



## Course 323 – Developing Java™ Web Applications

Duration: 4 days

### You Will Learn How To

- Develop and deploy web applications using Java technology
- Use Java servlets and JSP to create database-driven websites
- Use JSP EL and JSTL to simplify and ease coding
- Maintain state across a web application using cookies and sessions
- Expedite web application development using the NetBeans IDE
- Deploy web applications using the Tomcat application server
- Use connection pooling to improve performance
- Log errors using log4j
- Quickly create a web application using the Spring MVC Framework

### Course Benefits

Java is one of the leading platforms for developing web applications. Servlets and JSP allow you to develop robust web applications that will run across multiple web servers and operating systems. This training course provides extensive hands-on experience in developing enterprise Java applications. You will learn how to use various technologies in Java Enterprise Edition (Java EE) and use the Spring MVC framework to simplify development of large-scale web projects. This course will also benefit any professional who wishes to be an Oracle Certified Professional - Java EE Web Component Developer. Extensive hands-on exercises were designed to make sure you put the theories you learn into practice.

### Who Should Attend

Organizations and individuals who would like to develop web applications using Java. Java competence based on Course 321 – Comprehensive Introduction to Java Programming and HTML knowledge are assumed.

### Course Content

#### Introduction to Servlets and JSP

- The HTTP protocol
- GET vs POST Requests
- The HTTP Response
- Dynamically generating HTML using Java servlets
- Creating your first web application
- Servlets vs JSP

#### Servlet Basics

- The web container
- Anatomy of a servlet
- The servlet life-cycle
- ServletContext
- ServletConfig
- Mapping URLs to servlets
- Servlet debugging strategies

#### The Servlet Request

- Adding form elements
- Linking forms to servlets
- Retrieving form data
- Retrieving information from request headers
- Forwarding

### **The Servlet Response**

- Content types
- Status codes
- Response headers
- Redirection
- Filtering special characters for output

### **Maintaining State**

- URL Rewriting
- Hidden Fields
- Cookies
- Servlet Session API

### **JSP Scripting Elements**

- Introduction to JSP
- JSP Expressions
- JSP Implicit objects
- JSP scriptlets
- JSP declarations
- JSP to servlet translation

### **The JSP Page Directive**

- Importing classes in JSP
- Specifying the content type
- Enabling and disabling sessions
- Error pages and JSP
- Controlling thread behavior

### **Web Architectural Patterns**

- Servlet Centric
- JSP Centric
- Servlet+JSP Combination
- The MVC Design Pattern

### **JSP EL**

- The role of JSP EL
- Accessing bean properties
- Accessing lists and maps

- Accessing implicit objects
- Basic operators

### **JSP Standard Tag Library (JSTL)**

- Using tag libraries
- Repetition control
- Decision control
- Printing out HTML encoded values
- Setting and removing a scoped variable
- Importing content from a URL
- URL related tags
- Formatting tags
- Database access tags

### **Accessing Databases**

- Components of a JDBC application
- Connecting to a database
- Creating a Connection Pool Using JNDI and Dependency Injection
- Querying a database
- Inserting, updating, and deleting data
- Preventing SQL Injection Using Prepared Statements

### **Logging using log4j**

- Introduction to log4j
- Installation and configuration
- Creating Loggers
- Creating Appenders
- Creating Layouts

### **Deploying your Java Web Application**

- Structure of Web applications
- Setting up Web applications with Tomcat
- Configuring Welcome files in the DD
- Configuring error pages in the DD
- Loading servlets on server startup
- Using relative and absolute URL paths



### **Introduction to Spring MVC**

- Structure of Web applications
- Spring MVC Components
- DispatcherServlet
- Controllers
- View Resolvers
- Quickstart to Spring MVC

### **About ActiveLearning, Inc.**

**ActiveLearning** is the Philippines' leading provider of Information Technology and Project Management education, where thousands of students take courses from Application Development to Project Management to Network Security, and much more. Our courses are taught by expert instructors, and learning is enhanced through a blend of in-depth lectures, workshops, and hands-on exercises.