Course Content

AdvnacedJava - Spring Boot
Duration: 3 Days

Module-1: Introduction to Spring (4 hrs)

- Capabilities of the modern Spring ecosystem
- Spring v. Spring Boot
- Factory Pattern
- Dependency Injection and Inversion of Control
- The Application Context
- Spring Beans – Lifecycle Management and Wiring
- Dependency Injection Techniques
- Xml, Annotation and Java based Configuration
- Setting up and configuring development environment
- Lab exercises to practice Spring Core concepts - DI/IoC, Bean Wiring, etc

Module-2: Introduction to Spring Boot (4 hrs)

- Spring Boot Overview
- Spring vs Spring Boot
- Benefits of Spring Boot
- Create Spring Boot Project
  - o Spring Maven Project
  - o Spring Starter Project
  - o Spring Initializr
  - o Spring Boot CLI
- Build and run sample Spring Boot Application

Module-3: Spring Boot Features (4 hrs)

- Auto Configuration
- @SpringBootApplication / SpringApplication
- Externalized Configuration
- Logging
- Profiles
- Packaging
- Embedded Container
- DevTools
- Testing

Module-4: Introduction to REST (4 hrs)

- RESTful Webservices Overview
- REST concepts
- SOAP vs REST
- Spring REST Overview
- Controllers and RestControllers
- Configuration
- Content Negotiation
- Controller Mappings
- Customizing Controller Responses
- Testing Rest Services

- REST Clients - Postman, REST Client API, REST Template
- Create and publish RESTful Web Services
- Build client to consume RESTful Web Services
- Lab exercises to practice RESTful Webservices concepts and Spring Boot Integration

Module-5: Data Access with Spring Boot (4 hrs)

- Overview of JDBC and JPA/Hibernate
- Spring Boot and databases
- DataSource configuration
- Initializing Databases for testing
- Spring Data Repositories
- Embedded Database Support (H2)
- Testing Spring Data
- Sample web application with data access using Spring Boot

Module-6: Monitoring and Management (4 hrs)

- Actuator Overview
- Exploring available Endpoints
- Configuring Endpoint availability
- Securing Endpoints
- Creating custom Endpoints