

# Hibernate Course Contents...

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## Introduction to Hibernate

Issues with Persistence layers and Object-Relational Mapping (ORM)  
Hibernate Overview and Benefits  
Hibernate architecture overview  
POJO (Plain Old Java Object) Based Mapping  
Getting started with Hibernate quickly  
Overview of the Hibernate distribution  
Configuring Hibernate

- o hibernate.cfg.xml file
- o SessionFactory configuration
- o Introduction to Hibernate ServiceRegistry

  

- o Connection properties, Database dialect
- o Configuration class, Session Interface

"Hello World" Program for Hibernate  
Mapping a Class

- o Persistent Entity Class, Hibernate Mapping
- o File, Mapping the Entity Class
- o Primary keys: Id property, Generated Id

Hibernate Type System  
Working with sessions and Persistent Objects  
Logging - log4j Overview and configuration for Hibernate

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## Querying

Inserting and Updating Entities  
HQL - Hibernate Query Language Overview  
The Query Interface  
Creating and working with queries  
Named Queries, Projection Queries, Aggregate Queries

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## The Persistence Lifecycle

Transaction Overview and Transactions in Hibernate  
Hibernate Transaction API (in Managed and Non-managed Environments)  
The lifecycle of managed objects  
Persistent, transient, and detached objects  
The Persistence (Session) Context (Lifespan, Relation to Managed Objects, Propagation)  
Contextual Sessions  
Synchronization to the Database  
The Session as cache

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## Relationships

Object Relationship Overview  
Mapping Collections of Value Objects

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Entity Relationships: 1-N, N-1, N-N, 1-1  
Mapping Entity Relationships  
Uni and Bi-directional Relationships  
The Relationship "inverse"  
Cascading Over Relationships  
Queries Across Relationships (Lazy and Eager)

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### **Inheritance Mapping**

Entity Inheritance with Hibernate  
Table-per-class mapping  
Table per Subclass mapping  
Table per Concrete Class mapping

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### **Hibernate with annotation**

Creating Hibernate Mappings with Annotations  
Using Annotations in Your Application  
Introducing the Hibernate Annotations  
Entity Beans with @Entity  
Modelling Relationships with Annotations

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### **Additional Querying Capabilities**

Projection Queries, Aggregate queries  
Bulk updates and deletes  
Native SQL Queries  
Query Filters

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### **Collection Mapping**

Relationships and Element Collection  
Using Different Collection Types  
Set or Collection  
List

- Ordering by Entity or Element Attribute
- Persistently Ordered Lists

Maps

- Collection Foreign keys
- Indexed Collections
- Collection of basic types and embeddable Objects

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### **The Criteria API**

Overview of the Criteria API  
Working Querying with the Criteria API  
Query by Example

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