Java Developer SkillJourney

Core Spring Quick Start: Introduction to Spring 5.x and Spring Boot (TT3320)

Explore Spring Essentials: Foundation, Spring Boot, Spring AOP, Spring Data & More

Course Snapshot

- **Course: Introduction to Spring 5.x and Spring Boot 2.x / Spring Quick Start (TT3320)**
- **Duration**: 2 days
- **Audience & Skill Level:** This introduction to Spring is geared for experienced Java developers new to Spring.
- **Format / Hands-on:** This 50% lab based course combines engaging instructor-led presentations and practical demonstrations with hands-on programming exercises, challenge labs, use case exploration and engaging group activities. Student machines are required.
- **Flexible Delivery Options**: This course can be delivered for your team or organization **online-live (virtual)**, **onsite in-person, self-paced** or across our immersive **blended learning experience platform (LXP).**
- **Public Schedule**: This course is currently available on our Public Open Enrollment Schedule.
- **Customizable**: We're flexible! This course agenda, topics, labs, hours and delivery modalities can be adjusted to target your specific training skills objectives, tools and learning goals. Please ask for details.

Description

The Spring framework is an application framework that provides a lightweight container that supports the creation of simple-to-complex components in a non-invasive fashion. Spring's flexibility and transparency is congruent and supportive of incremental development and testing. The framework's structure supports the layering of functionality such as persistence, transactions, view-oriented frameworks, and enterprise systems and capabilities. This course targets Spring 5.x, which includes full support for Java SE 11 and Java EE 8. Spring supports the use of lambda expressions and method references in many of its APIs.

Spring makes enterprise development easier. Spring simplifies common tasks and encourages good design based on programming to interfaces. Spring makes your application easier to configure and reduces the need for many JEE design patterns. Spring puts the OO design back into your enterprise application, and it integrates nicely with many view technologies and the new features of HTML5.

Core Spring Quick Start: Introduction to Spring 5.x and Spring Boot 2.x is a hands-on Spring training course geared for experienced Java developers who need to understand what the Spring Framework is in terms of today's systems and architectures, and how to use Spring in conjunction with other technologies and frameworks. Students will gain hands-on experience working with Spring, using Maven for project and dependency management, and, optionally, a test-driven approach (using JUnit) to the labs in the course.

Learning Objectives

This course combines engaging instructor-led presentations and useful demonstrations with valuable hands-on labs and engaging group activities. Throughout the course you'll learn how to:
- Explain the issues associated with complex frameworks such as JEE and how Spring addresses those issues
- Understand the relationships between Spring and JEE, AOP, IOC and JDBC.
- Write applications that take advantage of the Spring container and the declarative nature of assembling simple components into applications.
- Understand how to configure the Spring Boot framework
- Understand and work on integrating persistence into a Spring application
- Explain Spring's support for transactions and caching
- Work with Spring Boot to facilitate Spring setup and configuration
- Apply Aspect Oriented Programming (AOP) to Spring applications

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If your team requires different topics, additional skills or a custom approach, our team will collaborate with you to adjust the course to focus on your specific learning objectives and goals.

Audience

This course is geared for experienced Java developers new to Spring.

Pre-Requisites

Take Before: Students should have incoming practical skills aligned with those in the course(s) below, or should have attended the following course(s) as a pre-requisite:
- TT2104: Fast Track to Core Java Programming for OO Developers (C+, C#, etc.)

Related Courses
The following is a small subset of related courses. See the online catalog for a complete list of courses and learning paths.
- TT3320   Introduction to Spring 5.x and Spring Boot 2.x / Spring Quick Start (2 days)
- TT3334   Mastering Spring 5.x Developers Boot Camp (5 days)
- TT3353   Introduction to Reactive Spring (3 days)
- TT3354   Introduction to Reactive Spring with MongoDB (4 days)
- TT3356   Working with Spring Batch (2 days)
- TT3357   Working with Spring JMS (1 day)
- TT3358   Working with Spring REST (2 days)

Next Steps / Follow-on Courses: We offer a wide variety of follow-on courses for next-level Java development skills, Java for Web / Full Stack, Java EE, Spring, REST, Microservices, Unit Testing / TDD, Java secure coding, mobile development and more. Please see our **Java / Spring / Full Stack Developer Courses & Learning Paths** for options based on your specific role and goals.

Course Topics / Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We'll work with you to tune this course and level of coverage to target the skills you need most. Topics, agenda and labs are subject to change, and may adjust during live delivery based on audience skill level, interests and participation.

1. **The Spring Framework**
- Understand the value of Spring
- Explore Dependency Injection (DI) and Inversion of Control (IoC)
- Introduce different ways of configuring collaborators
- Spring as an Object Factory
- Initializing the Spring IoC Container

2. **Configuring Spring Managed Beans**
- Introduce Java-based configuration
- The @Configuration and @Bean annotations
- Define bean dependencies
- Bootstrapping Java Config
- Context Injection in

- Configuration classes
- Using context Profiles
- Conditionally loading beans and configurations
- Bean Life-Cycle Methods

3. **Defining Bean Dependencies**
- Introduce Spring annotations for defining dependencies
- Explore the @Autowired annotation
- Stereotype Annotations
- Qualifying injection points
- Lifecycle annotations
- Using properties in Java based configuration
- The @Value annotation
- Using the Candidate Components Index

4. **Introduction to Spring Boot**
- Introduce the basics of Spring Boot
- Explain auto-configuration
- Introduce the Spring Initializr application
- Bootstrapping a Spring Boot application

5. **Working with Spring Boot**
- Provide an overview of Spring Boot
- Introduce starter dependencies
- Introduce auto-configuration
- @Enable... annotations
- Conditional configuration
- Spring Boot Externalized Configuration
- Bootstrapping Spring Boot

6. **Introduction to Aspect Oriented Programming**
- Aspect Oriented Programming
- Cross Cutting Concerns

7. **Spring AOP**
- Spring AOP in a Nutshell
- @AspectJ support
- Spring AOP advice types
- AspectJ pointcut designators

8. **Spring Data Overview**
- Spring Data Capabilities and Features
- Spring Data repositories
- The Repository interfaces
- Defining the JPA entity
- Persisting entities using Spring Data JPA
- Bootstrapping the Spring Data application

Bonus Topics: Time Permitting

9. **Spring Data Query Methods**
- Querying data using Query methods
- Query builder mechanism
- Handling an Absence of Value
- Pagination and Ordering
- Asynchronous query methods
- Count and Delete Derived Query methods

Setup Made Simple! Learning Experience Platform (LXP)

All applicable course software, digital courseware files or course notes, labs, data sets and solutions, live coaching support channels, CodeCoach.AI anytime tutor access, and rich extended learning and post training resources are provided for you in our "easy access, single source, no install required" online remote lab and content environment. Access periods vary by course. We'll collaborate with you to ensure your team is set up and ready to go well in advance of the class. Please inquire about set up details and options for your specific course of interest.

For More Information

For more information about our training services (instructor-led, self-paced or blended), collaborative coaching services, robust Learning Experience Platform (LXP), Career Experiences, public course schedule, partner programs, courseware licensing options or to see our complete list of course offerings, solutions and special offers, please visit us at **www.triveratech.com**, email **Info@triveratech.com** or call us toll free at **844-475-4559.** Our pricing and services are always satisfaction guaranteed.

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