

Advanced Java Programming Lab Sheet IV Year /I Part Faculty: CSIT

Lab sheet 6

Objectives:

1. To create server-side web programming using Servlet and JSP.
2. To understand concept of Cookies and JSP tags.

Objective 1:

For example, two numbers are provided by the client and he wants to perform the addition of that two numbers.

- **index.jsp**

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Add</title>
</head>
<body>

    <form method="post" action="add">

        Number 1 : <input type="text" name="num1" /><br><br>
        Number 2 : <input type="text" name="num2" /><br><br>
        <input type="submit" value="ADD" />
    </form>

</body>
</html>
```

As soon as the client clicks on ADD button, it will find which servlet is specified for this request and this will be done in the web.xml file.

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://xmlns.jcp.org/xml/ns/javaee"
    xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_4_0.xsd"
    id="WebApp_ID" version="4.0">
    <display-name>LabSheet5</display-name>

    <servlet>
        <servlet-name>AddServlet</servlet-name>
        <servlet-class>com.texas.servlets.MathematicalOperationServlet</servlet-class>
    </servlet>

    <servlet-mapping>
        <servlet-name>AddServlet</servlet-name>
```

```

        <url-pattern>/add</url-pattern>
    </servlet-mapping>

    <welcome-file-list>
        <welcome-file>index.jsp</welcome-file>
    </welcome-file-list>
</web-app>

```

After that servlet will be called and the processing of the request will start.

```

package com.texas.servlets;

import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

public class MathematicalOperationServlet extends HttpServlet {

    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws IOException, ServletException {

        int num1 = Integer.parseInt(request.getParameter("num1"));
        int num2 = Integer.parseInt(request.getParameter("num2"));
        int sum = num1+num2;
        PrintWriter pw = response.getWriter();
        pw.println("Sum is : "+sum);

    }
}

```

After this client will receive a response on his/her browser.

Assignment:

1.0. Modify the above program and take an input of two numbers and submit it to the second JSP file which may simply add and print the values of the result.

1.1 Create a below JSP web form to take input and submit it to servlet file which may simply print the values of below form submission.

Name :	<input type="text"/>
Password :	<input type="password"/>
Gender :	<input type="radio"/> Male <input type="radio"/> Female
Email :	<input type="text"/>
Phone no :	977 ▼ <input type="text"/>
<input type="button" value="Submit"/>	

Objective 2:

Assignment:

2.0 How can cookies be created and processed using servlet and JSP? Explain with suitable examples.

- **index.jsp**

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Index</title>
</head>
<body>

    <h2>JSP Tags Demo</h2>

    <hr>

    <p style="color: red; font-weight: bold;">JSP Comments</p>
    <!-- Below code for addition -->

    <hr>
    <p style="color: green; font-weight: bold;">&u>Scriptlet Tag</p>

    <%
    int a = 10;
    int b = 20;
    int c = a + b;
    out.println("Sum of a " + a + " and b " + b + " is " + " : " + c);
    %>

    <hr>

    <p style="color: red; font-weight: bold;">JSP Declaration Tag</p>

    <%!public int add(int a, int b) {
        return a + b;
    }%>
    <%
    out.println(add(6, 10));
    %>

    <hr>
    <p style="color: green; font-weight: bold;">Expression Tag</p>
    <%
    String data = null;
    if (data == null) {
        data = "Texas College";
    }
    %>

    <%=data%>
```

```

<hr>
<p style="color: green; font-weight: bold;">Directive Tag</p>

<%@ page language="java" contentType="text/html; charset=ISO-8859-1" %>
<%@ include file = "Header.jsp" %>

<br>

</body>
</html>

```

- Header.jsp

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>

```

Home || About US || LogOut

```

</body>
</html>

```

- Web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_4_0.xsd" id="WebApp_ID" version="4.0">
    <display-name>JSPTagesDemo</display-name>
    <welcome-file-list>
        <welcome-file>index.jsp</welcome-file>
    </welcome-file-list>
</web-app>

```

2.1. Execute the above program and explain all the JSP tags in details.