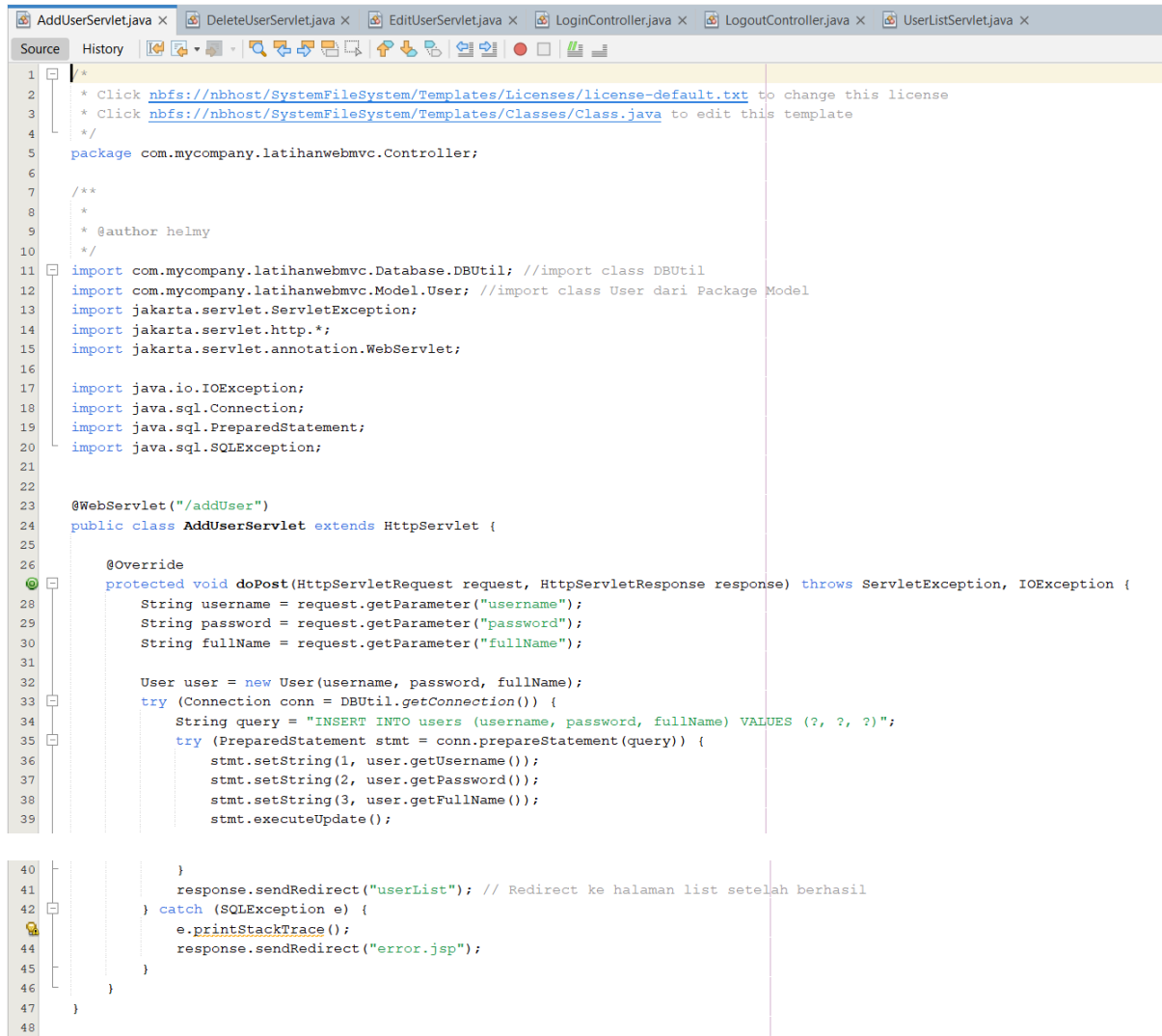# Finish the code
Pradipa Falah Putra Setiawan

IF-46-06 | 1301220270

```java
/*
 * 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 com.mycompany.latihanwebmvc.Controller;

/**
 *
 * @author helmy
 */
import com.mycompany.latihanwebmvc.Database.DBUtil; //import class DBUtil
import com.mycompany.latihanwebmvc.Model.User; //import class User dari Package Model
import jakarta.servlet.ServletException;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.WebServlet;

import java.io.IOException;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.SQLException;


@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, fullName) 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"); // Redirect ke halaman list setelah berhasil
        } catch (SQLException e) {
            e.printStackTrace();
            response.sendRedirect("error.jsp");
        }
    }
}
```

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import jakarta.servlet.ServletException;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.WebServlet;
import java.io.IOException;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.SQLException;
import java.util.logging.Level;
import java.util.logging.Logger;

@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");
        }
    }

    }
}
```

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import jakarta.servlet.http.*;
import jakarta.servlet.annotation.WebServlet;
import java.io.IOException;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.logging.Level;
import java.util.logging.Logger;

@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("fullName")
                    );
                }
            }
            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 = ?, fullName = ? WHERE id = ?";
            try (PreparedStatement stmt = conn.prepareStatement(query)) {
                stmt.setInt(4, user.getId());
                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");
        }
    }
}
```
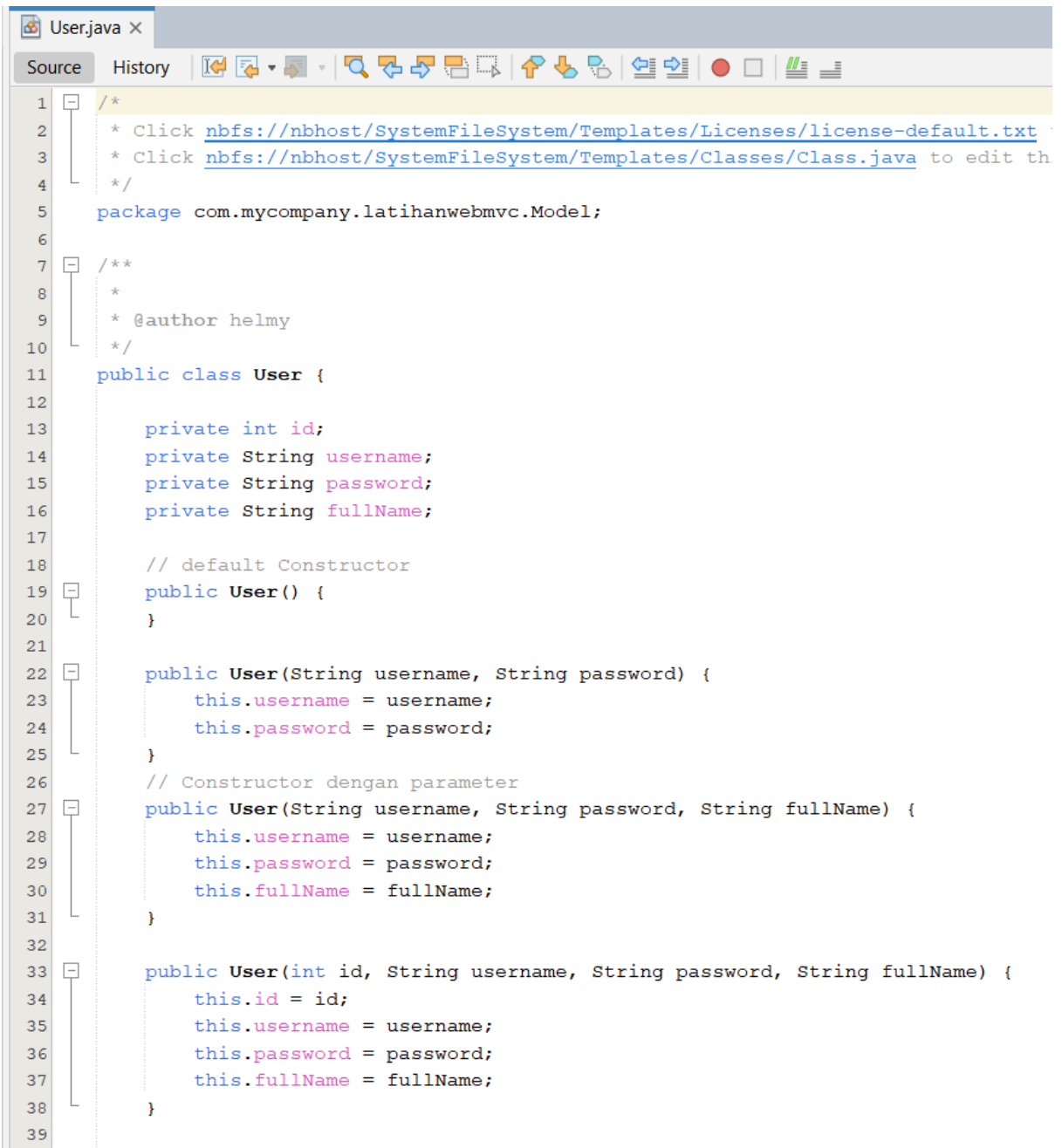
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 */
import com.mycompany.latihanwebmvc.Model.User; //import class User dari Package Model
import jakarta.servlet.ServletException;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.WebServlet;

import java.io.IOException;

@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");
        }
    }

}
```

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package com.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 ×

Source | History

```java
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import com.mycompany.latihanwebmvc.Database.DBUtil; //import class DBUtil
import com.mycompany.latihanwebmvc.Model.User; //import class User dari Package Model
import jakarta.servlet.ServletException;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.WebServlet;

import java.io.IOException;
import java.sql.Connection;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.ArrayList;
import java.util.List;

/**
 *
 * @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"),
```

DBUtil.java ×

Source | History

```java
/*
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 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package com.mycompany.latihanwebmvc.Database;

/**
 *
 * @author helmy
 */
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;

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);
    }
}
```

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit th
 */
package com.mycompany.latihanwebmvc.Model;

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

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

    // default Constructor
    public User() {
    }

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

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

```

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

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

        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" da
        public boolean isValidUser() {
            return "aa".equals(username) && "aaa".equals(password);
        }
    }
```

```jsp
<%--
    Document   : UserList
    Created on : Dec 3, 2024, 7:09:32 AM
    Author     : helmy
--%>

<%@ 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");
    }
%>
<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>
                </tr>
            </c:forEach>
        </tbody>
    </table>

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

</body>
</html>
```

```jsp
<%--
    Document   : addUser
    Created on : Dec 11, 2024, 9:13:35 PM
    Author     : dipay
--%>

<%@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");
    }
%>
<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
    </head>
    <body>
        <h1>Tambahkan user</h1>

        <form action="addUser" 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">Add User</button>
        </form>
    </body>
</html>
```

editUser.jsp

```jsp
<%--
    Document    : editUser
    Created on  : Dec 3, 2024, 7:10:29 AM
    Author      : helmy
--%>

<%@ 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");
    }
%>
<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>
```

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>
```

```jsp
<%--
    Document    : login
    Created on  : 26 Nov 2024, 10.58.49
    Author      : helmy
--%>

<%@ 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>
```

```jsp
<%--
    Document   : welcome
    Created on : 26 Nov 2024, 11.03.33
    Author     : helmy
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>

<html>
<head>
    <title>Welcome Page</title>
</head>
<body>
    <h2>Selamat datang, ${user.username}! anda berhasil Login!</h2>  <!-- Menampilkan nama pengguna yang login -->

    <form action="userList" method="get">
        <button type="submit">List</button>
    </form>

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