Core Spring

Duration: 4 Days   Course Code: SPRINGC   Delivery Method: Company Event

Overview:

The Spring Framework is the leading Java EE solution for enterprise software.
This course covers Spring from Version 4 upwards,currently delivered using Version 5. It comprises sessions dealing with Dependency Injection (DI); Aspect Oriented Programming,(AOP); Spring Web including MVC,REST,and WebSocket; Spring Data including JDBC,ORM,and Transaction Management; Spring Security; and Spring Boot. It also includes an introduction to Reactive Programming,Spring WebFlux,and Spring Cloud.
Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.
The delegate will learn and acquire skills as follows:

Obtaining Spring Beans using DIImplementing cross-cutting concerns using AOPBuilding a Spring MVC web appBuilding a REST API with Spring MVCBuilding a WebSocket serviceUsing a JDBC TemplateIntegrating a Spring app with Hibernate and JPATransaction ManagementUser authenticationURL and method-level authorizationBuilding a simple Spring Boot app

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

Target Audience:

The Core Spring course will benefit Java developers who are new to Spring and want to develop large and complex enterprise-level applications.

Objectives:

- This course aims to provide the delegate with the knowledge to be able to develop (or contribute to the development of) a Spring web app which exposes a RESTful API and that both reads and writes data to/from persistent storage. The web app should be secure insofar as it authenticates users,and restricts access. The delegate should also be aware of Spring Boot,Reactive Programming,Spring WebFlux,and Spring Cloud.

Prerequisites:

Delegates attending this course should be competent Java developers able to build simple applications that exploit APIs including Collections,IO,and JDBC. Delegates would also benefit from having some previous experience with Servlets and JSP (or equivalent technology).

This knowledge can be obtained by attendance on the pre-requisite Java Programming 2 and Developing Applications with Java EE courses.

Follow-on-Courses:
- Angular Development (ANGDEV)
- React (REACT)

Content:

Core Spring Training Course   Course Contents
- DAY 1

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: INTRODUCTION TO SPRING

- What is Spring
- Introduction to Dependency Injection
- Introduction to Aspect Oriented Programming
- Introduction to Templates
- Application Context
- The Lifecycle of a Spring Bean
- Spring Modules (Projects)
- What&s new in Spring 5.0

Session 2: DEPENDENCY INJECTION (DI)

- DI configuration options
- DI with XML
- DI with Java
- Autowiring (DI with Annotations)
- Importing and Mixing Configurations
- Environments and Profiles
- Conditional Beans
- Bean Scope
- Spring Expression Language (SpEL)

Session 3: ASPECT ORIENTED PROGRAMMING (AOP)

- Terminology
- Aspects with XML
- Aspects with Annotations
- AspectJ   Core Spring Training Course   Course Contents - DAY 2

Session 4: SPRING MVC

- The Lifecycle of a Request
- Spring Controllers
- Request Parameters
- Form Processing
- View Resolution
- Views: JSP,Thymeleaf et al.

Session 5: REST

- REST Endpoints with Spring MVC
- HTTP Message Converters
- Errors and Headers
- Consuming REST Resources using RestTemplate

Session 6: WEBSOCKET

- WebSocket Handlers
- Configuration with Java
- Configuration with XML

Session 7: INTRODUCTION TO SPRING WEBFLUX (V5 ONLY)

- Introduction to Reactive Programming
- HTTP,Web,and Dispatcher Handlers
- Annotated Controllers
- Functional Endpoints
- and more...   Core Spring Training Course   Course Contents - DAY 3

Session 8: SPRING DATA SOURCES

- Embedded Data Source (for development and testing)
- JDBC Driver
- Connection Pool
- JNDI
- Profiles

Session 9: JDBC

- JDBC Templates
- Using a JDBC Template with Lambdas
- Named Parameters

Session 10: ORM

- Integrating Hibernate with Spring
- Application-managed JPA
- Container-managed JPA

Session 11: TRANSACTIONS

- Transaction Strategy
- Synchronizing Resources
- Declarative Transaction Management
- Programmatic Transaction Management Core Spring Training Course   Course Contents - DAY 4

Session 12: SPRING SECURITY

- User Details Services
- Authentication
- Authorization (URL Interception)
- JSP Security Tag Library
- Method-level Security
- Filter Chain

Session 13: SPRING BOOT

- Starter Dependencies
- Autoconfiguration
- CLI
- Actuator
- Spring Boot Applications

Session 14: INTRODUCTION TO SPRING CLOUD

- Microservice Architecture
- Service Registration
- Load Balancing
- and more...

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

info@globalknowledge.co.uk

www.globalknowledge.com/en-gb/

Global Knowledge, Mulberry Business Park, Fishponds Road, Wokingham Berkshire RG41 2GY UK