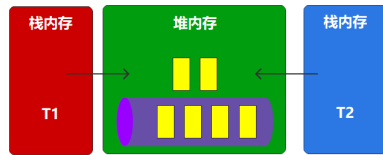
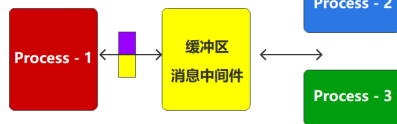
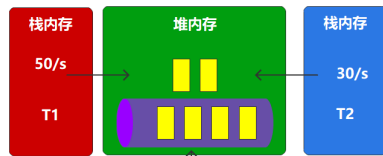
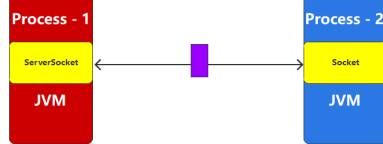


### 线程和线程之间的数据交互



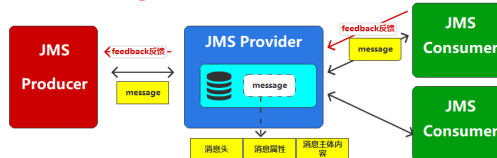
### 进程和进程之间的数据交互



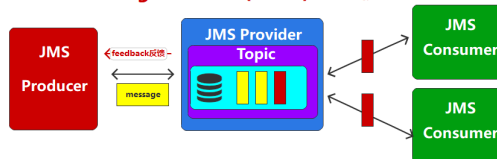
### Java Message Service ( JMS ) MQ软件



### Java Message Service ( JMS ) P2P模型

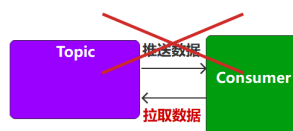
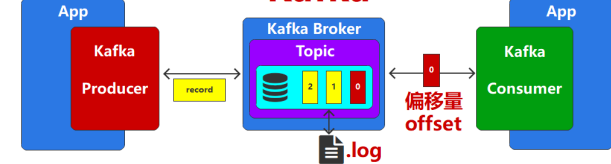


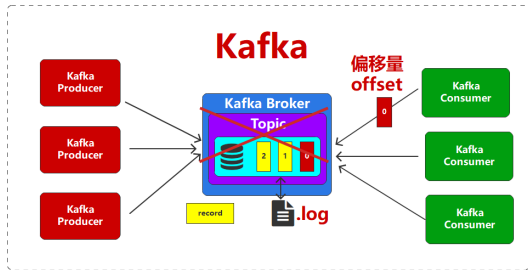
### Java Message Service ( JMS ) PS模型



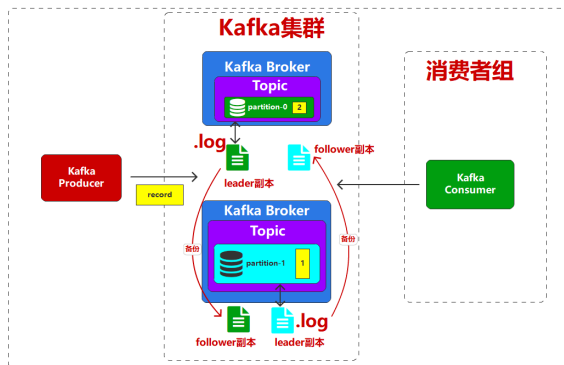
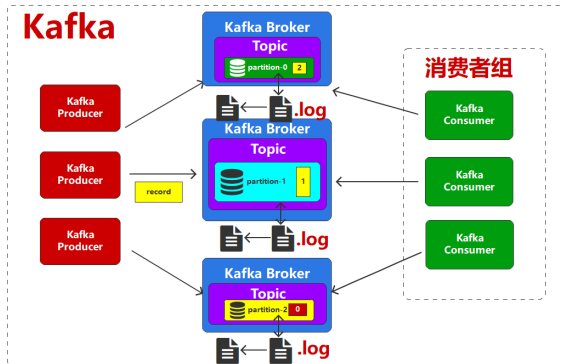
RabbitMQ, ActiveMQ, RocketMQ, Kafka

## Kafka





横向扩展 纵向扩展



为了数据可靠性，可以将数据文件进行备份，但是Kafka没有备份的概念

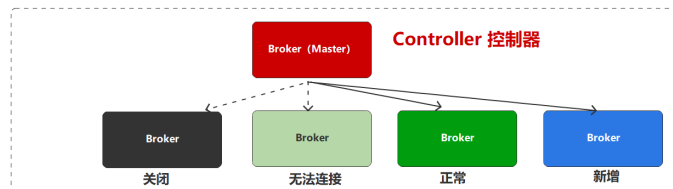
Kafka中称之为副本，多个副本同时只能有一个提供数据的读写操作，其他副本只是用于备份

具有读写能力的副本称之为Leader副本，作为备份的副本称之为Follower副本

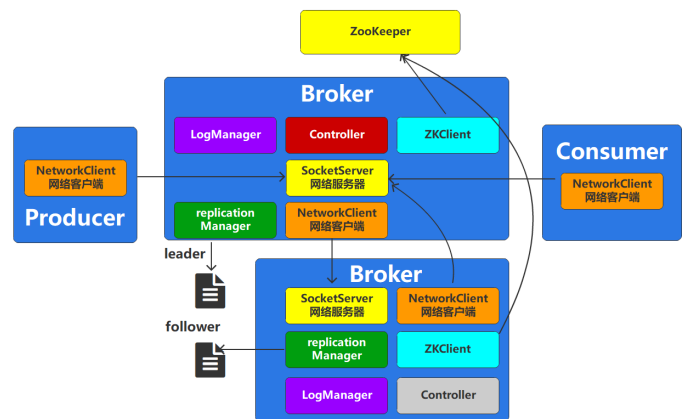
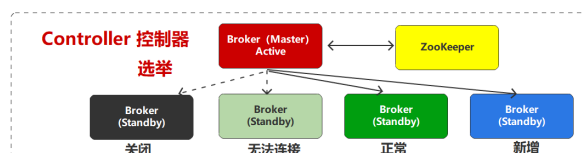
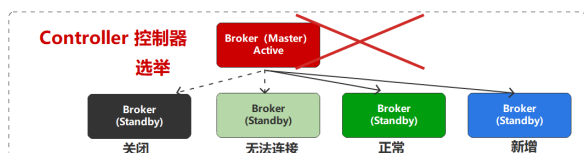
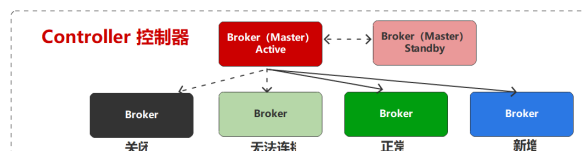
Broker：服务节点（集群）

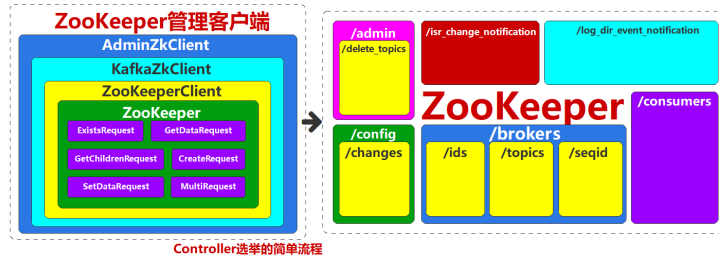
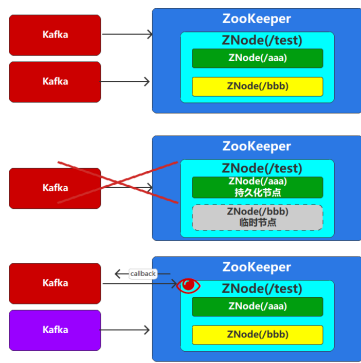
Partition：分区（编号）

副本：Leader和Follower

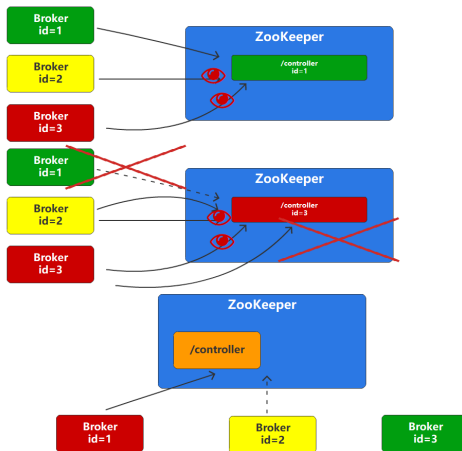


给管理者增加备份

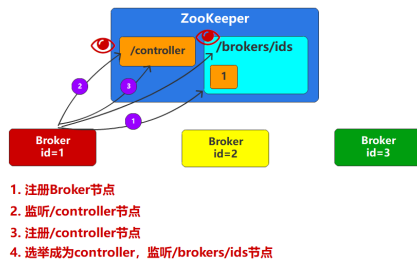




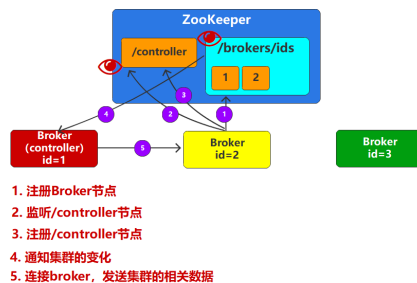
Controller选举的简单流程



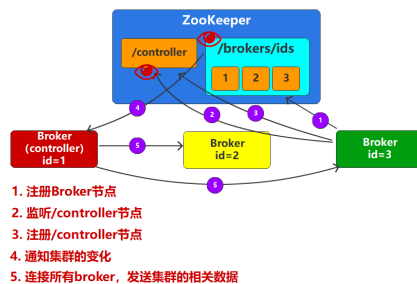
第一个Broker启动的流程



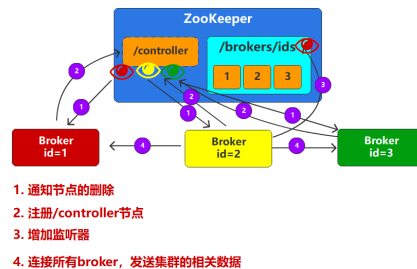
第二个Broker启动的流程



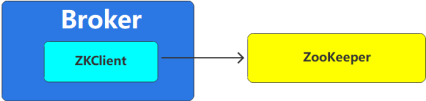
第三个Broker启动的流程



controller节点删除的情况

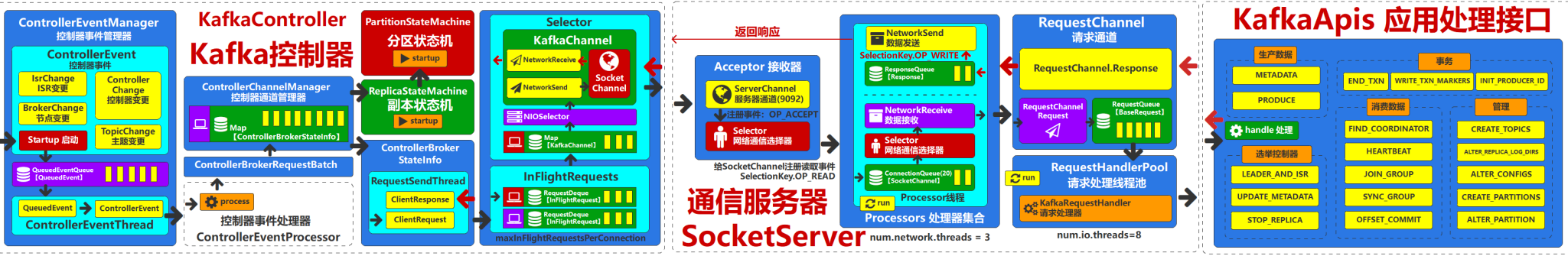


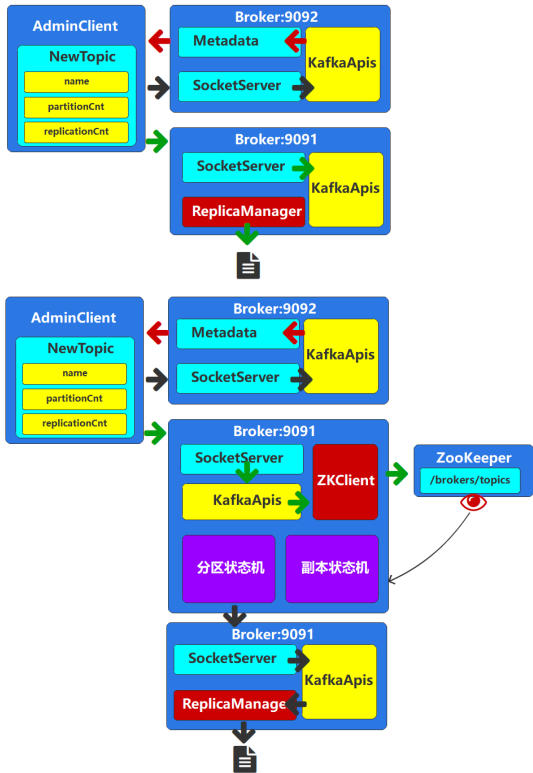
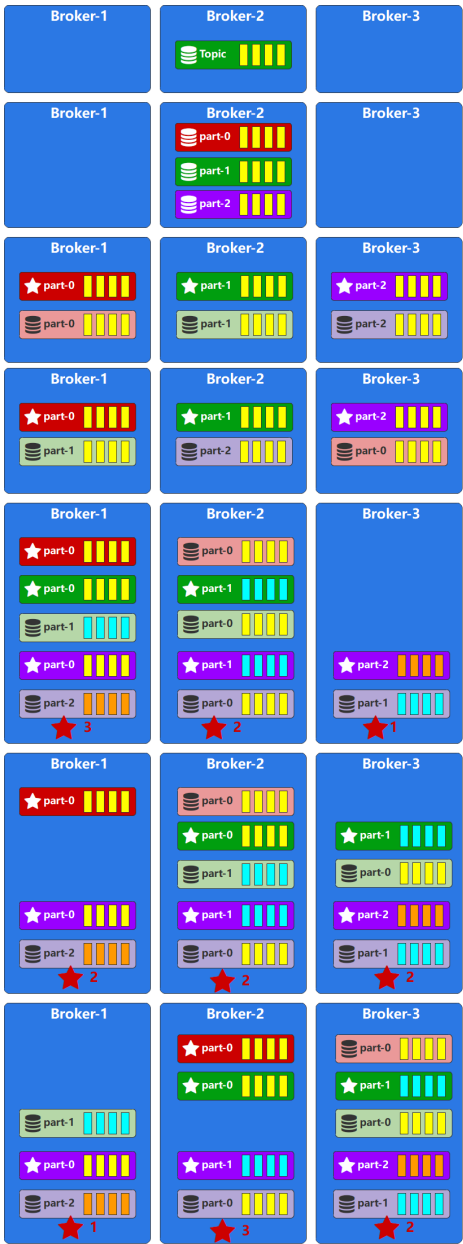
第一个部分就是broker和ZooKeeper之间的通信



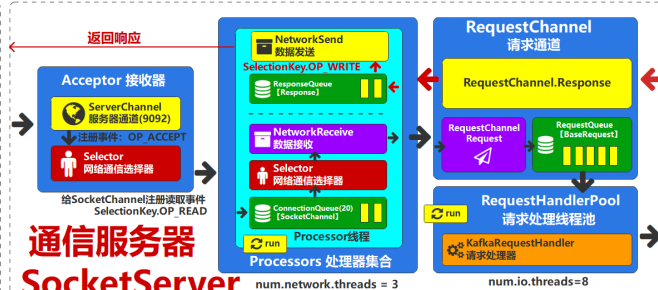
第一个部分就是controller和Broker之间的通信

JDK1.4 NIO : Channel, Buffer, Selector, SelectionKey

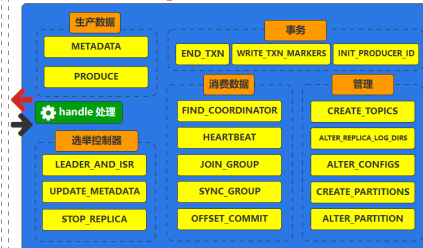




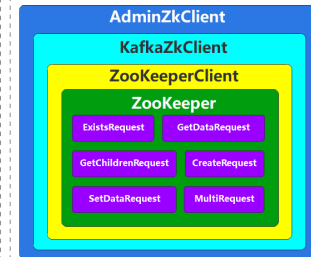
## Admin 管理员对象

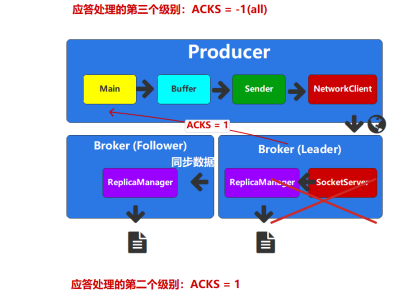
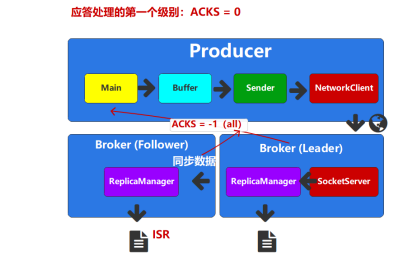
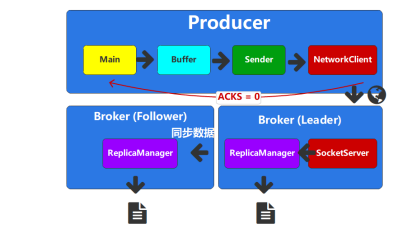
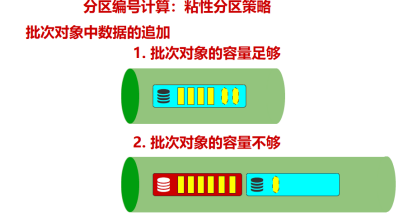
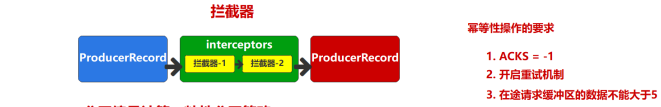
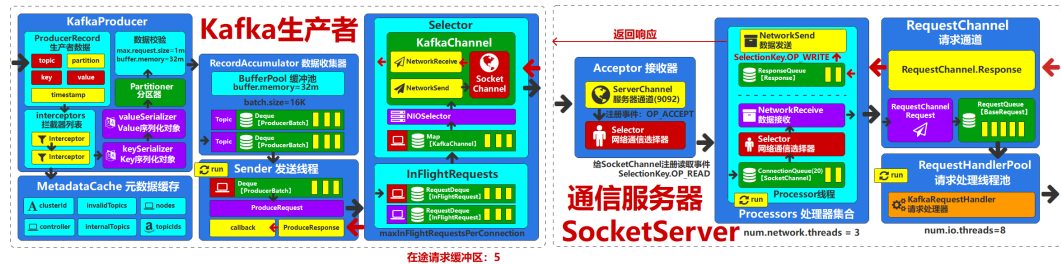


## KafkaApis 应用处理接口

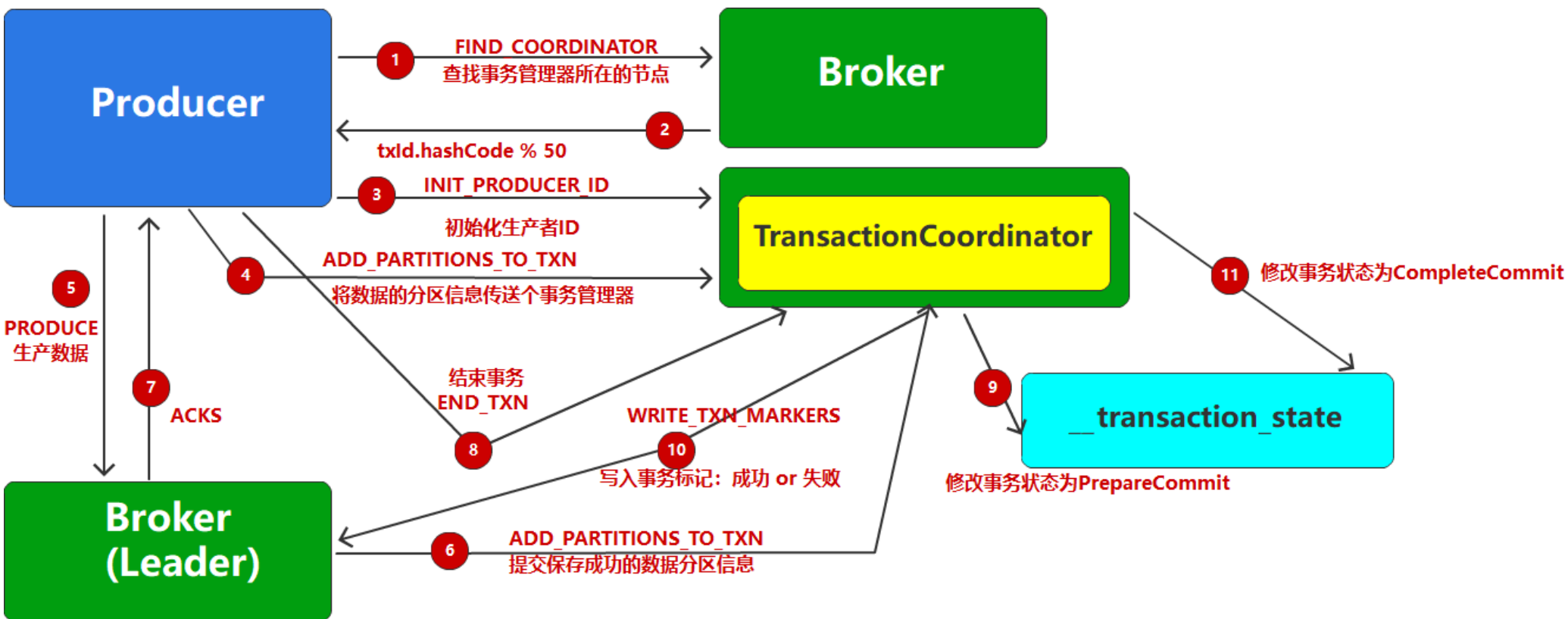


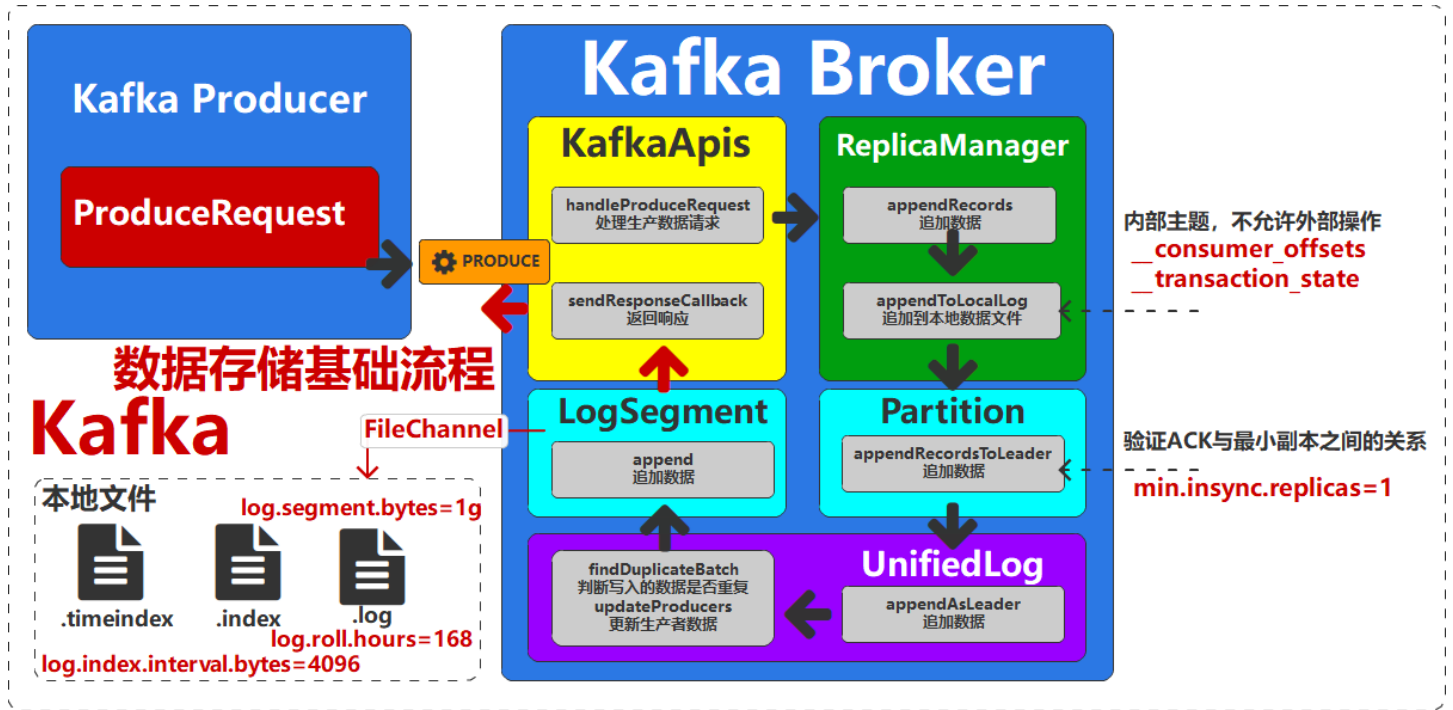
## ZooKeeper管理客户端



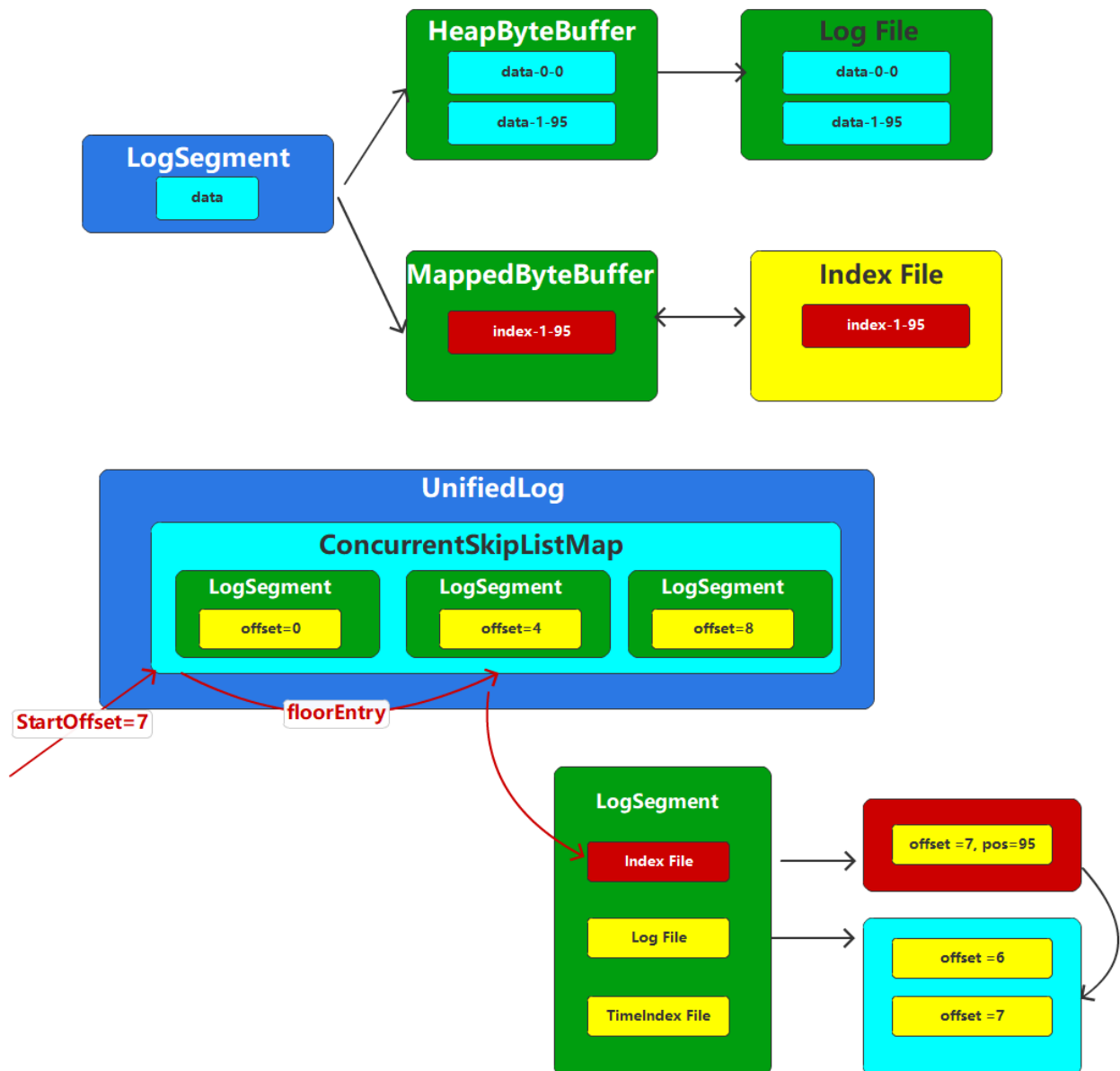


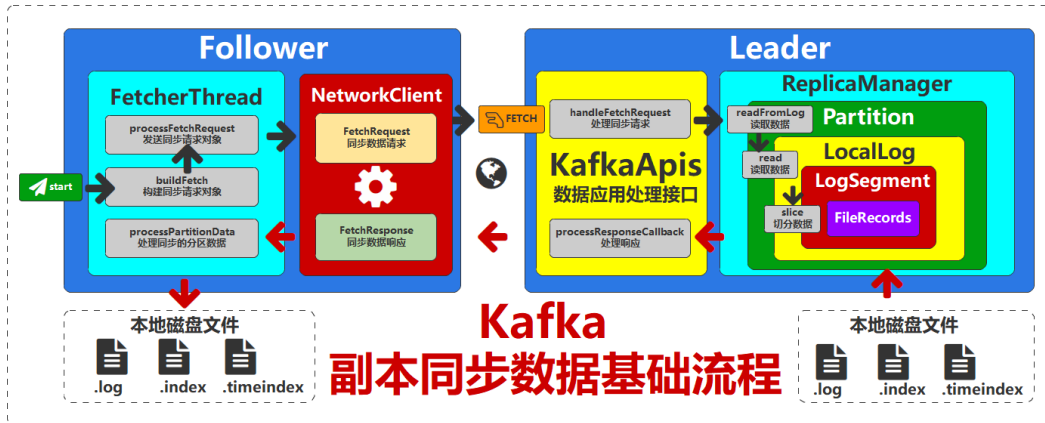




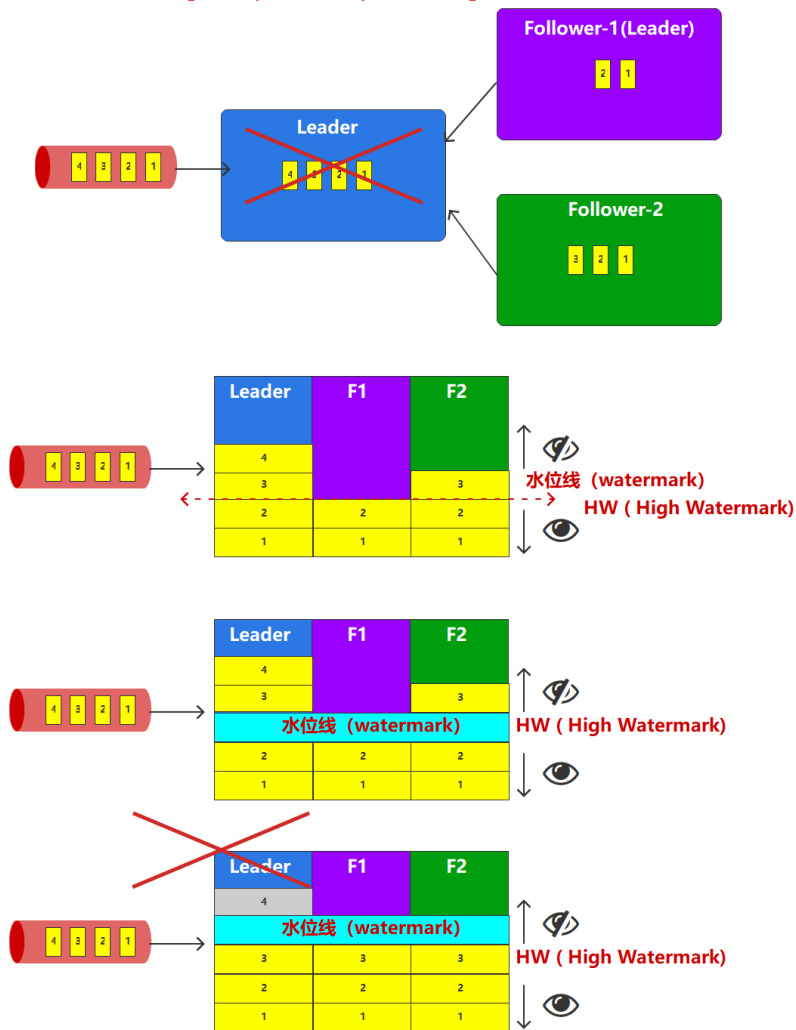


index文件称之为稀疏索引





ISR : 同步副本列表  
[Leader, Follower-1, Follower-2]



LEO (Log End Offset)

