

Spring 5 and Spring Boot 2 with Maven

Prerequisite : Very good knowledge on Java SE and Java EE.

Duration : 9 days

Maven

- What is Maven
- What is DevOps
- Maven as Build tool
- Project Object Model
- Types of Maven Repositories
 - Remote
 - Local
- Working with pom.xml

Design Patterns Overview

- What are design patterns
- What are anti-patterns
- GoF design patterns
- Some design patterns before framework
- Singleton
- Factory design pattern
- Abstract factory design pattern
- Builder design pattern
- Prototype design pattern
- Front controller design pattern
- Composite view design pattern

Spring Framework Basics

- What is Spring Framework?
- Why Spring Framework?
- Object management
- RMI vs. EJB
- Spring Framework architecture
- Maven and Spring

Dependency Injection

- What is Dependency Injection?
- DI vs. IOC
- Spring Context
- Types of Injections
 - Setter
 - Constructor
- IOC containers
 - BeanFactory
 - ApplicationContext
- Bean Lifecycle
- Bean Scope
- Autowiring

Spring Configuration

- Working with configuration files
- XML configuration
- Using component-scan
- Using Java configuration file
- Working with Properties
- Spring testing framework

Spring Boot

- Why Spring Boot?
- Spring Boot Auto configuration
- Using SpringApplication API
- Actuators in Boot 2
- Deploying Boot 2 application

Spring AOP Basics

- Why AOP?
- AOP Concepts
- Spring AOP
- Pointcuts
- Aspects
- Advices
- Joinpoints
- Weaving

Spring MVC

- What is why Spring MVC?
- Request life cycle
- DispatcherServlet
- URL Handler mapping
- Controllers
- View & View Resolvers
- Templating engines
- Doing Form Validation
- Interceptors
- Testing with Boot 2

Spring Persistence and Data Access

- Database operations
- DAO interface
- Spring DAO
- Project persistence with Spring JPA
- Beyond the Default repository
- Connection with database
- Transaction management
- Spring with JPA and Hibernate
- Other Spring Persistence technologies

Spring Transaction

- Transaction types
- Isolation levels
- Propagation
- Transaction support in Spring
- Declarative transaction

Spring REST

- What are services
- SOAP vs. REST
- Spring REST API
- Annotation driving the API
- Exception handling in API
- Introducing RestTemplate

Spring Advance

- Spring Security
- Working with Events and Listeners
- Spring Expression Language
- New Reactive paradigm in Spring 5