



CSM3023 WEB APPLICATION DEVELOPMENT (K1)

SEMESTER IV, SESSION 2023/2024

**LAB 3 : JSP: SCRIPLET, PAGE DIRECTIVE &
INCLUDE DIRECTIVE**

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Task 1: Passing Data from Main JSP's Page to Other JSP's Page

Code:

memberRegister.jsp:

```
Source History ViewServlet.java EditServlet.java EditServlet2.java DeleteServlet.java User.java UserDAO.java index.html memberRegister.jsp
10 <head>
11 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12 <title>JSP Page</title>
13 </head>
14
15 <body>
16 <h1>Passing data from main JSP's page to other JSP's page </h1>
17 <form id="memberForm" action="memberProcessing.jsp" method="post" onsubmit="return checkICNO ()">
18 <fieldset>
19 <legend>Member Registration</legend>
20 <label for="invoiceNo">IC No *</label>
21 <input type="text" id="icno" name="my_icno" size="15" placeholder="E.g. 921012101245"><br/>
22
23 <label for="name">Name</label>
24 <input type="text" id="name" name="my_name" size="45" placeholder="Key-in your name"><br/>
25
26 <p><input type="submit" id="btnSubmit" value="Submit"/>
27 <input type="reset" id="btnCancel" value="Cancel"/>
28 </p>
29 </fieldset>
30 </form>
31 </body>
32
33
```

memberProcessing.jsp:

```
Source History EditServlet.java EditServlet2.java DeleteServlet.java User.java UserDAO.java index.html memberRegister.jsp memberProcessing.jsp
6 <%@page contentType="text/html" pageEncoding="UTF-8"%>
7 <!DOCTYPE html>
8 <html>
9
10 <head>
11 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12 <title>Lab 3 - Task 1</title>
13 </head>
14 <body>
15 <h1>Passing data from main JSP's page to other JSP's page.</h1>
16
17 <fieldset>
18 <%
19
20 String myIC = null;
21 String myName = null;
22
23 myIC = request.getParameter ("my_icno");
24 myName = request.getParameter ("my_name");
25 %>
26
27 <p>Thank you for registering in this event..!</p>
28 <p>This is your details;</p>
29 <p>IC No: <%=myIC%></p>
30 <p>Name : <%=myName%></p>
31 </fieldset>
32 </body>
33 </html>
34
```

Output:

```
Output
Apache Tomcat or TomEE Log Lab2 (compile-single-jsp)
at org.apache.jasper.JspC.setCompilerSourceVM(JspC.java:684)
at org.netbeans.modules.web.project.ant.JspC.main(JspC.java:55)
at org.netbeans.modules.web.project.ant.JspCSingle.main(JspCSingle.java:94)
C:\[S653021]\Lab 2\Lab2\nbproject\build-impl.xml:921: The following error occurred while executing this line:
BUILD FAILED (total time: 0 seconds)
```

Reflection:

1. How do you want to submit specific information from one form to next form?

```
<!-- memberRegister.jsp -->
<form action="memberProcessing.jsp" method="post">
    Name: <input type="text" name="name"><br>
    Email: <input type="text" name="email"><br>
    <input type="submit" value="Submit">
</form>

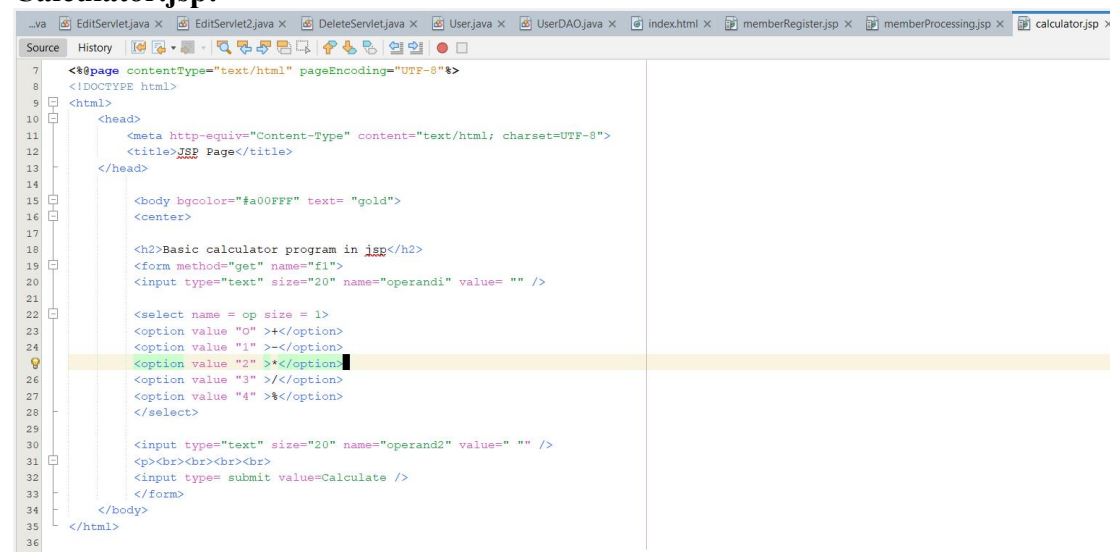
<!-- memberProcessing.jsp -->
<p>Name: <%= request.getParameter("name") %></p>
<p>Email: <%= request.getParameter("email") %></p>
```

2. What happened if the field name you specify in request.getParameter("field_name") in second page is different from the field name you defined in first page?
It will return null.

Task 2: Using Mathematics Operations in JSP

Code:

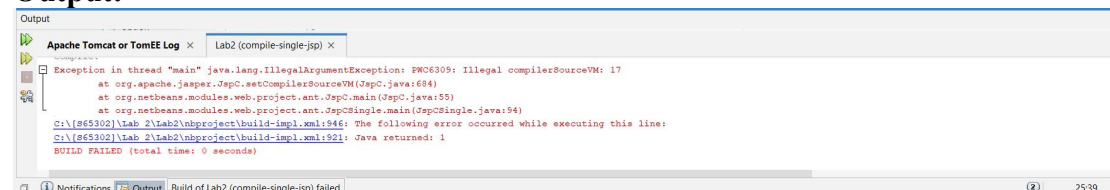
Calculator.jsp:



```
7 <%%page contentType="text/html" pageEncoding="UTF-8"%>
8 <!DOCTYPE html>
9 <html>
10 <head>
11 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12 <title>JSP Page</title>
13 </head>
14 <body bgcolor="#a00fff" text="gold">
15 <center>
16
17
18 <h2>Basic calculator program in jsp</h2>
19 <form method="get" name="f1">
20 <input type="text" size="20" name="operandi" value=" " />
21
22 <select name="op" size="1">
23 <option value "+">+</option>
24 <option value "-">-</option>
25 <option value "*">*</option>
26 <option value "/">/</option>
27 <option value "<div data-bbox="144 692 221 710" data-label="Section-Header">

### Output:


```



```
Output
Apache Tomcat or TomEE Log x Lab2 (compile-single-jsp) x
Exception in thread "main" java.lang.IllegalArgumentException: PWC6305: Illegal compilerSourceVM: 17
    at org.apache.jasper.JspC.setCompilerSourceVM(JspC.java:684)
    at org.netbeans.modules.web.project.ant.JspC.main(JspC.java:55)
    at org.netbeans.modules.web.project.ant.JspCSingle.main(JspCSingle.java:94)
C:\[se6302]\Lab 2\Lab2\project\build-impl.xml:946: The following error occurred while executing this line:
C:\[se6302]\Lab 2\Lab2\project\build-impl.xml:921: Java returned: 1
BUILD FAILED (total time: 0 seconds)
(2) 2539
```

Calculator.jsp(Add additional HTML's tag and Java scriplet):

```
Source History
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <!DOCTYPE html>
9 <html>
10 <head>
11 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12 <title>JSP Page</title>
13 </head>
14 <body bgcolor="#00FFFF" text="gold"> <center>
15 <h2>Basic calculator program in jsp</h2>
16 <form method="get" name="f1">
17 <input type="text" size="20" name="operand1" value = <%= num1 %> />
18 <select name = op size = 1>
19 <option value= "0" >+</option>
20 <option value= "1" >-</option>
21 <option value= "2" >*</option>
22 <option value= "3" >/</option>
23 <option value= "4" >^</option>
24 </select>
25
26 <input type="text" size="20" name="operand2" value = <%= num2 %> />
27 <p>
28 <input type= submit value= Calculate/>
29
30 Result = <%= result + " " %>
31 </form>
32
33 <fieldset>
34 <%
35 String num1= "0", num2="0";
36 int result = 0;
37 String op = "+";
38
39 char opchar op.charAt(0);
40 if (request.getParameter ("op") != null) {
41 op = request.getParameter ("op");
42 opchar = op.charAt(0);
43
44 num1 = request.getParameter ("operand1");
45 num2 = request.getParameter ("operand2");
46
47 switch (opchar) {
48 case '0': result = Integer.parseInt(num1) + Integer.parseInt(num2);
49 break;
50 case '1': result = Integer.parseInt(num1) - Integer.parseInt(num2);
51 break;
52 case '2': result = Integer.parseInt(num1) * Integer.parseInt(num2);
53 break;
54 case '3': result = Integer.parseInt(num1) / Integer.parseInt(num2);
55 break;
56 case '4': result = Integer.parseInt(num1) ^ Integer.parseInt(num2);
57 break;
58 }
59 }
60 Result = <%= result + " " %>
61 </fieldset>
62 </body>
63 </html>
64
65
```

Output:

```
Output - Lab2 (compile-single-jsp)
6
7 compile:
8 Created dir: C:\[865302]\Lab 2\Lab2\build\generated\src
9 Exception in thread "main" java.lang.IllegalArgumentException: PWC6308: Illegal compilerSourceVM: 17
10 at org.apache.jasper.JspC.setCompilerSourceVM(JspC.java:684)
11 at org.netbeans.modules.web.project.ant.JspC.main(JspC.java:55)
12 at org.netbeans.modules.web.project.ant.JspCSingle.main(JspCSingle.java:94)
13 C:\[865302]\Lab 2\Lab2\build\impl.xml:946: The following error occurred while executing this line:
14 C:\[865302]\Lab 2\Lab2\build\impl.xml:921: Java returned: 1
15 BUILD FAILED (total time: 1 second)
16
17 Notifications Output
```

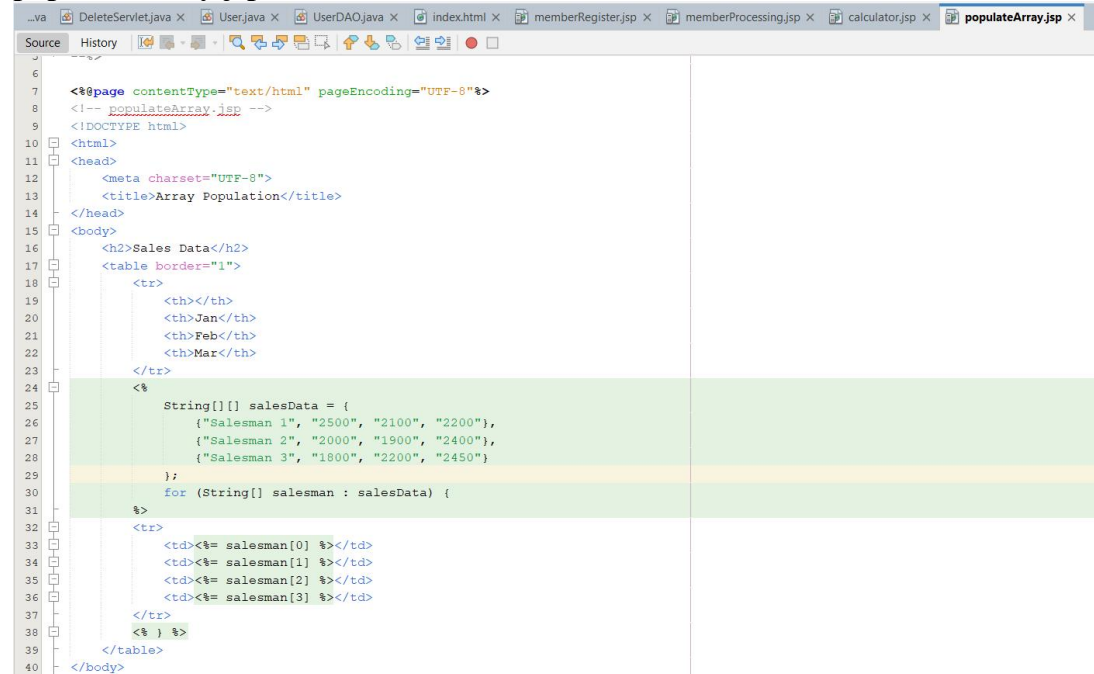
Reflection:

1. How do you want to submit specific information from one form to next form?
Use a <form> tag with action attribute pointing to the next JSP page (form2.jsp) and method="post".
2. What happened if the field name you specify in request.getParameter("field_name") in second page is different from the field name you defined in first page?
It will return null because the parameter name doesn't match any submitted form field.

Task 3: Populate an Array Values into HTML's Table

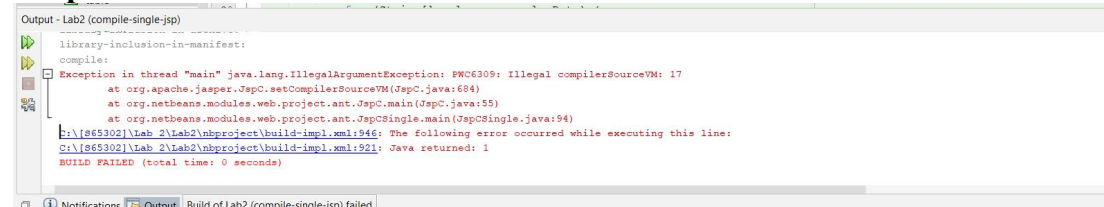
Code:

populateArray.jsp:



```
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <!-- populateArray.jsp -->
9 <!DOCTYPE html>
10 <html>
11 <head>
12 <meta charset="UTF-8">
13 <title>Array Population</title>
14 </head>
15 <body>
16 <h2>Sales Data</h2>
17 <table border="1">
18 <tr>
19 <th></th>
20 <th>Jan</th>
21 <th>Feb</th>
22 <th>Mar</th>
23 </tr>
24 <%
25     String[][] salesData = {
26         {"Salesman 1", "2500", "2100", "2200"},
27         {"Salesman 2", "2000", "1900", "2400"},
28         {"Salesman 3", "1800", "2200", "2450"}
29     };
30     for (String[] salesman : salesData) {
31 <%
32 <tr>
33 <td><%= salesman[0] %></td>
34 <td><%= salesman[1] %></td>
35 <td><%= salesman[2] %></td>
36 <td><%= salesman[3] %></td>
37 </tr>
38 <% } %>
39 </table>
40 </body>
```

Output:



```
Output - Lab2 (compile-single-jsp)
library-inclusion-in-manifest:
compile:
Exception in thread "main" java.lang.IllegalArgumentException: FWC6309: Illegal compilerSourceVM: 17
    at org.apache.jasper.JspC.setCompilerSourceVM(JspC.java:684)
    at org.netbeans.modules.web.project.ant.JspC.main(JspC.java:55)
    at org.netbeans.modules.web.project.ant.JspCSingle.main(JspCSingle.java:94)
E:\65302\Lab_2\Lab2\src\project\build-impl.xml:946: The following error occurred while executing this line:
C:\1\65302\Lab_2\Lab2\src\project\build-impl.xml:921: Java returned: 1
BUILD FAILED (total time: 0 seconds)
```

Reflection:

1. Write a sample syntax to declare 2D Java array.

int[][] twoDimensionalArray = new int[3][4];

2. Define a sequence of steps on how you accomplish Task 3.

- Create 'populateArray.jsp'.
- Define HTML structure.
- Declare and populate a 2D array using Java scriptlets.
- Display data in an HTML table using a loop.
- Compile the JSP file.

3. What is the difference between HTML's page and JSP's page

HTML pages are static, define page structure with markup while JSP pages are dynamic, embed Java code within HTML for server-side processing.

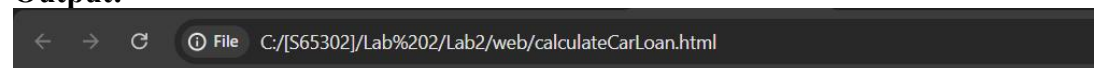
Task 4: Perform Calculation of Car Loan

Code:

calculateCarLoan.html:

```
1 <!DOCTYPE html>
2 ...4 lines
6 <html>
7 <head>
8 <title>calculate Car Loan</title>
9 </head>
10 <body>
11 <h2>Car Loan Calculator</h2>
12 <form action="loanProcessing.jsp" method="post">
13 <label for="loanAmount">Loan Amount:</label>
14 <input type="text" id="loanAmount" name="loanAmount"><br><br>
15
16 <label for="loanPeriod">Loan Period:</label>
17 <select id="loanPeriod" name="loanPeriod">
18 <option value="1">1 year</option>
19 <option value="2">2 years</option>
20 <option value="3">3 years</option>
21 <option value="4">4 years</option>
22 <option value="5">5 years</option>
23 </select><br><br>
24
25 <input type="submit" value="Calculate">
26 <input type="button" value="Cancel" onclick="window.history.back();">
27 </form>
28 </body>
29 </html>
30
```

Output:



Car Loan Calculator

Loan Amount:

Loan Period:

1 year
1 year
2 years
3 years
4 years
5 years

Calculate

Reflection:

1. How you want to retrieve data from previous page?

<%

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

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

%>

2. Where the construction of logic occur for calculating Total Loan (+ interest) ?

Task 5: Using JSP Page Directive to Call Java API

Code:

ArrayList.jsp:

```
7 <%%page contentType="text/html" pageEncoding="UTF-8"%>
8 <%%page import="java.util.ArrayList"%>
9 <!DOCTYPE html>
10 <html>
11 <head>
12 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
13 <title>Use Java ArrayList</title>
14 </head>
15 <body>
16 <h1>Use JSP Directive</h1>
17 <%
18     ArrayList<String> studentList = new ArrayList<String>();
19
20     studentList.add(0, "Mohamad Azam");
21     studentList.add(1, "Peter Chong");
22     studentList.add(2, "Rahimah Mansor");
23     studentList.add(3, "Sri Devi");
24     studentList.add(4, "Ng Hue Ween");
25     studentList.add(5, "S.Nagarajan");
26
27     out.println("<p>The number of records in ArrayList are " + studentList.size() + "</p>");
28
29     for (int i = 0; i < studentList.size(); i++) {
30         out.println("<p>Record " + (i+1) + " is " + studentList.get(i) + "</p>");
31     }
32 %>
33 <br/>
34 <footer>&copy; 2024 - Saidatul Athirah</footer>
35 </body>
36 </html>
37
```

Output:

```
Output - Lab2 (compile-single-jsp)
...
BUILD FAILED (total time: 2 seconds)
```

Reflection:

1. What you have learnt from this exercise?

I learned how to use Java ArrayLists in JSP and implement basic control structures like loops.

2. Write a sample syntax how you want to use java Math object in JSP?

```
<%
    double number = 25.5;
    double squareRoot = Math.sqrt(number);
%>
```

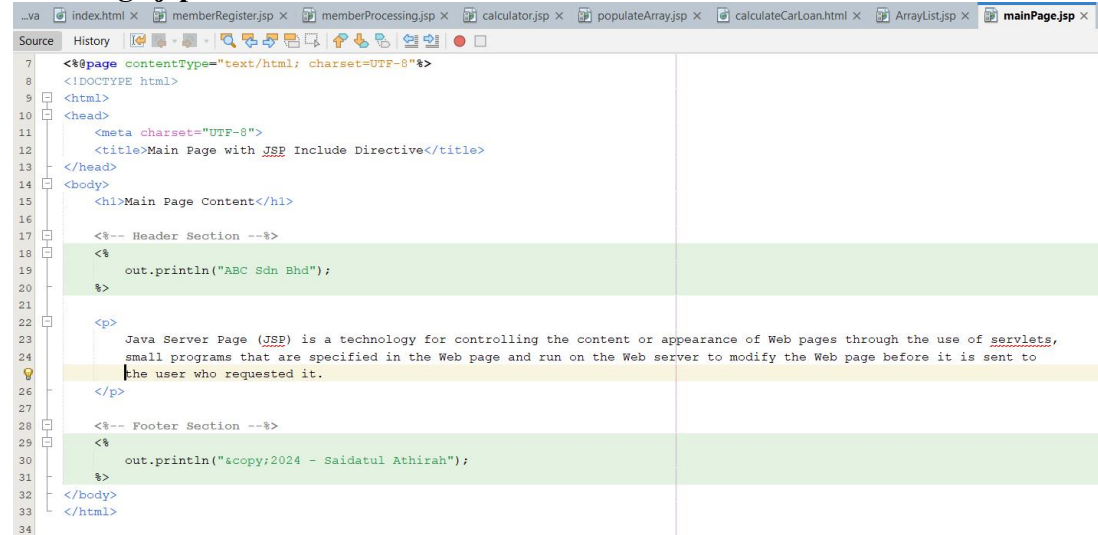
3. List and write a sample syntax for THREE (3) of JSP page directive.

- 'page': <%@page contentType="text/html; charset=UTF-8" %>
- 'include': <%@include file="header.jsp" %>
- 'taglib': <%@taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>

Task 6: Use JSP Include directive for JSP Page

Code:

mainPage.jsp:



```
7 <%%page contentType="text/html; charset=UTF-8"%>
8 <!DOCTYPE html>
9 <html>
10 <head>
11 <meta charset="UTF-8">
12 <title>Main Page with JSP Include Directive</title>
13 </head>
14 <body>
15 <h1>Main Page Content</h1>
16
17 <!-- Header Section -->
18 <%
19 out.println("ABC Sdn Bhd");
20 %>
21
22 <p>
23 Java Server Page (JSP) is a technology for controlling the content or appearance of Web pages through the use of servlets,
24 small programs that are specified in the Web page and run on the Web server to modify the Web page before it is sent to
25 the user who requested it.
26 </p>
27
28 <!-- Footer Section -->
29 <%
30 out.println("&copy;2024 - Saidatul Athirah");
31 %>
32 </body>
33 </html>
34
```

Reflection:

1. What you have learnt from this exercise?

I learned to use JSP include directives and Java scriptlets effectively.

2. Write a syntax how you want to include common.html file that located at a directory known as master.

<%@include file="/master/common.html" %>