WEB APP
_____
1)Add Classes.html

```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h1>Add Class</h1>

<form action="addClass" method="post">
<label for ="class">Class:</label>
<input type="text" id="class" name="class"><br><br>
<input type="submit" value="Submit">
</form>
</body>
</html>
```

2)Add Student.html

```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h1>Add Student</h1>

  <form action="addStudent" method="post">
  <label for="fname" >Name</label><br><br>
  <input type="text" id="fname" name="fname" ><br><br>
  <label for="lname">Last Name</label><br><br>
  <input type="text" id="lname" name="lname"><br><br>
  <input type="submit" value="Submit">


  </form>

</body>
</html>
```

3)Add Subject.html

```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h1>Add Subject</h1>
```

```html
<form action="addSubject" method="post">
<label for="name" >Subject Name:</label><br><br>
<input type="text" id="name" name="name"><br><br>
<input type="submit" value="Submit">


</form>
</body>
</html>
```

4)Add Teacher.html

```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h1>Add Teacher</h1>

<form action="addTeacher" method="post">
<label for="name">Name:</label><br><br>
<input type="text" id="name" name="name"><br><br>
<label for="lname">Last Name:</label><br><br>
<input type="text" id="lname" name="lname"><br><br>

<input type="submit" value="Submit">


</form>

</body>
</html>
```
5)AssignStudentToClass.jsp

```jsp
<%@page import="entity.Classes"%>
<%@page import="util.HibernateUtil"%>
<%@page import="org.hibernate.SessionFactory"%>
<%@page import="org.hibernate.Session"%>
<%@page import="java.util.List"%>
<%@page import="entity.Student"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<a href="index.html">Back to Main Menu</a><br>
```

```jsp
<h1>Assign a Student to a Class</h1>
<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Student> students = hibernateSession.createQuery("from Student").list();
 List<Classes> classes = hibernateSession.createQuery("from Classes").list();
%>
<form action="assignStudent" method="post">
<table>
<tr>
<th>Student Name </th>
<th>Class Name </th>
</tr>
<tr>
<td>
<select name="name">
<%
 for (Student student : students){
 out.print("<option>" + student.getName() + " " + student.getFname());
 out.print("</option>");
 }
%>
</select>
</td>

<td>
<select name="class">
<%
 for (Classes clas : classes){
 out.print("<option>" + clas.getName());
 out.print("</option>");
 }
%>
</select>
</td>
</tr>
</table>
<input type="submit" value="Submit">
</form>

</body>
</html>
```

6)Assign Subject To Class.jsp

```jsp
<%@page import="entity.Subject"%>
<%@page import="entity.Classes"%>
<%@page import="java.util.List"%>
<%@page import="org.hibernate.Session"%>
<%@page import="util.HibernateUtil"%>
<%@page import="org.hibernate.SessionFactory"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
```

```html
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<a href="index.html">Back to Main Menu</a><br>

<h1>Assign a Subject to a Class</h1>
<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Classes> classes = hibernateSession.createQuery("from Classes").list();
 List<Subject> subjects = hibernateSession.createQuery("from Subject").list();
%>
<form action="assignSubject" method="post">
<table>
<tr>
<th>Class Name </th>
<th>Subject Name </th>
</tr>
<tr>
<td>
<select name="class">
<%
 for (Classes clas : classes){
 out.print("<option>" + clas.getName());
 out.print("</option>");
 }
%>
</select>
</td>

<td>
<select name="subject">
<%
 for (Subject subject : subjects){
 out.print("<option>" + subject.getName());
 out.print("</option>");
 }
%>
</select>
</td>
</tr>
</table>
<input type="submit" value="Submit">
</form>
</body>
</html>
```
7)Assign Teacher To Subject.jsp

```jsp
<%@page import="entity.Subject"%>
<%@page import="entity.Teacher"%>
<%@page import="java.util.List"%>
<%@page import="org.hibernate.Session"%>
<%@page import="util.HibernateUtil"%>
```

```jsp
<%@page import="org.hibernate.SessionFactory"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<a href="index.html">Back to Main Menu</a><br>

<h1>Assign a Teacher to a Subject</h1>
<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Teacher> teachers = hibernateSession.createQuery("from Teacher").list();
 List<Subject> subjects = hibernateSession.createQuery("from Subject").list();
%>

<form action="assignTeacher" method="post">
<table>
<tr>
<th>Student Name </th>
<th>Subject Name </th>
</tr>
<tr>
<td>
<select name="name">
<%
 for (Teacher teacher : teachers){
 out.print("<option>" + teacher.getName() + " " + teacher.getLname());
 out.print("</option>");
 }
%>
</select>
</td>

<td>
<select name="subject">
<%
 for (Subject subject : subjects){
 out.print("<option>" + subject.getName());
 out.print("</option>");
 }
%>
</select>
</td>
</tr>
</table>
<input type="submit" value="Submit">
</form>
</body>
</html>
```
8)index.html

```html
--------------------------------------------
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h1 style="Color:red"><b></b>WELCOME TO STUDENTS PAGE OF SCHOOL MANAGEMENT SYSTE
M<b></b></h1>
<marquee class="marq"
        bgcolor="Pink"
        direction="left"
        loop="">
    ADMINISTRATIVE - PORTAL  OF  LEARNER'S  ACADEMY
  </marquee>

<h2 style="Color:blue;text-align:center">This is Learner's Academy</h2>
<h3 style="Color:blue;text-align:center"><b></b>Developer Name:JYOTI NANDINI
  <br>Developer Email: jyo.nandi.in@gmail.com
  <br>SimpliLearn Full Stack Development Course Phase 2<b></b></h3>
<p><b>Please Choose the Activity you want to do.<b></b></p>

<table border="1" style="text-align:center; margin-left:auto;margin-right:auto;">
<tr>
  <th><b>Add Items</th>
  <th><b>View Items</th>
  </tr>
  <tr>
    <td><a href="addClasses.html">1) Add Class</a><br><br></td>
    <td><a href="viewClass.jsp">1) View Classes</a><br><br></td>
    </tr>
  <tr>
  <td><a href="addSubject.html" >2) Add Subject</a><br><br></td>
  <td><a href="viewSubject.jsp">2) View Subject</a><br><br></td>
  </tr>

  <tr>
  <td><a href="addTeacher.html">3) Add Teacher</a><br><br></td>
  <td><a href="viewTeachers.jsp">3) View Teachers</a><br></td>
  </tr>

 <tr>
  <td><a href="addStudent.html">4) Add Student</a><br><br></td>
  <td><a href="viewStudent.jsp">4) View Students</a><br><br></td>
  </tr>


</table>
<br>
<br>


<a href="assignStudentToClass.jsp">1) Assign Student to Class</a><br><br>
```

```html
<a href="assignTeacherToSubject.jsp">2) Assign Teacher to Class</a><br><br>

<a href="assignSubjectToClass.jsp">3) Assign Subject to Class</a><br><br>
<a href="ChooseClassReport.jsp">4) Choose Class for report</a><br><br>


</body>
</html>
```
9)viewClass.jsp

```jsp
<%@page import="entity.Subject"%>
<%@page import="org.hibernate.Session"%>
<%@page import="entity.Classes"%>
<%@page import="java.util.List"%>
<%@page import="util.HibernateUtil"%>
<%@page import="org.hibernate.SessionFactory"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<a href="index.html">Back to Main Menu</a><br>
<a href="addClasses.html">Add Class</a><br>
<a href="assignSubjectToClass.jsp">Assign Subject to Class</a><br>

<h1>The Following Classes are listed</h1>
<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Classes> classes = hibernateSession.createQuery("from Classes").list();
%>
<table>
<tr>
<th>Class Name </th>
<th>Subject Name</th>
</tr>
 <%
  for(Classes clas : classes){
   out.print("<tr>");
   out.print("<td>" + clas.getName() + "</td>");

   StringBuffer buf = new StringBuffer();
   boolean first = true;
   for (Subject subject : clas.getSubjects()){
    if(first== true){
     buf.append("<td>" + subject.getName() + "</td>");
     buf.append("</tr>");
     first = false;
    }else{
     buf.append("<tr><td></td>");
     buf.append("<td>" + subject.getName() + "</td>");
```

```
    buf.append("</tr>");
  }

  }
  out.print(buf.toString());
 }
 %>
</table>
</body>
</html>
```

10)view Student.jsp

```
<%@page import="entity.Student"%>
<%@page import="java.util.List"%>
<%@page import="org.hibernate.Session"%>
<%@page import="util.HibernateUtil"%>
<%@page import="org.hibernate.SessionFactory"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<a href="index.html">Back to Main Menu</a><br>
<a href="addStudent.html">Add Student</a><br>
<a href="assignStudentToClass.jsp">Assign Student</a>

<h1>The Following Students are listed</h1>
<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Student> students = hibernateSession.createQuery("from Student").list();
%>
<table>
<tr>
<th>Name </th>
<th>Last Name </th>
<th>Assigned Class </th>
</tr>
 <%
  for(Student student : students){
   out.print("<tr>");
   out.print("<td>" + student.getName() + "</td>");
   out.print("<td>" + student.getFname() + "</td>");
   out.print("<td>" + getClassName(student) + "</td>");
   out.print("</tr>");
  }
 %>
</table>

<%!
```

```
 public String getClassName(Student student){
 if (student.getClasses() == null){
  return "no class assigned";
 }
 else{
  return student.getClasses().getName();
 }
}
%>
</body>
</html>
```

11)view Subject.jsp

```jsp
<%@page import="entity.Subject"%>
<%@page import="java.util.List"%>
<%@page import="org.hibernate.Session"%>
<%@page import="util.HibernateUtil"%>
<%@page import="org.hibernate.SessionFactory"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<a href="index.html">Back to Main Menu</a><br>
<a href="addSubject.html">Add Subject</a><br>

<h1>The Following Subjects are listed</h1>
<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Subject> subjects = hibernateSession.createQuery("from Subject").list();
%>
<table>
<tr>
<th>Subject Name </th>
</tr>
 <%
  for(Subject subject : subjects){
   out.print("<tr>");
   out.print("<td>" + subject.getName() + "</td>");
   out.print("</tr>");
  }
 %>
</table>


</body>
</html>
```

12)view Teachers.jsp

```jsp
--------------------------------------------
<%@page import="entity.Subject"%>
<%@page import="entity.Teacher"%>
<%@page import="java.util.List"%>
<%@page import="org.hibernate.Session"%>
<%@page import="util.HibernateUtil"%>
<%@page import="org.hibernate.SessionFactory"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>

<a href="index.html">Back to Main Menu</a><br>
<a href="addTeacher.html">Add Teacher</a><br>
<a href="assignTeacherToSubject.jsp">Assign Teacher to Subject</a><br>

<h1>The Following Teachers are listed</h1>
<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Teacher> teachers = hibernateSession.createQuery("from Teacher").list();
%>
<table>
<tr>
<th>First Name </th>
<th>Last Name </th>
<th>Assigned Class</th>
</tr>
 <%
  for(Teacher teacher : teachers){
   out.print("<tr>");
   out.print("<td>" + teacher.getName() + "</td>");
   out.print("<td>" + teacher.getLname() + "</td>");

   StringBuffer buf = new StringBuffer();
   boolean first = true;
   for (Subject subject : teacher.getSubjects()){
    if(first== true){
     buf.append("<td>" + subject.getName() + "</td>");
     buf.append("</tr>");
     first = false;
    }else{
     buf.append("<tr><td></td><td></td>");
     buf.append("<td>" + subject.getName() + "</td>");
     buf.append("</tr>");
    }

   }
   out.print(buf.toString());
  }
```

```
 %>
</table>

</body>
</html>
```

13)Choose Class Report.jsp

```
<%@page import="entity.Classes"%>
<%@page import="java.util.List"%>
<%@page import="org.hibernate.Session"%>
<%@page import="util.HibernateUtil"%>
<%@page import="org.hibernate.SessionFactory"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<a href="index.html">Back to Main Menu</a><br>

<h1>Choose a Class for Report Page</h1>
<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Classes> classes = hibernateSession.createQuery("from Classes").list();
%>

<form action="ClassReport.jsp" method="post">
<table>
<tr>
<th>Class Name </th>

</tr>

<tr>
<td>
<select name="class">
<%
 for (Classes clas : classes){
 out.print("<option>" + clas.getName());
 out.print("</option>");
 }
%>
</select>
</td>
</tr>
</table>
 <input type="submit" value="Submit">
</form>
</body>
</html>
```

14)ClassReport.jsp

```jsp
<%@page import="entity.Student"%>
<%@page import="entity.Teacher"%>
<%@page import="entity.Subject"%>
<%@page import="entity.Classes"%>
<%@page import="java.util.List"%>
<%@page import="org.hibernate.Session"%>
<%@page import="util.HibernateUtil"%>
<%@page import="org.hibernate.SessionFactory"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<a href="index.html">Back to Main Menu</a><br>
<%String clas = request.getParameter("class");%>
<h1>Class Report for <%=clas%></h1>

<%
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session hibernateSession = sf.openSession();
 List<Classes> classes = hibernateSession.createQuery("from Classes cl where cl.name='" + clas + "'").list();
 Classes clasForReport = classes.get(0);
%>
<table>
<tr>
<th>Subject Name </th>
<th>Teacher Name </th>
</tr>
<%
 for(Subject subject: clasForReport.getSubjects()){
  out.print("<tr>");
  out.print("<td>" + subject.getName() + "</td>");
  out.print("<td>" + getTeacherName(subject) + "</td>");
  out.print("</tr>");
 }
%>
</table>
<%!
 public String getTeacherName(Subject subject){
  Teacher teacher = subject.getTeacher();
  String name;
  String lname;

  if(teacher != null){
   name=teacher.getName();
   lname = teacher.getLname();

   return name + " " + lname;
```

```
  }else{
   return "No Teacher assigned";
  }
}
%>
<table>
<br>
<tr>
<th>Listed Students</th>
</tr>
<%
 for(Student student : clasForReport.getStudents()){
  out.print("<tr>");
  out.print("<td>" + student.getName() + " " + student.getFname() + "</td>");
  out.print("</tr>");
 }
%>
</table>
</body>
</html>
```

_____
_____
SERVLET CODE
_____
_____
1)Add Class

```java
package servlet;

import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;
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 entity.Classes;
import entity.Subject;
import util.HibernateUtil;

/**
 * Servlet implementation class AddClass
 */
@WebServlet("/addClass")
public class AddClass extends HttpServlet {
 private static final long serialVersionUID = 1L;
```

```java
    /**
     * @see HttpServlet#HttpServlet()
     */
    public AddClass() {
        super();
        // TODO Auto-generated constructor stub
    }

/**
 * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
 */
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletExcepti
on, IOException {
 // TODO Auto-generated method stub
 response.getWriter().append("Served at: ").append(request.getContextPath());
}

/**
 * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
 */
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletExcep
tion, IOException {
 response.setContentType("text/html");
 PrintWriter out = response.getWriter();

 // Step 1: Get details , user has entered
 String name = request.getParameter("class");

 // Step2: Create session
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session session = sf.openSession();

 // Step 3: Begin Transaction
 Transaction tx = session.beginTransaction();

 //Step4; Create persistent object and add Teacher

 Classes classes = new Classes();
 classes.setName(name);


 session.save(classes);

 // STep5: Commit transaction and close sessoin
 tx.commit();
 session.close();

 RequestDispatcher dispatcher = getServletContext().getRequestDispatcher("/viewClass.jsp");
     dispatcher.forward(request, response);
}

}
```

_____
_____

2)Add Student

```java
package servlet;

import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;
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 entity.Student;
import util.HibernateUtil;

/**
 * Servlet implementation class AddStudent
 */
@WebServlet("/addStudent")
public class AddStudent extends HttpServlet {
 private static final long serialVersionUID = 1L;

    /**
     * @see HttpServlet#HttpServlet()
     */
    public AddStudent() {
        super();
        // TODO Auto-generated constructor stub
    }

 /**
  * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
  */
 protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
  // TODO Auto-generated method stub
  response.getWriter().append("Served at: ").append(request.getContextPath());
 }

 /**
  * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
  */
 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
  response.setContentType("text/html");
  PrintWriter out = response.getWriter();

  // Step 1: Get details , user has entered
  String name = request.getParameter("fname");
```

```java
    String lname = request.getParameter("lname");

    // Step2: Create session
    SessionFactory sf  = HibernateUtil.buildSessionFactory();
    Session session = sf.openSession();

    // Step 3: Begin Transaction
    Transaction tx = session.beginTransaction();

    //Step4; Create persistent object and add Teacher

    Student student = new Student();
    student.setName(name);
    student.setFname(lname);


    session.save(student);

    // STep5: Commit transaction and close sessoin
    tx.commit();
    session.close();

    RequestDispatcher dispatcher = getServletContext().getRequestDispatcher("/viewStudent.jsp");
        dispatcher.forward(request, response);
 }

}
```

3)Add Subject

```java
package servlet;

import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;
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 entity.Subject;
import entity.Teacher;
import util.HibernateUtil;

/**
 * Servlet implementation class AddSubject
 */
@WebServlet("/addSubject")
public class AddSubject extends HttpServlet {
 private static final long serialVersionUID = 1L;
```

```java
    /**
     * @see HttpServlet#HttpServlet()
     */
    public AddSubject() {
        super();
        // TODO Auto-generated constructor stub
    }

/**
 * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
 */
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletExcepti
on, IOException {
 // TODO Auto-generated method stub
 response.getWriter().append("Served at: ").append(request.getContextPath());
}

/**
 * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
 */
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletExcep
tion, IOException {
 response.setContentType("text/html");
 PrintWriter out = response.getWriter();

 // Step 1: Get details , user has entered
 String name = request.getParameter("name");

 // Step2: Create session
 SessionFactory sf  = HibernateUtil.buildSessionFactory();
 Session session = sf.openSession();

 // Step 3: Begin Transaction
 Transaction tx = session.beginTransaction();

 //Step4; Create persistent object and add Teacher

 Subject subject = new Subject();
 subject.setName(name);


 session.save(subject);

 // STep5: Commit transaction and close sessoin
 tx.commit();
 session.close();

 RequestDispatcher dispatcher = getServletContext().getRequestDispatcher("/viewSubject.jsp");
     dispatcher.forward(request, response);
}

}
```

4)Add Teacher

```java
package servlet;
import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;
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 entity.Teacher;
import util.HibernateUtil;

/**
 * Servlet implementation class AddTeacher
 */
@WebServlet("/addTeacher")
public class AddTeacher extends HttpServlet {
 private static final long serialVersionUID = 1L;

   /**
    * @see HttpServlet#HttpServlet()
    */
   public AddTeacher() {
      super();
      // TODO Auto-generated constructor stub
   }

 /**
  * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
  */
 protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletExcepti
on, IOException {
  // TODO Auto-generated method stub
  response.getWriter().append("Served at: ").append(request.getContextPath());
 }

 /**
  * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
  */
 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletExcep
tion, IOException {
  response.setContentType("text/html");
  PrintWriter out = response.getWriter();

  // Step 1: Get details , user has entered
  String name = request.getParameter("name");
  String lname = request.getParameter("lname");
```

```java
  // Step2: Create session
  SessionFactory sf  = HibernateUtil.buildSessionFactory();
  Session session = sf.openSession();

  // Step 3: Begin Transaction
  Transaction tx = session.beginTransaction();

  //Step4; Create persistent object and add Teacher

  Teacher teacher = new Teacher();
  teacher.setName(name);
  teacher.setLname(lname);

  session.save(teacher);

  // STep5: Commit transaction and close sessoin
  tx.commit();
  session.close();

  RequestDispatcher dispatcher = getServletContext().getRequestDispatcher("/viewTeachers.jsp");
       dispatcher.forward(request, response);
 }

}
```

5)AssignStudent

```java
package servlet;

import java.io.IOException;
import java.io.PrintWriter;
import java.util.List;

import javax.servlet.RequestDispatcher;
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.query.Query;
import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.Transaction;

import entity.Classes;
import entity.Student;
import util.HibernateUtil;


/**
 * Servlet implementation class AssignStudent
 */
@WebServlet("/assignStudent")
public class AssignStudent extends HttpServlet {
```

```java
private static final long serialVersionUID = 1L;

    /**
     * @see HttpServlet#HttpServlet()
     */
    public AssignStudent() {
        super();
        // TODO Auto-generated constructor stub
    }

/**
 * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
 */
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
// TODO Auto-generated method stub
response.getWriter().append("Served at: ").append(request.getContextPath());
}

/**
 * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
 */
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
response.setContentType("text/html");
PrintWriter out = response.getWriter();

// Step 1: Get details , user has entered
String name = request.getParameter("name");
String[] nameList = name.split(" ");
//System.out.println("NameList: " + nameList);
String classes = request.getParameter("class");

// Step2: Create session
SessionFactory sf  = HibernateUtil.buildSessionFactory();
Session session = sf.openSession();

// Step 3: Begin Transaction
Transaction tx = session.beginTransaction();

String hql_classes= "from Classes where name='" + classes + "'";
List<Classes> clas = session.createQuery(hql_classes).list();

String hql_student = "update Student s set s.classes=:n where s.name=:sn and s.fname=:fn";

Query<Student> query = session.createQuery(hql_student);
query.setParameter("n", clas.get(0));
query.setParameter("sn", nameList[0]);
query.setParameter("fn", nameList[1]);

query.executeUpdate();


// STep5: Commit transaction and close sessoin
tx.commit();
```

```java
        session.close();

    RequestDispatcher dispatcher = getServletContext().getRequestDispatcher("/viewStudent.jsp");
        dispatcher.forward(request, response);
    }

}
```

6)Assign Subject

```java
package servlet;


import java.io.IOException;
import java.io.PrintWriter;
import java.util.List;

import javax.servlet.RequestDispatcher;
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 org.hibernate.query.Query;

import entity.Classes;
import entity.Subject;
import entity.Teacher;
import util.HibernateUtil;

/**
 * Servlet implementation class AssignSubject
 */
@WebServlet("/assignSubject")
public class AssignSubject extends HttpServlet {
 private static final long serialVersionUID = 1L;

    /**
     * @see HttpServlet#HttpServlet()
     */
    public AssignSubject() {
        super();
        // TODO Auto-generated constructor stub
    }

 /**
  * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
  */
 protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletExcepti
on, IOException {
  // TODO Auto-generated method stub
```

```java
    response.getWriter().append("Served at: ").append(request.getContextPath());
}

/**
 * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
 */
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();

    // Step 1: Get details , user has entered
    String clas = request.getParameter("class");
    String subject = request.getParameter("subject");

    // Step2: Create session
    SessionFactory sf  = HibernateUtil.buildSessionFactory();
    Session session = sf.openSession();

    // Step 3: Begin Transaction
    Transaction tx = session.beginTransaction();

    String hql_clas= "from Classes where name='" + clas + "'";
    List<Classes> classes = session.createQuery(hql_clas).list();

    String hql_subject = "update Subject s set s.classes=:n where s.name=:sn";

    Query<Subject> query = session.createQuery(hql_subject);
    query.setParameter("n", classes.get(0));
    query.setParameter("sn", subject);

    query.executeUpdate();


    // STep5: Commit transaction and close sessoin
    tx.commit();
    session.close();

    RequestDispatcher dispatcher = getServletContext().getRequestDispatcher("/viewClass.jsp");
        dispatcher.forward(request, response);
}

}
```
7)Assign Teacher

```java
package servlet;

import java.io.IOException;
import java.io.PrintWriter;
import java.util.List;

import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
```

```java
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

import org.hibernate.Session;
import org.hibernate.SessionFactory;
import org.hibernate.Transaction;
import org.hibernate.query.Query;

import entity.Classes;
import entity.Student;
import entity.Subject;
import entity.Teacher;
import util.HibernateUtil;

/**
 * Servlet implementation class AssignTeacher
 */
@WebServlet("/assignTeacher")
public class AssignTeacher extends HttpServlet {
 private static final long serialVersionUID = 1L;

   /**
    * @see HttpServlet#HttpServlet()
    */
   public AssignTeacher() {
      super();
      // TODO Auto-generated constructor stub
   }

 /**
  * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
  */
 protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletExcepti
on, IOException {
  // TODO Auto-generated method stub
  response.getWriter().append("Served at: ").append(request.getContextPath());
 }

 /**
  * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
  */
 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletExcep
tion, IOException {
  response.setContentType("text/html");
  PrintWriter out = response.getWriter();

  // Step 1: Get details , user has entered
  String name = request.getParameter("name");
  String[] nameArray = name.split(" ");
  //System.out.println("NameList: " + nameList);
  String subject = request.getParameter("subject");

  // Step2: Create session
  SessionFactory sf  = HibernateUtil.buildSessionFactory();
  Session session = sf.openSession();
```

```java
    // Step 3: Begin Transaction
    Transaction tx = session.beginTransaction();

    String hql_teacher= "from Teacher where name='" + nameArray[0] + "'" + " and lname='" + nameArray[1]
    + "'";
    List<Teacher> teachers = session.createQuery(hql_teacher).list();

    String hql_subject = "update Subject s set s.teacher=:n where s.name=:sn";

    Query<Subject> query = session.createQuery(hql_subject);
    query.setParameter("n", teachers.get(0));
    query.setParameter("sn", subject);

    query.executeUpdate();


    // STep5: Commit transaction and close sessoin
    tx.commit();
    session.close();

    RequestDispatcher dispatcher = getServletContext().getRequestDispatcher("/viewTeachers.jsp");
        dispatcher.forward(request, response);
   }

}
```
_____
_____

Entity Code

_____
_____
1)Classes

```java
package entity;

import java.util.List;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;
import javax.persistence.OneToMany;
import javax.persistence.Table;

@Entity
@Table(name="class_table")
public class Classes {
    @Id
    @GeneratedValue
    private int class_id;

    @Column(name="Class_name")
    private String name;
```

```java
    @OneToMany(cascade=CascadeType.ALL,mappedBy="classes")
    private List<Student> students;

    @OneToMany(cascade=CascadeType.ALL,mappedBy="classes")
    private List<Subject> subjects;

 public int getClass_id() {
  return class_id;
 }

 public void setClass_id(int class_id) {
  this.class_id = class_id;
 }

 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 List<Subject> getSubjects() {
  return subjects;
 }

 public void setSubjects(List<Subject> subjects) {
  this.subjects = subjects;
 }




}
```

2)Student

```java
package entity;

import java.util.List;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
```

```java
import javax.persistence.GeneratedValue;
import javax.persistence.Id;
import javax.persistence.OneToMany;
import javax.persistence.Table;

@Entity
@Table(name="class_table")
public class Classes {
    @Id
    @GeneratedValue
    private int class_id;

    @Column(name="Class_name")
    private String name;

    @OneToMany(cascade=CascadeType.ALL,mappedBy="classes")
    private List<Student> students;

    @OneToMany(cascade=CascadeType.ALL,mappedBy="classes")
    private List<Subject> subjects;

public int getClass_id() {
 return class_id;
}

public void setClass_id(int class_id) {
 this.class_id = class_id;
}

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 List<Subject> getSubjects() {
 return subjects;
}

public void setSubjects(List<Subject> subjects) {
 this.subjects = subjects;
}
```

```
}
3)Subject
-------------------------

package entity;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;
import javax.persistence.JoinColumn;
import javax.persistence.ManyToOne;
import javax.persistence.Table;

@Entity
@Table(name="subject_table")
public class Subject {

    @Id
    @GeneratedValue
    private int subject_id;

    @Column(name="subject_name")
    private String name;

    @ManyToOne(cascade=CascadeType.ALL)
    @JoinColumn(name="teacher_id")
    private Teacher teacher;

    @ManyToOne(cascade=CascadeType.ALL)
    @JoinColumn(name="class_id")
    private Classes classes;

public int getSubject_id() {
 return subject_id;
}

public void setSubject_id(int subject_id) {
 this.subject_id = subject_id;
}

public String getName() {
 return name;
}

public void setName(String name) {
 this.name = name;
}

public Teacher getTeacher() {
 return teacher;
```

```java
    }

    public void setTeacher(Teacher teacher) {
        this.teacher = teacher;
    }

    public Classes getClasses() {
        return classes;
    }

    public void setClasses(Classes classes) {
        this.classes = classes;
    }


}
```
4)Teacher

```java
package entity;

import java.util.List;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;
import javax.persistence.OneToMany;
import javax.persistence.Table;

@Entity
@Table(name="teacher_table")
public class Teacher {


    @Id
    @GeneratedValue
    private int teacher_id;

    @Column(name="first_name")
    private String name;

    @Column(name="last_name")
    private String lname;

    @OneToMany(cascade=CascadeType.ALL, mappedBy="teacher")
    private List<Subject> subjects;

    public int getTeacher_id() {
        return teacher_id;
    }

    public void setTeacher_id(int teacher_id) {
```

```java
  this.teacher_id = teacher_id;
 }

 public String getName() {
  return name;
 }

 public void setName(String name) {
  this.name = name;
 }

 public String getLname() {
  return lname;
 }

 public void setLname(String lname) {
  this.lname = lname;
 }

 public List<Subject> getSubjects() {
  return subjects;
 }

 public void setSubjects(List<Subject> subjects) {
  this.subjects = subjects;
 }


}
```
_____
_____UTILITY CODE

_____
_____
1)hibernateUtil

```java
package util;

import org.hibernate.SessionFactory;
import org.hibernate.cfg.Configuration;

import entity.Classes;
import entity.Student;
import entity.Subject;
import entity.Teacher;

public class HibernateUtil {

 public static SessionFactory buildSessionFactory() {

  SessionFactory sessionFactory = new Configuration().configure("hibernate.cfg.xml")
    .addAnnotatedClass(Teacher.class)
    .addAnnotatedClass(Subject.class)
    .addAnnotatedClass(Classes.class)
    .addAnnotatedClass(Student.class)
    .buildSessionFactory();
```

```
  return sessionFactory;
 }
}
```

_____

_____
src/main/resource(source folder)

_____

_____
1)hibernate.cfg.xml

```xml
<?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="connection.driver_class">com.mysql.cj.jdbc.Driver</property>
 <property name="connection.url">jdbc:mysql://localhost:3306/administrative_portal</property>


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

    <property name = "hibernate.connection.password">Jagdishmohan@1</property>

    <property name="show_sql">true</property>
     <property name="dialect">org.hibernate.dialect.MySQL8Dialect</property>

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


  </session-factory>
</hibernate-configuration>
```