



Information Booklet

Course Name:
Course in JSP
Course Code: P5



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Course in JSP

1. Introduction:

This course teaches in detail the advanced components of the Java Programming Language.

2. Eligibility:

XII th & above

3. Duration:

80 Hours. Two and half hours each day

- Theory 20 hours
- Practical 60 hours

4. Course Details:

Type of course	Professional IT Course
Syllabus	<p>Programming Concepts</p> <ul style="list-style-type: none"> ○ Flowcharts ○ Algorithms ○ Data Flow Diagrams ○ Software Life Cycle <p>Introduction to Web Application Technologies</p> <p>Web Application Technologies</p> <p> HTTP Client-Server Architecture</p> <p> Web Site Structure</p> <p>Web Sites and Web Applications</p> <p> Execution of CGI Programs</p> <p> Advantages and Disadvantages of CGI Programs</p> <p> Execution of Java Servlets</p> <p> Advantages and Disadvantages of Java Servlets</p> <p> Using Separate Processes or Using Threads</p> <p>Java Servlets</p> <p>JavaServer</p> <p>Web Application — Three—Tier Architecture</p> <p>Model-View—Controller (MVC) Architecture in a Web Application</p> <p> Model 2 Architecture</p> <p> Model 2 Frameworks</p> <p> Java EE Containers</p> <p> Java EE Architecture Example</p> <p> Job Roles</p> <p> Web Application Migration</p> <p>Developing a View Component</p> <p>Designing a View Component</p>

Types of View Components
 Soccer League Case Study
 List Leagues Analysis Model
 List Leagues Page Flow
 HTTP Revisited
 Hypertext Transfer Protocol
 HTTP GET Method
 HTTP Request
 HTTP Request Headers
 HTTP Response
 HTTP Response Headers
 Web Container Architecture
 Request and Response Process
 Sequence Diagram of an HTTP GET Request
 Developing a Simple HTTP Servlet
 List Leagues Architecture Model
 The HTTPServlet API
 The ListLeaguesServlet Class
 Configuring and Deploying a Servlet
 Soccer League Web Application Structure
 Configuring a Servlet Definition
 Configuring a Servlet Mapping
 Complete Deployment Descriptor
 Web Application Context Root
 Sun Java™ System Application Server Deployment
 WAR Files for Deployment
 Activating the Servlet in a Web Browser

Developing a Controller Component
 Designing Controller Components
 Types of Controller Components
 Add a New League Analysis Model
 Add a New League Page Flow
 Form Verification
 Soccer League Web Structure
 Creating an HTML Form
 Add a New League Web Form
 The form Tag
 Textfield Component
 Drop-Down List Component
 Submit Button
 Complete HTML Form
 How Form Data Is Sent in an HTTP Request
 Form Data in the HTTP Request
 HTTP GET Method Request
 HTTP POST Method Request
 HTTP GET and POST Methods
 Developing a Controller Servlet
 Add a New League Use Case Revisited
 Servlet API to Retrieve Form Parameters
 Developing the AddLeagueServlet Servlet
 Dispatching From the Controller to a View
 Add a New League Use Case
 Request Scope

Using a Request Dispatcher
Developing the AddLeagueservlet Code
Developing the SuccessServlet Code

Developing Dynamic Forms

Servlet Life Cycle Overview
Servlet Class Loading
One Instance Per Servlet Definition
The init Life Cycle Method
The service Life Cycle Method
The destroy Life Cycle Method
Using Initialization Parameter to Customize the Add a New League Form
Handling Errors in a Web Form
Repopulating Web Forms

Sharing Application Resources Using the Servlet Context

Purpose of the Servlet Context
Soccer League Demonstration
Servlet Context
Developing a Servlet Context Listener

Designing the Business Tier

Describing the Analysis Model
Domain Entities
Designing a Service Component
Entity Service
Facade Service

Developing Web Applications Using Struts

Struts Framework
Model-View-Controller Pattern
Front Controller Pattern
Struts MVC Framework
Developing a Struts Action Class
Struts Action Class API
Creating an Action Class
Configuring the Struts Action Mappings
Configuring the Infrastructure Controller
Configuring Action Mappings
Installing the Struts Library Files

Developing Web Applications Using Session Management

HTTP and Session Management
Designing Web Applications to Use Session Management
Using Session Management in a Web Application
Using Cookies for Session Management
Using URL-Rewriting for Session Management

Using Filters in Web Applications

Web Container Request Cycle
Web Container Request Processing
Applying Filters to an Incoming Request
Applying Filters to a Dispatched Request
Filter API

Developing a Filter Class

- The PerformanceFilter: Class

- The init Method

- The doFilter Method

- The destroy Method

Configuring the Filter

- Declaring a Filter in the web .xml File

- Declaring a Filter Mapping in the web .xml File

Integrating Web Applications With Databases

- Mapping Sample Data Structures into Database Entities

Designing a Web Application

- Domain Objects

- Database Tables

- Data Access Object (DAO) Pattern

- DAO Pattern Advantages

- JDBC™ API

Developing a Web Application Using a Database

- Traditional Approaches to Database Connections

- Using a DataSource and the JNDI API

- Configuring a DataSource and the JNDI API

Developing JSP Pages

- JavaServer Pages Technology

- How a JSP Page Is Processed

- Developing and Deploying JSP Pages

Writing JSP Scripting Elements

- Comments

- Directive Tag

- Declaration Tag

- Scriptlet Tag

- Expression Tag

- Implicit Variables

- Using the page Directive

- Using Standard Tags

- Using Expression Language (EL) Elements

- Configuring the JSP Environment

Developing JSP Pages Using Custom Tags

- The Java EE Job Roles Involved in Web Application Development

Designing JSP Pages with Custom Tag Libraries

- Contrasting Custom Tags and Scriptlet Code

- Developing JSP Pages Using Custom Tags

- Custom Tag Library Overview

- Custom Tag Syntax Rules

- JSTL Sample Tags

Using a Custom Tag Library in JSP Pages

- Using an Empty Custom Tag

- Using a Conditional Custom Tag

- Using an Iterative Custom Tag

- JSTL Tags

Developing Web Applications Using Struts Action Forms

- Struts Application Components

Model Elements Review
Control Elements Review
View Elements Review
Developing an ActionForm Class
The Add a New League Form
The AddLeagueForm Class
Data Conversion
Writing the validate Method
Struts ActionError Class
How the Controller Uses the Form Bean
Developing the JSP Code for a View Form
Configuring the View Forms
Configuring the Form Beans
Configuring the View Aspects of the Actions

Building Reusable Web Presentation Components

Complex Page Layouts
Presentation Segment Overview
Organizing Presentation Segments
Including JSP Page Segments
Using the include Directive
Using the jsp : include Standard Action
Using the jsp : param Standard Action
Developing Layouts Using Struts Tiles
Layout JSP File
Tiles Layout
Content Body

Introducing JavaServer™ Faces Technology

Introducing JavaServer Faces Technology
Components of a JavaServer Faces Technology-Based Web Application
Comparison of JavaServer Faces Technology With Struts Framework
Key JavaServer Faces Concepts
UI Component Model
UI Component Classes

Quick Reference for HTML

HTML and Markup Languages
Creating an HTML Document
Tag Syntax
Comments
Spaces, Tabs, and New Lines Within Text
Character and Entity References
Creating Links and Media Tags
The A Element and the HREF Attribute
The IMG Element and the SRC Attribute
The APPLET Element
The OBJECT Element
Text Structure and Highlighting
HTML Forms
The FORM Tag
HTML Form Components
Input Tags

Text Fields
Submit Buttons
Reset Button
Checkboxes
Radio Buttons
Password
Hidden Fields
The SELECT Tag
The TEXTAREA Tag
Creating HTML Tables
Advanced HTML
JavaScript™ Programming Language
CSS
Frames

Quick Reference for HTTP
HTTP Overview
Request Structure
 HTTP Methods
 Request Headers
Response Structure
 Response Headers
 Status Codes
CGI Overview
 Environment Variables Set
 Data Formatting

Quick Reference for the Sun Java System Application Server
Sun Java System Application Server Overview
Installing the Sun Java System Application Server
Starting and Stopping the Application Server
Application Configuration
Logging and Log Files

Quick Reference for the Ant Tool
Ant Overview
Build File Structure
 Projects
 Targets
 Tasks
 Properties
Ant Special Features
 Patterns
 The fileset Element
 Filtering
 The filter Task
Basic Built-in Ant Tasks
 The copy Task
 The delete Task
 The mkdir Task
 The echo Task
 The javac Task
 The javadoc Task
 The jar Task

	<ul style="list-style-type: none">Complete Ant Build FileExecuting AntInstalling Ant Quick Reference for UMLUML FundamentalsGeneral Elements<ul style="list-style-type: none">PackagesStereotypesAnnotationConstraintsTagged ValuesUse Case DiagramsClass Diagrams<ul style="list-style-type: none">Class NodesInheritanceInterface ImplementationAssociation, Roles, and MultiplicityAggregation and CompositionAssociation ClassesOther Association ElementsObject DiagramsCollaboration DiagramsSequence DiagramsStatechart DiagramsTransitionsActivity DiagramsComponent DiagramsDeployment Diagrams Quick Reference for XMLIntroduction to XMLBasic Syntax<ul style="list-style-type: none">Well-Formed XML DocumentsValidity and DTDsDTD-specific InformationSchemas Project Work
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5. Fee:

Rs. 4000/- (exclusive of all taxes)