Demo 2:Multiple Zookeeper and Kafka Demo

- ➢ **To run multiple Zookeeper at same time:-**
  - ○ Ensure that you have downloaded and extracted the ZooKeeper binary distribution on your Windows machine.
  - ○ **Configure ZooKeeper:**
    - ■ Create multiple ZooKeeper configuration files, such as zookeeper 1.properties, zookeeper 2.properties, etc., by copying the default zookeeper.properties file.

    - ■ Modify the dataDir property in each configuration file to specify different data directories for each ZooKeeper instance.

  - ○ Modify the clientPort property to specify unique client ports for each instance.

  - ○ Optionally, modify other properties like tickTime, initLimit, syncLimit, etc., if desired.
    - ■ **tickTime=2000**
    - ■ **initLimit=5**
    - ■ **syncLimit=2**
    - ■ **Start ZooKeeper:**
  - ○ Open multiple command prompt or terminal windows.
  - ○ In each window, navigate to the Kafka installation directory.
  - ○ Run the following command for each ZooKeeper instance, replacing zookeeper 1.properties, zookeeper 2.properties, etc., with the respective configuration file names:
    - ■ **bin\windows\zookeeper-server-start.bat config\zookeeper1.properties**
  - ○ **Configure Kafka:**
    - ■ Create multiple Kafka server properties files, such as server1.properties, server2.properties, etc., by copying the default server.properties file.
    - ■ Modify the following properties in each configuration file:
    - ■ broker.id: Set a unique ID for each Kafka broker.

- listeners: Specify unique listener configurations (host:port) for each instance.
  - **server.1=localhost:2888:3888**
  - **server.2=localhost:2889:3889**
  - **server.3=localhost:2890:3890**
- log.dirs: Set different data directories for each instance.
- zookeeper.connect: Specify the connection string with multiple ZooKeeper addresses.
- **Start Kafka:**
- In separate command prompt or terminal windows, navigate to the Kafka installation directory.
- Run the following command for each Kafka instance, replacing server1.properties, server2.properties, etc., with the respective configuration file names:
  - **bin\windows\kafka-server-start.bat config\server1.properties**

- **Create a topic:**
- In a new command prompt or terminal window, navigate to the Kafka installation directory.
- Run the following command to create a topic, replacing <topic-name>, <replication-factor>, and <num-partitions> with your desired values:
  - **bin\windows\kafka-topics.bat --create --topic <topic-name> --replication-factor <replication-factor> --partitions <num-partitions> --bootstrap-server localhost:9092**

- ○ **Produce and consume messages:**
  - ■ In separate command prompt or terminal windows, navigate to the Kafka installation directory.
  - ■ To produce messages, run the following command, replacing <topic-name> with the topic you created:

  - ■ **bin\windows\kafka-console-producer.bat --topic <topic-name> --bootstrap-server localhost:9092**

```
C:\kafka>.\bin\windows\kafka-console-producer.bat --broker-list localhost:9092 --topic test-topic-replicated
>Hi
```

  - ■ To consume messages, run the following command, replacing <topic-name> with the topic you created:

  - ■ **bin\windows\kafka-console-consumer.bat --topic <topic-name> --bootstrap-server localhost:9092**

```
C:\kafka>.\bin\windows\kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic test-topic-replicated --from
-beginning
Hi
```