

## Course duration

- 4 days

## Course Benefits

- 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 the FacesServlet, and the faces-config.xml file
- Understand and use Managed Beans to manage application data
- Configure navigation rules for your Web application
- Use facelets to create JSF2 Web pages
- Use 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
- Use composition to create custom tags and templates
- Understand the JSF request lifecycle, and write phase listeners
- Use JSF's Ajax capabilities
- Be familiar Faces Flow at a high level, and use it for page flow
- Understand and use the JSF HTML 5 integration

### Available Delivery Methods

#### Public Class

Public expert-led online training from the convenience of your home, office or anywhere with an internet connection. Guaranteed to run .

#### Private Class

Private classes are delivered for groups at your offices or a location of your choice.

## Course Outline

1. Overview of Java EE and Java Web Applications
  1. Java EE and Web App Overview
  2. Servlet, Servlet Scopes
  3. JSPs, JSP Lifecycle

4. Custom Tags, Tag Libraries, taglib directive
5. Model View Controller
2. Getting started with JSF
  1. JSF Overview
  2. Purpose and Goals
  3. JSF Architecture
  4. JSF Views - facelets and JSP Pages
  5. Managed Beans, Controller, configuration
  6. Downloading and Installing JSF
  7. Your first JSF Application - setup, configuration, deployment
  8. Server setup and use
3. Managed Beans
  1. Defining a Managed Bean (annotation-based and configuration in faces-config.xml)
  2. Managed Bean Lifecycle
  3. Managed Beans and JSF Forms
  4. Managed Beans as Value Binding Expressions
  5. JSF Expression Language (EL) & the Unified EL (JSF 1.2)
  6. Value Binding Expressions
  7. Method Binding Expressions
  8. Implicit Objects
4. JSF Navigation
  1. <navigation-rule> configuration issues
  2. <navigation-case> and nested elements
  3. How to use the navigation rules
5. Facelets and JSF Tag Libraries
  1. Facelet Introduction and Life Cycle
  2. JSF Tag Library Overview
  3. JSF Core tags <f:tagName>
  4. JSF HTML tags <h:tagName>
  5. Using the Most Common Form controls – TextFields, Buttons, Links ...
6. h:dataTable
  1. <h:dataTable> tag and nested tags <h:column> etc.
  2. Working with collections of type List or array
  3. Table headers and footers, f:facet
7. More about JSF Tags
  1. Using <h:commandLink> and <h:outputLink>
  2. Using the h:selectXxx Tags (e.g h:selectManyListbox)
  3. JSF Event Model (Action, Value Change, and Data Model Listeners)
  4. Session 8: JSF Data Validation
  5. Standard Validators
  6. required, validateDoubleRange, validateLongRange
  7. Creating, configuring, and using Custom Validators
8. JSF Data Conversion
  1. Standard JSF Converters
  2. convertDateTime, convertNumber - configuration and usage
  3. Custom Converters

- 9. Templates
  - 1. Layout Issues in Web Pages
  - 2. Using Templates with Facelets
  - 3. Creating Custom Composite Components
- 10. JSF Lifecycle
  - 1. Lifecycle Overview
  - 2. Initial requests and postbacks
  - 3. Restore View, Apply Request Values, Process Events, Process Validations, Update Model Values, Invoke Application, Render Response
  - 4. `renderResponse()` and `renderComplete()`
  - 5. Phase listeners
- 11. Additional Topics
  - 1. Backing Beans / `UIComponents`
  - 2. JSF and CSS
  - 3. JSF and JavaScript
  - 4. Localization and Resource Bundles
- 12. JSF and Ajax
  - 1. Ajax Overview
  - 2. Using `f:ajax`
  - 3. Event Triggers for "Ajax-ified" Components
  - 4. Listener Methods
- 13. Composite Components
  - 1. Overview
  - 2. Using `composite:interface`, `composite:attribute`, and `composite:implementation`
  - 3. Passing Managed Beans and Methods to a Component
  - 4. Adding Listeners and Actions
- 14. JSP Pages and JSF
  - 1. JSP Overview
  - 2. Create JSF Pages Using JSP
- 15. Introducing Faces Flow
  - 1. Overview
  - 2. A Simple Flow
  - 3. XML Flow Configuration
  - 4. Java Flow Configuration
  - 5. Flow Scoped Data
  - 6. Nested Flows
- 16. JSF and HTML 5
  - 1. Overview
  - 2. Pass-Through Attributes
  - 3. Pass-Through Elements

## Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the

class examples.

## Class Prerequisites

Experience in the following *is required* for this Java class:

- Working knowledge of Java programming, including use of inheritance, interfaces, and exceptions.