Kafka Fundamentals Brain Teasers: M3: Fundamentals of the Fundamentals

Overview

Key concepts from Module 3 are:

- Producers
- Brokers
- Consumers
- ZooKeeper
- Decoupling of producers and consumers
- Topics
- Partitions and segments
- Logs
- Offset to write the next message produced to
- Consumer offsets
- Records
- Replication
- Partitioning strategies
- How consumers access messages
- Consumer groups

Here's the quick quiz on Module 3 (https://forms.gle/RDc84FbPeJ2CwCRP9) from the Online Talk Series.

Problem #3A: How Do Producers Connect to Consumers?

Suppose you have a Kafka cluster; one producer, p_0, producing to topic t_0, with one partition; and one consumer c_0, reading from topic t_0. c_0 read what p_0 produced. This implies p_0 and c_0 are related. What is the nature of this relationship? If you add another producer p_1 (that also produces to topic t_0), must you also add another consumer (e.g., c_1) to read messages from p_1?

Problem #3B: Single Consumption or Multiple Consumption?

Suppose you have a Kafka cluster; one producer, p_0, producing to topic t_0, with one partition; and one consumer c_0, reading from topic t_0. Independent of the last question, suppose consumer c_0 read message m_0. Could another consumer c_{10}, in another consumer group, also consume message m_0?