Java EE 6: Develop Business Components with JMS & EJBs

Duration: 4 Days

What you will learn

This Java EE 6: Develop Business Components with JMS & EJBs training teaches you the knowledge required to build robust back-end functionality. Work with expert Oracle University instructors using Enterprise JavaBeans (EJB[TM]) version 3.1 technology.

Learn To:

Implement business-tier functionality using EJB technology.
Assemble and deploy EJB technology business-tier components on an application server.
Integrate an EJB technology-based application using the Java Messaging Service API.
Create and implement timer-based services.
Integrate transactions and security into an enterprise application.
Describe best practices and other advanced issues in business component development with EJB technology.
Explore the EJB technology coding experience of session beans and message driven-beans in a JMS application.
Examine EJB design, best practices, transaction management, messaging fundamentals and security.

Benefits to You

You will learn to code session beans, message driven beans and use the JMS API. You will recognize the benefits of using EJB technology with respect to transaction management, messaging, and security in an enterprise application. You will also get a clear understanding of the EJB design best practices.

Java Platform, Enterprise Edition

This course features the Java Platform, Enterprise Edition 6 (Java EE 6) technology, and uses the Java EE 6 SDK. You'll perform the course lab exercises using the NetBeans Integrated Development Environment (IDE). This hands-on lab environment uses Oracle WebLogic Server 12c.

Audience

Java Developers
Java EE Developers

Related Training

Required Prerequisites

Java SE 7 Programming

Developing Applications with Java EE 6 on WebLogic Server 12c

Suggested Prerequisites
Developing Applications for the Java EE 6 Platform

Java SE 7: Develop Rich Client Applications

Course Objectives

Implement interceptor classes and methods

Implement transactions

Implement exception handling for EJB technology

Create a timer using the Timer Service

Handle timer notification within an EJB component

Implement security for Java EE technology

Evaluate best practices for EJB technology

Develop a Java EE Application

Create message-driven beans

Examine the Java Platform, Enterprise Edition (Java EE)

Implement Enterprise JavaBeans (EJB 3.1) session beans

Use dependency injection with CDI

Use JPA for persistence

Develop Java EE technology applications using messaging

Course Topics

Introducing the Course
Reviewing course objectives
Discussing course format and LVC
Discussing 4 day course schedule
Getting acquainted with other students
Reviewing the Java SE and Java EE Curriculum

Introducing Java EE
Java™ Platform, Enterprise Edition(Java EE)
Java EE application architecture

Java EE container services
EJB component types
Comparison of Java EE application development with traditional enterprise application development

Implementing Session Beans
Types of session beans
Stateful Session beans
Stateless Session beans
Singleton Session beans
Choosing a Session bean type
Session Bean clients
Tasks of creating a Session bean
Packaging and deployment

Accessing Session Beans
Using Naming Services
JNDI API
Developing Session Bean Clients
Creating a Session Facade

Advanced Session Bean Concepts
EJB Containers
EJB Components
Session Bean Identity
Session Bean Life Cycle
Lifecycle Event Handlers
Asynchronous Communication
Advanced Session Bean Configuration

Developing Singleton Session Bean
Singleton Session Bean
Singleton Session Bean Life Cycle
Singleton Concurrency

Using Context and Dependency Injections
Introduction to CDI Named Beans
Scopes
Qualifiers
Alternatives

Using Java Persistence API
What is JPA?
Components of JPA architecture
Entity operations
Queries

Developing Java EE Applications Using
Messaging Concepts
Messaging Destinations
Messaging Clients
Messages
Creating a Queue

Message Producer
Queue Message Browser
Creating a Synchronous Queue Consumer

Developing Message-Driven Beans
Introducing Message-Driven Beans
Life Cycle of a Message-Driven Bean
Creating JMS Message-Driven Beans
Life Cycle Event Handlers
Configuring the Message-Driven Bean

Using Timer Services
Describing timer services
Creating a timer callback notification
Processing a timer callback notification
Managing timer objects

Implementing Interceptor Classes and Methods
Introducing Interceptors
Types of Interceptors
Interceptor methods
Interceptor class
Lifecycle call back interceptors

Implementing Transactions
Transaction demarcation task,
Transaction policy
Container managed transactions
Bean managed transactions
Transaction in messaging

Implementing Security
Security Interventions
Java EE Platform Security Model
Authentication
Authorization
Programmatic Security
Declarative Security

Using EJB Technology Best Practices
Exception Handling
Java EE Application Design

Appendix A - Introducing Transactions
Examining Transactions
Types of Transactions
Transaction-Related Concurrency Issues
Handling Distributed Transactions
Java Transaction API (JTA)

Introducing UML
UML Basics

Types UML Diagrams
Elements of UML diagrams
Illustartions of all UML diagrams