



JSP Spring Hibernate Webservice Course Content:35-40hours

Course Outline

Advanced Java

- Database Programming
- JDBC overview
- SQL- Structured Query Language
- JDBC Programming Concepts
- Query Execution
- Scrollable and Updatable Result Sets
- Working with Statements
- Row Sets
- Batch Updates
- Calling stored procedures and functions
- ResultSetMetaData
- Transactions
- Getting Started with Web Applications
- Web Application Life Cycle
- Web Modules
- Configuring Web Applications
- Accessing Databases from Web Applications
- Java Servlet Technology
- Servlets overview
- Servlet Life Cycle
- Sharing Information
- Initializing a Servlet
- Writing Service Methods
- Filtering Requests and Responses
- Invoking Other Web Resources
- Accessing the Web Context
- Session tracking and management
- Java Server Pages Technology
- JSP overview
- The Life Cycle of a JSP Page
- Declarations,Scriptlets ,Expressions



- JSP Action tags
- Directives
- JSP implicit objects
- Scope in JSP
- Java Server Pages Standard Tag Library
- Using JSTL
- Core Tag Library

Enterprise JAVA Beans

- Enterprise Bean overview
- Types of enterprise beans
- Advantages of enterprise beans
- The Life Cycles of Enterprise Beans
- Working with Session Beans
- Stateful vs. Stateless Session Beans
- Working with Entity Beans
- Bean Managed Persistence/Container Managed Persistence entity beans

JAVA Messaging Service (JMS)

- Overview
- JMS architecture
- Messaging models
- Point-to-Point
- Publish/subscribe
- JMS API
- Message-Driven Beans
- Overview
- The Message-Driven Bean Class
- Life cycle of Message Driven Bean

Spring Framework

- Spring Introduction
- Spring modules
- Dependency injection
- Spring containers (Bean Factory , Application Context)
- Basic bean wiring
- Bean life cycle
- Spring Data Access
- Using jdbc with spring
- Working with Datasources,
- Working with jdbctemplates,
- DML operations on data
- Spring web-MVC

Controllers

- Types of controllers
- Handling web requests
- Mapping requests to controllers
- Handler Mappings
- Processing commands, form submissions
- Views
- Resolving text messages (property files)
- View resolvers
- Validations
- Working with throw away controllers

ContextLoaderListener for loading configuration files

- Aspect Oriented Programming
- Join points, point cuts, advice, aspects
- AspectJ syntax for AOP
- AOP configuration elements
- Spring Transactions
- The meaning of transaction
- Transaction attributes
- Spring transaction management support
- Choosing a transaction manager
- Declarative transaction management
- Spring Messaging
- Messaging overview (JMS)
- Using Messages with Spring
- Advanced Bean Wiring
- Parent and child beans
- Inner beans
- Bean wiring with property files

Hibernate

- OVER VIEW
- Overview of O/R mapping
- Overview of Hibernate architecture
- Setting up and running your first Hibernate application.
- Configuring Hibernate
- Hibernate configuration property file
- Hibernate configuration XML file
- Database dialects
- Obtaining a Session Factory
- User-provided JDBC connection
- Using code generation tool

- Using schema generation tool
- Using mapping file generation tool
- O/R Mapping
- Overview of the mapping file
- The id element and primary key
- Id generation methods
- Composite id
- Hibernate data types
- Custom value types
- Mapping for collections and associations
- Mapping for rich associations
- Component mapping
- Inheritance mapping
- Manipulating and Querying Persistent Data
- Persistent classes
- Loading an object
- Find methods
- The Query interface
- Performing CRUD operations
- Criteria Queries
- Using native SQL query
- Using lifecycle and interceptor callbacks
- Transactions and concurrency

The Hibernate Query Language (HQL)

- The select clause
- The from clause
- The where clause
- Expressions
- Aggregate functions
- Sorting, grouping, etc.
- Subqueries

Web Services

- XML basics
- Introduction of XML
- Syntax
- Elements
- Attributes
- DTD, XML schema and advanced schema

Introduction of DTD and XML Schema

- Elements of DTD and Schema



- Difference between DTD and Schema
- Implement example

SOAP and WSDL

- Introduction of SOAP and WSDL
- Implement example

Parsers (SAX and DOM)

- Introduction of SAX and DOM parsers
- Importance of Parsers
- Parser Architecture

JAXP

- Introduction of JAXP
- Implement SAX example
- Implement DOM example

Binding Frameworks(JAXB and XML Beans)

- Introduction of JAXB and XML Beans
- Importance of XSD
- Implement example

Web services implementation using Axis framework

- Introduction of Axis 1 and 2
- Ant targets
- Build and deploy services
- Writing client program
- Web services implementation using Spring framework
- Introduction of Spring WS stack
- Implement example