

JSF course extends the knowledge of basic Java web site development with Servlets and JSPs into the realm of event-driven, component-oriented, rich Java web applications with the JavaServer Faces technology.

Through a hands-on delivery students learn the concepts behind the JSF technology, including its architecture, API, life-cycle, components, converters, validators, listeners, event-handling, expression language, configuration, and deployment.

In addition to using standard off-the-shelf JSF components (e.g. tables), students also gain skills necessary to build custom components, validators/converters, and AJAX-enabled user interfaces - all while applying best-practices in their overall application design.

An introduction will also be given into the ajax4jsf framework.

Program Objectives

- To understand the purpose and scope of the JSF architecture
- To build Web applications using JSF's FacesServlet, faces-config.xml, and the JSF request/response lifecycle.
- To use the JSF custom tag libraries to build JSF views as JSPs.
- To use managed beans to encapsulate not only server-side form handling but also client-side presentation logic.
- To implement control logic as JSF event listeners or action methods.
- To use validators and converters to implement a validation phase for a JSF application.
- To learn how to build custom components, custom validators and custom converters.
- To learn about ajax and how to use ajax4jsf framework with jsf.

Audience

Java developers with knowledge of servlets and jsp.

Prerequisites

Knowledge of core Java and Servlet/JSP.

Course-length

2 Days

Materials Included

Printed Course Material and lab files

Course Contents

- What is JSF?
 - Getting Started
 - The UI Component Model
 - The Request Processing Lifecycle
 - State saving of component tree
- A Simple JSF Demo
 - Adding a value expression to a command button.
 - Adding the required attribute and <h:message../> tag.
 - Adding a validator.
 - Adding a converter.
- Revisiting the jsf request processing lifecycle (analyzing in detail).
 - Restore View.
 - Apply Request Values.
 - Process Validations
 - Update Model Values.

- Invoke Application.
- Render Response.
- Revisiting UIComponent Model.
 - Accessing UIComponents programmatically.
- Revisiting Converters and Validators:
 - Implicit Converters.
 - Explicit Converters.
 - DateTime Converter Attributes.
 - Number Converter Attributes.
 - The lifetime of a converter.
 - Custom Converters.
 - Validators:
 - The “required:true” facility.
 - Creating Custom Validators.
 - The Validation Phase in Detail.
- Internationalization/Localization (i18n/L10n)
 - Using Resource Bundles.
 - Declaring the supported locales for the application.
- Understanding FacesMessage.
 - Overriding the default messages of validators.
 - Localizing error messages of custom validators and converters.
- Understanding Managed Beans:
 - What are Managed Beans.
 - Initializing Managed Beans Properties.
 - Initializing properties of the type List and Map.
 - Declaring Lists/Maps directly as Managed Beans.
 - Managed Bean Interdependence.
 - Managed Bean scopes.
- Understanding the JSF Event Model:
 - JSF Event Classes.
 - JSF Event Listener Interfaces.
 - Short-circuiting the JSF Request Processing Lifecycle.
 - When are Faces Events Processed.

- Immediate Events.
- Anatomy of an Action Event.
- Anatomy of a ValueChange Event.
- Writing Custom Action-Listener and ValueChange-Listener.
- The binding attribute.
- Phase Events and Listeners.

- Understanding the JSF Navigation Model:
 - Static Navigation.
 - Dynamic Navigation.
 - Using wildcards.
 - Using redirects.

- Understanding the JSF Expression Language:
 - Implicit Objects.
 - EL operators.

- Exploring the HTML tag library:
 - Text Fields and Text Areas.
 - h:inputText
 - h:inputSecret (input type=password)
 - h:inputTextarea
 - Displaying Text and Images
 - h:outputLabel (label)
 - h:outputText (span)
 - h:outputFormat (for parameterized messages)
 - h:graphicImage (img)
 - Buttons and Links
 - h:commandButton (input type=button)
 - h:commandLink (anchor that fires a submit on click)
 - h:outputLink (anchor with href)
 - Selection Tags
 - Checkboxes and Radio Buttons
 - h:selectBooleanCheckbox
 - h:selectManyCheckbox (checkboxes with same name)
 - h:selectOneRadio (layout:pagedirection/linedirection)
 - Menus and Listboxes
 - h:selectOneListbox (select : list)
 - h:selectManyListbox (select : list, with multi-select)

- h:selectOneMenu (combo-box)
 - h:selectManyMenu (use arrow keys to navigate)
 - f:selectItems value attribute
 - Panels.
 - h:panelGrid
 - h:panelGroup
 - Data Tables
 - h:dataTable
 - Editing Table Cells
 - Database Tables
- Creating Custom Components:
 - Analyzing parts of a component and creating our custom component.
 - Creating a basic custom component.
 - Creating a custom component with attributes and using a converter.
 - Ajax and JSF:
 - What is ajax.
 - Learning the methods and properties of the XMLHttpRequest object.
 - Using classic ajax with a jsf application by using a servlet.
 - Refactoring the same application by replacing servlet with ajax4jsf tags.

Set-up Requirements

- 1 . Jdk 1.5 / jdk 1.6
2. Net Beans 6 bundled with Sun Application Server 9.
(bundled database that comes with sup app server will be used for database connectivity demo)