/training/etc
The Art of Knowledge.

JB267 JBoss: Advanced Hibernate

Course Length
2 Days

TE4010_20081201

Course Description: Advanced Hibernate training is targeted toward Java developers who wish to extract the full power of the Hibernate O/R Mapping framework. The primary target audience consists of Java developers who work with SQL-based database systems, database developers who are looking for an introduction to object-oriented software development and database administrators interested in how ORM affects performance and how to tune the performance of the SQL database management system and persistence layer

Who Should Attend: The Advanced Hibernate course is recommended for individuals who are familiar with Hibernate and wish to become experts on Hibernate 3.2.

Prerequisites: Students must have knowledge of Hibernate and competency with the Java language as well as knowledge of OOAD concepts and familiarity with the UML. In addition, students must have experience with a dialect of SQL and experience using the JDK and creating the necessary environment for compilation and execution of a Java executable from the command line.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Extract the full power of the Hibernate O/R Mapping framework.
- Become experts on Hibernate 3.2.

Course Outline:

Flashback
Hello World Example
Refreshing Hibernate Basics
More Advanced Topics

Advanced Class and Property Mappings
Different Mapping Metadata Facilities Available
Standard JPA Annotations
Hibernate Annotation Extensions
Hibernate's Mapping Type System
Built-In Mapping Strategies for Entities
Simple Value Types
Class Inheritance
Custom Extension of the Hibernate Type System

Associations and Collections
Advanced Hibernate Mapping
Various Kinds of Mappings
Hibernate's Fully Polymorphic Behavior
Lab Exercise

Transactional Processing
Using APIs Correctly, Even in Tricky Situations
Using Hibernate Data Filters to Access Regional and Temporal Data
More Advanced Transaction Processing Concepts
Optimistic Locking
Pessimistic Locking
Long Running Application Transactions

Querying and Fetching Data
Advanced Object Retrieval Options
Correct Usage of Hibernate's Association Fetching Strategies
New Criteria and Example API
Advanced HQL, EJB-QL (Using EJB 3.0 Persistence API), and Native SQL Queries
Exercise on Loading and Storing Objects Efficiently

Application Design
Design and Implement a Persistence Layer using Hibernate
Correctly Handle SessionFactory and Session in Two-Tiered and Three-Tiered Applications
Best Practices for Transaction Handling
Implement Event Interception in the Persistence Layer

Legacy System Integration
Reverse Engineering using the Hibernate Toolset
Advanced Hibernate Mapping Techniques
Formula-Based Mappings
Natural- and Composite Keys
Triggers

Deployment and Administration
More Advanced Configuration Options and Tricks
Deployment of Hibernate as a JMX and JCA Service in J2EE Environments
Logging Efficiently
Detecting Performance Issues using Runtime Monitoring with the New Statistics Interfaces

Tuning
Optimize Database Access
Data Caching Basics
When to Use Caching
Hibernate's Dual Layer Caching System