<https://dzone.com/articles/kafka-topic-architecture-replication-failover-and>

### Kafka Topic Partition Replication

Kafka can replicate partitions across a configurable number of Kafka servers which is used for fault tolerance. Each partition has a leader server and zero or more follower servers. Leaders handle all read and write requests for a partition.  
Followers replicate leaders and take over if the leader dies. Kafka uses also uses partitions for parallel consumer handling within a group. Kafka distributes topic log partitions over servers in the Kafka cluster. Each server handles its share of data and requests by sharing partition leadership.

## Replication: Kafka Partition Leaders, Followers, and ISRs

Kafka chooses one broker’s partition’s replicas as leader using ZooKeeper.  
The broker that has the partition leader handles all reads and writes of records for the partition. Kafka replicates writes to the leader partition to followers (node/partition pair). A follower that is in-sync is called an ISR (in-sync replica). If a partition leader fails, Kafka chooses a new ISR as the new leader.

## Replicating to Partition 0

