Kafka provides a wide range of configuration options, allowing you to customize Kafka's behavior for your particular use cases. In this lesson, we will discuss Kafka configuration as it applies to brokers, topics, and clients. We will also briefly demonstrate how to interact with broker, topic, and client configurations.

Relevant Documentation

- Kafka Configuration
- Kafka Config
- Kafka Broker Config
- Kafka Topic Config

Lesson Reference

Broker Configs

1. List the current configurations for broker 1.

```
kafka-configs --bootstrap-server localhost:9092 --entity-type brokers --entity-name 1 --describe
```

2. Modify the configuration for broker 1 by setting `log.cleaner.threads` to `2`.

```
kafka-configs --bootstrap-server localhost:9092 --entity-type brokers --entity-name 1 --alter --add-confi
```

3. List the configurations for broker 1 to see the newly added configuration.

```
kafka-configs --bootstrap-server localhost:9092 --entity-type brokers --entity-name 1 --describe
```

Topic Configs

1. Create a new topic with a configuration override.

```
kafka-topics --bootstrap-server localhost:9092 --create --topic configured-topic --partitions 1 --replica
```

2. List the configurations for the topic to see the configuration override.

```
kafka-configs --zookeeper localhost:2181 --entity-type topics --entity-name configured-topic --describe
```

3. Modify the configuration override for the existing topic.

```
kafka-configs --zookeeper localhost:2181 --entity-type topics --entity-name configured-topic --alter --ad
```

4. List the topic configurations again to see the changes.

```
kafka-configs --zookeeper localhost:2181 --entity-type topics --entity-name configured-topic --describe
```

5. Modify a broker-wide default topic configuration.

```
kafka-configs --bootstrap-server localhost:9092 --entity-type brokers --entity-name 1 --alter --add-confi
```

6. View the broker configuration to see the changes to the default.

```
kafka-configs --bootstrap-server localhost:9092 --entity-type brokers --entity-name 1 --describe
```

Client Configs

You can configure clients programmatically in Java using a `Properties` object. Here is an example.