topic
```

6. Start producer

```
bin/kafka-console-producer.sh --broker-list localhost:9092 --topic my-replicated-topic
```

7. Start consumer

```
bin/kafka-console-consumer.sh --bootstrap-server localhost:9092 --from-beginning  
--topic my-replicated-topic
```

8. Identify the process who is running server 1

```
ps aux | grep server-1.properties
```

9. Terminate this process to test the fault tolerance

```
kill -9 <process_id>
```

10. Check the description of topic

```
bin/kafka-topics.sh --describe --zookeeper localhost:2181 --topic my-replicated-topic
```

11. Start a new consumer instance and see if he has access to the data written before

```
bin/kafka-console-consumer.sh --bootstrap-server localhost:9092 --from-beginning  
--topic my-replicated-topic
```

Reference:

- <https://kafka.apache.org/documentation/#gettingStarted>
- <https://stackoverflow.com/questions/46158296/kafka-broker-not-available-at-starting>