***Question 2: Login System with JSP and Servlet***

***Objective: Implement a login module.***

***Requirements:***

* ***JSP login form (username + password)***
* ***Servlet to validate credentials***
* ***Redirect to welcome.jsp on success, back to login on failure***

**Step1:**

**Create a jsp file** Login.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"UTF-8"*>

<title>Login</title>

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

</head>

<body>

<div class=*"container"*>

<h1>Login</h1>

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

<label for=*"username"*>Username:</label>

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

<label for=*"password"*>Password:</label>

<input type=*"password"* id=*"password"* name=*"password"* required><br>

<button type=*"submit"*>Login</button>

</form>

<p><a href=*"Index.html"*>Back to Home</a></p>

<%

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

if (error != null && error.equals("1")) {

%>

<p style="color:*red*;">Invalid username or password. Please try again.</p>

<% } %>

</div>

</body>

</html>

**Step2:**

**Create a new servlet package name** loginServlet **class name** LoginServlet

package loginServlet;

import jakarta.servlet.RequestDispatcher;

import jakarta.servlet.ServletException;

import jakarta.servlet.annotation.WebServlet;

import jakarta.servlet.http.HttpServlet;

import jakarta.servlet.http.HttpServletRequest;

import jakarta.servlet.http.HttpServletResponse;

import jakarta.servlet.http.HttpSession;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

*@WebServlet*("/LoginServlet")

public class LoginServlet extends HttpServlet {

private static final long *serialVersionUID* = 1L;

*@Override*

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

String jdbcUrl = "jdbc:mysql://localhost:3306/Registration";

String dbUser = "root";

String dbPassword = "0000";

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

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

try (Connection connection = DriverManager.*getConnection*(jdbcUrl, dbUser, dbPassword);

PreparedStatement ps = connection.prepareStatement("SELECT uname FROM Signdown WHERE uname=? AND password=?")) {

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

ps.setString(1, username);

ps.setString(2, password);

try (ResultSet rs = ps.executeQuery()) {

if (rs.next()) {

HttpSession session = request.getSession();

session.setAttribute("username", username);

response.sendRedirect("Welcome.jsp");

} else {

response.sendRedirect("Login.jsp?error=1");

}

}

} catch (SQLException | ClassNotFoundException e) {

e.printStackTrace();

response.sendError(HttpServletResponse.*SC\_INTERNAL\_SERVER\_ERROR*, "An error occurred while processing your request.");

}

}

}

**Step3:**

**Create a new JSP** Welcome.jsp

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html>

<html>

<head>

<meta charset=*"UTF-8"*>

<title>Welcome</title>

</head>

<body>

<h1>Login Successful</h1>

<p>Welcome to the application, <b><%= request.getSession().getAttribute("username") %></b>!</p>

</body>

</html>

**Step4:**

**Database table**

CREATE TABLE Signdown (

id INT AUTO\_INCREMENT PRIMARY KEY,

uname VARCHAR(50) NOT NULL UNIQUE,

password VARCHAR(255) NOT NULL

);

INSERT INTO Signdown (uname, password) VALUES

('testuser', 'password123'),

('admin', 'admin123');

**Step5:Run Login.jsp on server**