**Day 33:**

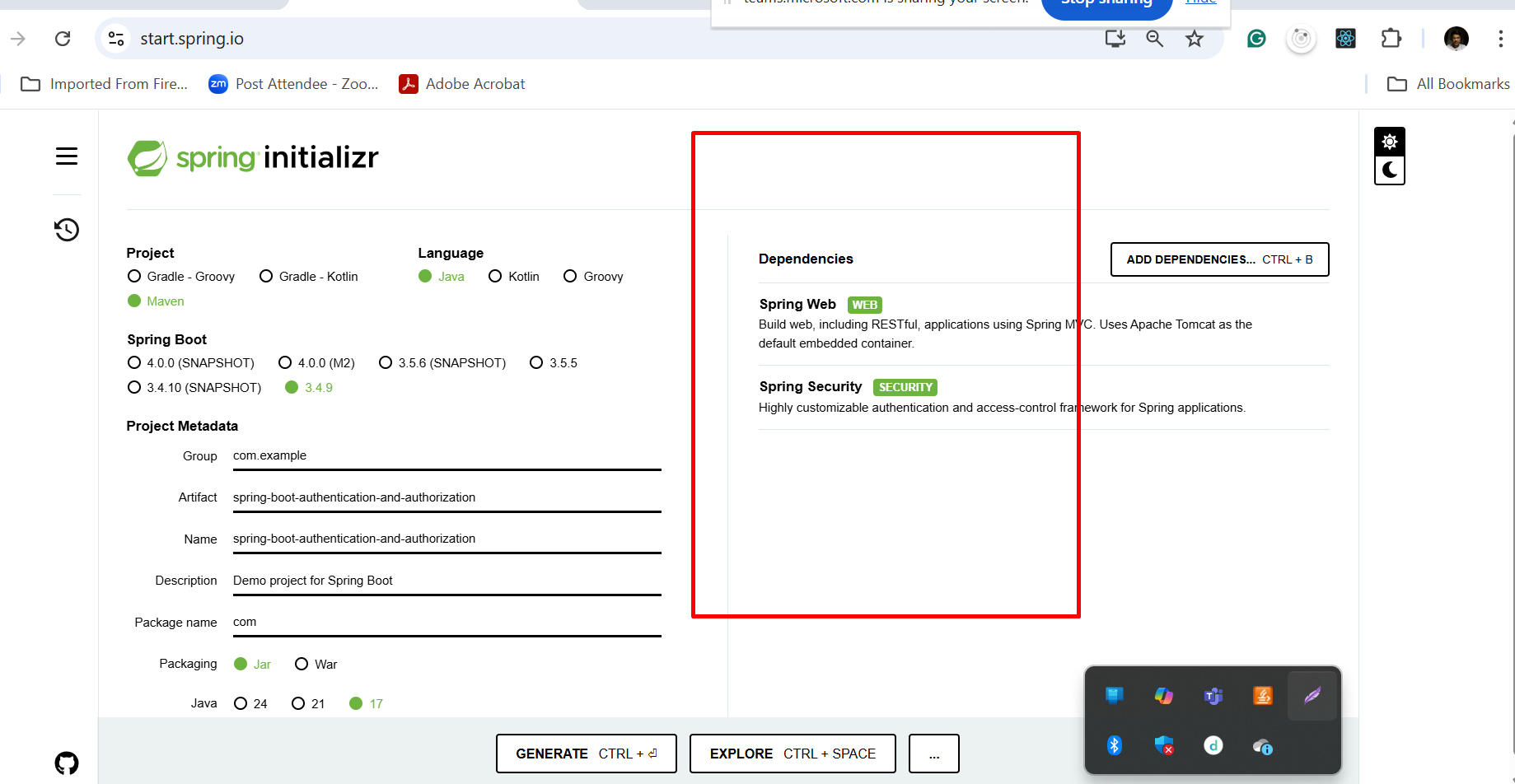
**Spring Security :**

**Creating rest api with authentication and authorization.**

PublicController -🡪 these rest api we can access without authentication

UserController -🡪 these rest api we can access after with authentication with role as USER.it can access public controller.

AdminController 🡪 These ret api we can access after with authentication with role as Admin. Admin can access user controller as well as public controller



**Message System**

Message system is to transfer the message from one application to another application. Generally to transfer the message we use MOM. Message Oriented Middleware application or tool or product.

Message can be any format ie byte format, stream format, character format , object format, json format, xml format etc.

Every DAD must be know MOM.

Distributed Application Developer must be known Message Oriented Middleware.

JMS : Java Message Service : it is a part of JEE.

MQ : message queue

Rabit MQ

Apache Kafka

Etc.

In Messaging we use 2 concept to share the data.

1. P2P : Point to Point communication Queue 1 to 1
2. PubAndSub : Publisher and Subscriber Topic

Queue and topic is like container which hold the data for temporary purpose. 1 to many

Limitation of Web Service

1. In Web Service both the application must be type of web application.
2. Both the application running at that point of time.
3. Web Service use file system or database system to store the data.

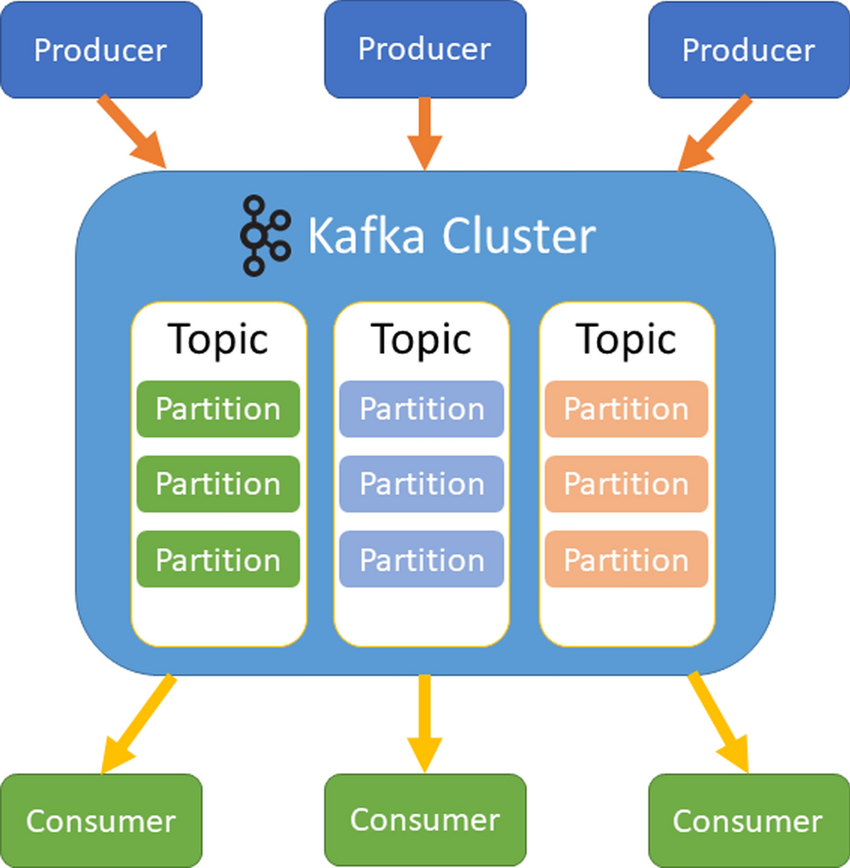
MOM

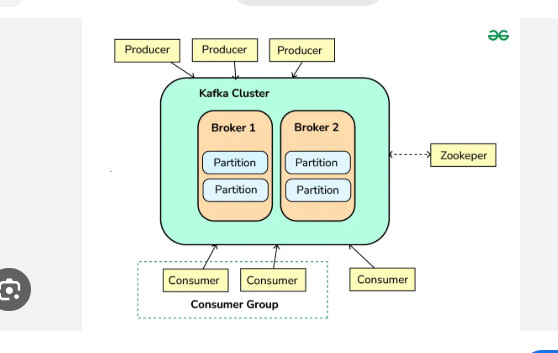
App1 App2

1. Both the application can be web or non web.
2. Any app1 or app2 can down.
3. App1 or App2 send the message of any type to MOM product. The application which send the message are producer. They can produce any of data.
4. App1 or App2 receive the data from MOM product.

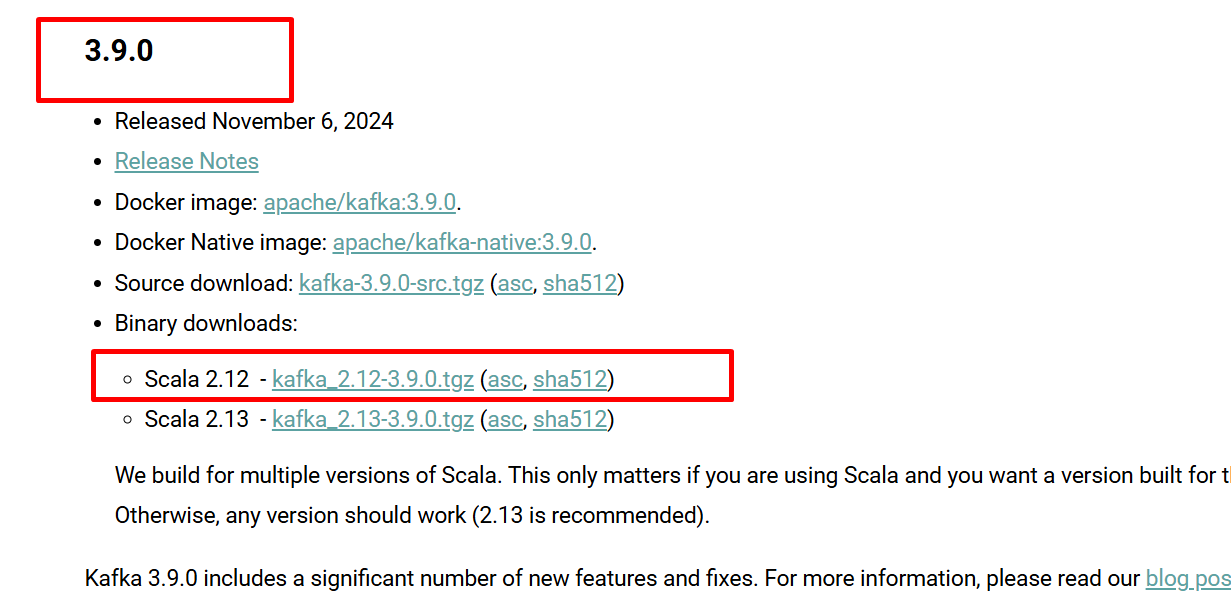
Apache Kafka : Apache Kafka is an open source software platform provided by Apache organization. Apache Kafka internally use Java and Scala language. Apache Kafka mainly use distributed message concept using pub and sub.

In Apache Kafka data is very huge, zero fault tolerance, Apache Kafka use stream concept to share data between one application to another application. It use sharing the data between one application to another application in asynchronous manner.





<https://kafka.apache.org/downloads>

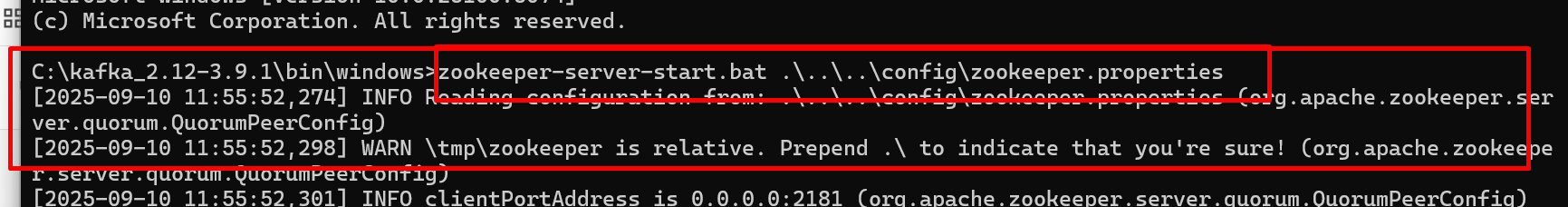


Open the command prompt inside a window folder of Apache Kafka server and run below command

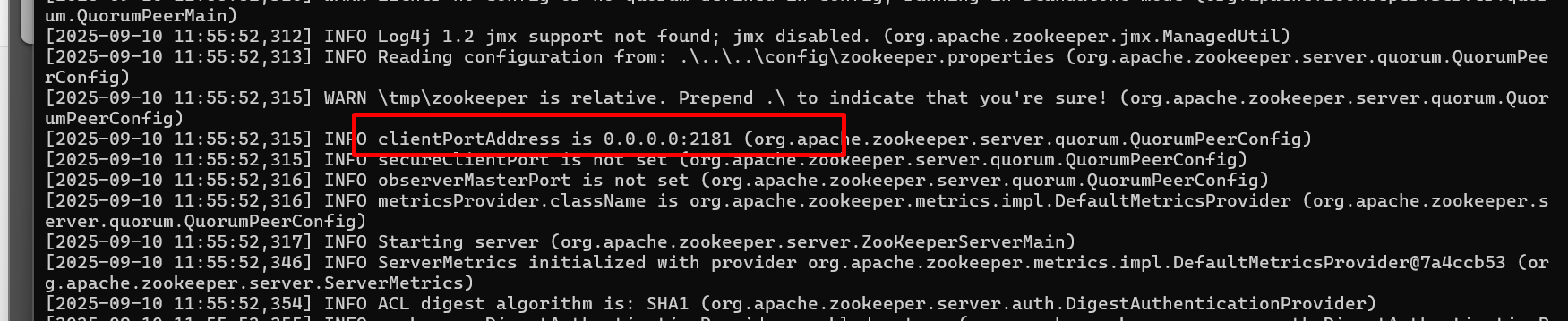
Role of zookeeper is maintain Apache Kafka cluster environment

Below command is use to run the zookeeper

zookeeper-server-start.bat .\..\..\config\zookeeper.properties



It run on default port number 2181.

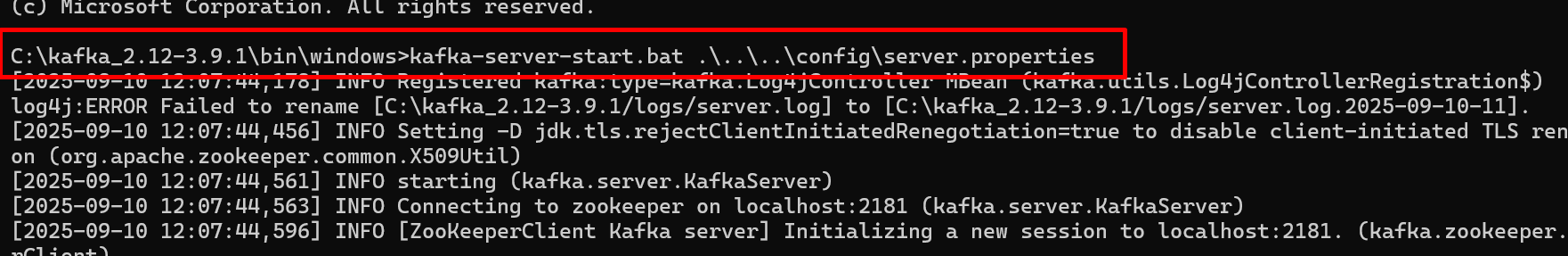


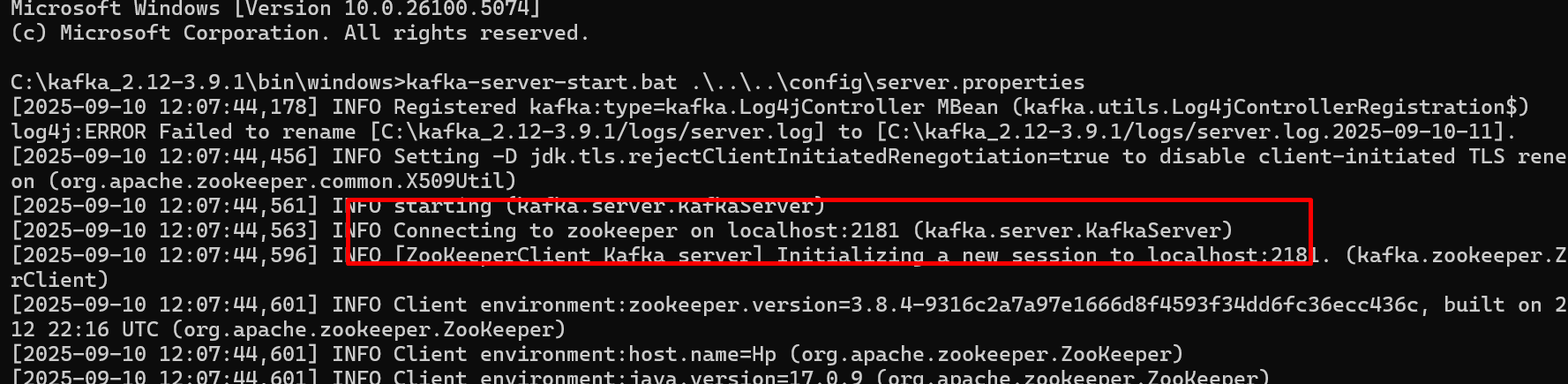
Now we need to start Apache Kafka Server

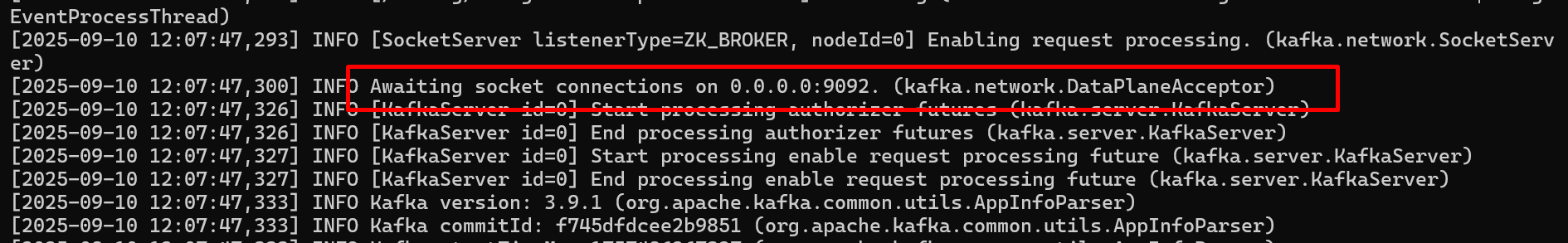
Open another command prompt

Run this command inside a window folder.

kafka-server-start.bat .\..\..\config\server.properties







Apache Kafka Server run on port number 9092

Producer : A producer is a program using any language which connect to Apache Kafka server using hostname (localhost) with port number. It is use to send the any of data.

Consumer : A consumer is a program using any language which connect to Apache Kafka server using hostname(localhost) with port number. It is use to receive the message. We can run many consumer application

Topic: Topic is a type of container which hold the messages. Topic can split the message into n number partition for stability.

Broker : Insider Apache Kafka Server we can run more than one broker. Broker is responsible to hold more than one topic.

Zookeeper : it is a type service or server responsible to maintain the Apace Kafka cluster environment and broker file.