

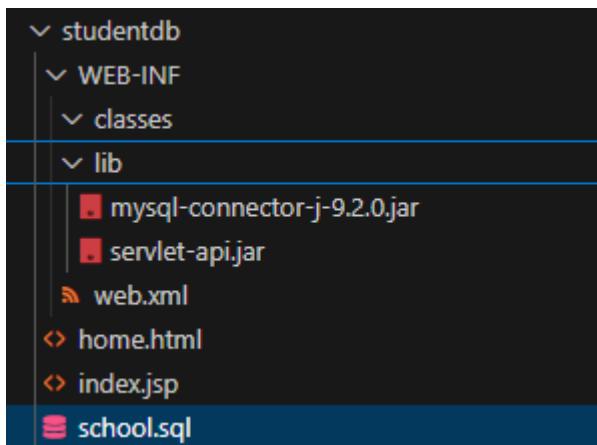
Name: **Piyusha Rajendra Supe**

Enrolment Number: **23CO315**

## **Web Technology Practical 6**

**Title:** Implement the program demonstrating the use of JSP. e.g., Create database table students\_info (stud\_id, stud\_name, class, division, city) using database like Oracle/MySQL etc. and display (use SQL select query) the table content using JSP

The folder structure is as follows:



Let us create a database for the JSP retrieval:

### School.sql

Create database if not exists school;

```

CREATE TABLE `students_info` (
  `stud_id` int(11) NOT NULL,
  `stud_name` varchar(100) DEFAULT NULL,
  `class` varchar(20) DEFAULT NULL,
  `division` varchar(5) DEFAULT NULL,
  `city` varchar(50) DEFAULT NULL
);
INSERT INTO `students_info` (`stud_id`, `stud_name`, `class`, `division`, `city`) VALUES
(1, 'Piyusha', '10', 'A', 'New York'),
(2, 'Chinmay', '9', 'B', 'Los Angeles'),
(3, 'Rajendra', '10', 'A', 'Chicago'),
(4, 'Diana Prince', '8', 'C', 'Houston'),
(5, 'Ethan Hunt', '11', 'A', 'Phoenix'),
(6, 'Fiona Glenanne', '10', 'B', 'Philadelphia'),
  
```

(7, 'George Miller', '9', 'C', 'San Antonio'),  
 (8, 'Hannah Lee', '12', 'A', 'San Diego'),  
 (9, 'Ian Somerhalder', '11', 'B', 'Dallas'),  
 (10, 'Julia Roberts', '12', 'C', 'San Jose');

**The database created will look as follows:**

	stud_id	stud_name	class	division	city
1	1	Piyusha	10	A	New York
2	2	Chinmay	9	B	Los Angeles
3	3	Rajendra	10	A	Chicago
4	4	Diana Prince	8	C	Houston
5	5	Ethan Hunt	11	A	Phoenix
6	6	Fiona Glenanne	10	B	Philadelphia
7	7	George Miller	9	C	San Antonio
8	8	Hannah Lee	12	A	San Diego
9	9	Ian Somerhalder	11	B	Dallas
10	10	Julia Roberts	12	C	San Jose

**The code is as follows:**

### Web.xml

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

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee" version="3.1">

  <!-- Welcome file list to define the landing page -->
  <welcome-file-list>
    <welcome-file>home.html</welcome-file> <!-- This is the first page that loads -->
  </welcome-file-list>

  <!-- Optional: If you want to add specific URL pattern mappings for your JSP -->
  <servlet>
    <servlet-name>indexServlet</servlet-name>
    <jsp-file>/index.jsp</jsp-file>
  </servlet>
```

```
<servlet-mapping>
    <servlet-name>indexServlet</servlet-name>
    <url-pattern>/index.jsp</url-pattern>
</servlet-mapping>
</web-app>
```

**Home.html**

```
<!DOCTYPE html>
<html>
<head>
    <title>Student Information Portal</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            background: #f4f4f9;
            display: flex;
            flex-direction: column;
            align-items: center;
            justify-content: center;
            height: 100vh;
            margin: 0;
        }
        h1 {
            color: #333;
        }
        a.button {
            display: inline-block;
            padding: 12px 25px;
            font-size: 16px;
            color: white;
            background-color: #007BFF;
            text-decoration: none;
            border-radius: 6px;
        }
    </style>
</head>
<body>
    <h1>Student Information Portal</h1>
    <a href="#" class="button">Get Started</a>
</body>
</html>
```

```
        box-shadow: 0 2px 5px rgba(0,0,0,0.1);
        transition: background-color 0.3s ease;
    }

    a.button:hover {
        background-color: #0056b3;
    }

</style>
</head>
<body>

<h1>Welcome to the Piyusha's Student Info Portal</h1>
<a class="button" href="index.jsp">View Student Records</a>

</body>
</html>
```

**Index.jsp (actual jsp code that retrieves information from database)**

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

```
<html>
```

```
<head>
```

```
    <title>Student Info</title>
```

```
<style>
```

```
    body {
        font-family: Arial, sans-serif;
        margin: 30px;
        background-color: #f4f4f9;
    }
```

```
    h1 {

```

```
        color: #333;
        text-align: center;
    }
```

```
    table {

```

```
        width: 80%;
        margin: auto;
        border-collapse: collapse;
    }
```

```
        box-shadow: 0 2px 8px rgba(0,0,0,0.1);
        background-color: white;
    }

    th, td {
        padding: 12px 15px;
        text-align: center;
        border: 1px solid #ccc;
    }

    th {
        background-color: #007BFF;
        color: white;
    }

    tr:nth-child(even) {
        background-color: #f9f9f9;
    }

    tr:hover {
        background-color: #e9f1ff;
    }

.error {
    color: red;
    text-align: center;
    margin-top: 20px;
}

</style>

</head>

<body>

<h1>Student Information</h1>

<table>

    <tr>
        <th>ID</th>
        <th>Name</th>
        <th>Class</th>
    
```

```

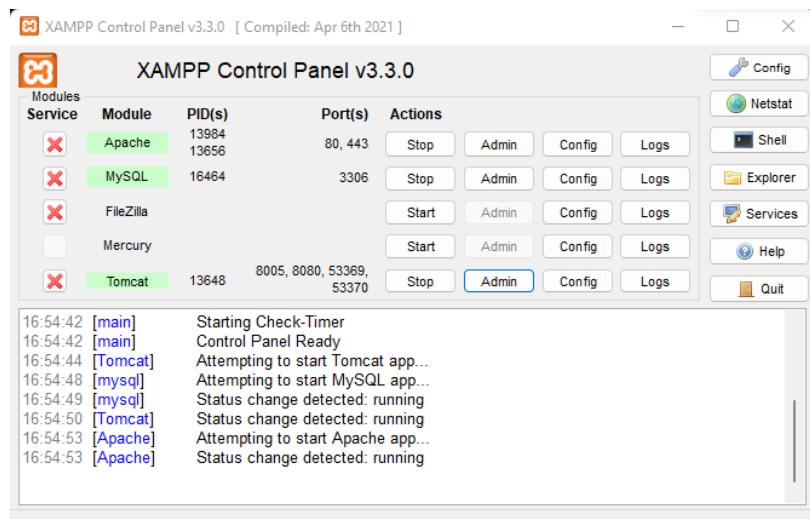
<th>Division</th>
<th>City</th>
</tr>
<%
try {
    Class.forName("com.mysql.cj.jdbc.Driver");
    Connection con = DriverManager.getConnection(
        "jdbc:mysql://localhost:3306/school?useSSL=false&serverTimezone=UTC", "root", "");
    Statement stmt = con.createStatement();
    ResultSet rs = stmt.executeQuery("SELECT * FROM students_info");

    while(rs.next()) {
%>
<tr>
    <td><%= rs.getInt("stud_id") %></td>
    <td><%= rs.getString("stud_name") %></td>
    <td><%= rs.getString("class") %></td>
    <td><%= rs.getString("division") %></td>
    <td><%= rs.getString("city") %></td>
</tr>
<%
}
con.close();
} catch(Exception e) {
%>
<p class="error">Error: <%= e.getMessage() %></p>
<%
}
%>
</table>
</body>
</html>

```

The output is as follows:

Start the tomcat server



Then go to the tomcat manager admin interface:

The screenshot shows the Tomcat Manager Admin interface at [localhost:8080/manager/html](http://localhost:8080/manager/html). A red circle highlights the row for the '/studentdb' application. The table lists various applications with their context paths, deployment status, and management buttons. The '/studentdb' row has a context path of '/studentdb', deployment status of 'true', and a deployment count of '0'. It includes standard management buttons: Start, Stop, Reload, Undeploy, and Expire sessions (with idle ≥ 30 minutes).

Context Path	Deployment Status	Deployment Count	Action Buttons
/docs	None specified	0	Start, Stop, Reload, Undeploy Expire sessions with idle ≥ 30 minutes
/ebookshop	None specified	0	Start, Stop, Reload, Undeploy Expire sessions with idle ≥ 30 minutes
/examples	None specified	0	Start, Stop, Reload, Undeploy Expire sessions with idle ≥ 30 minutes
/host-manager	None specified	0	Start, Stop, Reload, Undeploy Expire sessions with idle ≥ 30 minutes
/manager	None specified	1	Start, Stop, Reload, Undeploy Expire sessions with idle ≥ 30 minutes
/studentdb	None specified	0	Start, Stop, Reload, Undeploy Expire sessions with idle ≥ 30 minutes

**Deploy directory or WAR file located on server**

Context Path (required):

XML Configuration file path:

WAR or Directory path:

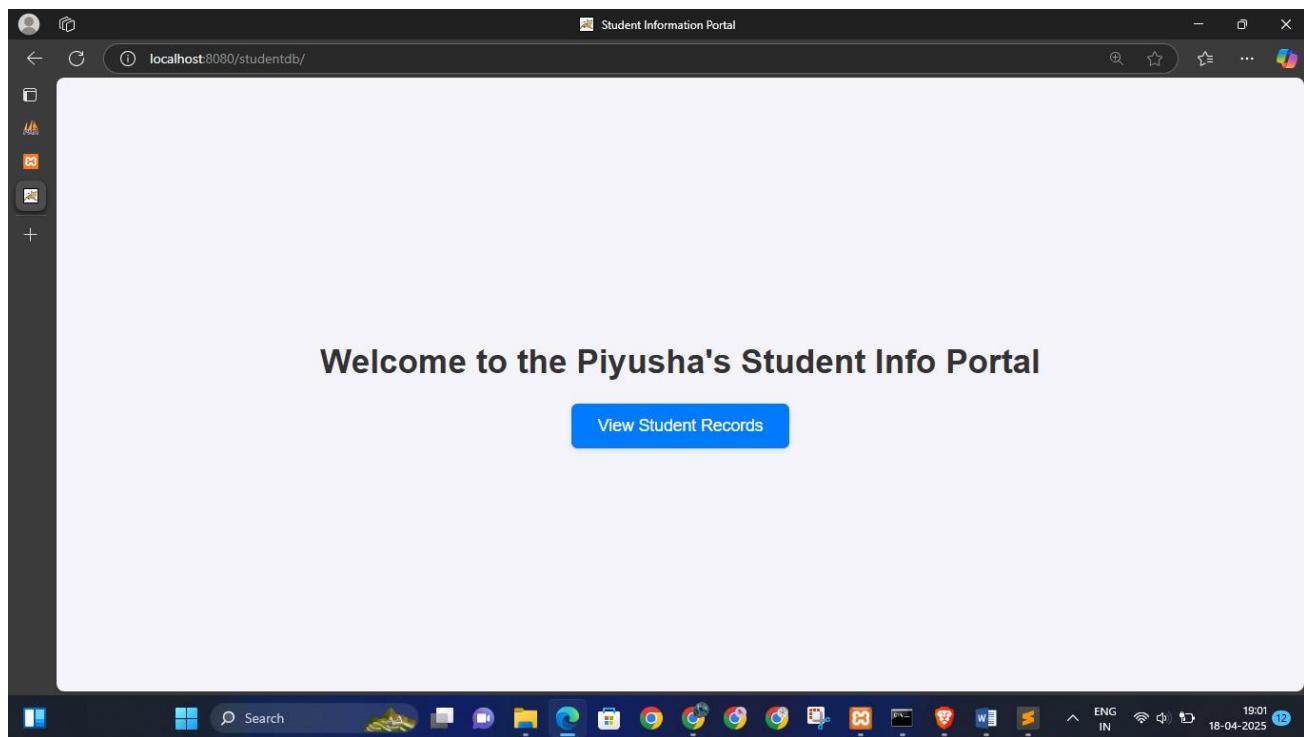
**Deploy**

**WAR file to deploy**

Select WAR file to upload  No file chosen

localhost:8080/studentdb/

The output will look like as follows:



The table is as follows:

A screenshot of a Microsoft Edge browser window titled "Student Info". The URL in the address bar is "localhost:8080/studentdb/index.jsp". The main content area displays a table titled "Student Information" with ten rows of data. The table has columns for ID, Name, Class, Division, and City. The data is as follows:

ID	Name	Class	Division	City
1	Piyusha	10	A	New York
2	Chinmay	9	B	Los Angeles
3	Rajendra	10	A	Chicago
4	Diana Prince	8	C	Houston
5	Ethan Hunt	11	A	Phoenix
6	Fiona Glenanne	10	B	Philadelphia
7	George Miller	9	C	San Antonio
8	Hannah Lee	12	A	San Diego
9	Ian Somerhalder	11	B	Dallas
10	Julia Roberts	12	C	San Jose

**Conclusion:** Thus I have successfully created JSP pages and retrieved database information using mysql connector and JSP interface