

# EXP 6: LOGIN SYSTEM

**Write a Servlet to demonstrate session tracking using HttpSession. Implement a simple login system where the user's session is tracked.**

## **AIM:**

To develop a Java Servlet application that demonstrates **session tracking** using HttpSession by implementing a **simple login system** where user login status is maintained across multiple pages.

## **ALGORITHM:**

1. **Create an HTML login form** (login.html) where the user enters a username and password.
2. **Create a servlet (LoginServlet) to:**
  - Retrieve the username and password from the request.
  - Check if the credentials are valid (use hardcoded values for simplicity).
  - If valid, create an HttpSession object and store the username in it.
  - Redirect the user to a welcome page (handled by another servlet).
3. **Create another servlet (WelcomeServlet) to:**
  - Retrieve the session using request.getSession(false).
  - If a session exists and contains a username, greet the user.
  - Otherwise, redirect the user to the login page.
4. **Create a logout servlet (LogoutServlet) to:**
  - Invalidate the session.
  - Display a logout success message with a link to login again.
5. **Configure servlet mappings in web.xml** (or use annotations) for deployment.
6. **Deploy and test:**
  - Submit the login form with valid/invalid credentials.
  - Access the welcome page directly to test session handling.
  - Logout and verify the session ends.

## SOURCE CODE:

### LoginServlet.java

```
package servlets;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.io.*;

public class LoginServlet extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {

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

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        if ("admin".equals(username) && "password".equals(password)) {
            HttpSession session = request.getSession();
            session.setAttribute("username", username);
            response.sendRedirect("welcome");
        } else {
            out.println("<h3>Invalid login</h3><a href='login.html'>Try again</a>");
        }
    }
}
```

### LogoutServlet.java

```
package servlets;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.io.*;

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

        HttpSession session = request.getSession(false);
        if (session != null)
            session.invalidate();

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<h3>Logged out successfully.</h3>");
        out.println("<a href='login.html'>Login again</a>");
    }
}
```

## WelcomeServlet.java

```
package servlets;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.io.*;

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

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        HttpSession session = request.getSession(false);
        if (session != null && session.getAttribute("username") != null) {
            String username = (String) session.getAttribute("username");
            out.println("<h2>Welcome, " + username + "</h2>");
            out.println("<a href='logout'>Logout</a>");
        } else {
            out.println("<h3>Login first</h3><a href='login.html'>Login</a>");
        }
    }
}
```

## Login.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Login Page</title>
</head>
<body>
    <form action="login" method="post">
        Username: <input type="text" name="username"><br>
        Password: <input type="password" name="password"><br>
        <input type="submit" value="Login">
    </form>
</body>
</html>
```

## Web.xml

```
<web-app xmlns="https://jakarta.ee/xml/ns/jakartaee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
    https://jakarta.ee/xml/ns/jakartaee/web-app_5_0.xsd"
  version="5.0">

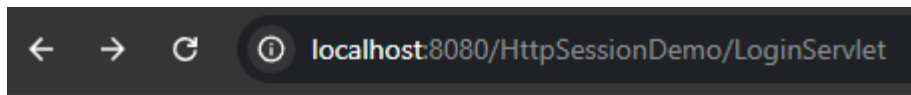
  <servlet>
    <servlet-name>Login</servlet-name>
    <servlet-class>servlets.LoginServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>Login</servlet-name>
    <url-pattern>/login</url-pattern>
  </servlet-mapping>

  <servlet>
    <servlet-name>Welcome</servlet-name>
    <servlet-class>servlets.WelcomeServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>Welcome</servlet-name>
    <url-pattern>/welcome</url-pattern>
  </servlet-mapping>

  <servlet>
    <servlet-name>Logout</servlet-name>
    <servlet-class>servlets.LogoutServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>Logout</servlet-name>
    <url-pattern>/logout</url-pattern>
  </servlet-mapping>

</web-app>
```

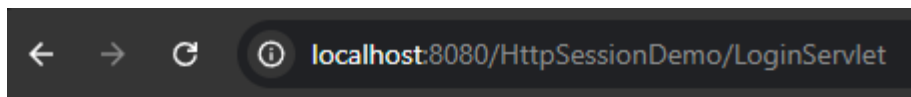
## OUTPUT:



### Login Page

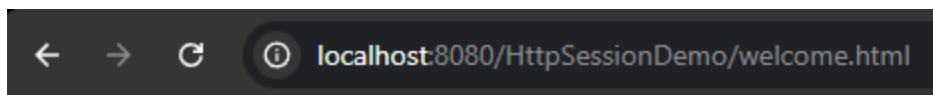
Username:

Password:



### Invalid Username or Password

[Try Again](#)



### Welcome, You are logged in!

[Logout](#)

## RESULT:

Thus, the program was executed successfully.