

# Course : Hibernate, advanced implementation

Practical course - 2d - 14h00 - Ref. BER

Price : 1280 € E.T.



Mapping between the rows of a relational database and the objects of the persistence layer is today a key Design Pattern of the Object paradigm. In the Java world, efficient mapping requires a thorough understanding of the Hibernate framework, with its many features.

## Teaching objectives

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

- ✓ Implement different loading strategies
- ✓ Implement session cache and second-level cache.
- ✓ Setting up a "clustered" cache with JBoss TreeCache
- ✓ Implementing class inheritance mapping
- ✓ Optimizing associations
- ✓ Monitoring the performance of a Hibernate application

## Intended audience

Engineers, architects, project managers.

## Prerequisites

Good basic knowledge of Hibernate. Very good knowledge of Java.

## Course schedule

### 1 Loading strategies

- Data loading issues, impedance mismatch, fetch strategies.
- Loading by select and sub-select.
- Loading by join, by batch.

### Hands-on work

Implementation of different loading strategies. Study of different loading anomaly cases.

### PARTICIPANTS

Engineers, architects, project managers.

### PREREQUISITES

Good basic knowledge of Hibernate.  
Very good knowledge of Java.

### 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.

## 2 Cache mechanisms

- Cache management. Session cache.
- Second-level cache, configuration (cluster or JVM cache), cache types (EHCache, JBossTreeCache...).
- Cache mappings.
- Different strategies: read-only, read/write, non-strict read/write, transactional.
- Compatibility between caches and concurrency strategies. The query cache.

### Hands-on work

Implementation of session cache and second-level cache.

## 3 Data sharing

- Competing transactions and access.
- Optimistic control of competition.
- Pessimistic locking. Clustering.

### Hands-on work

Optimistic locking use case. Setting up a "clustered" cache with JBoss TreeCache.

## 4 Optimizing associations

- Management of bidirectional associations.
- Mapping attribute "inverse".
- Polymorphic associations.

### Hands-on work

Handling bidirectional associations.

## 5 Class inheritance mapping

- Inheritance strategies.
- One table per class hierarchy.
- One table per subclass.
- One table per concrete class.
- Implicit polymorphism.

### Hands-on work

Implementation and structural analysis of different inheritances.

## 6 Performance monitoring

- Activate metrics (statistics).
- The different metrics available.
- Access to metrics (SessionFactory).
- Publication of metrics via JMX.

### Hands-on work

Analysis of different metrics.

### 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.

### 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.

## 7 Ancillary projects

- Hibernate Validator. Hibernate Search. Hibernate Shards.

### Hands-on work

Validation implementation. Activate/deactivate validation. Triggering autonomous validation. Implementing Hibernate Search queries. Shards implementation and discussion.

## Dates and locations

### REMOTE CLASS

2026 : 25 June