INSTRUCTIONS

Core Spring

Course Description

Welcome to the Spring Developer course.

This course is intended for developers, although project managers and architects with Java coding experience will also gain from this course. Through hands-on labs, the course explores the most commonly used features of Spring and Spring Boot.

The pre-requisites for this course are:

- A good working knowledge of web application development using Java and a Servlet engine such as Tomcat or Jetty
- Some specific Java concepts: annotations, lambdas
- Dependency management using Maven or Gradle (the course uses Maven throughout)

Course Objectives

After completing this course, you should be able to:

- Use the Spring Framework and related projects to build Enterprise Web Applications
- Describe why you would use Spring and the Dependency Injection Pattern
- Configure Spring using Java Configuration and/or using annotated classes and component-scanning
- Describe the internal life-cycle of Spring bean
- Explain the purpose of a `BeanFactoryPostProcessor` and a `BeanPostProcessor` - and the difference between them
- Explain the Separation of Concerns concept

- Implement and test an Aspect using Spring's proxy-based approach (the source of Spring's "magic")
- Build integration tests driven by Spring
- Access relational data using `JdbcTemplate` and JPA with Spring
- Describe the reasons for using Transactions and how to configure them using Spring AOP
- Build an application using Spring Boot
- Describe Spring Boot concepts such as auto configuration and starter dependencies
- Create simplified backing-store solutions using Spring Data and JPA
- Use Spring Boot Actuator for monitoring and management of the applications
- Use Spring and Spring MVC to build RESTful services
- Secure HTTP Endpoints and Java methods using Spring Security
- Take advantage of Spring Boot's enhancements to functional testing

Core Spring Course

Course Setup

Lab Setup	SETUP
Rewards Reference Domain	DOMAIN

Course Introduction

Course Agenda	SLIDES
Spring Overview	SLIDES LAB

Spring Essentials

Spring Configuration

Java Configuration	SLIDES LAB
More on Configuration	SLIDES
Annotations and Component Scanning	SLIDES

	LAB
Inside the Spring Container	SLIDES
Introducing Aspect Oriented Programming	SLIDES LAB
Testing Spring Applications	SLIDES LAB

Data Management

JDBC Simplification with JdbcTemplate	SLIDES LAB
Transaction Management with Spring	SLIDES LAB

Spring Boot

Boot Basics

Spring Boot Feature Introduction	SLIDES LAB
Spring Boot - A Closer Look	SLIDES LAB
Spring Data JPA	SLIDES LAB

Creating REST Application

Spring Web Introduction	SLIDES LAB
RESTful Application with Spring Boot	SLIDES LAB

Spring Boot Testing, Spring Security, and Actuator

Spring Boot Testing	SLIDES LAB
Securing REST Application with Spring Security	SLIDES LAB
Actuators, Metrics and Health Indicators	SLIDES LAB

Wrapping Up

Completed - What's Next	SLIDES

Appendix

IDE Configuration

Configuring TODOs (Tasks)	TASKS
JUnit Tests	TESTS
Initializing a Spring Boot Project	TASKS
Running and Testing a Spring Boot Project	TASKS
Monitoring HTTP Traffic	TASKS