

# Introduction to Java Server Faces

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**Length:**

3 days

**Course Description:**

This course is designed to introduce the developer to the JSF architecture and provides the basis for planning, developing, and deploying Web based applications using the JSF framework. After taking this class, the developer will be able to quickly construct dynamic server-side web pages using JSF and integrate the Web application with many of the other Java2 Enterprise Edition application server methodologies such as Enterprise Java Beans, JavaMail, and SOAP.

**Course Objectives:**

Upon completion of this course, students will be able to:

- Identify JSF concepts
- Configure and build JSF applications
- Describe the User Interface Component Model of JSF
- Explain the usage of UI components provided by J2EE and extensions provided by IBM
- Identify the HTML Panel
- Explain the Data table
- Describe JSF Navigation
- Articulate the JSF Architecture
- Describe JSF Request Objects
- Explain simple JSF User Interface components
- Articulate the EL Expression Language and Advanced User Interface components
- Identify Event Handling
- Describe Data Validation
- Explain Data Conversion
- Render Custom User Interface Objects

**Audience:**

The audience for this course is developers

**Prerequisites:**

- A solid understanding of Java programming and understand the basics of XML
- Knowledge of HTML syntax and JavaServer Pages syntax
- Knowledge of Enterprise Java Beans (EJB) is also a plus

## **Course Topics:**

### **Chapter 1 - Introduction to JavaServer Faces**

- Introduction to JSF
- MVC Patterns
- JSF – Advantages
- JSF Concepts – User Roles
- JSF GUI components
- JSF GUI Classes
- Managed Bean
- How does JSF Work?
- FacesServlet
- Request Processing Lifecycle Phases
- Configuring JSF Applications

### **Chapter 2 - User Interface Component Model**

- Managed Bean
- JSF UI Components
- JSF Component Tag Libraries
- Using the Tag Libraries
- HTML Tag Library
- Identifying Components
- Component Identifier
- Client Identifier
- Value Binding
- Component Binding
- JSF Core Library
- JSF UI Components - API
- javax.faces.component
- UIComponent
- UIComponentBase
- JSF Component Model
- Parent-Child Relationships
- Facets
- UI Components
- javax.faces.component.html
- HTML Component Classes
- JSF HTML Library - Components

### **Chapter 3 - JSF Event Handling**

- JSF Event & Listener Model
- When Are Listeners Invoked?
- JSF Event Classes
- Event Classes
- Action Event
- Action Listener
- Value Change Event

- Listener Classes
- Listener Interfaces
- Listener Classes - Hierarchy
- Action Listener Class
- Value Change Listener Class
- Phase Identifiers
- Request Processing Lifecycle
- Request Processing Lifecycle Phases
- Phase Identifiers

#### **Chapter 4 - JSF Navigation**

- JSF Navigation
- faces-config.xml File
- JSF Navigation
- Navigation Rules
- Choosing between Redirect & Direct Rendering
- Navigation - Scenarios

#### **Chapter 5 - Validation**

- Validation
- Standard Validators
- <f:validateLength>
- <f:validateDoubleRange>
- <f:validateLongRange>
- Checking for required values
- Standard Validation Error Messages
- Validation Process
- Bypassing Validation

#### **Chapter 6 - Advanced GUI Components**

- HTML Panel
- Applying Styles
- Grouping Components
- Data Table
- Using a Data Table
- Displaying a Header and Footer Row
- Applying Styles
- Working Inside a Form
- Handling Action

#### **Chapter 7 - Using Java Standard Template Library JSTL with JSF**

- Introduction to JSTL
- Using JSTL with JSF
- The <c:out> Tag
- The <c:if> Tag
- The <c:choose> Tag
- The <c:forEach> Tag
- International Text Display Tags

## Chapter 8 - JSF Expression Language

- What is Expression Language
- Language Basics
- Use of Expression in JSF
- Basic Expression
- Property Access Expression
- Map Access Expression
- Complex Access Expression
- Predefined Objects
- Operators