

# Web Component Development With Servlet and JSP Technologies (SL-314)

## Product Description

### Product Outline/Details

JavaServer Pages (JSP) and servlets are the key web tier technologies defined in the Java 2 Platform, Enterprise Edition (J2EE platform). The Web Component Development With Servlet and JSP Technologies course provides experienced Java developers a way to obtain the knowledge and skills necessary to quickly build web applications from JSP and servlet technologies using the Tomcat web container and the Struts framework. Students are exposed to the current methods for analyzing, designing, developing, and deploying web applications with Java technologies. Real-world lab exercises provide students with experience in constructing and deploying the small to medium scale web applications found in intranet and low-volume commercial sites.

This course also is an ideal method of preparing for the revised Sun Certified Web Component Developer (SCWCD) for J2EE 1.4 certification examination. However, an SCWCD candidate should also spend six months building real-world web applications using the JSP and servlet technologies before taking the exam.

<i>Product ID:</i> <b>SL-314</b>	<i>Duration:</i> <b>5 days</b>	<i>Price:</i> <b>\$2500.00</b>
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## Who Can Benefit

Java programming language developers with skills equivalent to that of a Sun Certified Java Developer, who are creating web components (such as servlets and custom tags) used in the assembly and generation of dynamic web content. This is not a course for web page designers using Hypertext Markup Language (HTML), JavaScript technology, or other web presentation technologies.

## Prerequisites

**To succeed fully in this course, students should be able to:**

- Write Java applications, demonstrating significant programming ability
- Integrate existing Java code (for example, reuse existing classes created by other team members)
- Design Java applications
- Functionally describe the benefits of an n-tier architecture
- Write a web page using HTML

## Skills Gained

**Upon completion of this course, you should be able to:**

- Write Java servlets
- Create robust web applications using Struts, session management, filters, and database integration
- Write JSP pages
- Create easy to maintain JSP pages using the Expression Language, JSP Standard Tag Library (JSTL), and the Struts Tiles framework
- Create robust web applications that integrate Struts and JSP pages

## Related Courses

- **Before:** SL-275: Java Programming Language
- **Before:** SL-285: Java Programming Language Workshop
- **Before:** Optional: WJTB-310: J2EE Platform Overview for Managers
- **Before:** Optional: FJ-310: Developing Applications for the J2EE Platform

## Course Content

### Module 1 - Introduction to Web Application Technologies

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- Describe Internet services
- Describe the World Wide Web
- Distinguish between web applications and web sites
- Describe Java servlet technology and list three benefits of this technology compared to traditional Common Gateway Interface (CGI) scripting
- Describe JavaServer Pages technology and list three benefits of JSP pages technology over rival template page technologies
- Describe the Java 2 Platform, Enterprise Edition (J2EE platform)

### Module 2 - Developing a View Component

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- Design a view component
- Describe the Hypertext Transfer Protocol
- Describe the web container behavior
- Develop a view servlet
- Configure and deploy a servlet

### Module 3 - Developing a Controller Component

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- Design a controller component
- Create an HTML form
- Describe how HTML form data is sent in the Hypertext Transfer Protocol (HTTP) request
- Develop a controller servlet
- Dispatch from a controller servlet to a view servlet

### Module 4 - Developing Dynamic Forms

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- Describe the servlet life cycle
- Customize a servlet with initialization parameters
- Explain error reporting within the web form
- Repopulating the web form

### Module 5 - Sharing Application Resources Using the Servlet Context

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- Describe the purpose and features of the servlet context
- Develop a servlet context listener to initialize a shared application resource

### Module 6 - Designing the Business Tier

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- Describe the Analysis model
  - Design entity components
  - Design service components

### **Module 7 - Developing Web Applications Using Struts**

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- Design a web application using the Struts MVC framework
- Develop a Struts action class
- Configure the Struts action mappings

### **Module 8 - Developing Web Applications Using Session Management**

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- Describe the purpose of session management
- Design a web application that uses session management
- Develop servlets using session management
- Describe the cookies implementation of session management
- Describe the Uniform Resource Locator (URL)-rewriting implementation of session management

### **Module 9 - Using Filters in Web Applications**

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- Describe the web container request cycle
- Describe the Filter API
- Develop a filter class
- Configure a filter in the web.xml file

### **Module 10 - Integrating Web Applications With Databases**

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- Understand what a database management system (DBMS) does
- Design a web application to integrate with a DBMS
- Configuring a DataSource and Java Naming and Directory Interface (JNDI) API

### **Module 11 - Developing JSP Pages**

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- Describe JSP technology
- Write JSP code using scripting elements
- Write JSP code using the page directive
- Write JSP code using standard tags
- Write JSP code using the Expression Language (EL)
- Configure the JSP environment in the web.xml file

### **Module 12 - Developing JSP Pages Using Custom Tags**

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- Understand the job roles involved in web application development
- Understand the rationale in using custom tags
- Develop a JSP page using an existing custom tag library

### **Module 13 - Developing Web Applications Using Struts Action Forms**

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- Describe the components in a Struts application
- Develop an ActionForm class
- Develop a JSP page for a View form
- Configure the View forms

#### **Module 14 - Building Reusable Web Presentation Components**

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- Describe how to build web page layouts from reusable presentation components
- Include JSP segments
- Develop layouts using the Struts Tiles framework