ITL 3 PRACTICAL - 05

**AIM**

**Maintain the record of faculty members using jsp action tags and directives.**

**JSP:**

* **Java Server Pages (JSP) is a server-side programming technology that enables the creation of dynamic, platform-independent methods for building Web-based applications. JSP has access to the entire family of Java APIs, including the JDBC API to access enterprise databases.**
* **JSP action tags:**

**These actions use constructs in XML syntax to control the behavior of the servlet engine.**

**Syntax: <jsp:action\_name attribute = "value" />**

**Some common action tags:**

* + 1. **jsp:include: Includes a file at the time the page is requested.**
    2. **jsp:useBean: Finds or instantiates a JavaBean.**
    3. **jsp:setProperty: Sets the property of a JavaBean.**
    4. **jsp:getProperty: Inserts the property of a JavaBean into the output.**
    5. **jsp:forward: Forwards the requester to a new page.**
    6. **jsp:body: Defines dynamically-defined XML element's body.**
    7. **jsp:attribute: Defines dynamically-defined XML element's attribute.**

**Code:**

**JAVA Server-side**

1. **Domains:**
2. **Faculty side:**

**public class Teacher{**

**int id;**

**String name;**

**String subject;**

**String qualification;**

**public int getId() {**

**return id;**

**}**

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

**this.id = id;**

**}**

**public String getName() {**

**return name;**

**}**

**public void setName(String name) {**

**this.name = name;**

**}**

**public String getSubject() {**

**return subject;**

**}**

**public void setSubject(String subject) {**

**this.subject= subject;**

**}**

**public String getQualification() {**

**return qualification;**

**}**

**public void setQualification(String qualification) {**

**this.qualification = qualification;**

**}**

**}**

1. **User Side:**

**public class User {**

**int id;**

**String name;**

**String password;**

**String role;**

**public int getId() {**

**return id;**

**}**

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

**this.id = id;**

**}**

**public String getName() {**

**return name;**

**}**

**public void setName(String name) {**

**this.name = name;**

**}**

**public String getPassword() {**

**return password;**

**}**

**public void setPassword(String password) {**

**this.password = password;**

**}**

**public String getRole() {**

**return role;**

**}**

**public void setRole(String role) {**

**this.role = role;**

**}**

**}**

**b. Servlets:**

1. **Teacher:**

**import domain.Teacher;**

**import services.TeacherService;**

**import javax.servlet.RequestDispatcher;**

**import javax.servlet.ServletException;**

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

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

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

**import java.io.IOException;**

**import java.sql.SQLException;**

**import java.util.List;**

**public class TeacherServlet extends HttpServlet {**

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

**String page = request.getParameter("page");**

**/\*if (page.equalsIgnoreCase("login")) {**

**String name = request.getParameter("teachername");**

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

**Teacher teacher = new TeacherService().getTeacher(name, password);**

**if (teacher!= null) {**

**RequestDispatcher rd = request.getRequestDispatcher("teacher/home.jsp");**

**rd.forward(request,response);**

**}else{**

**RequestDispatcher rd = request.getRequestDispatcher("index.jsp");**

**rd.forward(request,response);**

**}**

**}\*/**

**/\* if (page.equalsIgnoreCase("logout")) {**

**RequestDispatcher rd = request.getRequestDispatcher("index.jsp");**

**rd.forward(request,response);**

**}\*/**

**if (page.equalsIgnoreCase("list")) {**

**List<Teacher> teacherList = new TeacherService().getTeacherList();**

**request.setAttribute("teacherList",teacherList);**

**RequestDispatcher rd = request.getRequestDispatcher("teacher/list.jsp");**

**rd.forward(request,response);**

**}**

**if (page.equalsIgnoreCase("teacherForm")) {**

**RequestDispatcher rd = request.getRequestDispatcher("teacher/teacherForm.jsp");**

**rd.forward(request,response);**

**}**

**if (page.equalsIgnoreCase("addTeacher")) {**

**Teacher teacher = new Teacher();**

**teacher.setName(request.getParameter("teachername"));**

**teacher.setSubject(request.getParameter("subject"));**

**teacher.setQualification(request.getParameter("qualification"));**

**try {**

**new TeacherService().add(teacher);**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**List<Teacher> teacherList = new TeacherService().getTeacherList();**

**request.setAttribute("teacherList",teacherList);**

**RequestDispatcher rd = request.getRequestDispatcher("teacher/list.jsp");**

**rd.forward(request,response);**

**}**

**if (page.equalsIgnoreCase("delete")) {**

**Teacher teacher = new Teacher();**

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

**/\*user.setId(Integer.parseInt(request.getParameter("id")));**

**user.setName(request.getParameter("username"));**

**user.setPassword(request.getParameter("password"));**

**user.setRole(request.getParameter("role"));\*/**

**new TeacherService().delete(id);**

**List<Teacher> TeacherList = new TeacherService().getTeacherList();**

**request.setAttribute("teacherList",TeacherList);**

**RequestDispatcher rd = request.getRequestDispatcher("teacher/list.jsp");**

**rd.forward(request,response);**

**}**

**if (page.equalsIgnoreCase("edit")) {**

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

**Teacher teacher = new TeacherService().getTeacher(id);**

**request.setAttribute("teacher", teacher);**

**RequestDispatcher rd = request.getRequestDispatcher("teacher/edit.jsp");**

**rd.forward(request,response);**

**}**

**if (page.equalsIgnoreCase("updateTeacher")) {**

**Teacher teacher = new Teacher();**

**teacher.setName(request.getParameter("teacherName"));**

**teacher.setSubject(request.getParameter("subject"));**

**teacher.setQualification(request.getParameter("qualification"));**

**teacher.setId(Integer.parseInt(request.getParameter("id")));**

**try {**

**new TeacherService().update(teacher);**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**List<Teacher> teacherList = new TeacherService().getTeacherList();**

**request.setAttribute("teacherList",teacherList);**

**RequestDispatcher rd = request.getRequestDispatcher("teacher/list.jsp");**

**rd.forward(request,response);**

**}**

**}**

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

**doPost(request, response);**

**}**

**}**

1. **User:**

**import domain.User;**

**import services.UserService;**

**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 java.io.IOException;**

**import java.util.List;**

**@WebServlet(name = "UserServlet")**

**public class UserServlet extends HttpServlet {**

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

**String page = request.getParameter("page");**

**if (page.equalsIgnoreCase("login")) {**

**String name = request.getParameter("username");**

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

**User user = new UserService().getUser(name, password);**

**if (user != null) {**

**RequestDispatcher rd = request.getRequestDispatcher("user/home.jsp");**

**rd.forward(request,response);**

**}else{**

**RequestDispatcher rd = request.getRequestDispatcher("index.jsp");**

**rd.forward(request,response);**

**}**

**}**

**if (page.equalsIgnoreCase("logout")) {**

**RequestDispatcher rd = request.getRequestDispatcher("index.jsp");**

**rd.forward(request,response);**

**}**

**if (page.equalsIgnoreCase("list")) {**

**List<User> userList = new UserService().getUserList();**

**request.setAttribute("userList",userList);**

**RequestDispatcher rd = request.getRequestDispatcher("user/list.jsp");**

**rd.forward(request,response);**

**}**

**if (page.equalsIgnoreCase("userform")) {**

**RequestDispatcher rd = request.getRequestDispatcher("user/userForm.jsp");**

**rd.forward(request,response);**

**}**

**if (page.equalsIgnoreCase("adduser")) {**

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

**user.setName(request.getParameter("username"));**

**user.setPassword(request.getParameter("password"));**

**user.setRole(request.getParameter("role"));**

**new UserService().add(user);**

**List<User> userList = new UserService().getUserList();**

**request.setAttribute("userList",userList);**

**RequestDispatcher rd = request.getRequestDispatcher("user/list.jsp");**

**rd.forward(request,response);**

**}**

**}**

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

**doPost(request, response);**

**}**

**}**

**c. Services:**

1. **Teacher:**

**import domain.Teacher;**

**import utils.DatabaseConnection;**

**import java.sql.PreparedStatement;**

**import java.sql.ResultSet;**

**import java.sql.SQLException;**

**import java.util.ArrayList;**

**import java.util.List;**

**public class TeacherService {**

**public Teacher getTeacher(String name, String password) {**

**Teacher teacher = null;**

**String query = "select \* from teachers where name=? and password=?";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**try {**

**pstm.setString(1, name);**

**pstm.setString(2, password);**

**ResultSet rs = pstm.executeQuery();**

**while (rs.next()) {**

**teacher = new Teacher();**

**teacher.setId(rs.getInt("id"));**

**teacher.setName(rs.getString("name"));**

**teacher.setPassword(rs.getString("password"));**

**teacher.setRole(rs.getString("role"));**

**}**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**return teacher;**

**}**

**public Teacher getTeacher(int id) {**

**Teacher teacher = null;**

**String query = "select \* from teachers where id=?";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**try {**

**pstm.setInt(1, id);**

**ResultSet rs = pstm.executeQuery();**

**while (rs.next()) {**

**teacher = new Teacher();**

**teacher.setId(rs.getInt("id"));**

**teacher.setName(rs.getString("name"));**

**teacher.setSubject(rs.getString("subject"));**

**teacher.setQualification(rs.getString("qualification"));**

**}**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**return teacher;**

**}**

**public List<Teacher> getTeacherList(){**

**List<Teacher> teacherList = new ArrayList<Teacher>();**

**String query = "select \* from teachers";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**try {**

**ResultSet rs = pstm.executeQuery();**

**while (rs.next()) {**

**Teacher teacher = new Teacher();**

**teacher.setId(rs.getInt("id"));**

**teacher.setName(rs.getString("name"));**

**teacher.setSubject(rs.getString("subject"));**

**teacher.setQualification(rs.getString("qualification"));**

**teacherList.add(teacher);**

**}**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**return teacherList;**

**}**

**public void add(Teacher teacher) throws SQLException {**

**String query = "insert into teachers (name,subject,qualification) values(?,?,?)";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**pstm.setString(1,teacher.getName());**

**pstm.setString(2, teacher.getSubject());**

**pstm.setString(3, teacher.getQualification());**

**pstm.execute();**

**}**

**public void update(Teacher teacher) throws SQLException {**

**String query = "update teachers set name=?, subject=?, qualification=? where id=?";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**pstm.setString(1, teacher.getName());**

**pstm.setString(2, teacher.getSubject());**

**pstm.setString(3, teacher.getQualification());**

**pstm.setInt(4, teacher.getId());**

**pstm.execute();**

**}**

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

**String query = "delete from teachers where id=? ";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**try {**

**pstm.setInt(1, id);**

**pstm.execute();**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**}**

**}**

1. **User:**

**import domain.User;**

**import utils.DatabaseConnection;**

**import java.sql.PreparedStatement;**

**import java.sql.ResultSet;**

**import java.sql.SQLException;**

**import java.util.ArrayList;**

**import java.util.List;**

**public class UserService {**

**public User getUser(String name, String password) {**

**User user = null;**

**String query = "select \* from user where name=? and password=?";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**try {**

**pstm.setString(1, name);**

**pstm.setString(2, password);**

**ResultSet rs = pstm.executeQuery();**

**while (rs.next()) {**

**user = new User();**

**user.setId(rs.getInt("id"));**

**user.setName(rs.getString("name"));**

**user.setPassword(rs.getString("password"));**

**user.setRole(rs.getString("role"));**

**}**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**return user;**

**}**

**public List<User> getUserList(){**

**List<User> userList = new ArrayList<User>();**

**String query = "select \* from user";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**try {**

**ResultSet rs = pstm.executeQuery();**

**while (rs.next()) {**

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

**user.setId(rs.getInt("id"));**

**user.setName(rs.getString("name"));**

**user.setPassword(rs.getString("password"));**

**user.setRole(rs.getString("role"));**

**userList.add(user);**

**}**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**return userList;**

**}**

**public void add(User user) {**

**String query = "insert into user (name,password,role) values(?,?,?)";**

**PreparedStatement pstm = new DatabaseConnection().getPreparedStatement(query);**

**try {**

**pstm.setString(1, user.getName());**

**pstm.setString(2, user.getPassword());**

**pstm.setString(3, user.getRole());**

**pstm.execute();**

**} catch (SQLException e) {**

**e.printStackTrace();**

**}**

**}**

**}**

**d. JSP front**

1. **Teacher:**
   1. **Delete:**

**<html>**

**<head>**

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

**<title>Faculty Management System</title>**

**<link href="../css/templatemo\_style.css" rel="stylesheet" type="text/css"/>**

**<link href="../css/table.css" rel="stylesheet" type="text/css"/>**

**<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>**

**</head>**

**<body>**

**<div id="templatemo\_wrapper\_outter">**

**<div id="templatemo\_wrapper\_inner">**

**<div id="templatemo\_header">**

**<h1>FACULTY MANAGEMENT SYSTEM</h1>**

**</div> <!-- end of templatemo\_header -->**

**<div id="templatemo\_menu">**

**<ul>**

**<li><a href="#" class="current">Home</a></li>**

**<li><a href="userList?page=list">User</a></li>**

**<li><a href="teacherList?page=list">Faculty</a></li>**

**<li><a href="logout?page=logout">Logout</a></li>**

**</ul>**

**</div> <!-- end of templatemo\_menu -->**

**<div id="templatemo\_content\_wrapper">**

**<div id="templatemo\_sidebar\_wrapper">**

**<div id="templatemo\_sidebar\_top"></div>**

**<div id="templatemo\_sidebar">**

**<h2>Our Services</h2>**

**<ul class="categories\_list">**

**<li><a href="#">Test1</a></li>**

**<li><a href="#">Test2</a></li>**

**</ul>**

**<div class="cleaner\_h30"></div>**

**</div>**

**<div id="templatemo\_sidebar\_bottom"></div>**

**</div>**

**<div id="templatemo\_content">**

**<div class="content\_section">**

**<table id="t01">**

**<tr>**

**<th>Teacher Name</th>**

**<th>Subject</th>**

**<th>Qualification</th>**

**<th>Edit</th>**

**<th>Delete</th>**

**</tr>**

**<c:forEach items="${teacherList}" var="teacher">**

**<tr>**

**<td>${teacher.name}</td>**

**<td>${teacher.subject}</td>**

**<td>${teacher.qualification}</td>**

**<td>**

**<a href="edit?page=edit&id=${teacher.id}"> Edit </a>**

**</td>**

**<td>**

**<a href="delete?page=delete&id=${teacher.id}" onclick="return confirm('Are you sure?');">Delete</a>**

**</td>**

**</tr>**

**</c:forEach>**

**</table>**

**</div>**

**</div>**

**<div class="cleaner"></div>**

**</div> <!-- end of templatemo\_content\_wrapper -->**

**<div id="templatemo\_footer">**

**This is Footer**

**</div><!-- end of footer -->**

**</div> <!-- end of templatemo\_wrapper\_inner -->**

**</div> <!-- end of templatemo\_wrapper\_outter -->**

**</body>**

**</html>**

1. **Form:**

**<%@ page contentType="text/html;charset=UTF-8" language="java" %>   <!-- remove top A A A TEXT-->**

**<html>**

**<head>**

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

**<title>Faculty Management System</title>**

**<link href="../css/templatemo\_style.css" rel="stylesheet" type="text/css"/>**

**<link href="../css/table.css" rel="stylesheet" type="text/css"/>**

**<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>**

**</head>**

**<body>**

**<div id="templatemo\_wrapper\_outter">**

**<div id="templatemo\_wrapper\_inner">**

**<div id="templatemo\_header">**

**<h1>FACULTY MANAGEMENT SYSTEM</h1>**

**</div> <!-- end of templatemo\_header -->**

**<div id="templatemo\_menu">**

**<ul>**

**<li><a href="#" class="current">Home</a></li>**

**<li><a href="userList?page=list">User</a></li>**

**<li><a href="teacherList?page=list">Faculty</a></li>**

**<li><a href="logout?page=logout">Logout</a></li>**

**</ul>**

**</div> <!-- end of templatemo\_menu -->**

**<div id="templatemo\_content\_wrapper">**

**<div id="templatemo\_sidebar\_wrapper">**

**<div id="templatemo\_sidebar\_top"></div>**

**<div id="templatemo\_sidebar">**

**<h2>Our Services</h2>**

**<ul class="categories\_list">**

**<li><a href="userList?page=list">User list</a></li>**

**<li><a href="teacherList?page=list">Faculty list</a></li>**

**</ul>**

**<div class="cleaner\_h30"></div>**

**</div>**

**<div id="templatemo\_sidebar\_bottom"></div>**

**</div>**

**<div id="templatemo\_content">**

**<div class="content\_section">**

**<h2>**

**<a href="teacherForm?page=teacherForm">Add New Teacher</a>**

**</h2>**

**<table id="t01">**

**<tr>**

**<th>Teacher Name</th>**

**<th>Subject</th>**

**<th>Qualification</th>**

**<th>Edit</th>**

**<th>Delete</th>**

**</tr>**

**<c:forEach items="${teacherList}" var="teacher">**

**<tr>**

**<td>${teacher.name}</td>**

**<td>${teacher.subject}</td>**

**<td>${teacher.qualification}</td>**

**<td>**

**<a href="editTeacher?page=edit&id=${teacher.id}"> Edit </a>**

**</td>**

**<td>**

**<a href="deleteTeacher?page=delete&id=${teacher.id}" onclick="return confirm('Are you sure?');">Delete</a>**

**</td>**

**</tr>**

**</c:forEach>**

**</table>**

**</div>**

**</div>**

**<div class="cleaner"></div>**

**</div> <!-- end of templatemo\_content\_wrapper -->**

**<div id="templatemo\_footer">**

**This is Footer**

**</div><!-- end of footer -->**

**</div> <!-- end of templatemo\_wrapper\_inner -->**

**</div> <!-- end of templatemo\_wrapper\_outter -->**

**</body>**

**</html>**

**index.jsp**

**<html>**

**<head>**

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

**<title>Demo Project</title>**

**<link href="css/templatemo\_style.css" rel="stylesheet" type="text/css" />**

**</head>**

**<body>**

**<div id="templatemo\_wrapper\_outter">**

**<div id="templatemo\_wrapper\_inner">**

**<div id="templatemo\_header">**

**This is Header**

**</div> <!-- end of templatemo\_header -->**

**<div id="templatemo\_menu">**

**<ul>**

**<li>Login Page</li>**

**</ul>**

**</div> <!-- end of templatemo\_menu -->**

**<div id="templatemo\_content\_wrapper">**

**<div id="templatemo\_content">**

**<div class="content\_section">**

**<h2>Login Form</h2>**

**</div>**

**<div>**

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

**<input type="hidden" name="page" value="login">**

**<table>**

**<tr>**

**<td>User Name:</td><td><input type="text" name="username"></td>**

**</tr>**

**<tr>**

**<td>Password:</td><td><input type="password" name="password"><td>**

**</tr>**

**<tr>**

**<td colspan="2" align="right"><input type="submit" value="Login"></td>**

**</tr>**

**</table>**

**</form>**

**</div>**

**</div>**

**<div class="cleaner"></div>**

**</div> <!-- end of templatemo\_content\_wrapper -->**

**<div id="templatemo\_footer">**

**This is Footer**

**</div><!-- end of footer -->**

**</div> <!-- end of templatemo\_wrapper\_inner -->**

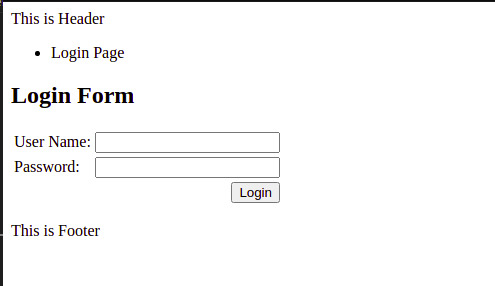
**</div> <!-- end of templatemo\_wrapper\_outter -->**

**</body>**

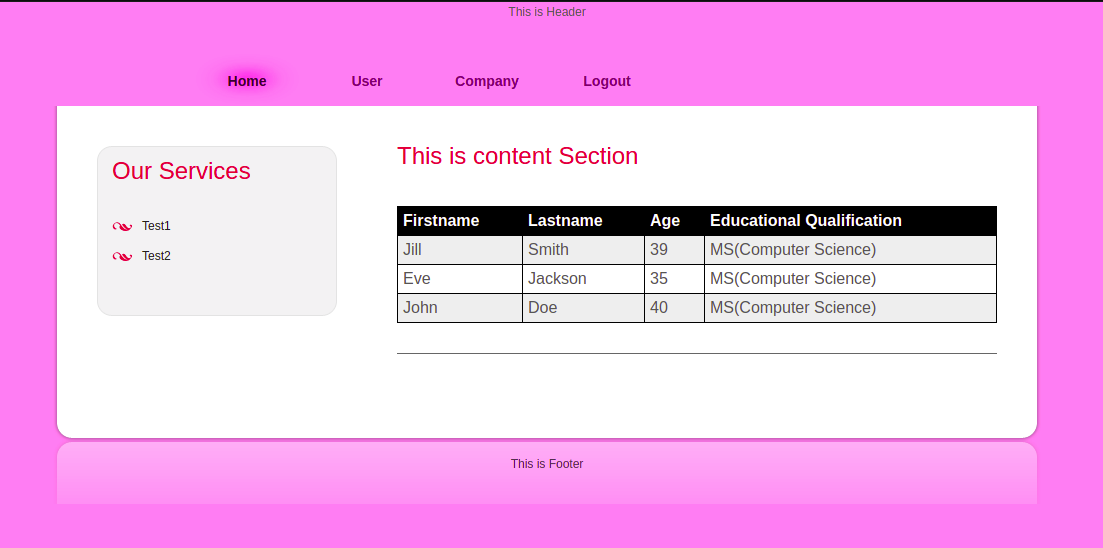
**</html>**

**OUTPUT**

**Login Page:**

****

**Dashboard:**

****