

Developing Applications for the Java EE 6 Platform

Duration: 5 Days

What you will learn

The Developing Applications for the Java(TM) EE Platform training helps you develop the knowledge to build and deploy enterprise applications that comply with Java(TM) Platform, Enterprise Edition 6 technology standards. This course is ideal for Sun(TM) Certified Java technology programmers who want to develop enterprise applications that conform to the Java EE platform standards.

Learn To:

- Describe the application model for the Java EE platform and the context for the model.
- Understand enterprise components and work with (JSP(TM)) technology.
- Create web services using SOAP and RESTful techniques.
- Assemble and deploy an application into an application server (Java EE platform runtime environment).
- Develop expertise using Enterprise JavaBeans(TM) (EJB(TM)) technology.
- Become familiar with the Java Persistence API.
- Create user interfaces using servlets, JSP technology (JSP pages) and JavaServer Faces (JSF).
- Develop simple web services for the Java EE platform.
- Understand RESTful and SOAP web services and the Java technology clients who use them.

Benefits to You

By investing in this course, you'll learn how to boost the productivity, communication and collaboration of your organization. You'll reduce the cost of application ownership through executing more efficient development techniques, while maintaining your edge as you stay current with the global standard for developing networked applications.

Engage in Hands-On Labs

Throughout the course, you'll also perform lab exercises using NetBeans(TM) Integrated Development Environment (IDE). Expert Oracle University instructors will help you gain hands-on experience building an end-to-end, distributed business application. You'll get a chance to explore session EJB components, which implement the Session Facade pattern and provide a front-end to entity components using the Java Persistence API. Finally, you'll deep dive into message-driven EJB components as well, which act as Java Message Service (JMS) consumers.

Who Should Enroll in this Course

This is a relevant and worthwhile course to take if you have Java Programming experience and would like a broad overview of the Java EE platform. It's also an ideal course to invest in if you're planning to take one or more of the Enterprise Java EE6 certification exams.

Audience

Developer

Related Training

Required Prerequisites

Experience with the Java programming language

Familiarity with object serialization

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

Familiarity with the use of an IDE

Course Objectives

Select the correct Java EE Profile for a given application

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 Servlets

JSPs

and JSF

Course Topics

Survey of Java EE Technologies

Describe the different Java platforms and versions

Describe the needs of enterprise applications

Introduce the Java EE APIs and services

Certifications Paths

Introducing Applications Servers

Enterprise Modules

Enterprise Application Architecture

Design Patterns
Model View Controller
Synchronous and Asynchronous communication
Network Topologies and Clustering
Layering (client,presentation,service,integration,persistence)

Web Technology Overview

Describe the role of web components in a Java EE application
Define the HTTP request-response model
Compare Java servlets, JSP, and JSF
Brief introduction to technologies not covered in detail

Developing Servlets

Describe the servlet API
Servlet configuration through annotations and deployment descriptors
Use the request and response APIs
Servlets as controllers

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
Brief introduction to the JSTL and EL

JavaServer Faces

The JSF model explained
Adding JSF support to web applications
Using the JSF tag libraries
Configuring JSF page navigation
JSF Managed beans
JSF Conversion, Validation, and Error Handling

EJB Overview

EJB types: Session Beans
EJB types:Message Driven beans
Java Persistence API as a replacement for Entity EJBs
Describe the role of EJBs in a Java EE application
EJB lite

Implementing EJB 3.0 Session Beans

Compare stateless and stateful behavior
Describe the operational characteristics of a stateless session bean
Describe the operational characteristics of a stateful session bean
Describe the operational characteristics of a singleton session bean
Create session beans
Package and deploy session beans
Create session bean clients

The Java Persistence API

The role of the Java Persistence API in a Java EE application
Object Relational Mapping
Entity class creation

Using the EntityManager API
The life cycle and operational characteristics of Entity components
Persistent Units and Packaging

Implementing a Transaction Policy

Describe transaction semantics
Compare programmatic and declarative transaction scoping
Use the Java Transaction API (JTA) to scope transactions programmatically
Implement a container-managed transaction policy
Support optimistic locking with the versioning of entity components
Support pessimistic locking of entity components
Using transactions with the web profile

Developing Asynchronous Java EE Applications and Messaging

The need for asynchronous execution
JMS technology introduction
List the capabilities and limitations of Java EE components as messaging producers and consumers
JMS and transactions
JMS administration

Developing Message-Driven Beans

Describe the properties and life cycle of message-driven beans
Create a JMS message-driven bean

Web Service Model

Describe the role of web services
Web service models
List the specifications used to make web services platform independent
Describe the Java APIs used for XML processing and web services

Implementing Java EE Web Services with JAX-WS and JAX-RS

Describe endpoints supported by the Java EE 6 platform
Developing Web Services with Java
Creating Web Service Clients with Java

Implementing a Security Policy

Exploit container-managed security
Define user roles and responsibilities
Create a role-based security policy
Use the security API
Configure authentication in the web tier