

## Java Web Development with Struts (also featuring Servlets, JSPs and JDBC)

### Summary:

This intensive 3-day introduction to the open source Struts framework is aimed at Java developers who are comfortable with the Java Standard Edition (SE).

Delegates will learn how to write MVC-style web applications quickly and efficiently with this lightweight alternative to Java EE, and to employ its XML configuration features to code in a consistent, maintainable way.

The Struts framework is built upon Java Servlet technology, and therefore the course introduces necessary complementary material from the Servlets and JSPs APIs.

All topics are backed up with a series of code examples which delegates will have the opportunity to run and modify in order to gain a deeper understanding of Struts. A series of graded exercises will allow delegates to experiment with all of the features on show and to get to grips with the development cycle and sometimes frustrating error messages that the framework can produce. Delegates who are prepared to show a high level of commitment to these exercises will gain the most from the course.

Our trainers are Java experts who have a number of years of experience of working as developers, architects and consultants in industry as well as being experienced trainers.

### Objectives:

This course will enable delegates with Java experience to write Java web applications using the Apache Struts framework, concentrating on the following areas:

- Leveraging Java Servlet and JSP technologies
- The MVC Framework and the Struts Controller
- Configuring navigation and form handling with the Struts config file
- Controlling logic and data access with the Struts Action class
- Form handling with Static and Dynamic Forms
- Using JSPs and JSTL to generate the View
- Displaying Internationalised content to the user
- Templating with Tiles
- Development practices and coping with Struts error messages
- Best Practice and Architectural Patterns

### Topics Covered in Depth Include:

- The Servlet API
  - Servlet Lifecycle
  - Web Deployment and WAR files
  - Deployment Descriptor
  - Request, Session and Application Scopes
  - Session Management
  - Servlet Filters
  - Servlet Listeners
  - Using Cookies
  - Dispatcher Forwarding
- Thread Management
- 2.5 API Annotations
- Injection of DataSource and Persistence Context
- Java Server Pages (JSPs)
  - JSP Lifecycle
  - Scriptlets
  - Declarations
  - Expressions
  - Accessing Javabeans
  - Handling Scope

- Using a Custom Tag Library
- Expression Language
- The Java Standard Tag Library (JSTL)
- The MVC Architecture and Overview of Apache Struts
- The Struts Framework
  - What is a Framework?
  - The Struts ActionServlet
  - Configuring a Struts Application in web.xml
  - The Struts configuration file: struts-config.xml
  - The Struts RequestProcessor Events
- Writing Your First Action
  - The execute() Method
  - Writing the struts-config file
  - Action Mappings
  - Action Forwards
  - Forwarding to a View (a JSP)
- Handling Form Data
  - Declaring a Form Bean
  - Accessing Form data
  - Perform simple programmatic validation
- Struts Tag Libraries
  - html
  - bean
  - logic
  - tiles
  - Using Expression Language in Tags
  - Integrating with JSTL
- Logging and User Feedback
  - Logging with log4j
  - Displaying Messages to the User
  - Internationalisation
- Dynamic Forms
  - Declaring Dynamic Forms
  - Using the Validator Framework
  - Declaring validation Rules in XML
  - Client-Side Javascript Validation
- Using the Tiles Framework
  - Writing a Tiles Definition File
  - Declaring a Tiles Layout
  - Inheritance with Tiles
- Putting it All Together
  - An end-to-end example with JDBC and the third-party DisplayTag library
  - Integrating with the Filter Authentication Example
  - Improving the Look and Feel with CSS

**Pre-Requisites:**

This course is aimed at developers who understand the basics of the Java language and have some experience with SQL and working with Relational Databases. An introductory knowledge of XML is also essential. Architects and managers who wish to understand best practice may also enjoy this course.

**Contact:**

Please contact us at [training@codeclass.co.uk](mailto:training@codeclass.co.uk) or phone us on 020 7100 4254 if you are interested in delivery of this course on your site and to discuss our extremely competitive rates.