

Question 4:

Create a Topic with 3 Partitions and
Replication Factor 2

Create multiple producers using CLI

Create Two Consumer groups

1. multiple consumers in the group
2. only one consumer in the group

- **These are two producers that sent messages**

```
[+ kafkalogs3 kafka-console-producer.sh --bootstrap-server localhost:9092 --topic mailbox
>1
>2
>3
>4
>5
>6
>7
>8
>9
>10
>
```

```
[+ kafkalogs3 kafka-console-producer.sh --bootstrap-server localhost:9092 --topic mailbox
>Hi
>This
>is
>Teja
>From
>Apple
>bootCamp
>Trying
>To
>Learn
>Kafka
>Async
>message
>subscription
>
```

- These are the consumers of consumer group A that subscribed to the topic

```
[→ kafkalog3 kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic mailbox --group groupA
```

```
[→ ~ kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic mailbox --group groupA
Hi
This
is
Teja
From
Apple
bootCamp
Trying
To
Learn
Kafka
Async
message
subscription
```

```
[→ kafkalog3 kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic mailbox --group groupA
1
2
3
4
5
6
7
8
9
10
```

- This is the consumer of consumer group B that subscribed to the topic .

```
[+ kafkalog3 kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic mailbox --group groupB
Hi
This
is
Teja
From
Apple
bootCamp
Trying
To
Learn
Kafka
Async
message
subscription
1
2
3
4
5
6
7
8
9
10
█
```

- These are two producers that sent more messages to the Topic

```
zsh: command not found: kafka-console-service
[+ kafkalog3 kafka-console-producer.sh --bootstrap-server localhost:9092 --topic mailbox
>Hi
>This
>is
>Teja
>From
>Apple
>bootCamp
>Trying
>To
>Learn
>Kafka
>Async
>message
>subscription
>-----
>This
>Messages
>are
>to
>check
>for
>removed
>consumer
>from
>a
>consumer
>group
>█
```

```

[+] kafka@k3:~$ kafka-console-producer.sh --bootstrap-server localhost:9092 --topic mailbox
>1
>2
>3
>4
>5
>6
>7
>8
>9
>10
>-----
>this
>is
>from
>second
>producer
>to
>check
>for
>

```

- Consumers in the consumer group A(After removing a consumer)

```

[+] kafka@k3:~$ kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic mailbox --group groupA
Hi
This
is
Teja
From
Apple
bootCamp
Trying
To
Learn
Kafka
Async
message
subscription
-----
This
Messages
are
to
check
for
removed
consumer
from
a
consumer
group

```

```

[+] kafka@k3:~$ kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic mailbox --group groupA
-----
this
is
from
second
producer
to
check
for

```

- **Consumer in the consumer group B**

```
[* kafkalog3 kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic mailbox --group groupB
Hi
This
is
Teja
From
Apple
bootCamp
Trying
To
Learn
Kafka
Async
message
subscription
1
2
3
4
5
6
7
8
9
10
-----
This
Messages
are
to
check
for
removed
consumer
from
a
consumer
group
-----
this
is
from
second
producer
to
check
for
█
```

Outcomes to observe:

- Check how the consumers consume it
- How partitions are allotted to consumers
- How re-allocation happens if a new consumer is added
- How reallocation happens if a consumer is Removed

Results Observed:

1. Consumer groups subscribe to the topic independently and if the number of consumers are more than the number of producers extra consumers are left idle.
2. If the number of consumers are less than number of producers a consumer will consume from more than one partition.
3. If an old consumer in a group is removed the other consumer consumers from the partition.
4. If a new consumer is added to the partition depending on the number of partitions the message may or may not be consumed by the new consumer.