Java EE 7 Back-End Server Application Development Ed 2

Duración

Días: 5 Días
Horas: 30 horas

Descripción

The Java EE 7: Back-End Server Application Development training teaches you how to build and deploy enterprise applications that comply with Java Platform, Enterprise Edition 7 Full Profile. Learn to develop applications with the following technologies: Enterprise JavaBeans (EJB), Java Persistence API (JPA), JDBC, Java Transaction API (JTA), Contexts and Dependency Injection (CDI), Java Message Service (JMS), Bean Validation, Batch API, Timer services, Java EE Concurrency and more.

Objetivos

1. Apply dependency injection using CDI
2. Apply the batch API to the problem of processing thousands of jobs in parallel
3. Create and apply Timer services
4. Create and use web services in enterprise applications
5. Develop enterprise components using EJB
6. Use JDBC in an enterprise environment
7. Use JMS to communicate between various enterprise systems
8. Use JPA to persist entities and create, read, update and delete database records

Qué aprenderá

- Use Java EE 7 technologies to create, read, update and delete database records using both JDBC and JPA technologies.
- Create a flexible component model using EJB and CDI technology.
- Create SOAP-based and XML web services.
- Develop the business and integration tiers of an enterprise application.
- Understand how those components responsible for: interacting with other systems through web services and message queues.
- Become proficient with database access and manipulation using transactions.
- Provide timer, concurrency and batch services.
- Develop expertise using Java Enterprise Edition 7, the latest version of the Java platform for development of enterprise applications.

Beneficios para usted

When you walk away from this course, you will have developed the knowledge and skills to read and write messages to systems that may or may not be developed using Java with Java Message Service create batch services to process thousands of jobs in parallel. This interactive, hands-on training is an excellent follow-up course to the Java EE 7: Front-end Application Development training.

A quién se dirige

- Application Developers
- Developer
- J2EE Developer
- Java Developers
- Java EE Developers
- System Integrator

Requisitos

Required Prerequisites

- Understand OO principles
- Basic understanding of database concepts and SQL syntax
- Experience with Java SE
- Java SE 8 Programming

Suggested Prerequisites

- Java EE 7: Front-end Web Application Development
- Java SE 7 or 8 programmer certification

Contenido

1. Java Platform, Enterprise Edition
    - The Java EE Platform
    - The needs of enterprise application developers
    - Java EE specifications
    - A comparison of services and libraries
    - Java EE application tiers and architecture

2. Enterprise Development Tools and Applications
    - The purpose of an application server
    - Properties of Java EE components
    - The development process of Java EE applications
    - Configuring and deploying Java EE applications

3. JavaBeans, Annotations, and Logging
    - Java SE features in Java EE applications
    - Creating POJO JavaBeans components
    - Using logging and common Java annotations
    - Developing custom annotations
    - The role of annotations in Java EE applications

4. XML Programming with JAXB
    - The benefits of XML
    - XML namespaces and schemas
    - Java XML APIs
    - The Java XML Binding API (JAXB)
    - Reading and writing XML documents with JAXB
    - xjc: the JAXB binding compiler
    - JAXB annotations

5. SOAP Web Services with JAX-WS
    - Overview of SOAP
    - Overview of WSDL files
    - Comparing WSDL-first and code-first design approaches
    - Writing a JAX-WS web service
    - Generating WSDL from a Java class
    - Creating JAX-WS web service clients

6. Java Naming and Directory (JNDI) Services
    - What is JNDI?
    - Naming service concepts
    - Directory service concepts
    - JNDI packages
    - Using JNDI to look up JDBC and EJB components in Java EE

7. The EJB Component Model
    - The role EJB components play in Java EE appplications
    - The role of the EJB container
    - EJB changes in Java EE 7
    - Local, distributed and no-client EJB client access views
    - EJB Session types
    - Stateless, Stateful and Singleton EJBs
    - Session bean packaging and deploying

8. Contexts and Dependency Injection
    - What is dependency injection?
    - Using Qualifiers
    - The beans.xml file and Alternatives
    - Using Producers and Disposers
    - Using Interceptors
    - Using Events and Stereotypes

9. Java Message Service
    - What is the Java Message Service?
    - Why do we need JMS?
    - JMS Overview
    - Point-to-point messaging architecture
    - Publish/subscribe messaging architecture
    - Message producers and consumers
    - Queues and topics
    - Durable vs. non-durable subscriptions

10. Message-driven Beans
    - The life cycle of a message-driven bean
    - Creating a message-driven bean
    - Creating life cycle handlers for message-driven beans
    - Configuring a message-driven vean

11. Java EE Concurrency
    - Concurrency in Java EE
    - Asynchronous EJBs
    - Managed Executors

12. JDBC in Java EE Environments
    - Overview of the JDBC API
    - Using CDI to inject a JDBC resource in a Java EE component
    - The Data Access Object pattern

13. Transactions in Java EE Environments
    - What are transaction semantics?
    - Comparing programmatic and declarative transaction scoping
    - Using JTA to scope transactions programmatically
    - Implementing a container-managed transaction policy using declarations
    - Controlling container-managed transaction propagation

14. Java Persistence API
    - Object-relational mapping
    - Entities and the entity manager
    - Persistence contexts and persistence units
    - Create, read, update and delete operations with JPA
    - Create typed queries in JPA with JPQL

15. Bean Validation with JPA
    - What is Bean Validation?
    - JPA lifecycle phases where validation takes place
    - Using the built-in validation constraints
    - Creating a custom bean validation constraint
    - Programmatic validation by injecting a Validator
    - Using validation groups

16. Timer and Batch Services
    - What are timer services?
    - Programmatic and automatic timers
    - What is Batch processing?
    - Jobs, steps and chunks
    - Batch examples

17. Security
    - Authentication, authorization and confidentiality
    - Apply Java EE security using deployment descriptors
    - Creating users and groups and mapping them to roles
    - Defining possible web service attack vectors