

JavaServer Faces (5 Days)

Custom Training Institute

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

JavaServer Faces (CTI 249)

JavaServer Faces technology simplifies building user interfaces for JavaServer applications. Developers of various skill levels will be able to quickly build web applications upon completion of this course by assembling reusable UI components in a page; connecting these components to an application data source; and wiring client-generated events to server-side event handlers.

Prerequisites: Familiarity with web page development (HTML and XML); familiarity with Java programming (servlets and JavaBeans).

Minimum software requirements: Java Enterprise Edition Software Development Kit (Java EE SDK). JavaServer Faces (JSF) visual development environment, such as Eclipse, NetBeans or Sun Java Studio Creator. Apache TomCat.

Minimum hardware requirements: Pentium at 1.5 GHz, 512 Mb RAM; 1 Gb free hard disk space before installation. Internet access.

Microsoft PowerPoint on instructor's workstation for presentation purposes.

Module 1: JSF Introduction, Overview and Setup

- Installing and Running Web Applications
- The MVC Architecture
- Understanding JSF:
 - Differing Views of JSF
 - Comparing JSF to Standard Servlet / JSP Technology
 - Comparing JSF to Apache Struts
- Setting Up JSF:
 - Downloading and Installing in TomCat
 - Testing JSF
 - Setting Up JSF Applications
 - Accessing JSF Documentation

Module 2: Controlling JSF Page Navigation

- JSF Flow of Control
- The Basic Steps in Using JSF
- Static Navigation (One Result Mapping)
- Dynamic Navigation (Multiple Result Mappings)

Module 3: Managed Beans

- Using Beans to Represent Request Parameters
- Establishing Configurations (faces-config.xml)
- Declaring Beans in faces-config.xml
- Outputting Bean Properties (Standard JSF Approach; JSP 2.0 Expression Language)

Module 4: The JSF Expression Language

- Benefits and Use of the Expression Language
- Comparing JSF Expression Language to the JSP 2.0 EL
- Accessing Bean Properties
- Submitting Bean Properties
- Expressions in Output Values
- Expressions in Submission Values
- Expressions for Action Controllers
- Accessing Collection Elements
- Using Implicit Objects and Operators

Module 5: JSF Properties Files

- Loading Properties Files
- Simple Messages
- Parameterized Messages
- Internationalized Messages

Module 6: JSF Event Handling

- Comparing Action Controllers to Event Listeners
- Action Listeners
- Value Change Listeners
- Submitting a Form with JavaScript
- Working Around Browser Incompatibilities
- Action Listeners and Action Controllers

Module 7: The JSF "h" (HTML) Package

- Most Common Usage
- Shared Attributes
- Implied Attributes
- Elements that can Invoke Action Controllers/Listeners
- Elements that can Invoke Value Change Listeners
- Elements that Display Lists of Items

**Module 8: Custom Apache MyFaces
Components**

- Tomahawk vs. Trinidad and Tobago
- Getting the MyFaces Components
- Configuring MyFaces to Use Tomahawk
- Most Popular MyFaces Components

Module 9: Validating User Input

- Manual Validation
- Implicit Automatic Validation
- Explicit Validation
- MyFaces Validators
- Creating Custom Validators

**Module 10: Accessing Databases with
JDBC**

- Overview of JDBC Technology
- JDBC Drivers
- Seven Basic Steps in Using JDBC
- Using JNDI with JDBC
- Retrieving Data from a ResultSet
- Using Prepared and Callable Statements
- Submitting Multiple Statements as a Transaction

Module 11: Using JSF Data Tables

- Motivation
- Basic Syntax
- Defining Table Headings
- Formatting Tables with Style Sheets
- Displaying Database Tables

**Module 12: Fundamentals of JSP Custom
Tag Libraries**

- Java-Based Tags:
 - Components of a Tag Library
 - Basic Tags
 - Tags that Use Attributes
 - Tags that Use Body Content
 - Tags that Optionally Use Body Content
- JSP-Based Tags (Tag Files):
 - Components of a Tag Library
 - Basic Tags
 - Tags that Use Attributes
 - Tags that Use Body Content

**Module 13: Advanced Topics in Custom
JSP Tag Libraries**

- Tags with Dynamic Attribute Values
- Tags with Complex Objects for Attributes
- Manipulating the Tag Body
- Looping Tags
- Nested Tags
- Using SAX and TagLibraryValidator to Validate Tag Library Syntax

**Module 14: Developing Custom
Components in JSF**

- Main Pieces of Custom Components
- Java Class that Extends UIComponent
- Custom JSP Tag
- TLD File that Declares Custom Tag
- Entry in faces-config.xml
- JSP Page that Uses Custom Tag
- Simple Output-Only Components
- Components that Accept Attributes
- Components that Accept Input

**Module 15: Laying Out Pages with Apache
Tiles**

- Tiles Motivations
- Setting Up JSF (Any Implementation) for Simple Tiles
- Tiles Basics
- Setting Up MyFaces for Tiles Definitions
- Using Tiles Definitions File

Module 16: Using JSTL with JSF

- Obtaining JSTL Documentation and Code
- The JSTL Expression Language
- Looping Tags
- Conditional Evaluation Tags
- Database Access Tags
- Preserving the MVC Model
- Other Tags

Module 11: Review and Summary