

<b>Ex. No: 3_1</b>	<b>Write down the Program which displays the simple JSP file.</b>
<b>Date:</b>	

**Objective:** To understand the basics of JSP syntax and create a dynamic web page using JSP.

**Code:**

**INDEX.HTML:**

```
<!DOCTYPE html>
<!--
Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this
license
Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this template
-->
<html>
<head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<form action="first.jsp">
    Enter Name:-<input type="text" name="txtnm"/>
    <input type="submit" value="click"/>
</form>
</body>
</html>
```

**first.jsp:**

```
<%--
Document : first
Created on : 23-Oct-2024, 11:13:15 am
Author : eshu
--%>

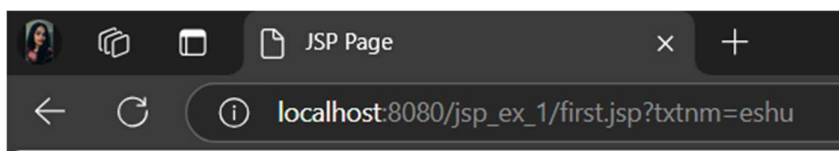
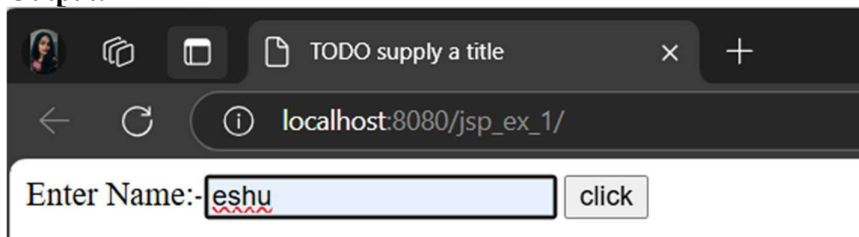
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
</head>
<body>
    <%
        out.println("hello " + request.getParameter("txtnm") + " from scriplet");
    %>
```

```
<br><br>  
output from expression tag is <%= java.util.Calendar.getInstance().getTime()%>
```

```
<br><br>  
<%! int rollno = 98; %>  
<%= "your rollno is " + rollno + " declared using declaration tag" %>
```

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

**Output:**



hello eshu from scriplet

output from expression tag is Thu Nov 28 19:10:32 IST 2024

your rollno is 9 declared using declaration tag

<b>Ex. No: 3_2</b>	<b>Perform Database Access through JSP. Use session object to perform any one database operation.</b>
<b>Date:</b>	

**Objective:** To establish a connection between JSP and a database, and perform CRUD operations while maintaining session management.

**Code:**

**INDEX.HTML:**

```
<!DOCTYPE html>
<!--
Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this
template
-->
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <a href="login.jsp">Login Page</a>
  </body>
</html>
```

**login.jsp:**

```
<%--
Document : login.jsp
Created on : 16-Nov-2024, 10:02:33 am
Author : dharm
--%>
<%@ page import="java.sql.*" %>
<%@ page language="java" %>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Login Page</title>
  </head>
  <body>
    <h1>Login</h1>
    <form method="POST" action="login.jsp">
```

```
Username: <input type="text" name="username" required><br>
Password: <input type="password" name="password" required><br>
<input type="submit" value="Login">
</form>

<%
String username = request.getParameter("username");
String password = request.getParameter("password");

if (username != null && password != null) {
    try {
        Class.forName("com.mysql.jdbc.Driver");
        Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/mu", "root", "");

        String query = "SELECT * FROM users WHERE username = ? AND
password = ?";
        PreparedStatement pstmt = con.prepareStatement(query);
        pstmt.setString(1, username);
        pstmt.setString(2, password);
        ResultSet rs = pstmt.executeQuery();

        if (rs.next()) {
            // Save user details in session
            session.setAttribute("username", username);
            session.setAttribute("fullname", rs.getString("fullname"));
            response.sendRedirect("dashboard.jsp");
        } else {
            out.println("<p>Invalid username or password.</p>");
        }
    }

    con.close();
} catch (Exception e) {
    out.println("Error: " + e.getMessage());
}
}
%>
</body>
</html>
```

**dashboard.jsp:**

```
<%--
Document : dashboard.jsp
Created on : 16-Nov-2024, 10:02:53 am
Author : eshu
--%>
```

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Dashboard JSP Page</title>
</head>
<body>
<h1>Dashboard Page </h1>
<%
String username = (String) session.getAttribute("username");
String fullname = (String) session.getAttribute("fullname");

if (username == null) {
    response.sendRedirect("login.jsp");
} else {
    %>
<h1>Welcome, <%= fullname %>!</h1>
<p>You are logged in as <%= username %>.</p>
<form method="POST" action="logout.jsp">
<input type="submit" value="Logout">
</form>
<%
}
%>
</body>
</html>
```

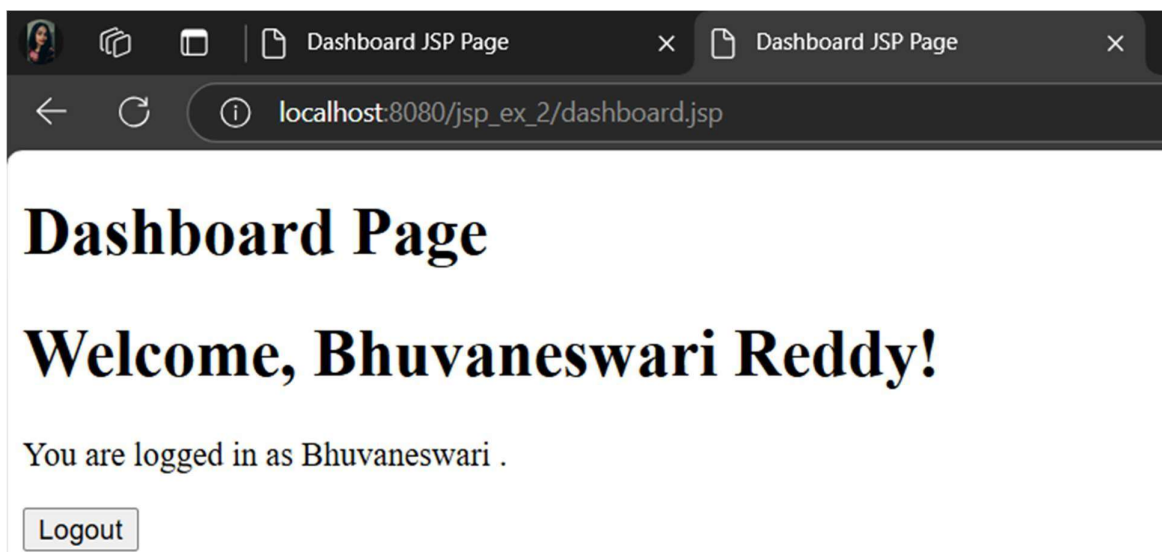
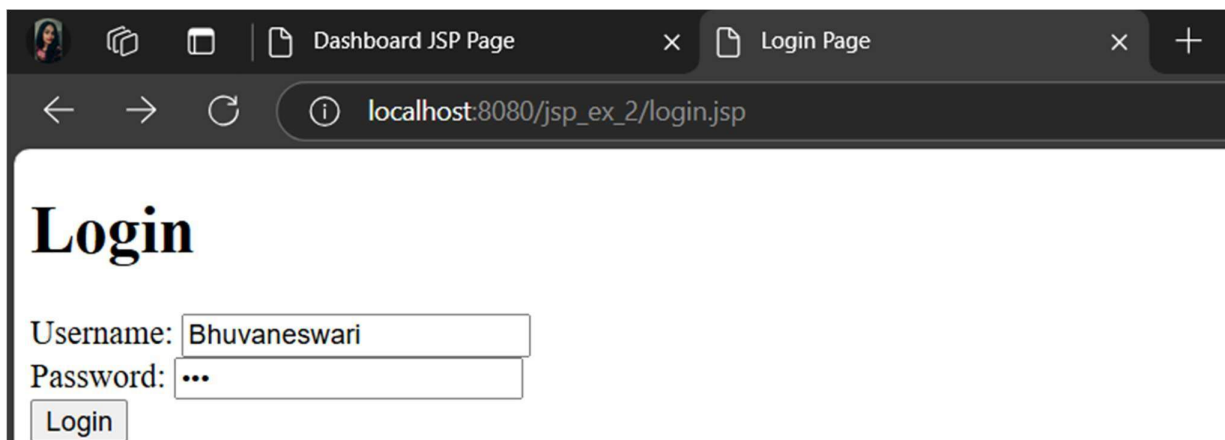
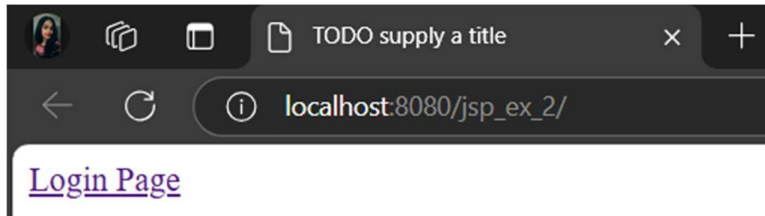
### **logout.jsp:**

```
<%--
Document : logout.jsp
Created on : 16-Nov-2024, 10:05:36 am
Author : eshu
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Logout JSP Page</title>
</head>
<body>
<%
session.invalidate();
response.sendRedirect("login.jsp");
```

```
%>  
</body>  
</html>
```

**Output:**



<b>Ex. No: 3_3</b>	<b>Write down the Program for testing the include and forward action tag in JSP file.</b>
<b>Date:</b>	

**Objective:** To demonstrate the use of JSP action tags `<jsp:include>` and `<jsp:forward>` for including content and forwarding requests.

**Code:**

**INDEX.HTML:**

```
<!DOCTYPE html>
<!--
Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this
template
-->
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <a href="forward.jsp">forward action tag demo</a><br>
    <a href="include.jsp">include action tag demo</a>
  </body>
</html>
```

**forward.jsp:**

```
<%--
Document : forward
Created on : 13-Nov-2024, 11:17:57 am
Author : eshu
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body>
    <h1>This is forward JSP page</h1>
    <jsp:forward page="display.jsp">
```

```
<jsp:param name="uname" value="bhuvaneswari"></jsp:param>
</jsp:forward>
</body>
</html>
```

**include.jsp:**

```
<%--
Document : include
Created on : 13-Nov-2024, 11:18:10 am
Author : eshu
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>JSP Page</title>
</head>
<body>
<h1>This is include JSP page</h1>
<jsp:include page="display.jsp">
<jsp:param name="uname" value="bhuvaneswari"></jsp:param>
</jsp:include>
</body>
</html>
```

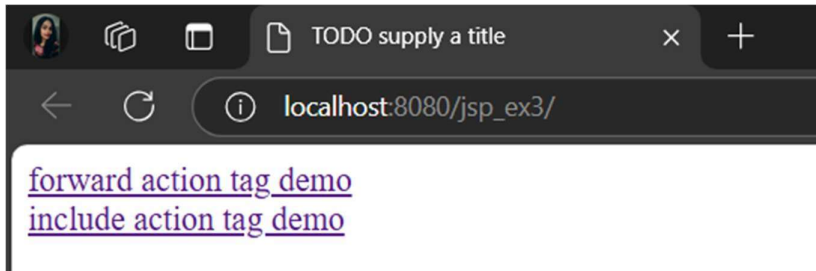
**display.jsp:**

```
<%--
Document : display
Created on : 13-Nov-2024, 11:25:58 am
Author : eshu
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>JSP Page</title>
</head>
<body>
<h1>This is Display jsp page</h1>
<br>
Hello <%= request.getParameter("uname")%>
</body>
</html>
```



Output:



<b>Ex. No: 3_4</b>	<b>Write down a program which demonstrates the core tag of JSTL.</b>
<b>Date:</b>	

**Objective:** To explore the core tags in JSTL for simplifying common tasks like conditionals, loops, and variable handling.

**Code:**

**INDEX.HTML:**

```
<!DOCTYPE html>
<!--
Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this
template
-->
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <a href="core.jsp">JSTL Core Tag Demo</a>
  </body>
</html>
```

**core.jsp:**

```
<%--
Document : core
Created on : 13-Nov-2024, 11:46:57 am
Author : eshu
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body>
    <c:out value="${'Welcome to Marwadi University JSTL Learning'}"/>
```

```
<c:set var="Income" scope="session" value="{4000*4}"/>
<br>
Value of income before Remove <c:out value="{Income}"/>

<c:remove var="Income" />
<br>
Value of income before Remove<c:out value="{Income}"/>

<%!
    int num1=10;
    int num2=2;
%>

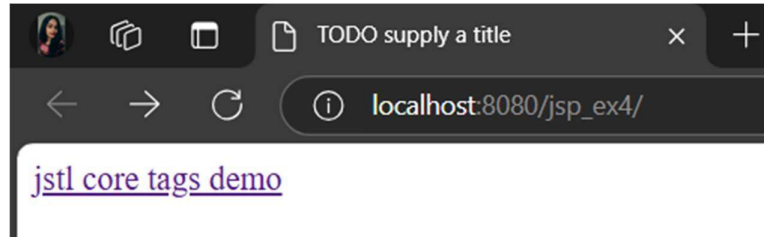
<c:catch var="myerror">
    <br>
    <%
        int ans=num1/num2;
        out.println("Answer is " +ans);
    %>
</c:catch>

<c:if test="{myerror != null}">
    <br> An error occurred {myerror}
</c:if>
    <br>
    <c:set var="age" value="16"/>

    <c:if test="{age >= 18}">
        <c:out value="You are eligible for voting!"/>
    </c:if>

    <c:if test="{age < 18}">
        <c:out value="You are not eligible for voting!"/>
    </c:if>
</body>
</html>
```

**Output:**



<b>Ex. No: 3_5</b>	<b>Write down a program which demonstrates the Format tag of JSTL.</b>
<b>Date:</b>	

**Objective:** To demonstrate the use of JSTL format tags for formatting dates, numbers, and other values.

**Code:**

**INDEX.HTML:**

```
<!DOCTYPE html>
<!--
Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this template
-->
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <form method=post action="formatting.jsp">
      <pre>
        <b>Number : <input type="text" name="mynumber"/>
        <input type="submit" value="Format Number"/>
      </b>
      </pre>
    </form>
  </body>
</html>
```

**formatting.jsp:**

```
<%--
Document : formatting
Created on : 18 Nov 2024, 11:12:04 am
Author : eshu
--%>

<%@page contentType="text/html" pageEncoding="UTF-8" import="java.util.*"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
```

```

<title>JSP Page</title>
</head>
<body>

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

<c:set var="Amount" value="{param.mynumber}"/>
My Number:<b><c:out value="{Amount}"/></b> <br/>
    Formatting Entered Number: <br/><br/>

<fmt:formatNumber value="{Amount}" type="currency" /></p>
<p>Formatted Number-2 grouping :
<fmt:formatNumber type="number" groupingUsed="true" value="{Amount}" /></p>
<p>Formatted Number-3 max integer digit 3:
<fmt:formatNumber type="number" maxIntegerDigits="3" value="{Amount}" /></p>
<p>Formatted Number-4 max fraction digit 6:
<fmt:formatNumber type="number" maxFractionDigits="6" value="{Amount}" /></p>
<p>Formatted Number-5 pattern:
<fmt:formatNumber type="number" pattern="###.###$" value="{Amount}" /></p>

<h2>Different Formats of the Date</h2>

<c:set var="Date" value="<%=new java.util.Date()%>" />
<p> Formatted Time : <fmt:formatDate type="time" value="{Date}" /> </p>
<p> Formatted Date : <fmt:formatDate type="date" value="{Date}" /> </p>
<p> Formatted Date and Time : <fmt:formatDate type="both" value="{Date}" /> </p>
<p> Formatted Date and Time in short style : <fmt:formatDate type="both" dateStyle="short"
timeStyle="short" value="{Date}" /> </p>
<p> Formatted Date and Time in medium style : <fmt:formatDate type="both"
dateStyle="medium" timeStyle="medium" value="{Date}" /> </p>
<p> Formatted Date and Time in long style : <fmt:formatDate type="both" dateStyle="long"
timeStyle="long" value="{Date}" /> </p>

<c:set var="str" value="<%=new java.util.Date()%>" />
<table border="2" width="100%">
<tr>
<td width="100%" colspan="2" bgcolor="#FF7F50">
    <p align="center">
        <b>
            <font color="#000000" size="6">Formatting:
            <fmt:formatDate value="{str}" type="both"
            timeStyle="long" dateStyle="long" />
            </font>
        </b>
    </p>
</td>

```

```
</tr>
</body>
</html>
```

### Output:

Number :

My Number: **23567.6789**  
Formatting Entered Number:  
\$23,567.68  
Formatted Number-2 grouping : 23,567.679  
Formatted Number-3 max integer digit 3: 567.679  
Formatted Number-4 max fraction digit 6: 23,567.6789  
Formatted Number-5 pattern: 23567.679\$

**Different Formats of the Date**

Formatted Time : 7:47:48 PM  
Formatted Date : Nov 28, 2024  
Formatted Date and Time : Nov 28, 2024 7:47:48 PM  
Formatted Date and Time in short style :11/28/24 7:47 PM  
Formatted Date and Time in medium style :Nov 28, 2024 7:47:48 PM  
Formatted Date and Time in long style :November 28, 2024 7:47:48 PM IST

Formatting: November 28, 2024 7:47:48 PM IST	
Africa/Abidjan	Nov 28, 2024 2:17:48 PM
Africa/Accra	Nov 28, 2024 2:17:48 PM
Africa/Addis_Ababa	Nov 28, 2024 5:17:48 PM

Africa/Ouagadougou	Nov 28, 2024 2:17:48 PM
Africa/Porto-Novvo	Nov 28, 2024 3:17:48 PM
Africa/Sao Tome	Nov 28, 2024 2:17:48 PM
Africa/Timbuktu	Nov 28, 2024 2:17:48 PM
Africa/Tripoli	Nov 28, 2024 4:17:48 PM
Africa/Tunis	Nov 28, 2024 3:17:48 PM
Africa/Windhoek	Nov 28, 2024 4:17:48 PM
America/Adak	Nov 28, 2024 4:17:48 AM
America/Anchorage	Nov 28, 2024 5:17:48 AM
America/Anguilla	Nov 28, 2024 10:17:48 AM
America/Antigua	Nov 28, 2024 10:17:48 AM
America/Araguaina	Nov 28, 2024 11:17:48 AM
America/Argentina/Buenos Aires	Nov 28, 2024 11:17:48 AM
America/Argentina/Catamarca	Nov 28, 2024 11:17:48 AM
America/Argentina/ComodRivadavia	Nov 28, 2024 11:17:48 AM
America/Argentina/Cordoba	Nov 28, 2024 11:17:48 AM
America/Argentina/Jujuy	Nov 28, 2024 11:17:48 AM
America/Argentina/La Rioja	Nov 28, 2024 11:17:48 AM
America/Argentina/Mendoza	Nov 28, 2024 11:17:48 AM
America/Argentina/Rio Gallegos	Nov 28, 2024 11:17:48 AM
America/Argentina/Salta	Nov 28, 2024 11:17:48 AM
America/Argentina/San Juan	Nov 28, 2024 11:17:48 AM
America/Argentina/San Luis	Nov 28, 2024 11:17:48 AM

<b>Ex. No: 3_6</b>	<b>Write down a program which demonstrates the Function tag of JSTL.</b>
<b>Date:</b>	

**Objective:** To utilize JSTL function tags for performing string manipulations and other utility functions.

**Code:**

**INDEX.HTML:**

```
<!DOCTYPE html>
<!--
Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this
template
-->
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <a href="function.jsp">JSTL Functions</a>
  </body>
</html>
```

**function.jsp:**

```
<%--
Document : function
Created on : 11-Nov-2024, 11:25:19 am
Author : eshu
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body>
    <%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
    <%@ taglib uri="http://java.sun.com/jsp/jstl/functions" prefix="fn" %>

    <h2>Using various JSTL 1.2 functions</h2><br></br>
```



```
<h3>Test String :Example showing usage of JSTL functions</h3>

<c:set var="str" value="Hello bhuvana... Example showing usage of JSTL
functions"/>
The length of the test String: ${fn:length(str)}<br />
Does the test String contain "JSTL"? ${fn:contains(str,"JSTL")}<br />
Does the test String contain "jstl"? ${fn:contains(str,"jstl")}<br />
Does the test String contain "jstl"? ${fn:containsIgnoreCase(str,"jstl")}<br />
<br>
Putting the String into upper case using fn:toUpperCase():
${fn:toUpperCase(str)}<br />
<br>
Putting the String into upper case using fn:toLowerCase():
${fn:toLowerCase(str)}<br />

<br>
Does the string starts with "Example" ? fn:startsWith()
${fn:startsWith(str,"Example")}
<br>
Does the string ends with "FUNCTIONS" ? fn:startsWith()
${fn:endsWith(str,"FUNCTIONS")}
<br>
Does the string starts with "Hello" ? fn:startsWith() ${fn:startsWith(str,"Hello")}
<br>
Does the string ends with "functions" ? fn:startsWith()
${fn:endsWith(str,"functions")}
<br><!-- comment -->
The index of "usage" in the test string fn:indexOf() ${fn:indexOf(str,"usage")}
<br>
Substring Before "usage" ${fn:substringBefore(str,"usage")}
<br>
Substring after "usage" ${fn:substringAfter(str,"usage")}
<br><!-- comment -->
Substring from 5 to 15 ${fn:substring(str,5,16)}
<br><!-- comment -->
Original String <c:out value="${str}"></c:out>
<br>
Replace "JSTL" with "JSP Standard Tag Library" ${fn:replace(str,"JSTL","JSP
Standard Tag Library")}
<c:set var="mystr" value="  bhuvana  "/>
<br>Length of my str : ${fn:length(mystr)}
<br>Length of my str after trim: ${fn:length(fn:trim(mystr))}

<br>

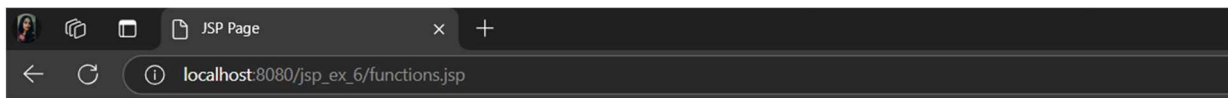
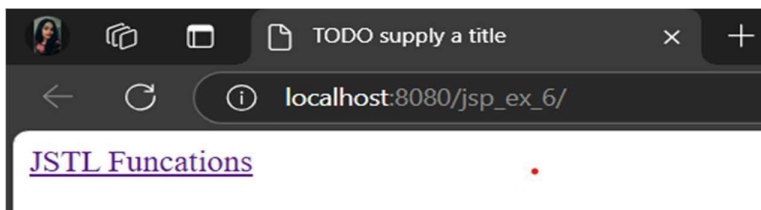
<c:set var="str1" value="Welcome-to-bhuvana's-JSP-Programming."/>
<c:set var="str2" value="${fn:split(str1, '-')}"/>
```

```
<c:set var="str3" value="\${fn:join(str2, ' ')}" />

<p>String-3 : ${str3}</p>
<c:set var="str4" value="\${fn:split(str3, ' ')}" />
<c:set var="str5" value="\${fn:join(str4, '-')}" />

<p>String-5 : ${str5}</p>
</body>
</html>
```

### Output:



### Using various JSTL 1.2 functions

#### Test String :Example showing usage of JSTL functions

The length of the test String: 53  
Does the test String contain "JSTL"? true  
Does the test String contain "jstl"? false  
Does the test String contain "jstl"? true

Putting the String into upper case using fn:toUpperCase(): HELLO BHUVANA EXAMPLE SHOWING USAGE OF JSTL FUNCTIONS

Putting the String into upper case using fn:toLowerCase(): hello bhuvana example showing usage of jstl functions

Does the string starts with "Example" ? fn:startsWith() false  
Does the string ends with "FUNCTIONS" ? fn:startsWith() false  
Does the string starts with "Hello" ? fn:startsWith() true  
Does the string ends with "functions" ? fn:startsWith() true  
The index of "usage" in the test string fn:indexOf() 30  
Substring Before "usage" Hello bhuvana Example showing  
Substring after "usage" of JSTL functions  
Substring from the index 5 to 15 bhuvana Ex  
Original String Hello bhuvana Example showing usage of JSTL functions  
Replace "JSTL" with "JSP Standard Tag Library" Hello bhuvana Example showing usage of JSP Standard Tag Library functions  
Length of my str : 16  
Length of my str after trim: 10

String-3 : Welcome to bhuvana's JSP Programming.

String-5 : Welcome-to-bhuvana's-JSP-Programming.

<b>Ex. No: 3_7</b>	<b>Write down a program which demonstrates the SQL tag of JSTL.</b>
<b>Date:</b>	

**Objective:** To interact with a database using JSTL SQL tags and perform operations such as querying and updating data.

**Code:**

**INDEX.HTML:**

```
<!DOCTYPE html>
```

```
<!--
```

Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license

Click nbfs://nbhost/SystemFileSystem/Templates/JSP\_Servlet/Html.html to edit this template

```
-->
```

```
<html>
```

```
  <head>
```

```
    <title>Student Form</title>
```

```
    <meta charset="UTF-8">
```

```
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  </head>
```

```
  <body>
```

```
    <h1>Student Information Form</h1>
```

```
    <form action="sql.jsp" method="get">
```

```
      Enter Name: <input type="text" name="txtnm" required />
```

```
      <br>
```

```
      Enter Department: <input type="text" name="txtdept" required />
```

```
      <br>
```

```
      Enter Result: <input type="number" step="0.01" name="txtres" required />
```

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

```
      <input type="submit" value="Add Record" />
```

```
    </form>
```

```
  </body>
```

```
</html>
```

**Sql.jsp:**

```
<%--
```

```
  Document : sql
```

```
  Created on : 26 Nov 2024, 9:22:50 pm
```

```
  Author : eshu
```

```
--%>
```

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

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

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

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/fmt" prefix="fmt" %>
<!DOCTYPE html>
<html>
  <head>
    <title>Student Records</title>
  </head>
  <body>
    <h1>Student Records</h1>

    <sql:setDataSource var="db" driver="com.mysql.cj.jdbc.Driver"
      url="jdbc:mysql://localhost:3306/mu"
      user="root" password="" />
    <c:set var="Sname" value="{param.txtnm}" />
    <c:set var="Dept" value="{param.txtdept}" />
    <c:set var="Sresult" value="{param.txtres}" />
    <fmt:parseNumber var="Result" type="number" value="{Sresult}" />

    <p>Student Name: <c:out value="{Sname}" /></p>
    <p>Department: <c:out value="{Dept}" /></p>
    <p>Result: <c:out value="{Result}" /></p>

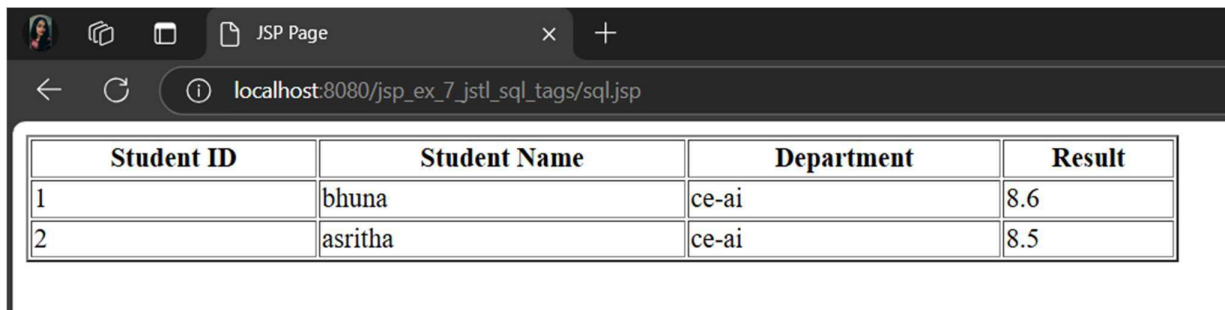
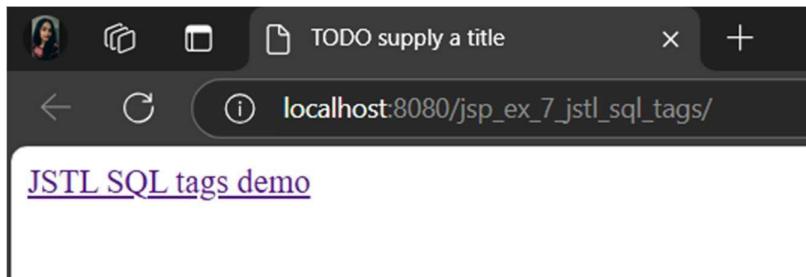
    <sql:update dataSource="{db}" var="count">
      INSERT INTO sdetails (sname, dept, result) VALUES ('{Sname}', '{Dept}', {Result});
    </sql:update>
    <p>Record Added Successfully. Rows affected: <c:out value="{count}" /></p>

    <sql:query dataSource="{db}" var="rs">
      SELECT * FROM sdetails;
    </sql:query>

    <table border="1" cellpadding="5" cellspacing="0">
      <thead>
        <tr>
          <th>Student ID</th>
          <th>Student Name</th>
          <th>Department</th>
          <th>Result</th>
        </tr>
      </thead>
      <tbody>
        <c:forEach var="record" items="{rs.rows}">
          <tr>
            <td><c:out value="{record.sid}" /></td>
            <td><c:out value="{record.sname}" /></td>
            <td><c:out value="{record.dept}" /></td>
            <td><c:out value="{record.result}" /></td>
          </tr>
        </c:forEach>
      </tbody>
    </table>
  </body>
</html>
```

```
</c:forEach>
</tbody>
</table>
</body>
</html>
```

**Output:**



Student ID	Student Name	Department	Result
1	bhuna	ce-ai	8.6
2	asritha	ce-ai	8.5

<b>Ex. No: 3_8</b>	<b>Write down a program which demonstrates the XML tag of JSTL.</b>
<b>Date:</b>	

**Objective:** To parse and work with XML data using JSTL XML tags in JSP applications.

**Code:**

**Index.jsp:**

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

<html>
<head>
  <title>JSTL XML Tag</title>
</head>
<body>
<h2>Books Info:</h2>
<c:import var="bookInfo" url="novels.xml"/>

<x:parse xml="{bookInfo}" var="output"/>
<p>First Book title: <x:out select="$output/books/book[1]/name" /></p>
<p>First Book price: <x:out select="$output/books/book[1]/price" /></p>
<p>Second Book title: <x:out select="$output/books/book[2]/name" /></p>
<p>Second Book price: <x:out select="$output/books/book[2]/price" /></p>

<x:set var="fragment" select="$output/books/book[2]/price"/>
<b>The price of the Tomorrow land book</b>:
<x:out select="$fragment" />
<br>
<x:choose>
  <x:when select="$output//book/author = 'Chetan bhagat'">
    Book is written by Chetan bhagat
  </x:when>
  <x:when select="$output//book/author = 'Brad Bird'">
    Book is written by Brad Bird
  </x:when>
  <x:otherwise>
    The author is unknown...
  </x:otherwise>
</x:choose>

</body>
</html>
```

**Novels.xml:**

```
<books>
<book>
  <name>Three mistakes of my life</name>
  <author>Chetan Bhagat</author>
  <price>200</price>
</book>
<book>
  <name>Tomorrow land</name>
  <author>NUHA</author>
  <price>2000</price>
</book>
</books>
```

**Output:**



<b>Ex. No: 3_9</b>	<b>Write down a program which demonstrates the Tag Handler with appropriate output.</b>
<b>Date:</b>	

**Objective:** To create and implement a custom tag handler in JSP and understand its lifecycle and output rendering.

**Code:**

**BhuvanaTag.java:**

```
package com.example.tags;

import javax.servlet.jsp.JspException;
import javax.servlet.jsp.tagext.TagSupport;
import java.io.IOException;

public class BhuvanaTag extends TagSupport {
    private String name;

    public void setName(String name) {
        this.name = name;
    }

    @Override
    public int doStartTag() throws JspException {
        try {
            pageContext.getOut().write("Hello, " + name + "! I am a custom TAG!!");

        } catch (IOException e) {
            throw new JspException("Error: " + e.getMessage());
        }
        return SKIP_BODY;
    }
}
```

**Index.jsp:**

```
<%--
  Document   : index
  Created on : Nov 29, 2024, 7:12:40 PM
  Author    : Eshu Reddy
--%>

<%@ taglib uri="/WEB-INF/tlds/mytags.tld" prefix="ex" %>
<!DOCTYPE html>
```



```
<html>
  <body>
    <ex:bhuvana name="bhuvana" />
  </body>
</html>
```

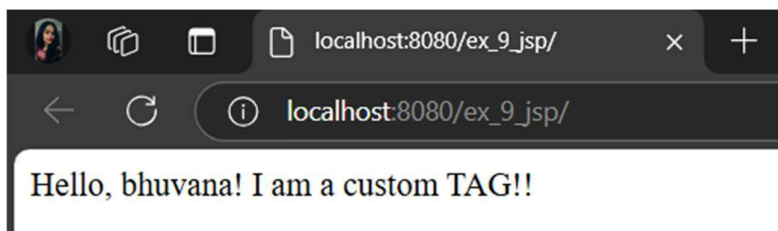
### **MyTags.tld:**

```
<?xml version="1.0" encoding="UTF-8"?>
<taglib xmlns="http://java.sun.com/xml/ns/javaee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
    http://java.sun.com/xml/ns/javaee/web-jsptaglibrary_2_1.xsd"
  version="2.1">

  <tlib-version>1.0</tlib-version>
  <short-name>MyTags</short-name>
  <uri>/WEB-INF/tlds/mytags.tld</uri>

  <tag>
    <name>bhuvana</name>
    <tag-class>com.example.tags.BhuvanaTag</tag-class>
    <body-content>empty</body-content>
    <attribute>
      <name>name</name>
      <required>true</required>
    </attribute>
  </tag>
</taglib>
```

### **Output:**



<b>Ex. No: 3_10</b>	<b>Develop a JSP application to handle error exception.</b>
<b>Date:</b>	

**Objective:** To develop a JSP application capable of managing and displaying user-friendly error messages using exception handling.

**Code:**

**INDEX.HTML:**

```
<!DOCTYPE html>
<!--
Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
Click nbfs://nbhost/SystemFileSystem/Templates/JSP_Servlet/Html.html to edit this
template
-->
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <form action="calc.jsp">
      Enter Number 1:-<input type="text"
name="txtnum1"><br> Enter Number 2:-<input
type="text" name="txtnum2"><br>
    <input type="submit" name="btnop" value="add">
    <input type="submit" name="btnop" value="sub">
    <input type="submit" name="btnop" value="mul">
    <input type="submit" name="btnop" value="div">
  </form>
</body>
</html>
```

**calc.jsp:**

```
<%--
    Document   : calc
    Created on : 23-Oct-2024, 11:57:10 am
    Author    : dharm
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <%@page errorPage="myerrorpage.jsp"%>
        <%
//      try{
        String n1 = request.getParameter("txtnum1");
        int num1 = Integer.parseInt(n1);

        int num2 = Integer.parseInt(request.getParameter("txtnum2"));

        String click = request.getParameter("btnop");
        int answer=0;

        if(click.equals("add"))
            answer = num1+num2;
        else if(click.equals("sub"))
            answer = num1-num2;
        else if(click.equals("mul"))
            answer = num1*num2;
        else if(click.equals("div"))

        answer = num1/num2;

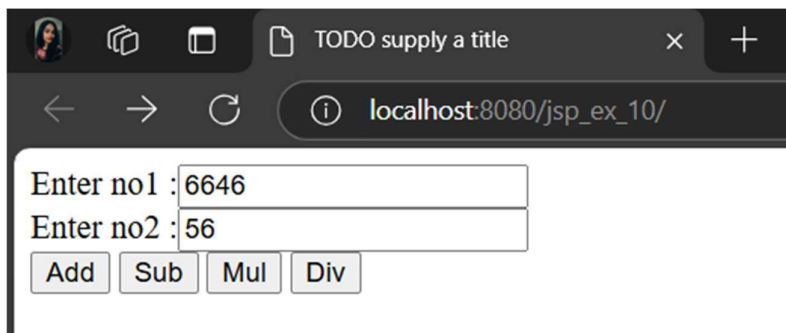
        out.println("answer is: " + answer);
//      }
//      catch(Exception e)
//      {
//          out.println("An error occurred " + e);
//      }
        %>
    </body>
</html>
```

**myerror.jsp:**

```
<%--
    Document : myerrorpage
    Created on : 23-Oct-2024, 12:21:23 pm
    Author : dharm
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <%@page isErrorPage="true"%>
        Sorry an error occurred <%= exception %>
    </body>
</html>
```

**Output:**



The screenshot shows a web browser window with a single tab titled "TODO supply a title". The address bar shows "localhost:8080/jsp\_ex\_10/". The page content includes two input fields: "Enter no1 : 6646" and "Enter no2 : 56". Below these fields are four buttons: "Add", "Sub", "Mul", and "Div".

