



What is Kafka ?

Apache Kafka is a **distributed streaming platform** used for building real-time data pipelines and applications, acting as a high-throughput, low-latency platform for handling real-time data feeds.

What is DLT ?

DLT stands for Dead Letter Topic, means If a message is not able to consume by consumer it send to DLT.

Modules

Name	Description
Producer	Publish a Message/Events
Consumer	Consuming a Message/Events
Broker	Distributed System (Available in multiple servers)
Cluster	Kafka Server
Topic	Like Queue
Partitions	Splitting a Topic into multiple Partitions.
Offset	Index of the Messages called Offset number.
Consumer Groups	Grouping the Consumers.
Zookeeper	Managing a Kafka

Elaborated:-

Producer	An application that publishes data (messages) to Kafka topics. It optimizes, serializes, and balances messages across partitions.
Consumer	An application that subscribes to Kafka topics and reads messages from partitions, typically within a consumer group.
Broker	A Kafka server that manages message storage and handles read/write requests. Brokers work together to form a Kafka cluster.
Topic	A logical channel that organizes messages. Producers write to topics, and consumers subscribe to them.
Partition	A sub-division of a topic that enables parallel processing. Each partition is replicated across brokers for fault tolerance.

Producer	An application that publishes data (messages) to Kafka topics. It optimizes, serializes, and balances messages across partitions.
ZooKeeper / KRaft	Coordinates and manages Kafka brokers and clusters, ensuring fault tolerance and leader elections for partitions.
Replication	Ensures copies of partitions are maintained across different brokers to enhance fault tolerance and availability.
Consumer Group	A group of consumers sharing the workload of processing messages from partitions of a topic, ensuring parallelism.
Leader	The broker responsible for handling all reads and writes for a partition. Each partition has one leader at any time.
Follower	Brokers that replicate data from the leader broker for redundancy and failover purposes.