

ASSIGNMENT NO. 6

6. Develop a simple JSP application to update student information in MySQL

searchStudent.jsp

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

<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Search Student</title>
<style>
body { font-family: Arial; margin: 40px; background: #f4f4f4; }

.container { max-width: 500px; margin: 0 auto; background: white; padding: 30px; border-radius: 8px; box-shadow: 0 0 10px rgba(0,0,0,0.1); }

h2 { color: #333; text-align: center; margin-bottom: 30px; }

.form-group { margin-bottom: 20px; }

label { display: block; margin-bottom: 8px; font-weight: bold; color: #555; }

input[type="text"] { width: 100%; padding: 10px; border: 1px solid #ddd; border-radius: 4px; font-size: 16px; box-sizing: border-box; }

input[type="submit"] { background: #007bff; color: white; padding: 12px 20px; border: none; border-radius: 4px; cursor: pointer; font-size: 16px; width: 100%; }

input[type="submit"]:hover { background: #0056b3; }

.error { color: red; text-align: center; margin-top: 10px; padding: 10px; background: #ffe6e6; border-radius: 4px; }

.success { color: green; text-align: center; margin-top: 10px; padding: 10px; background: #e6ffe6; border-radius: 4px; }

</style>
</head>
<body>
<div class="container">
<h2>Search Student by Roll Number</h2>
```

```
<%
    String success = request.getParameter("success");
    if (success != null && success.equals("true")) {
%>
<div class="success">Student information updated successfully!</div>
<%
}
%>

<%
String error = (String) request.getAttribute("error");
if (error != null) {
%>
<div class="error"><%= error %></div>
<%
}
%>

<form action="SearchStudent" method="post">
<div class="form-group">
    <label for="rollNumber">Enter Roll Number:</label>
    <input type="text" id="rollNumber" name="rollNumber" required
        placeholder="Example: 1">
</div>
<input type="submit" value="Search Student">
</form>
```

```
</div>  
</body>  
</html>
```

updateStudent.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8" pageEncoding="UTF-8"%>  
  
<%  
  
    // Get attributes set by the servlet  
  
    String rollNumber = (String) request.getAttribute("rollNumber");  
  
    String firstName = (String) request.getAttribute("firstName");  
  
    String lastName = (String) request.getAttribute("lastName");  
  
    String gender = (String) request.getAttribute("gender");  
  
    String mobileNumber = (String) request.getAttribute("mobileNumber");  
  
    String collegeName = (String) request.getAttribute("collegeName");  
  
    String academicYear = (String) request.getAttribute("academicYear");  
  
  
    if (rollNumber == null) {  
        response.sendRedirect("searchStudent.jsp");  
        return;  
    }  
%>  
  
<!DOCTYPE html>  
  
<html>  
  
<head>  
  
    <meta charset="UTF-8">  
  
    <title>Update Student</title>  
  
    <style>  
  
        body { font-family: Arial; margin: 40px; background: #f4f4f4; }  
  
        .container { max-width: 600px; margin: 0 auto; background: white; padding: 30px; border-radius: 8px; box-shadow: 0 0 10px rgba(0,0,0,0.1); }  
  
    </style>
```

```


## </style> </head> <body> ``` <div class="container"> <h2>Update Student Information</h2> ``` <div class="student-info"> ``` <strong>Roll Number:</strong> <%= rollNumber %><br> <strong>Current Name:</strong> <%= firstName %> <%= lastName %><br> <strong>Gender:</strong> <%= gender %><br> <strong>College:</strong> <%= collegeName %> ``` </div> ``` <form action="UpdateStudent" method="post"> <input type="hidden" name="rollNumber" value="<%= rollNumber %>"> ```


```

```
<div class="form-group">  
    <label for="rollNumberDisplay">Roll Number (Cannot be changed):</label>  
    <input type="text" id="rollNumberDisplay" value="<% rollNumber %>" readonly>  
</div>
```

```
<div class="form-group">  
    <label for="firstName">First Name *:</label>  
    <input type="text" id="firstName" name="firstName" value="<% firstName %>"  
required>  
</div>
```

```
<div class="form-group">  
    <label for="lastName">Last Name (Display only):</label>  
    <input type="text" id="lastName" value="<% lastName %>" readonly>  
</div>
```

```
<div class="form-group">  
    <label for="gender">Gender (Display only):</label>  
    <input type="text" id="gender" value="<% gender %>" readonly>  
</div>
```

```
<div class="form-group">  
    <label for="mobileNumber">Mobile Number *:</label>  
    <input type="text" id="mobileNumber" name="mobileNumber" value="<%  
mobileNumber %>"  
pattern="[0-9]{10}" title="10 digit mobile number" required>  
</div>
```

```
<div class="form-group">
```

```

<label for="collegeName">College Name (Display only):</label>
<input type="text" id="collegeName" value="<%= collegeName %>" readonly>
</div>

<div class="form-group">
    <label for="academicYear">Academic Year *:</label>
    <select id="academicYear" name="academicYear" required>
        <option value="2023" <%= "2023".equals(academicYear) ? "selected" : ""%>>2023</option>
        <option value="2024" <%= "2024".equals(academicYear) ? "selected" : ""%>>2024</option>
        <option value="2025" <%= "2025".equals(academicYear) ? "selected" : ""%>>2025</option>
        <option value="2026" <%= "2026".equals(academicYear) ? "selected" : ""%>>2026</option>
    </select>
</div>

<div class="button-group">
    <input type="submit" class="btn-primary" value="Update Student">
    <a href="searchStudent.jsp" class="btn btn-secondary">Back to Search</a>
</div>
</form>
</div>
</body>
</html>

```

SearchStudent.java

package EXP6;

import java.io.*;

import javax.servlet.*;

```
import javax.servlet.annotation.WebServlet;  
import javax.servlet.http.*;  
import java.sql.*;  
  
@WebServlet("/SearchStudent")  
public class SearchStudent extends HttpServlet {  
  
private static final String URL = "jdbc:mysql://localhost:3306/studentdb";  
private static final String USERNAME = "root";  
private static final String PASSWORD = "root"; // Change to your MySQL password  
  
protected void doPost(HttpServletRequest request, HttpServletResponse response)  
throws ServletException, IOException {  
  
String rollNumber = request.getParameter("rollNumber");  
  
Connection conn = null;  
PreparedStatement pstmt = null;  
ResultSet rs = null;  
  
try {  
    Class.forName("com.mysql.cj.jdbc.Driver");  
    conn = DriverManager.getConnection(URL, USERNAME, PASSWORD);  
  
    String sql = "SELECT * FROM students WHERE RollNumber = ?";  
    pstmt = conn.prepareStatement(sql);  
    pstmt.setString(1, rollNumber);  
    rs = pstmt.executeQuery();  
}
```

```

if (rs.next()) {

    // Student found - set attributes and forward to JSP

    request.setAttribute("rollNumber", rs.getString("RollNumber"));

    request.setAttribute("firstName", rs.getString("FirstName"));

    request.setAttribute("lastName", rs.getString("LastName"));

    request.setAttribute("gender", rs.getString("Gender"));

    request.setAttribute("mobileNumber", rs.getString("MobileNumber"));

    request.setAttribute("collegeName", rs.getString("CollegeName"));

    request.setAttribute("academicYear", rs.getString("AcademicYear"));




    RequestDispatcher dispatcher =
request.getRequestDispatcher("updateStudent.jsp");

    dispatcher.forward(request, response);

} else {

    request.setAttribute("error", "Student with Roll Number '" + rollNumber + "' not
found!");

    RequestDispatcher dispatcher =
request.getRequestDispatcher("searchStudent.jsp");

    dispatcher.forward(request, response);

}

} catch (Exception e) {

    e.printStackTrace();

    request.setAttribute("error", "Database error: " + e.getMessage());

    RequestDispatcher dispatcher = request.getRequestDispatcher("searchStudent.jsp");

    dispatcher.forward(request, response);

} finally {

    try { if (rs != null) rs.close(); } catch (SQLException e) { e.printStackTrace(); }

    try { if (stmt != null) stmt.close(); } catch (SQLException e) { e.printStackTrace(); }

    try { if (conn != null) conn.close(); } catch (SQLException e) { e.printStackTrace(); }
}

```

```
    }
```

```
}
```

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
    response.sendRedirect("searchStudent.jsp");
}
}
```

UpdateStudent.java

```
package EXP6;
```

```
import java.io.*;
```

```
import javax.servlet.*;
```

```
import javax.servlet.annotation.WebServlet;
```

```
import javax.servlet.http.*;
```

```
import java.sql.*;
```

```
@WebServlet("/UpdateStudent")
```

```
public class UpdateStudent extends HttpServlet {
```

```
    private static final long serialVersionUID = 1L;
```

```
    // Database connection details
```

```
    private static final String URL = "jdbc:mysql://localhost:3306/studentdb";
```

```
    private static final String USERNAME = "root";
```

```
    private static final String PASSWORD = "root"; // Change this
```

```
protected void doPost(HttpServletRequest request, HttpServletResponse response)
```

```
throws ServletException, IOException {
```

```
    // Get parameters from form
```

```
String rollNumber = request.getParameter("rollNumber");
String firstName = request.getParameter("firstName");
String mobileNumber = request.getParameter("mobileNumber");
String academicYear = request.getParameter("academicYear");

Connection conn = null;
PreparedStatement pstmt = null;

try {
    // Load MySQL driver and create connection
    Class.forName("com.mysql.cj.jdbc.Driver");
    conn = DriverManager.getConnection(URL, USERNAME, PASSWORD);

    // Update student information
    String sql = "UPDATE students SET FirstName = ?, MobileNumber = ?, AcademicYear = ? WHERE RollNumber = ?";
    pstmt = conn.prepareStatement(sql);
    pstmt.setString(1, firstName);
    pstmt.setString(2, mobileNumber);
    pstmt.setString(3, academicYear);
    pstmt.setString(4, rollNumber);

    int rowsAffected = pstmt.executeUpdate();

    if (rowsAffected > 0) {
        // Update successful
        response.sendRedirect("searchStudent.jsp?success=true");
    } else {
        // Update failed
        request.setAttribute("error", "Failed to update student information!");
    }
}
```

```

        RequestDispatcher dispatcher =
request.getRequestDispatcher("searchStudent.jsp");

        dispatcher.forward(request, response);

    }

} catch (Exception e) {

    e.printStackTrace();

    request.setAttribute("error", "Database error: " + e.getMessage());

    RequestDispatcher dispatcher = request.getRequestDispatcher("searchStudent.jsp");

    dispatcher.forward(request, response);

} finally {

    // Close resources

    try { if (pstmt != null) pstmt.close(); } catch (SQLException e) { e.printStackTrace(); }

    try { if (conn != null) conn.close(); } catch (SQLException e) { e.printStackTrace(); }

}

}

}

```

```

mysql> CREATE DATABASE studentdb;
Query OK, 1 row affected (0.12 sec)

mysql> USE studentdb;
Database changed
mysql> CREATE TABLE students (
->     RollNumber VARCHAR(20) PRIMARY KEY,
->     FirstName VARCHAR(50) NOT NULL,
->     LastName VARCHAR(50) NOT NULL,
->     Gender VARCHAR(10) NOT NULL,
->     MobileNumber VARCHAR(15) NOT NULL,
->     CollegeName VARCHAR(100) NOT NULL,
->     AcademicYear VARCHAR(10) NOT NULL
-> );
Query OK, 0 rows affected (0.10 sec)

```

```
mysql> INSERT INTO students VALUES
-> ('1', 'Aarav', 'Sharma', 'Male', '9876543210', 'Delhi University', '2023'),
-> ('2', 'Priya', 'Patel', 'Female', '9123456789', 'Mumbai University', '2023'),
-> ('3', 'Rohan', 'Verma', 'Male', '9988776655', 'Pune Institute of Technology', '2024')
-> ('4', 'Sneha', 'Reddy', 'Female', '9090909090', 'Osmania University', '2023'),
-> ('5', 'Aditya', 'Mehta', 'Male', '9812345678', 'IIT Bombay', '2024'),
-> ('6', 'Kavya', 'Nair', 'Female', '9898989898', 'Kerala University', '2025'),
-> ('7', 'Rahul', 'Singh', 'Male', '9700000000', 'Banaras Hindu University', '2023');
Query OK, 7 rows affected (0.04 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

Search Student

localhost:8085/EXP6/searchStudent.jsp

Search Student by Roll Number

Enter Roll Number:

Search Student

Search Student

localhost:8085/EXP6/searchStudent.jsp?success=true

Search Student by Roll Number

Student information updated successfully!

Enter Roll Number:

Search Student

Update Student

localhost:8085/EXP6/SearchStudent

Update Student Information

Roll Number: 1
Current Name: Aarav Sharma
Gender: Male
College: Delhi University

Roll Number (Cannot be changed):
1

First Name *:
Aarav

Last Name (Display only):
Sharma

Gender (Display only):
Male

Mobile Number *:
9876543210

College Name (Display only):
Delhi University

Academic Year *:
2023

[Update Student](#) [Back to Search](#)

Search Student

localhost:8085/EXP6/SearchStudent

Search Student by Roll Number

Student with Roll Number '10' not found!

Enter Roll Number:
Example: 1

[Search Student](#)