

# Scenario 10

## Problem-statement :

The client is able to produce to the `international_orders` topic but receives an error while producing and consuming from `domestic_orders` using the following commands -

## Observation :

Brokers are down and connect ,control-center, schema-registry are also down due to certification validity.  
After that when goes to inside the container `kfkclient` produce some messages to

## Errors :

```
WARN [Producer clientId=console-producer] Connection to node 2
(kafka2/172.20.0.6:19093) could not be established. Broker may not be available.
(org.apache.kafka.clients.NetworkClient)
```

```
kafka-console-producer --bootstrap-server kafka1:19092 --producer.config
/opt/client/client.properties --topic <topic>
```

```
kafka-console-consumer --bootstrap-server kafka1:19092 --consumer.config
/opt/client/client.properties --from-beginning --topic <topic>
```



```
[1] Stopped kafka-console-producer --broker-list kafka1:19092 --topic international_orders --producer.config /opt/client/client.properties
kfkclient:~ kafka-console-producer --broker-list kafka1:19092 --topic domestic_orders --producer.config /opt/client/client.properties
>[2024-11-18 07:50:45,958] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.20.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)
[2024-11-18 07:50:46,992] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.20.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)
[2024-11-18 07:50:47,093] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.20.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)
[2024-11-18 07:50:47,307] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.20.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)
[2024-11-18 07:50:47,725] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.20.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)
[2024-11-18 07:50:48,548] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.20.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)
^Z
[3]+ Stopped kafka-console-producer --broker-list kafka1:19092 --topic domestic_orders --producer.config /opt/client/client.properties
kfkclient:~
```

## Approach / Method :

- TLS (renewal of certificates)
- Check the logs, role-bindings and mapping correct ports

## Detailed Solution :

### 1. Renewal of certificates :

While I up the docker-compose first I observed the kafka-brokers are down and then I logged the each containers then I have got the ssl certificate errors .then I have checked the certificate validities and passwords and correct

paths and matched . I pointed out that error was due to certificate validity they have expired .

Then I have renewed the certificates of all brokers by using commands

### Commands :

```
keytool -keystore kafka.server.keystore.jks -alias localhost -certreq  
-file kafka-broker-new.csr
```

```
openssl x509 -req -CA ~/tasks/cp-sandbox/certs/ca-cert -CAkey  
~/tasks/cp-sandbox/certs/ca-key -in kafka-broker-new.csr -out  
kafka-broker-new-signed-cert.pem -days 365 -CAcreateserial
```

```
keytool -keystore kafka.server.keystore.jks -alias localhost -import -file  
kafka-broker-new-signed-cert.pem
```

Again then I have checked the certificates and then watched the validate the expiry date its good and updated for 365 days.

## 2. Debugging with the server port mappings and role-bindings :

After the docker-compose up I logged the kfkclient container wheather topics are created or not using this command >>

docker logs kfkclient

```
Waiting for Kafka to be ready  
Waiting for Kafka to be ready  
WARNING: Due to limitations in metric names, topics with a period ('.') or underscore ('_') could collide. To avoid issues it is best to use either, but not both.  
Created topic domestic_orders.  
WARNING: Due to limitations in metric names, topics with a period ('.') or underscore ('_') could collide. To avoid issues it is best to use either, but not both.  
Created topic international_orders.  
charan@charan:~/tasks/cp-sandbox$ docker exec -it kafka1 bash  
[appuser@kafka1 ~]$ exit  
exit
```

While I go inside the container using  
docker exec -it <container-id> bash in bash mode and tried to produce the messages to the international\_orders one warn has come and then prompted me to produce messages

```
--version          Display Kafka version.  
kfkclient:~# kafka-console-producer --broker-list kafka1:19092 --topic international_orders --producer.config /opt/client/client.properties  
>hello  
[2024-11-18 07:59:45,032] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.26.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)  
>nylqpic  
>fdff  
>dfc  
>fdf  
>fdi  
>^Z  
[2] Stopped kafka-console-producer --broker-list kafka1:19092 --topic international_orders --producer.config /opt/client/client.properties
```

But when I tried to produce messages to the domestic\_orders I have got the errors like

```
kfkclient:~# kafka-console-producer --broker-list kafka1:19092 --topic domestic_orders --producer.config /opt/client/client.properties  
>fd  
[2024-11-18 07:59:45,950] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.26.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)  
[2024-11-18 07:59:46,092] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.26.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)  
[2024-11-18 07:59:47,093] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.26.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)  
[2024-11-18 07:59:47,307] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.26.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)  
[2024-11-18 07:59:47,725] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.26.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)  
[2024-11-18 07:59:48,548] WARN [Producer clientId=console-producer] Connection to node 2 (kafka2/172.26.0.7:19093) could not be established. Broker may not be available. (org.apache.kafka.clients.NetworkClient)  
>^Z  
[3] Stopped kafka-console-producer --broker-list kafka1:19092 --topic domestic_orders --producer.config /opt/client/client.properties  
kfkclient:~#
```

I have checked the kafka2 broker server.properties and findout the miss matching ports mapping and then resolved 19093 >> 29092 and saved the server.properties

```
# listeners = PLAINTEXT://your.host.name:9092
listeners=CLIENT://:29092,BROKER://:29093,TOKEN://:29094

# Listener name, hostname and port the broker will advertise to clients.
# If not set, it uses the value for "listeners".
advertised.listeners=CLIENT://kafka2:19093,BROKER://kafka2:29093,TOKEN://kafka2:29094

# security.inter.broker.protocol=SSL
inter.broker.listener.name=BROKER
```

And added the some roles to the user for the domestic\_orders as DeveloperRead and DeveloperWrite role .

Then again run the commands I have abled to produce and consume now I am able to do those

## Conclusion :

- ☐ Renew the certificates first and check the wheather brokers are running or not
- ☐ Update the server.properties advertised.listners to set the correct ports
- ☐ Add some role bindings to the user to produce and consume messages for the domestic-orders topic