**Build App:**

Introduction

Transforming traditional architecture into microservices architecture

Overview of Spring Cloud and Spring Boot Features and Architecture

* Spring Cloud Streams

Overview of Netflix OSS Components

Setting up Your Development Environment

Installing and Configuring Spring Cloud

Creating a Microservices Application

Service Discovery with Netflix Eureka -> consul

Dynamic Routing and Load Balancing with Netflix Ribbon -> consul

Securing Your Microservices with Spring Cloud Api Gateway -> zuul

Ensuring Resiliency with Netflix Hystrix (Implementing the Circuit Breaker Pattern)

Preparing the Database

Reading and Writing to the Database

Using Redis to Buffer Messages

Use AMQP messaging with Spring Boot –> RabbitMQ, ActiveMQ?

Enabling Inter-Service Communication Using Kafka:

              •            Kafka Leader, Follower and ISR - detailed explanation and the role of replication (partition, offset, etc.)

              •            Kafka Perform Failover for Consumers and Brokers (different strategies)

              •            Kafka vs Redis/RabbitMQ (or any other messaging queue)

              •            When to use single consumer for multiple topics and one consumer for each?

              •            Unit Testing in Kafka

* Kafka Streams

Bringing it all Together

Testing the Application

Debugging the Application

Summary and Conclusion