

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); }

```

```

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"], select { width: 100%; padding: 10px; border: 1px solid #ddd; border-
radius: 4px; font-size: 16px; box-sizing: border-box; }

input[readonly] { background: #f5f5f5; color: #666; }

.button-group { display: flex; gap: 10px; margin-top: 30px; }

input[type="submit"], .btn { padding: 12px 20px; border: none; border-radius: 4px;
cursor: pointer; font-size: 16px; text-decoration: none; text-align: center; flex: 1; }

.btn-primary { background: #007bff; color: white; }

.btn-primary:hover { background: #0056b3; }

.btn-secondary { background: #6c757d; color: white; }

.btn-secondary:hover { background: #545b62; }

.student-info { background: #f8f9fa; padding: 15px; border-radius: 4px; margin-bottom:
20px; }

</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 (pstmt != null) pstmt.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