**Course.java:**

package com.models;

import java.util.List;

import javax.persistence.CascadeType;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

import javax.persistence.JoinColumn;

import javax.persistence.OneToMany;

import javax.persistence.PrimaryKeyJoinColumn;

import javax.persistence.Table;

@Entity

@Table(name = "courses")

public class Course {

@Id

@GeneratedValue(strategy = GenerationType.IDENTITY)

private int courseId;

private String name;

@OneToMany(targetEntity = Student.class, cascade = CascadeType.ALL)

@JoinColumn(name="courseId")

private List<Student> students;

private double fees;

private int duration;

public int getCourseId() {

return courseId;

}

public void setCourseId(int courseId) {

this.courseId = courseId;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public List<Student> getStudents() {

return students;

}

public void setStudents(List<Student> students) {

this.students = students;

}

public double getFees() {

return fees;

}

public void setFees(double fees) {

this.fees = fees;

}

public int getDuration() {

return duration;

}

public void setDuration(int duration) {

this.duration = duration;

}

@Override

public String toString() {

return "Course [courseId=" + courseId + ", name=" + name + ", students=" + students + ", fees=" + fees

+ ", duration=" + duration + "]";

}

}

**Student.java:**

package com.models;

import javax.persistence.Entity;

import javax.persistence.GeneratedValue;

import javax.persistence.GenerationType;

import javax.persistence.Id;

import javax.persistence.Table;

@Entity

@Table(name = "students")

public class Student {

@Id

@GeneratedValue(strategy = GenerationType.IDENTITY)

private int rollNo;

private String studentName;

private int age;

public int getRollNo() {

return rollNo;

}

public void setRollNo(int rollNo) {

this.rollNo = rollNo;

}

public String getStudentName() {

return studentName;

}

public void setStudentName(String studentName) {

this.studentName = studentName;

}

public int getAge() {

return age;

}

public void setAge(int age) {

this.age = age;

}

@Override

public String toString() {

return "Student [Roll No=" + rollNo + ", studentName=" + studentName + ", age=" + age + "]";

}

}

**hibernate.cfg.xml:**

<?xml version=*"1.0"* encoding=*"utf-8"*?>

<!DOCTYPE hibernate-configuration PUBLIC

"-//Hibernate/Hibernate Configuration DTD 3.0//EN"

"http://www.hibernate.org/dtd/hibernate-configuration-3.0.dtd">

<hibernate-configuration>

<session-factory>

<property name=*"hibernate.connection.driver\_class"*>com.mysql.cj.jdbc.Driver</property>

<property name=*"hibernate.connection.url"*>jdbc:mysql://localhost:3306/dummydemodb</property>

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

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

<property name=*"hibernate.dialect"*>org.hibernate.dialect.MySQL5Dialect</property>

<property name=*"show\_sql"*>true</property>

<property name=*"hbm2ddl.auto"*>update</property>

<mapping class=*"com.models.Course"* />

<mapping class=*"com.models.Student"* />

</session-factory>

</hibernate-configuration>

**HibernateConnection.java:**

package com.connection;

import org.hibernate.SessionFactory;

import org.hibernate.boot.Metadata;

import org.hibernate.boot.MetadataSources;

import org.hibernate.boot.registry.StandardServiceRegistry;

import org.hibernate.boot.registry.StandardServiceRegistryBuilder;

public class HibernateConnection {

private static SessionFactory sessionFactory;

public static SessionFactory getSessionFactory() {

if(sessionFactory == null) {

try {

StandardServiceRegistry standardRegistry = new StandardServiceRegistryBuilder()

.configure("hibernate.cfg.xml").build();

Metadata metadata = new MetadataSources(standardRegistry).getMetadataBuilder().build();

sessionFactory = metadata.getSessionFactoryBuilder().build();

} catch (Exception e) {

e.printStackTrace();

}

}

return sessionFactory;

}

}

**ComponentMappingServlet:**

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** java.util.ArrayList;

**import** java.util.List;

**import** javax.persistence.TypedQuery;

**import** javax.servlet.ServletException;

**import** javax.servlet.annotation.WebServlet;

**import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** org.hibernate.Session;

**import** org.hibernate.SessionFactory;

**import** org.hibernate.Transaction;

**import** com.connection.HibernateConnection;

**import** com.models.Course;

**import** com.models.Student;

/\*\*

\* Servlet implementation class ComponentMappingServlet

\*/

@WebServlet("/ComponentMappingServlet")

**public** **class** ComponentMappingServlet **extends** HttpServlet {

**private** **static** SessionFactory *sessionFactory* = **null**;

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#HttpServlet()

\*/

**public** ComponentMappingServlet() {

**super**();

*sessionFactory* = HibernateConnection.*getSessionFactory*();

}

/\*\*

\* **@see** HttpServlet#service(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** service(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

**try** {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

Session session = *sessionFactory*.openSession();

TypedQuery<Course> query = session.createQuery("from Course");

List<Course> cList = query.getResultList();

**for**(Course course : cList) {

out.println("<p><b>Course</b>: "+course.getName()+"</p>");

out.println("<p><b>Course Fees</b>: "+course.getFees()+"</p>");

out.println("<p><b>Course Duration</b>: "+course.getDuration()+"</p>");

out.println("<h2>Students Enrolled: </h2>");

List<Student> studentList = course.getStudents();

**for**(Student std: studentList) {

out.println("<p><b>Roll No: </b>: "+std.getRollNo()+"</p>");

out.println("<p><b>Name: </b>: "+std.getStudentName()+"</p>");

out.println("<p><b>Age: </b>: "+std.getAge()+"</p>");

}

}

session.close();

} **catch** (Exception e) {

e.printStackTrace();

}

}

}

**index.html:**

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Component Mapping</title>

</head>

<body>

<form action=*"ComponentMappingServlet"* method=*"get"*>

<input type=*"submit"* value=*"Fetch"* />

</form>

</body>

</html>