Hibernate integration with Servlet and JSP

**Hibernate integration with Servlet and JSP**

Developing Web Application by using hibernate.

We are going to insert the record of the user in the database. We will create Registration form for getting user data. These data we will collect in servlet and finally insert these data into Database by using hibernate.

For creating the web application, we are using

1. JSP for presentation logic,
2. Servlet class for controller layer and
3. DAO class for database access codes.

**Tools and Technologies:**

* JDK 1.7
* Hibernate library
* Eclipse
* Oracle11g.
* Tomcat 7.0

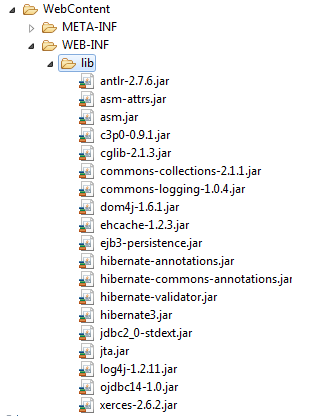
## Step 1 : Create Dynamic Web Project :

Open eclipse IDE,and go to**File -> New -> Project ->** and select **Dynamic Web Project**,specify the project name as HibernateWebApp and click on next -> finish .

# 

Step 2 : Add Jar files for hibernate and Oracle

Copy all the jar files as shown below inside lib folder of the project



**Step 3 : Creating web pages :**

Now let us create register.jsp file inside Web-Content folder of your project. This is a simple form where user can provide his/her detail.

Right Click on Web-Content then New -> JSP File and provide the name of JSP file as register.jsp and click Finish.

**register.jsp**

<%@page contentType=*"text/html"*%>

<%@page pageEncoding=*"UTF-8"*%>

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"

"http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>

<title>Registration Form</title>

</head>

<body>

<h1>Registration Form</h1>

<form action=*"register"* method=*"post"*>

<table cellpadding=*"3pt"*>

<tr>

<td>User id :</td>

<td><input type=*"text"* name=*"userid"* size=*"30"* /></td>

</tr>

<tr>

<td>User Name :</td>

<td><input type=*"text"* name=*"userName"* size=*"30"* /></td>

</tr>

<tr>

<td>Password :</td>

<td><input type=*"password"* name=*"password1"* size=*"30"* /></td>

</tr>

<tr>

<td>Confirm Password :</td>

<td><input type=*"password"* name=*"password2"* size=*"30"* /></td>

</tr>

<tr>

<td>email :</td>

<td><input type=*"text"* name=*"email"* size=*"30"* /></td>

</tr>

<tr>

<td>Phone :</td>

<td><input type=*"text"* name=*"phone"* size=*"30"* /></td>

</tr>

<tr>

<td>City :</td>

<td><input type=*"text"* name=*"city"* size=*"30"* /></td>

</tr>

</table>

<p />

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

</form>

</body>

</html>

**Step 4 : Creating Java Classes :**

**User.java**

This is a simple bean class representing the Persistent class in hibernate.

Create a package com.stech.test.bean in this package create java class User.java and add following code in this class.

**package** com.stech.test.bean;

**public** **class** User {

**private** **int** id;

**private** String userName;

**private** String password1;

**private** String email;

**private** String phone;

**private** String city;

**public** **int** getId() {

**return** id;

}

**public** **void** setId(**int** id) {

**this**.id = id;

}

**public** String getUserName() {

**return** userName;

}

**public** **void** setUserName(String userName) {

**this**.userName = userName;

}

**public** String getPassword1() {

**return** password1;

}

**public** **void** setPassword1(String password1) {

**this**.password1 = password1;

}

**public** String getEmail() {

**return** email;

}

**public** **void** setEmail(String email) {

**this**.email = email;

}

**public** String getPhone() {

**return** phone;

}

**public** **void** setPhone(String phone) {

**this**.phone = phone;

}

**public** String getCity() {

**return** city;

}

**public** **void** setCity(String city) {

**this**.city = city;

}

}

**UserDAO.java**

This is DAO class. In this class we have implemented addUserDetails() method where we are adding the user details to database by using hibernate

Create a package com.stech.test.dao, in this package create java class UserDAO.java and add following code in this class.

**package com.stech.test.dao;**

**import org.hibernate.HibernateException;**

**import org.hibernate.Session;**

**import org.hibernate.SessionFactory;**

**import org.hibernate.Transaction;**

**import org.hibernate.cfg.Configuration;**

**import com.stech.test.bean.User;**

**public class UserDAO {**

**public void addUserDetails(int userId, String userName, String password, String email, String phone, String city) {**

**try {**

**// 1. configuring hibernate**

**Configuration configuration = new Configuration();**

**configuration.configure("hibernate.cfg.xml");**

**// 2. create sessionfactory**

**SessionFactory sessionFactory = configuration.buildSessionFactory();**

**// 3. Get Session object**

**Session session = sessionFactory.openSession();**

**// 4. Starting Transaction**

**Transaction transaction = session.beginTransaction();**

**User user = new User();**

**user.setId(userId);**

**user.setUserName(userName);**

**user.setPassword1(password);**

**user.setEmail(email);**

**user.setCity(city);**

**user.setPhone(phone);**

**session.save(user);**

**transaction.commit();**

**System.out.println("\n\n Details Added \n");**

**} catch (HibernateException e) {**

**System.out.println(e.getMessage());**

**System.out.println("error");**

**}**

**}**

**}**

Create a package com.stech.test.ctrl and create a java class UserControllerServlet in this package and add following code in this class.

**UserControllerServlet.java**

**package** com.stech.test.ctrl;

**import** java.io.IOException;

**import** javax.servlet.ServletException;

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

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

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

**import** javax.servlet.http.HttpSession;

**import** com.stech.test.dao.UserDAO;

**public** **class** UserControllerServlet **extends** HttpServlet {

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

**protected** **void** doPost(HttpServletRequest request,

HttpServletResponse response) **throws** ServletException, IOException {

**int** userId =Integer.*parseInt*(request.getParameter("userid"));

String userName = request.getParameter("userName");

String password = request.getParameter("password1");

String email = request.getParameter("email");

String phone = request.getParameter("phone");

String city = request.getParameter("city");

HttpSession session = request.getSession(**true**);

**try** {

UserDAO userDAO = **new** UserDAO();

userDAO.addUserDetails(userId,userName, password, email, phone, city);

response.sendRedirect("Success");

} **catch** (Exception e) {

e.printStackTrace();

}

}

}

**Success.java:**

**==============**

**package** com.stech.test.ctrl;

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** javax.servlet.ServletException;

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

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

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

**public** **class** Success **extends** HttpServlet {

/\*\*

\*

\*/

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

**protected** **void** doGet(HttpServletRequest request,

HttpServletResponse response) **throws** ServletException, IOException {

PrintWriter writer = response.getWriter();

writer.println("" + "" + "<center>"

+ "Details Added Successfully" + "</center>" + ""

+ "");

}

}

**Step 5 : Create the mapping file :**

Mapping file maps the User class with the table of the database.

Right click on **com.visix.mnrao.bean** then navigate to **New -> Other -> General -> Next** and provide the name of file as **user.hbm.xml** and click on finish. After creating user.hbm.xml add following code in this file.

**user.hbm.xml**:

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

<!DOCTYPE hibernate-mapping PUBLIC "-//Hibernate/Hibernate Mapping DTD 3.0//EN"

"http://hibernate.sourceforge.net/hibernate-mapping-3.0.dtd">

<hibernate-mapping>

<class name=*"com.stech.test.bean.User"* table=*"USERDATA"*>

<id column=*"USER\_ID"* name=*"id"* type=*"java.lang.Integer"* />

<property column=*"USER\_NAME"* name=*"userName"* type=*"java.lang.String"* />

<property column=*"USER\_PASSWORD"* name=*"password1"* type=*"java.lang.String"* />

<property column=*"EMAIL"* name=*"email"* type=*"java.lang.String"* />

<property column=*"PHONE"* name=*"phone"* type=*"java.lang.String"* />

<property column=*"CITY"* name=*"city"* type=*"java.lang.String"* />

</class>

</hibernate-mapping>

## Step 6 : Create the Configuration file :

The configuration file contains informations about the database and mapping file. Conventionally, its name should be **hibernate.cfg.xml** .Configuration file must be in classpath of your Project. Place this file in src of your project by default it will added to classpath of your project.

<?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.dialect"*>org.hibernate.dialect.Oracle9Dialect</property>

<property name=*"hibernate.connection.driver\_class"*>oracle.jdbc.driver.OracleDriver</property>

<property name=*"hibernate.connection.url"*>jdbc:oracle:thin:@localhost:1521:ORCL</property>

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

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

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

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

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

<mapping resource=*"user.hbm.xml"* />

</session-factory>

</hibernate-configuration>

## Step 7: Create web.xml file :

Create web.xml file inside **WEB-INF** directory of project.

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

<web-app xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"* xmlns=*"http://java.sun.com/xml/ns/javaee"* xsi:schemaLocation=*"http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-app\_3\_0.xsd"* id=*"WebApp\_ID"* version=*"3.0"*>

<display-name>test</display-name>

<welcome-file-list>

<welcome-file>register.jsp</welcome-file>

</welcome-file-list>

<servlet>

<servlet-name>User</servlet-name>

<servlet-class>com.stech.test.ctrl.UserControllerServlet</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>User</servlet-name>

<url-pattern>/register</url-pattern>

</servlet-mapping>

<servlet>

<display-name>Success</display-name>

<servlet-name>Success</servlet-name>

<servlet-class>com.stech.test.ctrl.Success</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Success</servlet-name>

<url-pattern>/Success</url-pattern>

</servlet-mapping>

# </web-app>

# 

## Run the Application :

To run the hibernate web application, right click on the project then Run as -> Run On Server select Tomcat -> Next ->Finish.