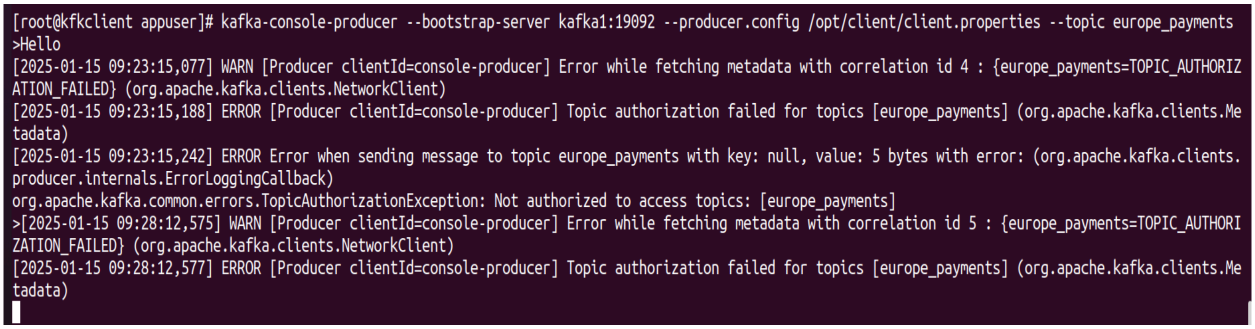
Scenario 2

The client has created a new topic called europe_payments but is unable to produce or consume message using the following commands:

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

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

When tried to produce / consume the message the following error is seen



```
[root@kfkclient appuser]# kafka-console-producer --bootstrap-server kafka1:19092 --producer.config /opt/client/client.properties --topic europe_payments
>Hello
[2025-01-15 09:23:15,077] WARN [Producer clientId=console-producer] Error while fetching metadata with correlation id 4 : {europe_payments=TOPIC_AUTHORIZATION_FAILED} (org.apache.kafka.clients.NetworkClient)
[2025-01-15 09:23:15,188] ERROR [Producer clientId=console-producer] Topic authorization failed for topics [europe_payments] (org.apache.kafka.clients.Metadata)
[2025-01-15 09:23:15,242] ERROR Error when sending message to topic europe_payments with key: null, value: 5 bytes with error: (org.apache.kafka.clients.producer.internals.ErrorLoggingCallback)
org.apache.kafka.common.errors.TopicAuthorizationException: Not authorized to access topics: [europe_payments]
>[2025-01-15 09:28:12,575] WARN [Producer clientId=console-producer] Error while fetching metadata with correlation id 5 : {europe_payments=TOPIC_AUTHORIZATION_FAILED} (org.apache.kafka.clients.NetworkClient)
[2025-01-15 09:28:12,577] ERROR [Producer clientId=console-producer] Topic authorization failed for topics [europe_payments] (org.apache.kafka.clients.Metadata)
```

Observations-

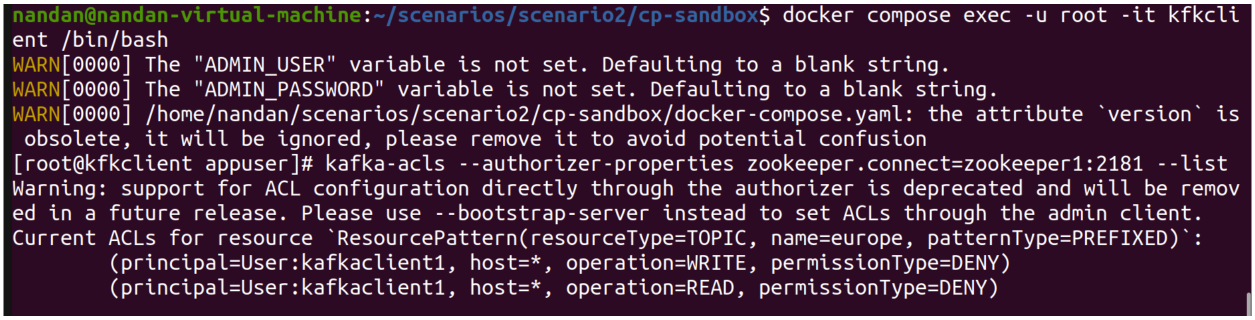
It looks like the kafka client has no authorization to read or write to the europe_payments topic.

Root cause

The kafka ACL is preventing the client from producing or consuming the messages.

Solution to debug the issue:

1. Check the current ACLs
→ kafka-acls --authorizer-properties zookeeper.connect=zookeeper1:2181 --list



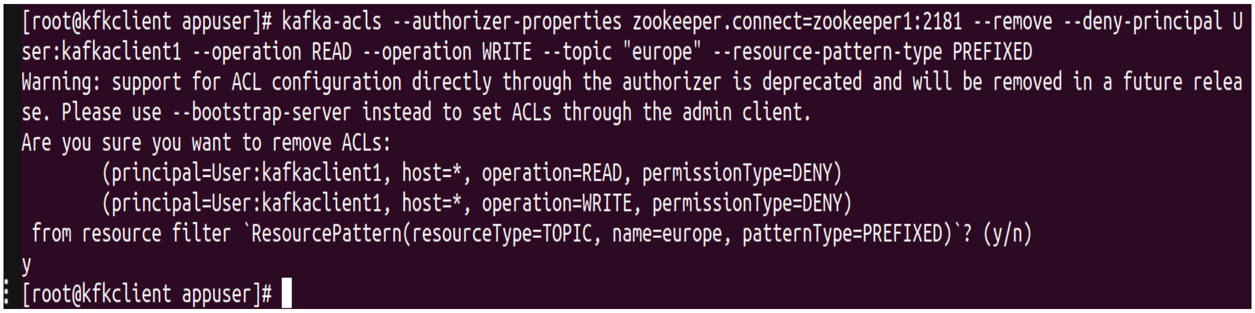
```
nandan@nandan-virtual-machine:~/scenarios/scenario2/cp-sandbox$ docker compose exec -u root -it kfkcli
ent /bin/bash
WARN[0000] The "ADMIN_USER" variable is not set. Defaulting to a blank string.
WARN[0000] The "ADMIN_PASSWORD" variable is not set. Defaulting to a blank string.
WARN[0000] /home/nandan/scenarios/scenario2/cp-sandbox/docker-compose.yaml: the attribute `version` is
 obsolete, it will be ignored, please remove it to avoid potential confusion
[root@kfkclient appuser]# kafka-acls --authorizer-properties zookeeper.connect=zookeeper1:2181 --list
Warning: support for ACL configuration directly through the authorizer is deprecated and will be remov
ed in a future release. Please use --bootstrap-server instead to set ACLs through the admin client.
Current ACLs for resource `ResourcePattern(resourceType=TOPIC, name=europe, patternType=PREFIXED)`:
        (principal=User:kafkaclient1, host=*, operation=WRITE, permissionType=DENY)
        (principal=User:kafkaclient1, host=*, operation=READ, permissionType=DENY)
```

Observations-

It is observed that the user kafkaclient1 has no READ/WRITE permissions for the topic that has a prefix “europe” and hence it is denying access to READ/WRITE operations to the topic europe_payments

2. Delete the ACLs that is preventing the kafkaclient1 user from reading/writing

→kafka-acls --authorizer-properties zookeeper.connect=zookeeper1:2181 --remove --deny-principal User:kafkaclient1 --operation READ --operation WRITE --topic "europe" --resource-pattern-type PREFIXED



```
[root@kfkclient appuser]# kafka-acls --authorizer-properties zookeeper.connect=zookeeper1:2181 --remove --deny-principal U
ser:kafkaclient1 --operation READ --operation WRITE --topic "europe" --resource-pattern-type PREFIXED
Warning: support for ACL configuration directly through the authorizer is deprecated and will be removed in a future relea
se. Please use --bootstrap-server instead to set ACLs through the admin client.
Are you sure you want to remove ACLs:
        (principal=User:kafkaclient1, host=*, operation=READ, permissionType=DENY)
        (principal=User:kafkaclient1, host=*, operation=WRITE, permissionType=DENY)
 from resource filter `ResourcePattern(resourceType=TOPIC, name=europe, patternType=PREFIXED)`? (y/n)
y
[root@kfkclient appuser]#
```

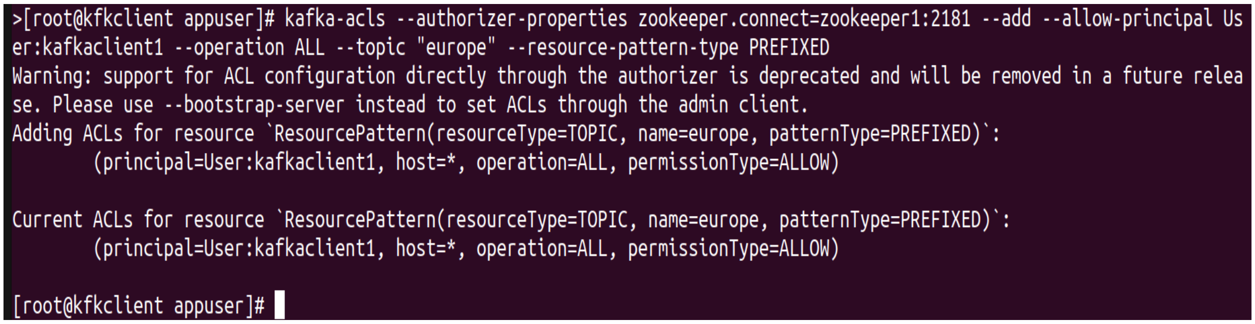
Observations-

Now that the ACLs for kafkaclient1 has been removed, we can try to access the topic and test it.

3. Add the ACL for kafkaclient1 for the topic prefixed with “europe” and with permission to perform all operations.

(Since the allow.everyone.if.no.acl.found is false, it is required to add ACL to securely access the topic)

→ kafka-acls --authorizer-properties zookeeper.connect=zookeeper1:2181 --add --allow-principal User:kafkaclient1 --operation ALL --topic "europe" --resource-pattern-type PREFIXED



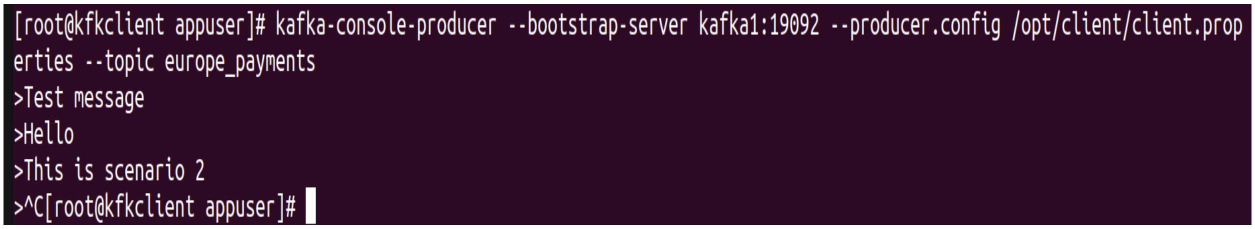
```
>[root@kfkclient appuser]# kafka-acls --authorizer-properties zookeeper.connect=zookeeper1:2181 --add --allow-principal Us
er:kafkaclient1 --operation ALL --topic "europe" --resource-pattern-type PREFIXED
Warning: support for ACL configuration directly through the authorizer is deprecated and will be removed in a future relea
se. Please use --bootstrap-server instead to set ACLs through the admin client.
Adding ACLs for resource `ResourcePattern(resourceType=TOPIC, name=europe, patternType=PREFIXED)`:
        (principal=User:kafkaclient1, host=*, operation=ALL, permissionType=ALLOW)

Current ACLs for resource `ResourcePattern(resourceType=TOPIC, name=europe, patternType=PREFIXED)`:
        (principal=User:kafkaclient1, host=*, operation=ALL, permissionType=ALLOW)

[root@kfkclient appuser]#
```

Observations-

Successfully created the permissions for kafkaclient1 to perform all operations.

Test it by producing some messages into the europe_payments topic

→ kafka-console-producer --bootstrap-server kafka1:19092 --producer.config /opt/client/client.properties --topic europe_payments



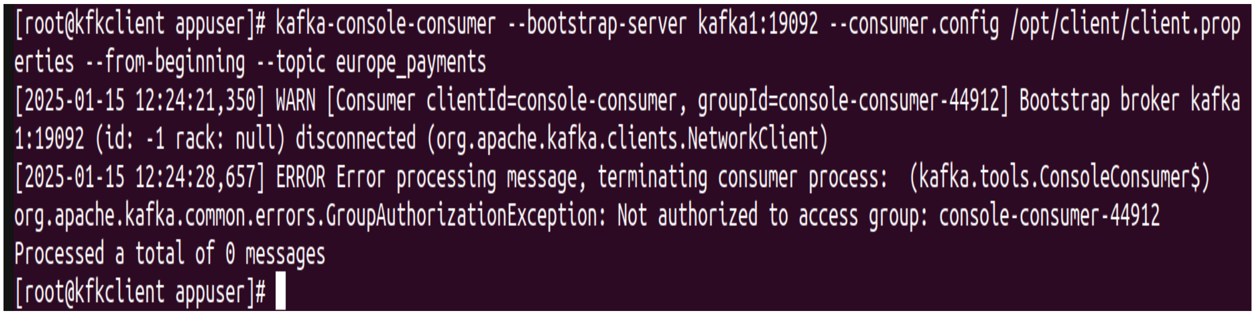
```
[root@kfkclient appuser]# kafka-console-producer --bootstrap-server kafka1:19092 --producer.config /opt/client/client.prop
erties --topic europe_payments
>Test message
>Hello
>This is scenario 2
>^C[root@kfkclient appuser]#
```

Observations-

Successfully able to publish the message into the topic europe_payments

Now, try to consume the published messages

→ kafka-console-consumer --bootstrap-server kafka1:19092 --consumer.config /opt/client/client.properties --from-beginning --topic europe_payments



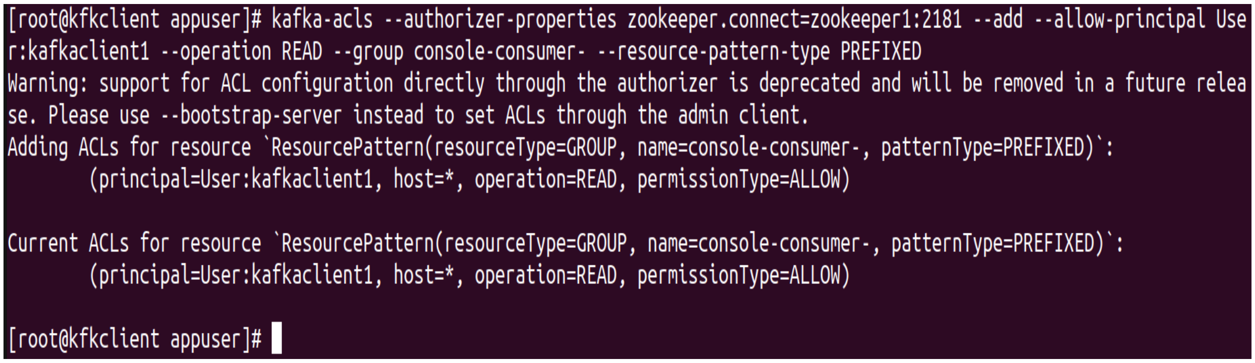
```
[root@kfkclient appuser]# kafka-console-consumer --bootstrap-server kafka1:19092 --consumer.config /opt/client/client.prop
erties --from-beginning --topic europe_payments
[2025-01-15 12:24:21,350] WARN [Consumer clientId=console-consumer, groupId=console-consumer-44912] Bootstrap broker kafka
1:19092 (id: -1 rack: null) disconnected (org.apache.kafka.clients.NetworkClient)
[2025-01-15 12:24:28,657] ERROR Error processing message, terminating consumer process:  (kafka.tools.ConsoleConsumer$)
org.apache.kafka.common.errors.GroupAuthorizationException: Not authorized to access group: console-consumer-44912
Processed a total of 0 messages
[root@kfkclient appuser]#
```

Observations-

Unable to consume messages that are published earlier because it is unable to consume from the consumer group, since the consumer group changes constantly, we can overcome this by giving the client by consuming from any consumer group.

4. Give access for the client to consume messages from any consumer group

→ **kafka-acls --authorizer-properties zookeeper.connect=zookeeper1:2181 --add --allow-principal User:kafkaclient1 --operation READ --group console-consumer- --resource-pattern-type PREFIXED**



```
[root@kfkclient appuser]# kafka-acls --authorizer-properties zookeeper.connect=zookeeper1:2181 --add --allow-principal Use
r:kafkaclient1 --operation READ --group console-consumer- --resource-pattern-type PREFIXED
Warning: support for ACL configuration directly through the authorizer is deprecated and will be removed in a future relea
se. Please use --bootstrap-server instead to set ACLs through the admin client.
Adding ACLs for resource `ResourcePattern(resourceType=GROUP, name=console-consumer-, patternType=PREFIXED)`:
        (principal=User:kafkaclient1, host=*, operation=READ, permissionType=ALLOW)

Current ACLs for resource `ResourcePattern(resourceType=GROUP, name=console-consumer-, patternType=PREFIXED)`:
        (principal=User:kafkaclient1, host=*, operation=READ, permissionType=ALLOW)

[root@kfkclient appuser]# █
```

Observations-

Successfully added the ACL for the user clientkafka1 to consume messages from the consumer groups that are automatically created with the prefix "**console-consumer**"

Now, lets try to consume the messages that are produced earlier

→ **kafka-console-consumer --bootstrap-server kafka1:19092 --consumer.config /opt/client/client.properties --from-beginning --topic europe_payments**

Conclusion

￼ Since the ACLs were preventing the producer from producing the messages into the topic prefixed with "europe" hence delete the existing ACL and add a new ACL to produce message into the topic prefix with "europe" since **"allow.everyone.if.no.acl.found"** is **false**, it is required to create a new ACL with the necessary permissions to produce and consume messages into the topic prefixed with "europe" and another ACL was preventing the consumer from consuming, since the consumer groups will be automatically generated by default if not created and assigned from the user. Hence, to overcome this, create a new ACL to consume from the automatically created consumer groups which will have the prefix "**console-consumer-**"