

Spring and Hibernate Development

(5 days hands-on)

The Spring Framework is one of the leading lightweight architectures for creating enterprise-scale applications in Java. Hibernate is a popular object-relational mapping tool, and is well-suited to Spring-based solutions. This course provides thorough coverage of both technologies, and shows how they can be used together effectively. This course uses Spring Framework 3.0 and Hibernate 3.5.

You will learn how to use Spring to create enterprise-scale components including Web applications, Web services, data-access components, and messaging components. You will also learn how to use Hibernate to map Java classes to databases, and how to execute queries using a variety of techniques. The interplay between Hibernate and Spring is explored in some detail.

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 Java annotations
- **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 Integration:** Overview of Spring Integration; Adapters; Using Spring Integration as an alternative to Enterprise Service Buses
- **Spring JMX:** Overview of Java Management Extensions (JMX); Exposing beans; Controlling object names and management interface; Notifications
- **Using Hibernate:** Overview; Configuration; Using Hibernate with Spring
- **Defining mappings:** Overview; Defining mapping files; Using annotations
- **Executing queries:** Overview of query APIs; Using JPA; Using HQL
- **Quality of service:** Transactions; Locking; Lazy loading; Versioning

Who Should Attend:

Developers creating enterprise Java applications using Spring and Hibernate.

Prerequisites:

Java programming experience, and an awareness of enterprise development.