

Training: Capstone Courseware  
110 Java Servlets

## TRAINING GOALS:

This practical, application-oriented course teaches **Java Servlets** technology and shows how to use it to develop simple to complex web applications. It is intended for experienced Java (**J2SE**) programmers who want to build web applications or J2EE components and systems.

The course begins with an overview of server-side Java programming and web protocols. Then students learn the **Java Servlets architecture**, the request/response cycle, and servlet life cycle, and how to build interactive web applications that parse and/or generate HTML forms. Several prominent patterns for servlet application architecture are considered. Sessions are studied as a means to developing sophisticated client/server conversations over several HTML pages. Multi-tier applications are developed using servlets and **JDBC** for access to relational databases.

The course develops the important concept of the separation of programmatic and declarative development: use of configuration and context information in lieu of hard-coded values, resource locations, etc., to make the web application as portable and easy to administer as possible. The course introduces **JavaBeans** as a standard for business and data objects that can be shared among servlets and JSPs, and develops techniques for sharing such objects at session scope or by request forwarding. Finally, students learn how to implement filters to adapt existing servlets by pre- and post-processing the request and response.

## CONSPECT:

- Chapter 1. Web Applications
  - Server-Side Programming
  - Web Protocols and Web Applications
  - Role of Web Servers
  - Java Servlets
  - Using Tomcat Web server
  - Structure of a Java Servlet
- Chapter 2. Servlets Architecture
  - Servlets Architecture
  - Servlet and HttpServlet
  - Request and Response
  - Reading Request Parameters

- Producing an HTML Response
- Redirecting the Web Server
- Deployment Descriptors
- Servlets Life Cycle
- Relationship to the Container
- Chapter 3. Interactive Web Applications
  - Building an HTML Interface
  - HTML Forms
  - Handling Form Input
  - Application Architecture
  - Single-Servlet Model
  - Multiple-Servlet Model
  - Routing Servlet Model
  - Template Parsers
- Chapter 4. Session Management
  - Managing Client State
  - Sessions
  - Session Implementations
  - HttpSession
  - Session Attributes
  - Session Events
  - Invalidating Sessions
- Chapter 5. Database Access
  - JDBC
  - JDBC Drivers
  - Using JDBC in a Servlet
  - Data Access Objects
  - Threading Issues
  - Transactions
  - Connection Pooling
- Chapter 6. Configuration and Context
  - The Need for Configuration
  - Initialization Parameters
  - Properties Files
  - JNDI and the Component Environment
  - JDBC Data Sources

- Working with XML Data
- Chapter 7. Filters
  - Servlet Filters
  - Uses for Filters
  - Building a Filter
  - Filter Configuration and Context
  - Filter Chains
  - Deploying Filters

## REQUIREMENTS:

- [Java programming](#) experience is required - Course 103 is excellent preparation.
- Exposure to HTML and web page design are beneficial but not necessary.

## Difficulty level



## CERTIFICATE:

The participants will obtain certificates signed by Capstone Courseware.

## TRAINER:

Authorized Capstone Courseware Trainer.