Fast Track to JavaServer Faces Using JSF to Build J2EE Web Apps

Duration: 3 days

Description
JSF is a J2EE technology that focuses on simplifying the building of Web based user interfaces in Java. It builds on existing technologies, such as Servlets and JSP, but solves many of the issues that arise when using them directly. It does this by providing a standard component based user interface (UI) framework that can be leveraged by tools to provide a rich and easy to use development environment.

This course will get you up to speed with JSF in a very short time. It includes all the important concepts, as well as numerous hands on labs that will have you building working JSF applications very quickly. It covers all the important architectural concepts, as well as providing practical instruction on how to use the many capabilities of the JSF framework.

The course includes a broad coverage of the most important JSF capabilities, including the JSF architecture, working with managed beans, the JSF Expression Language, the JSF core and HTML tag libraries, data tables, validation, and conversion. It also includes overview of advanced technologies, such as using JSF and Ajax. After learning this material, you'll be ready to use JSF to create your own solutions in the most demanding situations.

All labs are done with the Eclipse IDE Java EE version deploying to the Tomcat server. Lab instructions include detailed directions for using them.

Skills Gained:
- Understand the shortcomings of servlets/JSP, and the need for a framework like JSF
- Understand MVC and the JSF architecture
- Create & configure applications using JSF, including FacesServlet and the faces-config.xml file
- Understand and use Managed Beans to manage application data
- Configure navigation rules for your Web application
- Create Web pages using the JSF core and html tags and the JSF expression language
- Lay out tables using the JSF h:datatable and associated tags
- Handle action events, value change events, and data model events
- Use JSF Validators to validate your input data
- Understand and use JSF data conversion
- Understand the JSF request lifecycle, and write phase listeners
- Understand how Ajax and JSF can be used together

Topics:
Session 1: Overview of Java EE and Java Web Applications
- Java EE and Web App Overview
- Servlet, Servlet Scopes
- JSPs, JSF Lifecycle
- Custom Tags, Tag Libraries, taglib directive

Session 2: Getting started with JSF
- JSF Overview
  - Purpose and Goals
  - JSF Architecture
Fast Track to JavaServer Faces Using JSF to Build J2EE Web Apps

- JSF Views, Managed Beans, Controller, configuration
  - Downloading and Installing JSF
  - Your first JSF Application - setup, configuration, deployment
  - Server setup and use

Session 3: Managed Beans
- Defining a Managed Bean
- Managed Bean Lifecycle
  - <managed-bean> elements in faces-config.xml
- Managed Beans and JSF Forms
- Managed Beans as Value Binding Expressions
- JSF Expression Language (EL) & the Unified EL (JSF 1.2)
- Value Binding Expressions
- Method Binding Expressions
- Implicit Objects

Session 4: JSF Navigation
- <navigation-rule> configuration issues
- <navigation-case> and nested elements
- How to use the navigation rules

Session 5: The JSF Tag Libraries
- JSF Tag Library Overview
- JSF Core tags <f:tagName>
- JSF HTML tags <h:tagName>
- Using the Most Common Form controls – TextFields, Buttons, Links, array

Session 6: h: dataTable
- <h: dataTable> tag and nested tags <h:column> etc.
- Working with collections of type List or Table headers and footers, f:facet

Session 7: More about JSF Tags
- Using <h:commandLink> and <h:outputLink>
- Using the h:selectXxx Tags (e.g. h:selectManyListBox)

- JSF Event Model (Action, Value Change, and Data Model Listeners)

Session 8: JSF Validation
- Standard Validators
  - required, validateDoubleRange, validateLongRange
- Creating, configuring, and using Custom Validators

Session 9: JSF Conversion
- Standard JSF Converters
  - convertDateTime, convertNumber - configuration and usage
- Custom Converters

Session 10: JSF Lifecycle
- Lifecycle Overview
- Initial requests and postbacks
- Restore View, Apply Request Values, Process Events, Process Validations, Update Model Values, Invoke Application, Render Response
- renderResponse() and renderComplete()
- Phase listeners

Session 11: Additional Topics
- Backing Beans / UIComponents
- JSF and CSS
- JSF and JavaScript
- Localization and Resource Bundles
- Ajax4jsf - Using Ajax with JSF