Microservices

1. Introduction
2. Introduction to Microservices, Spring Boot, and Spring Cloud
   1. Introduction
   2. What Are Microservices and Why Are They Popular?
   3. Core Characteristics of Microservices
   4. What is Spring Cloud
   5. What Is Spring Boot
   6. DEMO: Building a Spring Boot App
   7. Core Application and Prerequisites for This Course
   8. Summary
3. Simplifying Environment Management with Centralized Configuration
   1. Introduction
   2. The Role of Configuration in Microservices
   3. Problems with the Status Quo
   4. Creating a Config Server
   5. DEMO: Creating a Config Server for Local Files
   6. Working with Config Server URIs
   7. DEMO: Creating a Config Server for GitHub Files
   8. Consuming Configurations from Spring Boot Apps
   9. DEMO: Consuming Configurations from a Spring Boot App
   10. Applying Access Security to Configurations
   11. DEMO: Applying Access Security to Configurations
   12. Encrypting and Decrypting Configurations
   13. DEMO: Encrypting and Decrypting Configurations
   14. Advanced Settings and Property Refresh
   15. DEMO: Refreshing Configurations
   16. Summar
4. Offloading Asynchronous Activities with Lightweight, Short-lived Tasks
   1. Introduction
   2. The Role of Asynchronous Processing in Microservices
   3. Problems with the Status Quo
   4. What Exactly Is 'Serverless' Computing?
   5. What Is Spring Cloud Task, and Integration With Spring Projects
   6. Creating Tasks
   7. DEMO: Creating Tasks
   8. Storing Task Execution History
   9. DEMO: Storing Task Execution History
   10. Options for Invoking Tasks
   11. DEMO: Invoking a Task Through via HTTP and Spring Cloud Stream
   12. Summary
5. Securing Your Microservices with a Declarative Model
   1. Introduction
   2. The Role of Security in Microservices
   3. Problems with the Status Quo
   4. What Is Spring Cloud Config, and OAuth 2.0?
   5. How Spring Supports OAuth 2.0
   6. The Abstract OAuth Flow
   7. OAuth 2.0 Grant Type: Authorization Code
   8. DEMO: Authorization Code Grant Type
   9. Creating a Resource Server and Routing Tokens to Services
   10. DEMO: Creating a Resource Server and Routing Tokens to Services
   11. OAuth 2.0 Grant Type: Resource Owner Password Credentials
   12. Creating a Custom Authorization Server
   13. DEMO: Creating an Authorization Server Used by a Resource Server
   14. OAuth 2.0 Grant Type: Client Credentials
   15. Adding Method Access Rules
   16. DEMO: Adding Method Access Rules
   17. Advanced Token Options
   18. Summary
6. Chasing Down Performance Issues Using Distributed Tracing
   1. Introduction
   2. The Role of Tracing in Microservices
   3. Problems with the Status Quo
   4. What Is Spring Cloud Sleuth?
   5. Anatomy of a Trace
   6. What Is Instrumented, and How to Add Sleuth to a Project
   7. DEMO: Adding Spring Cloud Sleuth to a Project
   8. Visualizing Latency with Zipkin
   9. DEMO: Building and Using a Zipkin Server
   10. Visualizing and Querying Traces in Zipkin
   11. DEMO: Visualizing and Querying Traces in Zipkin
   12. Working with Sampling Rates
   13. DEMO: Building a Custom Sampler
   14. Manually Creating Spans
   15. DEMO: Manually Creating Spans
   16. Summary