LAPORAN PRAKTIK PERTEMUAN KETIGA BELAS

Disusun guna memenuhi tugas mata kuliah Pemrograman Berorientasi Obyek yang di ampu oleh:

Bayu Adhi Nugroho, Ph. D.

UIN SUNAN AMPEL
SURABAYA

Disusun oleh:

Fernando Seroy (09040624087)

PROGRAM STUDI SISTEM INFORMASI

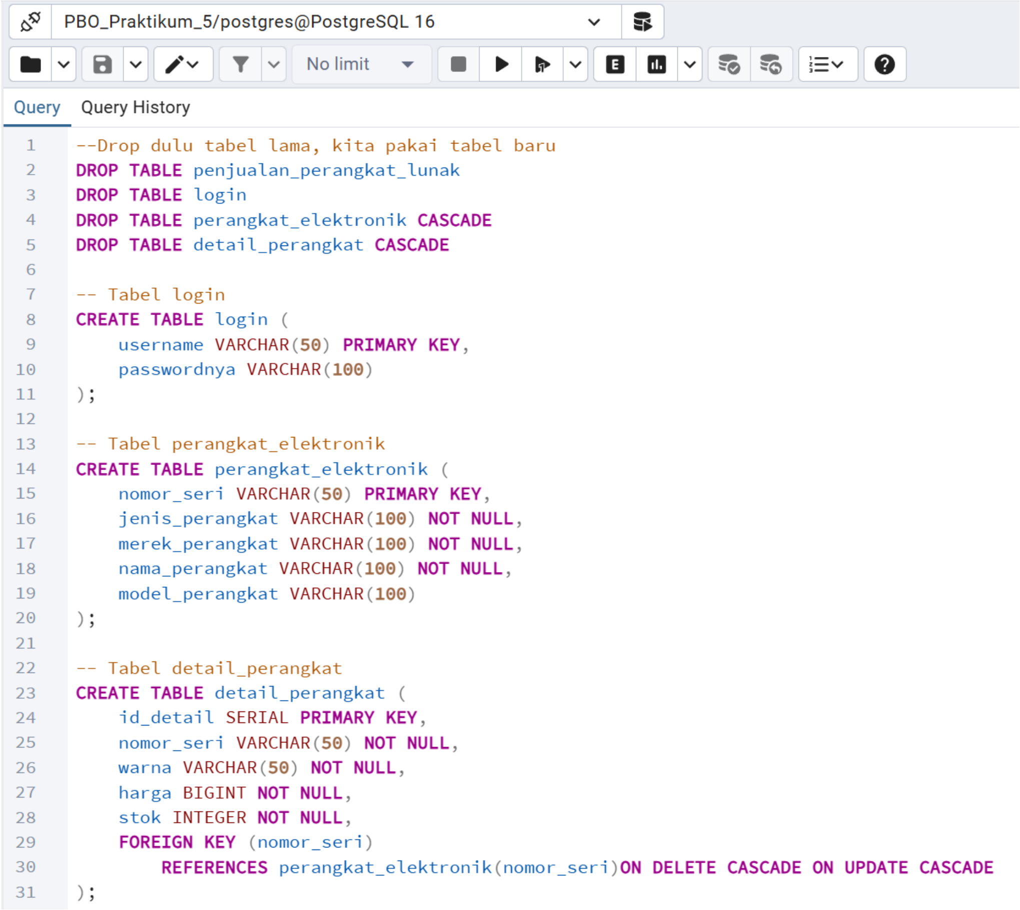
FAKULTAS SAINS DAN TEKNOLOGI

UNIVERSITAS ISLAM NEGERI SUNAN AMPEL SURABAYA

2025

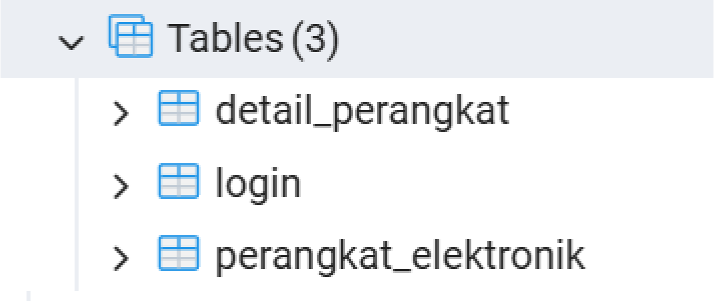
1. Perubahan Database

1.1. Kita tetap menggunakan database dengan koneksi yang sama di PostgreSQL, namun yang berubah adalah tabelnya, aku berikan sedikit bantuan atau privilege jika menggunakan tabel yang sama denganku:



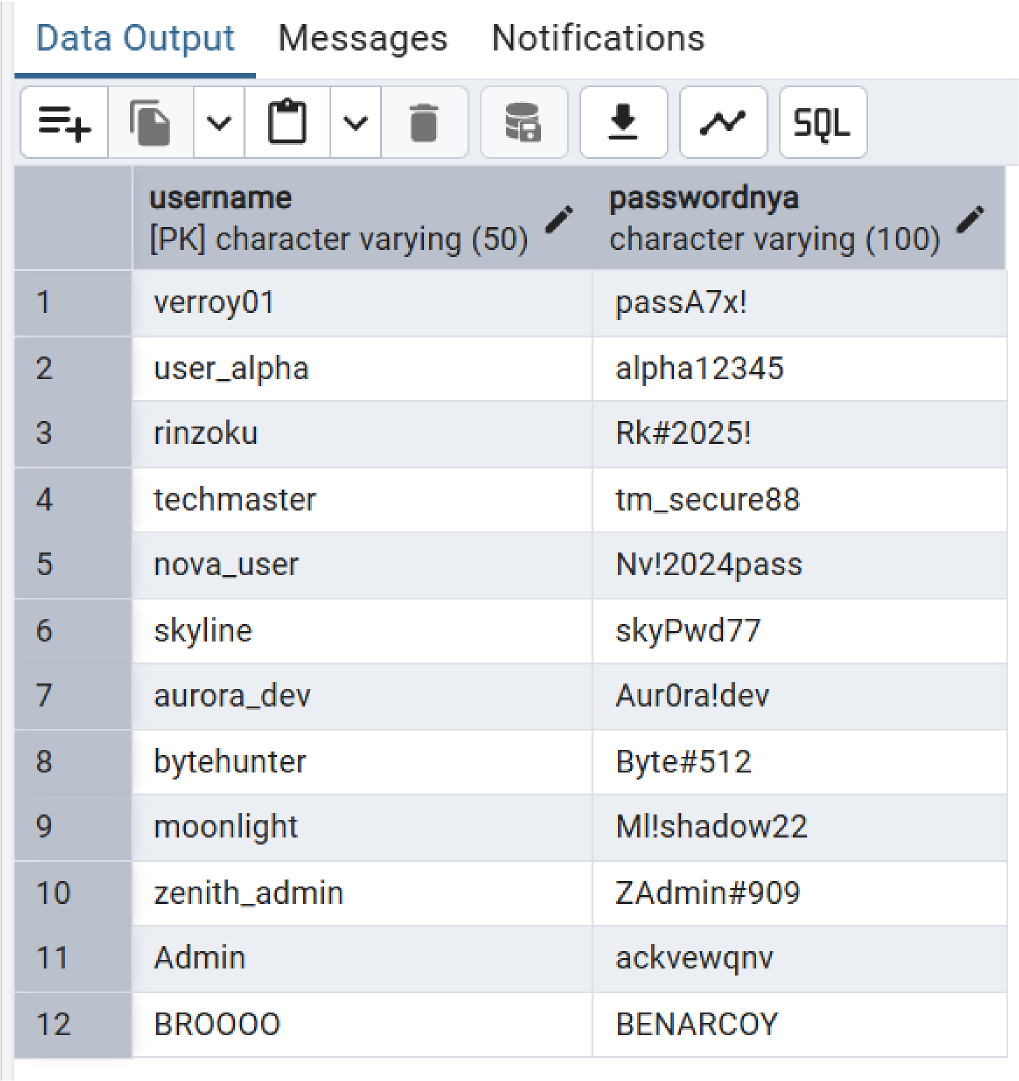
```sql
--Drop dulu tabel lama, kita pakai tabel baru
DROP TABLE penjualan_perangkat_lunak
DROP TABLE login
DROP TABLE perangkat_elektronik CASCADE
DROP TABLE detail_perangkat CASCADE

-- Tabel login
CREATE TABLE login (
    username VARCHAR(50) PRIMARY KEY,
    passwordnya VARCHAR(100)
);

-- Tabel perangkat_elektronik
CREATE TABLE perangkat_elektronik (
    nomor_seri VARCHAR(50) PRIMARY KEY,
    jenis_perangkat VARCHAR(100) NOT NULL,
    merek_perangkat VARCHAR(100) NOT NULL,
    nama_perangkat VARCHAR(100) NOT NULL,
    model_perangkat VARCHAR(100)
);

-- Tabel detail_perangkat
CREATE TABLE detail_perangkat (
    id_detail SERIAL PRIMARY KEY,
    nomor_seri VARCHAR(50) NOT NULL,
    warna VARCHAR(50) NOT NULL,
    harga BIGINT NOT NULL,
    stok INTEGER NOT NULL,
    FOREIGN KEY (nomor_seri)
        REFERENCES perangkat_elektronik(nomor_seri)ON DELETE CASCADE ON UPDATE CASCADE
);
```

1.2. Maka setelah kamu menjalankan query sql tersebut, refresh table nya nanti akan muncul hasil seperti ini:



Tables (3)
- detail_perangkat
- login
- perangkat_elektronik

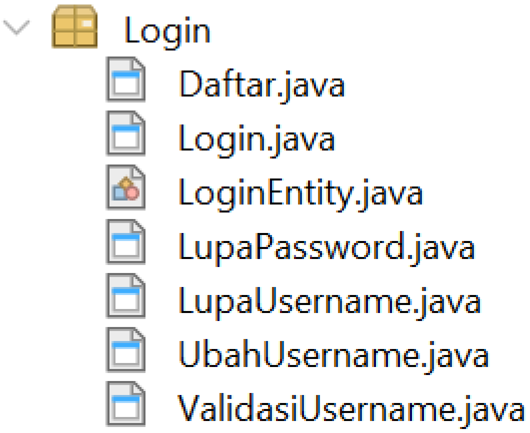
1.3. Jangan lupa isi tabel perangkat_elektroniknya terlebih dahulu, karena tabel tersebut adalah tabel utama. Lalu bisa kita isi tabel detail_perangkat via aplikasi yang kita buat saat ini. Karena fokus kita sudah berganti pada fitur ”*Login*”, maka kita perlu membuat package baru dan class baru. Untuk cara pengisian tabel perangkat_elektronik sudah ada di pertemuan kemarin, lalu pengisian tabel detail_perangkat juga sama dari pertemuan kemarin, saat ini kita hanya perlu mengisi tabel login untuk memasukkan username dan passwordnya.



	username [PK] character varying (50)	passwordnya character varying (100)
1	verroy01	passA7x!
2	user_alpha	alpha12345
3	rinzoku	Rk#2025!
4	techmaster	tm_secure88
5	nova_user	Nv!2024pass
6	skyline	skyPwd77
7	aurora_dev	Aur0ra!dev
8	bytehunter	Byte#512
9	moonlight	Ml!shadow22
10	zenith_admin	ZAdmin#909
11	Admin	ackvewqnv
12	BROOOO	BENARCOY

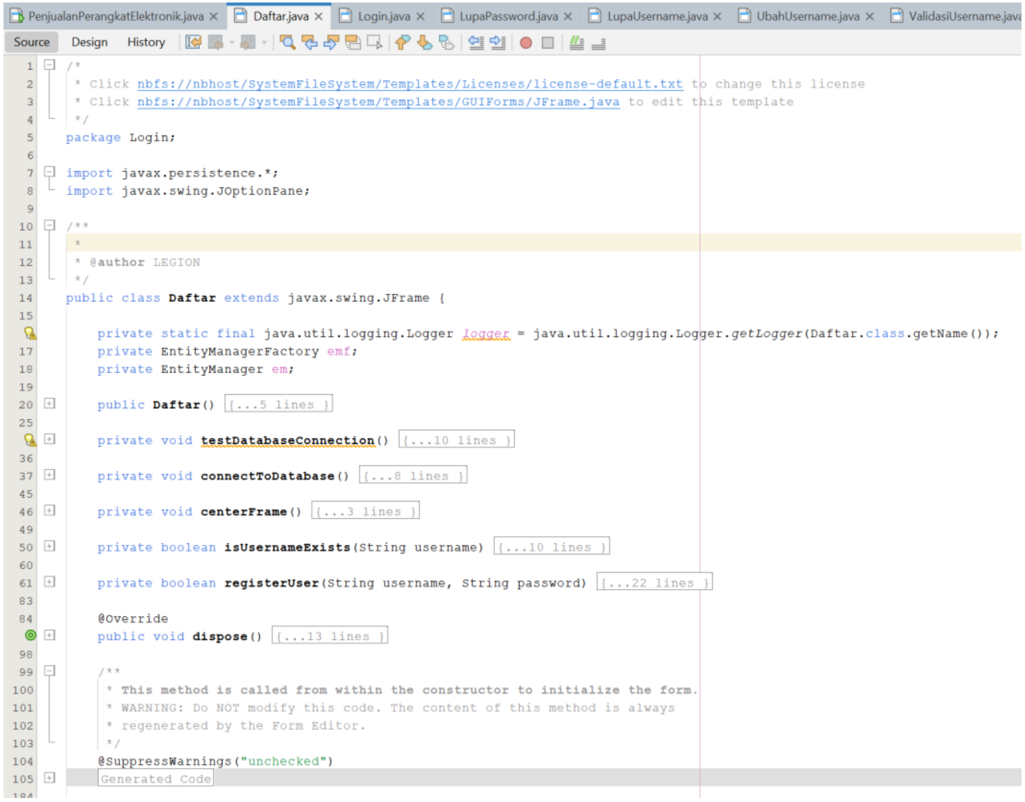
2. Menambahkan codingan baru

2.1. Disini, saya menggunakan package baru lalu memiliki 6 Class Jfrom dan 1 Class Entity:



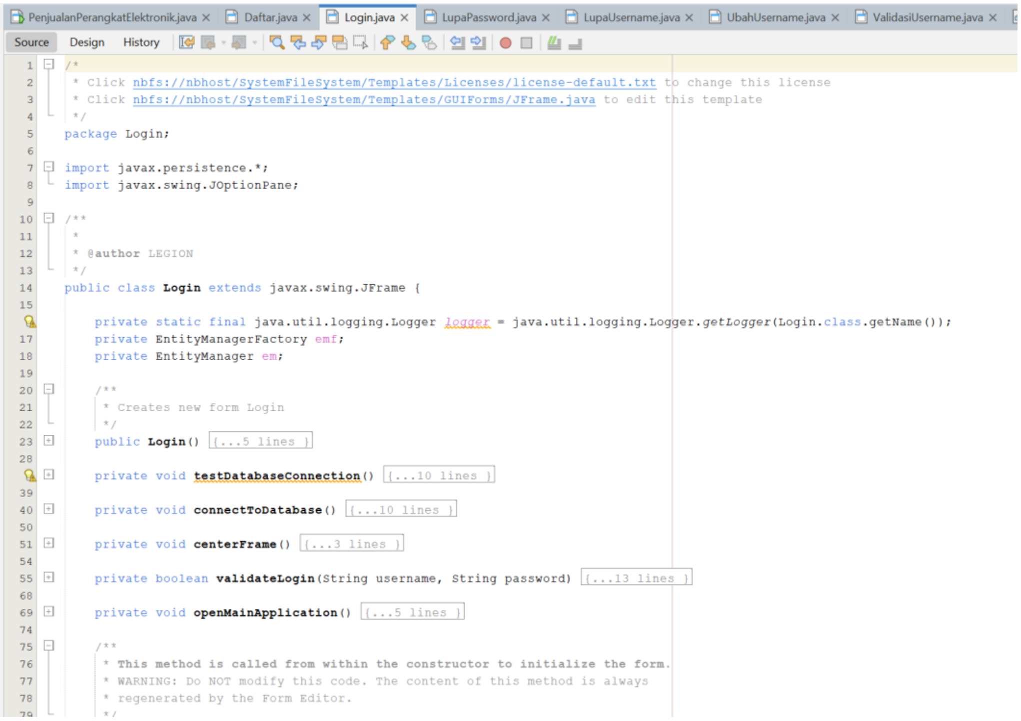
- Login
  - Daftar.java
  - Login.java
  - LoginEntity.java
  - LupaPassword.java
  - LupaUsername.java
  - UbahUsername.java
  - ValidasiUsername.java

2.1.1. Daftar.java (Jfrom)



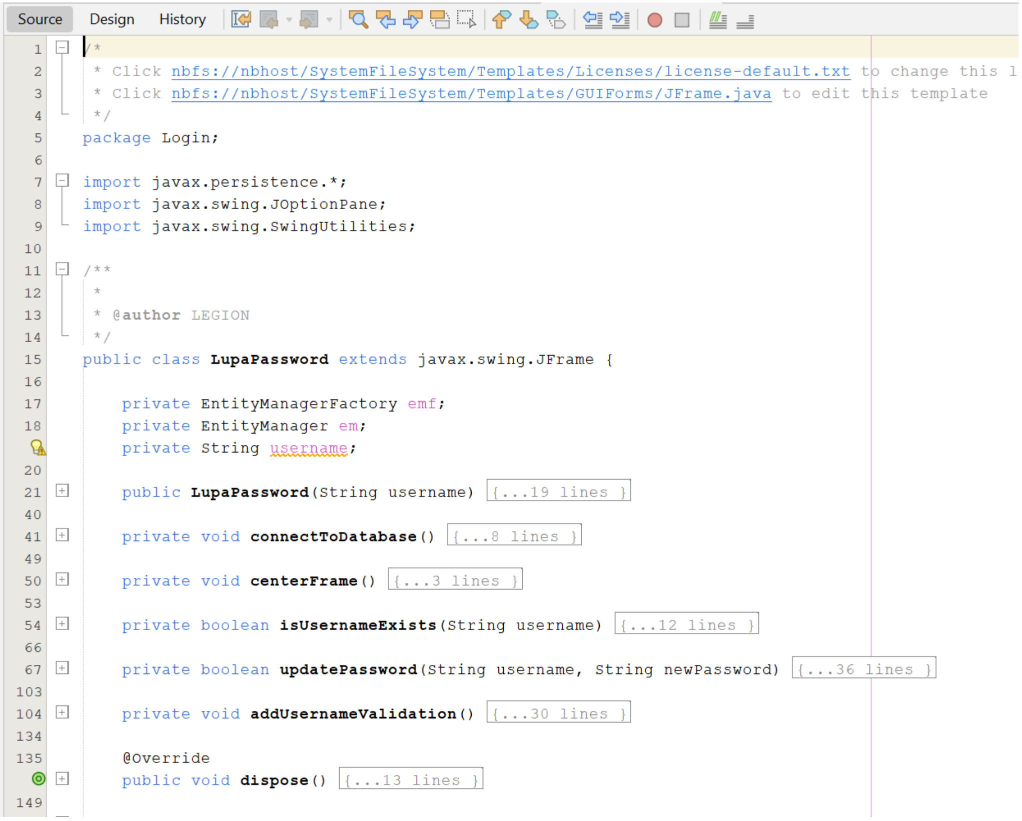
```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package Login;

import javax.persistence.*;
import javax.swing.JOptionPane;

/**
 *
 * @author LEGION
 */
public class Daftar extends javax.swing.JFrame {

    private static final java.util.logging.Logger logger = java.util.logging.Logger.getLogger(Daftar.class.getName());
    private EntityManagerFactory emf;
    private EntityManager em;

    public Daftar() {...5 lines }

    private void testDatabaseConnection() {...10 lines }

    private void connectToDatabase() {...8 lines }

    private void centerFrame() {...3 lines }

    private boolean isUsernameExists(String username) {...10 lines }

    private boolean registerUser(String username, String password) {...22 lines }

    @Override
    public void dispose() {...13 lines }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    Generated Code
```

2.1.2. Login.java (Jfrom)



```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package Login;

import javax.persistence.*;
import javax.swing.JOptionPane;

/**
 *
 * @author LEGION
 */
public class Login extends javax.swing.JFrame {

    private static final java.util.logging.Logger logger = java.util.logging.Logger.getLogger(Login.class.getName());
    private EntityManagerFactory emf;
    private EntityManager em;

    /**
     * Creates new form Login
     */
    public Login() {...5 lines }

    private void testDatabaseConnection() {...10 lines }

    private void connectToDatabase() {...10 lines }

    private void centerFrame() {...3 lines }

    private boolean validateLogin(String username, String password) {...13 lines }

    private void openMainApplication() {...5 lines }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
```

2.1.3. LupaPassword.java (Jfrom)



```java
/*
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 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package Login;

import javax.persistence.*;
import javax.swing.JOptionPane;
import javax.swing.SwingUtilities;

/**
 *
 * @author LEGION
 */
public class LupaPassword extends javax.swing.JFrame {

    private EntityManagerFactory emf;
    private EntityManager em;
    private String username;

    public LupaPassword(String username) {...19 lines }

    private void connectToDatabase() {...8 lines }

    private void centerFrame() {...3 lines }

    private boolean isUsernameExists(String username) {...12 lines }

    private boolean updatePassword(String username, String newPassword) {...36 lines }

    private void addUsernameValidation() {...30 lines }

    @Override
    public void dispose() {...13 lines }
```
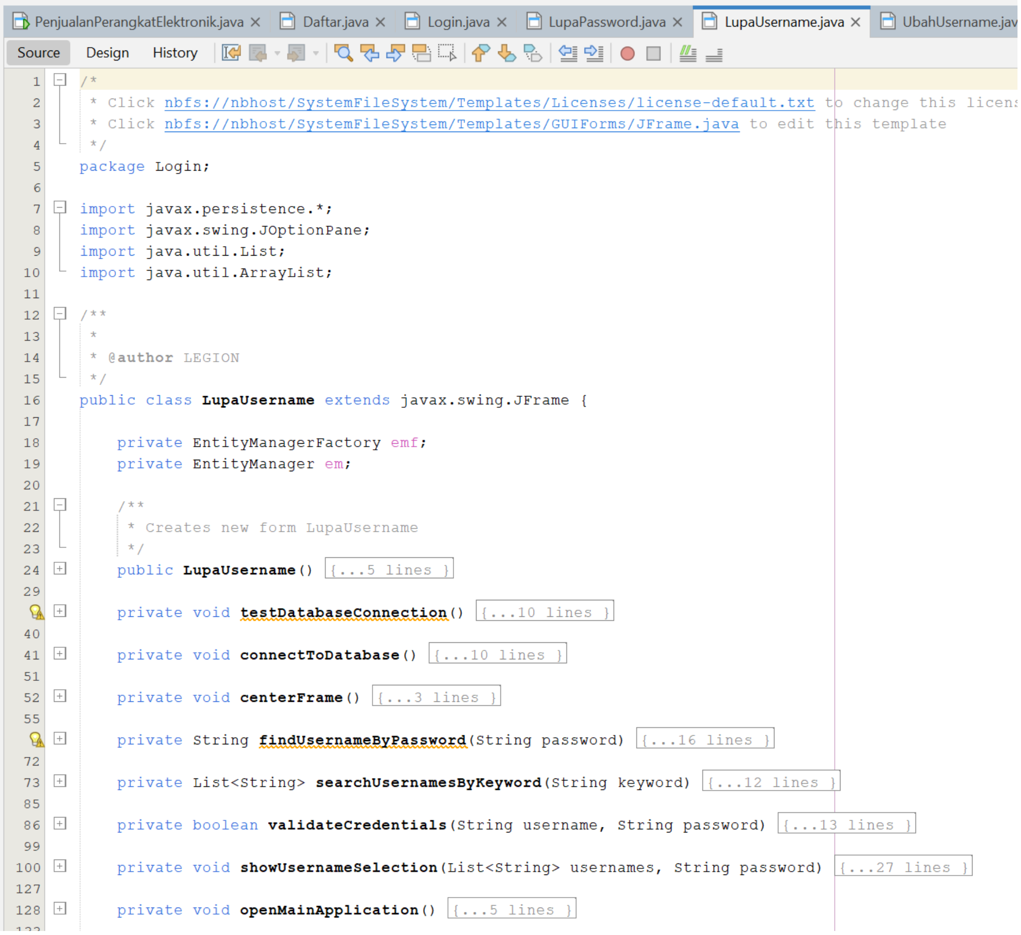
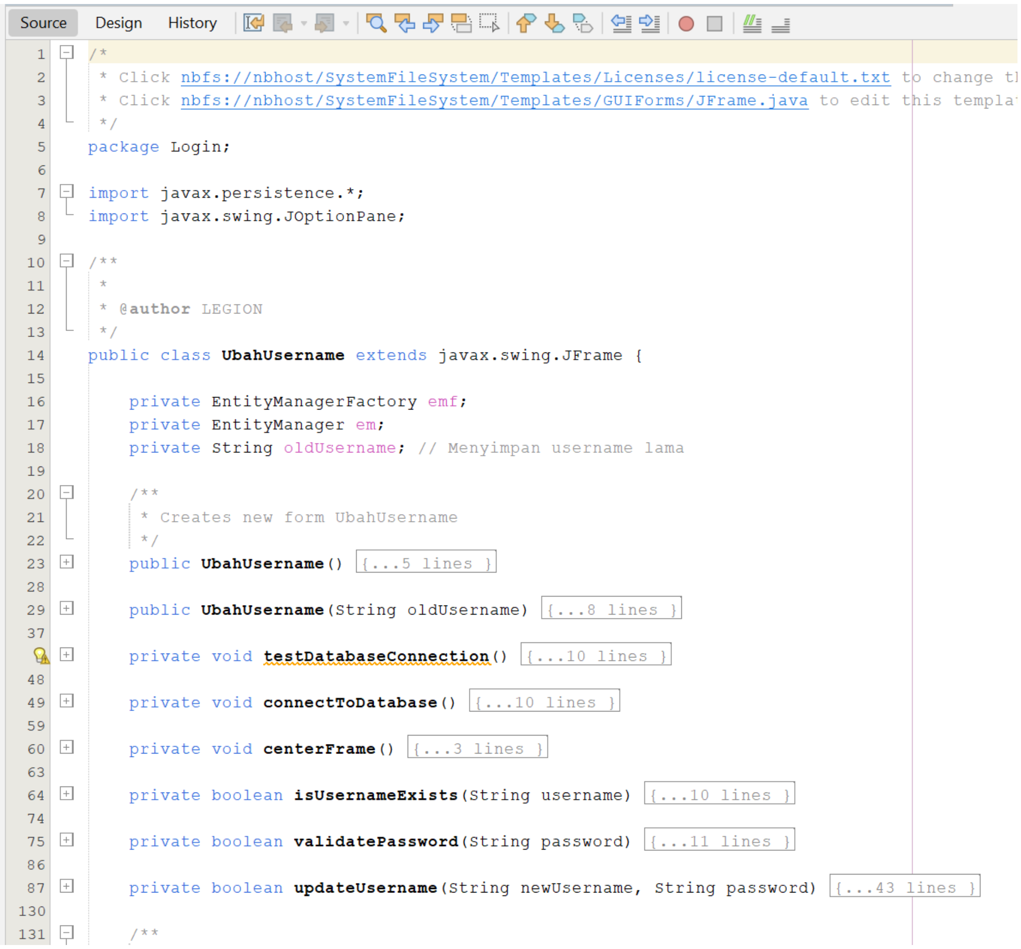

2.1.4. LupaUsername.java (Jfrom)



```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this licen
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
package Login;

import javax.persistence.*;
import javax.swing.JOptionPane;
import java.util.List;
import java.util.ArrayList;

/**
 *
 * @author LEGION
 */
public class LupaUsername extends javax.swing.JFrame {

    private EntityManagerFactory emf;
    private EntityManager em;

    /**
     * Creates new form LupaUsername
     */
    public LupaUsername() {...5 lines }

    private void testDatabaseConnection() {...10 lines }

    private void connectToDatabase() {...10 lines }

    private void centerFrame() {...3 lines }

    private String findUsernameByPassword(String password) {...16 lines }

    private List<String> searchUsernamesByKeyword(String keyword) {...12 lines }

    private boolean validateCredentials(String username, String password) {...13 lines }

    private void showUsernameSelection(List<String> usernames, String password) {...27 lines }

    private void openMainApplication() {...5 lines }
```

2.1.5. UbahUsername.java (Jfrom)



```
/*
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 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this templa
 */
package Login;

import javax.persistence.*;
import javax.swing.JOptionPane;

/**
 *
 * @author LEGION
 */
public class UbahUsername extends javax.swing.JFrame {

    private EntityManagerFactory emf;
    private EntityManager em;
    private String oldUsername; // Menyimpan username lama

    /**
     * Creates new form UbahUsername
     */
    public UbahUsername() {...5 lines }

    public UbahUsername(String oldUsername) {...8 lines }

    private void testDatabaseConnection() {...10 lines }

    private void connectToDatabase() {...10 lines }

    private void centerFrame() {...3 lines }

    private boolean isUsernameExists(String username) {...10 lines }

    private boolean validatePassword(String password) {...11 lines }

    private boolean updateUsername(String newUsername, String password) {...43 lines }

    /**
```
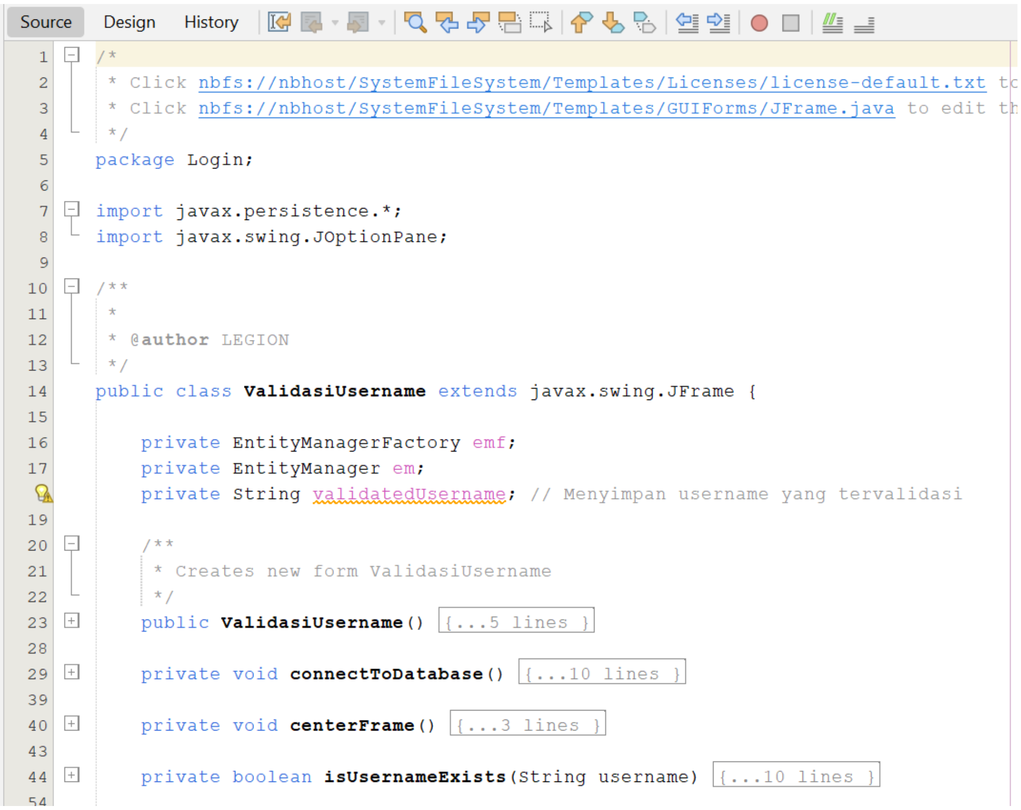

2.1.6. ValidasiUsername.java (Jfrom)



```
/*
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 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit th
 */
package Login;

import javax.persistence.*;
import javax.swing.JOptionPane;

/**
 *
 * @author LEGION
 */
public class ValidasiUsername extends javax.swing.JFrame {

    private EntityManagerFactory emf;
    private EntityManager em;
    private String validatedUsername; // Menyimpan username yang tervalidasi

    /**
     * Creates new form ValidasiUsername
     */
    public ValidasiUsername() {...5 lines }

    private void connectToDatabase() {...10 lines }

    private void centerFrame() {...3 lines }

    private boolean isUsernameExists(String username) {...10 lines }
```
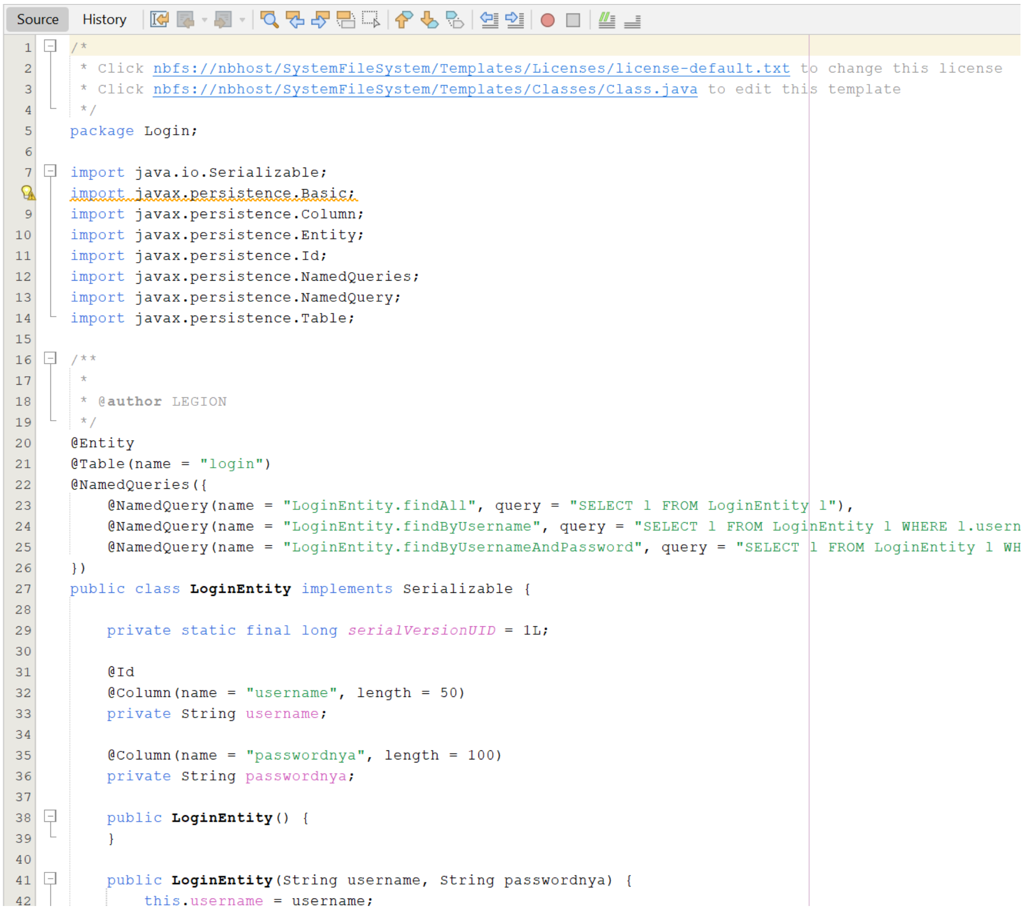
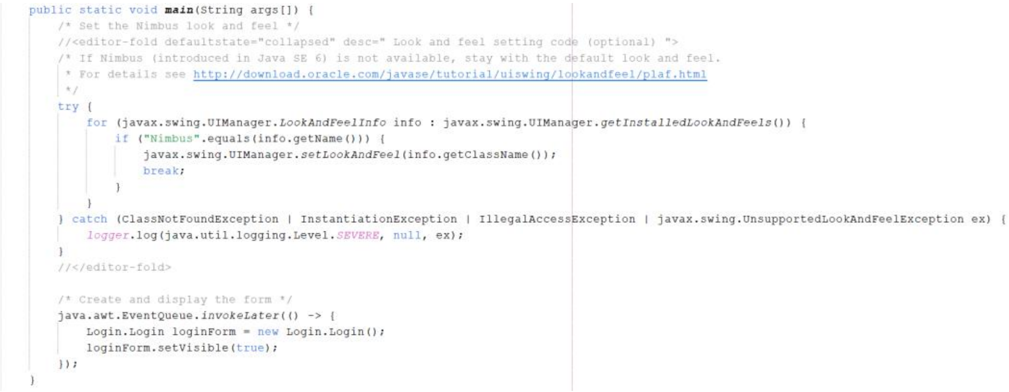

2.1.7. LoginEntity.java (Entity Class)



```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 Login;

import java.io.Serializable;
import javax.persistence.Basic;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.Id;
import javax.persistence.NamedQueries;
import javax.persistence.NamedQuery;
import javax.persistence.Table;

/**
 *
 * @author LEGION
 */
@Entity
@Table(name = "login")
@NamedQueries({
    @NamedQuery(name = "LoginEntity.findAll", query = "SELECT l FROM LoginEntity l"),
    @NamedQuery(name = "LoginEntity.findByUsername", query = "SELECT l FROM LoginEntity l WHERE l.usern
    @NamedQuery(name = "LoginEntity.findByUsernameAndPassword", query = "SELECT l FROM LoginEntity l WH
})
public class LoginEntity implements Serializable {

    private static final long serialVersionUID = 1L;

    @Id
    @Column(name = "username", length = 50)
    private String username;

    @Column(name = "passwordnya", length = 100)
    private String passwordnya;

    public LoginEntity() {
    }

    public LoginEntity(String username, String passwordnya) {
        this.username = username;
```

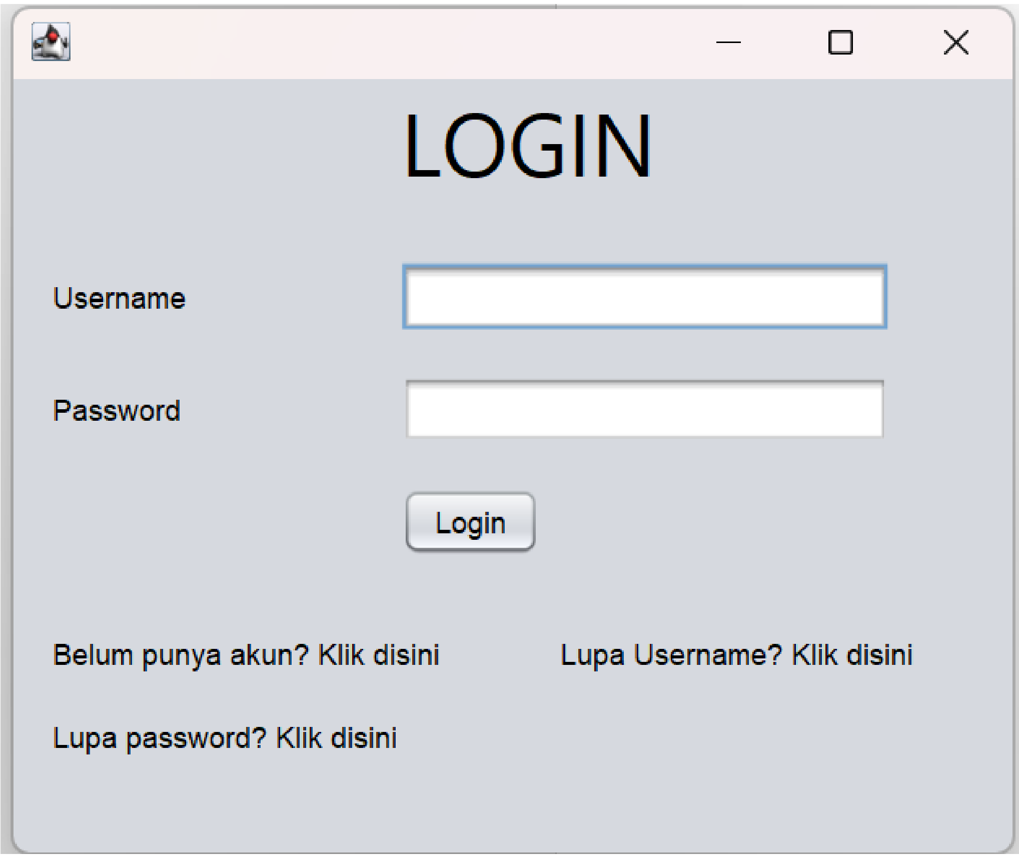
2.2. Jangan lupa untuk mengubah code di main class PenjualanPerangkatElektronik.java dengan source code ini agar disaat pertama kali me run file, kita akan diarahkan kedalam class login terlebih dahulu.



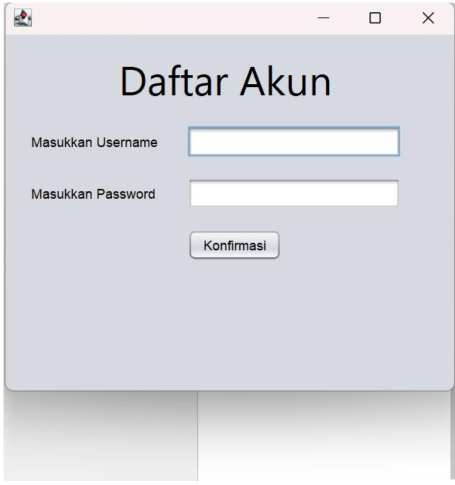
```java
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
     * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
     */
    try {
        for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {
            if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
            }
        }
    } catch (ClassNotFoundException | InstantiationException | IllegalAccessException | javax.swing.UnsupportedLookAndFeelException ex) {
        logger.log(java.util.logging.Level.SEVERE, null, ex);
    }
    //</editor-fold>

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(() -> {
        Login.Login loginForm = new Login.Login();
        loginForm.setVisible(true);
    });
}
```

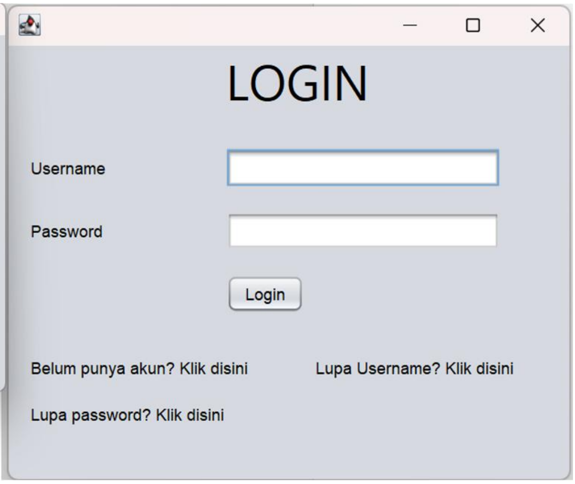
3. Output

3.1. Kita run di main Class terlebih dahulu, dan ternyata alur yang kita pakai berhasil membuka menu login terlebih dahulu.


LOGIN
Username
Password
Login
Belum punya akun? Klik disini
Lupa Username? Klik disini
Lupa password? Klik disini

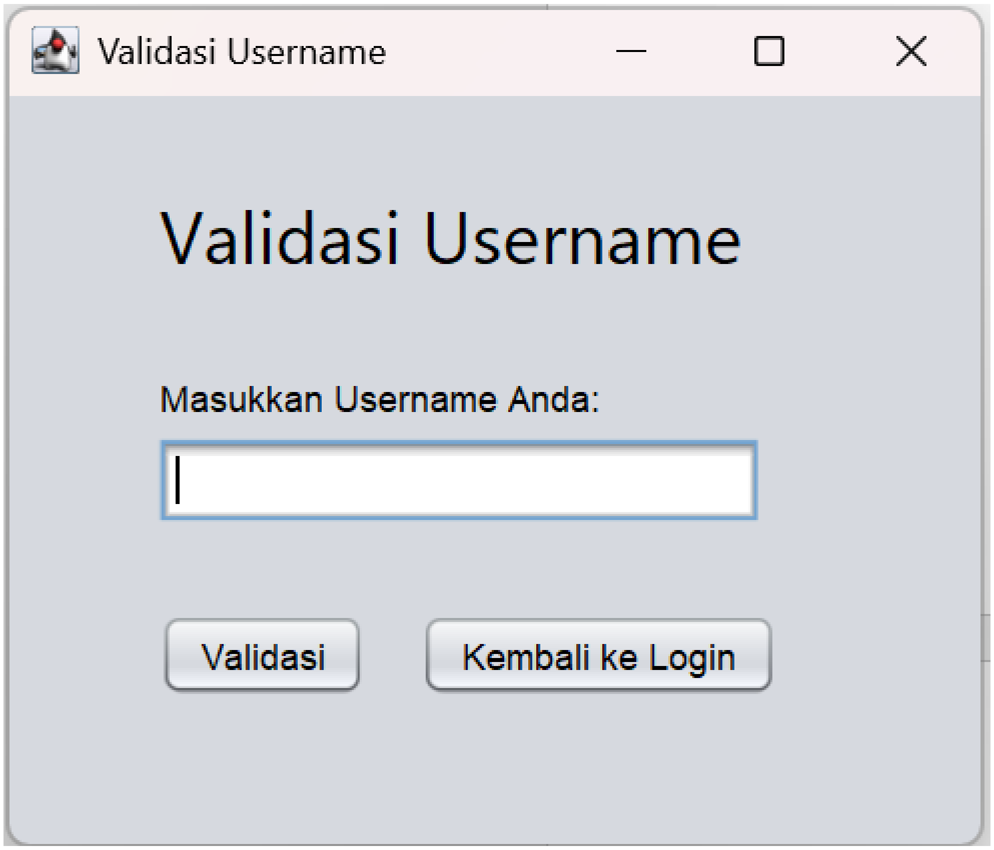
3.2. Cek “Belum punya akun? Klik disini”




LOGIN
Username
Password
Login
Belum punya akun? Klik disini
Lupa Username? Klik disini
Lupa password? Klik disini

Ternyata work.

3.3. Cek “Lupa password? Klik disini”

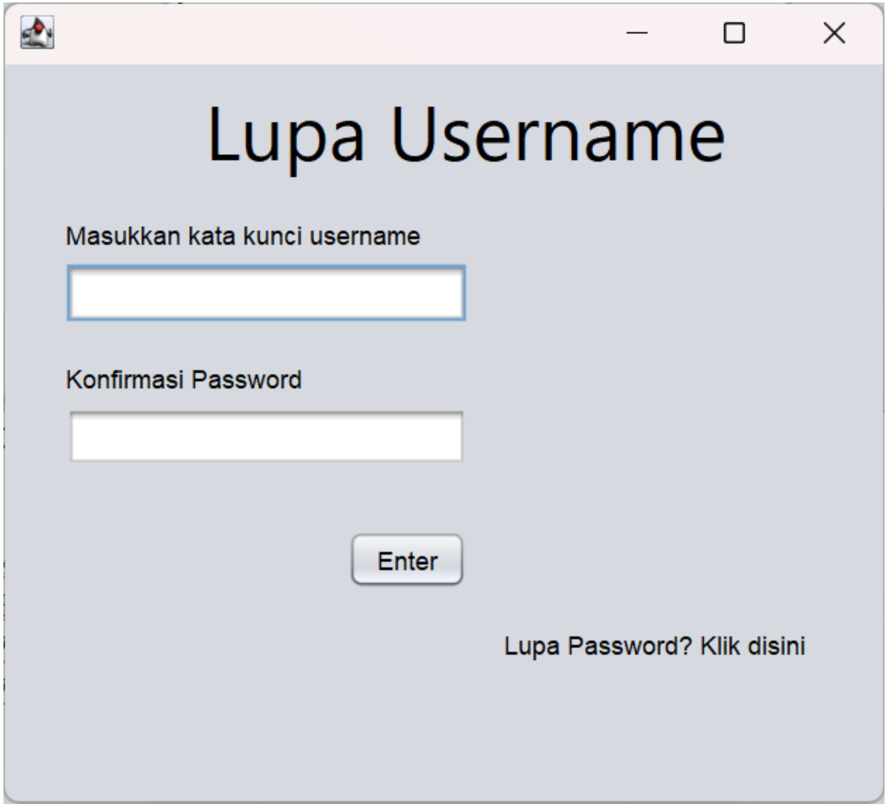


Validasi Username

Validasi Username

Masukkan Username Anda:

3.4. Cek “Lupa Username? Klik disini”

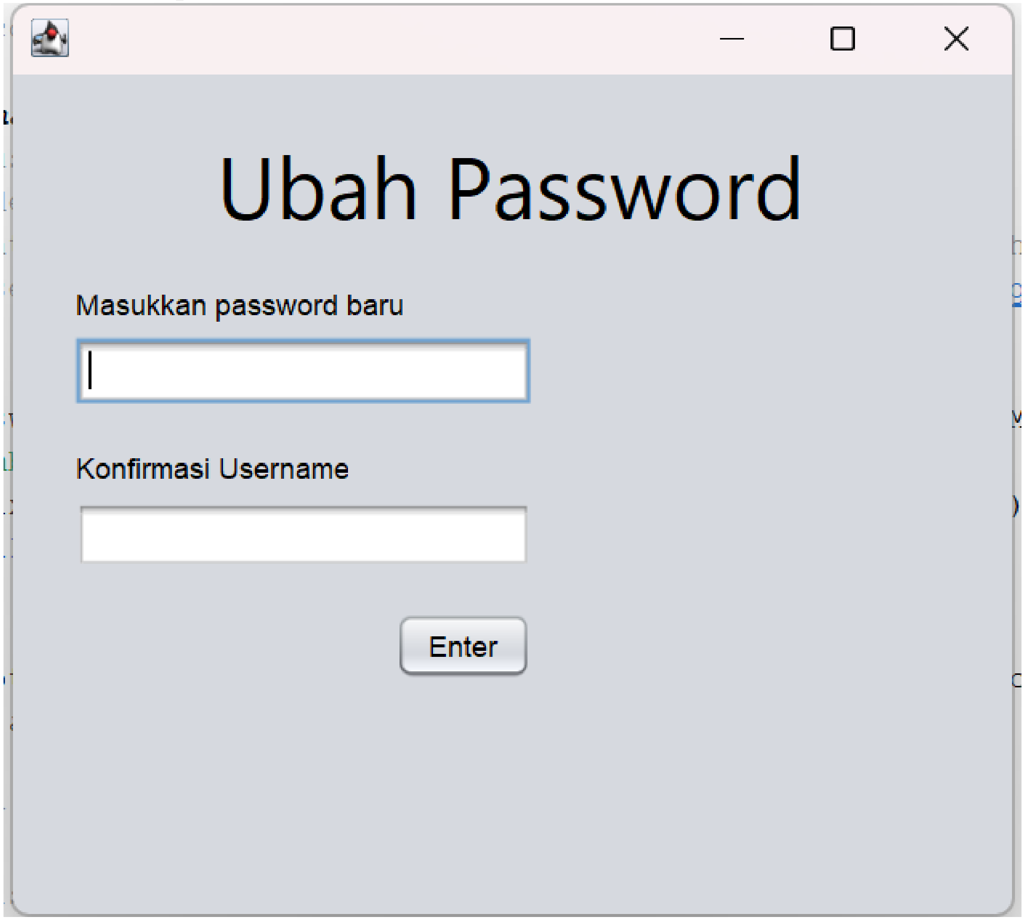


Lupa Username

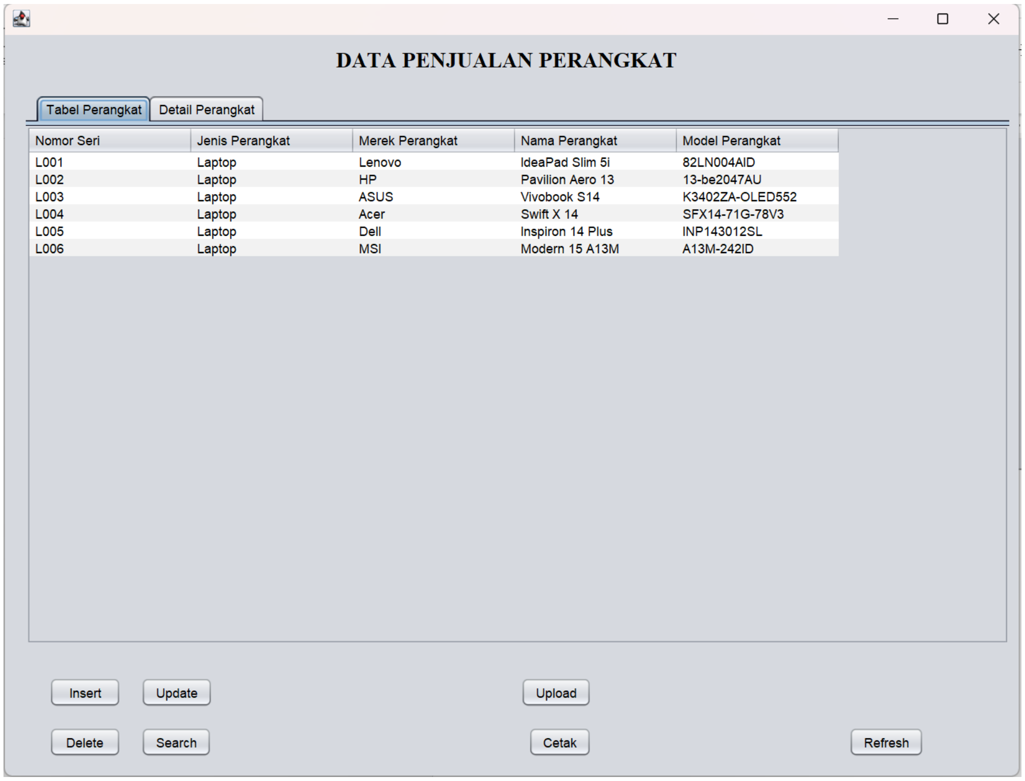
Masukkan kata kunci username

Konfirmasi Password

3.4.1. Disini alurnya adalah kita harus mengetahui passwordnya karena dari password bisa terdeteksi usernamenya, kemungkinan username sama namun bisa saja password berbeda. Namun tidak menutup kemungkinan untuk duplikasi username dan password secara tidak sengaja maupun disengaja. Karena belum ditambahkan fitur username tidak boleh sama.
Cek fitur ”Lupa Password? Klik disini”



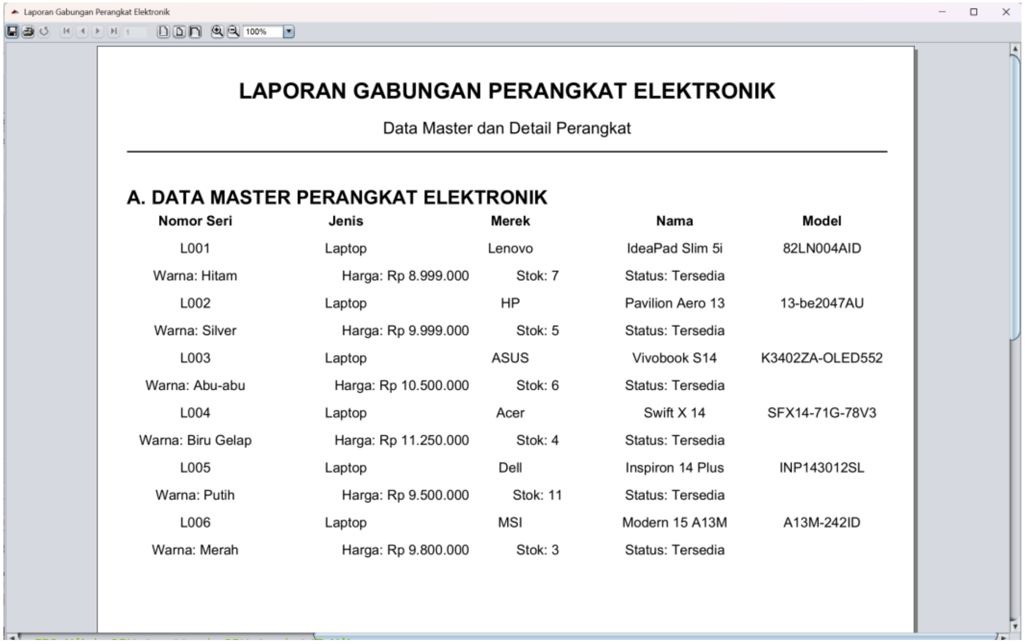
3.5. Tampilan bila berhasil login



DATA PENJUALAN PERANGKAT

Nomor Seri	Jenis Perangkat	Merek Perangkat	Nama Perangkat	Model Perangkat
L001	Laptop	Lenovo	IdeaPad Slim 5i	82LN004AID
L002	Laptop	HP	Pavilion Aero 13	13-be2047AU
L003	Laptop	ASUS	Vivobook S14	K3402ZA-OLED552
L004	Laptop	Acer	Swift X 14	SFX14-71G-78V3
L005	Laptop	Dell	Inspiron 14 Plus	INP143012SL
L006	Laptop	MSI	Modern 15 A13M	A13M-242ID

3.6. Coba Cetak file jasper



LAPORAN GABUNGAN PERANGKAT ELEKTRONIK

Data Master dan Detail Perangkat

A. DATA MASTER PERANGKAT ELEKTRONIK

Nomor Seri	Jenis	Merek	Nama	Model
L001	Laptop	Lenovo	IdeaPad Slim 5i	82LN004AID
Warna: Hitam	Harga: Rp 8.999.000	Stok: 7	Status: Tersedia	
L002	Laptop	HP	Pavilion Aero 13	13-be2047AU
Warna: Silver	Harga: Rp 9.999.000	Stok: 5	Status: Tersedia	
L003	Laptop	ASUS	Vivobook S14	K3402ZA-OLED552
Warna: Abu-abu	Harga: Rp 10.500.000	Stok: 6	Status: Tersedia	
L004	Laptop	Acer	Swift X 14	SFX14-71G-78V3
Warna: Biru Gelap	Harga: Rp 11.250.000	Stok: 4	Status: Tersedia	
L005	Laptop	Dell	Inspiron 14 Plus	INP143012SL
Warna: Putih	Harga: Rp 9.500.000	Stok: 11	Status: Tersedia	
L006	Laptop	MSI	Modern 15 A13M	A13M-242ID
Warna: Merah	Harga: Rp 9.800.000	Stok: 3	Status: Tersedia	

Semua Source code berjalan dengan lancar.