**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/myDummyDB</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.Student"* />

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

</session-factory>

</hibernate-configuration>

**Student.java:**

**package** com.models;

**import** java.util.List;

**import** javax.persistence.CascadeType;

**import** javax.persistence.Column;

**import** javax.persistence.Entity;

**import** javax.persistence.GeneratedValue;

**import** javax.persistence.GenerationType;

**import** javax.persistence.Id;

**import** javax.persistence.OneToMany;

**import** javax.persistence.Table;

**import** org.hibernate.annotations.LazyCollection;

**import** org.hibernate.annotations.LazyCollectionOption;

@Entity

@Table(name="students")

**public** **class** Student {

@Id

@GeneratedValue(strategy = GenerationType.***IDENTITY***)

@Column(name = "roll\_no")

**private** **int** rollNo;

@Column(name = "student\_name")

**private** String studentName;

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

@LazyCollection(LazyCollectionOption.***TRUE***)

**private** List<Course> courses;

**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** List<Course> getCourses() {

**return** courses;

}

**public** **void** setCourses(List<Course> courses) {

**this**.courses = courses;

}

@Override

**public** String toString() {

**return** "Student [rollNo=" + rollNo + ", studentName=" + studentName + ", courses=" + courses + "]";

}

}

**Course.java:**

**package** com.models;

**import** javax.persistence.Column;

**import** javax.persistence.Entity;

**import** javax.persistence.GeneratedValue;

**import** javax.persistence.GenerationType;

**import** javax.persistence.Id;

**import** javax.persistence.Table;

@Entity

@Table(name="courses")

**public** **class** Course {

@Id

@GeneratedValue(strategy = GenerationType.***IDENTITY***)

@Column(name = "course\_id")

**private** **int** courseId;

@Column(name = "course\_name")

**private** String courseName;

**public** **int** getCourseId() {

**return** courseId;

}

**public** **void** setCourseId(**int** courseId) {

**this**.courseId = courseId;

}

**public** String getCourseName() {

**return** courseName;

}

**public** **void** setCourseName(String courseName) {

**this**.courseName = courseName;

}

@Override

**public** String toString() {

**return** "Course [courseId=" + courseId + ", courseName=" + courseName + "]";

}

}

**LazyServlet.java:**

**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 LazyServlet

\*/

@WebServlet("/LazyServlet")

**public** **class** LazyServlet **extends** HttpServlet {

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

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

/\*\*

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

\*/

**public** LazyServlet() {

**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<Student> query = session.createQuery("from Student");

List<Student> studentList = query.getResultList();

out.println("<h1>Student Details</h1>");

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

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

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

}

session.close();

} **catch** (Exception e) {

e.printStackTrace();

}

}

}

**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*;

}

}

**index.html:**

<!DOCTYPE html>

<html>

<head>

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

<title>Lazy Components</title>

</head>

<body>

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

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

</form>

</body>

</html>