

Java Server Pages Programming with BEA WebLogic

Course Summary

Description

This course is designed to teach students how to write Java 2 Enterprise Edition (J2EE) applications using Java Server Pages and related technologies. The lab exercises use the BEA WebLogic J2EE container.

Topics

- Introduction to the Workshop
- Web Architecture Review
- Introduction to Java Server Pages
- Installing and Configuring a JSP Container
- JSP Syntax
- JSPs and JavaBeans
- JSPs and JDBC
- Sessions
- Java Standard Tag Library (JSTL)
- Writing Custom Tag Libraries
- JSPs and XML
- Introduction to Servlets
- Introduction to Web Applications
- Combining JSPs and Servlets
- Debugging Strategies
- Performance Considerations
- The Apache Struts Framework

Audience

This course is designed for content developers and programmers who will write J2EE applications and deploy under the BEA WebLogic container.

Prerequisites

Student taking this course should have experience with Java programming and HTML.

Duration

Four days

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Course Outline

- I. Introduction to the Workshop**
- II. Web Architecture Review**
 - A. The HTTP protocol
 - B. HTML review
- III. Introduction to JavaServer Pages**
 - A. The Common Gateway Interface (CGI)
 - B. Alternatives to CGI
 - C. Microsoft's ASP overview
 - D. What is Java2 enterprise edition?
 - E. Introduction to Servlets
 - F. Introduction to JavaServer pages
- IV. Installing and Configuring a JSP Container**
 - A. Basic requirements
 - B. Installing and configuring a JSP container
 - C. Logging and debugging tips
- V. Lab: A Simple JSP**
- VI. JSP Syntax**
 - A. JSP comments
 - B. Quoting, escapes and entities
 - C. Template data
 - D. Scripting elements (scriptlets)
 - E. JSP directives
 - F. Implicit objects
 - G. Accessing client arguments
 - H. JSP expressions
 - I. Action elements
 - J. Exceptions and error processing
- VII. Lab: JSPs and HTML Forms (Model 1)**
- VIII. Calling JavaBeans from a JSP**
 - A. Separating content from presentation
 - B. Writing a JavaBean
 - C. Obtaining a JavaBean reference in a JSP
 - D. JavaBean scopes
 - E. Accessing JavaBean properties from a JSP
 - F. Calling JavaBean methods from a JSP
 - G. Using the request object
 - H. Automatic property type conversions
 - I. Intro to Model-View-Controller architecture
 - J. Deploying web applications in WAR files
- IX. Lab: JSPs and JavaBeans (Model 2)**
- X. JSPs and JDBC**
 - A. Introduction to JDBC
 - B. JDBC programming principles
 - C. Connection pooling
 - D. Architecture best practices
- XI. Lab: JSPs, JavaBeans and Databases**
- XII. Sessions**
 - A. What is a session?
 - B. Maintaining state between requests
 - C. The session implicit object
 - D. Saving and storing state attributes
 - E. URL rewriting and cookies
- XIII. Lab: Sessions**

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XIV. The Java Standard Tag Library

- A. What are custom JSP actions?
- B. Using a tag library
- C. JSTL expression language
- D. Core tags
- E. Formatting tags
- F. Database tags
- G. XML tags

XV. Lab: Using JSTL

XVI. Writing Custom Tag Libraries

- A. Types of custom actions
- B. Writing the Java class for a custom action
- C. Writing the tag library descriptor

XVII. Lab: Writing a Custom Action

XVIII. JSPs and XML

- A. What is XML?
- B. Why use XML?
- C. Generating XML from a JSP
- D. What is XSL?
- E. Writing simple XSL to convert XML to HTML
- F. XSL processing on the web server
- G. XSL processing in the browser

The following topics are omitted if taught in conjunction with the Servlet Programming class.

XIX. Introduction to Servlets

- A. Choosing between servlets and JSPs
- B. Writing a simple servlet
- C. Servlets and sessions

XX. Lab: A Simple Servlet

XXI. Introduction to Web Applications

- A. J2EE web applications
- B. Web application directory structure
- C. The deployment descriptor
- D. Creating a WAR file

XXII. Lab: Web Applications

XXIII. Combining JSPs and Servlets

- A. The Model-View-Controller (MVC) architecture
- B. Using sessions and redirect/forwarding
- C. Sample MVC application

XXIV. Debugging Strategies

- A. Using J2SDK 1.4 logging
- B. Servlet filters
- C. Using a GUI debugger

XXV. Lab: Using Logging

XXVI. Web Application Performance Considerations

- A. Finding bottlenecks
- B. General tips for servlets
- C. General tips for JSPs
- D. MVC architecture performance tips

XXVII. The Apache Struts Framework

- A. What is the Struts framework?
- B. Struts architecture
- C. ActionForm and action classes
- D. Using Struts custom actions
- E. Form validation
- F. The Struts configuration file
- G. The deployment descriptor for a Struts application

XXVIII. Lab: Struts