Publication date : 02/05/2024

Course : Hibernate, object/relational mapping

Practical course - 3d - 21h00 - Ref. HIB
Price : 1650 € E.T.

Writing a persistent data access layer in Java quickly proves complex and costly to develop. The aim of Hibernate is to simplify development. This course will provide you with the elements you need to efficiently develop a persistence layer using Hibernate.

Teaching objectives

At the end of the training, the participant will be able to:

- Object/relational mapping with Hibernate
- Create, update, delete and load persistent objects
- Perform queries using HQL and the Criteria API
- Managing transactions and concurrent access
- Configuring the Hibernate cache

Intended audience

Project managers, analysts, designers, software architects and developers.

Prerequisites

Knowledge of Java and the JDBC API.

Practical details

Hands-on work

Practical work is carried out with Hibernate, Eclipse and MySQL.

Course schedule

1 Java persistence techniques

- Persistence techniques. Persistence framework. The Hibernate project. Hibernate versus JPA.

PARTICIPANTS

Project managers, analysts, designers, software architects and developers.

PREREQUISITES

Knowledge of Java and the JDBC API.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

2 Developing a simple persistent class

- Install the framework. Code persistent class.
- Define configuration properties.
- Run Hibernate. Perform an HQL query.

Hands-on work

Mapping a simple class. Execute an HQL query.

3 Object/relational mapping with Hibernate

- Objectives. Developing persistent classes.
- Mapping the most common cases. Hibernate annotations versus JPA annotations.
- Choosing an identifier generator. Implementing one-to-one, one-to-many and inheritance relationships.

4 Handling persistent objects

- CRUD operations. Object life cycle.
- Synchronization with database. Cascading persistence.
- Load persistent objects.
- Improve class and property mapping.
- Mapping bag, list and map associations.

Hands-on work

Create, update, delete and load persistent objects. Use a derived attribute. Mapping a collection of values. Implementing a many-to-many association.

5 HQL language and Criteria API

- Create join and query queries.
- Using projections with HQL. Queries on sets.

Hands-on work

Perform an optimized HQL query. Code a query using the Criteria API.

6 Competing transactions and access

- Overview of transaction properties. Atomicity management. Data isolation management.
- Locking technology.

Hands-on work

Implementing a transaction.

7 Using the Hibernate cache

- Objectives. First and second level cache.

Hands-on work

Configuring the Hibernate cache.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

8 Automatic resource generation

- Hibernate Tools. Generate configuration file hibernate.cfg.xml.
- Generation of model classes (DAO/POJO) from SQL schema (Reverse Engineering).
- Automation with ANT tasks.
- hbm2ddl (SchemaExport). Table generation from mapping files.

Hands-on work
Installation of the Eclipse Hibernate tools plug-in. Reverse engineering an existing database.

Dates and locations

REMOTE CLASS
2026 : 17 June, 28 Sep., 16 Dec.

PARIS LA DÉFENSE
2026 : 17 June, 28 Sep., 16 Dec.