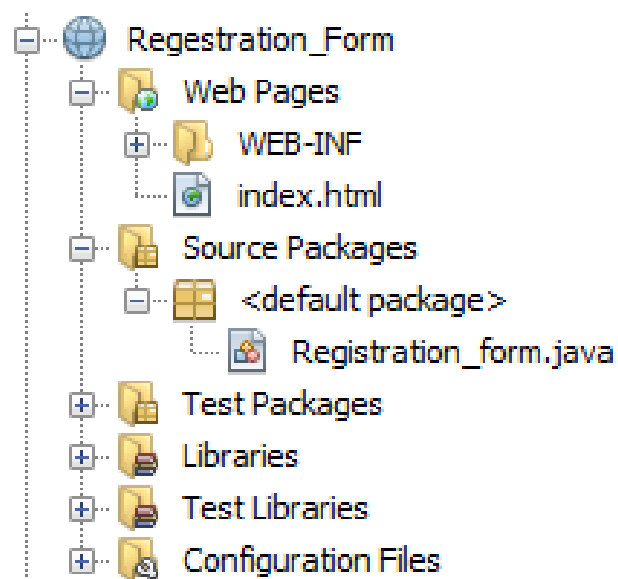


**Experiment: 1 (a)**

**Aim:** Create a web application to demonstrate Servlet using student registration form.

**Application File Structure:**

**Source code:****index.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Registration Form</title>
  <style>
    .div{
      width:400px;
      position:absolute;
      top:50%;
      left:50%;
      transform: translate(-50%,-50%);
      box-shadow: 20px 20px 50px rgba(0,0,0,0.5) ;
      background:rgba(255,255,255,0.2);
      padding : 30px;

      background: rgba(255, 255, 255, 0.16);
      border-radius: 16px;
      box-shadow: 0 4px 30px rgba(0, 0, 0, 0.1);
      backdrop-filter: blur(5.6px);
      -webkit-backdrop-filter: blur(5.6px);
      border: 1px solid rgba(255, 255, 255, 0.02);
    }
    body{
      background: linear-gradient(#0077ff,rgb(0, 255, 157));
      height: 98vh;
    }
    .in{
      width:93%;
      background:none;
      border:none;
      outline: none;
      border-bottom: 2px solid rgb(12, 36, 255);
      cursor:pointer;
      padding:5px;
      margin:5px;
      font-size:18px;
      align-items: center;
    }
    .bt{
      width:95%;
      background:none;
      border:2px solid rgb(0, 17, 255);
      cursor:pointer;
      padding:5px;
      margin:5px;
      font-size:18px;
      align-items:center;
```

```
    }
    .bt:hover{
        background-color:yellow;
    }
    .c{
        width: 20px;
        height:20px;
    }

    .lables{
        font-family: 'Franklin Gothic Medium', 'Arial Narrow', Arial, sans-serif;
        font-size: 20px;
    }
</style>
</head>
<body>
    <div class="div">
    <form action="Registration_form">
        <table>
            <tr>
                <td class="lables">Name</td>
                <td><input type="text" class="in" name="name"></td>
            </tr>
            <tr>
                <td class="lables">Reg no.</td>
                <td><input type="text" class="in" name="reg_no"></td>
            </tr>
            <tr>
                <td class="lables"> Academic Year</td>
                <td><input list="year" class="in" name="year"></td>

                <datalist id="year">
                    <option value="2015-2016">
                    <option value="2016-2017">
                    <option value="2017-2018">
                    <option value="2018-2019">
                    <option value="2019-2020">
                    <option value="2020-2021">

                </datalist>
            </tr>
            <tr>
                <td class="lables">Branch</td>
                <td><input type="text" list="Branch" class="in" name="branch"></td>

                <datalist id="Branch">
                    <option value="CSE">
                    <option value="IT">
                    <option value="ECE">
                    <option value="EEE">
                    <option value="Civil">
                    <option value="Mechanical">
```

```

        <option value="E&I">
        <option value="Data Science">
        <option value="Cyber Security">
    </datalist>

</tr>
<tr>
    <td class="lables">Year Of Study</td>
    <td><input list="yos" name="year_of_study" class="in"></td>
    <datalist id="yos">
        <option value="I Year ">
        <option value="II Year">
        <option value="III Year">
        <option value="IV Year">
    </datalist>
</tr>
<tr>
    <td class="lables">Course</td>
    <td><input list="course" name="course" class="in"></td>
    <datalist id="course">
        <option value="B.TECH."></option>
        <option value="M.TECH."></option>
        <option value="M.SC."></option>
        <option value="MCA"></option>
        <option value="DIPLOMA"></option>
    </datalist>
</tr>

<tr>
    <td class="lables">Languages</td>
    <td>
        <input type="checkbox" class="c" name="Languages" value="python">
        <label for="python" class="lables"> Python&nbsp;  </label>

        <input type="checkbox" class="c" name="Languages" value="c">
        <label for="c" class="lables">C</label><br>
        <input type="checkbox" class="c" name="Languages" value="java">
        <label for="java" class="lables"> Java &nbsp;  &nbsp; </label>
        <input type="checkbox" class="c" name="Languages" value="c++">
        <label for="c++" class="lables">C++</label>
    </td>
</tr>
<tr>
    <td><input type="submit" class="bt" value="Submit"></td>
    <td><input type="reset" class="bt" value="Reset"></td>
</tr>
</table>

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

```

**Output:**

Registration Form

localhost:8080/Registration\_Form/

Name \_\_\_\_\_

Reg no. \_\_\_\_\_

Academic Year \_\_\_\_\_

Branch \_\_\_\_\_

Year Of Study \_\_\_\_\_

Course \_\_\_\_\_

Languages ☐ Python ☐ C  
☐ Java ☐ C++

Registration Form

localhost:8080/Registration\_Form/

Name Bojada Balaji

Reg no. Y19AIT413

Academic Year 2020-2021

Branch IT

Year Of Study III Year

Course B.TECH.

Languages ☒ Python ☒ C  
☒ Java ☐ C++

**Registration\_form.java**

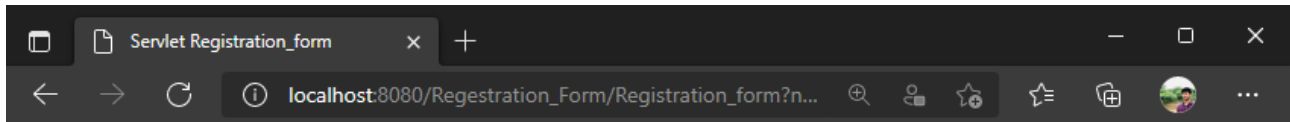
```
import java.io.IOException;
import java.io.PrintWriter;
import java.util.Enumeration;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

public class Registration_form extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Servlet Registration_form</title>");
            out.println("</head>");
            out.println("<body>");
            out.println("<h1>Student Detials</h1>");
            out.println("<h3>");

            Enumeration names=request.getParameterNames();
            while(names.hasMoreElements()){
                String name=(String)names.nextElement();
                String[] values=request.getParameterValues(name);
                out.println("<br>"+name+" : ");
                for(String v:values){
                    out.println(v);
                }
            }

            out.println("</h3>");
            out.println("</body>");
            out.println("</html>");
        }
    }
}
```

**Output:**

## Student Detials

**name : BOJADLA BALAJI**

**reg\_no : Y19AIT413**

**year : 2020-2021**

**branch : IT**

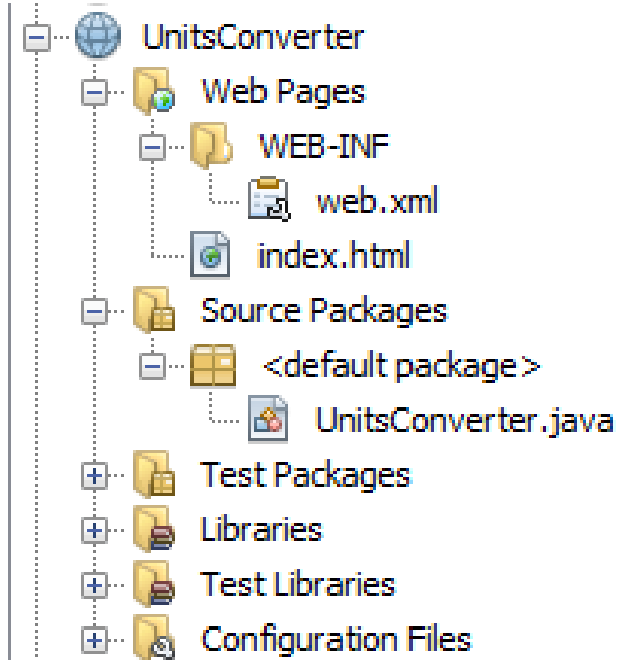
**year\_of\_study : III Year**

**course : B.TECH.**

**Languages : python c java**

**Experiment: 1 (b)**

**Aim:** Create a web application to demonstrate Servlet using units converter.

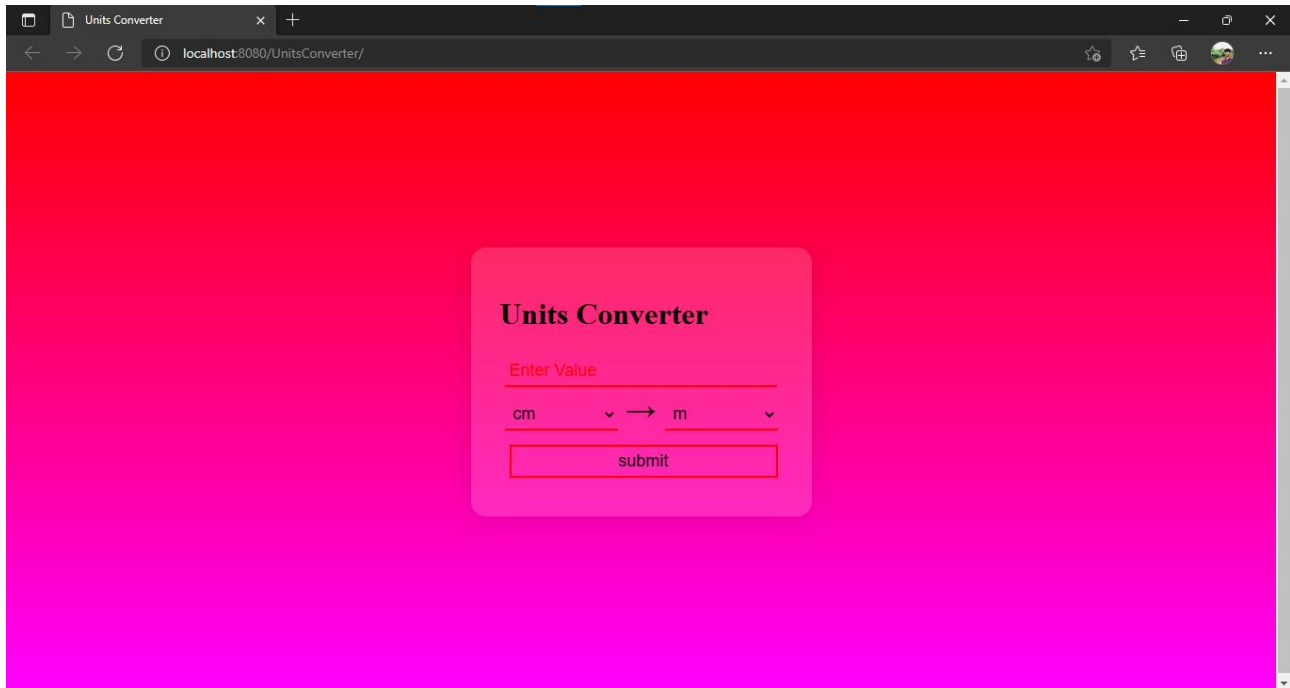
**Application File Structure:**



**Source code:****index.html**

```
<!DOCTYPE html>
<html>
  <head>
    <title>Units Converter</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <style>
      body{
        background: linear-gradient(#f00,#f0f);
        height: 98vh;
      }
      #h{
        color:red;
      }
      #btn{
        width:95%;
        background:none;
        border:2px solid red;
        cursor:pointer;
        padding:5px;
        margin:5px;
        font-size:18px;
        align:center;
      }
      .in{
        width:93%;
        background:none;
        border:none;
        outline: none;
        border-bottom: 2px solid red;
        cursor:pointer;
        padding:5px;
        margin:5px;
        font-size:18px;
        align: center;
      }
      .in2{
        width:40%;
        background:none;
        border:none;
        outline: none;
        border-bottom: 2px solid red;
        cursor:pointer;
        padding:5px;
        margin:5px;
        font-size:18px;
        align: center;
      }
      #btn:hover{
        background-color:yellow;
```

```
    }
    .login-box{
        width:300px;
        position:absolute;
        top:50%;
        left:50%;
        transform: translate(-50%,-50%);
        box-shadow: 20px 20px 50px rgba(0,0,0,0.5) ;
        background:rgba(255,255,255,0.2);
        padding : 30px;
    }
    input::placeholder {
        color: red;
        opacity: 1;
    }
    .hh{
        float:left;
        border-bottom: 2px solid red;
    }
    #btn{
        margin:10px;
    }
    #arr{
        font-size:32px;
    }
</style>
</head>
<body bgcolor="pink">
    <div class="login-box">
        <h1 id="hh" >Units Converter</h1>
        <form action="UnitsConverter">
            <input class="in" type="text" name="input" placeholder="Enter Value"/><br>
            <select class="in2" name="from_units">
                <option value="cm">cm</option>
                <option value="m">m</option>
                <option value="inches">inches</option>
                <option value="km">km</option>
                <option value="feet">feet</option>
            </select>
            <span id="arr"><b>&#8594;</b></span>
            <select class="in2" name="to_units">
                <option value="m">m</option>
                <option value="cm">cm</option>
                <option value="inches">inches</option>
                <option value="km">km</option>
                <option value="feet">feet</option>
            </select>
            <br><input id="btn" type="submit" value="submit"/>
        </form>
    </div>
</body>
</html>
```

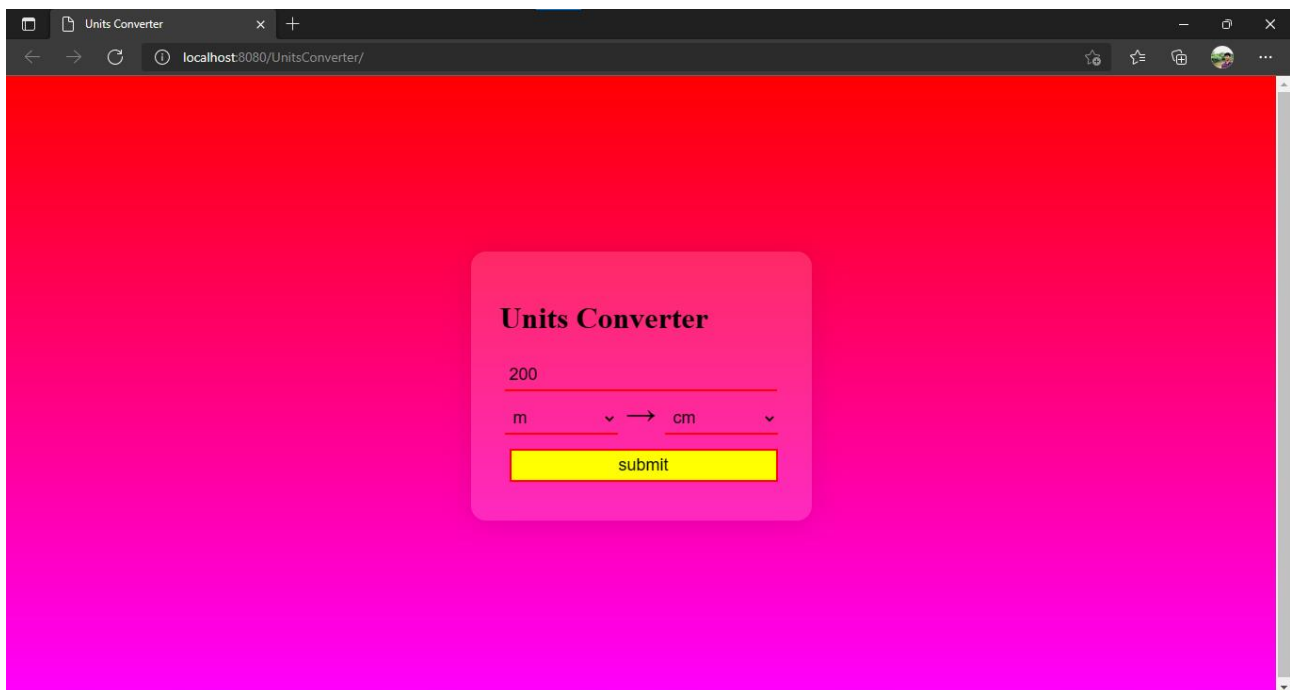
**Output:**

Units Converter

Enter Value

cm → m

submit



Units Converter

200

m → cm

submit

**UnitsConverter.java**

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

public class UnitsConverter extends HttpServlet {

    double Converter(double in,String unit){
        double value=in;
        switch(unit){
            case "cm":
                value/=0.01;
                break;
            case "m":
                break;
            case "km":
                value/=1000;
                break;
            case "inches":
                value*=39.370;
                break;
            case "feet":
                value*=3.2808;
                break;
        }
        return value;
    }

    @Override
    protected void service(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

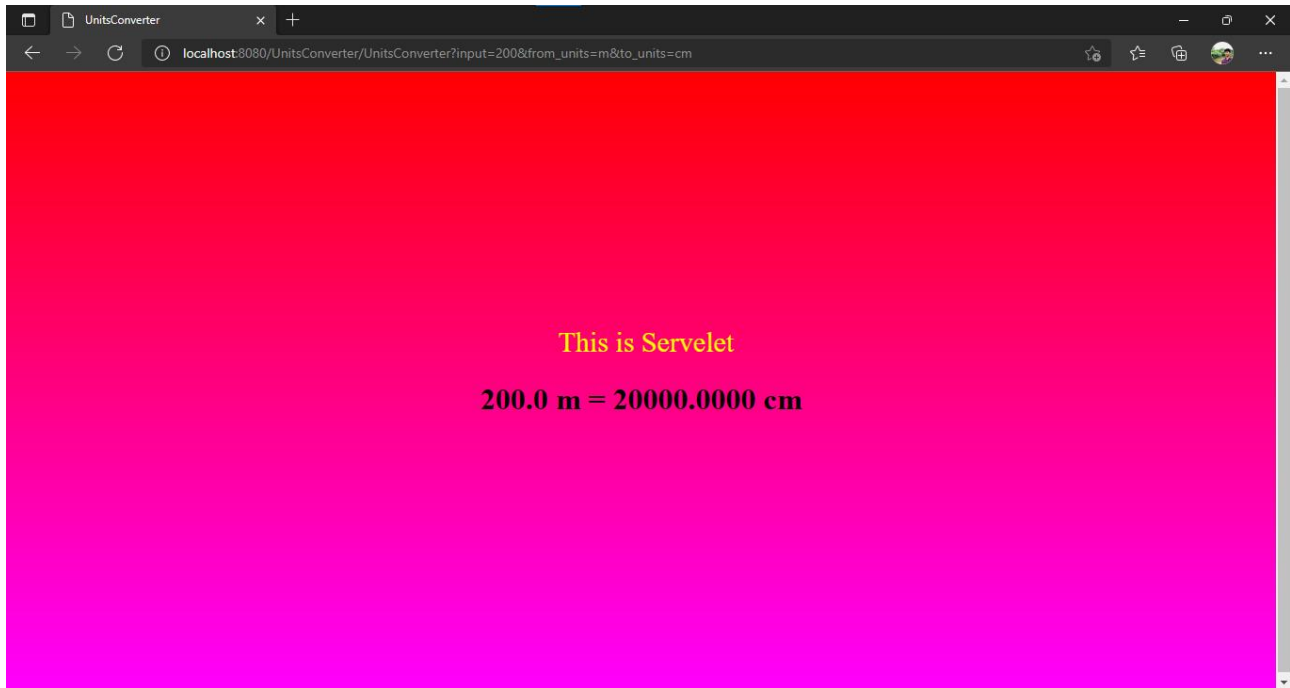
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            String from=request.getParameter("from_units");
            String to=request.getParameter("to_units");
            double in=Integer.parseInt(request.getParameter("input"));
            double output=0;

            switch(from){
                case "m": output=Converter(in,to);
                    break;
                case "cm": output=Converter(in/100,to);
                    break;
                case "inches": output=Converter(in/39.370,to);
                    break;
                case "km": output=Converter(in*1000,to);
                    break;
            }
        }
    }
}
```

```
        case "feet": output=Converter(in/3.2808,to);
            break;
    }

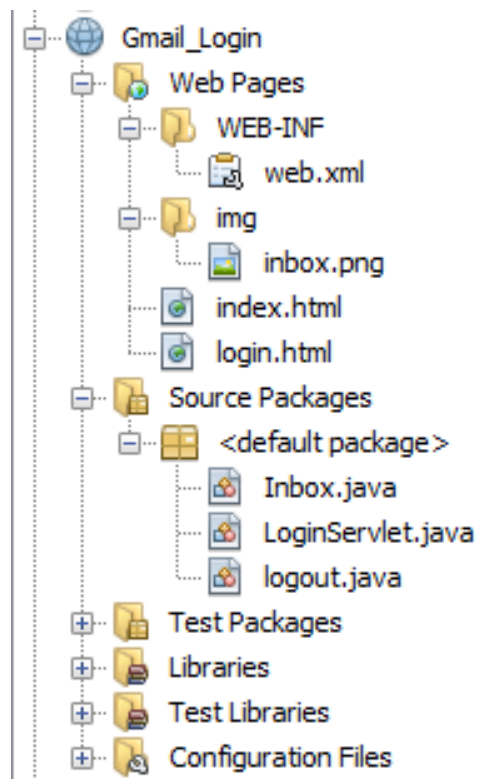
    String css="<style>"
        + ".d{"
        + "position:absolute;"
        + "top:50%;"
        + "left:50%;"
        + "transform:translate(-50%,-50%);"
        + "}"
        + ".m{"
        + "color:yellow;"
        + "font-size:30px;"
        + ""
        + "}"
        + "body{"
        + "background: linear-gradient(#f00,#f0f);"
        + "height: 98vh;"
        + "}"
        + "</style>";

    out.println("<!DOCTYPE html>");
    out.println("<html>");
    out.println("<head>");
    out.println("<title>UnitsConverter</title>");
    out.println(css);
    out.println("</head>");
    out.println("<body ><div class=\""+d+"\">");
    out.println("<marquee class=\""+m+"\" direction=\""+right+"\" >This is Servlet</marquee>");
    out.println("<h1>"+in+" "+from);
    out.println("= "+String.format("%.4f", output)+" " +to+"</h1>");
    out.println("</div></body>");
    out.println("</html>");
    }
}
```

**Output:**

**Experiment: 2 (a)**

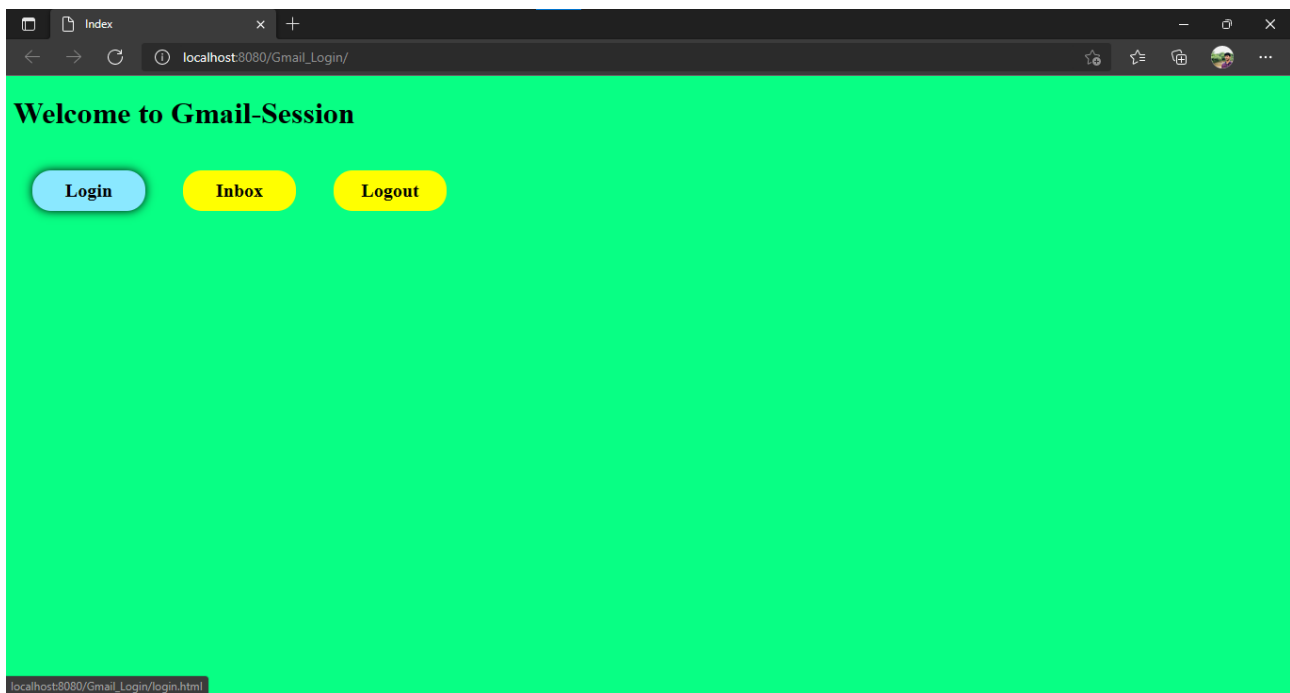
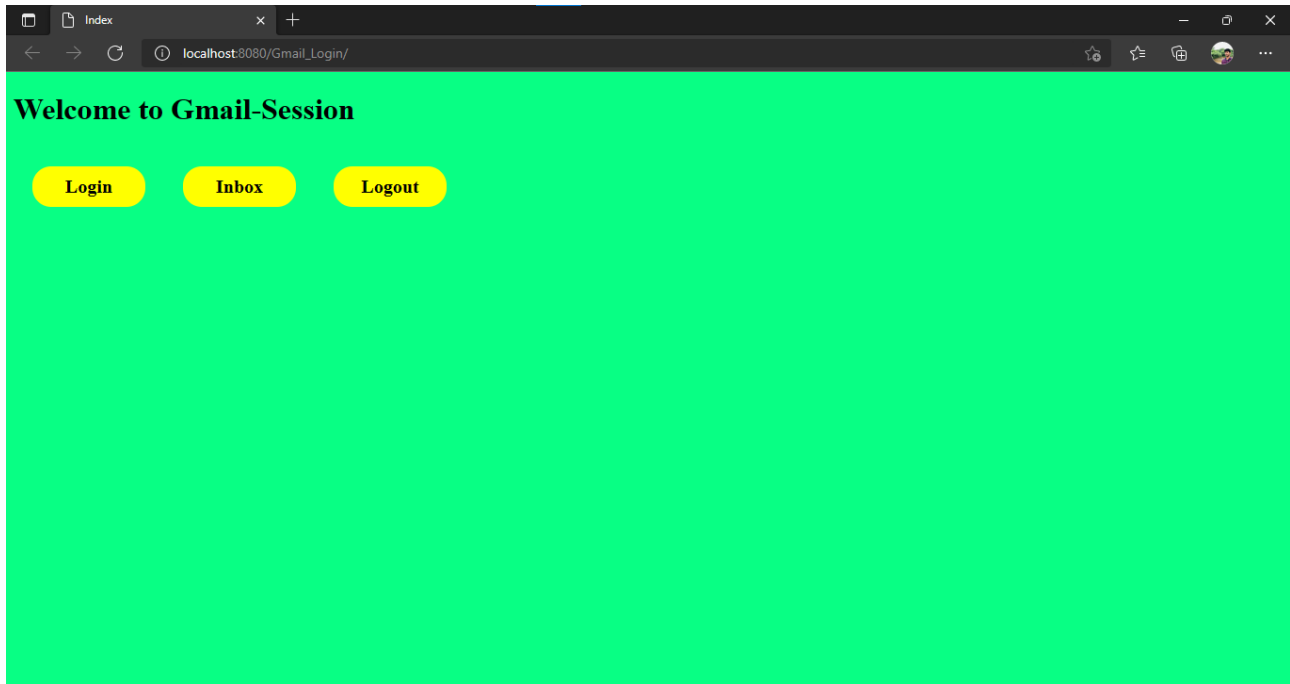
**Aim:** Create a web application to demonstrate State management technique using Session.

**Application File Structure:**

**Source code:****index.html**

```
<!DOCTYPE html>
<html>
  <head>
    <title>Index</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <style>
      a{
        display: block;
        text-decoration: none;
        text-align: center;
        border-radius: 20px;
        padding:10px;
        font-weight: bold;
        font-size: 20px;
        width: 100px;
        float: left;
        background-color: yellow;
        color:black;
        margin: 20px;
      }
      a:hover{
        background-color: rgb(138, 232, 255);
        box-shadow: 0 0 10px black;
      }
      body{
        background-color: rgb(8, 255, 132);
      }
    </style>
  </head>
  <body>
    <div>
      <h1>Welcome to Gmail-Session</h1>
      <a href="login.html">Login</a>
      <a href="Inbox">Inbox</a>
      <a href="logout">Logout</a>
    </div>
  </body>
</html>
```

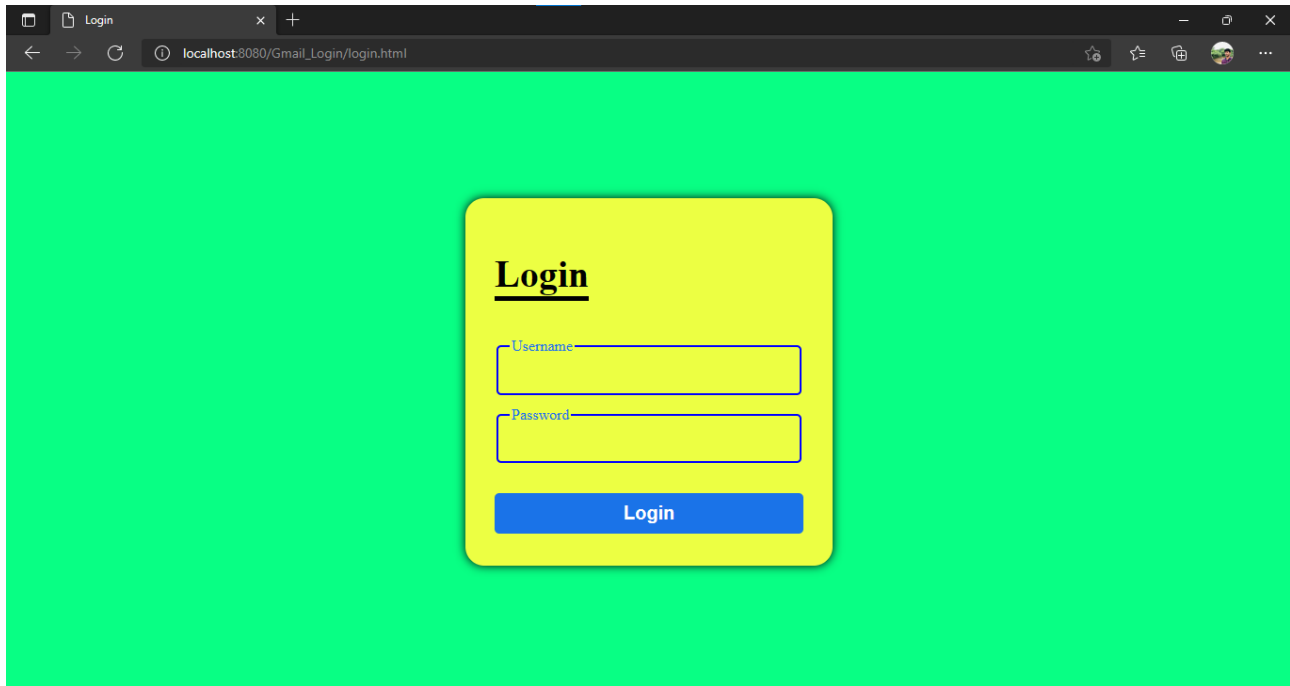


**Output:**

**login.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Login</title>
  <style>
    .login-box{
      position: absolute;
      top:50%;
      left:50%;
      transform:translate(-50%,-50%);
      border-radius: 20px;
      padding:20px;
      width:350px;
      height:350px;
      background-color: rgb(236, 255, 67);
      box-shadow: 0 0 10px black;
    }
    .in{
      border:none ;
      background: none;
      outline:none;
      width: 100%;
      height: 100%;
      font-size: 20px;
    }
    #btn{
      width: 100%;
      height: 100%;
      padding:10px;
      outline: none;
      background-color: #1A73E8;
      font-size: 20px;
      font-weight: bold;
      color:white;
      border:none;
      border-radius: 5px;
      margin-top: 20px;
    }
    #btn:hover{
      box-shadow: 0 0 10px black;
      border:1px solid white;
    }
    body{
      background-color: rgb(8, 255, 132);
    }
    table{
      width:100%;
```

```
    }
    fieldset{
        color:#1A73E8;
        border: 2px solid blue;
        border-radius: 5px;
    }
    h1{
        font-size: 40px;
        font-weight: bold;
        border-bottom: 5px solid black;
        float: left;
    }
</style>
</head>
<body>
<div class="login-box">
    <form action="LoginServlet" method="Post">
        <table cellpadding=10>
            <tr>
                <td >
                    <h1>Login</h1>
                </td>
            </tr>
            <tr>
                <td>
                    <fieldset>
                        <legend>Username</legend>
                        <input class="in" type="text" name="username" required>
                    </fieldset>
                </td>
            </tr>
            <tr>
                <td>
                    <fieldset>
                        <legend>Password</legend>
                        <input class="in" type="password" name="password" required>
                    </fieldset>
                </td>
            </tr>
            <tr>
                <td align="center"><input id="btn" type="submit" value="Login"></td>
            </tr>
        </table>
    </form>
</div>
</body>
</html>
```

**Output:**

login

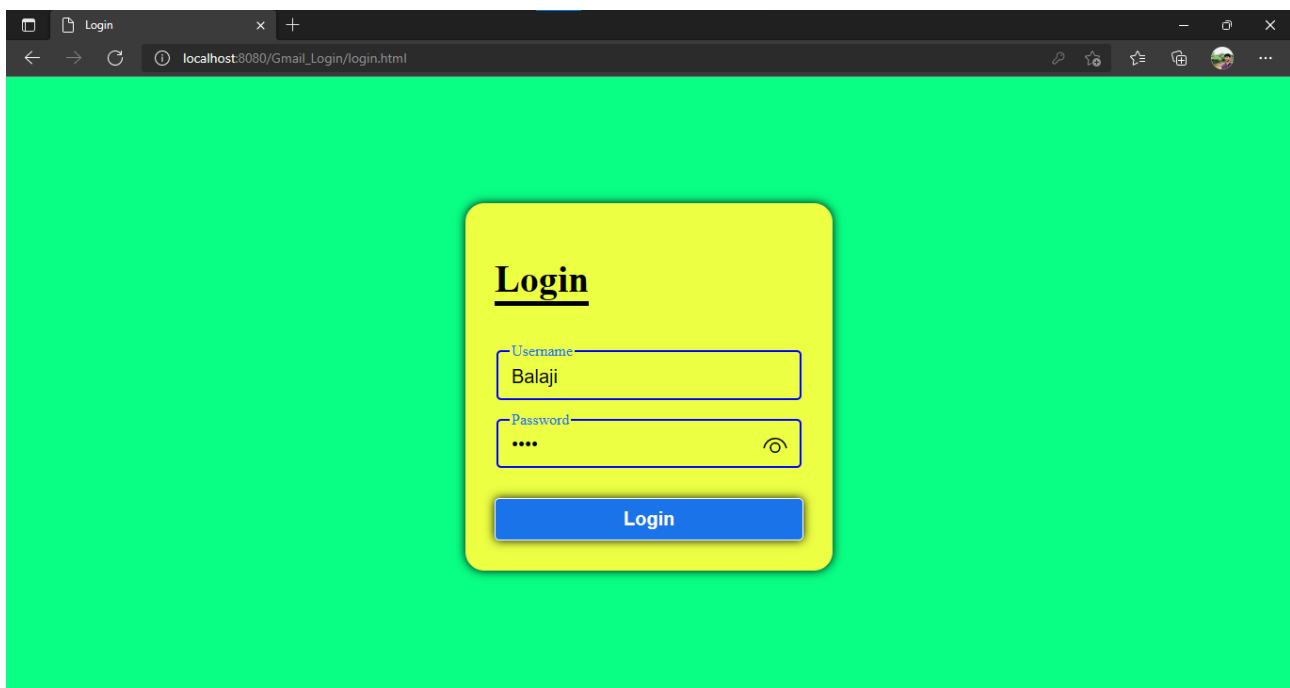
localhost:8080/Gmail\_Login/login.html

### Login

Username

Password

Login




login

localhost:8080/Gmail\_Login/login.html

### Login

Username

Password  

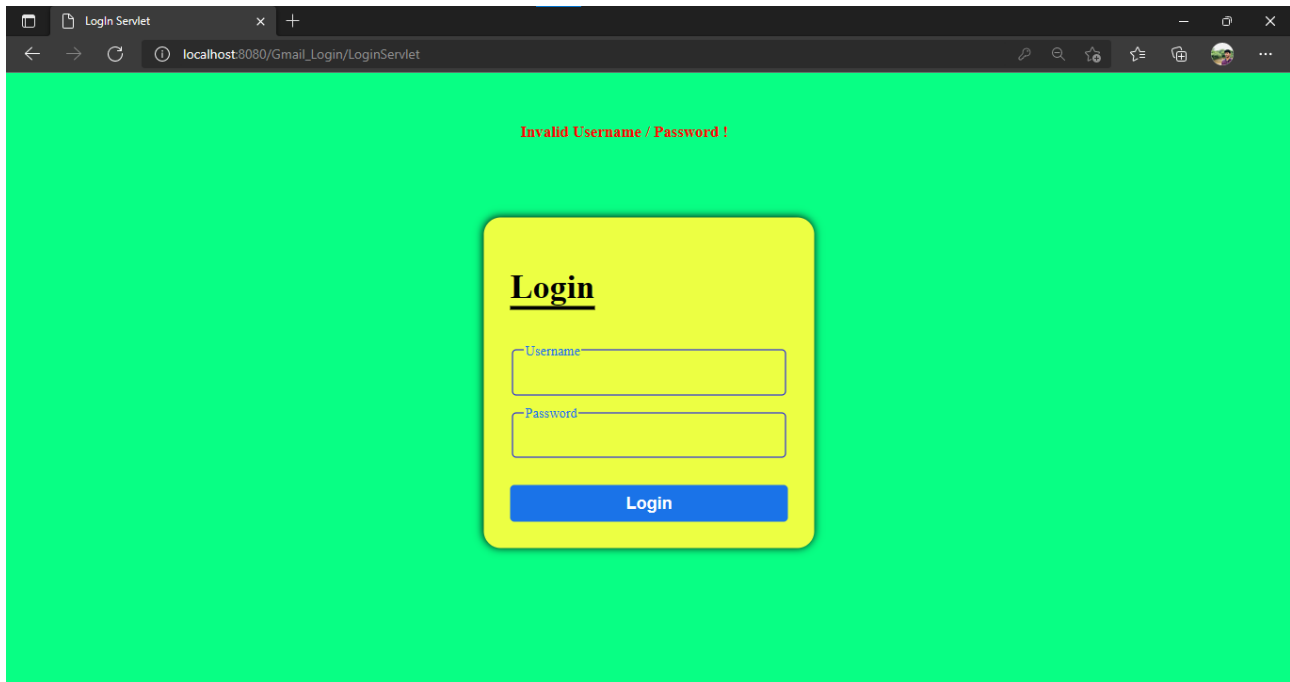
Login

**LoginServlet.java**

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

public class LoginServlet extends HttpServlet {

    @Override
    protected void service (HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            String username=request.getParameter("username");
            String password=request.getParameter("password");
            out.println("<Title>LogIn Servlet</title>");
            if(password.equals("balu")){
                HttpSession s=request.getSession();
                s.setAttribute("name",username);
                RequestDispatcher rd=request.getRequestDispatcher("Inbox");
                rd.include(request, response);
            }
            else{
                out.println("<body><h3 style='color:red;position:absolute;left:40%;top:40px'
align=center>Invalid Username / Password !</h3><body>");
                RequestDispatcher rd=request.getRequestDispatcher("login.html");
                rd.include(request, response);
            }
        }
    }
}
```

**Output:**

**inbox.java**

```

import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

public class Inbox extends HttpServlet {

    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            out.println("<Title>Inbox Servlet</title>");
            HttpSession s=request.getSession(false);
            if(s==null){
                out.println("<body><h3 style='color:red;position:absolute;left:40%;top:40px'
align=center>&#9940; Please login first...</h3><body>");
                request.getRequestDispatcher("login.html").include(request, response);
            }
            else{
                String username=(String)s.getAttribute("name");
                out.println("<!DOCTYPE html>\n" +
"<html>\n" +
"<head>\n" +
"  <title>Inbox</title>\n" +
"  <style>\n" +
"    body{\n" +
"      background-color: rgb(8, 255, 132);\n" +
"    }\n" +
"    img{\n" +
"      \n" +
"      width: 150px;\n" +
"      height:100px;\n" +
"    }\n" +
"    #hh{\n" +
"      font-size: 90px;\n" +
"      float:right;\n" +
"      padding-top: 0;\n" +
"      margin-top: 0;\n" +
"      margin-left: 10px;\n" +
"      margin-bottom: 0;\n" +
"    }\n" +
"    .heading{\n" +
"      \n" +
"      float:left;\n" +
"    }\n" +
"    .content{\n" +
"      height:500px;\n" +
"      width:98%;\n" +

```

```

"    margin:3px;\n" +
"    padding:10px;\n" +
"    border:1px solid black;\n" +
"    border-radius: 30px;\n" +
"    background-color: rgba(0, 0, 0, 0.37);\n" +
"  }\n" +
"  table tr td{\n" +
"    border-bottom: 1px solid black;\n" +
"    \n" +
"    padding:20px\n" +
"  }\n" +
"  table tr: hover: not(:last-child){\n" +
"    background-color: rgba(0, 0, 0, 0.438);\n" +
"    color:yellow;\n" +
"    border-radius: 30px;\n" +
"  }\n" +
"  a{\n" +
"    display: block;\n" +
"    border-radius: 10px;\n" +
"    padding:20px;\n" +
"    font-size: 20px;\n" +
"    background-color: yellow;\n" +
"    text-decoration: none;\n" +
"    width: 60px;\n" +
"    margin: 20px;\n" +
"    color:black;\n" +
"  }\n" +
"  a: hover{\n" +
"    border:2px solid black;\n" +
"  }\n" +
"  .username{\n" +
"    float:right;\n" +
"    color:RED;\n" +
"  }\n" +
"  </style>\n" +
"</head>\n" +
"<body>\n" +
"  <div class=heading>\n" +
"    <img src=\"img\\inbox.png\" alt=\"inbox logo\">\n" +
"  </div>\n" +
"  <div class=heading>\n" +
"    <h1 id=hh>INBOX</h1>\n" +
"  </div>\n" +
"  <div class=\"username\">\n" +
"    <h1>welcome: "+username+"</h1>\n" +
"  </div>\n" +
"  <hr style=\"clear:left;background-color:black;height:1px;border:none\">\n" +
"  <div class=\"content\">\n" +
"    <table>\n" +
"      <tr>\n" +
"        <td><b>Microsoft</b></td>\n" +
"        <td>\n"

```



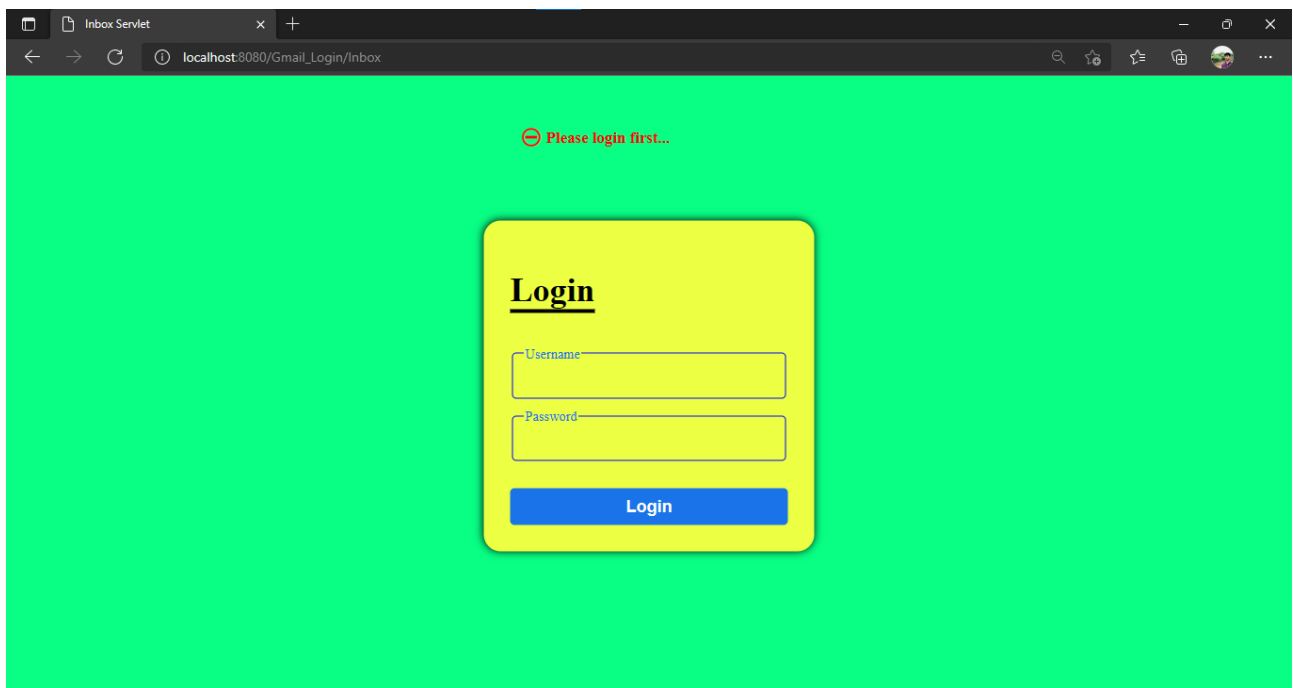
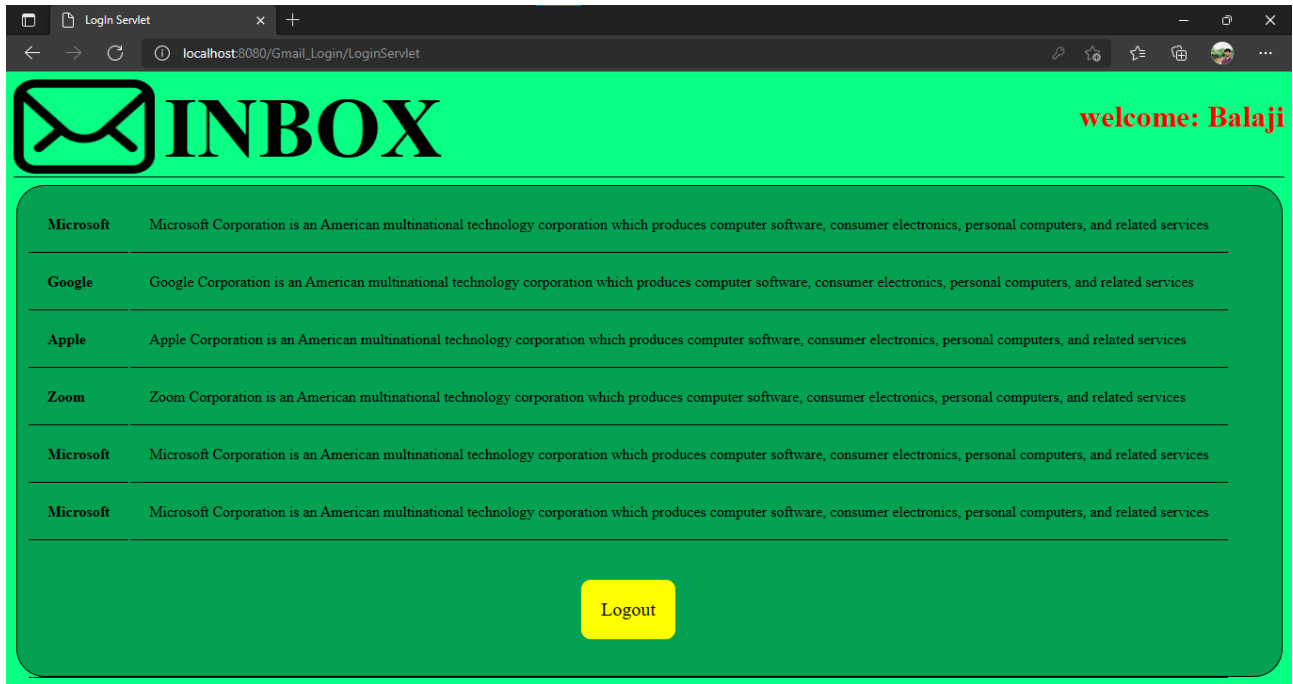
```

"      Microsoft Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"      </td>\n" +
"    </tr>\n" +
"    <tr>\n" +
"      <td><b>Google</b></td>\n" +
"      <td>\n" +
"        Google Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"        </td>\n" +
"      </tr>\n" +
"    <tr>\n" +
"      <td><b>Apple</b></td>\n" +
"      <td>\n" +
"        Apple Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"        </td>\n" +
"      </tr>\n" +
"    <tr>\n" +
"      <td><b>Zoom</b></td>\n" +
"      <td>\n" +
"        Zoom Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"        </td>\n" +
"      </tr>\n" +
"    <tr>\n" +
"      <td><b>Microsoft</b></td>\n" +
"      <td>\n" +
"        Microsoft Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"        </td>\n" +
"      </tr>\n" +
"    <tr>\n" +
"      <td><b>Microsoft</b></td>\n" +
"      <td>\n" +
"        Microsoft Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"        </td>\n" +
"      </tr>\n" +
"    <td colspan=2 align=center><a align=center href=\"logout\">Logout</a>\n</td>\n" +
"  </tr>\n" +
"</table>\n" +
"  " +
"</div>\n" +
"</body>\n" +
"</html>");
}

}

}

```

**Output:**

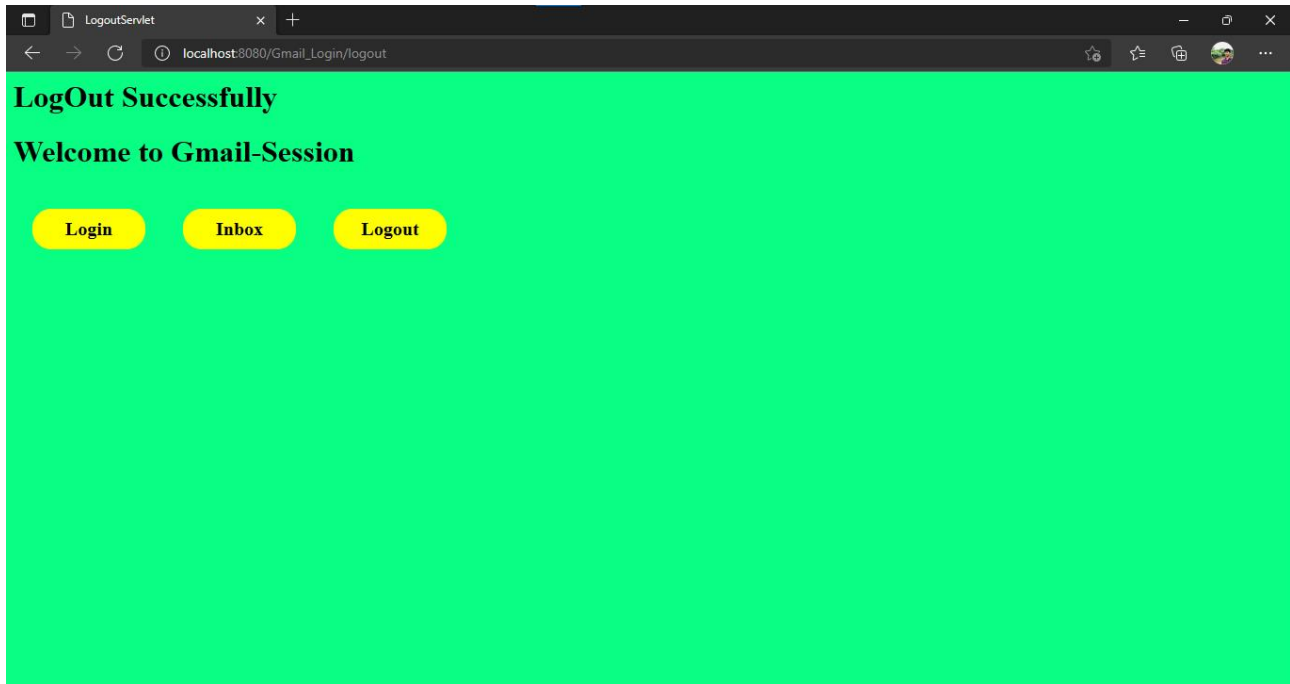
**logout.java**

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

public class logout extends HttpServlet {

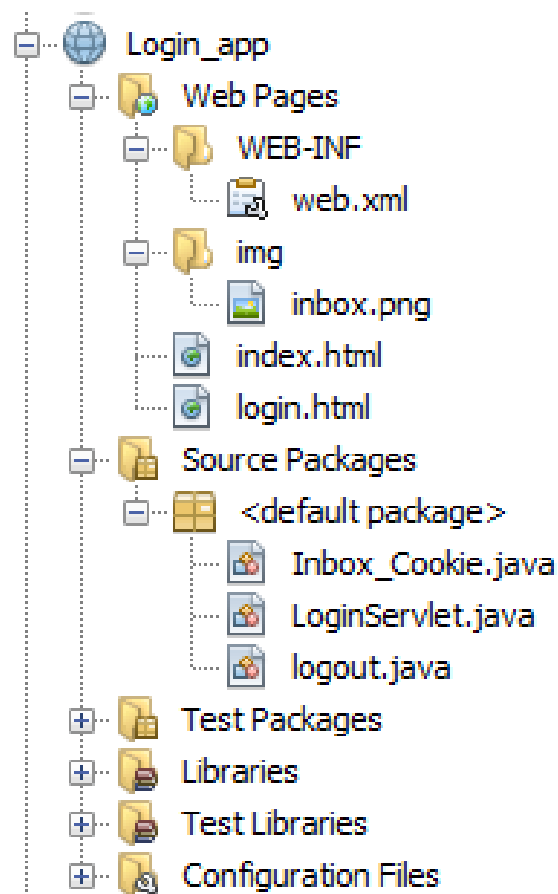
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {

            HttpSession s=request.getSession(false);
            if(s==null){
                out.println("<body><h3 style='color:red;position:absolute;left:40%;top:40px'
align=center>&#9940; Please login first...</h3><body>");
                request.getRequestDispatcher("login.html").include(request, response);
            }
            else{
                s.invalidate();
                out.println("<Title>LogoutServlet</title>");
                out.println("<h1>LogOut Successfully</h1>");
                request.getRequestDispatcher("index.html").include(request, response);
            }
        }
    }
}
```

**Output:**

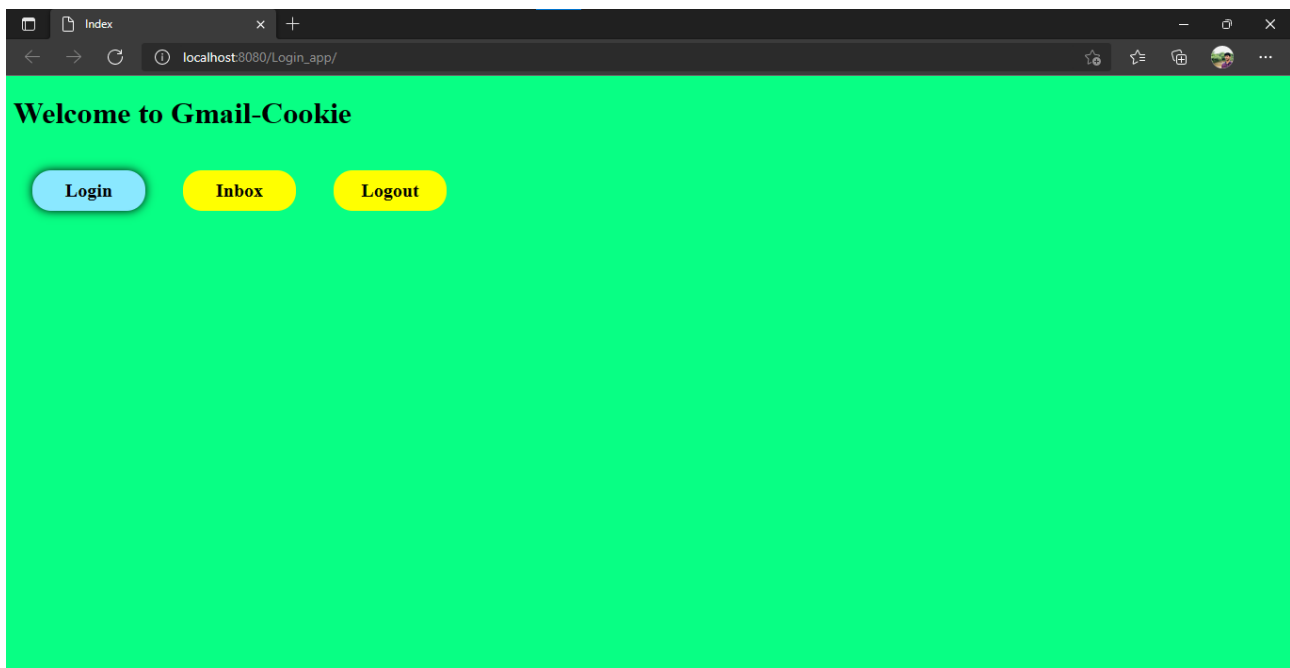
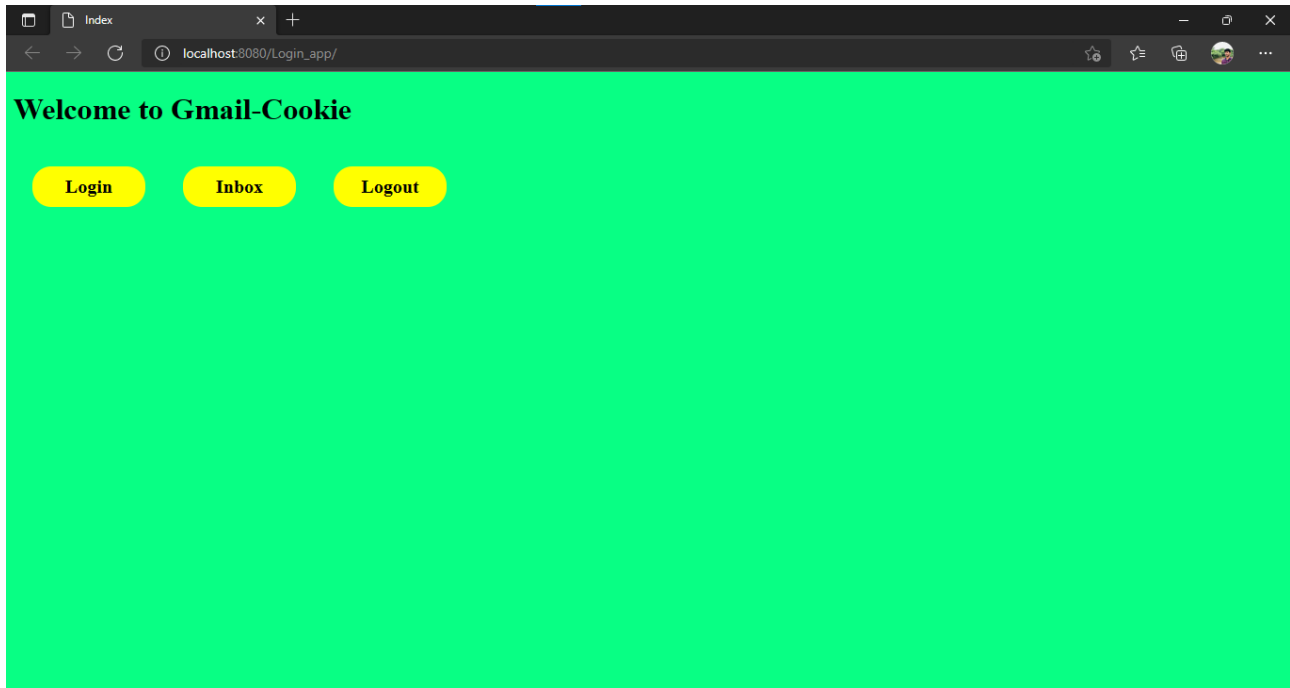
**Experiment: 2 (b)**

**Aim:** Create a web application to demonstrate State management technique using Cookies.

**Application File Structure:**

**Source code:****index.html**

```
<!DOCTYPE html>
<html>
  <head>
    <title>Index</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <style>
      a{
        display: block;
        text-decoration: none;
        text-align: center;
        border-radius: 20px;
        padding:10px;
        font-weight: bold;
        font-size: 20px;
        width: 100px;
        float: left;
        background-color: yellow;
        color:black;
        margin: 20px;
      }
      a:hover{
        background-color: rgb(138, 232, 255);
        box-shadow: 0 0 10px black;
      }
      body{
        background-color: rgb(8, 255, 132);
      }
    </style>
  </head>
  <body>
    <div>
      <h1>Welcome to Gmail-Cookie</h1>
      <a href="login.html">Login</a>
      <a href="Inbox_Cookie">Inbox</a>
      <a href="logout">Logout</a>
    </div>
  </body>
</html>
```

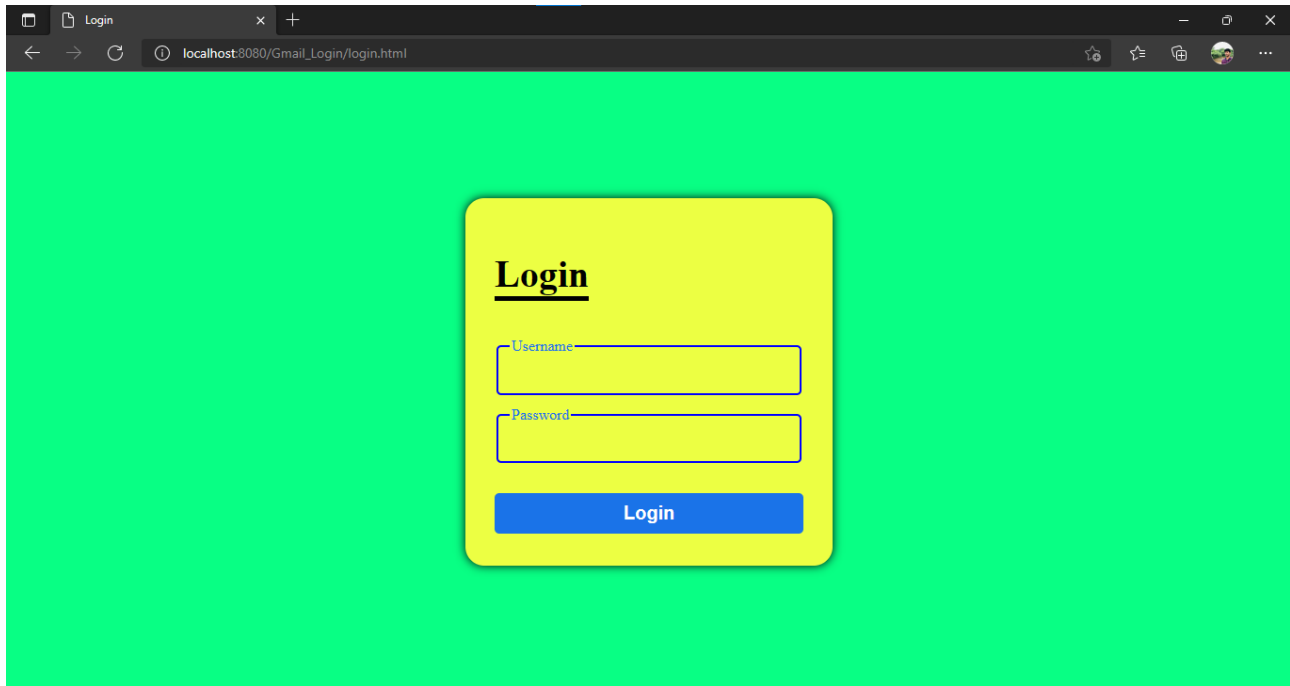
**Output:**

**login.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Login</title>
  <style>
    .login-box{
      position: absolute;
      top:50%;
      left:50%;
      transform:translate(-50%,-50%);
      border-radius: 20px;
      padding:20px;
      width:350px;
      height:350px;
      background-color: rgb(236, 255, 67);
      box-shadow: 0 0 10px black;
    }
    .in{
      border:none ;
      background: none;
      outline:none;
      width: 100%;
      height: 100%;
      font-size: 20px;
    }
    #btn{
      width: 100%;
      height: 100%;
      padding:10px;
      outline: none;
      background-color: #1A73E8;
      font-size: 20px;
      font-weight: bold;
      color:white;
      border:none;
      border-radius: 5px;
      margin-top: 20px;
    }
    #btn:hover{
      box-shadow: 0 0 10px black;
      border:1px solid white;
    }
    body{
      background-color: rgb(8, 255, 132);
    }
    table{
      width:100%;
```



```
    }
    fieldset{
        color:#1A73E8;
        border: 2px solid blue;
        border-radius: 5px;
    }
    h1{
        font-size: 40px;
        font-weight: bold;
        border-bottom: 5px solid black;
        float: left;
    }
</style>
</head>
<body>
<div class="login-box">
    <form action="LoginServlet" method="Post">
        <table cellpadding=10>
            <tr>
                <td >
                    <h1>Login</h1>
                </td>
            </tr>
            <tr>
                <td>
                    <fieldset>
                        <legend>Username</legend>
                        <input class="in" type="text" name="username" required>
                    </fieldset>
                </td>
            </tr>
            <tr>
                <td>
                    <fieldset>
                        <legend>Password</legend>
                        <input class="in" type="password" name="password" required>
                    </fieldset>
                </td>
            </tr>
            <tr>
                <td align="center"><input id="btn" type="submit" value="Login"></td>
            </tr>
        </table>
    </form>
</div>
</body>
</html>
```

**Output:**

login

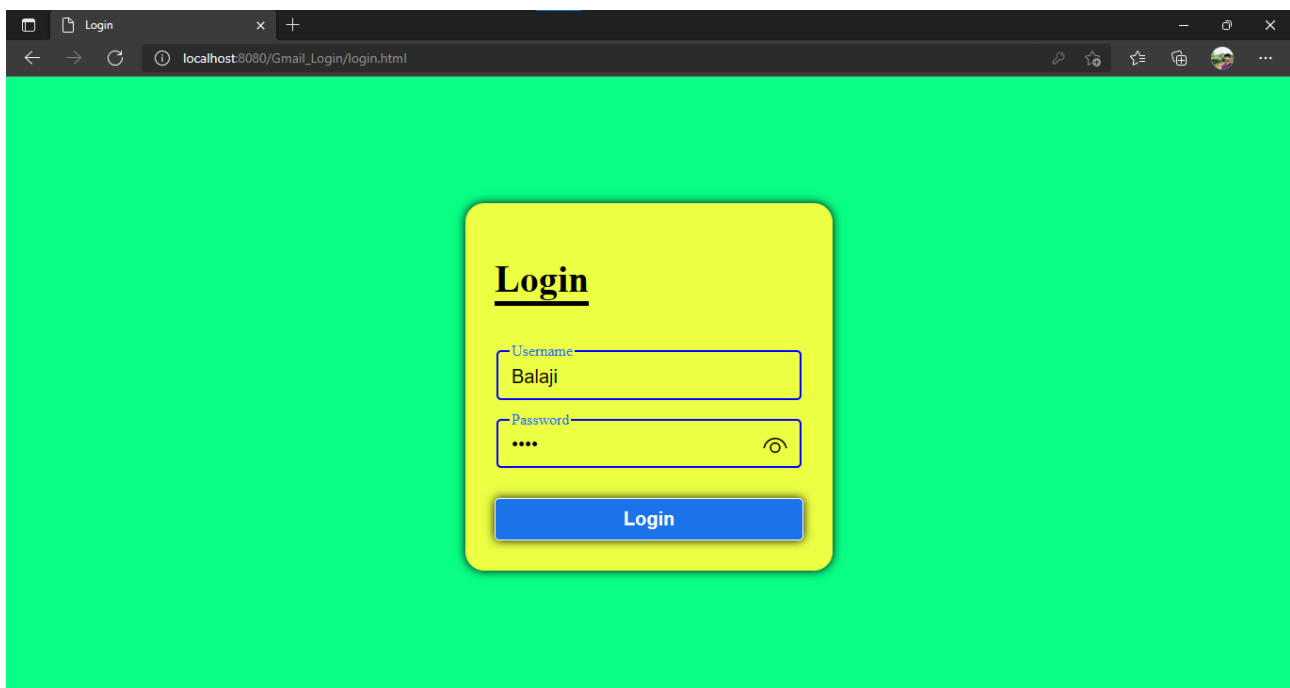
localhost:8080/Gmail\_Login/login.html

### Login

Username

Password

Login




login

localhost:8080/Gmail\_Login/login.html

### Login

Username

Password  

Login

**LoginServlet.java**

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.http.Cookie;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

public class LoginServlet extends HttpServlet {

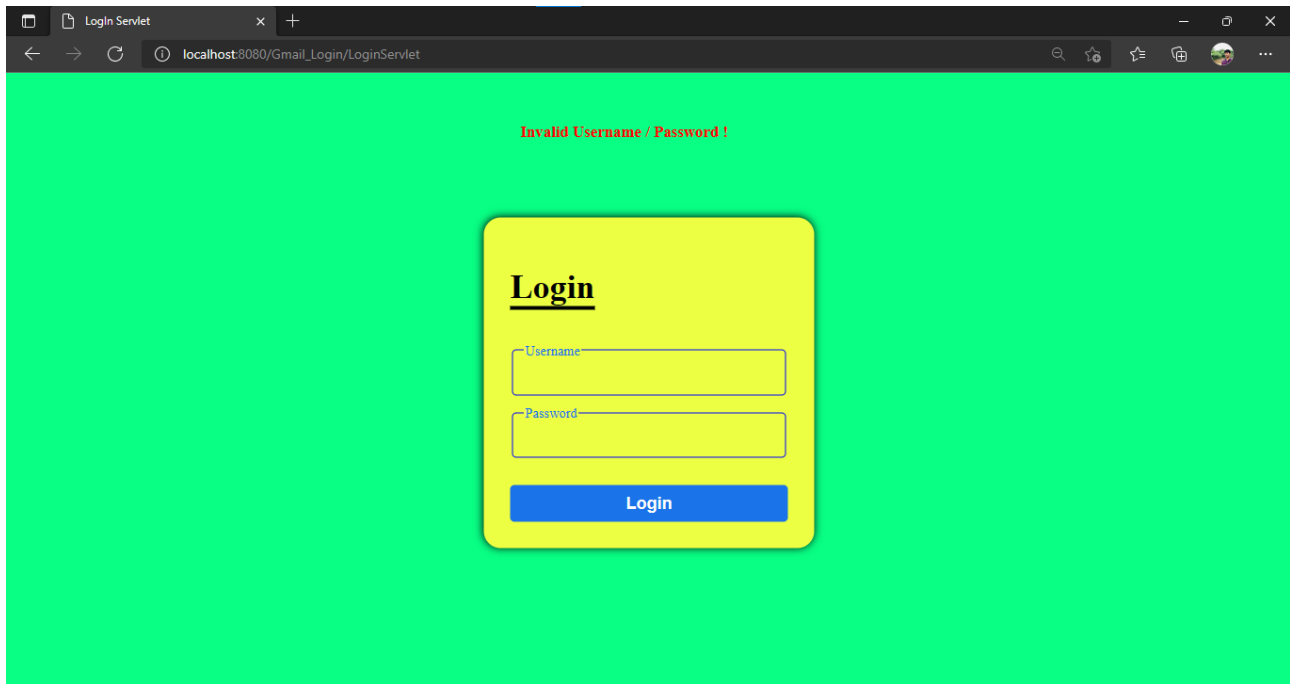
    @Override
    protected void service(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {

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

            out.println("<Title>Log In Servlet</title>");
            if(password.equals("balu")){
                Cookie c=new Cookie("name",username);
                response.addCookie(c);

                RequestDispatcher rd=request.getRequestDispatcher("Inbox_Cookie");
                rd.include(request, response);
            }
            else{
                out.println("<body><h3 style='color:red;position:absolute;left:40%;top:40px'
align=center>Invalid Username / Password !</h3><body>");
                RequestDispatcher rd=request.getRequestDispatcher("login.html");
                rd.include(request, response);
            }

        }
    }
}
```

**Output:**

**Inbox\_Cookie.java**

```

import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.Cookie;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

public class Inbox_Cookie extends HttpServlet {

    @Override
    protected void service(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {
            out.println("<Title>Inbox Servlet</title>");
            Cookie[] c=request.getCookies();
            if(c==null){
                out.println("<body><h3 style='color:red;position:absolute;left:40%;top:40px'
align=center>&#9940; Please login first...</h3><body>");
                request.getRequestDispatcher("login.html").include(request, response);
            }
            else{
                String username=(String)c[0].getValue();
                out.println("<!DOCTYPE html>\n" +
"<html>\n" +
"<head>\n" +
"  <title>Inbox</title>\n" +
"  <style>\n" +
"    body{\n" +
"      background-color: rgb(8, 255, 132);\n" +
"    }\n" +
"    img{\n" +
"      \n" +
"      width: 150px;\n" +
"      height:100px;\n" +
"    }\n" +
"    #hh{\n" +
"      font-size: 90px;\n" +
"      float:right;\n" +
"      padding-top: 0;\n" +
"      margin-top: 0;\n" +
"      margin-left: 10px;\n" +
"      margin-bottom: 0;\n" +
"    }\n" +
"    .heading{\n" +
"      \n" +
"      float:left;\n" +
"    }\n" +
"    .content{\n" +

```

```

"      height:500px;\n" +
"      width:98%;\n" +
"      margin:3px;\n" +
"      padding:10px;\n" +
"      border:1px solid black;\n" +
"      border-radius: 30px;\n" +
"      background-color: rgba(0, 0, 0, 0.37);\n" +
"    }\n" +
"    table tr td{\n" +
"      border-bottom: 1px solid black;\n" +
"      \n" +
"      padding:20px\n" +
"    }\n" +
"    table tr: hover: not(:last-child){\n" +
"      background-color: rgba(0, 0, 0, 0.438);\n" +
"      color:yellow;\n" +
"      border-radius: 30px;\n" +
"    }\n" +
"    a{\n" +
"      display: block;\n" +
"      border-radius: 10px;\n" +
"      padding:20px;\n" +
"      font-size: 20px;\n" +
"      background-color: yellow;\n" +
"      text-decoration: none;\n" +
"      width: 60px;\n" +
"      margin: 20px;\n" +
"      color:black;\n" +
"    }\n" +
"    a: hover{\n" +
"      border:2px solid black;\n" +
"    }\n" +
"    .username{\n" +
"      float:right;\n" +
"      color:RED;\n" +
"    }\n" +
"  </style>\n" +
"</head>\n" +
"<body>\n" +
"  <div class=heading>\n" +
"    <img src=\"img\\inbox.png\" alt=\"inbox logo\">\n" +
"  </div>\n" +
"  <div class=heading>\n" +
"    <h1 id=hh>INBOX</h1>\n" +
"  </div>\n" +
"  <div class=\"username\">\n" +
"    <h1>welcome: "+username+"</h1>\n" +
"  </div>\n" +
"  <hr style=\"clear:left;background-color:black;height:1px;border:none\">\n" +
"  <div class=\"content\">\n" +
"    <table>\n" +
"      <tr>\n"

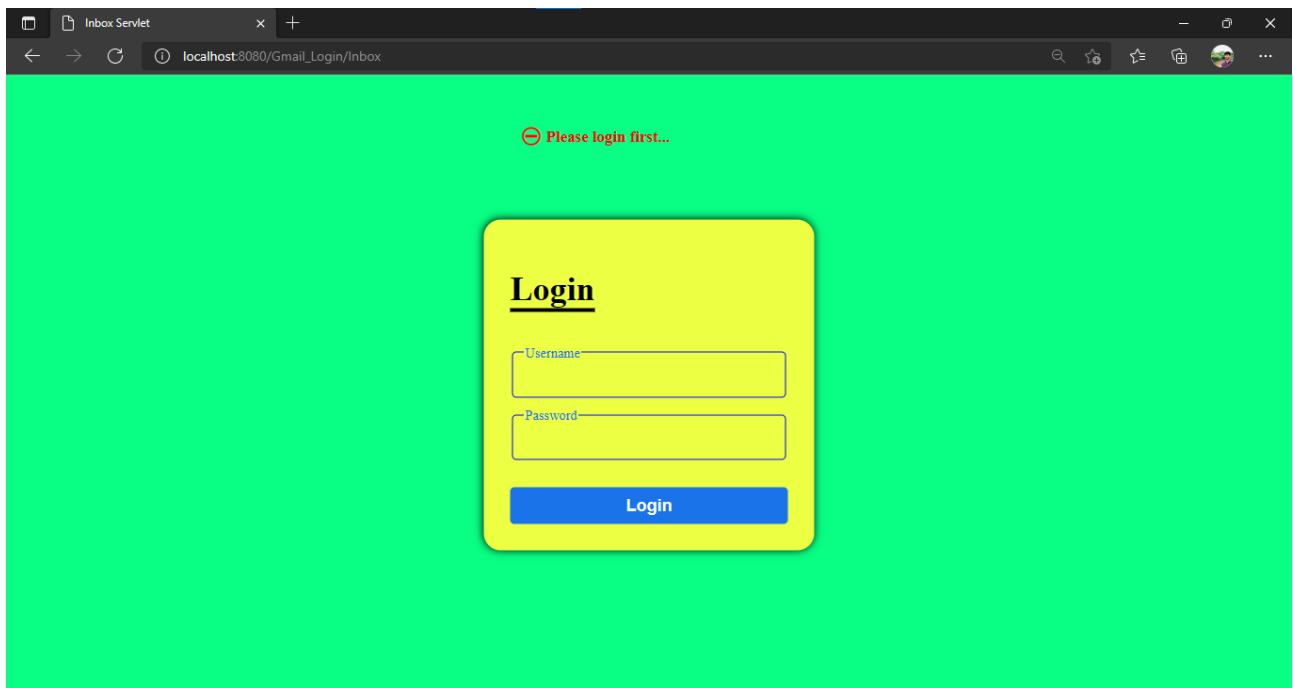
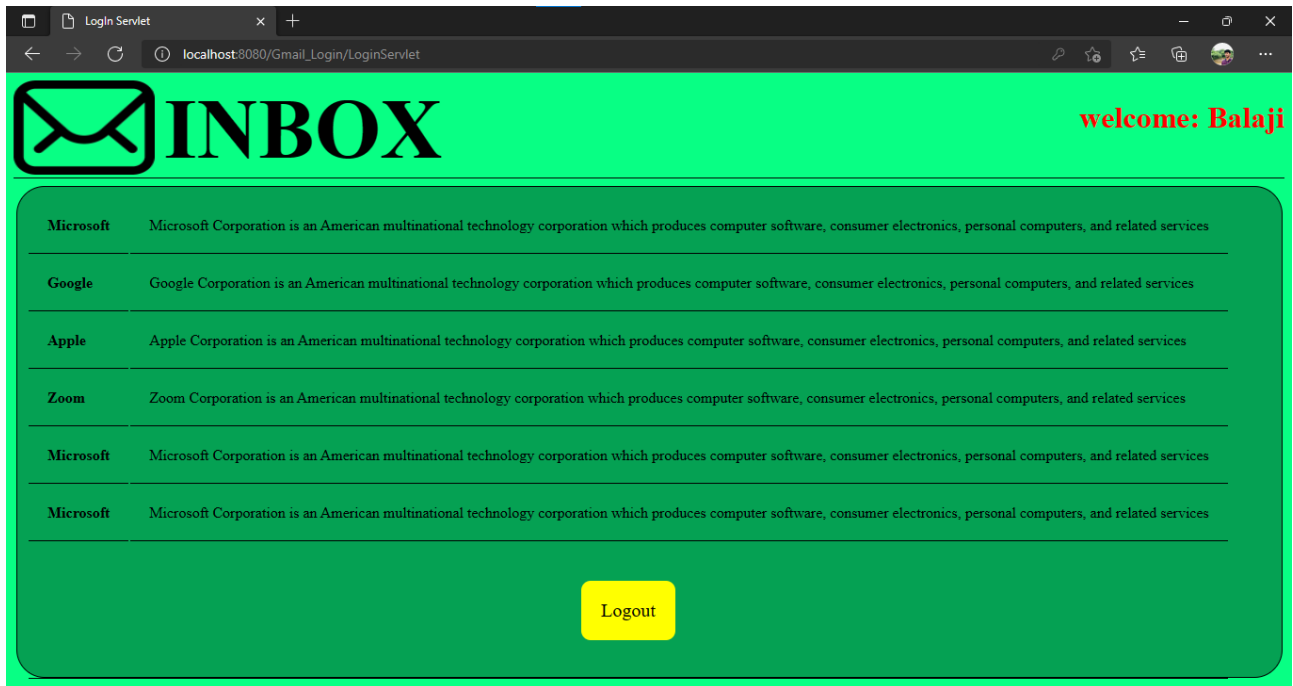
```

```

"      <td><b>Microsoft</b></td>\n" +
"      <td>\n" +
"      Microsoft Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"      </td>\n" +
"    </tr>\n" +
"    <tr>\n" +
"      <td><b>Google</b></td>\n" +
"      <td>\n" +
"      Google Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"      </td>\n" +
"    </tr>\n" +
"    <tr>\n" +
"      <td><b>Apple</b></td>\n" +
"      <td>\n" +
"      Apple Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"      </td>\n" +
"    </tr>\n" +
"    <tr>\n" +
"      <td><b>Zoom</b></td>\n" +
"      <td>\n" +
"      Zoom Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"      </td>\n" +
"    </tr>\n" +
"    <tr>\n" +
"      <td><b>Microsoft</b></td>\n" +
"      <td>\n" +
"      Microsoft Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"      </td>\n" +
"    </tr>\n" +
"    <tr>\n" +
"      <td><b>Microsoft</b></td>\n" +
"      <td>\n" +
"      Microsoft Corporation is an American multinational technology corporation which
produces computer software, consumer electronics, personal computers, and related services\n" +
"      </td>\n" +
"    </tr>\n" +
"    <td colspan=2 align=center><a align=center href=\"logout\">Logout</a>\n</td>\n" +
"    </tr>\n" +
"  </table>\n" +
"  " +
" </div>\n" +
"</body>\n" +
"</html>");
  }
}
}

```

}

**Output:**



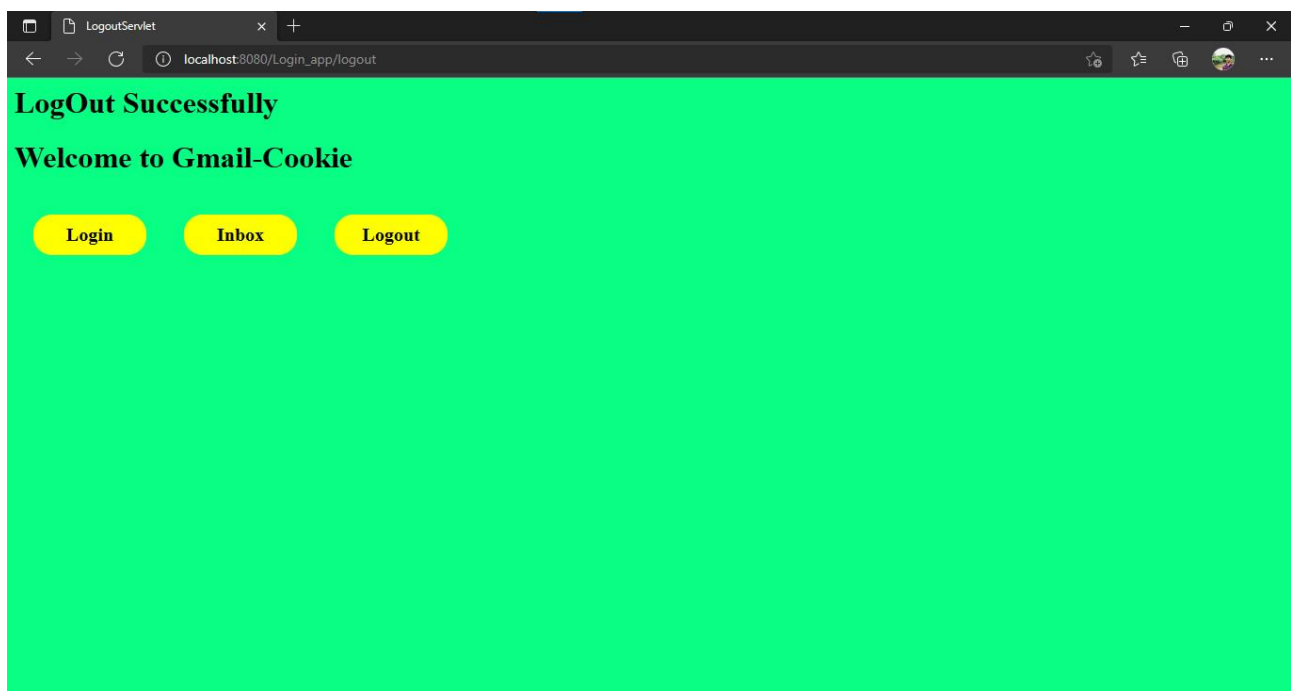
**logout.java**

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.Cookie;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
public class logout extends HttpServlet {

    @Override
    protected void service(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {

            Cookie[] c=request.getCookies();

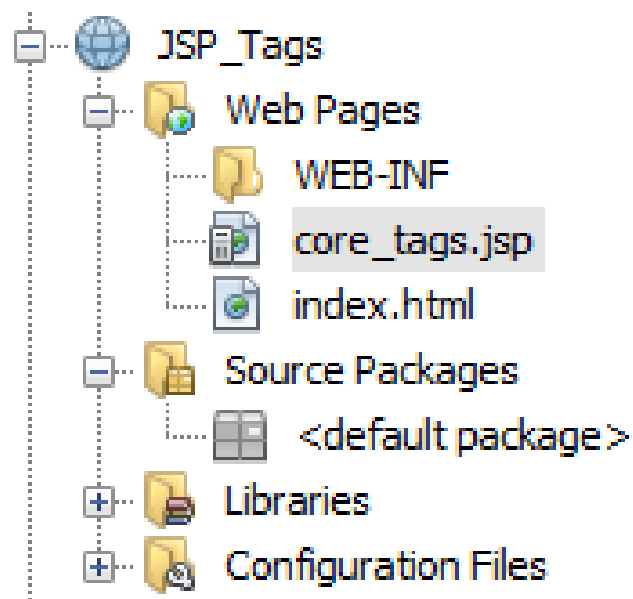
            if(c==null){
                out.println("<body><h3 style='color:red;position:absolute;left:40%;top:40px'
align=center>#9940; Please login first...</h3><body>");
                request.getRequestDispatcher("login.html").include(request, response);
            }
            else{
                c[0].setMaxAge(0);
                response.addCookie(c[0]);
                out.println("<Title>LogoutServlet</title>");
                out.println("<h1>LogOut Successfully</h1>");
                request.getRequestDispatcher("index.html").include(request, response);
            }
        }
    }
}
```

**Output:**

**Experiment : 3 (a)**

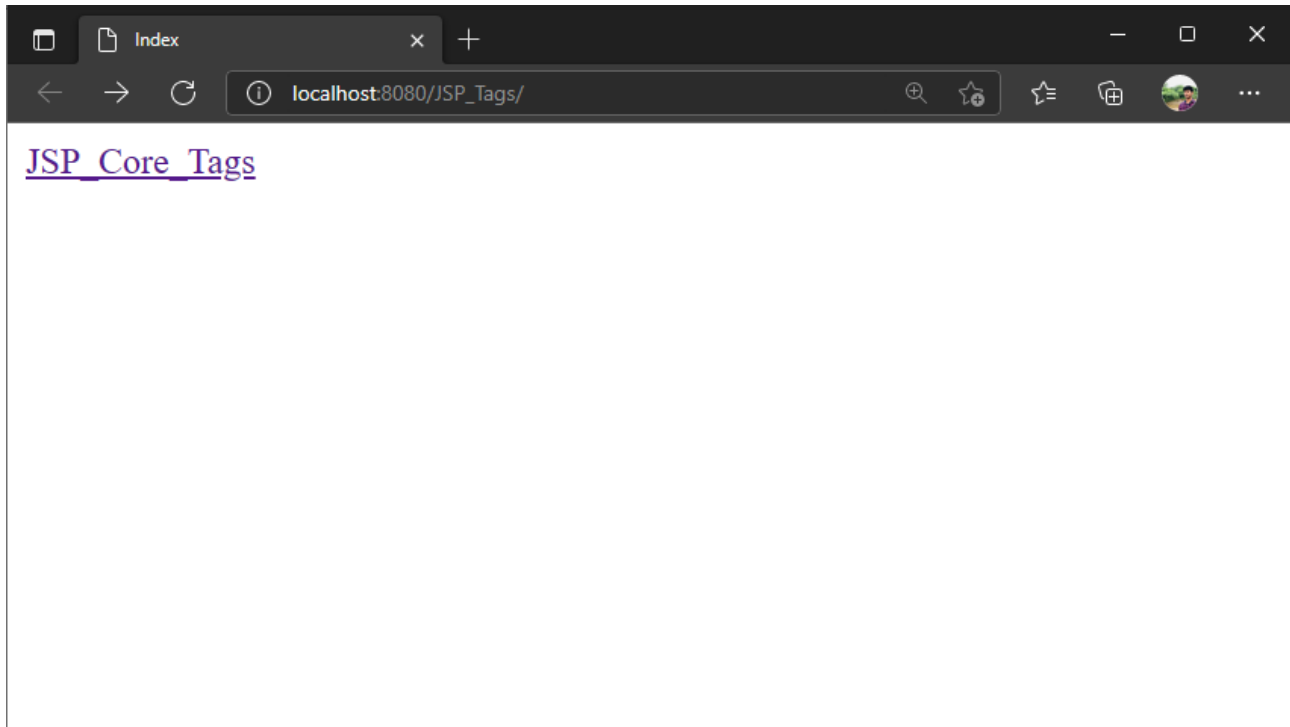
**Aim:** Create a web application to demonstrate JSP Core tags.

**Application File Structure:**



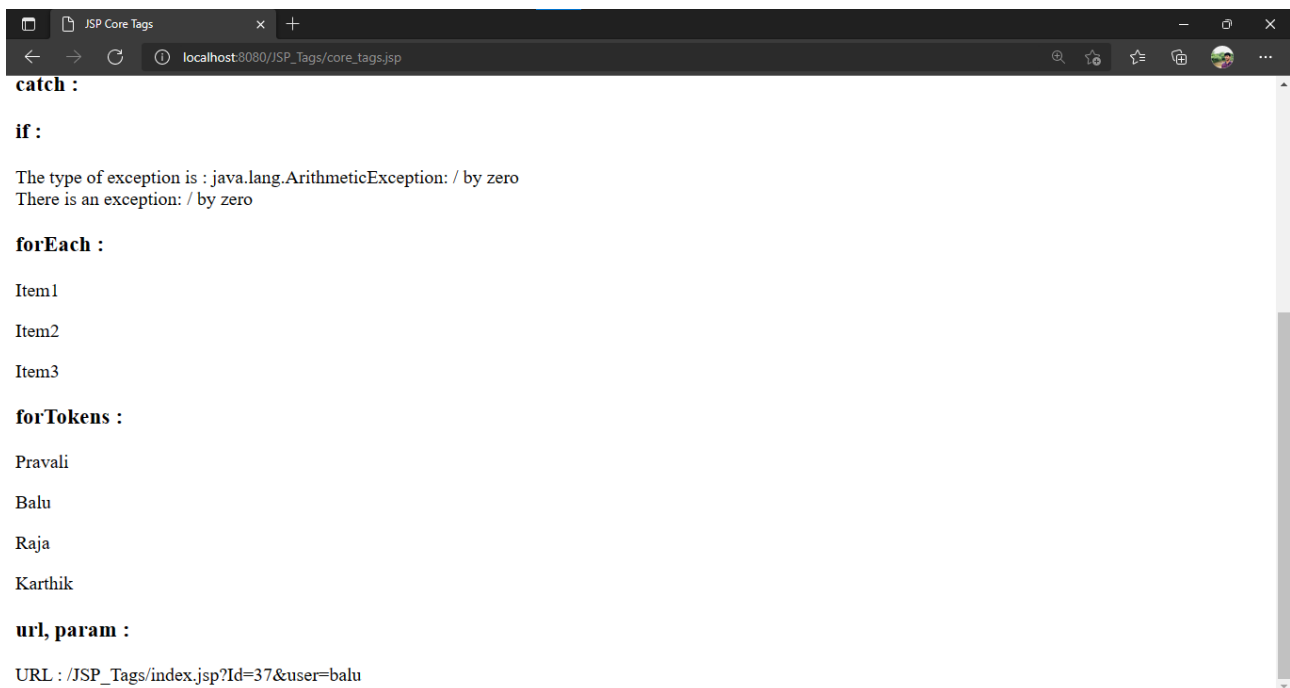
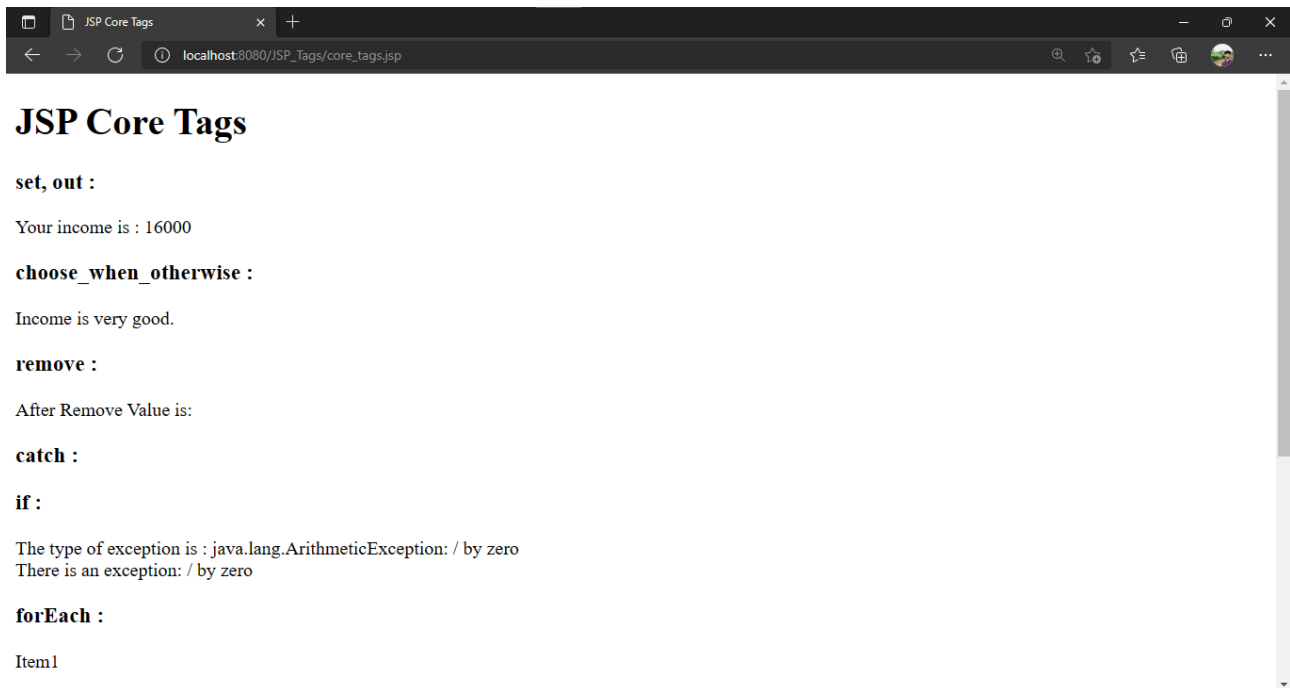
**Source code:****index.html**

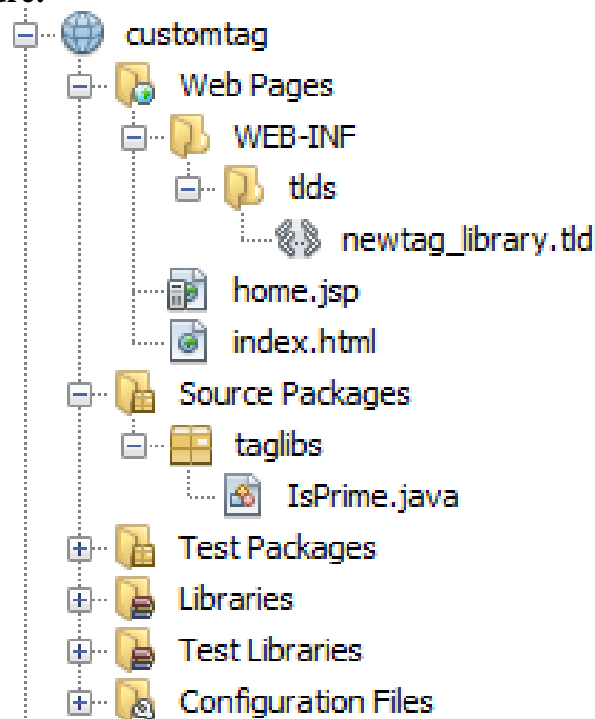
```
<!DOCTYPE html>
<html>
  <head>
    <title>Index</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <a href="core_tags.jsp">JSP_Core_Tags</a>
  </body>
</html>
```

**Output:**

**core\_tags.jsp**

```
<% @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 Core Tags</title></head>
  <body>
    <h1>JSP Core Tags</h1>
    <h3>set, out : </h3>
    <c:set var="income" scope="session" value="\${4000*4}"/>
    <p>Your income is : <c:out value="\${income}"/></p>
    <h3>choose_when_otherwise :</h3>
    <c:choose>
      <c:when test="\${income <= 1000}">
        Income is not good.
      </c:when>
      <c:when test="\${income > 10000}">
        Income is very good.
      </c:when>
      <c:otherwise>
        Income is undetermined...
      </c:otherwise>
    </c:choose>
    <h3>remove :</h3>
    <c:remove var="income"/>
    <p>After Remove Value is: <c:out value="\${income}"/></p>
    <h3>catch : </h3>
    <c:catch var="catchtheException">
      <% int x = 2/0;%>
    </c:catch>
    <h3>if : </h3>
    <c:if test = "\${catchtheException != null}">
      <p>The type of exception is : ${catchtheException} <br />
      There is an exception: ${catchtheException.message}</p>
    </c:if>
    <h3>forEach :</h3>
    <c:forEach var="j" begin="1" end="3">
      <c:out value="Item${j}"/><p>
    </c:forEach>
    <h3>forTokens :</h3>
    <c:forTokens items="Pravali,Balu,Raja,Karthik" delims="," var="name">
      <c:out value="\${name}"/><p>
    </c:forTokens>
    <h3>url, param :</h3>
    <c:url value="/index.jsp" var="completeURL">
      <c:param name="Id" value="37"/>
      <c:param name="user" value="balu"/>
    </c:url>
    <c:out value="URL : ${completeURL}"/>
  </body></html>
```

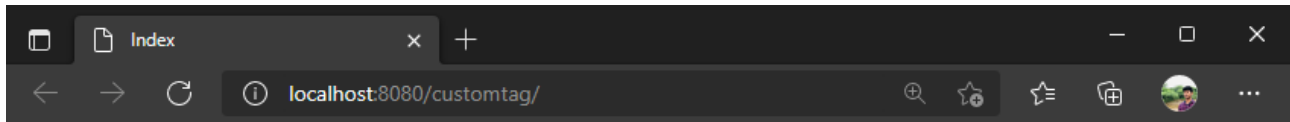
**Output:**

**Experiment : 3 (b)****Aim:** Create a web application to demonstrate JSP Custom tag.**Application File Structure:**



**Source code:****index.html**

```
<!DOCTYPE html>
<html>
  <head>
    <title>Index</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <div>
      <a href="home.jsp">Goto home jsp</a>
    </div>
  </body>
</html>
```

**Output:**

[Goto home.jsp](#)

**IsPrime.java**

```
package taglibs;
import java.io.*;
import javax.servlet.jsp.*;
import javax.servlet.jsp.tagext.*;

public class IsPrime extends SimpleTagSupport{

    StringWriter sw = new StringWriter();
    @Override
    public void doTag() throws JspException,IOException{
        JspWriter out=getJspContext().getOut();
        getJspBody().invoke(sw);
        int num=Integer.parseInt(sw.toString());

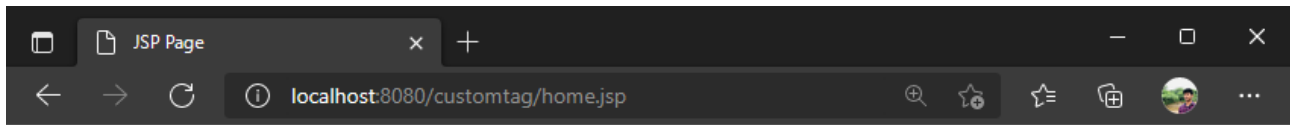
        //check prime or not
        int count=0;
        for(int i=2;i<num;i++){
            if(num%i == 0){
                count++;
                break;
            }
        }
        if(count > 0)
            out.println(num+" is not a Prime Number");
        else
            out.println(num+" is a Prime Number");
    }
}
```

**newtag\_library.tld**

```
<?xml version="1.0" encoding="UTF-8"?>
<taglib version="2.1" 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">
  <tlib-version>1.0</tlib-version>
  <short-name>newtag_library</short-name>
  <uri>/WEB-INF/tlds/newtag_library</uri>
  <tag>
    <name>IsPrime</name>
    <tag-class>taglibs.IsPrime</tag-class>
    <body-content>scriptless</body-content>
  </tag>
</taglib>
```

**home.jsp**

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@taglib prefix="c" uri="WEB-INF/tlds/newtag_library.tld"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>JSP Page</title>
  </head>
  <body>
    <c:IsPrime>2</c:IsPrime>
  </body>
</html>
```

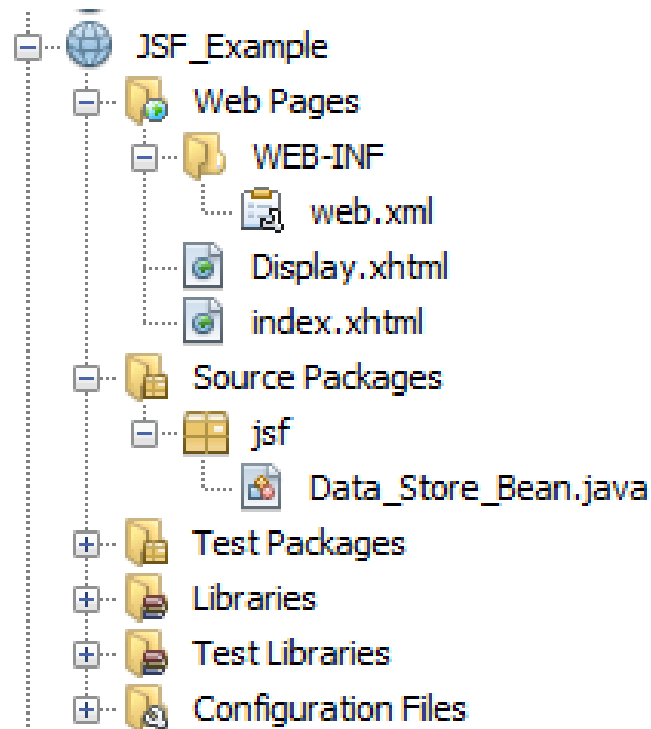
**Output:**

2 is a Prime Number

**Experiment : 4**

**Aim:** Create a web application to demonstrate JSF Managed beans.

**Application File Structure:**



**Source code:****index.xhtml**

```

<?xml version='1.0' encoding='UTF-8' ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"
  xmlns:f="http://xmlns.jcp.org/jsf/core"
  xmlns:h="http://xmlns.jcp.org/jsf/html">
  <h:head>
    <title>Form</title>
  </h:head>
  <h:body>
    <h:form>
      <h2>Student Details</h2>
      <table>
        <tr>
          <td>First Name </td>
          <td><h:inputText id="fname" required="true"
value="#{d_bean.fname}"></h:inputText> </td>
        </tr>
        <tr>
          <td>Last Name </td>
          <td><h:inputText id="lname" required="true"
value="#{d_bean.lname}"></h:inputText> </td>
        </tr>
        <tr>
          <td>REG No </td>
          <td><h:inputText id="reg" required="true" value="#{d_bean.reg}">
            <f:validateRegex pattern = "([Y,L][0-9]{2}[A-Z]{3}[0-9]{3})" />
          </h:inputText> </td>
        </tr>
        <tr>
          <td>Gender </td>
          <td><h:selectOneRadio id="gender" required="true" value="#{d_bean.gender}">
            <f:selectItem itemLabel="Male" itemValue="male"></f:selectItem>
            <f:selectItem itemLabel="Female" itemValue="female"></f:selectItem>
          </h:selectOneRadio>
        </td>
        </tr>
        <tr>
          <td>Date of Birth </td>
          <td><h:inputText id="dob" value="#{d_bean.dob}">
            <f:convertDateTime pattern="dd-MM-yyyy"></f:convertDateTime>
          </h:inputText> <i>(dd-mm-yyyy)</i>
        </td>
        </tr>
        <tr>
          <td>Percentage </td>
          <td>
            <h:inputText value="#{d_bean.percent}" >
              <f:convertNumber type = "percent" />

```



```

        </h:inputText>
    </td>
</tr>
<tr>
    <td>Address </td>
    <td><h:inputTextarea id="address" required="true"
value="#{d_bean.address}"></h:inputTextarea></td>
</tr>

<tr>
    <td>Email Id </td>
    <td><h:inputText id="email" required="true" value="#{d_bean.email}"
></h:inputText></td>
</tr>
<tr>
    <td>Mobile</td>
    <td><h:inputText id="mobile" value="#{d_bean.mobile}">
        <f:validateLength minimum = "10" maximum = "10" />
    </h:inputText></td>
</tr>
<tr>
    <td>Department</td>
    <td>
        <h:selectOneMenu id="dept" value="#{d_bean.dept}">
            <f:selectItem itemLabel="IT" itemValue="IT"></f:selectItem>
            <f:selectItem itemLabel="CSE" itemValue="CSE"></f:selectItem>
            <f:selectItem itemLabel="EEE" itemValue="EEE"></f:selectItem>
            <f:selectItem itemLabel="ECE" itemValue="ECE"></f:selectItem>
        </h:selectOneMenu>
    </td>
</tr>
<tr>
    <td>Languages</td>
    <td>
        <h:selectManyCheckbox value="#{d_bean.langs}">
            <f:selectItem itemLabel="C" itemValue="C"></f:selectItem>
            <f:selectItem itemLabel="C++" itemValue="C++"></f:selectItem>
            <f:selectItem itemLabel="Java" itemValue="Java"></f:selectItem>
            <f:selectItem itemLabel="Python" itemValue="Python"></f:selectItem>
        </h:selectManyCheckbox>
    </td>
</tr>
<tr>
    <td>
        <h:commandButton value="Submit" action="Display.xhtml" />
    </td>
</tr>
</table>
</h:form>
</h:body>
</html>

```

**Output:****Student Details**

First Name

Last Name

REG No

Gender ☐ Male ☐ Female

Date of Birth  (dd-mm-yyyy)

Percentage

Address

Email Id

Mobile

Department

Languages ☐ C ☐ C++ ☐ Java ☐ Python

**Student Details**

First Name

Last Name

REG No

Gender ☒ Male ☐ Female

Date of Birth  (dd-mm-yyyy)

Percentage

Address

Email Id

Mobile

Department

Languages ☒ C ☒ C++ ☐ Java ☒ Python

**Data\_Store\_Bean.java**

```
package jsf;

import javax.inject.Named;
import javax.enterprise.context.RequestScoped;

@Named(value = "d_bean")
@RequestScoped
public class Data_Store_Bean {
    private String fname,lname,reg;
    private String gender,dob,address;
    private String email,mobile,dept,percent;
    private String langs[];

    public Data_Store_Bean(){ }

    public String getFname() {
        return fname;
    }

    public void setFname(String fname) {
        this.fname = fname;
    }

    public String getPercent() {
        return percent;
    }

    public void setPercent(String percent) {
        this.percent = percent;
    }

    public String getLname() {
        return lname;
    }

    public void setLname(String lname) {
        this.lname = lname;
    }

    public String getReg() {
        return reg;
    }

    public void setReg(String reg) {
        this.reg = reg;
    }

    public String getGender() {
        return gender;
    }

    public void setGender(String gender) {
```

```
        this.gender = gender;
    }

    public String getDob() {
        return dob;
    }

    public void setDob(String dob) {
        this.dob = dob;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public String getMobile() {
        return mobile;
    }

    public void setMobile(String mobile) {
        this.mobile = mobile;
    }

    public String getDept() {
        return dept;
    }

    public void setDept(String dept) {
        this.dept = dept;
    }

    public String[] getLangs() {
        return langs;
    }

    public void setLangs(String langs[]) {
        this.langs = langs;
    }
}
```

**Display.xhtml**

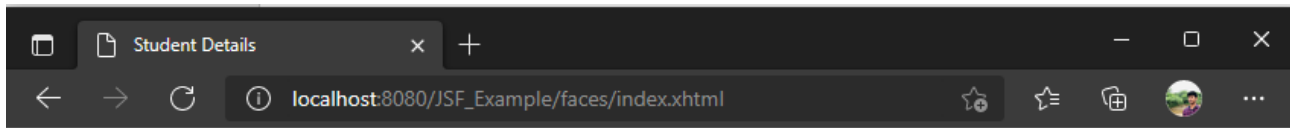
```

<?xml version='1.0' encoding='UTF-8' ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"
      xmlns:h="http://xmlns.jcp.org/jsf/html"
      xmlns:f="http://xmlns.jcp.org/jsf/core"
      xmlns:ui="http://java.sun.com/jsf/facelets">
  <h:head>
    <title>Student Details</title>
  </h:head>
  <h:body>

    <h2>Student Details</h2>
    <table>
      <tr>
        <td>First Name </td>
        <td><b>: #{d_bean.fname}</b> </td>
      </tr>
      <tr>
        <td>Last Name </td>
        <td><b>: #{d_bean.lname}</b> </td>
      </tr>
      <tr>
        <td>REG No </td>
        <td><b>: #{d_bean.reg}</b> </td>
      </tr>
      <tr>
        <td>Gender </td>
        <td><b>: #{d_bean.gender}</b> </td>
      </tr>
      <tr>
        <td>Date of Birth </td>
        <td><b>:
          <h:outputText value="#{d_bean.dob}">
            <f:convertDateTime pattern="dd-mm-yyyy"></f:convertDateTime>
          </h:outputText>
        </b>
        </td>
      </tr>
      <tr>
        <td>Percentage </td>
        <td><b>: #{d_bean.percent}</b> </td>
      </tr>
      <tr>
        <td>Address </td>
        <td><b>: #{d_bean.address}</b></td>
      </tr>
      <tr>
        <td>Email Id </td>
        <td><b>: #{d_bean.email}</b></td>
      </tr>
    </table>
  </h:body>
</html>

```

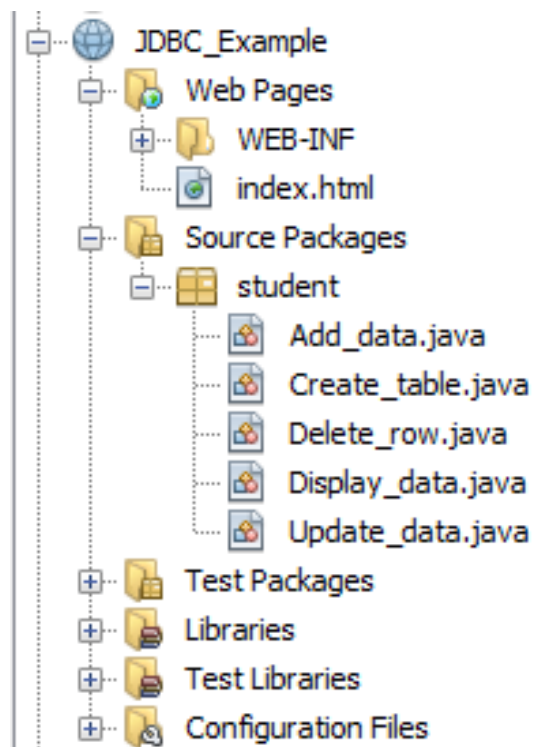
```
</tr>
<tr>
  <td>Mobile</td>
  <td><b>: #{d_bean.mobile}</b></td>
</tr>
<tr>
  <td>Department</td>
  <td><b>: #{d_bean.dept}</b></td>
</tr>
<tr>
  <td>Languages</td>
  <td> <b>: </b>
    <ui:repeat value=#{d_bean.langs}" var="lang">
      <b>#{lang}, </b>
    </ui:repeat>
  </td>
</tr>
</table>
</h:body>
</html>
```

**Output:****Student Details**

First Name : BOJADLA  
Last Name : BALAJI  
REG No : Y19AIT413  
Gender : male  
Date of Birth : Mon Sep 24 05:30:00 IST 2001  
Percentage : 0.12334400000000001  
Address : vijayawada, Krishna, AP  
Email Id : bojadlabalaji@gmail.com  
Mobile : 8465884882  
Department : IT  
Languages : C, C++, Python,

**Experiment : 5**

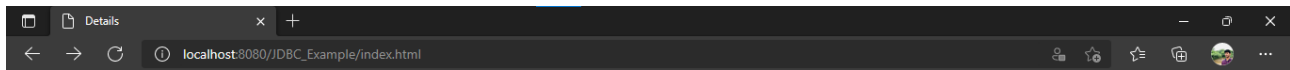
**Aim:** Create a web application to demonstrate JDBC and perform the following operations:  
Creation, Insertion, Updating, Display, Deletion.

**Application File Structure:**



**Source code:****index.html**

```
<!DOCTYPE html>
<html>
  <head>
    <title>Details</title>
    <style>
      form{
        float:left;
        border:2px solid black;
        padding: 20px;
        margin:30px;
        width:320px;
        height: 200px;
      }
    </style>
  </head>
  <body>
    <form action="Create_table" id="container" method="post" style="width: 745px">
      <h2>Create New Table</h2>
      Table Name :<input type="text" name="tablename" required /><br><br>
      Column1 Name:<input type="text" name="col1" required />
      Data Type:<input type="text" name="type1" required /><br>
      Column2 Name:<input type="text" name="col2" />
      Data Type:<input type="text" name="type2" /><br>
      Primary Key:<input type="text" name="key" /><br><br>
      <input type="submit" value="CREATE"/>
    </form>
    <form action="Add_data" method="post">
      <h2>ADD New Data</h2>
      Column 1 :<input type="text" name="name" required /><br><br>
      Column 2 : <input type="text" name="reg" required/><br><br>
      <input type="submit" value="Add"/>
    </form>
    <form action="Update_data" method="post">
      <h2>Update Data</h2>
      New Column 1 :<input type="text" name="newname" /><br><br>
      primary key : <input type="text" name="reg" /><br><br>
      <input type="submit" value="UPDATE">
    </form>
    <form action="Display_data">
      <h2>Display Data</h2>
      <input type="submit" value="DISPLAY">
    </form>
    <form action="Delete_row" method="post">
      <h2>Delete Row</h2>
      primary key : <input type="text" name="reg" /><br><br>
      <input type="submit" value="DELETE">
    </form>
  </body>
</html>
```

**Output:****Create New Table**Table Name : Column1 Name: Data Type: Column2 Name: Data Type: Primary Key: **ADD New Data**Column 1 : Column 2 : **Update Data**New Column 1 : primary key : **Display Data****Delete Row**primary key :

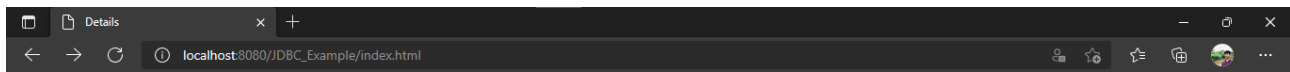
**Create\_table.java**

```
package student;

import java.io.IOException;
import java.io.PrintWriter;
import java.sql.*;
import javax.servlet.ServletContext;
import javax.servlet.ServletException;
import javax.servlet.http.*;

public class Create_table extends HttpServlet {

    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();
        try {
            String name=request.getParameter("tablename");
            String col1=request.getParameter("col1");
            String type1=request.getParameter("type1");
            String col2=request.getParameter("col2");
            String type2=request.getParameter("type2");
            String pkey=request.getParameter("key");
            Class.forName("org.apache.derby.jdbc.ClientDriver");
            Connection con = DriverManager.getConnection("jdbc:derby://localhost:1527/college",
"student","student");
            String sql="CREATE TABLE "+name+"("+col1+" "+type1+", "+col2+"
"+type2+",PRIMARY KEY (" +pkey+"))";
            Statement ps=con.createStatement();
            int result=ps.executeUpdate(sql);
            ServletContext context=getServletContext();
            context.setAttribute("tablename",name);
            context.setAttribute("col1",col1);
            context.setAttribute("col2",col2);
            out.println("Table Created Successfully");
            out.println("<br><a href='index.html'>Goto Index</a>");
            out.println("</body>");
            out.println("</html>");
            ps.close();
            con.close();
        } catch (ClassNotFoundException | SQLException e){
            out.println("Error: "+e);
        }
    }
}
```

**Output:**

**Create New Table**

Table Name :

Column1 Name :  Data Type :

Column2 Name :  Data Type :

Primary Key :

**ADD New Data**

Column 1 :

Column 2 :

**Update Data**

New Column 1 :

primary key :

**Display Data**

**Delete Row**

primary key :

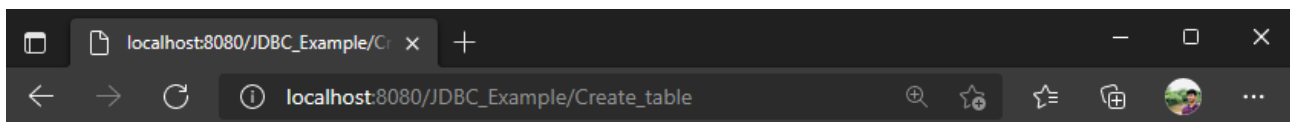
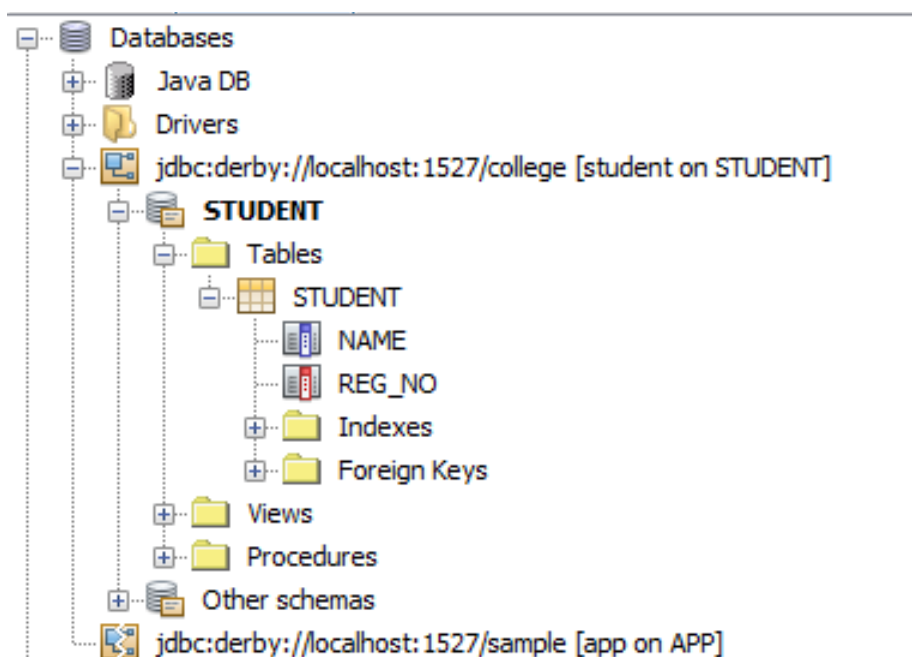


Table Created Successfully  
[Goto Index](#)

**Database Structure:**

**Add\_data.java**

```
package student;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.*;
import java.util.logging.*;
import javax.servlet.*;
import javax.servlet.ServletException;
import javax.servlet.http.*;

public class Add_data extends HttpServlet {
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)

        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();

        String col1=request.getParameter("name");
        String col2=request.getParameter("reg");
        out.println("<title>Add_data</title>");
        ServletContext context=getServletContext();
        String table=(String)context.getAttribute("tablename");

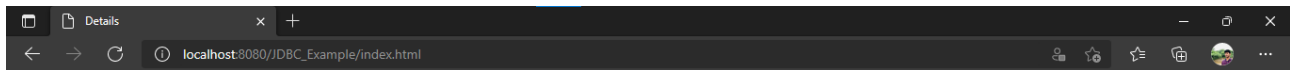
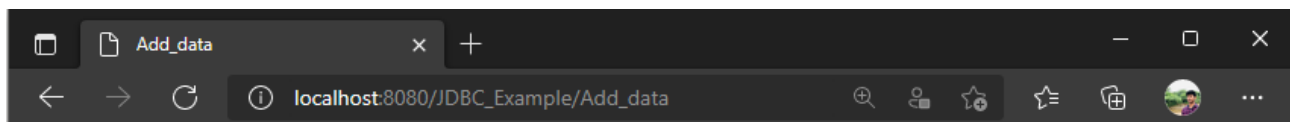
        try{
            //dataSource class
            Class.forName("org.apache.derby.jdbc.ClientDriver");
            Connection con = DriverManager.getConnection("jdbc:derby://localhost:1527/college",
"student","student");
            String sql="insert into "+table+" values(?,?)";
            PreparedStatement ps=con.prepareStatement(sql);
            ps.setString(1, col1);
            ps.setString(2, col2);

            int result=ps.executeUpdate();

            if(result>0)
                out.println("Data Inserted Successfully");

            else
                out.println("Data Insertion Failed");

            out.println("<br><a href='index.html'>Goto Index</a>");
            ps.close();
            con.close();
        } catch (ClassNotFoundException | SQLException ex) {
            Logger.getLogger(Add_data.class.getName()).log(Level.SEVERE, null, ex);
        }
    }
}
```

**Output:****Create New Table**Table Name : Column1 Name:  Data Type: Column2 Name:  Data Type: Primary Key: **ADD New Data**Column 1 : Column 2 : **Update Data**New Column 1 : primary key : **Display Data****Delete Row**primary key : 

Data Inserted Successfully

[Goto Index](#)

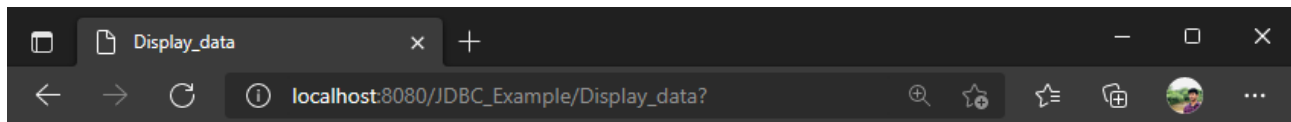
**Display\_data.java**

```
package student;

import java.io.*;
import java.sql.*;
import java.util.logging.*;
import javax.servlet.*;
import javax.servlet.ServletException;
import javax.servlet.http.*;

public class Display_data extends HttpServlet {
    @Override
    protected void service(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();
        out.println("<title>Display_data</title>");
        try{
            Class.forName("org.apache.derby.jdbc.ClientDriver");
            Connection con=DriverManager.getConnection("jdbc:derby://localhost:1527/college",
"student","student");
            java.sql.Statement s=con.createStatement();
            ServletContext context=getServletContext();
            String table=(String)context.getAttribute("tablename");
            String col_1=(String)context.getAttribute("col1");
            String col_2=(String)context.getAttribute("col2");
            String sql="select * from "+table;
            ResultSet rs=s.executeQuery(sql);
            out.println("<h2>"+table.toUpperCase()+" Table:</h2>");
            out.println("<table cellpadding=6 border=2>"
                + "<tr>"
                + "<th>"+col_1.toUpperCase()+"</th>"
                + "<th>"+col_2.toUpperCase()+"</th>"
                + "</tr>");

            while(rs.next()){
                out.println("<tr>");
                out.println("<td>"+rs.getString(col_1)+"</td><td> "+rs.getString(col_2)+"</td></tr>");
            }
            out.println("</table>");
            out.println("<br><a href='index.html'>Goto Index</a>");
            s.close();
            con.close();
        } catch (ClassNotFoundException | SQLException ex) {
            Logger.getLogger(Display_data.class.getName()).log(Level.SEVERE, null, ex);
        }
    }
}
```

**Output:****STUDENT Table:**

NAME	REG_NO
KARTHIK KAKARLAMUDI	Y19AIT445
BOMMAREDDY ABHINAV	Y19AIT414
BOJADLA BALAJI	Y19AIT413
CV RAJASEKHAR REDDY	Y19AIT424

[Goto Index](#)



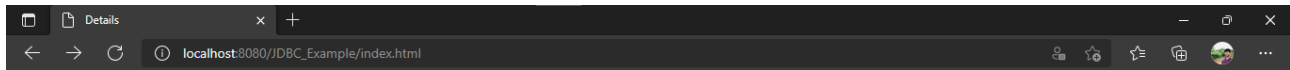
**Update\_data.java**

```
package student;
import java.io.*;
import java.sql.*;
import javax.servlet.ServletContext;
import javax.servlet.ServletException;
import javax.servlet.http.*;

public class Update_data extends HttpServlet {

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();
        try {
            String name=request.getParameter("newname");
            String reg=request.getParameter("reg");
            ServletContext context=getServletContext();
            String table=(String)context.getAttribute("tablename");
            String col_1=(String)context.getAttribute("col1");
            String col_2=(String)context.getAttribute("col2");
            Class.forName("org.apache.derby.jdbc.ClientDriver");
            Connection con = DriverManager.getConnection("jdbc:derby://localhost:1527/college",
"student","student");

            String sql="UPDATE "+table+" SET "+col_1+"=? WHERE "+col_2+"=?";
            PreparedStatement ps=con.prepareStatement(sql);
            ps.setString(1, name);
            ps.setString(2, reg);
            int result=ps.executeUpdate();
            if(result>0){
                out.println("Data Updated Successfully");
                request.getRequestDispatcher("Display_data").include(request, response);
            }
            else{
                out.println("Data Updated Failed");
                out.println("<br><a href='index.html'>Goto Index</a>");
            }
            out.println("</body>");
            out.println("</html>");
            ps.close();
            con.close();
        } catch (ClassNotFoundException | SQLException e){
            out.println("Error: "+e);
        }
    }
}
```

**Output:**

### Create New Table

Table Name :

Column1 Name:  Data Type:

Column2 Name:  Data Type:

Primary Key:

### ADD New Data

Column 1 :

Column 2 :

### Update Data

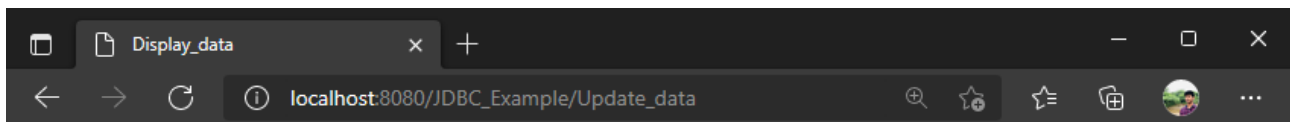
New Column 1 :

primary key :

### Display Data

### Delete Row

primary key :



Data Updated Successfully

**STUDENT Table:**

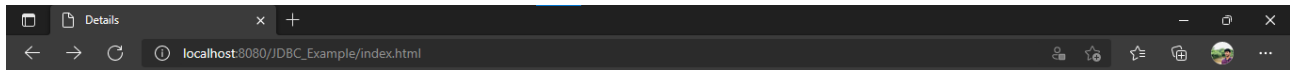
NAME	REG_NO
KARTHIK KAKARLAMUDI	Y19AIT445
BOMMAREDDY ABHINAV	Y19AIT414
BALU	Y19AIT413
CV RAJASEKHAR REDDY	Y19AIT424

[Goto Index](#)

**Delete\_row.java**

```
package student;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.*;
import java.sql.SQLException;
import javax.servlet.ServletContext;
import javax.servlet.ServletException;
import javax.servlet.http.*;

public class Delete_row extends HttpServlet {
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter() ;
        try {
            String name=request.getParameter("newname");
            String reg=request.getParameter("reg");
            ServletContext context=getServletContext();
            String table=(String)context.getAttribute("tablename");
            String col_1=(String)context.getAttribute("col1");
            String col_2=(String)context.getAttribute("col2");
            Class.forName("org.apache.derby.jdbc.ClientDriver");
            Connection con = DriverManager.getConnection("jdbc:derby://localhost:1527/college",
"student","student");
            String sql="DELETE FROM "+table+" WHERE "+col_2+"=?";
            PreparedStatement ps=con.prepareStatement(sql);
            ps.setString(1, reg);
            int result=ps.executeUpdate();
            if(result>0){
                out.println("Data Deleted Successfully");
                request.getRequestDispatcher("Display_data").include(request, response);
            }
            else{
                out.println("Data Deleted Failed");
                out.println("<br><a href='index.html'>Goto Index</a>");
            }
            out.println("</body>");
            out.println("</html>");
            ps.close();
            con.close();
        } catch (ClassNotFoundException | SQLException e){
            out.println("Error: "+e);
        }
    }
}
```

**Output:**

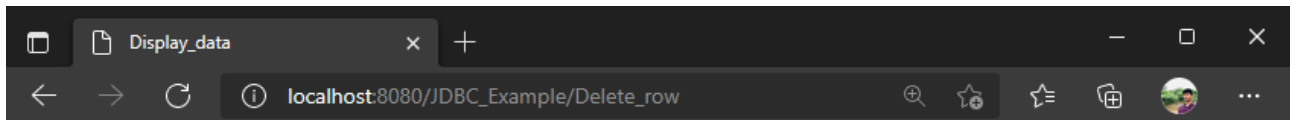
**Create New Table**  
Table Name:   
Column1 Name:  Data Type:   
Column2 Name:  Data Type:   
Primary Key:

**ADD New Data**  
Column 1:   
Column 2:

**Update Data**  
New Column 1:   
primary key:

**Display Data**

**Delete Row**  
primary key:

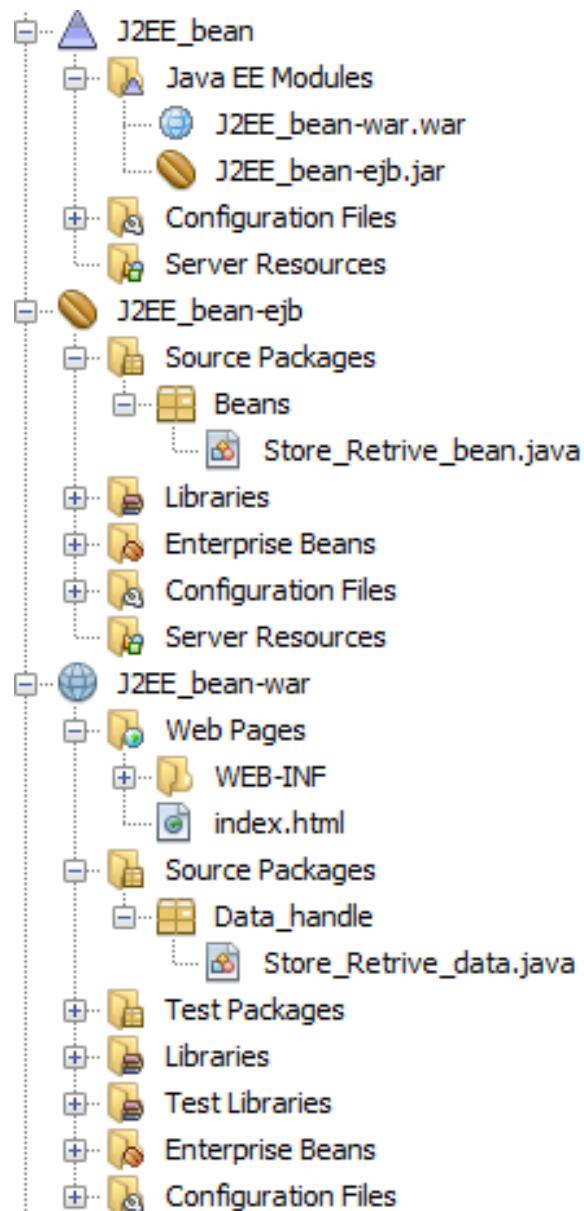


Data Deleted Successfully

**STUDENT Table:**

NAME	REG_NO
KARTHIK KAKARLAMUDI	Y19AIT445
BOMMAREDDY ABHINAV	Y19AIT414
CV RAJASEKHAR REDDY	Y19AIT424

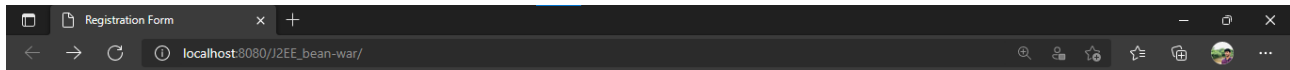
[Goto Index](#)

**Experiment : 6****Aim:** Create a Java EE application to demonstrate Stateless Session Bean.**Application File Structure:**

**Source code:****index.html**

```
<!DOCTYPE html>
<html>
  <head>
    <title>Registration Form</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <div>
      <h1>Student Registration Form</h1>
      <form action="Store_Retrive_data" method="post">
        <table>
          <tr>
            <td>Name</td>
            <td><input type="text" name="name"></td>
          </tr>
          <tr>
            <td>Reg no.</td>
            <td><input type="text" name="reg"></td>
          </tr>
          <tr>
            <td>Gender</td>
            <td><input type="radio" name="gender" value="Male">Male
              <input type="radio" value="Female" name="gender">Female
            </td>
          </tr>
          <tr>
            <td>Academic Year</td>
            <td><input list="year" name="year"></td>
            <datalist id="year">
              <option value="2018-2019">
              <option value="2019-2020">
              <option value="2020-2021">
            </datalist>
          </tr>
          <tr>
            <td>Branch</td>
            <td><input type="text" list="Branch" name="branch"></td>
            <datalist >
              <option value="CSE">
              <option value="IT">
              <option value="ECE">
              <option value="EEE">
              <option value="Civil">
              <option value="Mechanical">
              <option value="E&I">
              <option value="Data Science">
              <option value="Cyber Security">
            </datalist>
          </tr>
        </table>
      </form>
    </div>
  </body>
</html>
```

```
</tr>
<tr>
  <td>Year Of Study</td>
  <td><input list="yos" name="yos" ></td>
  <datalist id="yos">
    <option value="I Year ">
    <option value="II Year">
    <option value="III Year">
    <option value="IV Year">
  </datalist>
</tr>
<tr>
  <td>Course</td>
  <td><input list="course" name="course" ></td>
  <datalist id="course">
    <option value="B.TECH."></option>
    <option value="M.TECH."></option>
    <option value="M.SC."></option>
    <option value="MCA"></option>
    <option value="DIPLOMA"></option>
  </datalist>
</tr>
<tr>
  <td>Languages</td>
  <td>
    <input type="checkbox" name="langs" value="python">
    <label for="python" > Python&nbsp;&nbsp;&nbsp;</label>
    <input type="checkbox" name="langs" value="c">
    <label for="c" >C</label><br>
    <input type="checkbox" name="langs" value="java">
    <label for="java" > Java  &nbsp;&nbsp;&nbsp;</label>
    <input type="checkbox" name="langs" value="c++">
    <label for="c++" >C++</label>
  </td>
</tr>
<tr>
  <td><input type="submit" value="Submit"></td>
  <td><input type="reset" value="Reset"></td>
</tr>
</table>
</form>
</div>
</body>
</html>
```

**Output:**

## Student Registration Form

Name	<input type="text"/>
Reg no.	<input type="text"/>
Gender	<input type="radio"/> Male <input type="radio"/> Female
Academic Year	<input type="text"/>
Branch	<input type="text"/>
Year Of Study	<input type="text"/>
Course	<input type="text"/>
Languages	<input type="checkbox"/> Python <input type="checkbox"/> C <input type="checkbox"/> Java <input type="checkbox"/> C++
<input type="button" value="Submit"/>	<input type="button" value="Reset"/>



## Student Registration Form

Name	<input type="text" value="BOJADLA BALAJI"/>
Reg no.	<input type="text" value="Y19AIT413"/>
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female
Academic Year	<input type="text" value="2020-2021"/>
Branch	<input type="text" value="IT"/>
Year Of Study	<input type="text" value="III Year"/>
Course	<input type="text" value="B.TECH."/>
Languages	<input checked="" type="checkbox"/> Python <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> Java <input type="checkbox"/> C++
<input type="button" value="Submit"/>	<input type="button" value="Reset"/>



**Store\_Retrive\_bean.java**

```
package Beans;

import javax.ejb.Stateless;
import javax.ejb.LocalBean;

@Stateless
@LocalBean
public class Store_Retrive_bean {

    private String name,reg,gender,a_year,yos,branch,course;
    private String langs[];

    public String getName() {
        return name;
    }

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

    public String getReg() {
        return reg;
    }

    public void setReg(String reg) {
        this.reg = reg;
    }

    public String getGender() {
        return gender;
    }

    public void setGender(String gender) {
        this.gender = gender;
    }

    public String getA_year() {
        return a_year;
    }

    public void setA_year(String a_year) {
        this.a_year = a_year;
    }

    public String getYos() {
        return yos;
    }

    public void setYos(String yos) {
        this.yos = yos;
    }
}
```

```
}

public String getBranch() {
    return branch;
}

public void setBranch(String branch) {
    this.branch = branch;
}

public String getCourse() {
    return course;
}

public void setCourse(String course) {
    this.course = course;
}

public String[] getLangs() {
    return langs;
}

public void setLangs(String[] langs) {
    this.langs = langs;
}
}
```

**Store\_Retrive\_data.java**

```
package Data_handle;

import Beans.Store_Retrive_bean;
import java.io.IOException;
import java.io.PrintWriter;
import javax.ejb.EJB;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

public class Store_Retrive_data extends HttpServlet {

    @EJB
    Store_Retrive_bean srb;

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()) {

            String name=request.getParameter("name");
            String reg=request.getParameter("reg");
            String gender=request.getParameter("gender");
            String a_year=request.getParameter("year");
            String yos=request.getParameter("yos");
            String branch=request.getParameter("branch");
            String course=request.getParameter("course");
            String[] langs=request.getParameterValues("langs");

            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head>");
            out.println("<title>Store_Retrive_data</title>");
            out.println("</head>"
                + "<style>"
                + "body{"
                + "background-color:pink;"
                + "}"
                + "</style>");
            out.println("<body>");
            out.println("<h1>Student Details</h1>");
            srb.setName(name);
            srb.setReg(reg);
            srb.setGender(gender);
            srb.setBranch(branch);
            srb.setA_year(a_year);
            srb.setYos(yos);
```

```
srb.setLangs(langs);  
srb.setCourse(course);
```

```
out.println( "<h3>Name : "+srb.getName()+"<br>"  
    + "Register Number : "+srb.getReg()+"<br>"  
    + "Gender : "+srb.getGender()+"<br>"  
    + "Academic Year : "+srb.getA_year()+"<br>"  
    + "Branch : "+srb.getBranch()+"<br>"  
    + "Year of Study : "+srb.getYos()+"<br>"  
    + "Course : "+srb.getCourse()+"<br>"  
    + "Languages : ");  
for(String l: srb.getLangs()){  
    out.println(l+",");  
}
```

```
out.println("</h3></body>");  
out.println("</html>");
```

```
    }  
}
```

```
}
```

**Output:**