Date : 26-May-21
Spring Boot 9AM
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Reference Document:- https://kafka.apache.org/quickstart

Apache Kafka

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*)Serialization:-
It is a process of converting Java Object to network understandable format.

=> Producer can be java application, but consumer may be non-java application.
In that case we should able to send/read data in Global Formats.
Like String(plain text), JSON, XML..etc

Object ----> N/w Format,File System

*) Deserialization : Converting Response data(n/w data) into Java Object Format.

N/w Format ---> Object.

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*) Default Format is String only. JSON/XML/char[]/..etc

String--main method, Properties, Scanner/Buffered Reader, HTML Form Input.

```
String sid =  request.getParameter("sid");
int id = Integer.parseInt(sid);
```

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*) Data is sent or received in K=V Format.
Here K=TopicName, V=Data

*) Data is stored inside Topic Section, every topic is identified using one name(topicName=Key).

*) Topic data is stored as partitions (default 1). Every partition contains one index number called as 'offset'.

*) Partitions are created by Kafka S/w only. But no.of Partitions must be provided by programmer only while creating topic.

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(Commands)==========

1. Download
Goto : https://kafka.apache.org/downloads
Click on Link : Scala 2.12 - kafka_2.12-2.8.0.tgz
Choose one Link :
https://apachemirror.wuchna.com/kafka/2.8.0/kafka_2.12-2.8.0.tgz

2. Extract to folder : kafka_2.12-2.8.0

```
    kafka_2.12-2.8.0
      |--bin
      |   |-windows
             |-zookeeper-server-start.bat
             |-kafka-server-start.bat
             |-kafka-topics.bat
             |-kafka-console-producer.bat
             |-kafka-console-consumer.bat

      |-config
         |- zookeeper.properties
         |- server.properties
```

3. Copy Folder to root directory/ C: Drive
> Open command location
   cmd> cd C:\kafka_2.12-2.8.0
   C:\kafka_2.12-2.8.0>

*) Note : to indicate current location we use .\ (dot slash)

 a. Zookeeper
  cmd> .\bin\windows\zookeeper-server-start.bat
.\config\zookeeper.properties

 b. Kafka Server
 cmd> .\bin\windows\kafka-server-start.bat .\config\server.properties

 c. Create Topics [name, partitions, replication factor, to zookeeper]
 cmd> .\bin\windows\kafka-topics.bat --create --zookeeper
localhost:2181 --replication-factor 1 --partitions 1 --topic nitone

 d. Producer (Console based)
 cmd> .\bin\windows\kafka-console-producer.bat --bootstrap-server
localhost:9092 --topic nitone

 e. Consumer (Console based)
 cmd> .\bin\windows\kafka-console-consumer.bat --bootstrap-server
localhost:9092 --topic nitone --from-beginning

*) We have to define one application for producer and consumer
services.
*) To create a topic inputs are:
  topicName   : A Name given to Topic(Key)
  replication factor   : No.of Copies to be created for Given one
message
  partitions   : No.of Parts need to be created for given
message
  Zookeeper details   : Zookeeper creates topic with given details.

*) zookeeper runs on port number 2181,check inside
config/zookeeper.properties
*) Kafka Server with Zookeeper (Full setup) runs on
    port number 9092
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For Linux or unix based OS

a. Zookeeper
sh> .\bin\zookeeper-server-start.bat .\config\zookeeper.properties

b. Kafka Server
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c. Create Topics [name, partitions, replication factor, to zookeeper]
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