

# Task A2

## Submission Information

Option	Description
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Link to GitHub Repository	<a href="https://github.com/Capeguy/cs3219-otot/tree/master/OTOT_Task_D">https://github.com/Capeguy/cs3219-otot/tree/master/OTOT_Task_D</a>

## Start Containers in docker-compose.yml

1. Open a Terminal in OTOT\_Task\_D folder
2. Enter the following command: `docker-compose up`
3. Wait for the containers to be ready

## Create a topic

1. Enter the following command: `kafka-topics --create --topic cs3219-d --partitions 1 --replication-factor 3 --if-not-exists --bootstrap-server localhost:32181`

```
→ OTOT_Task_D git:(master) x kafka-topics --create --topic cs3219-d --partitions 1 --replication-factor 3 --if-not-exists --bootstrap-server localhost:32181
```

## Create a Publisher and Consumer to the topic

1. Open a new terminal and enter the following command: `kafka-console-producer --topic cs3219-d --bootstrap-server kafka-1:19092`
2. Enter any message
3. Open a new terminal and enter the following command: `kafka-console-consumer --topic cs3219-d --bootstrap-server kafka-2:29092`
4. See that the message is shown
5. You may go back to the previous terminal used for publishing to send more messages

```
+ cs3219-otot git:(master) x kafka-console-producer --topic cs3219-d --bootstrap-server kafka-1:19092
>Message 1
>Message 2
>Message 3
>

+ cs3219-otot git:(master) x kafka-console-consumer --topic cs3219-d --bootstrap-server kafka-2:29092
Message 1
Message 2
Message 3
[]
```

## Identify the Controller

1. Open a new terminal and enter the following command: `kcat -L -b kafka-1:19092`
2. In this case the controller is `kafka-3`

```
→ cs3219-otot git:(master) x kcat -L -b kafka-1:19092
Metadata for all topics (from broker 1: kafka-1:19092/1):
3 brokers:
  broker 2 at kafka-2:29092
  broker 3 at kafka-3:39092 (controller)
  broker 1 at kafka-1:19092
```

## Stop the Controller and Identify the New Controller

## Stop the Controller and Identify the New Controller

1. Open a Terminal in OTOT\_Task\_D folder
2. Enter the following command: `docker-compose down kafka-3`
3. Open a new terminal and enter the following command: `kcat -L -b kafka-1:19092`
4. In this case the controller is now `kafka-1`

```
→ OTOT_Task_D git:(master) ✗ docker-compose stop kafka-3
Stopping otot_task_d_kafka-3_1 ... done
→ OTOT_Task_D git:(master) ✗ kcat -L -b kafka-1:19092
Metadata for all topics (from broker 1: kafka-1:19092/1):
 2 brokers:
   broker 2 at kafka-2:29092
   broker 1 at kafka-1:19092 (controller)
```

## Verify that Pub-Sub is still working

```
→ OTOT_Task_D git:(master) ✗ kafka-console-producer --topic cs3219-d --bootstrap
-server kafka-1:19092
>Message after controller died
>Awesome!
```

```
→ cs3219-otot git:(master) ✗ kafka-console-consumer --topic cs3219-d --bootstrap-
server kafka-2:29092
Message after controller died
Awesome!
```