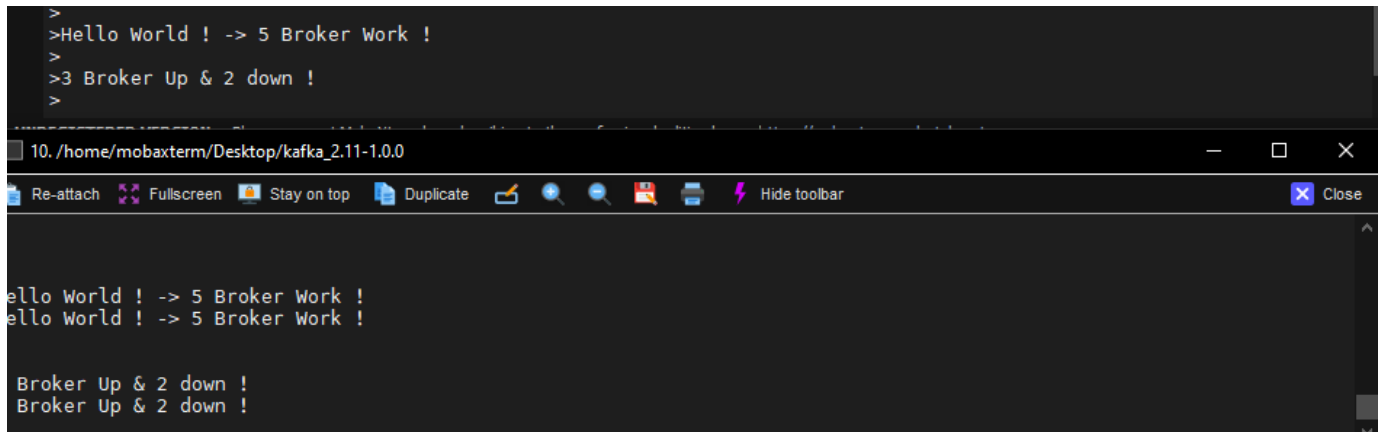


HOMEWORK 4

1. What if you have 5 brokers and 2 go down?

Firstly, I start the Kafka server and I run the 5 brokers, the consumer et the producer.

After, I try to send “Hello World” from the producer to the consumer. We can observe with the screenshot below that is works great.



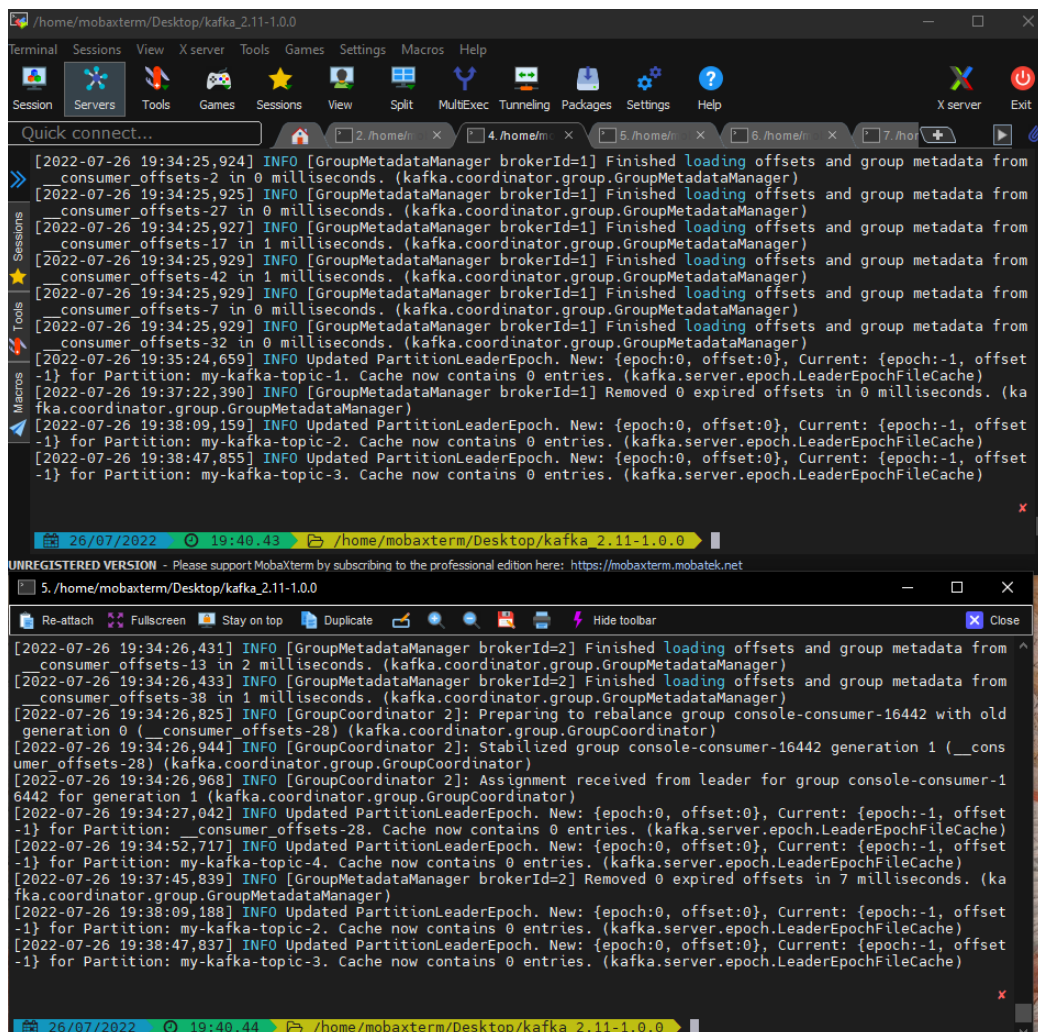
```
>
>Hello World ! -> 5 Broker Work !
>
>3 Broker Up & 2 down !
>
```

10. /home/mobaxterm/Desktop/kafka_2.11-1.0.0

```
ello World ! -> 5 Broker Work !
ello World ! -> 5 Broker Work !

Broker Up & 2 down !
Broker Up & 2 down !
```

Secondly, I kill 2 brokers over 5 and I repeat the previous test. Thanks to the screenshot below, you can certify that it still works.



```
[2022-07-26 19:34:25,924] INFO [GroupMetadataManager brokerId=1] Finished loading offsets and group metadata from
consumer_offsets-2 in 0 milliseconds. (kafka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:34:25,925] INFO [GroupMetadataManager brokerId=1] Finished loading offsets and group metadata from
consumer_offsets-27 in 0 milliseconds. (kafka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:34:25,927] INFO [GroupMetadataManager brokerId=1] Finished loading offsets and group metadata from
consumer_offsets-17 in 1 milliseconds. (kafka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:34:25,929] INFO [GroupMetadataManager brokerId=1] Finished loading offsets and group metadata from
consumer_offsets-42 in 1 milliseconds. (kafka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:34:25,929] INFO [GroupMetadataManager brokerId=1] Finished loading offsets and group metadata from
consumer_offsets-7 in 0 milliseconds. (kafka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:34:25,929] INFO [GroupMetadataManager brokerId=1] Finished loading offsets and group metadata from
consumer_offsets-32 in 0 milliseconds. (kafka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:35:24,659] INFO Updated PartitionLeaderEpoch. New: {epoch:0, offset:0}, Current: {epoch:-1, offset
-1} for Partition: my-kafka-topic-1. Cache now contains 0 entries. (kafka.server.epoch.LeaderEpochFileCache)
[2022-07-26 19:37:22,390] INFO [GroupMetadataManager brokerId=1] Removed 0 expired offsets in 0 milliseconds. (ka
fka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:38:09,159] INFO Updated PartitionLeaderEpoch. New: {epoch:0, offset:0}, Current: {epoch:-1, offset
-1} for Partition: my-kafka-topic-2. Cache now contains 0 entries. (kafka.server.epoch.LeaderEpochFileCache)
[2022-07-26 19:38:47,855] INFO Updated PartitionLeaderEpoch. New: {epoch:0, offset:0}, Current: {epoch:-1, offset
-1} for Partition: my-kafka-topic-3. Cache now contains 0 entries. (kafka.server.epoch.LeaderEpochFileCache)
```

26/07/2022 19:40:43 /home/mobaxterm/Desktop/kafka_2.11-1.0.0

```
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```

5. /home/mobaxterm/Desktop/kafka_2.11-1.0.0

```
[2022-07-26 19:34:26,431] INFO [GroupMetadataManager brokerId=2] Finished loading offsets and group metadata from
consumer_offsets-13 in 2 milliseconds. (kafka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:34:26,433] INFO [GroupMetadataManager brokerId=2] Finished loading offsets and group metadata from
consumer_offsets-38 in 1 milliseconds. (kafka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:34:26,825] INFO [GroupCoordinator 2]: Preparing to rebalance group console-consumer-16442 with old
generation 0 (__consumer_offsets-28) (kafka.coordinator.group.GroupCoordinator)
[2022-07-26 19:34:26,944] INFO [GroupCoordinator 2]: Stabilized group console-consumer-16442 generation 1 (__cons
umer_offsets-28) (kafka.coordinator.group.GroupCoordinator)
[2022-07-26 19:34:26,968] INFO [GroupCoordinator 2]: Assignment received from leader for group console-consumer-1
6442 for generation 1 (kafka.coordinator.group.GroupCoordinator)
[2022-07-26 19:34:27,042] INFO Updated PartitionLeaderEpoch. New: {epoch:0, offset:0}, Current: {epoch:-1, offset
-1} for Partition: __consumer_offsets-28. Cache now contains 0 entries. (kafka.server.epoch.LeaderEpochFileCache)
[2022-07-26 19:34:52,717] INFO Updated PartitionLeaderEpoch. New: {epoch:0, offset:0}, Current: {epoch:-1, offset
-1} for Partition: my-kafka-topic-4. Cache now contains 0 entries. (kafka.server.epoch.LeaderEpochFileCache)
[2022-07-26 19:37:45,839] INFO [GroupMetadataManager brokerId=2] Removed 0 expired offsets in 7 milliseconds. (ka
fka.coordinator.group.GroupMetadataManager)
[2022-07-26 19:38:09,188] INFO Updated PartitionLeaderEpoch. New: {epoch:0, offset:0}, Current: {epoch:-1, offset
-1} for Partition: my-kafka-topic-2. Cache now contains 0 entries. (kafka.server.epoch.LeaderEpochFileCache)
[2022-07-26 19:38:47,837] INFO Updated PartitionLeaderEpoch. New: {epoch:0, offset:0}, Current: {epoch:-1, offset
-1} for Partition: my-kafka-topic-3. Cache now contains 0 entries. (kafka.server.epoch.LeaderEpochFileCache)
```

26/07/2022 19:40:44 /home/mobaxterm/Desktop/kafka_2.11-1.0.0

2. What happens if another broker goes down?

I kill another broker and I observe that the system do not work anymore. It certainly because the replication factor is equal to 3.

3. What if you changed the replication factor for your topic?

If I change the replication factor, It will change the minimum number of broker needed to be able to send a message.