

Price: R9,800.00 excl. VAT
Duration: 4.5 days
Code: JEJB3

Enterprise JavaBeans Development

Description

Enterprise JavaBeans (EJBs) make it easier to build Java systems with reusable components. EJBs also make your system more robust and better able to handle changes in volume. This course will teach you how to write different kinds of EJBs: session beans to handle the business data, entity beans to control the business logic, and message-driven beans to make different systems talk to each other.

Objectives

After you have completed the Enterprise JavaBeans Development course, you will be able to:

- Understand the various technologies that form part of JEE (Java Enterprise Edition) and how they fit together.
- Develop entity beans to represent business data.
- Develop session beans to represent business processes and logic.
- Develop message-driven beans to communicate between systems.

Intended Audience

You should attend the Enterprise JavaBeans Development course if:

- You are a Java programmer and you need to develop enterprise applications.
- You are already doing JEE development, and you need to know more about EJB.

Prerequisites

Before you attend the Enterprise JavaBeans Development course:

- You must have attended our Java Programming course or already be comfortable with the fundamentals of the Java programming language.
- You should have at least 1 year practical experience programming in Java.

You will find it useful to know more about the JEE environment. It is not essential, but it will help you to first attend our JEE Architecture course.

Course Contents

JEE Architecture and API Overview

- JEE application servers.
- Servlets and JavaServer Pages (JSP).
- Enterprise JavaBeans (EJB).
- Java Transaction API and Services (JTA and JTS).
- RMI and RMI-IIOP.
- Java Naming and Directory Interface (JNDI).
- Java Message Service (JMS).
- Java Database Connectivity (JDBC).
- Java Persistence API (JPA).
- Java APIs for XML Processing (JAXP) and binding (JAXB).
- SOAP and RESTful Web Services.
- JAX-RPC, JAX-WS and JAX-RS.

- JEE Connector Architecture (JCA).
- Java Authentication and Authorization Service (JAAS).

EJB Overview

- EJBs as the core of a JEE application.
- EJB2 versus EJB3.
- Plain Java objects (POJOs) and interfaces (POJI).
- Java annotations vs XML deployment descriptors.

EJB Types and Usage.

- Entity beans developed as POJOs.
- Stateless, stateful and singleton session beans.
- Asynchronous return values.
- Exposing session beans as Web services.
- Message driven beans.
- Timers and the timer service.
- EJB lifecycle, callbacks and listeners.
- Interceptors.
- JNDI Enterprise Naming Context (ENC).
- Packaging and deploying EJBs.
- Portability issues.

Entity Beans and Persistence

- JPA Overview.
- Entity managers and persistence units.
- Managed vs unmanaged entities.
- Mapping persistent objects.
- Entity relationships and inheritance.
- EJB Query Language (QL).

Transactions

- Overview of Java Transaction API (JTA and JTS).
- The ACID principle.
- Isolation and database locking.
- Programmatic vs declarative transactions.
- Exceptions and transactions.

Messaging with JMS

- Point-to-point versus publish and subscribe messaging.
- Queuing mechanisms.
- Connection Factories, Connections, Sessions, Destinations.
- Message types.

Patterns and Best Practices

- EJB design in the real world.
- JEE Design Patterns.
- Best Practices.

*** The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*