***Question 1: Student Registration System***

***Objective: Create a web app to register students using JSP, Servlet, and JDBC.***

***Requirements:***

* ***A JSP form to enter: Name, Email, Course, Roll No***
* ***Servlet to handle form submission and save data in DB***
* ***Show success or error message***

**Step1:**

**Create new dynamic web project**

**Step2:**

**Create new JSP file Registration.jsp**

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

pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Student Registration</title>

</head>

<body>

<h1>Student Registration Form</h1>

<form action="RegistrationServlet" method="post">

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

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

<label for="email">Email:</label>

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

<label for="course">Course:</label>

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

<label for="rollNo">Roll No:</label>

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

<button type="submit">Register</button>

</form>

<%

// Display error message if "error" parameter is present in the request

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

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

%>

<p style="color:red;">Registration not successful. Please try again.</p>

<% } %>

</body>

</html>

**Step3:**

**Create new Servlet package name** registrationServlet **class name** RegistrationServlet

package registrationServlet;

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 java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.SQLException;

@WebServlet("/RegistrationServlet")

public class RegistrationServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public RegistrationServlet() {

super();

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

// Database credentials and URL

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

String dbUsername = "root"; // Update database username

String dbPassword = "0000"; // Update database password

// Retrieve form data

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

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

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

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

try (Connection connection = DriverManager.getConnection(jdbcUrl, dbUsername, dbPassword)) {

// SQL query to insert student data

String sql = "INSERT INTO Students (name, email, course, roll\_no) VALUES (?, ?, ?, ?)";

try (PreparedStatement ps = connection.prepareStatement(sql)) {

ps.setString(1, name);

ps.setString(2, email);

ps.setString(3, course);

ps.setString(4, rollNo);

int rowsInserted = ps.executeUpdate();

if (rowsInserted > 0) {

// Success - forward to Welcome page

RequestDispatcher rd = request.getRequestDispatcher("Welcome.jsp");

rd.forward(request, response);

} else {

// Failure - redirect back with an error

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

}

}

} catch (SQLException e) {

e.printStackTrace();

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

}

}

}

**Step4:**

**Create table in mysql**

CREATE TABLE Students (

id INT AUTO\_INCREMENT PRIMARY KEY,

name VARCHAR(255) NOT NULL,

email VARCHAR(255) NOT NULL UNIQUE,

course VARCHAR(255) NOT NULL,

roll\_no VARCHAR(50) NOT NULL UNIQUE

);

**Step5:**

**Create a new jsp file** 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>Registration Successful!</h1>

<p>Welcome to the student portal.</p>

</body>

</html>

**Step7:Run Registration.jsp on server**