

Introduction to Data Persistence with Hibernate

Description

Hibernate provides a robust and proven solution for managing Java object persistence. Its success within the developer community has led to its adoption in many enterprise projects. This Hibernate training introduces the key concepts and essential practices for implementing effective object-relational mapping.

A practical and progressive approach

The Hibernate training is designed for developers and project managers who want to understand and apply object-relational persistence.

Each module introduces a core concept, from project setup to the optimization of caching and queries. You will also learn how to manage transactions, complex associations, and advanced domain models.

Course Content

Module 1: Understanding object / relational persistence

- What is persistence
- The paradigm mismatch
- Persistence layers and alternatives
- Object / relational mapping

Module 2: Starting a project

- Starting a Hibernate project
- Starting a Java Persistence project
- Database reverse engineering
- Integration with Java EE services

Module 3: Domain models and metadata

- Implementing the domain model
- Object / relational mapping metadata
- Alternative entity representation

Module 4: Mapping persistent classes

- Understanding entities and value types
- Fine-grained domain models
- Mapping entities with identity
- Class mapping options
- Fine-grained models and mappings

Module 5: Inheritance and custom types

- Class inheritance mapping
- The Hibernate type system and built-in mappings
- Creating custom mapping types

Module 6: Mapping collections and entity associations

- Sets, bags, lists, and maps of value types
- Component collections
- Mapping collections with annotations
- Mapping a parent / child relationship

Module 7: Advanced entity association mappings

- Single-valued entity associations
- Multi-valued entity associations
- One-to-many associations
- Polymorphic many-to-one associations

Module 8: Legacy databases and custom SQL

- Integrating legacy databases
- Customizing SQL
- Improving the DDL schema

Module 9: Working with objects

- The persistence lifecycle
- Object identity and equality
- Hibernate interfaces
- The Java Persistence API
- Using Java Persistence in EJB components

Module 10: Transactions and concurrency

- Transaction basics
- Managing concurrent access
- Understanding database-level concurrency
- Accessing non-transactional data

Module 11: Implementing conversations

- Propagating the Hibernate session via thread-local
- Conversations with Hibernate
- Conversations with JPA
- Conversations with EJB

Module 12: Efficient object modification

- Transient persistence
- Batch and bulk operations
- Filtering and intercepting data

Module 13: Retrieval optimization and caching

- Defining the global fetch plan
- Object retrieval options
- Selecting a fetching strategy
- Caching principles
- Caching in practice

Module 14: Querying with HQL and JPA QL

- Creating and executing queries
- Basic HQL and JPA QL queries
- Joins, query reports, and subselects

Module 15: Advanced query options

- Querying with criteria and examples
- Using native SQL queries
- Filtering collections
- Caching query results

Module 16: Building and testing layered applications

- Creating a persistence layer
- A generic data access object model
- Introducing the command model
- Designing applications with EJB

Module 17: Introduction to JBoss Seam

- The Java EE programming model
- Enhancing applications with Seam
- Understanding contextual components
- User input validation
- Simplifying persistence with Seam

Documentation

- Digital courseware included

Participant profiles

- Programmers, developers and project managers wishing to acquire the necessary foundation for development with Hibernate

Prerequisites

- Knowledge in Java

Objectives

- Implement Object-Relational persistence in your application
- Master the Hibernate features which make your applications successful

Description

Hibernate Training – Introduction to Data Persistence with Hibernate

Niveau

Fondamental

Classroom Registration Price (CHF)

2300

Virtual Classroom Registration Price (CHF)

2150

Duration (in Days)

3

Reference

HIBERNATE