

Java Fundamentals (2.5 weeks)

- Using an IDE - IntelliJ
- Installing Java
- Gradle and Maven
- The SOLID principles
- Java Fundamentals
- JUnit testing
- Algorithms and Performance
- Streams, Threading and Lambdas
- Functional Java Programming

Building Servers with Spring/Spring Boot (2 weeks)

- HTTP request/response
- Status codes
- Spring and Spring Boot
- RESTful APIs
- The MVC design pattern
- Services
- Data Layer Abstraction
- API Integration Testing
- ORMs with Hibernate
- Entities and Database integration
- Interfaces in Server design
- Connecting Spring Microservice Architecture
- Monitoring and Logging in Spring

Microservice Architecture Fundamentals (1.5 weeks)

- Microservices vs Monoliths
- Cloud Fundamentals with GCP
- CI/CD with CloudRun
- Deploying Microservices
- Serverless Architecture
- Communicating in the Cloud
- Database Deployment
- Security in the Cloud
- Monitoring in GCP