

Practical No. 06: JSP Case Study - Student Database

- a) Write a program based on JSP actions and Objects
- b) Implement a program for cookies handling and session tracking
- c) Write a program to demonstrate the core, format, function, and SQL tags of JSTL

(a) JSP Actions and Objects – Student Data

Objective: Capture student details and display using JSP implicit objects and action tags.

student_form.jsp

```
<html>
<body>
<h2>Student Registration Form</h2>
<form action="student_process.jsp">
    Name: <input type="text" name="name"/><br><br>
    Roll No: <input type="text" name="roll"/><br><br>
    Age: <input type="text" name="age"/><br><br>
    <input type="submit" value="Submit"/>
</form>
</body>
</html>
```

student_process.jsp

```
<html>
<body>
<h2>Student Details (Using Implicit Objects)</h2>
<%
String name = request.getParameter("name");
String roll = request.getParameter("roll");
String age = request.getParameter("age");

out.println("Name: " + name + "<br>");
out.println("Roll No: " + roll + "<br>");
out.println("Age: " + age);
%>

<jsp:forward page="student_display.jsp" />
</body>
</html>
```

student_display.jsp

```
<html>
<body>
<h2>Student Data Successfully Submitted!</h2>
</body>
</html>
```

Execution Steps: Deploy files in Tomcat webapps folder and run student_form.jsp.

(b) Cookies Handling & Session Tracking – Student Login

Objective: Store student name using cookies and session.

login.jsp

```
<html>
<body>
<h2>Student Login</h2>
<form action="set_student.jsp">
    Name: <input type="text" name="name"/>
    <input type="submit" value="Login"/>
</form>
</body>
</html>
```

set_student.jsp

```
<%
String name = request.getParameter("name");

Cookie c = new Cookie("studentName", name);
c.setMaxAge(60*60);
response.addCookie(c);

session.setAttribute("student", name);
%>

<html>
<body>
```

```
<h2>Welcome Student: <%=name%></h2>
<a href="student_dashboard.jsp">Go to Dashboard</a>
</body>
</html>
```

student_dashboard.jsp

```
<%
String sessionName = (String)session.getAttribute("student");

Cookie cookies[] = request.getCookies();
String cookieName = "";

if(cookies != null){
    for(Cookie c : cookies){
        if(c.getName().equals("studentName")){
            cookieName = c.getValue();
        }
    }
}
%>

<html>
<body>
<h2>Session Student: <%=sessionName%></h2>
<h2>Cookie Student: <%=cookieName%></h2>
</body>
</html>
```

Execution Steps: Run login.jsp and verify session and cookie values.

(c) JSTL Tags – Student Database

Objective: Display student records using JSTL tags.

Database Setup (MySQL)

```
CREATE DATABASE studentdb;
USE studentdb;
```

```
CREATE TABLE student (
    roll INT,
    name VARCHAR(50),
    age INT
);
```

```
INSERT INTO student VALUES
```

```
(1, 'Samba', 22),
(2, 'Sambi', 21),
(3, 'Dinga', 23);
```

student_jstl.jsp

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c"
%>

<%@ taglib uri="http://java.sun.com/jsp/jstl/fmt" prefix="fmt"
%>

<%@ taglib uri="http://java.sun.com/jsp/jstl/functions"
prefix="fn" %>

<%@ taglib uri="http://java.sun.com/jsp/jstl/sql" prefix="sql"
%>

<%@ page contentType="text/html; charset=ISO-8859-1" %>

<html>

<body>

<h2>Student Data using JSTL</h2>

<!-- Core Tag -->

<c:set var="msg" value="Student Records"/>

<c:out value="${msg}"/>

<br><br>

<!-- Format Tag -->

<jsp:useBean id="now" class="java.util.Date" />

<fmt:formatDate value="${now}" pattern="dd-MM-yyyy"/>
```

```
<br><br>
```

```
<!-- Function Tag -->
```

```
<c:set var="str" value="Student Database"/>
```

```
Length: ${fn:length(str)}
```

```
<br><br>
```

```
<!-- SQL Tag -->
```

```
<sql:setDataSource var="db"
```

```
    driver="com.mysql.cj.jdbc.Driver"
```

```
    url="jdbc:mysql://127.0.0.1:3306/studentdb?useSSL=false"
```

```
    user="root"
```

```
    password=""/>
```

```
<sql:query var="result" dataSource="${db}">
```

```
    SELECT * FROM student;
```

```
</sql:query>
```

```
<h3>Student Table</h3>
```

```
<table border="1">
```

```
<tr>
```

```
    <th>Roll</th>
```

```
    <th>Name</th>
```

```
    <th>Age</th>
```

```
</tr>
```

```
<c:forEach var="row" items="${result.rows}">
```

```
<tr>
```

```
    <td>${row.roll}</td>
```

```
    <td>${row.name}</td>
```

```
    <td>${row.age}</td>
```

```
</tr>
```

```
</c:forEach>
```

```
</table>
```

```
</body>
```

```
</html>
```

Execution Steps: Add JSTL and MySQL connector JAR files and run student_jstl.jsp.