

Custom Training Institute

9085 Coyote Springs Road
 Prescott Valley, AZ 86314
 (928) 772-3811
 FAX (928) 441-6444

Java Server Pages (CTI 178)

Java Server Pages (JSP) is the standard technology for generating dynamic web pages for Web applications following the J2EE specification. This course covers JSP 2.0 thoroughly, including servlets, scriptlets, JSP expressions, and the JSTL (JSP Standard Tag Library).

Prerequisites: Knowledge of HTML and Web application architecture and design, plus Java programming experience, is helpful but not necessary.

Minimum software requirements: Microsoft Windows 2000 or Linux, J2SE SDK, Apache Tomcat 5 Web server, MySQL RDBMS and MySQL JDBC driver.

Minimum hardware requirements for all machines: Pentium 500MHz or equivalent CPU, 256 meg RAM, 500 meg disk space.

Microsoft PowerPoint and Internet access on instructor's workstation for presentation purposes.

Module 1: Web Server Fundamentals

- The World Wide Web
- HTML
- Web Servers
- HTTP
- Dynamic Web Pages
- CGI
- Java Web Technologies
- Servlets
- JSP

Module 2: JSP Architecture

- JSP Containers
- Servlet Architecture
- Page Translation
- Types of JSP Content
- Directives
- Content Type
- Buffering
- Scripting Elements
- JSP Expressions
- Standard Actions
- Custom Actions and JSTL
- Objects and Scopes
- Implicit Objects
- JSP Lifecycle

Module 3: Scripting Elements

- Translation of Template Content
- Scriptlets
- Expressions
- Declarations
- Dos and Don'ts
- Implicit Objects for Scriptlets
- The request Object
- The response Object
- The out Object

Module 4: Interactive JSP Applications

- HTML Forms
- Reading CGI Parameters
- JSPs and Java Classes
- Error Handling
- Session Management
- The Session API
- Cookies and JSP

Module 5: Using JavaBeans

- Separating Presentation and Business Logic
- JSP Actions
- JavaBeans
- Working with Properties
- <jsp:useBean>
- <jsp:getProperty> and <jsp:setProperty>
- Using Form Parameters with Beans
- Objects and Scopes
- Working with Vectors

Module 6: The Expression Language and the JSTL

- Going Scriptless
- The JSP Expression Language
- EL Syntax
- Type Coercion
- Error Handling
- Implicit Objects for EL
- The JSP Standard Tag Library
- Role of JSTL
- The Core Actions
- Using Beans with JSTL
- The Formatting Actions
- Scripts vs. EL/JSTL

JavaServer Pages (CTI 178) - continued

Module 7: Advanced JSP Features

- Web Components
- Forwarding
- Inclusion
- Passing Parameters
- Custom Tag Libraries
- Tab Library Architecture
- Implementing in Java or JSP
- Threads
- Strategies for Thread Safety
- XML and JSP
- JSP for Web Services

Module 8: Effective JSTL

- The JSP Standard Tag Library
- JSTL Namespaces
- Going Scriptless
- Object Instantiation
- Sharing Objects
- Decomposition
- Parameterization

Module 9: The Core Actions

- The JSTL Core Library
- `<c:out>`
- `<c:set>`
- Gotchas
- Conditional Processing
- Iterative Processing
- Iterating Over Maps
- Tokenizing Strings
- Catching Exceptions
- Resource Access

Module 10: The Formatting and i18n

Actions

- The JSTL Formatting Library
- Locales
- Determining Locale
- Time Zones
- Setting Locale and Time Zone
- Formatting and Parsing Dates
- Formatting and Parsing Numbers
- Internationalization
- Working with Resource Bundles
- Supporting Multiple Languages

Module 11: The SQL Actions

- The JSTL SQL Library
- Using Relational Data
- Connecting with a DriverManager
- Connecting via a DataSource
- The Result Interface
- Making a Query
- Inserts, Updates and Deletes
- Parameterized SQL
- Transactions

Module 12: The XML Actions

- The JSTL XML Library
- Using XML
- XML Data Sources
- Parsing and Addressing
- Using XPath in JSTL
- XPath vs. EL
- XPath Context
- Implicit Objects for XPath
- Conditional Processing
- Iterative Processing
- Changing XPath Context
- Working with XML Namespaces
- Using XSLT
- Chaining Transformations
- Reading XML from the Request Body
- XML and SOAP Web Services

Appendix:

Learning Resources