

## Java EE 6: Develop Web Components with Servlets & JSPs

**Duration:** 5 Days

### What you will learn

This Java EE 6: Develop Web Components with Servlets and JSPs training is designed for experienced developers of Java technology applications. You'll gain the knowledge and skills to quickly build web applications suited to any Java EE 6 application server using JSP and servlet technologies.

### Learn To:

Construct and deploy small-to-medium scale web applications found in intranet and low-volume commercial sites by using JavaServer Page (JSP page) technology and servlets.

Apply Model-View-Controller (MVC) architecture to projects in EE environments.

Create servlet filters and listeners.

Understand and manage HTTP sessions in a web application.

Create easy-to-maintain JSP pages using Expression Language and the JSP Standard Tag Library (JSTL).

Analyze, design, develop and deploy web applications with Java EE 6 SDK and the application server Oracle WebLogic Server 12c.

### Benefits to You

Throughout this course, you'll gain knowledge experimenting with real code examples in each topic. It's an excellent way to prepare for the Java Enterprise Edition 6 Web Component Developer certification expert examination.

### Audience

Application Developers

J2EE Developer

Java Developers

Java EE Developers

### Related Training

#### *Required Prerequisites*

Experience with HTML language recommended

Experience with Java EE 6 platform recommended

Experience with Java programming

Java SE 7 Programming

Developing Applications with Java EE 6 on WebLogic Server 12c

## Course Objectives

Understand and manage HTTP sessions in a web application

Create servlet filters and listeners

Write pages created with JavaServer Pages technology (JSP pages)

Create easy-to-maintain JSP pages using the Expression Language and the JSP Standard Tag Library (JSTL)

Use integrated development environments (IDEs) and application servers for Java EE development and deployment

Write servlets using the Java programming language (Java servlets)

## Course Topics

### Introducing the Course

Reviewing the Java SE and Java EE Curriculum

Getting Acquainted with Other Students

Reviewing Course Objectives

Discussing 5 Day Course Schedule

Describing the Format that the Class will Use

Introducing Web Application Technologies

Describing the Java EE 6 Web Profile

### Web Application Essentials

Describing Java Servlet Technology

Describing JavaServer Pages Technology

Understanding the Model-View-Controller (MVC) Architecture

Explaining Java EE Containers and Java Application Servers

Describing the Web Application Development Process

Identifying the Essential Structure of a WAR File

### Developing a Servlet

Describing the HTTP Headers and Their Function

Explaining the Request and Response Processes

Understanding the Life Cycle of a Servlet

Listing Injection and Lifecycle Method Annotations

Understanding the Threading Model of a Servlet

Developing a Servlet to Respond to Requests from the Client Browser

### Handling Form Requests in Servlets

Using HTML Forms To Collect Data From Users and Send it To a Servlet

Understanding How Form Data Is Sent in an HTTP Request

Developing a Servlet that Retrieves Form Parameters

Understanding and Using HttpSession Objects

Using Cookies for Session Management

Using URL Rewriting for Session Management

### Configuring Your Web Application

Describing the Purpose of Deployment Descriptors

- Creating Servlet Mappings to Allow Invocation of a Servlet
- Creating and Access Context and Init Parameters
- Using the @WebServlet and @WebInitParam Annotations
- Using the ServletContextListener Interface
- Describing the Different Scopes in a Web Application
- Handling Errors Using a Deployment Descriptor

### **Implementing an MVC Design**

- Implementing the Controller Design Element Using a Servlet
- Implementing the Model Design Element Using a POJO
- Implementing the View Design Element Using a JSP and Expression Language (EL)
- Connecting the model, View, and Controller Elements to Implement a Working MVC Solution
- Injecting a Service in a Controller

### **Developing Components with JavaServer Pages Technology**

- Describing JSP Page Technology
- Writing JSP Code Using Scripting Elements
- Writing JSP Code Using the Page Directive
- Writing JSP Code Using Standard Tags
- Writing JSP code using Expression Language
- Configuring the JSP Page Environment in the web.xml File
- Writing an Error Page by Using JSP

### **Developing JSP Pages by Using Custom Tags**

- Designing JSP Pages with Custom Tag Libraries
- Using a Custom Tag Library in JSP Pages
- Describing JSTL Tags

### **Using Filters in Web Applications**

- Describing the Web Container Request Cycle
- Describing the Filter API
- Developing a Filter Class
- Configuring a Filter in the web.xml File

### **More Servlet Features**

- Using the Asynchronous Servlet Mechanism
- Using JavaScript to Send an HTTP Request from a Client
- Processing an HTTP Response Entirely in JavaScript
- Combining These Techniques to Create the Effect of Server-push
- Handling Multipart Form Data

### **Implementing Security**

- Describing a Common Failure Mode in Security
- Requiring that a User Log in Before Accessing Specific Pages in Your Web Application
- Describing the Java EE Security Model
- Requiring SSL Encrypted Communication for Certain URLs or Servlets

### **Integrating Web Applications with Databases**

- Understanding the Nature of the Model as a Macro-pattern
- Implementing Persistent Storage for Your Web Applications Using JDBC or Java Persistence API