Developing Applications with Java EE 6 on WebLogic Server 12c

Duration: 5 Days

What you will learn

The Developing Applications with Java EE 6 on WebLogic Server 12c course teaches you the skills you need to successfully build and deploy enterprise applications. You'll explore applications that comply with the Java Platform, Enterprise Edition 6 Web Profile.

Learn To:

Create mobile web applications.
Create JSF facelet pages.
Develop web profile applications.
Assemble a web application and deploy it into an application server (Java EE platform runtime environment).
Use CDI.
Update a database with JPA.
Perform bean validation.

Benefits to You

Investing in this course will give you experience using the following technologies: annotations, Session Enterprise JavaBeans (EJBs), the Java Persistence API (JPA), servlets, JavaServer Pages (JSPs) , JavaServer Faces (JSF), Contexts and Dependency Injection (CDI) and Bean Validation.

Create a Web-Based Application

Expert Oracle University instructors will focus on teaching you how to create a web-based application that's accessible from desktop and mobile web browsers using JSF technology. User input is validated using the Bean Validation API, and data is persisted using JPA and optimistic locking.

Participate in Hands-On Lab Exercises

Taking this course will give you hands-on experience through labs that teach you how to build an end-to-end application. These labs explore session EJB components, which are used to enable container managed transactions and enhance application performance through data caching. You'll perform these lab exercises using the NetBeans IDE and Oracle WebLogic Server.

Audience

Java Developer

Related Training

Required Prerequisites

Experience with the Java programming language

Familiarity with HTML and CSS

Familiarity with relational database theory and the basics of structured query language (SQL)

Familiarity with the use of an IDE

Java SE 7 Programming

Suggested Prerequisites
Java SE 7: Develop Rich Client Applications

Course Objectives

Use the Java EE Web Profile

Develop and run an EJB technology application

Develop basic Java Persistence API entity classes to enable database access

Develop a web-based user interface using JSF, Servlets, and JSPs

Design applications to use CDI

Use IDEs and Application Servers for Java EE development

Create mobile web applications

Validate data using Bean Validation

Secure Enterprise Applications

Use Logging

Install Oracle WebLogic Sever 12c zip file distribution

Course Topics

Java Platform, Enterprise Edition
Describe the purpose of the Java EE Platform
Describe the needs of enterprise applications
List the various Java EE specifications
Compare services and libraries
Describe the Java EE Web Profile
Describe the EE application tiers and layers

Enterprise Development Tools and Application Servers
Describe the purpose of an application server
Identify the potential selection criteria used when choosing an application server
Install the Oracle WebLogic Server 12c Zip Distribution
Describe the properties of Java EE components
Describe the process of developing a Java EE application
Describe how to configure and package Java EE applications
List EE supporting features provided by integrated development environments (IDEs)

JavaBeans, Annotations, and Logging
Describe the Java SE features that are used extensively in enterprise applications
Create POJO JavaBeans components
Log application activity and errors
Write to server logs
Describe common Java SE annotations and features
Develop Java annotations
Describe the role of annotations in Java EE

Web Component Model
Describe the HTTP request-response model
Define the difference between Java Servlets, JSP, and JSF components
Implement application layering and the MVC Pattern
Avoid thread safety issues in web components
Use the Expression Language

Developing with JavaServer Faces Technology
Evaluate the role of JavaServer Faces (JSF) technology as a presentation mechanism
Describe the flow of the JSF life cycle
Author JSF pages using Facelets
Process form submissions and use JSF managed beans
Describe the use of JSF tag libraries
Use the appropriate annotation to control the scope of a bean instance
Use a component to iterate over values in a collection

Using AJAX and Composite Components with JSF
Define Asynchronous JavaScript and XML (AJAX)
Describe how JSF Components can be enhanced with AJAX
Use the tag
Describe how AJAX request integrates with the JSF life cycle
Define a composite component
Create a JSF composite component

Apache Trinidad JSF Component Library and Mobile Development
Create JavaServer Faces (JSF) pages that use Apache Trinidad components
Create a JSF-based mobile application
Dynamically apply Cascading Style Sheets (CSS) with Trinidad Skinning
Use the HTML5 video tag

Dependency Injection With CDI
Create managed bean compatible classes
Inject managed beans
Qualify the bean being requested at an injection point

Use CDI alternatives

Using JSF and Bean Validation
Define the approach JSF uses to convert and validate input data
Use built-in validation constraints provided with JSF
Use built-in validation constraint annotations provided by Bean Validation
Create a custom Bean Validation constraint

Developing Servlets
Describe the servlet API
Use the request and response APIs
Set response headers
Create text and binary response bodies
Process file uploads using servlets
Forward to JSPs using RequestDispatcher
Use the session management API

Developing with JavaServer Pages Technology
Evaluate the role of JSP technology as a presentation mechanism
Author JSP pages
Process data received from servlets in a JSP page
Describe the use of tag libraries

EJB Component Model
Describe the role of EJB components in a Java EE application
Describe the benefits of EJB components
Describe the operational characteristics of a stateless, stateful, and singleton session beans
Create session beans
Create session bean clients

The Java Persistence API
Describe the role of the Java Persistence API (JPA) in a Java EE application
Explain the basics of object-relational mapping
Describe the elements and environment of an entity component
Describe the life cycle and operational characteristics of entity components

Implementing a Transaction Policy
Describe transaction semantics
Compare programmatic and declarative transaction scoping
Use JTA to scope transactions programmatically
Implement a container-managed transaction policy
Support optimistic locking with the versioning of entity components
Support pessimistic locking using EntityManager APIs
Describe the effect of exceptions on transaction state

Web Service and Integration Technology Survey
Describe the purpose of integration technologies
Define the integration layer in a multilayered application architecture
List various Java EE integration technologies
Describe the benefit of Web Services over other integration technologies

Implementing a Security Policy

Leverage container-managed security
Define user roles and responsibilities
Create a role-based security policy
Using Declarative Security
Configure authentication in the web tier