### Kafka Notes **Core Concepts:**

| **Concept** | **Description** |
| --- | --- |
| **Producer** | Sends messages (events) to a Kafka **topic** |
| **Consumer** | Subscribes to topics and processes messages |
| **Topic** | A logical channel (like a folder) to which messages are sent |
| **Partition** | Topics are split into partitions to enable parallelism |
| **Offset** | The position of a message within a partition |
| **Consumer Group** | A group of consumers where each message is consumed by only one member in the group |

**Key Kafka Properties:**

* **Durability**: Messages are persisted to disk.
* **Scalability**: Multiple producers/consumers and partitions.
* **Fault-tolerance**: Brokers replicate partitions.

**Example:**

A topic named order-events with 3 partitions can have multiple producers sending events and consumers reading them in parallel.