**Advanced Java**

**Assignment- 5**

**(Programs on JSP)**

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1. **Write a program create simple registration form in jsp (parameters to consider name, password, email, country)**

**HTML code (registration.jsp)**

<!DOCTYPE html>

<html>

<head>

<title>Registration Form</title>

</head>

<body>

<h1>Registration Form</h1>

<form method="post" action="register.jsp">

<label>Name:</label>

<input type="text" name="name"><br><br>

<label>Password:</label>

<input type="password" name="password"><br><br>

<label>Email:</label>

<input type="email" name="email"><br><br>

<label>Country:</label>

<input type="text" name="country"><br><br>

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

</form>

</body>

</html>

**Java code (register.jsp):**

<%@ page import="java.sql.\*" %>

<%

// Retrieve the form data

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

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

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

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

// Connect to the database

Connection conn = null;

PreparedStatement stmt = null;

try {

Class.forName("com.mysql.jdbc.Driver");

conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/mydatabase", "root", "");

// Insert the data into the table

String sql = "INSERT INTO users (name, password, email, country) VALUES (?, ?, ?, ?)";

stmt = conn.prepareStatement(sql);

stmt.setString(1, name);

stmt.setString(2, password);

stmt.setString(3, email);

stmt.setString(4, country);

int rowsInserted = stmt.executeUpdate();

// Display the success message

out.println("<h1>Registration Successful!</h1>");

} catch (ClassNotFoundException e) {

// Display the error message

out.println("<h1>Database Error!</h1>");

e.printStackTrace();

} catch (SQLException e) {

// Display the error message

out.println("<h1>Registration Failed!</h1>");

e.printStackTrace();

} finally {

// Close the database connection and statement

try {

if (stmt != null) stmt.close();

if (conn != null) conn.close();

} catch (SQLException e) {

e.printStackTrace();

}

}

%>

1. **Write a program create simple login form in jsp (parameters to consider name, password, email, country). Extend it by adding logout.**

**Login.jsp:**

<%@ page import="java.sql.\*" %>

<%

// Check if the user is already logged in

String username = (String) session.getAttribute("username");

if (username != null) {

// If the user is already logged in, display the welcome message and logout link

out.println("<h1>Welcome, " + username + "!</h1>");

out.println("<p><a href='logout.jsp'>Logout</a></p>");

} else {

// If the user is not logged in, display the login form

%>

<html>

<head>

<title>Login Form</title>

</head>

<body>

<h1>Login Form</h1>

<form method="post" action="login\_action.jsp">

<label>Username:</label>

<input type="text" name="username"><br>

<label>Password:</label>

<input type="password" name="password"><br>

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

</form>

</body>

</html>

<%

}

%>

**Login\_action.jsp:**

<%@ page import="java.sql.\*" %>

<%

// Retrieve the form data

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

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

// Connect to the database

Connection conn = null;

PreparedStatement stmt = null;

ResultSet rs = null;

try {

Class.forName("com.mysql.jdbc.Driver");

conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/mydatabase", "root", "");

// Check if the username and password are correct

String sql = "SELECT \* FROM users WHERE name = ? AND password = ?";

stmt = conn.prepareStatement(sql);

stmt.setString(1, username);

stmt.setString(2, password);

rs = stmt.executeQuery();

if (rs.next()) {

// If the username and password are correct, set the session attribute and redirect to the home page

session.setAttribute("username", username);

response.sendRedirect("login.jsp");

} else {

// If the username and password are incorrect, display an error message

out.println("<h1>Login Failed!</h1>");

out.println("<p>Incorrect username or password. Please try again.</p>");

}

} catch (ClassNotFoundException e) {

// Display the error message

out.println("<h1>Database Error!</h1>");

e.printStackTrace();

} catch (SQLException e) {

// Display the error message

out.println("<h1>Login Failed!</h1>");

e.printStackTrace();

} finally {

// Close the database connection, statement, and result set

try {

if (rs != null) rs.close();

if (stmt != null) stmt.close();

if (conn != null) conn.close();

} catch (SQLException e) {

e.printStackTrace();

}

}

%>

1. **Write a program to upload a file on server in jsp**

**File\_upload.jsp:**

<html>

<head>

<title>File Upload</title>

</head>

<body>

<h1>File Upload</h1>

<form method="post" action="file\_upload\_action.jsp" enctype="multipart/form-data">

<label>Select file to upload:</label>

<input type="file" name="file"><br>

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

</form>

</body>

</html>

**File\_upload\_action.jsp:**

<%@ page import="java.io.\*, java.util.\*, javax.servlet.\*" %>

<%

// Get the file name and path

String fileName = "";

String filePath = "";

try {

// Get the HTTP request and parts

HttpServletRequest request = (HttpServletRequest) request;

Collection<Part> parts = request.getParts();

// Loop through the parts

for (Part part : parts) {

if (part.getName().equals("file")) {

// If the part is the file input, get the file name and save the file

fileName = new File(part.getSubmittedFileName()).getName();

filePath = getServletContext().getRealPath("/uploads/" + fileName);

part.write(filePath);

break;

}

}

// Display a success message

out.println("<h1>File Uploaded Successfully!</h1>");

out.println("<p>File Name: " + fileName + "</p>");

out.println("<p>File Path: " + filePath + "</p>");

} catch (Exception e) {

// Display an error message

out.println("<h1>File Upload Failed!</h1>");

out.println("<p>Error: " + e.getMessage() + "</p>");

}

%>

1. **Write a program to download a file from server in jsp.**

**File\_download.jsp:**

<html>

<head>

<title>File Download</title>

</head>

<body>

<h1>File Download</h1>

<a href="file\_download\_action.jsp?file=example.pdf">Download example.pdf</a>

</body>

</html>

**File\_download\_action.jsp:**

<%@ page import="java.io.\*, javax.servlet.\*" %>

<%

// Get the file name from the request parameter

String fileName = request.getParameter("file");

// Set the MIME type for the file

response.setContentType("application/pdf");

// Set the content-disposition header to force the browser to download the file

response.setHeader("Content-Disposition", "attachment; filename=\"" + fileName + "\"");

// Get the file input stream and output stream

InputStream in = new FileInputStream(getServletContext().getRealPath("/downloads/" + fileName));

OutputStream out = response.getOutputStream();

// Write the file to the output stream

byte[] buffer = new byte[4096];

int bytesRead = -1;

while ((bytesRead = in.read(buffer)) != -1) {

out.write(buffer, 0, bytesRead);

}

// Close the streams

in.close();

out.close();

%>

1. **Write a program to create custom jsp tag.**

**CustomTag.java:**

package com.example.tags;

import javax.servlet.jsp.JspException;

import javax.servlet.jsp.JspWriter;

import javax.servlet.jsp.tagext.SimpleTagSupport;

import java.io.IOException;

public class CustomTag extends SimpleTagSupport {

private boolean loggedIn;

public void setLoggedIn(boolean loggedIn) {

this.loggedIn = loggedIn;

}

public void doTag() throws JspException, IOException {

JspWriter out = getJspContext().getOut();

if (loggedIn) {

out.write("Welcome back, user!");

} else {

out.write("Please log in to continue.");

}

}

}

**Customtag.xml**

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

<taglib version="2.1" xmlns="http://java.sun.com/xml/ns/javaee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-jsptaglibrary\_2\_1.xsd">

<tlib-version>1.0</tlib-version>

<short-name>customtag</short-name>

<uri>http://www.example.com/customtag</uri>

<tag>

<name>loginStatus</name>

<tag-class>com.example.tags.CustomTag</tag-class>

<attribute>

<name>loggedIn</name>

<required>true</required>

<rtexprvalue>true</rtexprvalue>

<type>boolean</type>

</attribute>

</tag>

</taglib>

1. **Write a program create simple result calculation for student having 5 different subjects form in jsp**

**Result.jsp:**

<html>

<head>

<title>Student Result Calculation</title>

</head>

<body>

<h1>Student Result Calculation</h1>

<%

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

int subject1 = Integer.parseInt(request.getParameter("subject1"));

int subject2 = Integer.parseInt(request.getParameter("subject2"));

int subject3 = Integer.parseInt(request.getParameter("subject3"));

int subject4 = Integer.parseInt(request.getParameter("subject4"));

int subject5 = Integer.parseInt(request.getParameter("subject5"));

int totalMarks = subject1 + subject2 + subject3 + subject4 + subject5;

double percentage = (double) totalMarks / 5;

%>

<p>Name: <%= name %></p>

<p>Subject 1: <%= subject1 %></p>

<p>Subject 2: <%= subject2 %></p>

<p>Subject 3: <%= subject3 %></p>

<p>Subject 4: <%= subject4 %></p>

<p>Subject 5: <%= subject5 %></p>

<p>Total Marks: <%= totalMarks %></p>

<p>Percentage: <%= String.format("%.2f", percentage) %> %</p>

</body>

</html>

**Index.jsp:**

<html>

<head>

<title>Student Result Calculation</title>

</head>

<body>

<h1>Student Result Calculation</h1>

<form action="result.jsp" method="post">

<label for="name">Name:</label>

<input type="text" id="name" name="name" required><br><br>

<label for="subject1">Subject 1:</label>

<input type="number" id="subject1" name="subject1" min="0" max="100" required><br><br>

<label for="subject2">Subject 2:</label>

<input type="number" id="subject2" name="subject2" min="0" max="100" required><br><br>

<label for="subject3">Subject 3:</label>

<input type="number" id="subject3" name="subject3" min="0" max="100" required><br><br>

<label for="subject4">Subject 4:</label>

<input type="number" id="subject4" name="subject4" min="0" max="100" required><br><br>

<label for="subject5">Subject 5:</label>

<input type="number" id="subject5" name="subject5" min="0" max="100" required><br><br>

<input type="submit" value="Calculate Result">

</form>

</body>

</html>