

# **Experiment No.5**

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## **Title:**

Design and Build Student Login Page using JSP, Servlet and MySQL.

## **Theory:**

### **Servlet:**

A Servlet is a server side program and written in Java. Servlet is a web component that is deployed on the server for creating the dynamic web pages. A Java servlet is a Java program that extends the capabilities of a server. Although servlets can respond to any types of requests, they most commonly execute applications hosted on Web Servers.

Java Servlets are Java classes run by a web server that has an interpreter that supports the Java Servlet application.

Servlets can be created using the packages:

- javax.servlet
- javax.servlet.http **Servlet Life Cycle:**

- The servlet is initialized by calling the init() method
- The servlet calls service() method to process a client's request
- Finally, servlet is garbage collected by the garbage collector of the JVM

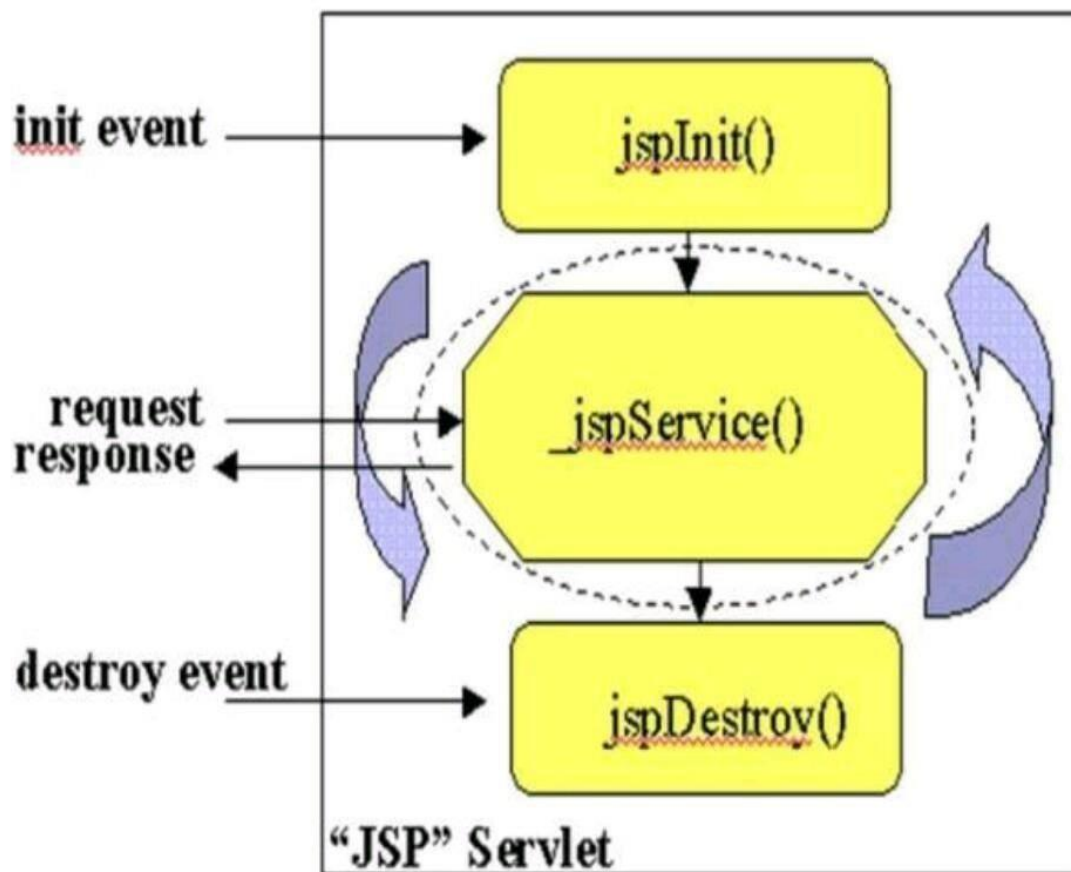


Fig: Functions of Servlet

**Program: Login.java code:**

```
import java.io.IOException; import
java.io.PrintWriter; import java.sql.Connection;
import java.sql.DriverManager; import
java.sql.PreparedStatement; import
java.sql.ResultSet; 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 Login extends HttpServlet {    private static
final long serialVersionUID = 1L;
```

```
    protected void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
response.setContentType("text/html");
```

```
        PrintWriter out = response.getWriter();
```

```
        String uname = request.getParameter("username");
```

```
        String upwd = request.getParameter("password");    Boolean flag=false;
```

```
        try {
```

```
            Class.forName("com.mysql.jdbc.Driver");
```

```
            Connection con =
```

```
DriverManager.getConnection("jdbc:mysql://localhost:3306/register","root","atul
ya123");
```

```
            PreparedStatement ps = con.prepareStatement("select * from
student where username=? and password=?");
```

```
ps.setString(1,uname);
```

```

        ps.setString(2,upwd);

        ResultSet rs = ps.executeQuery();    flag = rs.next();

        if(flag==true) {

            HttpSession session = request.getSession();

            session.setAttribute("unm", uname);

            RequestDispatcher rds =
            request.getRequestDispatcher("home.jsp");

            rds.forward(request,response);

            }                else {

            out.print("Username or Password is wrong!!");

            RequestDispatcher rds =
            request.getRequestDispatcher("login.jsp");

            rds.include(request, response);

            }

        }

        catch(Exception ee) {

        ee.printStackTrace();

        }

    }}

```

**Register.java code:** import  
 java.io.IOException; import  
 java.io.PrintWriter; import

```
java.sql.DriverManager;
```

```
import
```

```
java.sql.PreparedStatemen
```

```
t; import
```

```
java.sql.Connection;
```

```
import javax.servlet.ServletException; import javax.servlet.http.HttpServlet;
```

```
import javax.servlet.http.HttpServletRequest; import
```

```
javax.servlet.http.HttpServletResponse;
```

```
public class Register extends HttpServlet { private static final
```

```
long serialVersionUID = 1L;
```

```
protected void doPost(HttpServletRequest request, HttpServletResponse  
response) throws ServletException, IOException {
```

```
response.setContentType("text/html");
```

```
    PrintWriter out = response.getWriter();
```

```
    String uname = request.getParameter("uname");
```

```
    String upwd = request.getParameter("upwd");
```

```
    String fname = request.getParameter("fname");
```

```
    String lname = request.getParameter("lname");
```

```

String ugender=request.getParameter("gender");

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

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

String umob = request.getParameter("umno");


try {

    Class.forName("com.mysql.jdbc.Driver");

    Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/register","root","atul
ya123");

    PreparedStatement ps = con.prepareStatement("insert into student values
(?,?,?,?,?,?,?)");

        ps.setString(1,uname);

ps.setString(2, upwd);                ps.setString(3,
fname);        ps.setString(4, lname);

ps.setString(5, ugender);

ps.setString(6, uemail);                ps.setString(7,
ucourse);        ps.setString(8, umob);


        int i = ps.executeUpdate();

        if(i>0) {

```

```

        out.println("You are registered Successfully!!");        out.print("<a
href='login.jsp'>Click Here for Login</a>");

    }
    else {
out.print("Error!!");
    }
}

    catch(Exception ee) {
ee.printStackTrace();
    }
}
}

```

### **Logout.java code:**

```

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

```

```

@WebServlet("/Logout") public class Logout
extends HttpServlet {    private static final long
serialVersionUID = 1L;

    protected void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {

    HttpSession session = request.getSession();

    session.removeAttribute("unm");

    session.invalidate();

    response.sendRedirect("login.jsp");

    }

}

```

**register.jsp code:**

```

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

<!DOCTYPE html>

<html>

    <head>

        <title>Student Registration Form</title>

        <script>    function validate(){

var uname = stdreg.uname.value;

```



```

var upwd = stdreg.upwd.value;      var
fname = stdreg.fname.value;      var
lname = stdreg.lname.value;

var uemail = stdreg.uemail.value;

var ucourse =
stdreg.ucourse.selectedIndex;      var
umobno = stdreg.umno.value;

    var flag = false;

var str = "";

    var efilter = /^[a-zA-Z0-9_\.\-]+\@([a-zA-Z0-9\-]+\.)+([a-zA-Z0-9]{2,4})+$/;
    if(uname.trim()==="){
flag=true;      str += " Username should not be
blank!!\n";

    }

    if(upwd.trim()==="){      flag=true;      str
+= " Password is Blank or Does not Match!!\n";

    }

    if(fname.trim()==="){      flag = true;

str += " Firstname should not be blank!!\n";

    }

    if(lname.trim()==="){

flag=true;      str += " Lastname

```

```

should not be blank!!\n";

    }

    if(stdreg.gender[0].checked==false&&stdreg.gender[1].checked==false){
flag=true;          str +=" Gender is not selected!!\n";

    }          if(!filter.test(uemail)){
flag=true;          str +=" Email is not valid!!!\n";

    }          if(ucourse==0){
flag=true;

str+=" Course is not selected!!\n";

    }

    if(isNaN(umobno) || umobno.length<12){

        flag = true;          str+=" Mobile
Number is not valid!!\n";

    }          if(flag){
alert("Warning!!\n"+str);          return false;

    }          else{

return true;

    }

}

}

</script>

<link rel="stylesheet" href="style.css">

</head>

```

<!--Visible Part-->

<body>

<h1>Registration Form</h1>

<hr>

<div class="container">

<form name="stdreg" onsubmit="return validate();" action="register" method="post">

<div class="row">

<div class="col-20"><label>Username:</label></div>

<div class="col-80"><input type="text" name="uname" placeholder="Enter your username"></div>

</div>

<div class="row">

<div class="col-20"><label>Password:</label></div>

<div class="col-80"><input type="password" name="upwd" placeholder="Enter your password"></div>

</div>

<div class="row">

<div class="col-20"><label>Firstname:</label></div>

<div class="col-80"><input type="text" name="fname" placeholder="Enter your firstname"></div>

</div>

<div class="row">

```
<div class="col-20"><label>Lastname:</label></div>
```

```
<div class="col-80"><input type="text" name="lname"  
placeholder="Enter your lastname"></div>
```

```
</div>
```

```
<div class="row">
```

```
<div class="col-20"><label>Gender:</label></div>
```

```
<div class="col-80">
```

```
<input type="radio" name="gender" value="Male">Male
```

```
<input type="radio" name="gender" value="Female">Female
```

```
</div>
```

```
</div>
```

```
<div class="row">
```

```
<div class="col-20"><label>Email:</label></div>
```

```
<div class="col-80"><input type="text" name="uemail"  
placeholder="Enter your email id"></div>
```

```
</div>
```

```
<div class="row">
```

```
<div class="col-20"><label>Course:</label></div>
```

```
<div class="col-80"><select name="ucourse">
```

```
<option>Select Class</option>
```

```
<option>SE COMP</option>
```

```
<option>TE COMP</option>
```

```
<option>BE COMP</option>
```

```

        </select></div>

</div>

<div class="row">

    <div class="col-20"><label>Mobile No.:</label></div>

    <div class="col-80"><input type="text" name="umno"
placeholder="Enter your mobile number"></div>

</div>

<div class="row">

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

    <input type="reset" value="Reset">

</div>

</form>

</div>

</body>

</html>

```

### **login.jsp code:**

```

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

<!DOCTYPE html>

<html>

    <head>

        <title>Login Form</title>

```

```
<link href="style.css" rel="stylesheet"/>
</head>
<body>
  <h1>Login Form</h1>
  <hr>
  <div class="login">
    <form action="login" method="post">
      <div>
        <div><label>Username:</label></div>
        <div>
          <input type="text" name="username" placeholder="Enter your
username"/>
        </div>
      </div>
      <div>
        <div><label>Password:</label></div>
        <div>
          <input type="password" name="password" placeholder="Enter your
password"/>
        </div>
      </div>
      <div class="leavespace">
        <input type="submit" value="Login">
      </div>
    </form>
  </div>
</body>
</html>
```

```
<input type="reset" value="Reset"/><br>
<a href="register.jsp">Click Here for Registration</a>

</div>

</form>

</div>

</body>

</html>
```

#### **home.jsp code:**

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
pageEncoding="UTF-8" import="java.sql.*" %>

<% Class.forName("com.mysql.jdbc.Driver"); %>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Home Page</title>

</head>

<body> <% if((session.getAttribute("unm")==null)){
response.sendRedirect("login.jsp");
}

String uname = request.getParameter("username");
```

```

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

%>

<h1>Welcome!!! <%= uname %></h1>

<hr>

<%

Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/register","root","atul
ya123");

PreparedStatement ps = con.prepareStatement("select * from student where
username=? and password=?"); ps.setString(1,uname); ps.setString(2,upwd);
ResultSet rs = ps.executeQuery();

%>

<table border:"1">

<tr>

<th>Username</th>

<th>Password</th>

<th>Firstname</th>

<th>Lastname</th>

<th>Gender</th>

<th>Email</th>

<th>Course</th>

<th>Mobile Number</th>

</tr>

```



```

<% while(rs.next()){ %>

<tr>

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

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

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

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

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

<td><%=      rs.getString(6)      %></td>

<td><%= rs.getString(7) %></td> <td><%=
rs.getString(8) %></td> </tr>

<% }%>

</table>

<form action="logout" method="post">

<input type="submit" value="Logout"> </form>

</body>

</html>

```

### style.css code:

```

*{  box-sizing: borderbox;

}

```

```
.container{ background-color:
aquamarine; border:1px solid red;
border-radius: 5px; padding: 10px;
width: 80%; margin:
auto;
}
.row:after{ content:
" "; display: table;
clear: both;
}
.col-20{ width:
20%;
float:left;
margin-top: 5px;
}
.col-80{ width: 80%;
float:left; margin-top:
5px;
} input[type=text],input[type=password],input[type=email]{ width: 100%;
padding:5px;
}
```

```
.login{ width: 45%;  
margin: auto;  
border: 1px solid  
red;   borderradius:  
5px;   padding:  
10px;  
background-  
color: bisque;  
}  
input[type=submit],input[type="reset"]{ cursor:  
pointer;  
}  
.leavespace{   margintop:20px;  
}
```

**Output:**

http://localhost:9080/LoginApplication/

## Login Form

Username:

Password:

[Click Here for Registration](#)

http://localhost:9080/LoginApplication/register.jsp

## Registration Form

Username:

Password:

Firstname:

Lastname:

Gender: ☒ Male ☐ Female

Email:

Course:

Mobile No.:

http://localhost:9080/LoginApplication/register

You are registered Sccessfully!! [Click Here for Login](#)

### Conclusion:

We designed and built a Student login page using JSP, Servlet and MySQL.