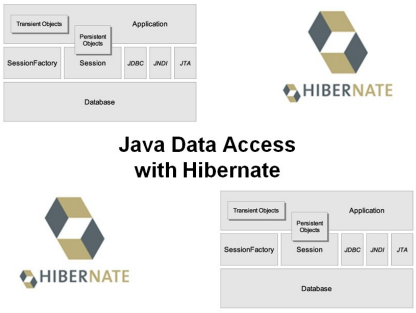
Java Data Access with Hibernate

Duration: 3 days **Price: € 1850**

Open Schedule



Audience Java Data Access Hibernate Course

Experienced Java developers who want to use Hibernate for accessing data in databases.

Prerequisites Course Java Data Access Hibernate

Experience with Java programming and object orientation is required. Knowledge of database structures and SQL is beneficial for a proper understanding.

Realization Training Java Data Access Hibernate

The concepts are treated by means of presentation slides and demos. The theory is interspersed with exercises. The course material is in English. The course times are from 9.30 up and to 16.30.

Certification Java Data Access Hibernate

Participants receive an official certificate Java Data Access with Hibernate after successful completion of the course.

Content Course Java Data Access with Hibernate

The course Java Data Access with Hibernate addresses Object Relational Mapping with Hibernate.

Hibernate Architecture

After an overview of the data access capabilities in Java, including JDBC, and the challenge they face, the basic concepts and architecture of the Hibernate Framework is discussed.

Hibernate Configuration

The role of the Hibernate configuration file is examined and the mapping of Java classes to database tables is discussed. Next attention is paid to the role and structure of the mapping files and annotations and the role of the various properties and attributes.

Sessions

The central position of the Hibernate Session created through the SessionFactory is discussed and attention is paid to the various states that Java objects can have in relation to the database like persistent, transient and detached.

Mapping

The various key generation strategies are discussed and also the mapping of association and inheritance relationships to the database are part of the subject matter.

Hibernate Query language

Next attention is paid to the capabilities of Hibernate Query language, HQL, to Hibernate criteria and the use of native SQL queries.

Transactions

Finally also Hibernate transactions are discussed, the use of annotations as an alternative to XML mapping files is addressed and the different varieties of Hibernate caching are explained.

Modules Course Java Data Access with Hibernate

Module 1 : Java Persistence	Module 2 : Hibernate Basics	Module 3 : Mapping Persistent Objects
Java Persistence	What is Hibernate?	Class to Table Mappings
Traditional Persistence	Hibernate Characteristics	Property Mapping
Transparent Persistence	Hibernate Configuration	Identifiers and Generators
Persistence Technologies	Hibernate Configuration File	Hibernate Session
Direct File I/O	Persistent classes	Entities and Values
Serialization	Mapping Files	Entity Lifecycle
Java Database Connectivity	Hibernate Architecture	Persistent State
JDBC Architecture	Hibernate Core Concepts	Transient State
Executing Statements	Storing Objects	Persistent Object Updates
Retrieving Results	Generated Table and SQL	Automatic Dirty Checking
JDBC Drivers	Primary Key Column	Detached State
JDBC URL's	Lifecycle States	Deleting Objects
Problems with JDBC	Persistence Lifecycle	Merging
Module 4 : Mapping Relationships	**Module 5 : Mapping Inheritance**	**Module 6 : Queries and Criteria**
Many-to-one Associations	Inheritance Mapping Strategies	Hibernate Query Language
Mapping to List, Map	Single Table per Class Hierarchy	HQL Parameters
Mapping to Bag and Array	Single Table Data Model	Named Queries
Using Comparator	Discriminator Columns	Native SQL
One-to-one Associations	Advantages and Disadvantages	Criteria
Many-to-many Associations	Table per Concrete Class Strategy	Restrictions
Value Type Collections	Table per Concrete Class with unions	Scrolling and Pagination
Collections of Components	Table per Class Data Model	Query Hints
Sorting Collections	Advantages and Disadvantages	Join Fetching
Cascading over associations	Joined Subclass Strategy	Subselect Fetching
Lazy versus Eager Loading	Joined Data Model	Batch Fetching
Detached Objects and Proxies	Polymorphism	Queries and Fetching Strategies
Polymorphic Associations	Choosing an Inheritance Strategy	Cartesian Product Problem
Module 7 : Transactions	**Module 8 : Hibernate Annotations**	**Module 9 : Hibernate Configuration**
Java Transaction API	Metadata	Configuration File
JTA versus JDBC Transactions	Annotations Pros/Cons	HibernateUtils
Transaction Configuration	Configuring Hibernate Annotations	XML versus Annotations
Hibernate Transaction API	Entity and table annotation	Connection Pools
Isolation Levels	Primary key annotations	The promise of Cache
Optimistic Locking	Column annotations	Hibernate Caching Architecture
Versioning	Special	First Level Cache
Pessimistic Locking	Relation annotations	Second Level Cache
ThreadLocal Transactions	Join column annotations	Cache Concurrency
Conversations	Components	Configuring Second Level Cache
Session Lifetime	Inheritance	Cache Regions
Concurrent Access	EJB3/JPA Annotations	Eviction

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