

CIW Enterprise Specialist Series – Course 2: Enterprise JavaBeans (June 2002)

Enterprise JavaBeans is a 18-hour course that teaches the fundamentals of Enterprise JavaBeans (EJB). Students learn about the Java 2 Platform, Enterprise Edition (2JEE) technologies; EJB concepts, methodology, and development; EJB-compliant servers, and how Enterprise JavaBeans are used by remote client applications. Students also learn about database connectivity and transactions. The course teaches them to develop session beans and entity beans, and offers hands-on experience working with Enterprise JavaBeans.

Topics

Introduction to Server-side Component Software

- Client-Server and Multi-Tiered Architectures
- Software Components
- Component Architectures
- J2EE Technologies
- Enterprise JavaBeans

Enterprise JavaBeans Overview

- EJB Architecture
- Client Interaction with Enterprise JavaBeans
- EJB Container Services
- The EJB Home Object
- The EJB Object
- Types of Enterprise JavaBeans
- Deployment Descriptors
- The EJB-JAR File

Enterprise JavaBeans Clients

- Introduction to EJB Clients
- Using JNDI
- Creating an EJB Instance
- Removing the Enterprise Bean
- Client Sample

Creating Session Beans

- Creating the Enterprise Bean Class
- Stateless and Stateful Session Beans
- Writing Business Methods for an Enterprise Bean
- The Home Interface
- The EJB Object
- Exceptions in EJB
- Example: A Session Bean
- The Library Application
- Introduction to EJB Deployment
- The Deployment Descriptor
- Environment Data
- Using Bean References
- Using Resource Factories
- Assembler/Deployer Roles with the Deployment Descriptor
- EJB Deployment in an EJB Server

Entity Beans

- What Is an Entity Bean?
- Primary Keys
- Entity Bean Architecture
- Bean-Managed Persistence
- Entity Bean Methods
- Using Finder Methods
- The Remote Interface
- The Home Interface

Container-Managed Persistence

- Introduction to Container-Managed Persistence
- The Primary Key
- EJB Methods and CMP
- The Deployment Descriptor and CMP
- Example: A CMP Entity Bean

Transactions in Enterprise JavaBeans

- What Are Transactions?
- Participants in Transactions
- Properties of Transactions
- EJB Transactional Model
- Distributed Transactions
- Isolation Levels
- Transactions in EJB
- Container-Managed Transactions
- Bean-Managed Transactions

Enterprise JavaBeans Security

- Introduction to EJB Security
- Defining Users, Principals and Roles
- Security and the Deployment Descriptor

Target Audience

Database developers and administrators, Internet application developers, middleware programmers, Java developers, and client/server developers.

Job Responsibilities

Develop n-tier database and legacy connectivity solutions for Web applications using Java, Java APIs, Java Database Connectivity solutions, middleware tools, and distributed object models.

Prerequisites

Students must have CIW Foundations certification or equivalent experience, and have completed *Java Programming Fundamentals* or have a working knowledge of Java and client and server programming.

Duration

18 hours