

Hibernate



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Agenda

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➤ Session I

- What is Hibernet
- Working of Hibernet
- Dependencies of Hibernet (Configuration)

➤ Session II

- Implement Simple Program
- Demonstrations of Annotations

➤ Session III

- Hibernet Query Language

Prerequisites

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- Core Java Concept
- JDBC
- Database Knowledge

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What is Hibernate

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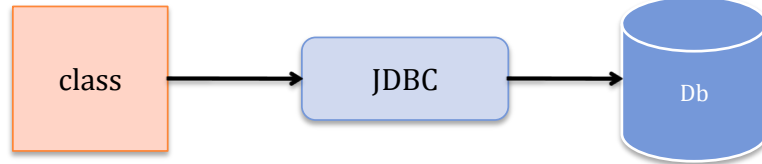
- **Hibernate** is a java framework which **simplifies the development of java application to interact with database**
- No need to write DAO class /SQL Queries
- ORM Tool – Object Relational Mapping
- Open Source & Lightweight
- Non invasive – not force to use/implement/extend classes
- Invented by **Gavin King** in 2001
- Use for any type of application.

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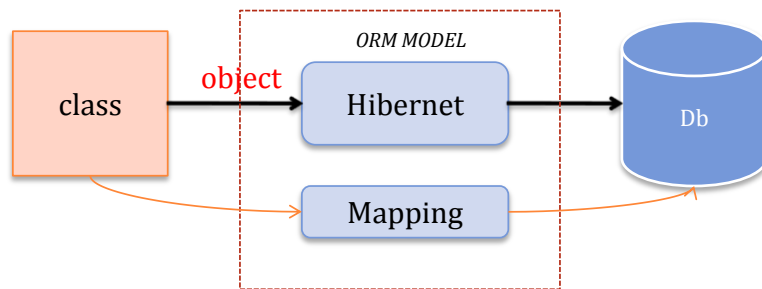
Working

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JAVA + MYSQL



**JAVA + MYSQL
with
HIBERNATE**



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Hibernate in short

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- Hibernate maps Java classes to database tables and from Java data types to SQL data types and relieves the developer from 95% of common data persistence related programming tasks.
- Hibernate sits between traditional Java objects and database server to handle all the works in persisting those objects based on the appropriate O/R mechanisms and patterns.

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Maven Project [more](#)

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- Maven is a powerful *project management tool* that is based on POM (project object model). It is used for projects build, dependency and documentation.
- Understanding the problem without Maven
 - **1) Adding set of Jars in each project:** In case of struts, spring, hibernate frameworks, we need to add set of jar files in each project. It must include all the dependencies of jars also.
 - **2) Creating the right project structure:** We must create the right project structure in servlet, struts etc, otherwise it will not be executed.
 - **3) Building and Deploying the project:** We must have to build and deploy the project so that it may work.

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Add dependencies with maven

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- Need to add dependencies in pom.xml file
 - [Click here and check pom.xml](#)

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Add dependencies without Maven Project

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- Download zip file extract.
- Under Java Project → Build Path → Configure → Select Classpath → Add external Jars → Apply

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hibernate configuration-By using xml file

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1. Create **hibernate.cfg.xml** file under **src/main/java**
2. Add hibernate DTD
 1. `<!DOCTYPE hibernate-configuration SYSTEM "http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">`
3. Add configuration & Property Names in **hibernate.cfg.xml**
 1. [Click here and check hibernate.cfg.xml](#)

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```
<?xml version = "1.0" encoding = "utf-8"?>
<!DOCTYPE hibernate-configuration SYSTEM
"http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">

<hibernate-configuration>
<session-factory>
<property name = "hibernate.dialect"> org.hibernate.dialect.MySQLDialect
</property>

<property name = "hibernate.connection.driver_class"> com.mysql.jdbc.Driver
</property>

<property name = "hibernate.connection.url"> jdbc:mysql://localhost/test
</property>

<property name = "hibernate.connection.username"> root </property>

<property name = "hibernate.connection.password"> root123 </property>

<mapping resource = "Employee.hbm.xml"/>
</session-factory> </hibernate-configuration>
```

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Annotations

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- **@Entity**
 - Use to mark any class as entity
 - contained in the **javax.persistence** package
- **@Table**
 - Use to change table details.
 - The @Table annotation provides four attributes, allowing you to override the name of the table, its catalogue, and its schema, and enforce unique constraints on columns in the table. For now, we are using just table name, which is EMPLOYEE.
- **@Id**
 - Use to mark as a primary key.

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Annotations

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- **@GeneratedValue**
 - Auto generated value of primary key
- **@Column Annotation**
 - The @Column annotation is used to specify the details of the column
 - **name** attribute permits the name of the column to be explicitly specified.
 - **length** attribute permits the size of the column used to map a value particularly for a String value.
 - **nullable** attribute permits the column to be marked NOT NULL when the schema is generated.
 - **unique** attribute permits the column to be marked as containing only unique values.
- **@transient**- This tell hibernate not to save the field
- **@temporal** – Date Format Change , **@Lob**- tell hibernate this is large object

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Annotations-Demo

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[Click here to get program](#)

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HQL

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HIBERNATE QUERY LANGUAGE

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HQL Vs. SQL

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HQL	SQL
Object-Oriented Query language	Structured Query Language
works with persistent objects and their properties	Work with table and columns
HQL queries are translated by Hibernate into conventional SQL	Directly perform on Database
Database Independent	Database Dependent
Easy to learn for programmer	Easy to learn for DBA
"FROM Employee"	"Select * from Employee";

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HQL – CRUD Operation

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[Click here](#)

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THANK YOU

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