

Core Spring Framework 3.0

(4 days hands-on)

The Spring Framework is one of the leading lightweight architectures for creating enterprise-scale applications in Java. Spring encapsulates traditional Java Enterprise Edition tasks such as creating Web applications, Web services, middle-tier components, data-access components using JDBC and Hibernate, and messaging components using JMS. This detailed hands-on course covers all of these topics in depth.

You will also learn how to use Inversion of Control (IoC) and Dependency Injection to minimize dependencies and to achieve Test-Driven Development, and how to use Aspect-Oriented Programming (AOP) to implement cross-cutting functionality.

This course uses Spring Framework 3.0. During the course you will create a realistic enterprise application that showcases the diverse enterprise capabilities of Spring.

Contents

- **Spring Framework - Essentials:** What is Spring? Dependency injection and Inversion of Control (IoC); Aspect-Oriented Programming (AOP) with Spring; Test-Driven Development principles; Defining a first application
- **Using Inversion of Control (IoC):** Implementing IoC in Spring; Implementing dependency injection via beans and bean factories; Bean lifecycle and initialization
- **Configuration Options:** XML configurations; Using annotations; Java configuration
- **Aspect-Oriented Programming (AOP):** Spring AOP architecture; Advisors and pointcuts; Using proxies; Using @AspectJ; Using @Pointcuts; Framework services for AOP; Working with Spring AOP proxies
- **Spring Schemas and Namespaces:** Schemas included in Spring 3.0 (beans, context, util, tx, aop, jee, lan); Custom schemas; Configuration
- **JDBC Support:** Spring data access concepts; JdbcTemplate; RdbmsOperation; Large binary objects; Transaction management
- **Creating Web Applications with Spring Web MVC:** Overview of MVC; Spring MVC implementation; Handler mappings; Controllers; Interceptors
- **Spring Transactions:** Local vs. global transactions; Understanding PlatformTransactionManager; Declarative transactions; @Transactional; Advising transactions; Roll-backs; Bean-specific transactions
- **Spring Web Security:** Understanding security issues; Using Spring Web security; Configuring authentication; Accessing security information in JSP pages; Securing the application layer
- **Spring Web Services:** Creating contract-first services; Accessing services
- **Spring Messaging:** Overview of JMS; Using Spring JMS support
- **Spring JMX:** Overview of Java Management Extensions (JMX); Exposing beans; Controlling object names and management interface; Remoting with Spring JMX; Notifications with Spring JMX

Who Should Attend:

Developers creating enterprise Java applications using the Spring Framework.

Prerequisites:

Java programming experience, and an awareness of enterprise development.