



Enterprise Java Beans & Java Persistence API (EJB & JPA) Course Syllabus

Course Description:

The EJB course provides students with the knowledge of how to develop robust back-end functionality using Enterprise Java Beans, and how to deploy such systems on the Application Server.

Prerequisite Course(s):

- Java Programming
- Advanced Java Programming
- Remote Method Invocation (RMI)
- XML & Java API for XML Processing
- Developing Web Applications using Java Servlets
- Developing Web Applications using Java Server Pages (JSP)

Learning Objectives:

- To understand the Enterprise Java Beans Technology
- To understand the Benefits of using Enterprise Java Beans
- To deploy Enterprise Java Beans
- To build EJB Clients
- To use message-oriented middleware (MOM) from enterprise Java applications.
- To use the JMS API to build a message consumer application.
- To provide the trainee with the necessary knowledge to start developing robust business applications using JPA.

Course Outline:

- EJB 2.x Overview.
- Session Bean (EJB 2.x).
- Introduction to JMS.
- Java Message Service (JMS) Architecture.
- JMS Programming APIs.
- Steps for writing JMS clients (sender and receiver).
- JMS & Message Driven Bean (MDB EJB 2.x).
- Introduction to Java EE 5.
- Introduction to Java Annotations.
- Session Bean (EJB 3.0).
- Message Driven Bean (MDB EJB 3.0).
- JPA (Java Persistence API) overview.



- JPA Key Concepts
 - Entity Manager and Transaction.
 - Persistence Unit and Persistence Contexts.
- Mapping Persistent Objects
 - Basic Relational Mapping, Primary Keys and Property Mappings
 - Multi-table Mappings and @Embedded Objects
- Entity Relationship mapping
 - The Seven Relationship Types
 - Mapping Collection-Based Relationships
 - Detached Entities and Fetch-Type
 - Cascading
- Query API and JPQL
 - Query API and JPQL.
 - Native Queries and Named Queries.