



SYLLABUS – INTRODUCTION TO JSF AND ICEFACES

1 Day 1: Introduction to JSF

- 1.1 JSF Features
- 1.2 JSF Architecture
- 1.3 Developing with a stateful application framework
- 1.4 JSF Implementations
- 1.5 The JSF Ecosystem and JSF Extensions
 - 1.5.1 Inter-framework and component compatibility
- 1.6 Getting Started with JSF
 - 1.6.1 JSF Standard Components
- 1.7 Migrating from JSP to JSF
 - 1.7.1 Integrating JSP Resources in JSF
 - 1.7.2 Understanding developing with a declarative MVC-JSF framework vs. a programmatically-driven JSP framework
- 1.8 Migrating from Struts to JSF
 - 1.8.1 Mapping Struts resources to JSF resources
 - 1.8.2 Understanding developing with a declarative MVC-JSF framework vs. an action-driven Struts framework
- 1.9 The JSF Request Processing Lifecycle
 - 1.9.1 PhaseListeners
- 1.10 JSF Main Concepts
 - 1.10.1 JSF Managed Beans
 - 1.10.2 JSF Expression Language
 - 1.10.3 JSF Converters, Validators, and ValueChangeListener
 - 1.10.4 JSF Actions and ActionListeners
 - 1.10.5 The Component Tree and JSF View
 - 1.10.6 JSF View Handlers
 - 1.10.7 JSF Navigation
 - 1.10.8 Internationalization

2 Day 2: Introduction to ICEfaces

- 2.1 Introduction to ICEfaces
 - 2.1.1 What is ICEfaces?
 - 2.1.2 Why Should I Use ICEfaces?
 - 2.1.3 Web 2.0 and AJAX Development
 - 2.1.4 A Glimpse into Raw AJAX Development with script.aculo.us
 - 2.1.5 High-Level AJAX Frameworks
- 2.2 ICEfaces Architecture
 - 2.2.1 Direct-2-DOM Rendering
 - 2.2.2 Partial Submit

- 2.2.3 Incremental Page Updates
- 2.2.4 The AJAX Bridge
- 2.2.5 AJAX Push
- 2.3 Exercise: Creating a 1st Project
- 2.4 ICEfaces Configuration
 - 2.4.1 ICEfaces Basic Runtime Dependencies
 - 2.4.2 Http Connection Timeout
 - 2.4.3 Concurrent DOM Views
 - 2.4.4 Synchronous Update
- 2.5 Rich ICEfaces Components
 - 2.5.1 The Menu Component: ice:menuBar
 - 2.5.2 The Context Menu
 - 2.5.3 The Dynamic Tooltip
 - 2.5.4 The Google Map
 - 2.5.5 The Rich Text Editor

3 Day 3 Working With Components and Facelets

- 3.1 Layout Components
 - 3.1.1 The Panel Layout Component: ice:panelGroup
 - 3.1.2 The Grid Layout Component: ice:panelGrid
 - 3.1.3 The Border Layout Component: ice:panelBorder
 - 3.1.4 The Tab Set Component: ice:panelTabSet
 - 3.1.5 The Accordion Component: ice:panelCollapsible
 - 3.1.6 The Popup Component: ice:panelPopup
 - 3.1.7 The Switching Content Component: ice:panelStack
 - 3.1.8 The Positional List Component: ice:panelPositioned
- 3.2 ICEfaces Custom Components
 - 3.2.1 The Connection Status Component: ice:outputConnectionStatus
 - 3.2.2 The Autocomplete Component: ice:selectInputText
 - 3.2.3 The File Upload Component: ice:inputFile
 - 3.2.4 The Chart Component: ice:outputChart
 - 3.2.5 The Calendar Component: ice:selectInputDate
- 3.3 JSF and Iterative Component Architecture
 - 3.3.1 Data Tables
 - 3.3.2 PanelSeries
 - 3.3.3 Trees
- 3.4 Data Tables
 - 3.4.1 Working with Tables in ICEfaces
 - 3.4.2 The Basic DataTable
 - 3.4.3 Basic DataTable Online Tutorial
 - 3.4.4 Integrating a DataTable into the CRUD ERP Application
 - 3.4.5 Scrolling
 - 3.4.6 Data Paging
 - 3.4.7 Sorting
 - 3.4.8 Row Selection
 - 3.4.9 Filtering Data
 - 3.4.10 Expandable Sub-Rows
 - 3.4.11 Programmatically Selecting a DataTable Row

- 3.4.12 Dynamic Columns
- 3.4.13 Dynamic Columns Online Tutorial
- 3.4.14 Lazy Loading Large DataSets
- 3.5 Trees
 - 3.5.1 The Tree Component: ice:tree
 - 3.5.2 Working with Trees in ICEfaces
 - 3.5.3 The Basic Tree
 - 3.5.4 Basic Tree Online Tutorial
 - 3.5.5 Integrating the Tree component into the CRUD ERP Application
 - 3.5.6 Node-specific Presentation in the Tree
 - 3.5.7 Loading Tree Models with XML Data
 - 3.5.8 Lazy Loading Data in the Tree
- 3.6 Facelets
 - 3.6.1 What is Facelets?
 - 3.6.2 Page Processing and Component
 - 3.6.3 Why use Facelets?
 - 3.6.4 Configuration
 - 3.6.5 Using XML JSF pages
 - 3.6.6 Free-style Expressions
 - 3.6.7 Exercise: Using Free-style Expressions to simplify a page
 - 3.6.8 Templating
 - 3.6.9 Composition Components
 - 3.6.10 Exercise: Using a Template to create personalized layouts
 - 3.6.11 Dynamic Includes
 - 3.6.12 Exercise: Using a Dynamic Include to Replace the ice:panelStack
 - 3.6.13 ui:repeat and c:forEach: revisiting JSF iterative components with some new tools

4 Day 4 Theming, Effects, Custom JavaScript, and Accessibility

- 4.1 CSS Component Theming
 - 4.1.1 General Styling Techniques
 - 4.1.2 Component instance styling
 - 4.1.3 Global component styling
- 4.2 AJAX Push
 - 4.2.1 Collaborative Web applications
 - 4.2.2 HTTP Comet: The foundations of Ajax Push
 - 4.2.3 Group Rendering
 - 4.2.4 Example: creating a Chat application
 - 4.2.5 JSF Contexts in a multithreaded environment
- 4.3 Animation
 - 4.3.1 Drag and Drop
 - 4.3.2 Animation Effects
- 4.4 Custom JavaScript with ICEfaces
- 4.5 Error Page and Handling
 - 4.5.1 Exercise: Integrating error-page handling into the Enterprise application
- 4.6 Accessibility
 - 4.6.1 Designing Accessible ICEfaces Web Applications
 - 4.6.2 Consideration of javascript-blocked clients

- 4.7 Security
 - 4.7.1 ICEfaces Security Concerns
 - 4.7.2 AJAX Security Concerns
 - 4.7.3 Java and Security
 - 4.7.4 Exercise: Security Integration with Spring Security/Acegi

5 Day 5: JSF and ICEfaces Best Practices

- 5.1 Web Application Architecture
- 5.2 Following a loosely coupled MVC model
- 5.3 Avoiding JSF pitfalls
- 5.4 Working with large data sets in JSF and ICEfaces
- 5.5 Handling browser compatibility issues
- 5.6 General Development Best Practices
 - 5.6.1 Troubleshooting
 - 5.6.2 Tools overview
 - 5.6.2.1 Eclipse
 - 5.6.2.2 Firebug
 - 5.6.2.3 Fiddler
 - 5.6.2.4 ICEfaces DOM Update console
 - 5.6.3 Debugging and analyzing client-side behavior
 - 5.6.4 Debugging and analyzing server-side behavior
 - 5.6.5 General code-build-deploy-test guidelines
 - 5.6.6 Testing browser differences
 - 5.6.7 Using external knowledge resources
- 5.7 Performance, Scalability, and Optimizations
 - 5.7.1 Designing JSF pages for minimum component-tree weight
 - 5.7.2 Optimizing Rendered Page Output weight
 - 5.7.3 Profiling client-side performance
- 5.8 Using Asynchronous long running resource calls to minimize response times