# Advanced Java
Assignment – 2

Name – Umme Kulsum | Div – A | Roll no – 25

Web Application development using JSP

1. **Create a Telephone directory using JSP and store all the information within a database, so that later could be retrieved as per the requirement. Make your own assumptions.**

Database table (phone1) :

```
CREATE TABLE phone1
(
id SERIAL PRIMARY KEY, name
varchar(50),
no varchar(50)
);
```
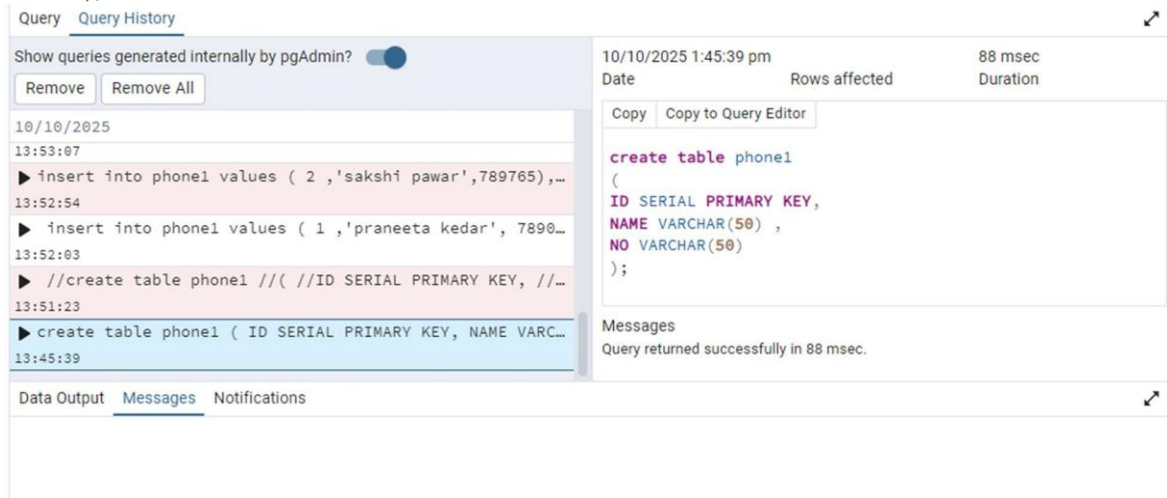

Index.jsp :

```jsp
<% @page import="java.sql.*" %>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";

Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");

if(request.getParameter("delete")!=null)
```

```
{ int
id=Integer.parseInt(request.getParameter("delete"));

PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("delete from phone1 where id=? "); // delete query
pstmt.setInt(1,id); pstmt.executeUpdate(); //execute query

con.close(); //close connection
} }
catch(Exception e)
{
out.println(e);
}
%>
<html>

<head>

<title>JSP Program to Insert, Update, Delete </title>
</head>

<body>

<br>
<br>
<center>
<h1><a href="add.jsp">CLICK HERE TO ADD A NEW MOBILE NUMBER</a></h1>
</center>
<br>
<center>
<table border='1' cellpadding='23'>
</center>
<tr>
<th>ID</th>
<th>NAME</th>
<th>MOBILE NUMBER</th>
<th>UPDATE</th>
<th>DELETE</th>
</tr>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";

Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
```

```
PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("select * from phone1"); //select query

ResultSet rs=pstmt.executeQuery(); //execute query and set in resultset object rs.

while(rs.next())
{
%>
<tr>
<td><%=rs.getInt(1)%></td>
<td><%=rs.getString(2)%></td>
<td><%=rs.getString(3)%></td>
<td><a href="update.jsp?edit=<%=rs.getInt(1)%> ">Edit</a></td>
<td><a  href="?delete=<%=rs.getInt(1)%> ">Delete</a></td>

</tr>
<%
}

}
catch(Exception  e)
{
out.println(e);
}

%>

</table>

</body>

</html>
```

Add.jsp :

```
<%@ page import="java.sql.*" %>

<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";
Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");
```

```
if(request.getParameter("btn_add")!=null) //check button click event not null {
String name,no; name=request.getParameter("txt_name");
//txt_name no=request.getParameter("txt_no");
//txt_owner

PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("insert into phone1(name,no)values(?,?)"); // insert query
pstmt.setString(1,name); pstmt.setString(2,no);
pstmt.executeUpdate(); //execute query    con.close();         //close    connection
out.println("Insert Successfully...! Click Home page.");// after insert record successfully
message

}

} catch(Exception
e)
{
out.println(e);  }

%>

<html>

<head>

<title>JSP:Insert, Update, Delete using MySQL</title>

<!-- javascript for form validation-->
<script>

function validate()
{
var name = document.myform.txt_name;
var no = document.myform.txt_no; if
(name.value == "")
{
window.alert("please enter a name ?");
name.focus(); return false; } if
(no.value == "")
{
window.alert("please enter a mobile number ?");
name.focus(); return false;
}

}

</script>
</head>
<body>
```

```html
<form method="post" name="myform"  onsubmit="return validate();">
<center>
<h1>Insert Record</h1>
</center>
<table>
<tr>
<td><b>Name: </b></td>
<td><input type="text" name="txt_name"></td>
</tr>
<tr>
<td><b>Phone number:</b></td></b>
<td><input type="text" name="txt_no"></td>
</tr>
<tr>
<td><input type="submit" name="btn_add" value="Insert"></td>
</tr>
</table>
<center>
<h1><a href="index.jsp">Home page</a></h1>
</center>

</form>

</body>

</html>
```

Update.jsp :

```jsp
<%@ page import="java.sql.*" %>

<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";

Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");

if(request.getParameter("btn_update")!=null) //check button click event not null
{ int
hide,name,no;;

String name_up,no_up;
```

```
hide=Integer.parseInt(request.getParameter("txt_hide")); //it is hidden id get for update record
name_up=request.getParameter("txt_name"); no_up=request.getParameter("txt_no");
//txt_name


PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("update phone1 set name=?,no=? where id=?"); // update query
pstmt.setString(1,name_up); pstmt.setString(2,no_up); pstmt.setInt(3,hide);
pstmt.executeUpdate(); //execute query

con.close(); //connection close

out.println("Update Successfully...! Click Back link."); //after update record successfully
message
}

} catch(Exception
e)
{
out.println(e);
}
%>

<html>

<head>

<title>JSP:Insert, Update, Delete using MySQL</title>


<!-- javascript for form validation-->
<script>

function validate()
{
var name = document.myform.txt_name;
var no = document.myform.txt_no;

if (rno.value == "")
{
window.alert("please enter name ?");
name.focus(); return false; } if
(name.value == "")
{
window.alert("please enter number ?");
name.focus(); return false;
}
}
```

```
</script>

</head>

<body>



<form method="post" name="myform"  onsubmit="return validate();">

<center>
<h1>Update Record</h1>
</center>

<table>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";

Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");

if(request.getParameter("edit")!=null)
{ int
id=Integer.parseInt(request.getParameter("edit"));

String name,no;

PreparedStatement pstmt=null; // create statement

pstmt=con.prepareStatement("select * from phone1 where id=?"); // sql select query
pstmt.setInt(1,id);
ResultSet rs=pstmt.executeQuery(); // execute query store in resultset object rs.

while(rs.next())
{ id=rs.getInt(1);
name=rs.getString(2);
no=rs.getString(3);

%>
<tr>
<td>Name</td>
<td><input type="text" name="txt_name" value="<%=name%>"></td>
</tr>
<tr>
```

```
<td>Mobile Number</td>
<td><input type="text" name="txt_no" value="<%=no%>"></td>
</tr>
<tr>
<td><input type="submit" name="btn_update" value="Update"></td> </tr>

<input type="hidden" name="txt_hide" value="<%=id%>">
<%
}
} }
catch(Exception e)
{
out.println(e);
}
%>
</table>

<center>
<h1><a href="index.jsp">Back</a></h1>
</center>

</form>

</body>

</html>
```

Output:

CLICK HERE TO ADD A NEW MOBILE

ID	Name	Mobile number	Update	Delete
1	Kulsum	9123456780	Edit	Delete
2	Saurav	7890123456	Edit	Delete
3	Kabir	9988776655	Edit	Delete

- **Adding new record to database**

index.jsp   JSP:Insert, Update, Delete using MySQL

http://localhost:1234/phonedirec/add.jsp
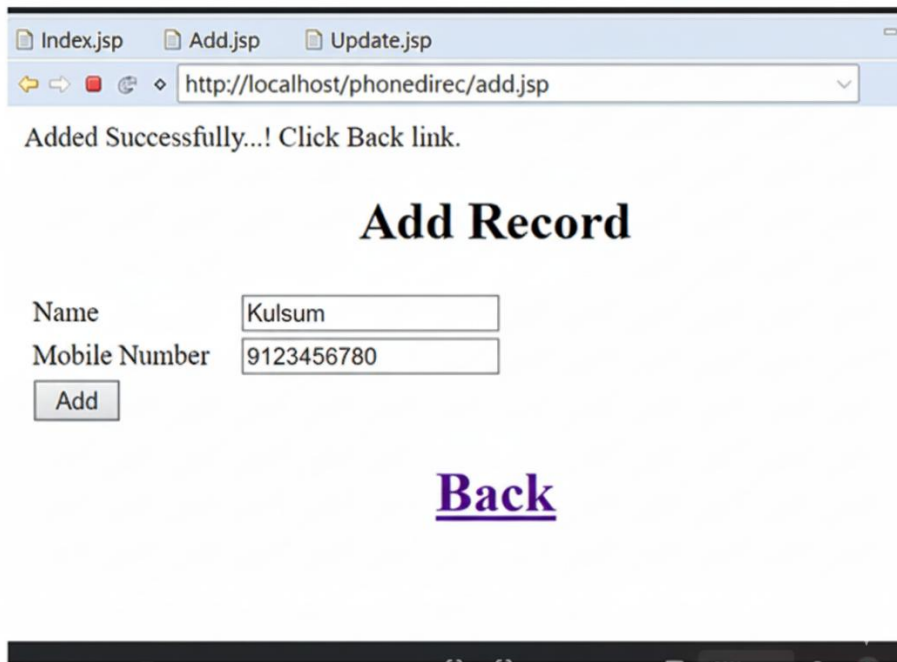
Insert Successfully...! Click Homepage.

Insert Record

Name: [ ]
Phone number: [ ]
[Insert]

Home page

Index.jsp   Add.jsp   Update.jsp

http://localhost/phonedirec/add.jsp

Added Successfully...! Click Back link.

Add Record

Name   Kulsum

Mobile Number 9123456780

[Add]

Back

2. Write a JSP page to display the Registration form (Make your own assumptions)

Create a Database Table
CREATE TABLE studentreg1
(
id SERIAL PRIMARY KEY,
first_name varchar(50),
last_name varchar(50),
phn_number varchar(20),
address varchar(20),
course varchar(20),
college_name varchar(20)
);

Add.jsp
```
<%@ page import="java.sql.*" %>
```

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```
<%
   try {
      String driver = "org.postgresql.Driver";
      String url = "jdbc:postgresql://localhost:5432/postgres";
      String username = "postgres";
      String password = "admin";

      Connection con = null;

      Class.forName(driver).newInstance();
      con = DriverManager.getConnection(url, username, password);

      System.out.println("Opened database successfully");

      // Check button click event
      if (request.getParameter("btn_add") != null) {

         String first_name, last_name, phn_number, address, course, college_name;

         first_name = request.getParameter("txt_first_name");
         last_name = request.getParameter("txt_last_name");
         phn_number = request.getParameter("txt_phn_number");
         address = request.getParameter("txt_address");
         course = request.getParameter("txt_course");
         college_name = request.getParameter("txt_college_name");

         PreparedStatement pstmt = null;

         pstmt = con.prepareStatement(
            "INSERT INTO studentreg1 " +
            "(first_name, last_name, phn_number, address, course, college_name) " +
            "VALUES (?, ?, ?, ?, ?, ?)"
         );

         pstmt.setString(1, first_name);
         pstmt.setString(2, last_name);
         pstmt.setString(3, phn_number);
         pstmt.setString(4, address);
         pstmt.setString(5, course);
         pstmt.setString(6, college_name);

         pstmt.executeUpdate();

         con.close();

         out.println("Insert  Successfully...!");
      }
   } catch (Exception e) {
      out.println(e);
```

```
        }
    %>

    <html>
    <head>
        <title>Student Registration</title>

        <!-- JavaScript for form validation -->
        <script>
          function validate() {
              var first_name = document.myform.txt_first_name;
              var last_name = document.myform.txt_last_name;
              var phn_number = document.myform.txt_phn_number;
              var address = document.myform.txt_address;
              var course = document.myform.txt_course;
              var college_name = document.myform.txt_college_name;

              if (first_name.value == "") {
                 window.alert("Please enter a first name");
                 first_name.focus();
                 return false;
              }

              if (last_name.value == "") {
                 window.alert("Please enter a last name");
                 last_name.focus();
                 return false;
              }

              if (phn_number.value == "") {
                 window.alert("Please enter a mobile number");
                 phn_number.focus();
                 return false;
              }

              if (address.value == "") {
                 window.alert("Please enter address");
                 address.focus();
                 return false;
              }

              if (course.value == "") {
                 window.alert("Please enter course");
                 course.focus();
                 return false;
              }

              if (college_name.value == "") {
                 window.alert("Please enter college name");
                 college_name.focus();
```

```
            return false;
          }

          return true;
        }
    </script>
  </head>

 <body bgcolor="deea94">
   <div align="center">
      <form method="post" name="myform" onsubmit="return validate();">

         <h1><u>STUDENT REGISTRATION FORM</u></h1>
         <br>

         <table>
           <tr>
             <td><b>First Name:</b></td>
             <td><input type="text" name="txt_first_name"></td>
           </tr>

           <tr>
             <td><b>Last Name:</b></td>
             <td><input type="text" name="txt_last_name"></td>
           </tr>

           <tr>
             <td><b>Phone Number:</b></td>
             <td><input type="text" name="txt_phn_number"></td>
           </tr>

           <tr>
             <td><b>Address:</b></td>
             <td><input type="text" name="txt_address"></td>
           </tr>

           <tr>
             <td><b>Course:</b></td>
             <td><input type="text" name="txt_course"></td>
           </tr>

           <tr>
             <td><b>College Name:</b></td>
             <td><input type="text" name="txt_college_name"></td>
           </tr>

           <tr>
             <td colspan="2" align="center">
                <br>
                <input type="submit" name="btn_add" value="Submit">
```

```
                <br>
              </td>
            </tr>
          </table>

          <br>

          <p>
            <span>&#8595;</span>
            <u>Click Below to list all the</u>
            <span>&#8595;</span>
          </p>

          <p>
            <a href="index.jsp">Registered Students Details</a>
          </p>

        </form>
      </div>
    </body>
  </html>
```

Index.jsp

```
<%@ page import="java.sql.*" %>

<%
  try {
      String driver = "org.postgresql.Driver";
      String url = "jdbc:postgresql://localhost:5432/postgres";
      String username = "postgres";
      String password = "admin";

      Connection con = null;

      Class.forName(driver).newInstance();
      con = DriverManager.getConnection(url, username, password);

      System.out.println("Opened database successfully");

      if (request.getParameter("delete") != null) {
        int id = Integer.parseInt(request.getParameter("delete"));

        PreparedStatement pstmt = null;
        pstmt = con.prepareStatement(
          "DELETE FROM studentreg1 WHERE id = ?"
        );

        pstmt.setInt(1, id);
        pstmt.executeUpdate();
```

```
          con.close();
        }
      } catch (Exception e) {
        out.println(e);
      }
  %>

  <html>
  <head>
    <title>JSP: Insert, Update, Delete</title>
  </head>

  <body bgcolor="F9CDAD">

    <br><br><br>

    <center>
      <h1><u>DETAILS OF REGISTERED STUDENTS</u></h1>
    </center>

    <br><br>

    <center>
      <table border="1" cellpadding="23">
        <tr>
          <th>ID</th>
          <th>First Name</th>
          <th>Last Name</th>
          <th>Mobile Number</th>
          <th>Address</th>
          <th>Course</th>
          <th>College Name</th>
        </tr>

        <%
          try {
            String driver = "org.postgresql.Driver";
            String url = "jdbc:postgresql://localhost:5432/postgres";
            String username = "postgres";
            String password = "admin";

            Connection con = null;

            Class.forName(driver).newInstance();
            con = DriverManager.getConnection(url, username, password);

            PreparedStatement pstmt = null;
            pstmt = con.prepareStatement(
               "SELECT * FROM studentreg1"
               );
```

```
            ResultSet rs = pstmt.executeQuery();

            while (rs.next()) {
%>
                <tr>
                    <td><%= rs.getInt(1) %></td>
                    <td><%= rs.getString(2) %></td>
                    <td><%= rs.getString(3) %></td>
                    <td><%= rs.getString(4) %></td>
                    <td><%= rs.getString(5) %></td>
                    <td><%= rs.getString(6) %></td>
                    <td><%= rs.getString(7) %></td>
                </tr>
<%
            }
        } catch (Exception e) {
            out.println(e);
        }
%>

    </table>
  </center>

</body>
</html>
```

Output:

:

Successfully...!

STUDENT REGISTRATION FORM

First Name: Umme

Last Name: Kulsum

Phone number 9876543210

Address: Belapur

Course: MCA

College Name BVIMIT

Submit

↓ Click Below to list all the ↓

Registered Students Details

Umme Kulsum A25

DETAILS OF REGISTERED STUDENTS

ID	First Name	Last Name	Mobile Number	Address	College Name
1	Umme	Kulsum	9876543210	Belapur	MCA
2	Saurav	Bhagat	7890123566	Nerul	MCA

3. Write a JSP program to add, delete and display the records from StudentMaster (RollNo, Name, Semester, Course) table.

Database table(student1):

CREATE TABLE student1

(

id SERIAL PRIMARY KEY,

rno varchar(50),

name varchar(50),

semester varchar(50),

course varchar(50)

);

Index.jsp :

```
<%@page import="java.sql.*" %>

<%
try
{

{
```

```
String driver ="org.postgresql.Driver";

String url ="jdbc:postgresql://localhost:5432/postgres";

String username ="postgres";

String password ="admin";

Connection con =null;

Class.forName(driver).newInstance(); con =

DriverManager.getConnection(url,username,password);

System.out.println("Opened database successfully");

if(request.getParameter("delete")!=null)

{ int id=Integer.parseInt(request.getParameter("delete")); PreparedStatement

pstmt=null; //create statement pstmt=con.prepareStatement("delete from

student1 where id=? "); // delete query pstmt.setInt(1,id);

pstmt.executeUpdate(); //execute query con.close(); //close connection

} }

catch(Exception

e)

{

out.println(e);

}

%>
```

```html
<html>
<head>

<title>JSP:Insert, Update, Delete </title>

</head>

<body>

<center>

<h1><a href="add.jsp">Add Record</a></h1>

</center>
```

Umme Kulsum A25

```
<table>

<tr>

<th>ID</th>

<th>Roll No</th>

<th>Name</th>

<th>Sem</th>

<th>Course</th>

<th>Update</th>

<th>Delete</th>

</tr>

<%

try

{

String driver ="org.postgresql.Driver";

String url ="jdbc:postgresql://localhost:5432/postgres";

String username ="postgres";

String password ="admin";

Connection con =null;

Class.forName(driver).newInstance();
con = DriverManager.getConnection(url,username,password);

PreparedStatement pstmt=null; //create statement

pstmt=con.prepareStatement("select * from student1"); //select query

ResultSet rs=pstmt.executeQuery(); //execute query and set in resultset object rs.


while(rs.next())

{

%>
```

```
<tr>

<td><%=rs.getInt(1)%></td>

<td><%=rs.getString(2)%></td>

<td><%=rs.getString(3)%></td>

<td><%=rs.getString(4)%></td>

<td><%=rs.getString(5)%></td>

<td><a  href="update.jsp?edit=<%=rs.getInt(1)%> ">Edit</a></td>

<td><a  href="?delete=<%=rs.getInt(1)%> ">Delete</a></td>

</tr>

<%

} }

catch(Exception

e)

{

out.println(e);

}

%>

</table>

</body>
</html>
```

Add.jsp :

```
<%@ page import="java.sql.*" %>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";
Connection con =null;
```

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```jsp
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");
if(request.getParameter("btn_add")!=null) //check button click event not null
{
String rno,name,semester,course;
rno=request.getParameter("txt_rno");
name=request.getParameter("txt_name"); //txt_name
semester=request.getParameter("txt_sem"); //txt_owner
course=request.getParameter("txt_course"); //txt_owner
PreparedStatement pstmt=null; //create statement
pstmt=con.prepareStatement("insert  into  student1(rno,name,semester,course)values(?,?,?,?)"); // insert
query        pstmt.setString(1,rno);        pstmt.setString(2,name);        pstmt.setString(3,semester);
pstmt.setString(4,course); pstmt.executeUpdate(); //execute query con.close(); //close connection
out.println("Insert Successfully...! Click Back link.");// after insert record successfully message
} } }
catch(Exception
e)
{
out.println(e);
}
%>
<html>
<head>
<title>JSP:Insert, Update, Delete using MySQL</title>


<!-- javascript for form validation-->
<script>
function validate()
{
var rno = document.myform.txt_rno; var
name = document.myform.txt_name; var
semester = document.myform.txt_sem; var
course = document.myform.txt_course; if
(rno.value == "")
{
window.alert("please enter rno
?"); name.focus(); return false; }
if (name.value == "")
{
window.alert("please enter name
?"); name.focus(); return false; } if
(semester.value == "")
{
window.alert("please enter sem
?"); owner.focus(); return false; }
if (course.value == "")
{
window.alert("please enter course
?"); owner.focus(); return false;
}
```

```
}
</script>
</head>
<body>
<form method="post" name="myform"  onsubmit="return validate();">
<center>
<h1>Insert Record</h1>
</center>
<table>
<tr>
<td>Roll No</td>
<td><input type="text" name="txt_rno"></td>
</tr>
<tr>
<td>Name</td>
<td><input type="text" name="txt_name"></td>
</tr>
<tr>
<td>Sem</td>
<td><input type="text" name="txt_sem"></td>
</tr>
<tr>
<td>Course</td>
<td><input type="text" name="txt_course"></td>
</tr>
<tr>
<td><input type="submit" name="btn_add" value="Insert"></td>
</tr>
</table>
<center>
<h1><a href="index.jsp">Back</a></h1>
</center>
</form>
</body>
</html>
```

Update.jsp :

```
<%@ page import="java.sql.*" %>

<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";
Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");
```

```jsp
if(request.getParameter("btn_update")!=null) //check button click event not null
{ int
hide,rno,name,semester,course;;
String rno_up,name_up,semester_up,course_up;
hide=Integer.parseInt(request.getParameter("txt_hide")); //it is hidden id get for update record
rno_up=request.getParameter("txt_rno");
name_up=request.getParameter("txt_name"); //txt_name
semester_up=request.getParameter("txt_semester");
course_up=request.getParameter("txt_course");
PreparedStatement pstmt=null; //create statement
pstmt=con.prepareStatement("update student1 set rno=?,name=?, semester=?, course=? where id=?");
// update query
pstmt.setString(1,rno_up);
pstmt.setString(2,name_up);
pstmt.setString(3,semester_up);
pstmt.setString(4,course_up);
pstmt.setInt(5,hide);
pstmt.executeUpdate(); //execute query con.close(); //connection close out.println("Update
Successfully...! Click Back link."); //after update record successfully message
} }
catch(Exception
e)
{
out.println(e);
}
%>
<html>
<head>
<title>JSP:Insert, Update, Delete using MySQL</title>

<!-- javascript for form validation-->
<script>

function validate()
{
var rno = document.myform.txt_rno; var name
= document.myform.txt_name; var semester =
document.myform.txt_semester; var course =
document.myform.txt_course; if (rno.value ==
"")
{
window.alert("please enter rno
?"); name.focus(); return false; }
if (name.value == "")
{
window.alert("please enter name
?"); name.focus(); return false; } if
(semester.value == "")
{
```
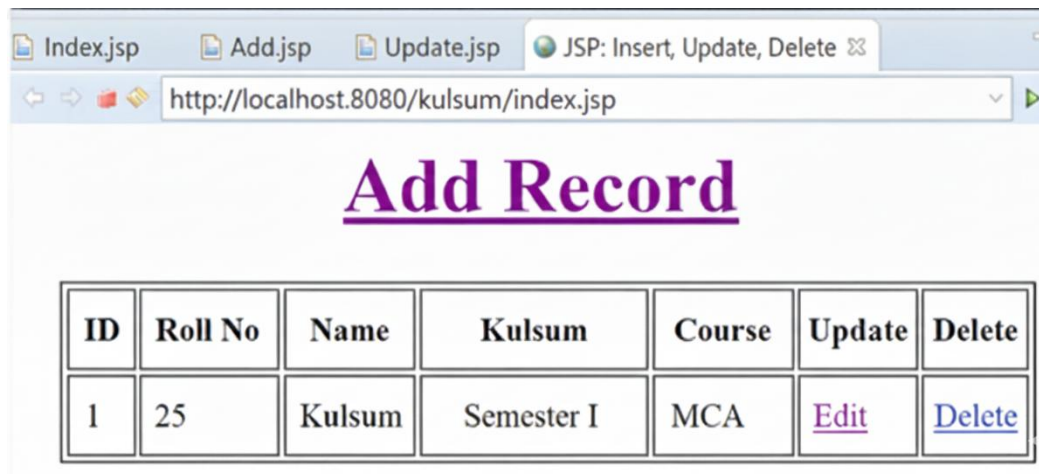
```
window.alert("please enter sem
?"); owner.focus(); return false; }
if (course.value == "")
{
window.alert("please enter course
?"); owner.focus(); return false; }}
</script>
</head>
<body>

<form method="post" name="myform"  onsubmit="return validate();">
<center>
<h1>Update Record</h1>
</center>
<table>
<%
try
{
String driver ="org.postgresql.Driver";
String url ="jdbc:postgresql://localhost:5432/postgres";
String username ="postgres";
String password ="admin";
Connection con =null;
Class.forName(driver).newInstance(); con =
DriverManager.getConnection(url,username,password);
System.out.println("Opened database successfully");
if(request.getParameter("edit")!=null)
{ int
id=Integer.parseInt(request.getParameter("edit"));
String rno,name,semester,course;
PreparedStatement pstmt=null; // create statement
pstmt=con.prepareStatement("select * from student1 where id=?"); // sql select query
pstmt.setInt(1,id);
ResultSet rs=pstmt.executeQuery(); // execute query store in resultset object rs.
while(rs.next())
{ id=rs.getInt(1);
rno=rs.getString(2);
name=rs.getString(3);
semester=rs.getString(4)
;
course=rs.getString(5);
%>
<tr>
<td>Roll NO</td>
<td><input type="text" name="txt_rno" value="<%=rno%>"></td>
</tr>
<tr>
<td>Name</td>
<td><input type="text" name="txt_name" value="<%=name%>"></td>
</tr>
<tr>
```

```
<td>Sem</td>
<td><input type="text" name="txt_semester" value="<%=semester%>"></td>
</tr>
<tr>
<td>Course</td>
<td><input type="text" name="txt_course" value="<%=course%>"></td>
</tr>
<tr>
<td><input type="submit" name="btn_update" value="Update"></td>
</tr>
<input type="hidden" name="txt_hide" value="<%=id%>">
<%
}
} }
catch(Exception
e)
{
out.println(e);
}
%>
</table>
<center>
<h1><a href="index.jsp">Back</a></h1>
</center>
</form>
</body></html>
```

Output:

Umme Kulsum A25

Add Record

ID	Roll No	Name	Kulsum	Course	Update	Delete
1	25	Kulsum	Semester I	MCA	Edit	Delete

Insert Successfully...! Click Back link.

Insert Record

Roll No   [   ]
Name   [   ]
Sem   [   ]
Course   [   ]

[Insert]

Back

.jsp

http://lochost:8080//kulsum/kulsum/update.jsp
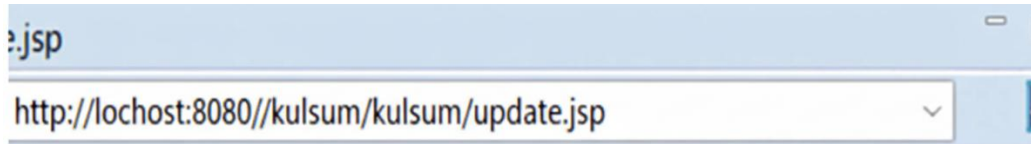
Update Record

Back

<mark>4. **Design loan calculator using JSP which accepts Period of Time (in years) and Principal Loan Amount. Display the payment amount for each loan and then list the loan balance and interest paid for each payment over the term of the loan for the following time period and interest rate: a. 1 to 7 year at 5.35%**
b. 8 to 15 year at 5.5%
c. 16 to 30 year at 5.75%</mark>

Cal.jsp :

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
  "http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>JSP Page</title>
</head>
<body><br><br><center>
<form action="test.jsp "><pre>
<h1>Principle :: <input type=text name=principle value=0 " ><br>
    No. of Years :: <input type=text name=year value=0 " ><br>
    Rate of Interest :: <input type=text name=interest value=0 " > %<br>
```

```
<br>
<input type=submit value="Submit"></h1>

</pre></form></center>
</body>
</html>
```

Test.jsp:

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>JSP Page</title>
</head>
<body><br><br><center><pre><H1>
<%

String ns= request.getParameter("principle");
String ns1= request.getParameter("year");
String ns2= request.getParameter("interest");
int n1=Integer.parseInt(ns); int
n2=Integer.parseInt(ns1);
float n3 = Float.valueOf(ns2);

double si=((n1*n2*n3)/100); double
x;
x=n1+si;

double r = (n3)/(12*100);

int mon; mon=((n2)*12); double emi=
(n1*r*Math.pow(1+r,mon))/(Math.pow(1+r,mon)-1);




%>
<%
out.println("Principle =          "+n1);
out.println(" Years =            "+n2);
out.println(" Rate of Interest =  "+n3);
out.println("<br> "); out.println("Loan
Amount =        "+n1); out.println("
```
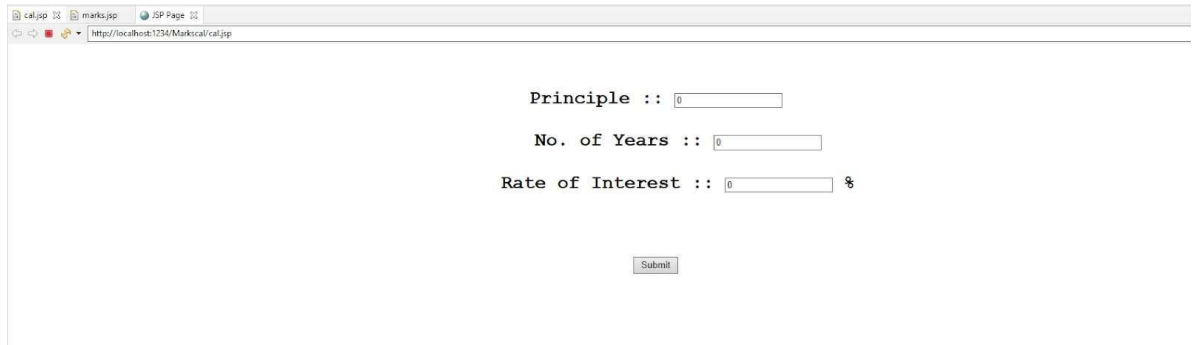
```
Interest Paid = "+si); out.println(" Total
Loan Amount = "+x); out.println("<br>
");
out.print(" Loan Tenure in months= " +mon);
out.println("<br> ");
out.print(" EMI is= "+emi+"\n");

%>
</H1>
</pre>
</center>
</body></body>
</html>
```
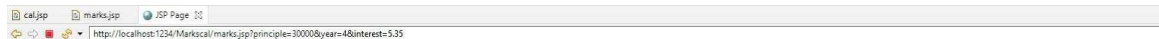
Output:

a. 1 to 7 year at 5.35%


```
        Principle =          30000
      Years =           4
   Rate of Interest =   5.35

   Loan Amount =          30000
     Interest Paid =     6420.0
   Total Loan Amount =    36420.0

   Loan Tenure in months= 48

   EMI is= 695.6452973299158
```

b. 8 to 15 year at 5.5%

```
cal.jsp    marks.jsp    JSP Page
http://localhost:1234/Markscal/marks.jsp?principle=30000&year=10&interest=5.5
```

```
                        Principle =          30000
                     Years =              10
                 Rate of Interest =   5.5


             Loan Amount =           30000
              Interest Paid =    16500.0
         Total Loan Amount =     46500.0


             Loan Tenure in months= 120

             EMI is= 325.5788306695736
```

c. 16 to 30 year at 5.75%

```
cal.jsp    marks.jsp    JSP Page
http://localhost:1234/Markscal/marks.jsp?principle=30000&year=15&interest=5.75
```

```
                        Principle =          30000
                     Years =              15
                 Rate of Interest =   5.75


             Loan Amount =           30000
              Interest Paid =    25875.0
         Total Loan Amount =     55875.0


             Loan Tenure in months= 180

             EMI is= 249.12302778152468
```

5. Write a program using JSP that displays a webpage consisting Application form for change of Study Center which can be filled by any student who wants to change his/ her study center. Make necessary assumptions

Main.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>Study Center</title>

  <link rel="stylesheet"
     href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.4.0/font/bootstrap-icons.css">

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/css/bootstrap.min.css"
     rel="stylesheet"
     integrity="sha384-BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wuqIj61tLrc4wSX0szH/Ev+nYRRuWlolflfl"
     crossorigin="anonymous">
</head>

<body>

  <center>
    <h1>Change of Study Center</h1>

    <form action="Main.jsp" method="post">
      <table>
        <tr>
          <td>UID No.</td>
          <td>
            <input type="text" name="uid" required />
          </td>
        </tr>

        <tr>
          <td>Current Center</td>
          <td>
            <select name="currentCenter" required>
              <option selected disabled hidden></option>
              <option value="MUMBAI">MUMBAI</option>
              <option value="PUNE">PUNE</option>
              <option value="GUJRAT">GUJRAT</option>
            </select>
          </td>
        </tr>

        <tr>
          <td>New Center</td>
          <td>
            <select name="newCenter" required>
              <option selected disabled hidden></option>
              <option value="MUMBAI">MUMBAI</option>
              <option value="PUNE">PUNE</option>
```

```
                        <option value="GUJRAT">GUJRAT</option>
                    </select>
                </td>
            </tr>
        </table>

        <br>
        <input type="submit" value="Submit" />
    </form>
</center>

<%
    if (request.getParameter("uid") != null
            && request.getParameter("currentCenter") != null
            && request.getParameter("newCenter") != null) {

        out.println(
            "<center><br>Your request to change Study Center from <br>"
            + request.getParameter("currentCenter")
            + " to "
            + request.getParameter("newCenter")
            + "<br> has been sent to the Administrator.</center>"
        );
    }
%>

</body>
</html>
```

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-
8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Study Center</title>
<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.4.0/font/bootstrap-icons.css">
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/css/bootstrap.min.css"
rel="stylesheet"
integrity="sha384-BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wuqIj61tLrc4wSX0szH/Ev+nYRRuWlolflfl
" crossorigin="anonymous">

</head>
<body>
<center>
```

Umme Kulsum A25

```html
<h1>Change of Study Center</h1>

<form action="main.jsp" method="post">

<table>
<tr>
<td>UID No.</td>
<td><input type="text" name="uid" required/></td>
</tr>
<tr>
<td>
Current Center
</td>
<td>
<select name="currentCenter" required>
<option selected disabled hidden></option>
<option value="MUMBAI">MUMBAI</option>
<option value="PUNE">PUNE</option>
<option value="GUJRAT">GUJRAT</option>
</select>
</td>
</tr>
<tr>
<td>
New Center
</td>
<td>
<select name="newCenter" required>
<option selected disabled hidden></option>
<option value="MUMBAI">MUMBAI</option>
<option value="PUNE">PUNE</option>
<option value="GUJRAT">GUJRAT</option>
</select>
</td>
</tr>

</table>
<input type="submit" value="Submit"/>
</form>

</center>

<%

if(request.getParameter("uid") != null&& request.getParameter("currentCenter") != null&&
request.getParameter("newCenter") != null){
out.println("<center><br>Your request to change Study Center from <br>" +
request.getParameter("currentCenter") + " to " + request.getParameter("newCenter") + "<br> has been
sent to the Administrator.</center>");
}
```

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%>

</body>
</html>

Output:

6. <mark>Write a JSP program that demonstrates the use of JSP declaration, scriptlet, directives, expression, header and footer.</mark>

Scriplet program

```jsp
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
    <%String string1="JSP scriptlet"; %>
    <%!String string2 = " ";%>

<!DOCTYPE html>
<html>
```

```html
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<h1>
<%-- --%>
Welcome to <%=string1 %>
</h1>
<%if(string1.equals("jsp scriplet"))
out.println("hi"+string2);
else
out.println("hello, Kulsum");

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

| index.jsp | index1.jsp | Process.jsp | cookiedemo.jsp | Insert titl... | scriplet.js |

http://localhost:8080/kulsum/scrillet.jsp

Welcome to JSP scriptlet

hello, Kulsum

Cookies

Main.jsp :

```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>JSP EXAMPLE</title>
</head>
<body>
<%@ include file = "header.jsp" %>
<center>
<%! int data=50; %>
<%= "Value of the variable is:"+data %> <%!
double circle(int n){ return 3.14*n*n;}
%></br>
<%= "Area of circle is:"+ circle(3) %></br> <%!
int rectangle(int l,int b){ return l*b;}
%>
<%= "Area of rectangle is:"+rectangle(3,4
) %></br> <%!
int perimeter(int x,int y){
int peri=2*(x+y);
return peri;}
%>
<%= "Perimeter of rectanlge:"+perimeter(5,6
) %></br>
<p>Thanks for visiting my page.</p>
</center>
<%@ include file = "footer.jsp" %>
</body>
</html>
```

Header.jsp :

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

<%!
 int pageCount = 0;
void addCount() {
pageCount++;
 }
%>
<% addCount(); %>
<html>
<head>
<title>JSP declaration, scriptlet, directives, expression, header and footer Example</title> </head>
<body>
<center>
<h2><u>The include Directive Example</u></h2>
<p><b>This site has been visited <%= pageCount %> times.</b></p>
</center>
```

Umme Kulsum A25

```
<br/><br/>

</body>
</html>
```

<u>Footer.jsp</u>:

```
<%@ 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>
<br/><br/>
<center><p><b>Umme Kulsum 25</b></p></center></body></html>
```
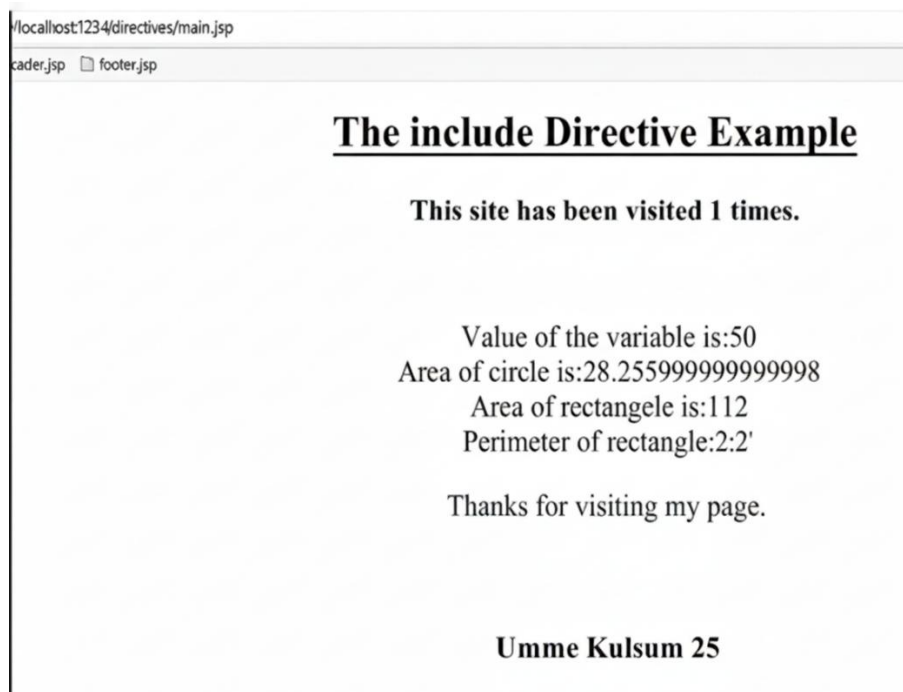**<u>Output:</u>**

/localhost:1234/directives/main.jsp

cader.jsp footer.jsp

The include Directive Example

This site has been visited 1 times.

Value of the variable is:50
Area of circle is:28.255999999999998
Area of rectangele is:112
Perimeter of rectangle:2:2'

Thanks for visiting my page.

Umme Kulsum 25

7. Write a JSP program that demonstrates the use of Cookies and Session tracking in java.

```java
package beanpkt;

public class employee {
int deptid;
String dname="";
```

```java
    int salary;
    public employee () {

    }

    public int getDeptid() {
        return deptid;
    }
    public void setDeptid(int deptid) {
        this.deptid = deptid;
    }
    public String getDname() {
        return dname;
    }
    public void setDname(String dname) {
        this.dname = dname;
    }
    public int getSalary() {
        return salary;
    }
    public void setSalary(int salary) {
        this.salary = salary;
    }



}
```

```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>
 <form action ="Process.jsp" method="post">
 DepID<input type ="text"name="deptid">
 Name<input type="text" name="name">
 Salary<input type="text" name="salary">
 <button type="submit" name="btnsubmit">Submit</button>
```

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

<%@ 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>
<jsp:useBean id="mybean1" class="beanpkt.employee">
<%
String i = request.getParameter("deptid");int
id=Integer.parseInt(i);
String name = request.getParameter("name");String
s=request.getParameter("salary");
int sal=Integer.parseInt(s);
%>
<jsp:setProperty
name="mybean1"property="deptid"value="<%=id
%>"></jsp:setProperty>
<jsp:setProperty
name="mybean1"property="dname"value="<%=name
%>"></jsp:setProperty>
<jsp:setProperty
name="mybean1"property="Salary"value="<%=name
%>"></jsp:setProperty>
<h4> Dept id: <jsp:getProperty name="mybean1"
property="deptid"/></h4>
<h4> Name: <jsp:getProperty name="mybean1"
property="dname"/></h4>
<h4> Salary: <jsp:getProperty name="mybean1"
property="salary"/></h4>
</jsp:useBean>
```
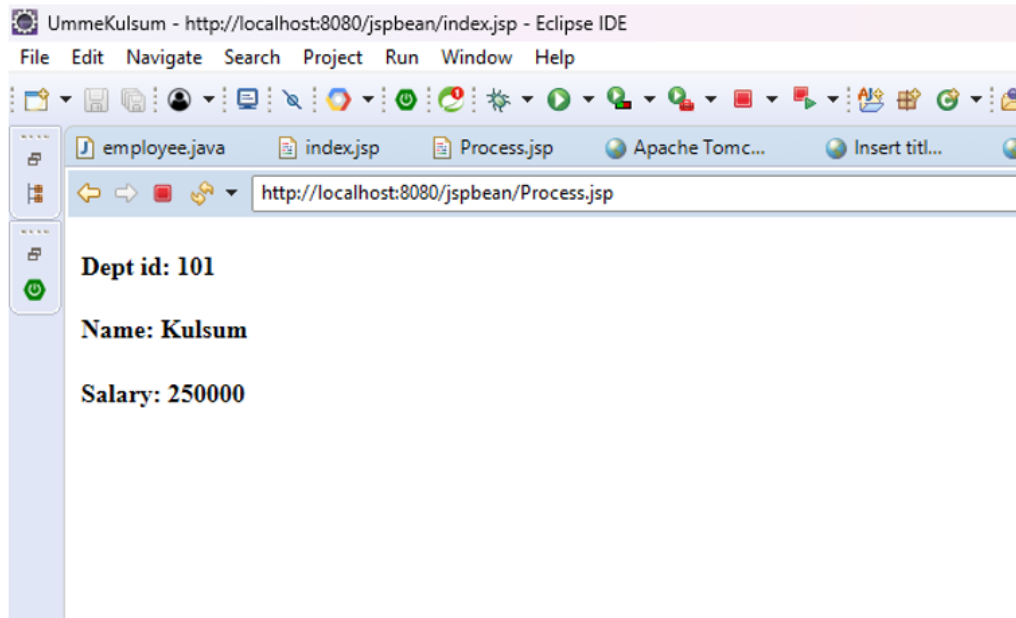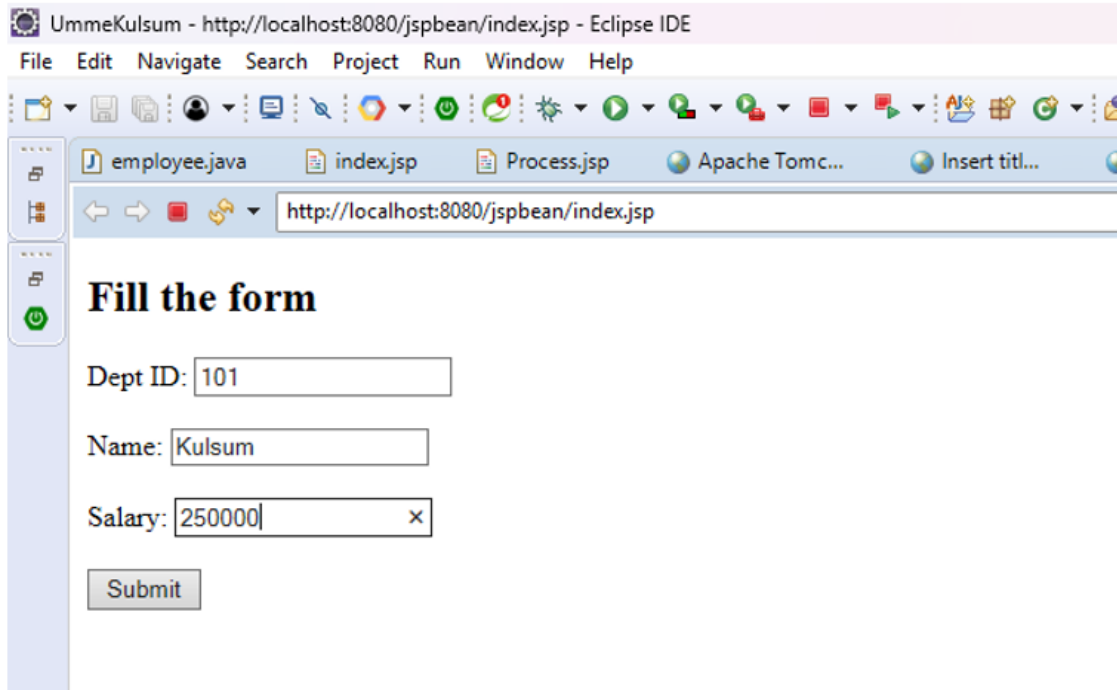
```
</body>
</html>
```


Cookie_demo.jsp

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

```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<form action ="cookie_main.jsp" method="GET">
username: <input type="text"
name="username"><br />
Email: <input type="text" name="email" />
<input type="submit" value="submit" />

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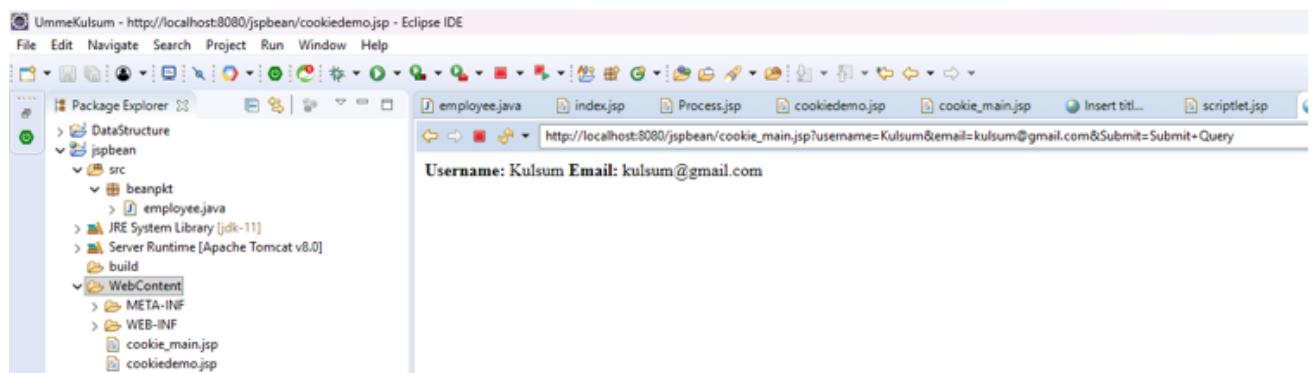
```
</body>
</html>


Cookie_main jsp
<%@ page language="java" contentType="text/html;
charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
    <%
Cookie username= new
Cookie("username",request.getParameter("username"));
Cookie email= new
Cookie("email",request.getParameter("email"));
username.setMaxAge(60*60*10);
email.setMaxAge(60*60*10);
response.addCookie(username);
response.addCookie( email) ;


%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<b> username:</b>
<%=request.getParameter("username") %>
<b>Email:</b>
<%=request.getParameter("email") %>


</body>
</html>
```


UmmeKulsum - http://localhost:8080/jspbean/cookiedemo.jsp - Eclipse IDE

http://localhost:8080/jspbean/cookie_main.jsp?username=Kulsum&email=kulsum@gmail.com&Submit=Submit+Query

Username: Kulsum **Email:** kulsum@gmail.com

Sessions

```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>
<form action ="session.jsp">
<input type="text" name="inputname">
<input type="submit" value="click here !!"><br/>

</form>

</body>
</html>
```
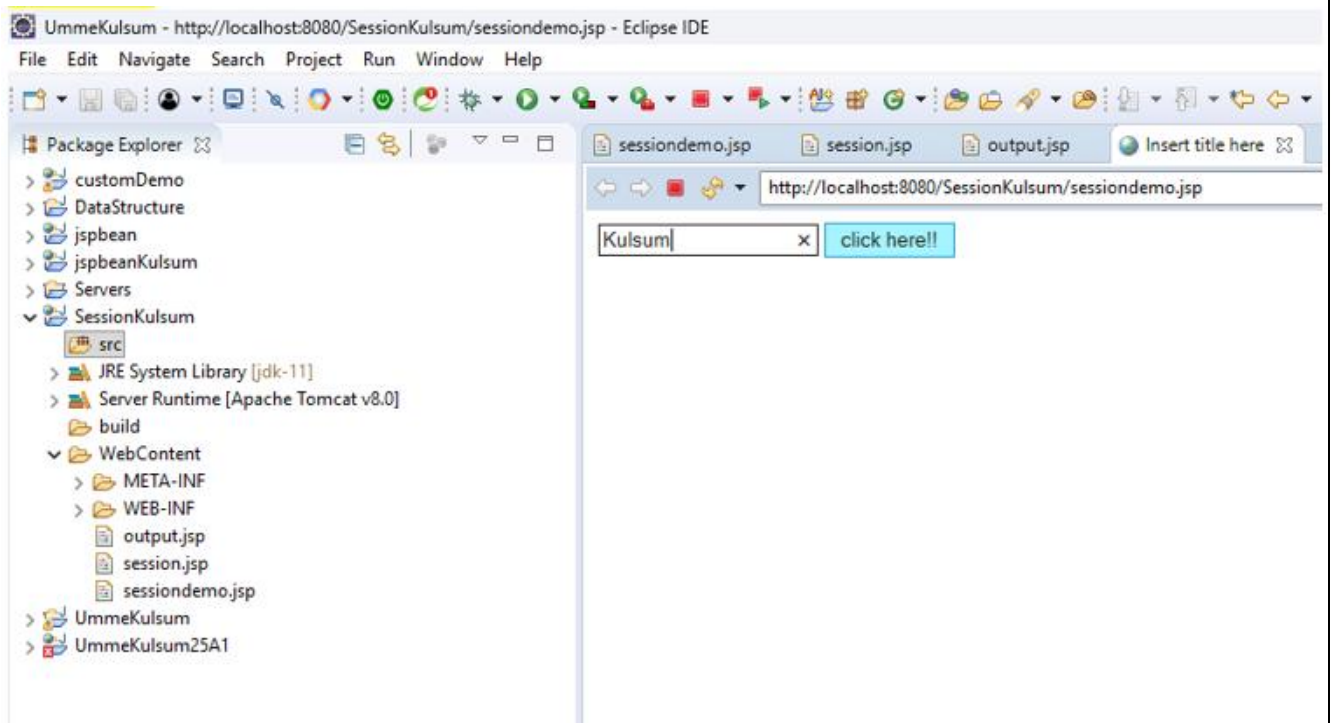
```jsp
//session.jsp
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<%
 String uname =request.getParameter("inputname");
 out.print("welcome" + uname);
  session.setAttribute("sessname",uname);
  %>
  <a href="output.jsp"> Check output page Here</a>

</body>
</html>
//output.jsp
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
```
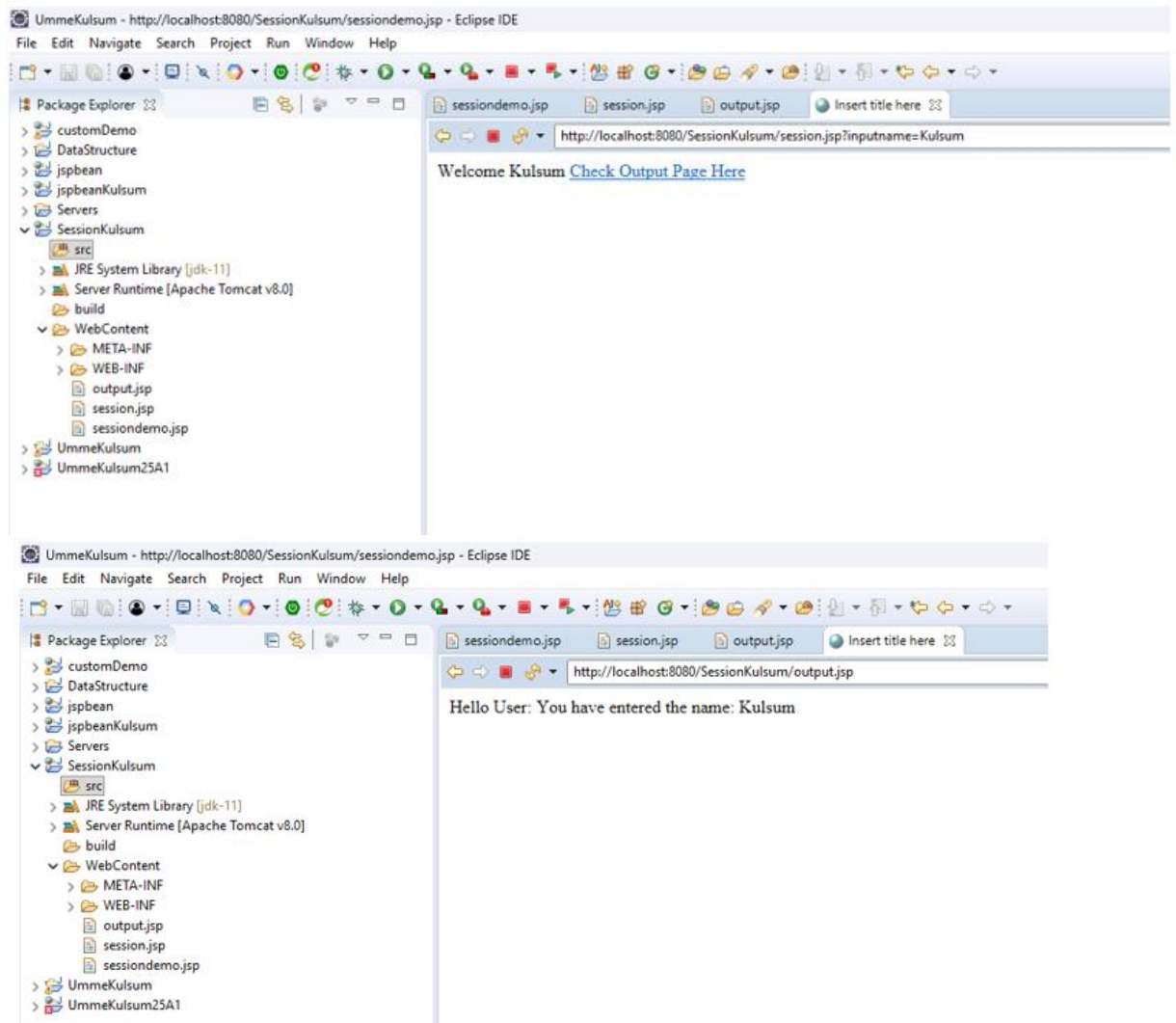
```
        pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<%
String name = (String) session.getAttribute("sessname");
out.print("Hello user:you have entered the name:"+name);
%>
</body>
</html>
```

date.jsp

```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>JSP Actions</title>
</head>
<body>
<p>
Today's date: <%= (new java.util.Date()).toLocaleString() %>
</p>
</body>
</html>
```

Output:

Umme Kulsum A25