



Core Spring Training



Modes of Delivery

- On-site
- Public
- Live online
- Trainer lead

Format

- 50% theory
- 50% lab work

Intended Audience

- Java and Spring developers and architects

Pricing

- Use contact below

Contacts

Order&Inquiry:

training@einnovator.org

Course Summary

In this course, delegates learn how to use the **Spring Framework** to build mission-critical enterprise-graded **Java** applications.

Course covers a comprehensive set of modules – from application configuration with multiple styles of *dependency-injection*, to component enhancement with **Spring AOP**, declarative transaction management, and introduction to web-development and REST-WS with **Spring MVC**. Simplification of configuration with **Spring Boot**, **Spring Security**, and introduction to **Spring Cloud** is also covered.

Course Objectives

- Learn to configure application by Spring Dependency Injection
 - Java Configuration Style
 - Annotation-Driven Dependency Injection
 - XML-based Configuration
 - Spring Application Context and components (beans) lifecycle
- Learn how to test Spring applications
- Learn how to use Spring Aspect Oriented Programming
- Learn how to build a Data-Access Layer with Spring
 - Relational DB access with Spring JDBC simplifications
 - JPA/ORM Integration with Spring
- Introduction to Web-development with Spring MVC
- Rapid App Development with Spring Boot
- Securing Apps with Spring Security
- Introduction to REST-WS with Spring
- Introduction to Micro-Services





Course Modules

Day 1

1	Introduction to Spring
	• Spring Framework and Spring Ecosystem Overview
	• Dependency-Injection Concept
	• Application Context Abstraction and API
	• History and Evolution of Spring
2	Dependency Injection – Spring Java Config
	• Configuration Classes and Bean Factory Methods
	• Environment abstraction, Property Externalization
	• Bean scope, bean profiles
	• Spring Expression Language (SpEL)
3	Dependency Injection – Annotation-Driven
	• Components and Auto-wiring
	• Component Scan
	• Life-Cycle Callbacks
	• Stereotype Annotations
4	Dependency Injection – XML Configuration
	• Beans XML Namespace
	• XML Techniques
	• Other XML Namespaces
	• XML vs. Java/Annotations Config

Day 2

5	Bean Life-cycle – Looking Inside
	• Phases in Bean Life-Cycle
	• Bean Definitions and Pre-Processing
	• Running Phase – Proxy Power
	• Application Context Cleanup and Destruction Phase
6	Testing Spring Applications
	• Spring and Test Driven Development
	• Integration Testing with Spring and JUnit4
	• Bean Profiles in Testing
	• Testing Transactional Code
7	Aspect-Oriented Programming
	• Understanding AOP
	• Spring AOP – Defining Aspects
	• Point-Cut Expressions
	• Types of Advices
8	Data-Access with Spring & Spring JDBC
	• Overview of Data-Access in Spring Projects
	• Caching Module
	• Spring Data Repositories
	• JdbcTemplate API





Core Spring Training



Day 3

9

Spring Transaction Management

- Transactional Systems Review
- Declarative Transaction Management – @Transactional annotation, and XML configuration
- Isolation levels, transaction propagation and rollback rules
- Transactions and integration testing

10

JPA with Spring and Spring Data

- Introduction to JPA/ORM
- JPA configuration in Spring
- Implementing JPA Data-Access
- Spring Data JPA dynamic repositories

11

Spring Web Development

- Spring configuring in a Web Apps
- Introduction to Spring MVC
- Writing Controllers
- Controller method signatures
- Views and ViewResolvers

Day 4

12

Spring Boot

- Auto-Configuration with Spring Boot
- Simplified dependency management
- Overriding Boot default settings
- Packaging options, and embedded containers
- Configuration properties using YAML
- Boot-driven testing

13

Spring Security

- Spring Security Overview
- Configuring authentication and intercepting URLs
- Spring Security JSP tag library
- Method-Level Security
- The Spring Security filter chain

14

REST-WS with Spring

- REST-WS Overview
- Implementing REST with Spring MVC
- Rest Controllers
- Content Negotiation

15

Micro-Services with Spring Cloud

- Microservice Architectures
- Cloud Native Apps
- Using Spring Cloud





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Course Details

Core Spring, provides you practical know-how on all the skills needed to successfully develop **Spring Framework** powered mission-critical enterprise-graded **Java** applications. Course covers a comprehensive set of modules – from application configuration with multiple styles of *dependency-injection*, to component enhancement with **Spring AOP**, declarative transaction management, and introduction to web-development and REST-WS with **Spring MVC**, simplification of configuration with **Spring Boot**, securing application with **Spring Security**, and an introduction to **Spring Cloud**.

Labs: Each major presentation is followed by an hands-on lab, where participants experiment with the techniques during the preceding presentation.

Who can benefit from this course? All **Java™** and **Spring** developers and architects looking to learn how to develop Spring enabled mission critical Java applications.

Pre-requisites: *Required:* Basic knowledge of **Java™** programming language.

Certification

Completion of this training entitles each student to receive a free voucher to schedule an exam and become a Pivotal certified *Spring Certified Professional*.



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