

Java Persistence API (JPA) 2.0 Development (3 days hands-on)

The Java Persistence API (JPA) is a standard object-relational mapping (ORM) technology for Java Enterprise Edition applications. This course takes a detailed look at JPA 2.0, describing how to map complex relational structures and how to use the Java Persistence Query Language (JPQL) effectively.

Contents:

- **Persistence in Java EE:** Entity beans; EntityManager and Persistence Units; Mapping entity classes to relational databases; Providing metadata via annotations and XML; Using the Java Persistence API; Summary of JPA 2.0 features
- **JPA Queries:** Overview of Java Persistence Query Language (JPQL); Lazy and eager Loading; Queries; Parameters; Paging and scrolling; Projections; Aggregates
- **Going Further with JPA Queries:** Queries across relationships (inner joins, outer joins, fetch joins); Batch operations; Bulk updates; Named queries; Native queries; Primary key generation
- **Using the Criteria API:** Overview of the Criteria API; Building Criteria API queries; Strongly typed query definitions
- **Working with Persistent Objects:** Entity lifecycle; Entity identity; Transient, persistent, and detached states; Persistent object updates
- **Mapping Collections and Associations:** Fetching strategies; Many-to-one; Bidirectional many-to-one; One-to-one; Bidirectional one-to-one; Many-to-many; Bidirectional many-to-many; Components; Embedded objects; Cascading
- **Mapping Inheritance:** Overview; Inheritance mapping strategies; Table per concrete class; Table per subclass; Table per hierarchy; Unions; Polymorphism
- **Transaction Management:** Transaction configuration; Transaction API; Transaction propagation
- **Locking and Versioning:** Optimistic locking and versioning; Pessimistic locking

Who Should Attend:

This training course is aimed at developers who wish to implement an object-relational mapping solution using JPA 2.0.

Prerequisites:

Delegates must have experience using the Java programming language. Familiarity with Java EE concepts is beneficial.