**KAFKA TUTORIAL**

It is a distributed streaming platform which allows the producers to send stream of events to the brokers and the consumers can receive the events.

With kafka we can develop real time event driven application.

It is fault tolerant and highly scalable.

**What is Kafka?**

Apache Kafka is a open source distributed even streaming platform .

**Event streaming**-> creating real-time stream; processing real-time stream

**Creating real-time stream🡪** sending data at the same time from the same application by million user to the kafka.

Once kafka receives the data it has to process the data .

**Processing real-time stream🡪**After receiving the data it has to validated or processed this is called processing real-time stream of events.

**Distributed🡪**in microservices distributed means distribute multiple computers to balance the load so that if one server goes down another server will come and pickup the load so that we can avoid the downtime.

**Why do we need kafka?**

Consider two application A and B .When we want to send data from one application to another. And one is up and running and another one is not. The data will be sent from A but B can’t able to receive the data as it is not running.

To overcome this we need a message system to store the data and distribute the data when the application is up.

There are many message systems available like kafka, rabbit mq and redis. To store the data and release when another application comes online.

**Kafka Components:**

Producer🡪it is the source of data or it will publish the message or event

Consumer🡪it act as a receiver for consuming or receiving the messages

Broker🡪it will act as a intermediate message exchange entity between the producer and consumer.

Cluster🡪it is a group of brokers or server. Which will help to handle the incoming load.

Topic 🡪each incoming message to the broker will be placed specific for easy access by the consumer

Partitions🡪

Offsets

Consumer groups

Zookeeper