

Java EE 6: Develop Web Components with Servlets & JSPs

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