20063 - Developing Enterprise Java Applications with Spring Boot and Microservices

Description

Spring Framework is a popular full-stack Java application framework that simplifies enterprise application development and promotes good programming practices by offering a set of highly powerful and independent services. Spring Boot makes it even easier to create Spring applications with intelligent defaults to get you started quickly. Hibernate is a high-performance and mature object relational mapping (ORM) framework based on a solid implementation of the Java Persistence API (JPA). Microservices are an evolving system architecture design and continues with the Service Oriented Architecture (SOA) to handle the diversity of devices, heterogeneous systems and the complexity of business logic seen in enterprise applications today. Major Internet companies and websites have adopted the new architecture and development methodology in recent years.

This hands-on course introduces several software tools for working with Java applications, including project configuration, dependency management using Maven, source control using Git, and the Eclipse development environment. The course includes an overview of Spring, including core concepts such as Inversion of Control (IoC) and dependency injection.

You will build a sample Java application that creates RESTful Web services. The project uses Spring Boot and the MySQL database server as the datastore. You will also learn how to create microservices applications using Spring Boot and to work with databases using Hibernate. Emphasis is placed on testing all parts of your code with test automation (using JUnit and its Spring integration).

The course offers hands-on experience with open-source and demo tools, servers and databases. Students are required to bring laptops to class.

Topics include:

- Tools for building enterprise software: Eclipse IDE/Spring STS, project configuration, dependency management (Maven) and source code management (Git)
- Spring: Dependency injection / Inversion of Control
- Service Oriented Architecture (SOA)
- Microservices deployment
- Creating RESTful Web services with Spring MVC
- Spring Boot applications
- Testing using JUnit and its Spring integration
- Spring Data – JPA, Hibernate and MySQL

Skills Needed: "Java Programming, Comprehensive" or an equivalent course.

Prerequisites

Suggested: 6634 (Java Programming, Comprehensive)
6198 (Junit Test Framework)