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## A. VIEW (JSP File dan index )

Index.html ( tidak ada perubahan )

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <meta charset="UTF-8">
5      <title>Halaman login</title>
6  </head>
7  <body>
8      <h1>Selamat Datang di halaman login</h1>
9      <a href="login.jsp">klik disini untuk login</a>
10 </body>
11 </html>
12
```

Welcome.jsp ( tidak ada perubahan )

```
1  <!--
2  Document : welcome
3  Created on : 26 Nov 2024, 11.03.33
4  Author : helmy
5  -->
6
7  <%@page contentType="text/html" pageEncoding="UTF-8"%>
8  <%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
9
10 <html>
11 <head>
12     <title>Welcome Page</title>
13 </head>
14 <body>
15     <h2>Selamat datang, ${user.username}! anda berhasil Login!</h2> <!-- Menampilkan nama pengguna yang login -->
16
17     <!-- Tombol untuk logout -->
18     <form action="logout" method="get">
19         <button type="submit">Logout</button>
20     </form>
21 </body>
22 </html>
23
24
```

Login.jsp ( tidak ada perubahan )

```
1  <!--
2  Document : login
3  Created on : 26 Nov 2024, 10.58.49
4  Author : helmy
5  -->
6
7  <%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
8
9  <html>
10 <head>
11 <title>Halaman Login</title>
12 </head>
13 <body>
14 <h2>Login</h2>
15
16 <form action="login" method="post">
17 <label for="username">Username:</label>
18 <input type="text" id="username" name="username" required><br><br>
19
20 <label for="password">Password:</label>
21 <input type="password" id="password" name="password" required><br><br>
22
23 <button type="submit">Login</button>
24 </form>
25
26 <!-- Tampilkan pesan error jika login gagal -->
27 <c:if test="${not empty errorMessage}">
28 <p style="color:red;">${errorMessage}</p>
29 </c:if>
30
31 <!-- Cek apakah pengguna sudah login, jika sudah, redirect ke welcome.jsp -->
32 <c:if test="${not empty user}">
33 <p>You are already logged in. <a href="welcome.jsp">Go to Welcome Page</a></p>
34 </c:if>
35 </body>
36 </html>
37
```

**userList.jsp** ( mengganti nama file dari ‘UserList.jsp’ menjadi ‘userList.jsp’ untuk menyesuaikan dengan servlet, mengganti prefix seperti di praktikum yaitu menggunakan ‘<% %>’ , dan mengisi code yang kosong)

**Sebelum**

```

<table border="1">
  <thead>
    <tr>
      <th>ID</th>
      <th>Username</th>
      <th>Full Name</th>
      <th>Actions</th>
    </tr>
  </thead>
  <tbody>
    <c:forEach var="user" items="${users}">
      <tr>
        <td>${user.id}</td>
        <td>${user.username}</td>

        <td>
          <a href="editUser?id=${user.id}">Edit</a> |
          <a href="deleteUser?id=${user.id}">Delete</a>
        </td>
      </tr>
    </c:forEach>
  </tbody>
</table>

```

```

<a href="addUser.jsp">Tambah User Baru</a>

```

## Sesudah

```

<table border="1">
  <thead>
    <tr>
      <th>ID</th>
      <th>Username</th>
      <th>Full Name</th>
      <th>Actions</th>
    </tr>
  </thead>
  <tbody>
    <%
      for (User user : (List<User>) request.getAttribute("users")) {
    %>
    <tr>
      <td><%= user.getId() %></td>
      <td><%= user.getUsername() %></td>
      <td><%= user.getFullName() %></td>

      <td>
        <a href="editUser?id=<%=user.getId()%>">Edit</a> |
        <a href="deleteUser?id=<%=user.getId()%>">Delete</a>
      </td>
    </tr>
    <%
      }
    %>
  </tbody>
</table>

<a href="addUser.jsp">Tambah User Baru</a>

```

**editUser.jsp** (mengisi code kosong, dan mengganti prefix seperti di praktikum yaitu menggunakan '<% %>')

### Sebelum

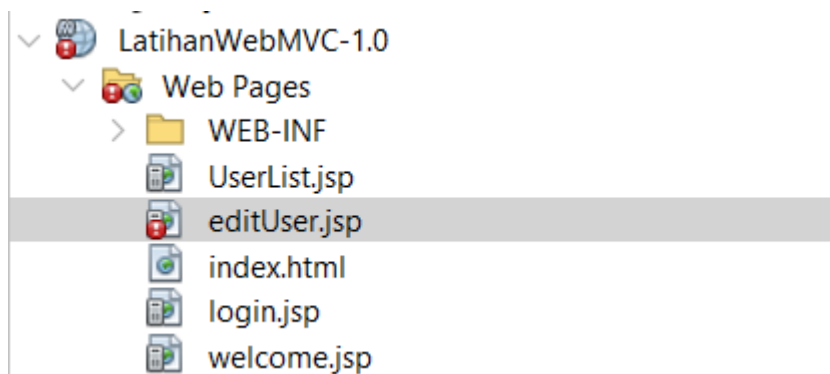
```
1  <!--
2      Document    : editUser
3      Created on  : Dec 3, 2024, 7:10:29 AM
4      Author     : helmy
5  -->
6
7  <%@ page contentType="text/html;charset=UTF-8" language="java" %>
8  <%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
9
10 <html>
11 <head>
12     <title>Edit User</title>
13 </head>
14 <body>
15     <h2>Edit User</h2>
16
17     <form action="editUser" method="post">
18         <input type="hidden" name="id" value="${user.id}">
19         <label for="username">Username:</label>
20         <input type="text" name="username" value="${user...}" required><br><br>
21
22         <label for="password">Password:</label>
23         <input type="password" name="password" value="${user...}" required><br><br>
24
25         <label for="fullName">Full Name:</label>
26         <input type="text" name="fullName" value="${user...}" required><br><br>
27
28         <button type="submit">Update User</button>
29     </form>
30 </body>
31 </html>
```

### Sesudah

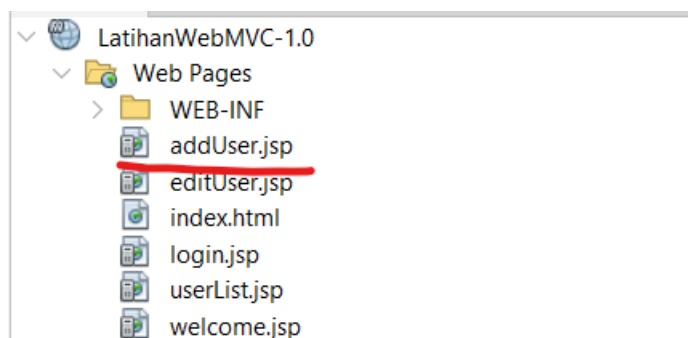
```
1 <!--
2 Document : editUser
3 Created on : Dec 3, 2024, 7:10:29 AM
4 Author : helmy
5 -->
6
7 <%@ page contentType="text/html; charset=UTF-8" language="java" %>
8
9 <html>
10 <head>
11 <title>Edit User</title>
12 </head>
13 <body>
14 <h2>Edit User</h2>
15
16 <form action="editUser" method="post">
17 <input type="hidden" name="id" value="{user.id}">
18 <label for="username">Username:</label>
19 <input type="text" name="username" value="{user.username}" required<br><br>
20
21 <label for="password">Password:</label>
22 <input type="password" name="password" value="{user.password}" required<br><br>
23
24 <label for="fullName">Full Name:</label>
25 <input type="text" name="fullName" value="{user.fullName}" required<br><br>
26
27 <button type="submit">Update User</button>
28 </form>
29 </body>
30 </html>
```

**addUser.jsp** (Menambah file addUser.jsp untuk melakukan tambah data karena pada template belum ada)

#### Sebelum



#### Sesudah



```

1 <!--
2     Document    : addUser
3     Created on  : 10 Dec 2024, 21.18.50
4     Author     : fikri
5 -->
6
7 <%@ page contentType="text/html;charset=UTF-8" language="java" %>
8 <html>
9 <head>
10     <title>Add User</title>
11 </head>
12 <body>
13     <h2>Add User</h2>
14
15     <form action="addUser" method="post">
16         <label for="username">Username:</label>
17         <input type="text" name="username" required><br><br>
18
19         <label for="password">Password:</label>
20         <input type="password" name="password" required><br><br>
21
22         <label for="fullName">Full Name:</label>
23         <input type="text" name="fullName" required><br><br>
24
25         <button type="submit">Tambah User</button>
26     </form>
27 </body>
28 </html>
29

```

## B. MODEL

**User.java** ( menambahkan constructor yang diperlukan dan mengisi code kosong )

```

// Constructor dengan parameter
public User(String username, String password) {
    this.username = username;
    this.password = password;
}

```

### Sebelum

```

// Validasi login (contoh saja kita kasih hardcoded untuk username "admin" dan password "admin123")
public boolean isValidUser() {
    return "admin".equals(username) && "admin123".equals(password);
}

```

### Sesudah

```
// Validasi login (contoh saja kita kasih hardcode untuk username "admin" dan password "admin123")
public boolean isValidUser(String username, String password) {
    String query = "SELECT * FROM users WHERE username = ? AND password = ?";

    try (Connection conn = DBUtil.getConnection();
        PreparedStatement stmt = conn.prepareStatement(query)) {

        stmt.setString(1, username);
        stmt.setString(2, password);

        ResultSet rs = stmt.executeQuery();
        return rs.next();
    } catch (SQLException e) {
        e.printStackTrace();
    }
    return false;
}
```

## C. CONTROLLER (SERVLET)

### AddUserServlet.java ( Mengisi code yang kosong )

#### Sebelum

```
@WebServlet("/addUser")
public class AddUserServlet extends HttpServlet {

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        String username = request.getParameter("username");
        String password = request.getParameter("password");
        String fullName = request.getParameter("fullName");

        User user = new User(username, password, fullName);
        try (Connection conn = DBUtil.getConnection()) {
            String query = "INSERT INTO users (username, password, full_name) VALUES (?, ?, ?)";
            PreparedStatement stmt = conn.prepareStatement(query) {
                stmt.setString(1, user.getUsername());
                stmt.setString(...?);
                stmt.setString(...?);
                stmt.executeUpdate();
            }
            response.sendRedirect("userList.jsp"); // Redirect ke halaman list setelah berhasil
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }
}
```

#### Sesudah

```
@WebServlet("/addUser")
public class AddUserServlet extends HttpServlet {

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        String username = request.getParameter("username");
        String password = request.getParameter("password");
        String fullName = request.getParameter("fullName");

        User user = new User(username, password, fullName);
        try (Connection conn = DBUtil.getConnection()) {
            String query = "INSERT INTO users (username, password, full_name) VALUES (?, ?, ?)";
            PreparedStatement stmt = conn.prepareStatement(query) {
                stmt.setString(1, user.getUsername());
                stmt.setString(2, user.getPassword());
                stmt.setString(3, user.getFullName());
                stmt.executeUpdate();
            }
            response.sendRedirect("userList"); // Redirect ke halaman list setelah berhasil
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }
}
```

### DeleteUserServlet.java ( Mengisi code yang kosong )

#### Sebelum

```

@WebServlet("/deleteUser")
public class DeleteUserServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        int userId = Integer.parseInt(request.getParameter("id"));
        try (Connection conn = DBUtil.getConnection()) {
            String query = "DELETE FROM users WHERE id = ?";
            try (PreparedStatement stmt = conn.prepareStatement(..?)) {
                stmt.setInt(1, userId);
                stmt.executeUpdate();
            }
            response.sendRedirect("...jsp");
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }
}

```

## Sesudah

```

@WebServlet("/deleteUser")
public class DeleteUserServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        int userId = Integer.parseInt(request.getParameter("id"));
        try (Connection conn = DBUtil.getConnection()) {
            String query = "DELETE FROM users WHERE id = ?";
            try (PreparedStatement stmt = conn.prepareStatement(query)) {
                stmt.setInt(1, userId);
                stmt.executeUpdate();
            }
            response.sendRedirect("userList");
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }
}

```

## EditUserServlet.java ( Melengkapi code )

### Sebelum

```

@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    int userId = Integer.parseInt(request.getParameter("id"));
    String username = request.getParameter("username");
    String password = request.getParameter("password");
    String fullName = request.getParameter("fullName");

    User user = new User(userId, username, password, fullName);
    try (Connection conn = DBUtil.getConnection()) {
        String query = "UPDATE users SET username = ?, password = ?, full_name = ? WHERE id = ?";
        try (PreparedStatement stmt = conn.prepareStatement(query)) {
            stmt.setString(1, user.getUsername());
            stmt.executeUpdate();
        }
        response.sendRedirect("userList.jsp");
    } catch (SQLException e) {
        e.printStackTrace();
        response.sendRedirect("error.jsp");
    }
}

```

## Sesudah



```

@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    int userId = Integer.parseInt(request.getParameter("id"));
    String username = request.getParameter("username");
    String password = request.getParameter("password");
    String fullName = request.getParameter("fullName");

    User user = new User(userId, username, password, fullName);
    try (Connection conn = DBUtil.getConnection()) {
        String query = "UPDATE users SET username = ?, password = ?, full_name = ? WHERE id = ?";
        try (PreparedStatement stmt = conn.prepareStatement(query)) {
            stmt.setString(1, user.getUsername());
            stmt.setString(2, user.getPassword());
            stmt.setString(3, user.getFullName());
            stmt.setInt(4, user.getId());
            stmt.executeUpdate();
        }
        response.sendRedirect("userList");
    } catch (SQLException e) {
        e.printStackTrace();
        response.sendRedirect("error.jsp");
    }
}
}

```

## LoginController.java ( Melengkapi code )

### Sebelum

```

@WebServlet("/login")
public class LoginController extends HttpServlet {

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        // try {
        //     // Ambil parameter dari view form login
        //     String username = request.getParameter("username");
        //     String password = request.getParameter("password");

        //     // create objek User dari inputan form login
        //     //User user = new User(username, password);

        //     // panggil method Validasi login dari objek User
        //     if (user.isValidUser()) {
        //         // Jika login berhasil, arahkan ke halaman welcome.jsp
        //         HttpSession session = request.getSession();
        //         session.setAttribute("user", user); // Menyimpan objek User dalam session
        //         response.sendRedirect("welcome.jsp");
        //     } else {
        //         // Jika login gagal, set error message dan tampilkan lagi login.jsp
        //         request.setAttribute("errorMessage", "username atau password anda salah!");
        //         request.getRequestDispatcher("/login.jsp").forward(request, response);
        //     }
        // } catch (ServletException | IOException e) {
        //     // Jika ada error, tampilkan error page
        //     response.sendError(HttpServletResponse.SC_INTERNAL_SERVER_ERROR, "Terjadi kesalahan dalam memproses request");
        // }
        // }
    }
}

```

### Sesudah

```

@WebServlet("/login")
public class LoginController extends HttpServlet {

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        try {
            // Ambil parameter dari view form login
            String username = request.getParameter("username");
            String password = request.getParameter("password");

            // create objek User dari inputan form login
            User user = new User(username, password);

            // panggil method Validasi login dari objek User
            if (user.isValidUser(username, password)) {
                // Jika login berhasil, arahkan ke halaman welcome.jsp
                HttpSession session = request.getSession();
                session.setAttribute("user", user); // Menyimpan objek User dalam session
                response.sendRedirect("welcome.jsp");
            } else {
                // Jika login gagal, set error message dan tampilkan lagi login.jsp
                request.setAttribute("errorMessage", "username atau password anda salah!");
                request.getRequestDispatcher("/login.jsp").forward(request, response);
            }
        } catch (ServletException | IOException e) {
            // Jika ada error, tampilkan error page
            response.sendError(HttpServletResponse.SC_INTERNAL_SERVER_ERROR, "Terjadi kesalahan dalam memproses request");
        }
    }
}

```

## LogoutController.java ( Tidak ada perubahan )

```

/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package ccm.mycompany.latihanwebmvc.Controller;

/**
 *
 * @author helmy
 */
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.*;
import java.io.IOException;

@WebServlet("/logout")
public class LogoutController extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        // Menghapus session pengguna
        HttpSession session = request.getSession(false);
        if (session != null) {
            session.invalidate(); // Menghapus session yang aktif
        }
        response.sendRedirect("login.jsp"); // Arahkan ke halaman login setelah logout
    }
}

```

## UserListServlet.java ( Melengkapi code ) Sebelum

```

* @author helmy
*/
@WebServlet("/userList")
public class UserListServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        List<User> users = new ArrayList<>();
        try (Connection conn = DBUtil.getConnection()) {
            String query = "SELECT * FROM users";
            try (Statement stmt = conn.createStatement()) {
                ResultSet rs = stmt.executeQuery(query);
                while (rs.next()) {
                    User user = new User(
                        rs.getInt("id"),
                        rs.getString("username"),
                        rs.getString("password"),
                        rs.getString("full_name")
                    );
                    users.add(user);
                }
            }
            request.setAttribute("users", users);
            request.getRequestDispatcher("/userList.jsp").forward(request, response);
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }
}

```

## Sesudah

```

* @author helmy
*/
@WebServlet("/userList")
public class UserListServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        List<User> users = new ArrayList<>();
        try (Connection conn = DBUtil.getConnection()) {
            String query = "SELECT * FROM users";
            try (Statement stmt = conn.createStatement()) {
                ResultSet rs = stmt.executeQuery(query);
                while (rs.next()) {
                    User user = new User(
                        rs.getInt("id"),
                        rs.getString("username"),
                        rs.getString("password"),
                        rs.getString("full_name")
                    );
                    users.add(user);
                }
            }
            request.setAttribute("users", users);
            request.getRequestDispatcher("/userList.jsp").forward(request, response);
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }
}

```

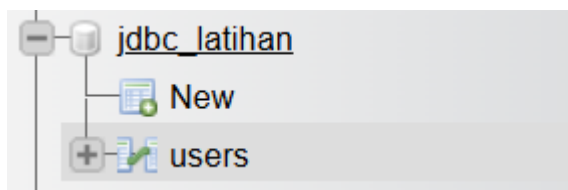
## D. DATABASE

**DBUtil.java** ( Menyesuaikan dengan database yang dibuat di PhpMyadmin )

```
Source History
1  /**
2   * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3   * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
4   */
5   package com.mycompany.latihanwebmvc.Database;
6
7   /**
8    *
9    * @author helmy
10   */
11  import java.sql.Connection;
12  import java.sql.DriverManager;
13  import java.sql.SQLException;
14
15  public class DBUtil {
16      private static final String URL = "jdbc:mariadb://localhost:3306/jdbc_latihan"; //url database
17      private static final String USER = "root"; // user database
18      private static final String PASSWORD = "root123"; // password database
19
20      static {
21          try {
22              Class.forName("org.mariadb.jdbc.Driver");
23          } catch (ClassNotFoundException e) {
24              e.printStackTrace();
25          }
26      }
27
28      public static Connection getConnection() throws SQLException {
29          return DriverManager.getConnection(URL, USER, PASSWORD);
30      }
31  }
32
```

## TESTING

### Buat DB



	id	username	password	full_name
<input type="checkbox"/>	1	admin	admin123	admin

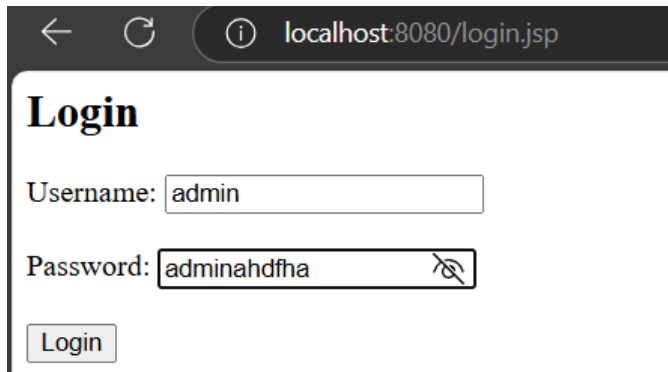
### Tampilan

#### Index.html



## Login.jsp

### Jika Salah

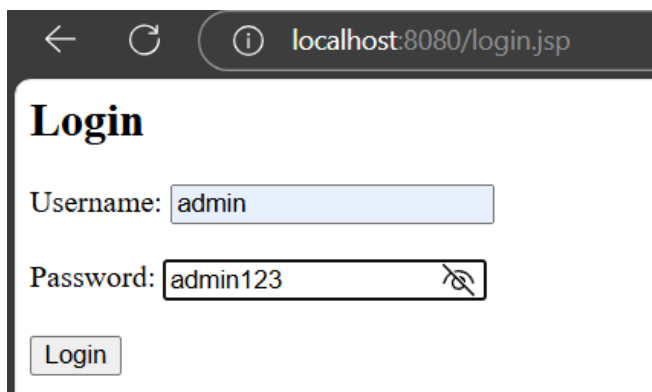


A screenshot of a web browser at localhost:8080/login.jsp. The page has a title 'Login'. It contains two input fields: 'Username' with the value 'admin' and 'Password' with the value 'adminahdfha'. There is a 'Login' button at the bottom left.

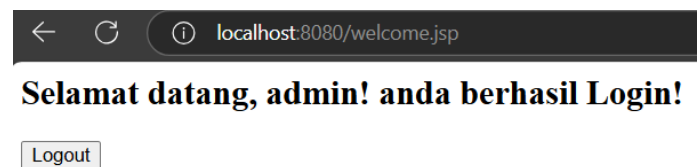


A screenshot of a web browser at localhost:8080/login. The page has a title 'Login'. It contains two empty input fields for 'Username' and 'Password', and a 'Login' button. Below the button, there is a red error message: 'username atau password anda salah!'.

### Jika Benar Redirect ke halaman welcome.jsp

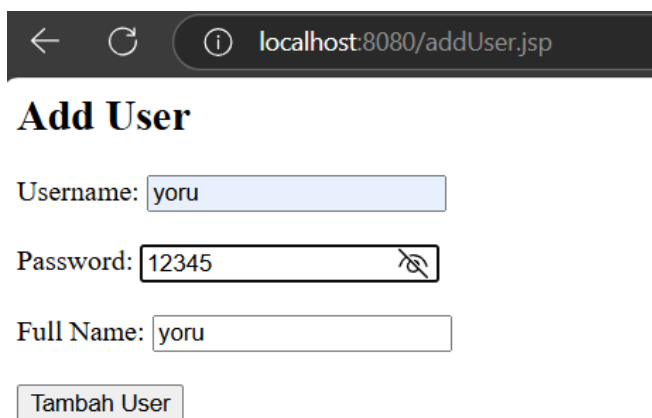


A screenshot of a web browser at localhost:8080/login.jsp. The page has a title 'Login'. It contains two input fields: 'Username' with the value 'admin' and 'Password' with the value 'admin123'. There is a 'Login' button at the bottom left.

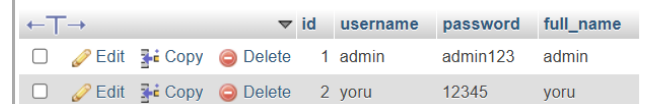


A screenshot of a web browser at localhost:8080/welcome.jsp. The page has a title 'Selamat datang, admin! anda berhasil Login!'. There is a 'Logout' button.

## addUser.jsp



A screenshot of a web browser at localhost:8080/addUser.jsp. The page has a title 'Add User'. It contains three input fields: 'Username' with the value 'yoru', 'Password' with the value '12345', and 'Full Name' with the value 'yoru'. There is a 'Tambah User' button at the bottom left.



	id	username	password	full_name
<input type="checkbox"/>	1	admin	admin123	admin
<input type="checkbox"/>	2	yoru	12345	yoru

Tesing login menggunakan data baru

← → ↻ ⓘ localhost:8080/login.jsp

## Login

Username:

Password:

Login

← ↻ ⓘ localhost:8080/welcome.jsp

## Selamat datang, yoru! anda berhasil Login!

Logout

### userList.jsp

← ↻ ⓘ localhost:8080/userList

## User List

ID	Username	Full Name	Actions
1	admin	admin	<a href="#">Edit</a>   <a href="#">Delete</a>
2	yoru	yoru	<a href="#">Edit</a>   <a href="#">Delete</a>

[Tambah User Baru](#)

### editUser.jsp

← ↻ ⓘ localhost:8080/editUser?id=2

## Edit User

Username:

Password:

Full Name:

Update User

← ↻ ⓘ localhost:8080/editUser?id=2

## Edit User

Username:

Password:

Full Name:

Update User

				id	username	password	full_name
<input type="checkbox"/>	Edit	Copy	Delete	1	admin	admin123	admin
<input type="checkbox"/>	Edit	Copy	Delete	2	yoru	123	yoru

### Testing login data baru

## Login

Username:

Password:

Login

← ↻ ⓘ localhost:8080/welcome.jsp

## Selamat datang, yoru! anda berhasil Login!

Logout

DeleteUser

User List

ID	Username	Full Name	Actions
1	admin	admin	<a href="#">Edit</a>   <a href="#">Delete</a>
2	yoru	yoru	<a href="#">Edit</a>   <a href="#">Delete</a>

[Tambah User Baru](#)

	id	username	password	full_name
<input type="checkbox"/>	1	admin	admin123	admin
<input type="checkbox"/> Check all    With selected: <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a> <a href="#">Export</a>				
<input type="checkbox"/> Show all	Number of rows:	25	Filter rows:	<input type="text" value="Search this table"/>

Testing login data kehapus

Login

Username:

Password:

Login

Login

Username:

Password:

Login

username atau password anda salah!

Logout

localhost:8080/welcome.jsp

Selamat datang, admin! anda berhasil Login!

Logout

localhost:8080/login.jsp

Login

Username:

Password:

Login