

Suggested Topics of Study for the Spring Framework Certification

Examination

1. Spring Basics

- Goal of the Spring Framework
- Spring's role in enterprise application architecture
- Web application development support
- Enterprise application development support
- The Spring triangle
- Writing bean definitions
- Configuring objects
- Going beyond constructor instantiation
- Creating an application context
- The lifecycle of a Spring application context
- Bean Scoping
- Bean Definition Inheritance
- Inner Beans
- Property Editors
- Bean Naming
- Importing Configuration Files
- The util Namespace
- Test Driven Development
- Unit Testing vs. Integration Testing
- Unit Testing with Stubs
- Unit Testing with Mocks
- Integration Testing with Spring
- Motivations of Spring Security
- Spring Security in a Web Environment
- Configuring Web Authentication
- Configuring Web Authorization
- Using Spring Security's Tag Libraries
- Configuration Annotations
- Annotations for Testing and Junit 4.x Support

2. Aspect Oriented Programming with Spring

- What Problem Does AOP Solve?
- Core AOP Concepts
- Defining Pointcuts
- Implementing Advice

3. **Spring JDBC Support**

- The role of Spring in enterprise data access
- Spring resource management
- Spring data access support
- Data access in a layered architecture
- Common data access configurations
- Spring's JdbcTemplate
- Configuration of the JdbcTemplate
- Query execution with the Jdbc Template
- Working with result sets
- Data Access Exception handling
- ORM Fundamentals
- Benefits of O/R Mapping
- Configuring a Hibernate SessionFactory
- Spring's HibernateTemplate
- Implementing Native Hibernate DAOs

4. **Transaction Management**

- Why use Transactions?
- Local Transaction Management
- Programmatic JTA
- Declarative Transactions
- Spring Transaction Management
- Transaction Propagation

5. **Spring with JNDI and JMS**

- Configuring JMS Resources with Spring
- Sending Messages
- Receiving Messages

6. **Spring with JMX**

- JMX Architecture
- Goals of Spring JMX
- Spring JMX (server)
- Spring JMX (client)

7. **Spring WebServices**

- Why use or build a web service?
- Best practices for implementing a web service
- Endpoint mappings

- Object-XML marshalling
- Client access

8. **Spring Remoting**

- Goals of Spring Remoting
- Remoting Overview
- Supported Protocols
- RMI
- EJB
- HttpInvoker
- Hessian/Burlap

9. **Using Spring in Web Applications**

- Goals of effective web application architecture
- Bootstrapping a Spring-based application
- Accessing a Spring-based application
- Overview of Spring MVC
- Spring MVC Request Processing Lifecycle
- Key Spring MVC Artifacts
- DispatcherServlet
- Handlers
- Handler Mappings
- Views

10. **Security**

- Motivations of Spring Security
- Spring Security in a Web Environment
- Configuring Web Authentication
- Configuring Web Authorization
- Using Spring Security's Tag Libraries