Mini Full-Stack Project using Servlets, JSP, and MySQL

1. MySQL Setup

```
CREATE DATABASE studentdb;
USE studentdb;
CREATE TABLE students (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100),
    email VARCHAR(100),
    course VARCHAR(50)
);
```

2. index.jsp (Form Page)

```
<!DOCTYPE html>
<html>
<head>
    <title>Student Registration</title>
</head>
<body>
    <h2>Student Registration Form</h2>
    <form action="register" method="post">
        Name: <input type="text" name="name" required><br><br>
        Email: <input type="email" name="email" required><br><br>
        Course: <input type="text" name="course" required><br><br>
        <input type="submit" value="Register">
    </form>
</body>
</html>
```

3. StudentServlet.java (Insert into DB)

```
package com.example;

import java.io.*;
import java.sql.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class StudentServlet extends HttpServlet {
    private static final String DB_URL = "jdbc:mysql://localhost:3306/studentdb";
    private static final String DB_USER = "root"; // your MySQL username
    private static final String DB_PASS = "password"; // your MySQL password

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

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

        Connection conn = null;
        PreparedStatement stmt = null;
        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            conn = DriverManager.getConnection(DB_URL, DB_USER, DB_PASS);
            String sql = "INSERT INTO students (name, email, course) VALUES (?, ?, ?)";
            stmt = conn.prepareStatement(sql);
            stmt.setString(1, name);
            stmt.setString(2, email);
            stmt.setString(3, course);
            int rows = stmt.executeUpdate();

            if (rows > 0) {
```

```
                request.setAttribute("name", name);
                request.setAttribute("email", email);
                request.setAttribute("course", course);
                RequestDispatcher rd = request.getRequestDispatcher("success.jsp");
                rd.forward(request, response);
            } else {
                response.getWriter().println("Error: Could not save student data.");
            }
        } catch (Exception e) {
            e.printStackTrace();
            response.getWriter().println("Database error: " + e.getMessage());
        } finally {
            try { if (stmt != null) stmt.close(); } catch (Exception e) {}
            try { if (conn != null) conn.close(); } catch (Exception e) {}
        }
    }
}
```

4. success.jsp (Confirmation Page)

```
<!DOCTYPE html>
<html>
<head>
    <title>Success</title>
</head>
<body>
    <h2>■ Registration Successful!</h2>
    <p><b>Name:</b> ${name}</p>
    <p><b>Email:</b> ${email}</p>
    <p><b>Course:</b> ${course}</p>
    <br>
    <a href="index.jsp">Register Another Student</a>
</body>
</html>
```

5. web.xml (Servlet Mapping)

```
<web-app xmlns="http://java.sun.com/xml/ns/javaee" version="3.0">
    <servlet>
        <servlet-name>StudentServlet</servlet-name>
        <servlet-class>com.example.StudentServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>StudentServlet</servlet-name>
        <url-pattern>/register</url-pattern>
    </servlet-mapping>
</web-app>
```

6. Output Example

```
1. Open: http://localhost:8080/MiniProject/index.jsp

Form:
Name: John Doe
Email: john@example.com
Course: Java

2. After submission → Data is saved in MySQL.

3. Success Page:
■ Registration Successful!
Name: John Doe
Email: john@example.com
Course: Java

4. In MySQL:
SELECT * FROM students;
+----+----------+-------------------+--------+
| id | name     | email             | course |
+----+----------+-------------------+--------+
```

```
|  1 | John Doe | john@example.com  | Java   |
+----+----------+-------------------+--------+
```