

## TT5160: Core Servlets/JavaServer Pages (JSPs) Application Development (3 days)



Created in collaboration with several leading J2EE authors and industry experts, Trivera Technologies **Core Servlets/JSP Web Application Development** is a three day in-depth course geared for software developers who need to understand what J2EE is, what it means in terms of today's systems and architectures, and how to apply basic Servlets and JSPs in implementing and deploying robust, flexible web applications.

### ► Course Overview

Java 2 Enterprise Edition (J2EE) is a powerful platform for building web applications. The J2EE platform offers all the advantages of developing in Java plus a comprehensive suite of server-side technologies.

Geared for experienced Java developers, this course explores how to design and build your own web applications using Servlets and basic JSPs. Developers will learn the details of the key J2EE technologies and how to leverage the strengths of each, with special focus on Servlets and JSPs. At the same time, you'll be learning about the big picture of J2EE and how to design web applications that are robust, efficient, secure, and maintainable. If you want to deliver an application on the web, you'll find this course essential for covering the basic components for web support.

### ► Course Objectives: What You'll Learn

Students who attend **Core Servlets/JSP Application Development** will leave the course armed with the required skills to build basic web applications.

The course begins with a discussion of web application architecture. A major part of the course is spent on Servlets and JavaServer Pages (JSP). The course concludes with an examination of J2EE and web application security providing students with an understanding of the importance of defensive coding practices.

Throughout the course, students will create code for an online store. Students will learn not only specific topics and APIs but also how to fit the pieces together into a complete application.

Topics covered include:

- J2EE Application Architecture
- Servlets
- Java Server Pages (JSP)
- J2EE Security
- Web Application Security

### COURSE SNAPSHOT

**Duration:** 3 days  
**Skill Level:** Introductory  
**Focus:** Basic Servlet/JSP web application development  
**Audience:** Experienced Java developers  
**Format:** Extensive hands-on programming labs, expert lecture combined with open discussions and high-Level demonstrations and dynamic group exercises.  
**Language / Tools:** Java-focused, available for most IDEs and application servers.  
**Delivery Format:** Available for onsite private classroom presentation, or live online / virtual presentation  
**Customizable:** Yes

Working in a dynamic, interactive discussion and hands-on programming environment, developers will:

- Design and build robust, secure, and maintainable web applications
- Create dynamic HTML content with Servlets and JavaServer Pages
- Make Servlets and JSP work together cleanly
- Recognize basic web security vulnerabilities and implement effective defenses

The course provides a solid foundation in basic terminology and concepts, extended and built upon throughout the engagement. Processes and best practices are discussed and illustrated through both discussions and group activities.

Attending students will be led through a series of advanced topics comprised of integrated lectures, extensive hands-on lab exercises, group discussions and comprehensive demonstrations. Please see below for additional information about the hands-on lab work.

### ► Audience & Pre-requisites: Who Should Attend

This is an **introductory level** training course, designed for experienced Java developers that need to extend their skills in web development.

Attendees should have practical experience developing basic Java applications.

### ► Related Courses – Suggested Learning Path

**Take Before:** Students should have basic development skills and a working knowledge in the following topics, or attend these courses as a pre-requisite:

- TT4000 Understanding Internet Architectures
- TT2100 Java Programming Fundamentals

**Take Instead:** We offer other courses that provide different levels of knowledge or focus:

- If you need high level J2EE training, you might consider: **TT5000 Understanding J2EE**
- Students without prior Java programming background should consider **TT5140 Java Programming Fundamentals for J2EE Developers** (combines Intro to Java with Intro to J2EE)
- If you need a more in-depth coverage of JDBC, JSP 2.0, EL, and JSTL, please consider taking **TT5100 Building J2EE Web Applications (Servlets, JSPs, JDBC, Security, etc.)**
- If you need additional coverage of Struts, consider **TT6260 Developing J2EE Web Apps using Servlets, JSPs, Tags and Struts**

**Take After:** We offer a variety of introductory through advanced security, development, project management, engineering, architecture and design courses. Students may want to consider the following topics as a follow-on to this course.

- Additional essentials or advanced advanced Java EE / J2EE topics
- Java or J2EE Security topics
- Service-Oriented Analysis and Design
- Web Services – Intro through Advanced
- AJAX, XML or other Web Development topics
- Java EE topics: EJB3.0; Spring; Hibernate; Design Patterns & more.
- Architecture & Analysis courses

Please note all development courses may also be offered in other programming languages or tailored to suit your unique requirements. Please contact us for recommended next steps tailored to your longer term education, project or development objectives.

### ► Experiential Learning: Hands-On Labs

This class is “technology-centric”, designed to train attendees in essential J2EE development skills, coupling the most current, effective techniques with the soundest industry practices.

This workshop is about **50% dynamic lab exercises** and **50% lecture**. Throughout the course students will be led through a series of progressively advanced topics, where each topic consists

of lecture, group discussion, comprehensive hands-on lab exercises, and lab review. Multiple detailed lab exercises are laced throughout the course, designed to reinforce fundamental skills and concepts learned in the lessons. At the end of each lesson,

developers will be tested with a set of review questions to ensure that he/she has fully understands that topic.

### ► Student Materials: What You’ll Receive

Our robust course materials include much more than a simple slideshow presentation handout. Trivera Technologies Student materials include a comprehensive hard-copy course manual, complete with detailed course notes, code samples, diagrams and current reference materials, all directly related to the course at hand, indexed for ease of use. Step-by-step lab instructions and project descriptions are clearly illustrated and commented for maximum learning and ease of use.

Our course kits are designed to serve as an excellent and useful reference set, long after we leave your classroom.

### ► Delivery Environment & LoadNGo™ Classroom Set Up

Although this training is skills-centric, this course may run using a variety of IDEs and application server combinations, including but not limited to: JBoss 4.x; BEA WebLogic Server 8.1/9; IBM Rational Application Developer (6.0 or 7.0); Oracle JDeveloper 10g; JBuilder; Apache TomCat; Eclipse Web Tools Project, MyEclipse; and others.

Our lab guides are complete with software-specific instructions, screen shots and detailed tutorials for using the software you select. In most cases we can easily port our classes to run in the environment of your choosing.

For course deliveries or virtual presentation using open-source tools, we’ll provide our unique **LoadNGo Instant Classroom Kit**, which enables students to run the entire course off of a DVD that hosts the entire course set up software, labs, and other pertinent useful educational resources, whitepapers and more. You only need to provide the hardware and appropriate O/S, and we’ll do the rest. No installation needed. **Great for secure environments.** Minimum set up burden for your team or firm, with maximum results for your students.

No matter which set up option or software your firm requires, we’re pleased to provide a detailed set up guide for all private or on-site courses, and as much assistance as you require to prepare your students or classroom for the course. Our support personnel and instructors can be contacted for any advice you may require to prepare your classroom and/or students for attendance.

### ► Optional Pre-Testing & Assessment

We work with you to ensure that your resources are well spent. Through our basic pre-testing, we ensure your team is up to the challenges that this course offers. We will work with you to come up with the best solution to ensure your needs are met, whether we customize the material, or devise a different educational path to prepare for this course.

Please contact us for details about our online pre and post test assessment services, custom managed training plans for one student or your entire organization, and our custom online training

program management system for monitoring the courses or progress while skilling your students of all experience levels.

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### Workshop Topics Covered

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#### Need more info?

*Please note that a more detailed outline of the course table of contents, lists of lab exercises and project descriptions is available. Please contact us at*

*[Training@triveratech.com](mailto:Training@triveratech.com) for info.*

#### Need courseware?

*This course is fully customizable, and also available for license with complete support for qualified organizations. Please contact [Courseware@triveratech.com](mailto:Courseware@triveratech.com) for details*

#### Session: J2EE Application Architecture

- Technical Overview of J2EE
- J2EE Application Architectures (Web based)

#### Session: Web Applications

- Understanding Web Applications
- Configuring Web Applications

#### Session: Writing HTTP Servlets

- Introduction to Servlets
- Processing Input Data
- Server-side Control
- Client-side Control
- Maintaining Client State - Sessions

- Application and Session Events

#### Session: Filters

- Overview of Filters
- Filtering the Request and Response

#### Session: Writing JSP Pages

- Introduction to JSP
- Implicit Objects
- Actions, JavaBeans, and Custom Tags

#### Session: J2EE and Web Application Security

- J2EE Security
- Web Application Security Overview
- Handling Untrusted Data

### ► Why Work With Trivera Technologies?

- **We provide a solid struts and J2EE development foundation.** Students will learn how to develop (and reuse!) essential Java and Struts design skills and concepts properly, using best design practices, grounding them for advanced curriculum. Students will be prepared for designing and implementing real solutions, right after the class ends. Students will learn the importance of developing well-designed J2EE applications.
- **Our courses are focused - no "fluff" included.** We offer more than a "laundry list" approach to teaching. All lessons have clear objectives, are fundamental to core J2EE or JavaEE development and design practices, and are reinforced by hands-on labs and solid practical examples. Each lesson has performance driven objectives that ensure students will learn technologies and skills core to fundamental J2EE application design – nothing more, nothing less.
- **Our materials are comprehensive, and current.** Our comprehensive manuals include not only a hard copy of the course presentation, but also detailed reference notes, pertinent diagrams and charts, current lists of suggested online resources and articles, and often technical tutorials or white papers geared to the topics at hand.
- **We set you up!** Hands-on courses also include our unique materials for each student, complete with our **LoadNGo Instant Classroom** course set up DVD, software, and a multitude of learning resources that complement the course. Run the course right off the DVD – minimal set up for your company – maximum results for your students.
- **We foster "Learning by Doing".** Progressive labs are designed in such a way that students get a firm grasp on fundamental skills while they work toward defending a complete application. All labs are take-home, and all solution code is presented in an easy to use self-study format for future use and review.
- **True content ownership gives us flexibility & quality above the rest.** These course materials are wholly-owned by our company and fully customizable - at little or no cost - to help you best meet your learning objectives. We have many dedicated experts available worldwide to instruct your team, and can provide services around the globe, either locally or virtually. We work closely with you to produce the most effective events and materials for your team, within your desired timeframe and budget.
- **We have to adhere to higher standards.** As a courseware provider, our content and hands-on lab materials are licensed internationally by dozens of firms, and are therefore subject to very stringent quality requirements. Not only will your organization benefit from our own technical team's technical expertise, but also the feedback of hundreds of students and trainers using these materials, worldwide, on a regular basis. This unique fact guarantees that our materials are not only robust and interesting, but also technically correct, current and of the highest quality and usability.
- **We bring years of practical, current experience into the classroom and content.** Our instructors and course authors are also skilled mentors, Java, J2EE, .Net, SOA, and web services developers, architects and security-oriented professionals. We believe that learning, using

and maintaining solid software execution and delivery methods are as important as gaining sharp coding skills. Best Practices for software development and execution, beyond technical coding skills, are enforced throughout all of our courses and discussions. Our team brings this extensive experience into every classroom and engagement.

- **We're skills-centric.** Although our team has extensive experience using a variety of tools and solutions, our core content is “technology-centric”. Our aim is to teach you the best skills and solutions out there – not to sell you software from any particular vendor.
- **We're Java & J2EE authors and industry speakers.** Our team was selected to write the online *J2EE, EJB, EJB CMP-CMR and Web Services Tutorial Series for IBM developerWorks®* ([www.ibm.com](http://www.ibm.com)) These are the same instructors who train our classes and author the courseware. Most of our trainers/consultants have also authored additional articles on web services, EJB< Struts, J2EE and advanced Java topics, and are recognized speakers and presenters on the industry technical seminar circuit. Our team is comprised on several successful published authors. Members of our team have written or contributed to: *Eclipse Kick Start, Mastering Eclipse; Professional Jakarta Struts; Using Java Tools for Extreme Programming; Mastering Resin; Mastering TomCat and others.*
- **Our services are guaranteed.** Whether you're a stakeholder organizing your firm's educational services, a student in our live or virtual classroom or a trainer using our materials to educate your own client or team – **Our core mission is to make YOU a success in the classroom.**

► **For Additional Information**

**Need dedicated training?** All courses can be brought onsite for a **private presentation**, customized to suit your unique requirements or goals. Please contact [Training@triveratech.com](mailto:Training@triveratech.com) for course details, Public Schedule dates and locations, and Special Discount Offers.

**Need courseware?** Let us take the risk out of your classroom delivery! All materials are also available for corporate license with complete instructor support and free corporate branding. We guarantee our pricing and service. Samples of our course materials, as well as live client references for all of our services are available upon request. Please contact [Courseware@triveratech.com](mailto:Courseware@triveratech.com) for details.

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