

The Spring Framework

Course No. 3530

Type: Hands-on

Duration: 24 hours

Course Overview:

This hands-on course provides the Java software developer with all he needs to know in order to start using the Spring Framework in the Java environment. Unlike Java EE, Spring works well with any Java application from a simple applet to a sophisticated enterprise application and increases development productivity and maintainability while improving quality.

Participants learn about the Spring philosophy and its various components. There is an abundance of examples and hands-on exercises.

Who should attend?

Software developers wishing to learn to use Spring in the Java environment. Also project managers, architects and analysts who need to know how to use Spring, its possibilities and its benefits.

Prerequisites:

Practical Java programming experience.

Course Content:

1. Introduction

- What is the Spring Framework
- Spring in the Java environment
- Spring in the DOTNET environment

2. Spring Architecture and Overview

- Spring Introduction
- Spring Architecture
- The Spring Framework Components

3. Dependency Injection and the IOC Container

- What is dependency injection?
- IOC container overview
- Working with Spring beans
- Managing dependencies

4. Spring Beans

- Injection types
- Bean scopes
- Bean lifecycle and environment
- Bean definition inheritance
- Bean creation using FactoryBeans
- Bean post processors
- Bean factory post processors
- Validation
- Working with BeanWrappers
- Property Editors

5. The Application Context

- Introduction to ApplicationContext
- BeanFactory and ApplicationContext
- Annotation based configuration
- Integrating ApplicationContext into Java EE applications
- Stereotypes and Auto Detected Components

6. Working with Resources

- Available Resource implementations
- The Resource Loader

7. Spring AOP

- What is AOP?
- Spring AOP Capabilities
- Pointcuts
- Advice
- AspectJ
- Spring proxies

8. Spring MVC

- The MVC pattern
- Spring MVC implementation
- Controllers
- Mapping request handlers
- Views
- Customizing look and feel using themes
- File uploading
- Error handling
- Using Annotations

9. Data Access Using JDBC

- Spring and JDBC
- Using the JdbcTemplate
- JDBC Batch Operations
- SimpleJDBC Classes
- Operation Objects

10. Transaction Management

- Introduction to Transactions
- Spring Transaction support
- Declarative Transaction Management
- Programmatic Transaction Management

11. Testing with Spring

- Unit testing and dependency injection
- Spring mock objects
- Unit testing utilities
- The Spring TestContext framework

12. Summary