Nama : Ahmad Dairobi Mulfasa
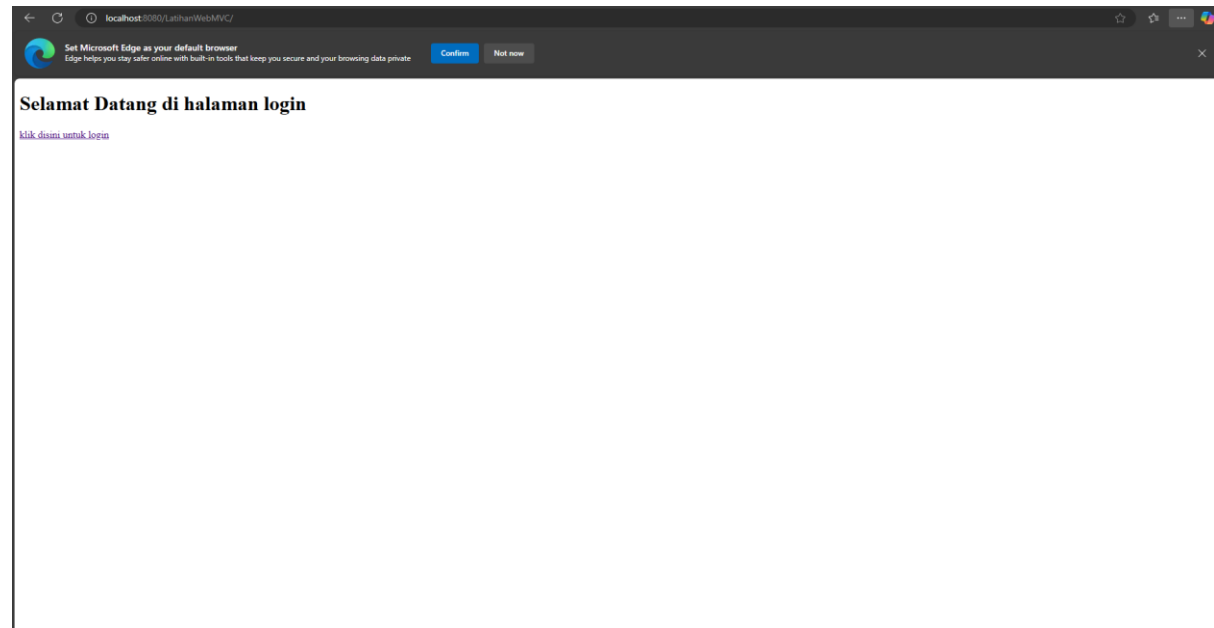
NIM : 1301223387

Latihan PBO : **Quiz-FInish-the-Code_IF-46-06_1301223387**

url github = **https://github.com/AHyphaG/Quiz-FInish-the-Code_IF-46-06_1301223387**

HASIL WEB

Index

Login
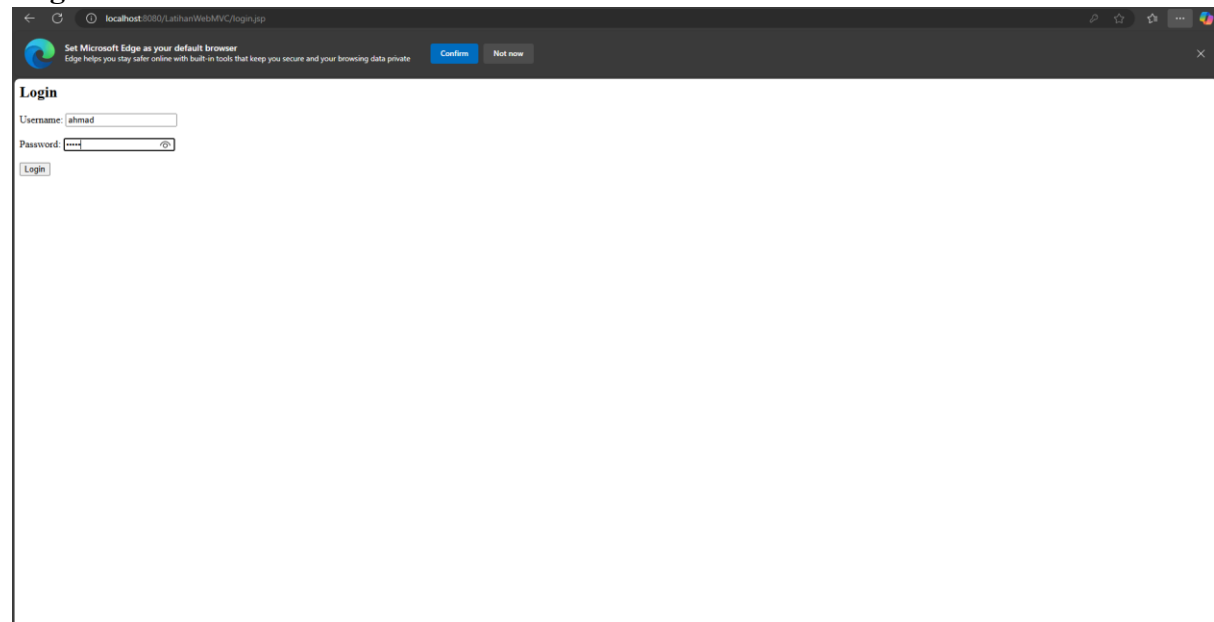
Welcome
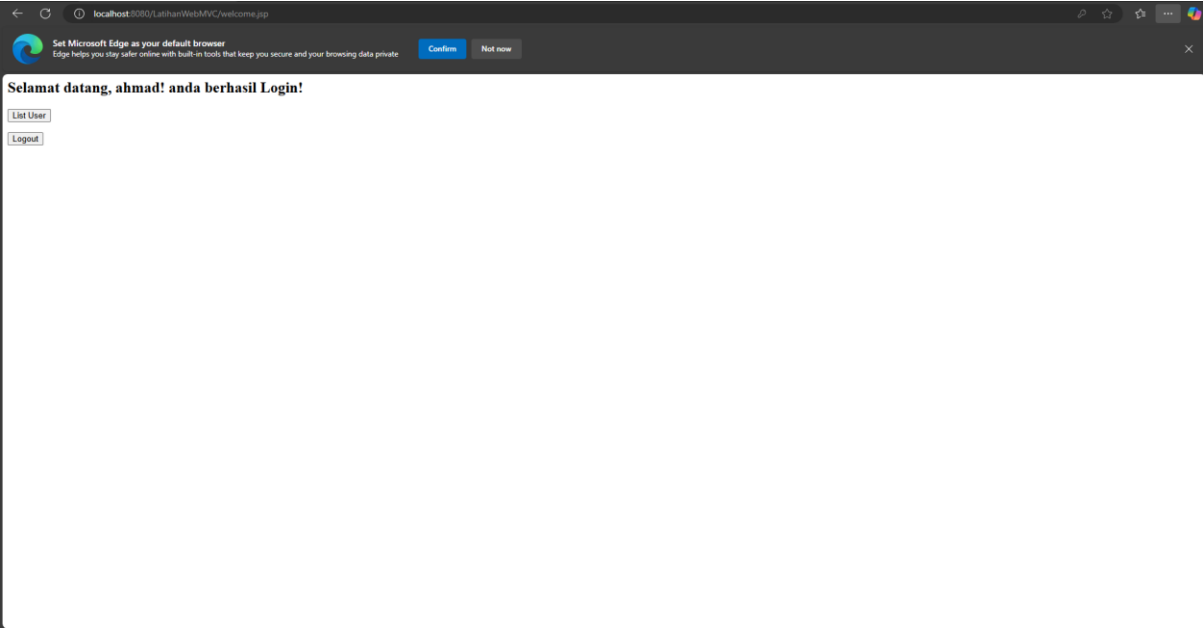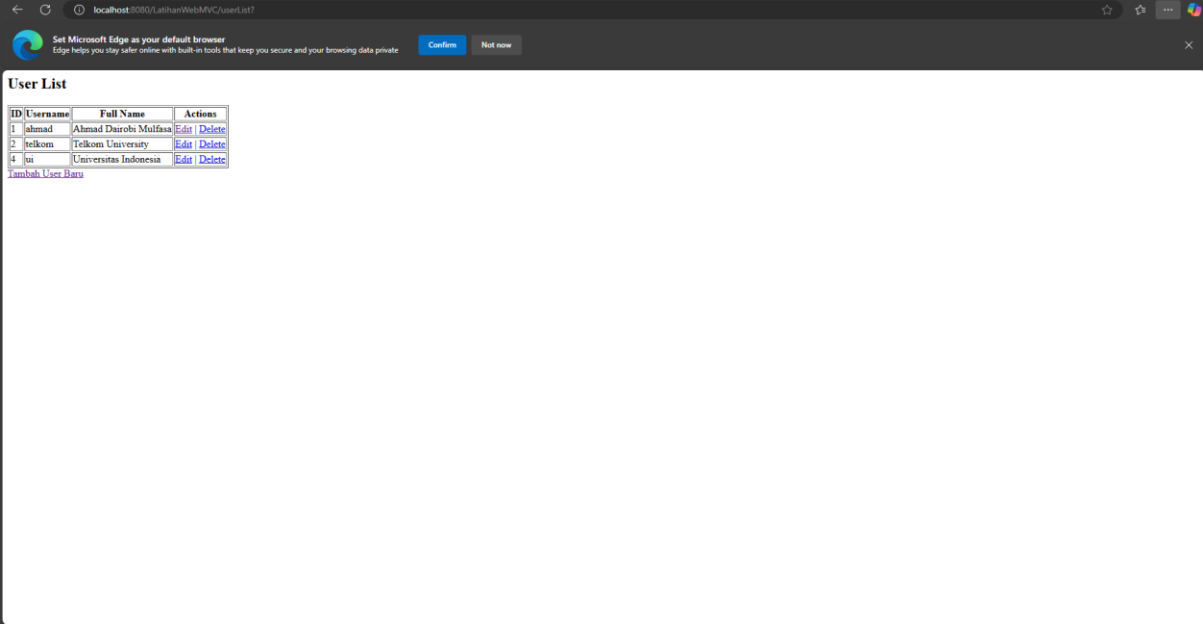
Selamat datang, ahmad! anda berhasil Login!

List User

Logout

List User

User List

ID	Username	Full Name	Actions
1	ahmad	Ahmad Dairobi Mulfasa	Edit | Delete
2	telkom	Telkom University	Edit | Delete
4	ui	Universitas Indonesia	Edit | Delete

Tambah User Baru

Add User

Setelah di-add

Delete UI

WEB PAGES

Index.html

```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Halaman login</title>
</head>
<body>
    <h1>Selamat Datang di halaman login</h1>
    <a href="login.jsp">klik disini untuk login</a>
</body>
</html>
```
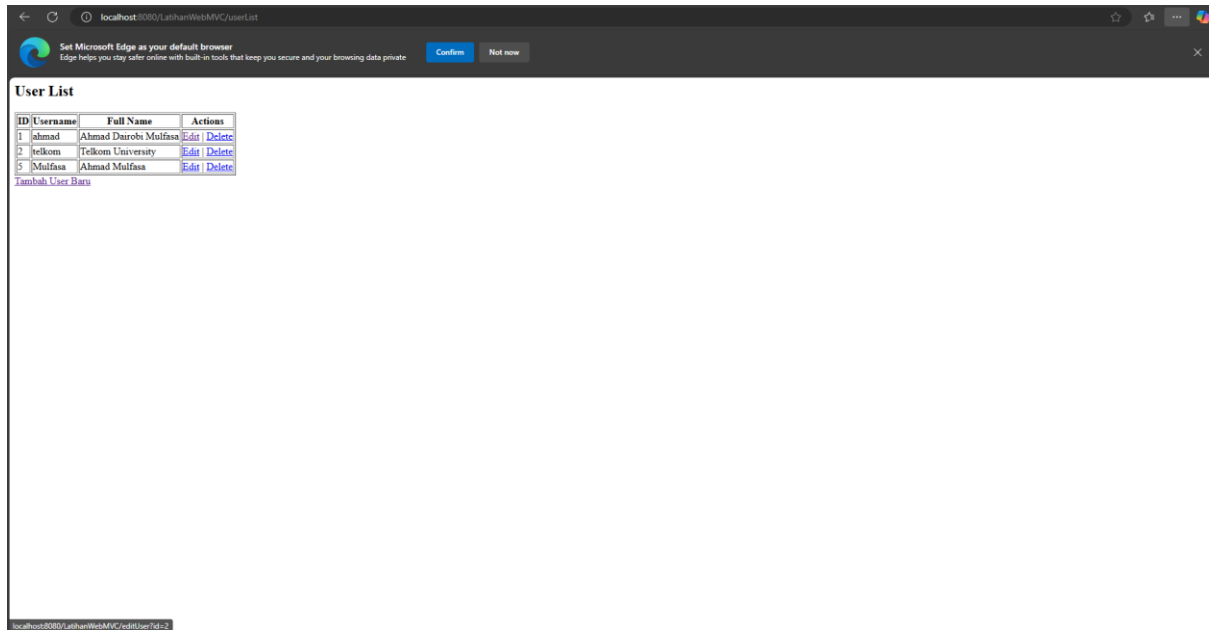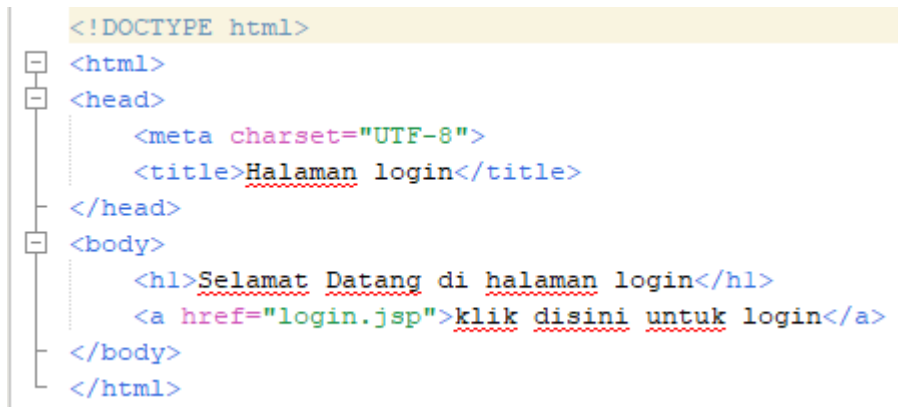
Login.jsp

```jsp
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>


<html>
<head>
    <title>Halaman Login</title>
</head>
<body>
    <h2>Login</h2>

    <form action="login" method="post">
        <label for="username">Username:</label>
        <input type="text" id="username" name="username" required><br><br>

        <label for="password">Password:</label>
        <input type="password" id="password" name="password" required><br><br>

        <button type="submit">Login</button>
    </form>

    <!-- Tampilkan pesan error jika login gagal -->
    <c:if test="${not empty errorMessage}">
        <p style="color:red;">${errorMessage}</p>
    </c:if>

    <!-- Cek apakah pengguna sudah login, jika sudah, redirect ke welcome.jsp -->
    <c:if test="${not empty user}">
        <p>You are already logged in. <a href="welcome.jsp">Go to Welcome Page</a></p>
    </c:if>
</body>
</html>
```

Welcome.jsp

```jsp
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<%
    if (session.getAttribute("user")==null){
        response.sendRedirect("login.jsp");
        return;
    }
%>
<html>
<head>
    <title>Welcome Page</title>
</head>
<body>
    <h2>Selamat datang, ${user.username}! anda berhasil Login!</h2>

    <!-- Tombol untuk logout -->
    <form action="userList" method="get">
        <button type="submit">List User</button>
    </form>
    <form action="logout" method="get">
        <button type="submit">Logout</button>
    </form>
</body>
</html>
```

UserList.jsp

```jsp
="java" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<%
    if (session.getAttribute("user")==null){
        response.sendRedirect("login.jsp");
        return;
    }
%>
<html>
<head>
    <title>User List</title>
</head>
<body>
    <h2>User List</h2>

    <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>${user.username}</td>
                    <td>${user.fullName}</td>
                    <td>
                        <a href="editUser?id=${user.id}">Edit</a> |
                        <a href="deleteUser?id=${user.id}">Delete</a>
                    </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>
</body>
</html>
```

addUser.jsp

```jsp
<%@ page contentType="text/html;charset=UTF-8" language

="java" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<%
    if (session.getAttribute("user")==null){
        response.sendRedirect("login.jsp");
        return;
    }
%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <form action="addUser" method="post">
            <label for="username">Username:</label>
            <input type="text" id="username" name="username" required><br><br>

            <label for="password">Password:</label>
            <input type="password" id="password" name="password" required><br><br>

            <label for="fullName">Nama Panjang:</label>
            <input type="text" id="fullName" name="fullName" required><br><br>

            <button type="submit">Daftar</button>
        </form>
    </body>
</html>
```

editUser.jsp

```jsp
<%@ page contentType="text/html;charset=UTF-8" language="java" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<%
    if (session.getAttribute("user")==null){
        response.sendRedirect("login.jsp");
        return;
    }
%>
<html>
<head>
    <title>Edit User</title>
</head>
<body>
    <h2>Edit User</h2>

    <form action="editUser" method="post">
        <input type="hidden" name="id" value="${user.id}">
        <label for="username">Username:</label>
        <input type="text" name="username" value="${user.username}" required><br><br>

        <label for="password">Password:</label>
        <input type="password" name="password" value="${user.password}" required><br><br>

        <label for="fullName">Full Name:</label>
        <input type="text" name="fullName" value="${user.fullName}" required><br><br>

        <button type="submit">Update User</button>
    </form>
</body>
</html>
```

BACKEND

AddUserServlet.java

```java
@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 (?, ?, ?)";
            try (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");
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }
}
```

DeleteUserServlet.java

```java
@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

```java
@WebServlet("/editUser")
public class EditUserServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        int userId = Integer.parseInt(request.getParameter("id"));
        User user = null;
        try (Connection conn = DBUtil.getConnection()) {
            String query = "SELECT * FROM users WHERE id = ?";
            try (PreparedStatement stmt = conn.prepareStatement(query)) {
                stmt.setInt(1, userId);
                ResultSet rs = stmt.executeQuery();
                if (rs.next()) {
                    user = new User(
                        rs.getInt("id"),
                        rs.getString("username"),
                        rs.getString("password"),
                        rs.getString("full_name")
                    );
                }
            }
            request.setAttribute("user", user);
            request.getRequestDispatcher("/editUser.jsp").forward(request, response);
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }

    @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

```java
@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");
        }
    }
}
```

LogoutController.java

```java
@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

```java
@WebServlet("/userList")
public class UserListServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        List<User> users = new ArrayList<>();
        System.out.println("Koneksi belum terhubung");
        try (Connection conn = DBUtil.getConnection()) {
            System.out.println("Koneksi berhasil");
            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");
        }
    }
}
```

MODEL

User.java

```java
 *
 * @author helmy
 */
public class User {

    private int id;
    private String username;
    private String password;
    private String fullName;

    // default Constructor
    public User() {
    }

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

    public User(String username, String password) {
        this.username = username;
        this.password = password;
    }

    public User(int id, String username, String password, String fullName) {
        this.id = id;
        this.username = username;
        this.password = password;
        this.fullName = fullName;
    }

    // Getter dan Setter untuk username
    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }
```

```java
    public String getUsername() {
        return username;
    }

    public void setUsername(String username) {
        this.username = username;
    }

    public String getPassword() {
        return password;
    }

    public void setPassword(String password) {
        this.password = password;
    }

    public String getFullName() {
        return fullName;
    }

    public void setFullName(String fullName) {
        this.fullName = fullName;
    }

    // Validasi login (contoh saja kita kasih hardcode untuk username "admin" dan password "admin123")
    public boolean isValidUser() {
        try (Connection conn = DBUtil.getConnection()) {
            String query = "select * from users where username = ?";
            try (PreparedStatement stmt = conn.prepareStatement(query)) {
                stmt.setString(1, this.username);
                try(ResultSet rs = stmt.executeQuery()){
                    if (rs.next()){
                        return rs.getString("password").equals(this.password);
                    }
                }
            }
        } catch (SQLException e) {
            return false;
        }
//        return "admin".equals(username) && "admin123".equals(password);
        return false;
    }
}
```

DBUtil.java

```java
public class DBUtil {
    private static final String URL = "jdbc:mariadb://localhost:3306/jdbc_latihan"; //url database
    private static final String USER = "root";   // user database
    private static final String PASSWORD = "";   // password database

    static {
        try {
            Class.forName("org.mariadb.jdbc.Driver");
        } catch (ClassNotFoundException e) {
            e.printStackTrace();
        }
    }

    public static Connection getConnection() throws SQLException {
        return DriverManager.getConnection(URL, USER, PASSWORD);
    }
}
```