

Aim: To develop a JSP-based web application for managing student records in a database. The application will include four functionalities:

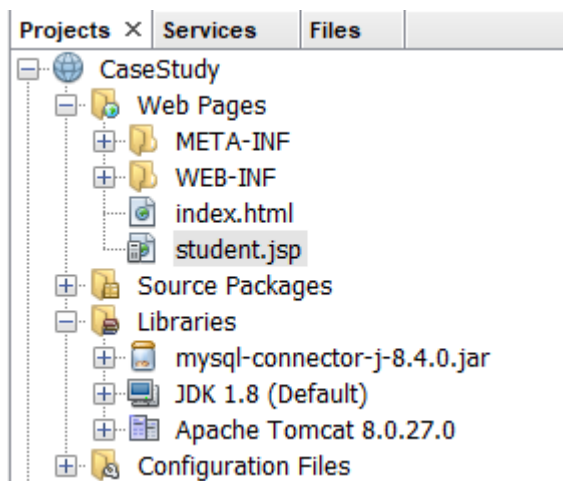
1. Add Student - Allows users to enter and save student details (ROLLNO, NAME, BRANCH) into the database.
2. View Students - Displays all student records in a tabular format.
3. Edit Student - Enables users to update existing student details in the database by providing the ROLLNO, NAME, and BRANCH.
4. Delete Student - Allows users to delete a student record from the database by specifying the ROLLNO.

The system facilitates seamless CRUD (Create, Read, Update, Delete) operations on the STUDENT table while ensuring an interactive and user-friendly interface for managing student data efficiently.

Technologies Used:

- **Frontend:** HTML and CSS for structuring and styling the user interface.
- **Backend:** JSP for server-side scripting and logic implementation.
- **Database:** MySQL for storing and managing student data.
- **Web Server:** Apache Tomcat for deploying and running the JSP application.

File Structure:



```
mysql> CREATE TABLE STUDENT (ROLLNO INT PRIMARY KEY,NAME  
VARCHAR(50),  
BRANCH VARCHAR(50));
```

Field	Type	Null	Key	Default	Extra
ROLLNO	int	NO	PRI	NULL	
NAME	varchar(50)	YES		NULL	
BRANCH	varchar(50)	YES		NULL	

Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Welcome to My Project</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #ECEFF1;
      margin: 0;
      padding: 0;
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
      text-align: center;
    }

    .container {
      background-color: white;
      padding: 30px;
      border-radius: 8px;
      box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1);
      width: 300px;
    }
  </style>
</head>
<body>
  <div class="container">
    <h1>Case Study</h1>
    <p><strong>Name:</strong> M.Anusha</p>
    <p><strong>Roll No:</strong> 23255A0513</p>
    <a href="student.jsp" class="btn">Go to My Project</a>
  </div>
</body>
</html>
```

Student.jsp

```
<%@ page import="java.sql.*" %>
<%@ page import="java.util.*" %>
<!DOCTYPE html>
<html>
<head>
  <title>Student Management System</title>
  <style>
    /* General styles */
```

```
body {  
    font-family:'Oswald';  
    background-color: #ECEFF1; /* Light grey background */  
    margin: 0;  
    padding: 0;  
}  
  
.container {  
    max-width: 800px;  
    margin: 50px auto;  
    background-color: white;  
    padding: 20px;  
    box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1);  
    border-radius: 8px;  
}  
  
header {  
    text-align: center;  
    font-family: 'Oswald';  
    font-size: 40px; /* Increased font size for header */  
    color: #1A237E; /* Dark indigo color */  
    margin-bottom: 30px;  
    letter-spacing: 2px; /* Added letter spacing for more emphasis */  
}  
  
h1 {  
    text-align: center;  
    color: #1A237E; /* Dark indigo for headings */  
    margin-bottom: 20px;  
}  
  
.actions {  
    text-align: center;  
    margin-bottom: 20px;
```

```
}
```

```
.actions a {
```

```
  text-decoration: none;
```

```
  margin: 0 10px;
```

```
  padding: 10px 20px;
```

```
  background-color: #283593; /* Indigo shade for buttons */
```

```
  color: white;
```

```
  border-radius: 5px;
```

```
  transition: background 0.3s ease;
```

```
}
```

```
.actions a:hover {
```

```
  background-color: #1A237E; /* Darker indigo for hover effect */
```

```
}
```

```
form {
```

```
  margin: 20px 0;
```

```
}
```

```
form label {
```

```
  display: block;
```

```
  margin-bottom: 10px;
```

```
  color: #1A237E; /* Indigo text for labels */
```

```
  font-weight: bold;
```

```
}
```

```
form input[type="text"],
```

```
form input[type="number"] {
```

```
  width: 100%;
```

```
  padding: 10px;
```

```
  margin-bottom: 15px;
```

```
  border: 1px solid #B0BEC5; /* Light grey border */
```

```
  border-radius: 5px;
```

```
}
```

```
form input[type="submit"] {  
    background-color: #283593; /* Indigo shade for buttons */  
    color: white;  
    padding: 10px 20px;  
    border: none;  
    border-radius: 5px;  
    cursor: pointer;  
    font-size: 16px;  
    transition: background 0.3s ease;  
}
```

```
form input[type="submit"]:hover {  
    background-color: #1A237E; /* Darker indigo for hover effect */  
}
```

```
table {  
    width: 100%;  
    border-collapse: collapse;  
    margin-top: 20px;  
}
```

```
table th, table td {  
    padding: 10px;  
    text-align: left;  
    border: 1px solid #B0BEC5; /* Light grey border */  
}
```

```
table th {  
    background-color: #1A237E; /* Dark indigo for table headers */  
    color: white;  
}
```

```

        table tr:nth-child(even) {
            background-color: #F5F5F5; /* Subtle striped rows */
        }

        table tr:hover {
            background-color: #E3F2FD; /* Light blue hover for rows */
        }
    </style>
</head>
<body>
    <header>Student Management System</header>

    <div class="container">
        <div class="actions">
            <a href="student.jsp?action=add">Add Student</a>
            <a href="student.jsp?action=view">View Students</a>
            <a href="student.jsp?action=edit">Edit Student</a>
            <a href="student.jsp?action=delete">Delete Student</a>
        </div>

        <%
            // Database connection details
            String url = "jdbc:mysql://localhost:3306/casectudy";
            String user = "root";
            String password = "password";

            Connection con = null;
            PreparedStatement ps = null;
            ResultSet rs = null;

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

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

```

```

con = DriverManager.getConnection(url, user, password);

if ("add".equals(action) && request.getParameter("submit") != null) {
    // Add Student
    int rollNo = Integer.parseInt(request.getParameter("rollno"));
    String name = request.getParameter("name");
    String branch = request.getParameter("branch");
    ps = con.prepareStatement("INSERT INTO STUDENT (ROLLNO, NAME, BRANCH)
VALUES (?, ?, ?)");
    ps.setInt(1, rollNo);
    ps.setString(2, name);
    ps.setString(3, branch);
    ps.executeUpdate();
    out.println("<p style='color:green; text-align:center;'>Student added successfully!</p>");
} else if ("view".equals(action)) {
    // View Students
    ps = con.prepareStatement("SELECT * FROM STUDENT");
    rs = ps.executeQuery();

    %>

    <div class="table-container">
        <table>
            <tr>
                <th>Roll No</th>
                <th>Name</th>
                <th>Branch</th>
            </tr>
            <%
                while (rs.next()) {
            %>
            <tr>
                <td><%= rs.getInt("ROLLNO") %></td>
                <td><%= rs.getString("NAME") %></td>
                <td><%= rs.getString("BRANCH") %></td>
            </tr>
            <%

```



```

        }
    %>
</table>
</div>
<%
} else if ("edit".equals(action) && request.getParameter("submit") != null) {
    // Edit Student
    int rollno = Integer.parseInt(request.getParameter("rollno"));
    String name = request.getParameter("name");
    String branch = request.getParameter("branch");
    ps = con.prepareStatement("UPDATE STUDENT SET NAME = ?, BRANCH = ? WHERE
ROLLNO = ?");
    ps.setString(1, name);
    ps.setString(2, branch);
    ps.setInt(3, rollno);
    ps.executeUpdate();
    out.println("<p style='color:green; text-align:center;'>Student updated successfully!</p>");
} else if ("delete".equals(action) && request.getParameter("submit") != null) {
    // Delete Student
    int rollno = Integer.parseInt(request.getParameter("rollno"));
    ps = con.prepareStatement("DELETE FROM STUDENT WHERE ROLLNO = ?");
    ps.setInt(1, rollno);
    ps.executeUpdate();
    out.println("<p style='color:green; text-align:center;'>Student deleted successfully!</p>");
}

if ("add".equals(action)) {
%>

<div class="form-container">
    <form method="post">
        <label>Roll No:</label>
        <input type="number" name="rollno" required>
        <label>Name:</label>
        <input type="text" name="name" required>
        <label>Branch:</label>

```

```

        <input type="text" name="branch" required>
        <input type="submit" name="submit" value="Add Student">
    </form>
</div>

<%
    } else if ("edit".equals(action)) {
%>

    <div class="form-container">
        <form method="post">
            <label>Roll No (to update):</label>
            <input type="number" name="rollNo" required>
            <label>New Name:</label>
            <input type="text" name="name" required>
            <label>New Branch:</label>
            <input type="text" name="branch" required>
            <input type="submit" name="submit" value="Update Student">
        </form>
    </div>

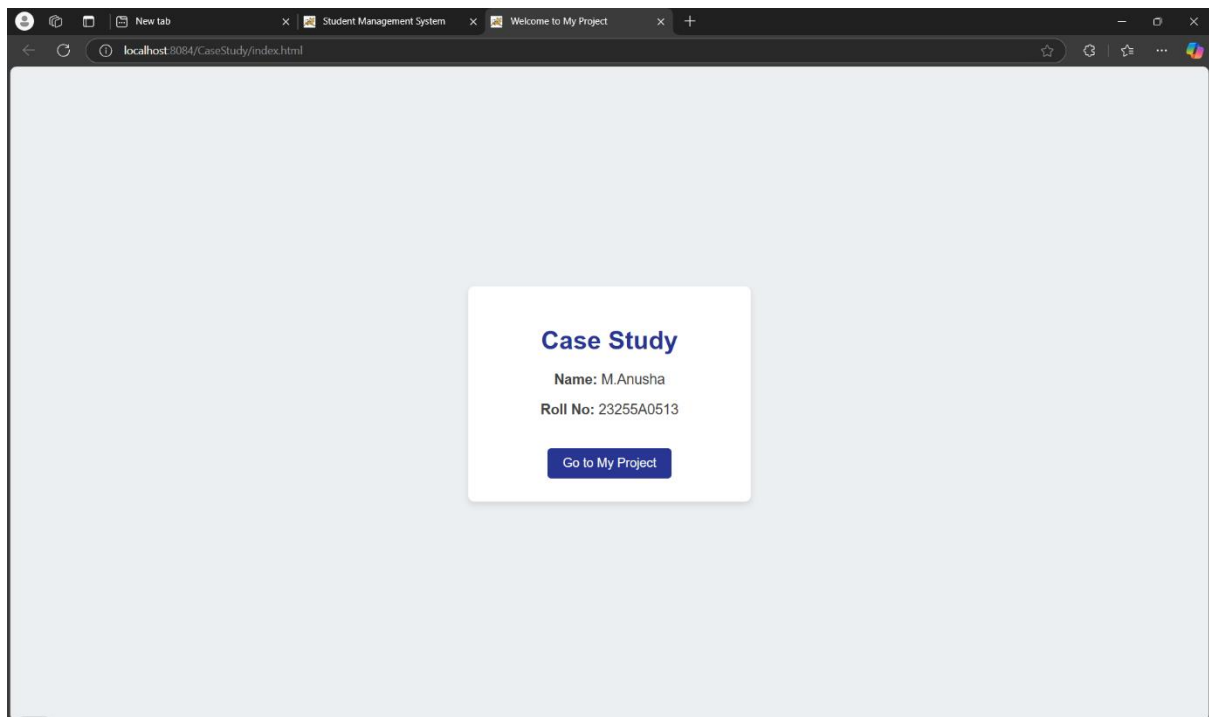
<%
    } else if ("delete".equals(action)) {
%>

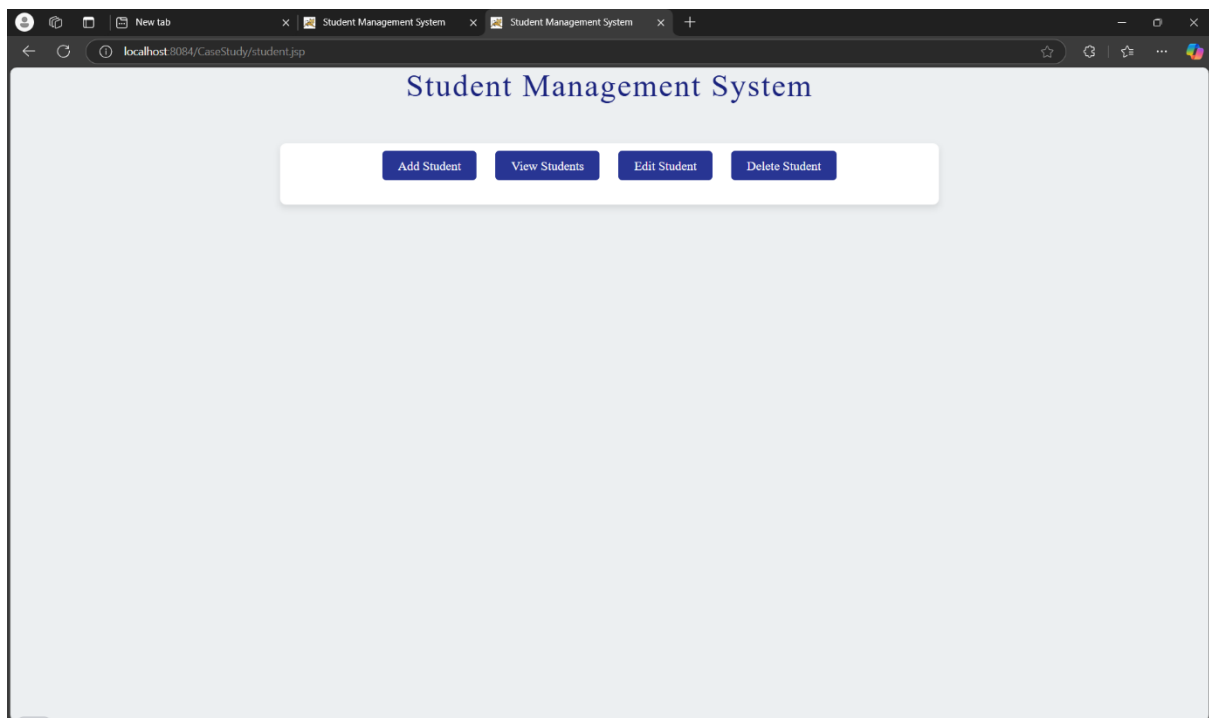
    <div class="form-container">
        <form method="post">
            <label>Roll No (to delete):</label>
            <input type="number" name="rollNo" required>
            <input type="submit" name="submit" value="Delete Student">
        </form>
    </div>

<%
    }
} catch (Exception e) {
    out.println("<p style='color:red; text-align:center;'>Error: " + e.getMessage() + "</p>");
} finally {
    try {

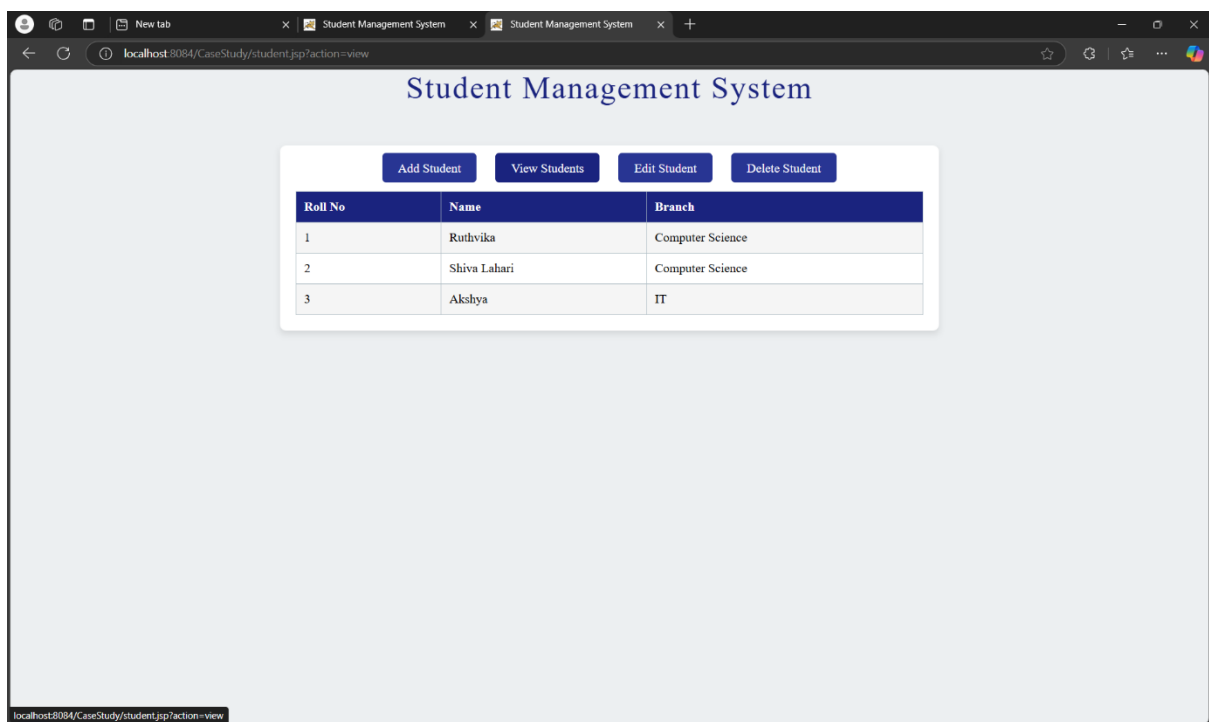
```

```
        if (rs != null) rs.close();  
        if (ps != null) ps.close();  
        if (con != null) con.close();  
    } catch (SQLException e) {  
        e.printStackTrace();  
    }  
}  
%>  
</div>  
</body>  
</html>
```





1. View Students information



2.Add a Student to the database

Student Management System

[Add Student](#) [View Students](#) [Edit Student](#) [Delete Student](#)

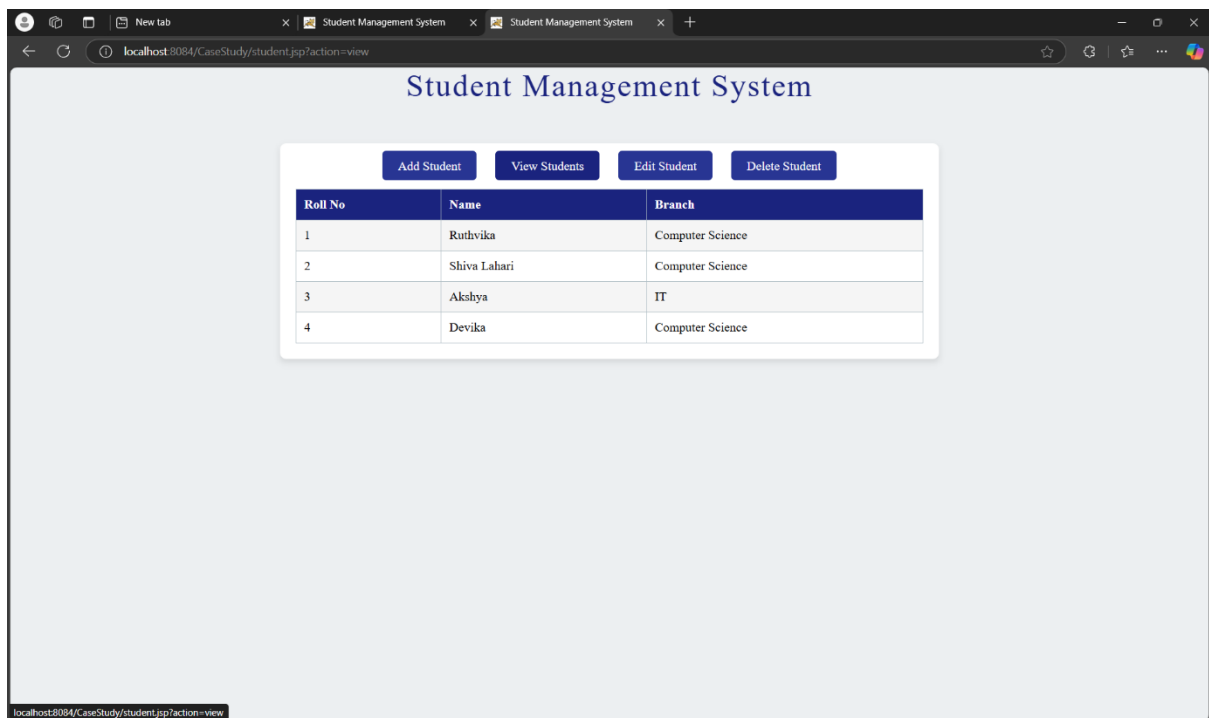
Roll No:
4

Name:
Devika

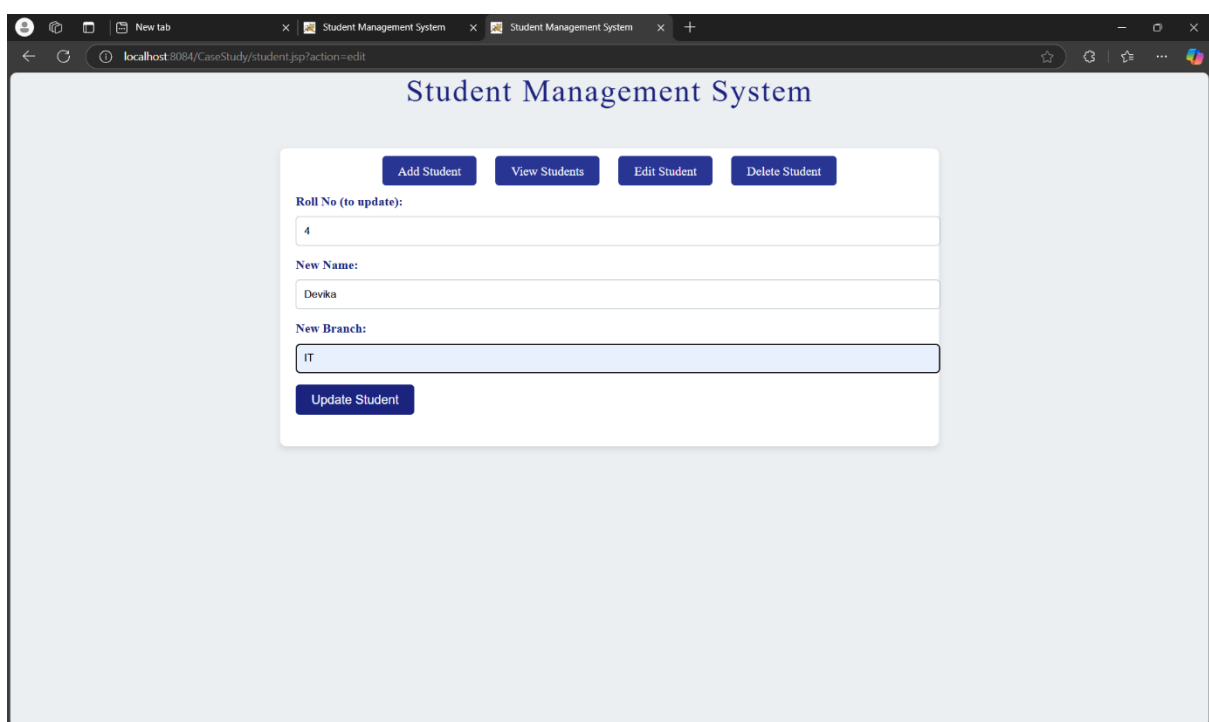
Branch:
Computer Science

[Add Student](#)

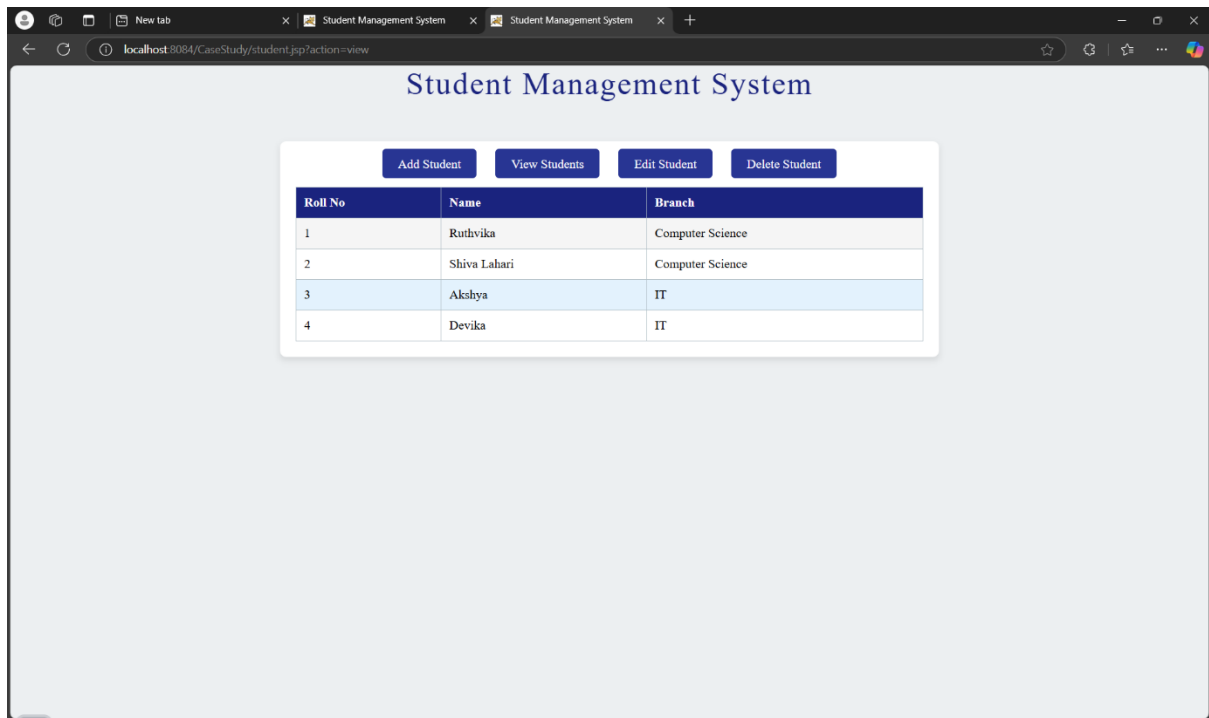
❖ Student information added



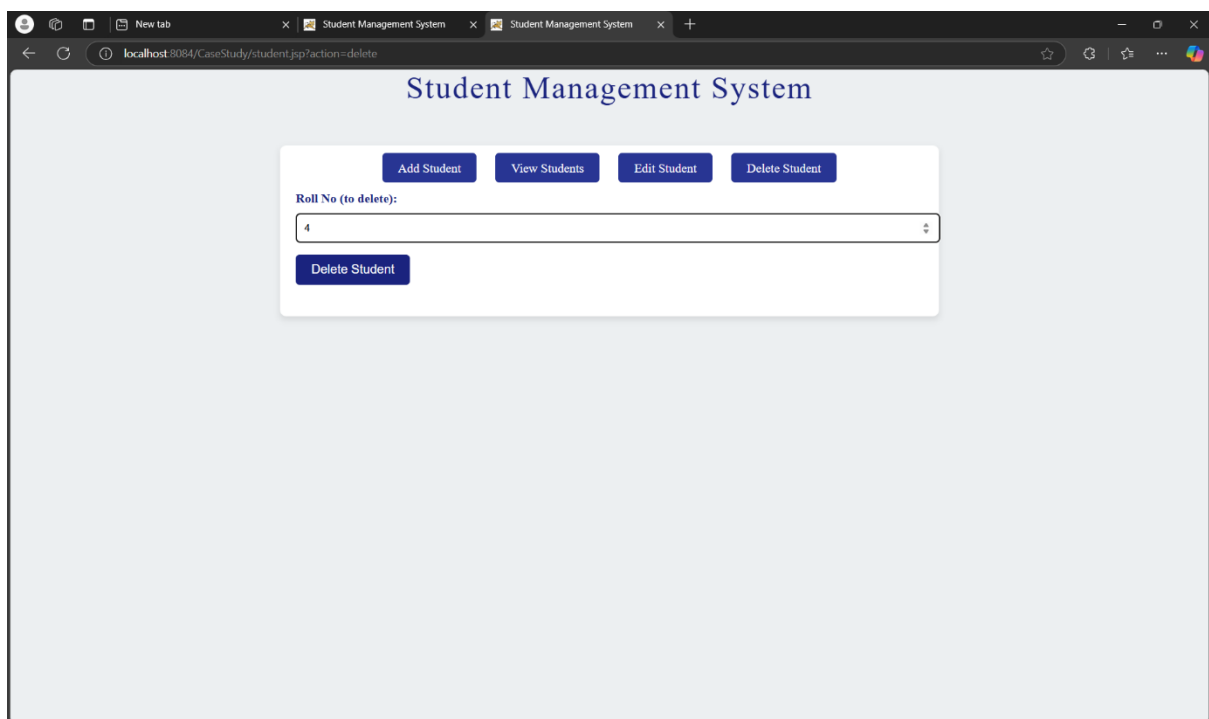
3.Update Student Information



❖ Student information updated in the table.



4.Delete a Student's information from the database



❖ Student information deleted.

