

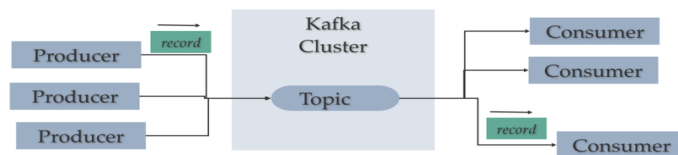
## Kafka:

Kafka consists of records, topics, consumers, producers, brokers, logs, partitions, and clusters. Records can have keys (optional), values, and timestamps. Kafka records are immutable. A Kafka Topic is a stream of records ("/orders", "/user-signups"). You can think of a topic as a feed name. A topic has a log which is the topic's storage on disk. A topic log is broken up into partitions and segments. The Kafka Producer API is used to produce streams of data records. The Kafka Consumer API is used to consume a stream of records from Kafka. A broker is a Kafka server that runs in a Kafka cluster. Kafka brokers form a cluster. The Kafka cluster consists of many Kafka brokers on many servers. Broker sometimes refer to more of a logical system or as Kafka as a whole.

### Kafka Producer, Consumer, Topic Details:

Kafka producers write to Topics. Kafka consumers read from Topics. A topic is associated with a log which is data structure on disk. Kafka appends records from a producer(s) to the end of a topic log. A topic log consists of many partitions that are spread over multiple files which can be spread on multiple Kafka cluster nodes. Consumers read from Kafka topics at their cadence and can pick where they are (offset) in the topic log. Each consumer group tracks offset from where they left off reading. Kafka distributes topic log partitions on different nodes in a cluster for high performance with horizontal scalability. Spreading partitions aids in writing data quickly. Topic log partitions are Kafka way to shard reads and writes to the topic log. Also, partitions are needed to have multiple consumers in a consumer group work at the same time. Kafka replicates partitions to many nodes to provide failover.

### Kafka: Topics, Producers, and Consumers



In order to write a consumer, this [link](#) is useful.