

Sinhgad College of Engineering
Department of Computer Engineering

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Class : TE

DIV : 2

BATCH : B

Name of Laboratory : Web Technology Lab

List of Assignments

Sr.No.	Title of Assignment	Remark	Signature
1	TOMCAT SERVER installation		
2	HTML, CSS		
3	XML and XSL		
4	HTML, Java Script		
5	JSP, Servlet and MySQL (Backend)		
6	Add dynamic web application essence using PHP, HTML and MySQL		
7	Add dynamic web application essence using PHP, AJAX and MySQL .		
8	Design and develop any web application using Struts framework		
9	Design and develop any web application using AngularJS		
10	Web Application using EJB		

Assignment No - 1

Title of Program - TOMCAT SERVER installation

Objective -

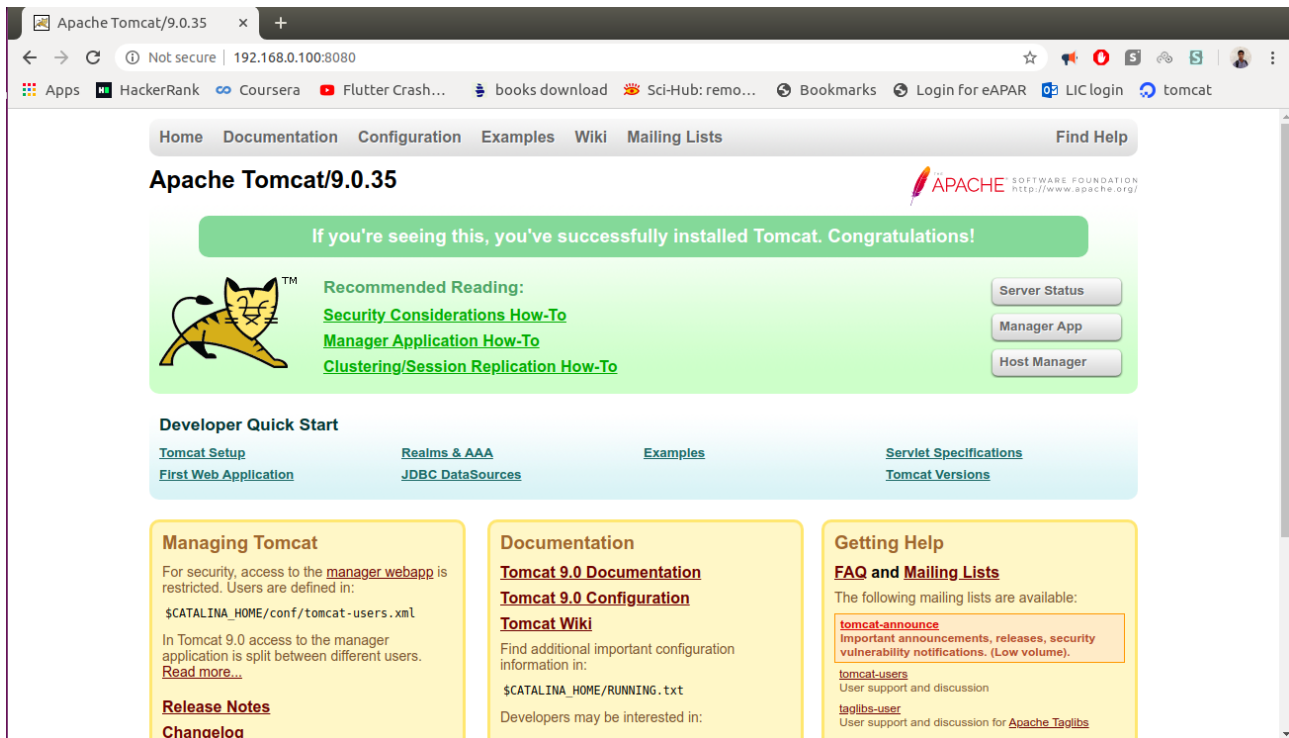
1. Configure tomcat server
2. Understand how to install tomcat server

Code of Program –

Steps for tomcat installation (use root user)

1. >Yum install tomcat
2. >Systemctl enable tomcat (if not execute again same command)
3. >Yum install tomcat-webapps
4. >Yum install --skip-broken tomcat*
5. >Service tomcat restart
6. Open browser with localhost:8080
7. Click on manager app
8. To enter username pwd click cancel . copy the `<role rolename=manager-gui"/> <user username="" password="" roles="manager-gui"/>` ----- 2 lines code and paste in 9th step
9. Open /etc/tomcat/tomcat-users.xml file in editor & paste 8th step code in this file. Save the file.
10. >Service tomcat restart
11. Execute 6th & 7th command enter username & password used in the 9th step file.

OUTPUT:



Assignment No - 2

Title of Program - HTML, CSS

Objective -

1. Understand about basic concepts of html
2. Understand the basic concepts of XML
3. Understand the basic concepts of CSS

Code of Program –

registration.html

```
<html>
```

```
<head>
```

```
<title>regform</title>
```

```
<link href="samp.css" rel="stylesheet"></link>
```

```
</head>
```

```
<body>
```

```
<div class="con">
```

```
    <form action="display.html" method="get" align="center">
```

```
<div class="con2">
```

```
    
```

```
</div>
```

```
<div class="main">
```

```
    <table align="center">
```

```
    <tr>
```

```
        <td><b><br>Welcome to Registration Page<br><br></td>
```

```
    </tr>
```

</table>

<div class="con1">

<table align="center">

<tr>

<td>Full Name:</td>

<td><input type="text" value=""></input></td>

</tr>

<tr>

<td>Class</td>

<td><input type="text" value=""></input></td>

</tr>

<tr>

<td>Department</td>

<td><input type="text" value=""></input></td>

</tr>

<tr>

<td>address:</td>

<td><textarea></textarea></td>

</tr>

<tr>

<td>email:</td>

<td><input type="text" value=""></input></td>

</tr>

<tr>

<td>phone:</td>

<td><input type="text" value=""></input></td>

</tr>

```
        <tr></tr>
        <tr></tr>
    </table>
```

```
    <table align="center">
        <tr>
            <td><input type="submit" value="SUBMIT"></td>
            <td><input type="reset" value="CANCEL"></td>
        </tr>
    </table>
```

```
</div>
```

```
</div>
```

```
</form>
```

```
</div>
```

```
</body>
```

```
</html>
```

samp.css

```
.con
{
width:400px;
height:400px;
background-color:lightgray;
color:blue;
padding:0px 10px 0px 10px;
margin:auto;
}
```

```
.main
{
width:400px;
height:80px;
float:left;
padding:60px 10px 10px 10px;
margin: auto;
}

.con1
{
width:200px;
height:30px;
float:left;
margin:auto;
padding:0px 0px 0px 0px;
}

.con2
{
width:150px;
height:30px;
float:center;
margin:auto; <!--10px 10px 10px 10px-->
padding:0px 0px 0px 0px;
}
```

display.html

```
<html>

<head>
<title> display</title>
</head>
```



```
<body>
```


```
<h1 style="color:blue; margin-left:30px;">
```

```
You have submitted the form successfully...</h1>
```

```
</body>
```

```
</html>
```

OUTPUT:


Sri Jagad Institutes

Welcome to Registration Page

Full Name:

Class

Department

address:

email:

phone:

SUBMIT

CANCEL

regform

display

+

You have submitted the form successfully...

Assignment No - 3

Title of Program - XML and XSL

Objective -

To be able to,

1. Design static webpage using XML.
2. Apply CSS to XML pages.

Code of Program –

book.xml

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<?xml-stylesheet type="text/xsl" href="cdcatalog.xsl"?>
```

```
<catalog>
```

```
<cd>
```

```
<title>Empire Burlesque</title>
```

```
<artist>Bob Dylan</artist>
```

```
<country>USA</country>
```

```
<company>Columbia</company>
```

```
<price>10.90</price>
```

```
<year>1985</year>
```

```
</cd>
```

```
<cd>
```

```
<title>Greatest Hits</title>
```

```
<artist>Dolly Parton</artist>
```

```
<country>USA</country>
```

```
<company>RCA</company>
```

```
<price>9.90</price>
```

```
<year>1982</year>
```

```
</cd>
```

```
<cd>
```

```
<title>Still got the blues</title>
```

```
<artist>Gary Moore</artist>
```

```
<country>UK</country>
```

```
<company>Virgin records</company>
```

```
<price>10.20</price>
```

```
<year>1990</year>
```

```
</cd>
```

```
<cd>
```

```
<title>Romanza</title>
```

```
<artist>Andrea Bocelli</artist>
```

```
<country>EU</country>
```

```
<company>Polydor</company>
```

```
<price>10.80</price>
```

```
<year>1996</year>
```

```
</cd>
```

```
<cd>
```

```
<title>Black angel</title>
```

```

<artist>Savage Rose</artist>
<country>EU</country>
<company>Mega</company>
<price>10.90</price>
<year>1995</year>
</cd>

<cd>
<title>For the good times</title>
<artist>Kenny Rogers</artist>
<country>UK</country>
<company>Mucik Master</company>
<price>8.70</price>
<year>1995</year>
</cd>

<cd>
<title>The very best of</title>
<artist>Cat Stevens</artist>
<country>UK</country>
<company>Island</company>
<price>8.90</price>
<year>1990</year>
</cd>

<cd>
<title>Bridge of Spies</title>
<artist>T`Pau</artist>
<country>UK</country>
<company>Siren</company>
<price>7.90</price>
<year>1987</year>
</cd>

<cd>
<title>Picture book</title>
<artist>Simply Red</artist>
<country>EU</country>
<company>Elektra</company>
<price>7.20</price>
<year>1985</year>
</cd>

</catalog>

```

catalog.css

```

<?xml version="1.0" encoding="UTF-8"?>

<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">

<xsl:template match="/">

<html>
<body>

```

```

<h2>My CD Collection</h2>

<table border="1">
  <tr bgcolor="#ff0000">
    <th style="text-align:left">Title</th>
    <th style="text-align:left">Artist</th>
    <th style="text-align:left">Price</th>
    <th style="text-align:left">Year</th>
  </tr>

  <xsl:for-each select="catalog/cd">

    <xsl:sort select="price" data-type="number"/>
    <tr>
      <td><xsl:value-of select="title"/></td>
      <td><xsl:value-of select="artist"/></td>
      <td><xsl:value-of select="price"/></td>
      <td><xsl:value-of select="year"/></td>
    </tr>
  </xsl:for-each>
</table>
</body>
</html>

</xsl:template>
</xsl:stylesheet>

```

catalog.xsl

```

<?xml version="1.0" encoding="UTF-8"?>

<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">

  <xsl:template match="/">

    <html>
    <body>
      <h2>My CD Collection</h2>

      <table border="1">
        <tr bgcolor="#ff0000">
          <th style="text-align:left"> Title </th>
          <th style="text-align:left">Artist</th>
          <th style="text-align:left">Price</th>
          <th style="text-align:left">Year</th>
        </tr>

        <xsl:for-each select="catalog/cd">

          <xsl:sort select="price" data-type="number"/>
          <tr>
            <td> <xsl:value-of select="title"/> </td>
            <td><xsl:value-of select="artist"/></td>
            <td><xsl:value-of select="price"/></td>
            <td><xsl:value-of select="year"/></td>
          </tr>
        </xsl:for-each>
      </table>
    </body>
  </html>
</xsl:template>
</xsl:stylesheet>

```

```
</xsl:for-each>
</table>
</body>
</html>
```

```
</xsl:template>
</xsl:stylesheet>
```

xmlxsl.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="cdcatalog.xsl"?>
<catalog>
  <cd>
    <title>Empire Burlesque</title>
    <artist>Bob Dylan</artist>
    <country>USA</country>
    <company>Columbia</company>
    <price>10.90</price>
    <year>1985</year>
  </cd>
  <cd>
    <title>Hide your heart</title>
    <artist>Bonnie Tyler</artist>
    <country>UK</country>
    <company>CBS Records</company>
    <price>9.90</price>
    <year>1988</year>
  </cd>
  <cd>
    <title>Greatest Hits</title>
    <artist>Dolly Parton</artist>
    <country>USA</country>
    <company>RCA</company>
    <price>9.90</price>
    <year>1982</year>
  </cd>
  <cd>
    <title>Still got the blues</title>
    <artist>Gary Moore</artist>
    <country>UK</country>
    <company>Virgin records</company>
    <price>10.20</price>
    <year>1990</year>
  </cd>
  <cd>
    <title>Eros</title>
    <artist>Eros Ramazzotti</artist>
    <country>EU</country>
    <company>BMG</company>
    <price>9.90</price>
    <year>1997</year>
  </cd>
  <cd>
    <title>One night only</title>
    <artist>Bee Gees</artist>
```

<country>UK</country>
<company>Polydor</company>
<price>10.90</price>
<year>1998</year>
</cd>
<cd>
<title>Sylvias Mother</title>
<artist>Dr.Hook</artist>
<country>UK</country>
<company>CBS</company>
<price>8.10</price>
<year>1973</year>
</cd>
<cd>
<title>Maggie May</title>
<artist>Rod Stewart</artist>
<country>UK</country>
<company>Pickwick</company>
<price>8.50</price>
<year>1990</year>
</cd>
<cd>
<title>Romanza</title>
<artist>Andrea Bocelli</artist>
<country>EU</country>
<company>Polydor</company>
<price>10.80</price>
<year>1996</year>
</cd>
<cd>
<title>When a man loves a woman</title>
<artist>Percy Sledge</artist>
<country>USA</country>
<company>Atlantic</company>
<price>8.70</price>
<year>1987</year>
</cd>
<cd>
<title>Black angel</title>
<artist>Savage Rose</artist>
<country>EU</country>
<company>Mega</company>
<price>10.90</price>
<year>1995</year>
</cd>
<cd>
<title>1999 Grammy Nominees</title>
<artist>Many</artist>
<country>USA</country>
<company>Grammy</company>
<price>10.20</price>
<year>1999</year>
</cd>
<cd>
<title>For the good times</title>
<artist>Kenny Rogers</artist>

<country>UK</country>
<company>Mucik Master</company>
<price>8.70</price>
<year>1995</year>
</cd>
<cd>
<title>Big Willie style</title>
<artist>Will Smith</artist>
<country>USA</country>
<company>Columbia</company>
<price>9.90</price>
<year>1997</year>
</cd>
<cd>
<title>Tupelo Honey</title>
<artist>Van Morrison</artist>
<country>UK</country>
<company>Polydor</company>
<price>8.20</price>
<year>1971</year>
</cd>
<cd>
<title>Soulsville</title>
<artist>Jorn Hoel</artist>
<country>Norway</country>
<company>WEA</company>
<price>7.90</price>
<year>1996</year>
</cd>
<cd>
<title>The very best of</title>
<artist>Cat Stevens</artist>
<country>UK</country>
<company>Island</company>
<price>8.90</price>
<year>1990</year>
</cd>
<cd>
<title>Stop</title>
<artist>Sam Brown</artist>
<country>UK</country>
<company>A and M</company>
<price>8.90</price>
<year>1988</year>
</cd>
<cd>
<title>Bridge of Spies</title>
<artist>T`Pau</artist>
<country>UK</country>
<company>Siren</company>
<price>7.90</price>
<year>1987</year>
</cd>
<cd>
<title>Private Dancer</title>
<artist>Tina Turner</artist>

```
<country>UK</country>
<company>Capitol</company>
<price>8.90</price>
<year>1983</year>
</cd>
<cd>
  <title>Midt om natten</title>
  <artist>Kim Larsen</artist>
  <country>EU</country>
  <company>Medley</company>
  <price>7.80</price>
  <year>1983</year>
</cd>
<cd>
  <title>Pavarotti Gala Concert</title>
  <artist>Luciano Pavarotti</artist>
  <country>UK</country>
  <company>DECCA</company>
  <price>9.90</price>
  <year>1991</year>
</cd>
<cd>
  <title>The dock of the bay</title>
  <artist>Otis Redding</artist>
  <country>USA</country>
  <company>Stax Records</company>
  <price>7.90</price>
  <year>1968</year>
</cd>
<cd>
  <title>Picture book</title>
  <artist>Simply Red</artist>
  <country>EU</country>
  <company>Elektra</company>
  <price>7.20</price>
  <year>1985</year>
</cd>
<cd>
  <title>Red</title>
  <artist>The Communards</artist>
  <country>UK</country>
  <company>London</company>
  <price>7.80</price>
  <year>1987</year>
</cd>
<cd>
  <title>Unchain my heart</title>
  <artist>Joe Cocker</artist>
  <country>USA</country>
  <company>EMI</company>
  <price>8.20</price>
  <year>1987</year>
</cd>
</catalog>
```


OUTPUT:

C:\Users\prash\Desktop\Web_Technology_Lab\Assi 3\xmlsl.xml

Search...

C:\Users\prash\Desktop\We...

My CD Collection

Title	Artist	Price	Year
Picture book	Simply Red	7.20	1985
Midt om natten	Kim Larsen	7.80	1983
Red	The Communards	7.80	1987
Soulsville	Jorn Hoel	7.90	1996
Bridge of Spies	T' Pau	7.90	1987
The dock of the bay	Otis Redding	7.90	1968
Sylvias Mother	Dr.Hook	8.10	1973
Tupelo Honey	Van Morrison	8.20	1971
Unchain my heart	Joe Cocker	8.20	1987
Maggie May	Rod Stewart	8.50	1990
When a man loves a woman	Percy Sledge	8.70	1987
For the good times	Kenny Rogers	8.70	1995
The very best of	Cat Stevens	8.90	1990
Stop	Sam Brown	8.90	1988
Private Dancer	Tina Turner	8.90	1983
Hide your heart	Bonnie Tyler	9.90	1988
Greatest Hits	Dolly Parton	9.90	1982
Eros	Eros Ramazzotti	9.90	1997
Big Willie style	Will Smith	9.90	1997
Pavarotti Gala Concert	Luciano Pavarotti	9.90	1991
Still got the blues	Gary Moore	10.20	1990
1999 Grammy Nominees	Many	10.20	1999
Romanza	Andrea Bocelli	10.80	1996
Empire Burlesque	Bob Dylan	10.90	1985
One night only	Bee Gees	10.90	1998
Black angel	Savage Rose	10.90	1995

Type here to search

9:44 PM 5/28/2020

C:\Users\prash\Desktop\Web_Technology_Lab\Assi 3\book.xml

Search...

C:\Users\prash\Desktop\We...

My CD Collection

Title	Artist	Price	Year
Picture book	Simply Red	7.20	1985
Bridge of Spies	T' Pau	7.90	1987
For the good times	Kenny Rogers	8.70	1995
The very best of	Cat Stevens	8.90	1990
Greatest Hits	Dolly Parton	9.90	1982
Still got the blues	Gary Moore	10.20	1990
Romanza	Andrea Bocelli	10.80	1996
Empire Burlesque	Bob Dylan	10.90	1985
Black angel	Savage Rose	10.90	1995

Type here to search

9:43 PM 5/28/2020

Assignment No - 4

Title of Program - HTML, Java Script

Objective -

1. Understand about basic concepts of JavaScript.
2. Use JavaScript for validation of data.

Code of Program –

registration.html

```
<html>

<head>
    <title>regform</title>
    <link href="samp.css" rel="stylesheet"></link>

    <script type="text/javascript">
        function Validation()
        {
            var emailID = document.myForm.EMail.value;
            var num = document.myForm.ph.value;

            atpos = emailID.indexOf("@");
            dotpos = emailID.lastIndexOf(".");

            if (atpos< 1 || ( dotpos - atpos < 2 ))
            {
                alert("Please enter correct email ID")
                document.myForm.EMail.focus() ;
                return false;
            }
            if (isNaN(num)){
                alert("Please enter numeric only.")
                document.myForm.ph.focus() ;
                return false;
            }
            else{    return true;}
        }
    </script>
</head>

<body>

<div class="con">
<form name="myForm" action="display.html" method="get" align="center">

<div class="con2">
</img>
</div>
```

```

<div class="main">
<table align="center">
<tr><td><b><br>Welcome to Registration Page<br><br></td></tr>
</table>

<div class="con1">
<table align="center">
<tr>
<td>Full Name:</td>
<td><input type="text" id="FirstName" value="" required></input></td>
</tr>
<tr>
<td>Class:</td>
<td><input type="text" id="Class" value="" required></input></td>
</tr>
<tr>
<td>Department:</td>
<td><input type="text" id="Department" value="" required></input></td>
</tr>
<tr>
<td>address:</td>
<td><textarea row="3" column="2" value="" required></textarea></td>
</tr>
<tr>
<td>email Id:</td>
<td><input type="text" value="" id="EMail" required></input></td>
</tr>
<tr>
<td>phone no:</td>
<td><input type="text" id="ph" value="" required></input></td>
</tr>
<tr>
<td></td><td></td></tr></table>
<table align="center">
<td><input type="submit" value="SUBMIT" onclick = "return (Validation());"></td>
<td><input type="reset" value="CANCEL"></td>
</tr>
</table>
</div>
</div>
</form>
</div>
</body>
</html>

```

samp.css

```

.con
{
width:400px;
height:400px;
background-color:lightgray;
color:blue;
padding:0px 10px 0px 10px;
margin:auto;
}

```

```

.main
{
width:400px;
height:80px;
float:left;
padding:60px 10px 10px 10px;
margin: auto;
}
.con1
{
width:200px;
height:30px;
float:left;
margin:auto;
padding:0px 0px 0px 0px;
}
.con2
{
width:150px;
height:30px;
float:left;
margin:10px 10px 10px 10px;
padding:0px 0px 0px 0px;
}

```

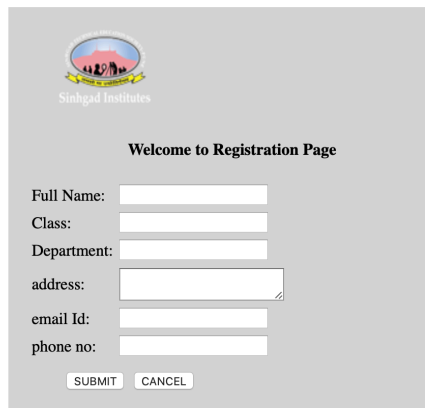
display.html


```

<html>
<head>
<title> display</title>
</head>
<body>
<h1 style="color:blue;margin-left:30px;"> You have submitted the form successfully....</h1>
</body>
</html>

```

OUTPUT :




Sinhgad Institutes

Welcome to Registration Page

Full Name:

Class:

Department:

address:

email Id:

phone no:

You have submitted the form successfully

Assignment No - 5

Title of Program - JSP, Servlet and MySQL (Backend)

Objective -

1. Understand about basic concepts of html, CSS
2. Understand the basic functionalities of JSP
3. Having the knowledge of SQL query to create the database

Code of Program –

index.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title> Login </title>
</head>
<body>
<table>
<tr>
<td width="300"></td>
<td> <font color="#339900" size="3.5">User Login</font>
<table>
<tr>
<td>
<form id="user1" method="post" action="User.jsp" name="s" onSubmit="return valid()">
<table border="2.0">
<tr>
<td>User Id</td>
<td><input type="text" name="user1"></td>
</tr>
<tr>
<td> Password</td>
<td><input type="password" name="pass"></td>
</tr>
<tr>
<td>
<center><input type="submit" name="user" value="Login"></center>
</td>
</tr></table>
<center><table>
<tr>
<td>
<a href="SignUp.jsp"><font color="#000000" size="2"><b>New User?</b></font></a></td></tr></table>
</tr></table></center>
</td>
</tr>
</tr>
```

```

</table>
</form>
</body>
</html>

```

loginfailure.jsp

```

<%@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> <font color="Red"> Please Provide Correct Username or Password!..Retry Again!..</font> </h1>
<table>
<tr>
<td>
<form id="user1" method="post" action="User.jsp" name="s" onSubmit="return valid()">
<table>
<tr>
<td>User Id</td>
<td><input type="text" name="user1"></td>
</tr>
<tr>
<td>Password</td>
<td><input type="password" name="pass"></td>
</tr>
<tr>
<td>
</td>
<td>
<input type="submit" name="user" value="Login"></td>
</tr></table>
</form>
</td>
</tr>
</table>
</body>
</html>

```

loginServlet.jsp

```

//LoginServlet.jsp
<%@page import="java.sql.*"%>
<%@ page import="java.io.*"%>
<%@ page import = "java.util.Date,java.text.SimpleDateFormat,java.text.ParseException"%>
<%
String a = request.getParameter("uid");
String x = request.getParameter("unn");
String b = request.getParameter("pass");
String c = request.getParameter("mob");
String d = request.getParameter("eid");
session.setAttribute("d",d);

```

```

//String f=request.getParameter("date");
//out.print(strDateNew1);
//out.print(x);
//out.print(b);
//out.print(c);
//out.print(d);
//out.print(f);
java.util.Date now = new java.util.Date();
String DATE_FORMAT = "yyyy-MM-dd";
SimpleDateFormat sdf = new SimpleDateFormat(DATE_FORMAT);
String strDateNew = sdf.format(now) ;
//response.sendRedirect("signup.jsp?message=success");
//String userid=null;
//String m="avl";
try
{
Class.forName("com.mysql.jdbc.Driver");
Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/loginpage","root","root");
PreparedStatement ps=con.prepareStatement("insert into
student(sname,suserid,spass,mobile,email,date) values(?,?,?,?,?, '"+strDateNew+"')");
//ResultSet rs=ps.executeQuery();
ps.setString(1,x);
ps.setString(2,a);
ps.setString(3,b);
ps.setString(4,c);
ps.setString(5,d);
ps.executeUpdate();
response.sendRedirect("SignUp.jsp?success");
}
catch(Exception e1)
{
out.println(e1.getMessage());
response.sendRedirect("SignUp.jsp?Failure");%>
}
%>

```

loginsuccess.jsp

```

<%@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> User Logged In Successfully!...</h1>
</body>
</html>
//LoginFailure.jsp
<%--
Document : LoginFailure
Created on : Dec 31, 2017, 2:42:21 PM
Author : Admin

```



```

--%>
<%@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> <font color="Red"> Please Provide Correct Username or Password!..Retry Again!..</font> </h1>
<table>
<tr>
<td>
<form id="user1" method="post" action="User.jsp" name="s" onSubmit="return valid()">
<table>
<tr>
<td>User Id</td>
<td><input type="text" name="user1"></td>
</tr>
<tr>
<td>Password</td>
<td><input type="password" name="pass"></td>
</tr>
<tr>
<td>
<td>
</td>
<td>
<input type="submit" name="user" value="Login"></td>
</tr></table>
</form>
</td>
</tr></table>
</body>
</html>

```

signup.jsp

```

<%@ page import="java.sql.*"%>
<%@ page import = "java.util.Date,java.text.SimpleDateFormat,java.text.ParseException"%>
<%--
Document : SignUp
Created on : Dec 30, 2017, 11:52:03 PM
Author : Admin
--%>
<%@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 bgcolor="Skyblue">
<%
java.util.Date now = new java.util.Date();
String DATE_FORMAT1 = "dd/MM/yyyy";
SimpleDateFormat sdf1 = new SimpleDateFormat(DATE_FORMAT1);

```

```

String strDateNew1 = sdf1.format(now);
%>
<table border="black" bgcolor=" black" align ="center" >
<tr>
<td> <strong><em><font color="#990000" size="+1" face="Times New Roman"
style="text-decoration:underline">User Registration</font></em></strong>
</td>
</tr>
</table>
<table border="black" align ="center">
<tr>
<td><form name="s" action="LoginServlet.jsp" method="get" onSubmit="return
valid()">
<table align="center" cellpadding="6" cellspacing="6" width="400" height="300">
<td>
<tr>
<td><font face="Times New Roman" size="+1"><strong>Name</strong></font></td>
<td>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type="text" name="unn" class="b"></td>
</tr>
<tr>
<td><font face="Times New Roman" size="+1"><strong>User ID</strong></font></td>
<td>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type="text" name="uid" id="name"></td>
</tr>
<tr>
<td><font face="Times New Roman"
size="+1"><strong>Password</strong></font></td>
<td>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type="password" name="pass" class="b"></td>
</tr>
<tr>
<td><font face="Times New Roman" size="+1"><strong>Mobile</strong></font></td>
<td>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type="text" name="mob" class="b"></td>
</tr>
<tr>
<td><font face="Times New Roman" size="+1"><strong>Email
ID</strong></font></td>
<td>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type="text" name="eid" class="b"></td>
</tr>
<tr>
<td><font face="Times New Roman" size="+1"><strong>Date</strong></font></td>
<td>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type="text" name="date" class="b"
value="<%=strDateNew1%>"></td>
</tr>
<tr>
<td></td>
<td>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type="submit" name="s" value="submit"
class="b1" >
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<input type="reset" name="r" value="clear" class="b1"></td>
</tr></td>
</table>
</form></td>
</tr></table>
<center> <table><tr><td> <a href="index.jsp"><font color="#000000" size="2"><b>Login Here</b></font></a>
</td>
</tr></table></center>

```

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

user.jsp

```
<%@ page import="java.sql.*;"%>
<%
String a=request.getParameter("user1");
String b=request.getParameter("pass");
String id=null,name=null,userid=null,email=null;
try{
Class.forName("com.mysql.jdbc.Driver");
Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/loginpage","root","root");
//Connection con = databasecon.getConnection();
PreparedStatement ps=con.prepareStatement("select sid,sname,suserid,email from student where
suserid='"+a+"' && spass='"+b+"'");
ResultSet rs=ps.executeQuery();
if(rs.next())
{
id=rs.getString("sid");
name=rs.getString("sname");
userid=rs.getString("suserid");
email=rs.getString("email");
session.setAttribute("sid",id);
session.setAttribute("sname",name);
session.setAttribute("suserid",userid);
session.setAttribute("email",email);
//response.sendRedirect("user5.jsp");
response.sendRedirect("LoginSuccess.jsp?Success");
//out.print(name2);
}
else
{
response.sendRedirect("LoginFailure.jsp?Failure");
}
}
catch(Exception e2){
out.println(e2.getMessage());
}
%>
```

OUTPUT :

User Login

User Id	<input type="text"/>
Password	<input type="password"/>
<input type="button" value="Login"/>	

[New User?](#)

Please Provide Correct Username or Password!..Retry Again!..

User Id	<input type="text"/>
Password	<input type="password"/>
<input type="button" value="Login"/>	

User Logged In Successfully!...

User Registration

Name	<input type="text" value="admin"/>
User ID	<input type="text" value="admin1234"/>
Password	<input type="password" value="*****"/>
Mobile	<input type="text" value="9988776655"/>
Email ID	<input type="text" value="admin@gmail.com"/>
Date	<input type="text" value="28/05/2020"/>
	<input type="button" value="submit"/> <input type="button" value="clear"/>

[Login Here](#)

Assignment No - 6

Title of Program - Add dynamic web application essence using PHP, HTML and MySQL

Objective -

To understand the principles and methodologies of PHP web based applications development process.

Code of Program –

add.html

```
<html>

<head>

    <title>Employee Data</title>

</head>

<body>

    <a href="index.php">Home</a>

    <br/><br/>

    <form action="add.php" method="post" name="form1">

        <table width="25%" border="0">

            <tr>

                <td>Name</td>

                <td><input type="text" name="name"></td>

            </tr>

            <tr>

                <td>Age</td>

                <td><input type="text" name="age"></td>

            </tr>

            <tr>

                <td>Email</td>

                <td><input type="text" name="email"></td>

            </tr>

        </table>

    </form>

</body>

</html>
```

```

        <tr>

            <td></td>

            <td><input type="submit" name="Submit" value="Add"></td>

        </tr>

    </table>

</form>

</body>

</html>

```

add.php

```

<html>

<head>

    <title>Add Data</title>

</head>

<body>

<?php

//including the database connection file

include_once("config.php");

if(isset($_POST['Submit'])) {

    $name = mysqli_real_escape_string($mysqli, $_POST['name']);

    $age = mysqli_real_escape_string($mysqli, $_POST['age']);

    $email = mysqli_real_escape_string($mysqli, $_POST['email']);

    // checking empty fields

    if(empty($name) || empty($age) || empty($email)) {

        if(empty($name)) {

            echo "<font color='red'>Name field is empty.</font><br/>";

        }

    }

}

```

```

        if(empty($age)) {
            echo "<font color='red'>Age field is empty.</font><br/>";
        }

        if(empty($email)) {
            echo "<font color='red'>Email field is empty.</font><br/>";
        }

        //link to the previous page
        echo "<br/><a href='javascript:self.history.back();'>Go Back</a>";
    } else {
        // if all the fields are filled (not empty)

        //insert data to database
        $result = mysqli_query($mysqli, "INSERT INTO users(name,age,email)
VALUES('$name','$age','$email')");

        //display success message
        echo "<font color='green'>Data added successfully.";
        echo "<br/><a href='index.php'>View Result</a>";
    }
}
?>
</body>
</html>

```


config.php

```
<?php
```

```
$databaseHost = 'localhost';
```

```
$databaseName = 'test';
```

```
$databaseUsername = 'root';
```

```
$databasePassword = '';
```

```
$mysqli = mysqli_connect($databaseHost, $databaseUsername, $databasePassword, $databaseName);
```

```
?>
```

delete.php

```
<?php
```

```
//including the database connection file
```

```
include("config.php");
```

```
//getting id of the data from url
```

```
$id = $_GET['id'];
```

```
//deleting the row from table
```

```
$result = mysqli_query($mysqli, "DELETE FROM users WHERE id=$id");
```

```
//redirecting to the display page (index.php in our case)
```

```
header("Location:index.php");
```

```
?>
```

edit.php

```
<?php
```

```
// including the database connection file
```

```
include_once("config.php");
```

```
if(isset($_POST['update']))
```

```
{
```

```
    $id = mysqli_real_escape_string($mysqli, $_POST['id']);
```

```

$name = mysqli_real_escape_string($mysqli, $_POST['name']);
$age = mysqli_real_escape_string($mysqli, $_POST['age']);
$email = mysqli_real_escape_string($mysqli, $_POST['email']);

// checking empty fields
if(empty($name) || empty($age) || empty($email)) {

    if(empty($name)) {
        echo "<font color='red'>Name field is empty.</font><br/>";
    }

    if(empty($age)) {
        echo "<font color='red'>Age field is empty.</font><br/>";
    }

    if(empty($email)) {
        echo "<font color='red'>Email field is empty.</font><br/>";
    }

} else {

    //updating the table

    $result = mysqli_query($mysqli, "UPDATE users SET
name='$name',age='$age',email='$email' WHERE id=$id");

    //redirectig to the display page. In our case, it is index.php

    header("Location: index.php");

}

?>

<?php

//getting id from url

$id = $_GET['id'];

```

```
//selecting data associated with this particular id
```

```
$result = mysqli_query($mysqli, "SELECT * FROM users WHERE id=$id");
```

```
while($res = mysqli_fetch_array($result))
```

```
{
```

```
    $name = $res['name'];
```

```
    $age = $res['age'];
```

```
    $email = $res['email'];
```

```
}
```

```
?>
```

```
<html>
```

```
<head>
```

```
    <title>Edit Data</title>
```

```
</head>
```

```
<body>
```

```
    <a href="index.php">Home</a>
```

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

```
    <form name="form1" method="post" action="edit.php">
```

```
        <table border="0">
```

```
            <tr>
```

```
                <td>Name</td>
```

```
                <td><input type="text" name="name" value="<?php echo $name;?>
```

```
>"></td>
```

```
            </tr>
```

```
            <tr>
```

```
                <td>Age</td>
```

```
                <td><input type="text" name="age" value="<?php echo $age;?>"></td>
```

```
            </tr>
```

```
            <tr>
```

```
                <td>Email</td>
```

```

                <td><input type="text" name="email" value="<?php echo $email;?
>"></td>

            </tr>

            <tr>

                <td><input type="hidden" name="id" value="<?php echo $_GET['id'];?
>></td>

                <td><input type="submit" name="update" value="Update"></td>

            </tr>

        </table>

    </form>

</body>

</html>

```

index.php

```

<?php
//including the database connection file
include_once("config.php");
//fetching data in descending order (lastest entry first)
//$result = mysql_query("SELECT * FROM users ORDER BY id DESC"); // mysql_query is deprecated
$result = mysqli_query($mysqli, "SELECT * FROM users ORDER BY id DESC"); // using mysqli_query in-
stead
?>

<html>

<head>

    <title>Homepage</title>

</head>

<body>

<a href="add.html">Add New Data</a><br/><br/>

    <table width='80%' border=0>

```

```

<tr bgcolor='#CCCCCC'>
    <td>Name</td>
    <td>Age</td>
    <td>Email</td>
    <td>Update</td>
</tr>
<?php
    //while($res = mysql_fetch_array($result)) { // mysql_fetch_array is deprecated, we need to
use mysqli_fetch_array
    while($res = mysqli_fetch_array($result)) {
        echo "<tr>";
        echo "<td>".$res['name'].</td>";
        echo "<td>".$res['age'].</td>";
        echo "<td>".$res['email'].</td>";
        echo "<td><a href=\"edit.php?id=$res[id]\">Edit</a> | <a href=\"delete.php?
id=$res[id]\" onClick=\"return confirm('Are you sure you want to delete?')\">Delete</a></td>";
    }
    ?>
</table>
</body>
</html>

```

OUTPUT :

← → ↻ 🏠 🌐 localhost/Assi%206/Assi%206/emp/edit.php?id=3 🔍 ☆ 📧 📧 📧 📧 ⋮

[Home](#)

Name

Age

Email

← → ↻ 🏠 🌐 localhost/Assi%206/Assi%206/emp/add.php 🔍 ☆ 📧 📧 📧 📧 ⋮

Data added successfully.

[View Result](#)

← → ↻ 🏠 🌐 localhost/Assi%206/Assi%206/emp/index.php 🔍 ☆ 📧 📧 📧 📧 ⋮

[Add New Data](#)

Name	Age	Email	Update
Prashant Kumar	22	prashant@gmail.com	Edit Delete

Assignment No - 7

Title of Program - Add dynamic web application essence using **PHP, AJAX** and **MySQL**.

Objective -

To understand the principles and methodologies of web based applications development process.

Code of Program –

Demo.html

```
<html>
<head>
<script>
var request;
function sendInfo()
{
var v=document.vinform.t1.value;
var url="index.php?val="+v;

if(window.XMLHttpRequest){
request=new XMLHttpRequest();
}

try
{
request.onreadystatechange=getInfo;
request.open("GET",url,true);
request.send();
}
catch(e)
{
alert("Unable to connect to server");
}

} //sendInfo() close
```

```

function getInfo()
{
if(request.readyState==4)
{
var val=request.responseText;
document.getElementById('amit').innerHTML=val;
}
}

</script>
</head>
<body>
    <marquee><h1>This is an example of ajax</h1></marquee>
    <form name="vinform">
    Enter id:<input type="text" name="t1" onkeyup="sendInfo()">
    </form>

    <p id="amit"> </p>

</body>
</html>

```

index.php

```

<?php

$q = intval($_GET['val']);

$con = mysqli_connect("localhost","root","","test");

```



```
$result = mysqli_query($con,"SELECT * FROM ajax WHERE id = $q");
```

```
while($res=mysqli_fetch_array($result))  
{  
    echo $res['id']. " ". $res['name']. "</br></br>";  
}
```

```
?>
```

ajax.sql

```
-- phpMyAdmin SQL Dump  
-- version 4.5.0.2  
-- http://www.phpmyadmin.net  
--  
-- Host: 127.0.0.1  
-- Generation Time: Apr 05, 2018 at 07:47 AM  
-- Server version: 10.0.17-MariaDB  
-- PHP Version: 5.6.14
```

```
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";  
SET time_zone = "+00:00";
```

```
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;  
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;  
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;  
/*!40101 SET NAMES utf8mb4 */;
```

```
--  
-- Database: `test`  
--
```

--

-- Table structure for table `ajax`

--

```
CREATE TABLE `ajax` (  
  `id` int(3) NOT NULL,  
  `name` varchar(30) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

--

-- Dumping data for table `ajax`

--

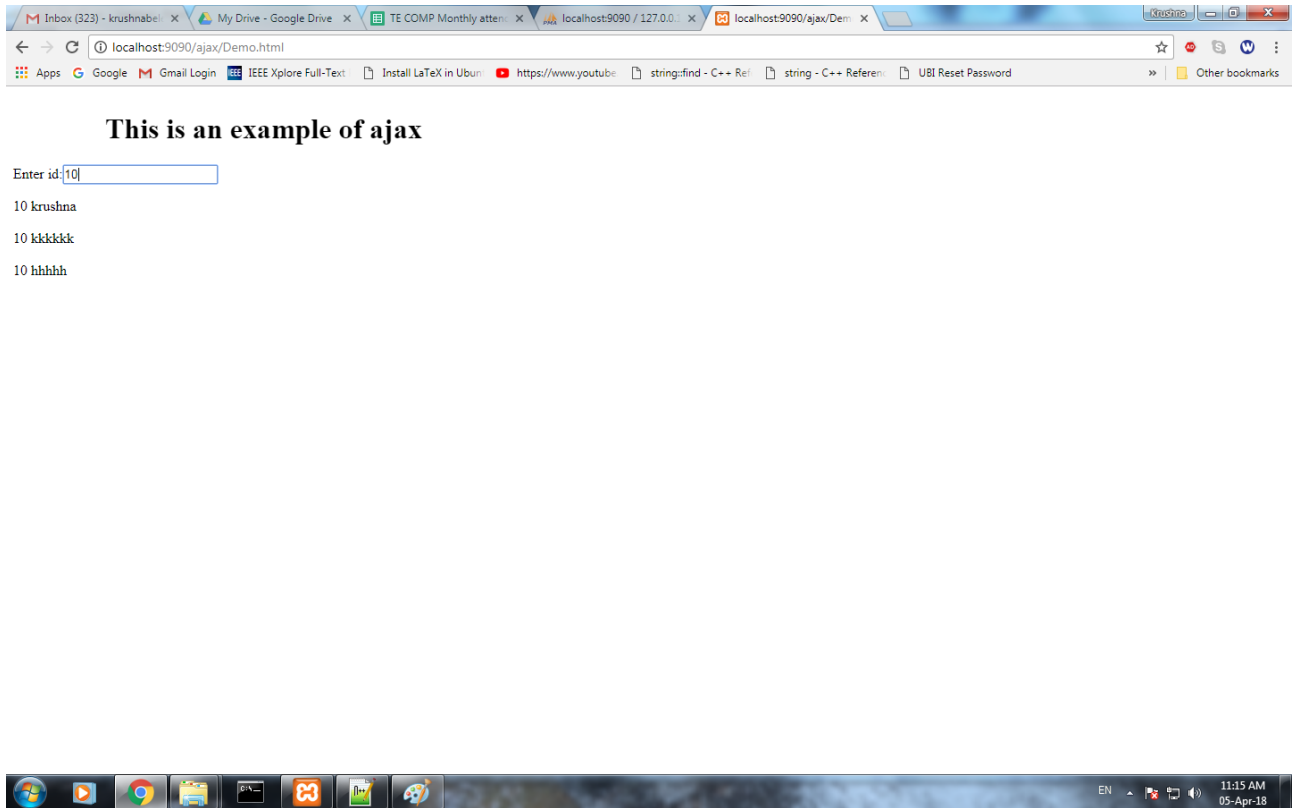
```
INSERT INTO `ajax` (`id`, `name`) VALUES  
(10, 'krushna'),  
(20, 'rama'),  
(10, 'kkkkkk'),  
(10, 'hhhhh');
```

```
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
```

```
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
```

```
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

OUTPUT :



Assignment No - 8

Title of Program - Design and develop any web application using Struts framework

Objective -

1. To impart the efficient and available client side and server side technologies.
2. To implement the communication between computing nodes using client side and server side technologies.
3. To design and implement the web services with content management.

Code of Program –

welcomestruts.jsp

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

<%@ taglib uri="http://struts.apache.org/tags-bean" prefix="bean" %>
<%@ taglib uri="http://struts.apache.org/tags-html" prefix="html" %>
<%@ taglib uri="http://struts.apache.org/tags-logic" prefix="logic" %>

<html:html lang="true">
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title><bean:message key="welcome.title"/></title>
    <html:base/>
  </head>
  <body style="background-color: white">

    <logic:notPresent name="org.apache.struts.action.MESSAGE" scope="application">
      <div style="color: red">
        ERROR: Application resources not loaded -- check servlet container
        logs for error messages.
      </div>
    </logic:notPresent>

    <h3><bean:message key="welcome.heading"/></h3>
    <p><bean:message key="welcome.message"/></p>

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

success.jsp

```
<%@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>success page</h1>
</body>
</html>
```

login.jsp

```
<%@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>login</h1>
    <form action="loginform.do" method="post">
      Username <input type="text" name="uname"/><br/>
      password <input type="password" name="upass"/><br/>
      <input type="submit" value="ok"/><br/>

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

index.jsp

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

<jsp:forward page="Welcome.do"/>
```

failure.jsp

```
<%@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>failure</h1>
  </body>
</html>
```

OUTPUT:

login

success page

failure

Assignment No - 9

Title of Program - Design and develop any web application using AngularJS

Objective -

1. Understand the design of single-page applications and how AngularJS facilitates their development.
2. Properly separate the model, view, and controller layers of your application and implement those using AngularJS.
3. Master AngularJS expressions, filters, and scopes
4. Build Angular forms
5. Elegantly implement Ajax in your AngularJS applications
6. Write AngularJS directives

Code of Program –

index.html

```
<!--index.html-->
```

```
<html>
```

```
<head>
```

```
<!--<script src="angular.min.js"></script> -->
```

```
<script src="angular.min.js"></script>
```

```
</head>
```

```
<body>
```

```
<h2>Shopping Card Example</h2>
```

```
<div data-ng-app="myapp" data-ng-controller="CartForm">
```

```
<table class="table" >
```

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

```
<tr>
```

```
<th>Description</th>
```

```
<th>Qty</th>
```

```
<th>Cost</th>
```

```
<th>Total</th>
```

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

```
</tr>
```

```
<tr ng:repeat="item in cart.items">
```

```
<td><input type="text" ng:model="item.description"></td>
```

```
<td><input type="number" ng:model="item.qty" ng:required></td>
```

```
<td><input type="number" ng:model="item.cost" ng:required></td>
```

```
<td>{{item.qty * item.cost | currency:'Rs '}}</td>
```



```
<td>[<a href ng:click="removeItem($index)">X</a>]</td>
```

```
</tr>
```

```
<tr>
```

```
<td><a href ng:click="addItem()">add item</a></td>
```

```
<td></td>
```

```
<td>Total:</td>
```

```
<td>{{total() | currency:'Rs '}}</td>
```

```
</tr>
```

```
</table>
```

```
</div>
```

```
<script src="cart.js">
```

```
</script>
```

```
</body>
```

```
</html>
```

cart.js

```
var app=angular.module('myapp',[]);
```

```
app.controller('CartForm', function($scope)
{
```

```
$scope.cart =  
{  
  
  items: [{ qty: "", description: "", cost: ""}]  
}  
  
$scope.addItem = function()  
{  
  
  $scope.cart.items.push({ qty: "", description: "", cost: ""});  
  
}  
  
$scope.removeItem = function(index)  
{  
  
  $scope.cart.items.splice(index, 1);  
  
}  
  
$scope.total = function()  
{  
  
  var total = 0;  
  
  angular.forEach($scope.cart.items, function(item)  
  {  
  
    total += item.qty * item.cost;  
  
  })  
  
  return total;  
  
}  
}  
);
```

OUTPUT :

Shopping Card Example

Description	Qty	Cost	Total	
Apple	4	100	Rs 400.00	<input type="checkbox"/>
Pineapple	4	75	Rs 300.00	<input type="checkbox"/>
Tomato	2	20	Rs 40.00	<input type="checkbox"/>
add item		Total:	Rs 740.00	

Assignment No - 10

Title of Program - Web Application using EJB

Objective -

1. Understand about basic concepts of java beans.
2. Understand the basic functionalities of JSP, HTML.
3. Having the knowledge of JBOSS server to deploy web application.

Code of Program –

form.css

```
body{
    background-color: #eee;

}
form{

    font-size:20px;
}
h1{
    padding:10px;
    text-align: center;
    color:red;
}
div{
    padding:20px;
    background-color:white;
    width:30%;
    margin: auto;
    border-radius: 20px;
}

p{
    display:inline-block;
    width:40%;
}
.pc{
    color:red;
}
input[type=submit]{
```

```

        background-color:red;
        color:white;
        width:80%;
        border:none;
        border-radius:20px;
        padding:10px;
        font-weight:bolder;
        font-size:20px;

    margin-left:10%;
}
input[type=submit]:hover{
    background-color:blue;
}

```

index.jsp

```

<%@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>
        <link rel="stylesheet" type="text/css" href="form.css">
    </head>
    <body>
        <!--form action="calcServlet" method="POST">
            <input type="text" name="t1">
            <input type="text" name="t2">
            <input type="text" name="choice">

            <select name="choice">
                <option value="1">+</option>
                <option value="2">-</option>
                <option value="3">*</option>
                <option value="4">/</option>
            </select>

            <input type="submit" value="ADD">

        </form -->

        <h1>Calculator</h1>
        <div>
            <form action="calcServlet" method="POST">
                <p>First Number: </p><input type="text" name="t1">
                <p>Second Number: </p><input type="text" name="t2"><br />
                <!--<select name="option">
                    <option value="add()">Addition</option>
                    <option value="sub()">Addition</option>
                    <option value="mul()">Multiplication</option>
                    <option value="div()">Division</option>
                </select>-->

```

```

        <input type="radio" name="choice" value="1" /><p class="pc">Addition</p><br />
        <input type="radio" name="choice" value="2" /><p class="pc">Subtraction</p><br />
        <input type="radio" name="choice" value="3" /><p class="pc">Multiplication</p><br />
        <input type="radio" name="choice" value="4" /><p class="pc">Division</p><br />
        <input type="submit" value="Submit" />
    </form>
</div>

</body>
</html>

```

web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app version="3.1" xmlns="http://xmlns.jcp.org/xml/ns/javaee" xmlns:xsi="http://www.w3.org/2001/
XMLSchema-instance" xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/
ns/javaee/web-app_3_1.xsd">
    <servlet>
        <servlet-name>calcservlet</servlet-name>
        <servlet-class>SessionBean.calcservlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>calcservlet</servlet-name>
        <url-pattern>/calcservlet</url-pattern>
    </servlet-mapping>
    <session-config>
        <session-timeout>
            30
        </session-timeout>
    </session-config>
</web-app>

```

OUTPUT:

Calculator

First Number:

Second Number:

☐ Addition
 ☐ Subtraction
 ☐ Multiplication
 ☐ Division

Submit