**TUGAS PRATIKUM MOBILE 3**

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**DataBase SQLite**

**A. Model**

**ModelPelanggan:**

package id.myryan.laundry.model;  
  
public class ModelPelanggan {  
 String id, nama, email, hp;  
  
 public String getId() {  
 return id;  
 }  
 public void setId(String id) {  
 this.id = id;  
 }  
 public String getNama() {  
 return nama;  
 }  
 public void setNama(String nama) {  
 this.nama = nama;  
 }  
 public String getEmail() {  
 return email;  
 }  
 public void setEmail(String email) {  
 this.email = email;  
 }  
 public String getHp() {  
 return hp;  
 }  
 public void setHp(String hp) {  
 this.hp = hp;  
 }  
}

**ModelLayanan:**

package id.myryan.laundry.model;  
  
public class ModelLayanan {  
 String id, tipe, harga;  
  
 // Method Getter and Setter  
 public String getId() {  
 return id;  
 }  
  
 public void setId(String id) {  
 this.id = id;  
 }  
  
 public String getTipe() {  
 return tipe;  
 }  
  
 public void setTipe(String tipe) { // Ubah Tipe menjadi tipe  
 this.tipe = tipe;  
 }  
  
 public String getHarga() {  
 return harga;  
 }  
  
 public void setHarga(String harga) {  
 this.harga = harga;  
 }  
}

**B. SQLiteHelper**

package id.myryan.laundry.database;  
  
import android.content.ContentValues;  
import android.content.Context;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteOpenHelper;  
  
import java.util.ArrayList;  
import java.util.List;  
  
import id.myryan.laundry.model.ModelPelanggan;  
import id.myryan.laundry.model.ModelLayanan;  
  
public class SQLiteHelper extends SQLiteOpenHelper {  
 public static String *DATABASE\_NAME* = "my\_laundry.db";  
 public static final int *DATABASE\_VERSION* = 2;  
  
 public static final String *TABLE\_PELANGGAN* = "pelanggan";  
 public static final String *KEY\_PELANGGAN\_ID* = "pelanggan\_id";  
 public static final String *KEY\_PELANGGAN\_NAMA* = "nama";  
 public static final String *KEY\_PELANGGAN\_EMAIL* = "email";  
 public static final String *KEY\_PELANGGAN\_HP* = "hp";  
  
 public static final String *TABLE\_LAYANAN* = "layanan";  
 public static final String *KEY\_LAYANAN\_ID* = "layanan\_id";  
 public static final String *KEY\_LAYANAN\_TIPE* = "tipeLayanan";  
 public static final String *KEY\_LAYANAN\_HARGA* = "harga";  
  
 private static final String *CREATE\_TABLE\_PELANGGAN* = "CREATE TABLE " +  
 *TABLE\_PELANGGAN* + "("  
 + *KEY\_PELANGGAN\_ID* + " TEXT, " + *KEY\_PELANGGAN\_NAMA* + " TEXT, "+  
 *KEY\_PELANGGAN\_EMAIL* + " TEXT, "+*KEY\_PELANGGAN\_HP* +" TEXT )";  
  
 private static final String *CREATE\_TABLE\_LAYANAN* = "CREATE TABLE " +  
 *TABLE\_LAYANAN* + "("  
 + *KEY\_LAYANAN\_ID* + " TEXT, " + *KEY\_LAYANAN\_TIPE* + " TEXT, " +  
 *KEY\_LAYANAN\_HARGA* + " TEXT )";  
  
 public SQLiteHelper(Context context){  
 super(context, *DATABASE\_NAME*, null, *DATABASE\_VERSION*);  
 }  
 @Override  
 public void onCreate(SQLiteDatabase db) {  
 db.execSQL(*CREATE\_TABLE\_PELANGGAN*);  
 db.execSQL(*CREATE\_TABLE\_LAYANAN*);  
 }  
 @Override  
 public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion)  
 {  
 db.execSQL("DROP TABLE IF EXISTS " + *TABLE\_PELANGGAN*);  
 db.execSQL("DROP TABLE IF EXISTS " + *TABLE\_LAYANAN*);  
 onCreate(db);  
 }  
 public boolean insertPelanggan(ModelPelanggan mp){  
 SQLiteDatabase database = this.getReadableDatabase();  
 ContentValues contentValues = new ContentValues();  
 contentValues.put(*KEY\_PELANGGAN\_ID*, mp.getId());  
 contentValues.put(*KEY\_PELANGGAN\_NAMA*, mp.getNama());  
 contentValues.put(*KEY\_PELANGGAN\_EMAIL*, mp.getEmail());  
 contentValues.put(*KEY\_PELANGGAN\_HP*, mp.getHp());  
 long id = database.insert(*TABLE\_PELANGGAN*, null, contentValues);  
 database.close();  
 if (id != -1){  
 return true;  
 }else{  
 return false;  
 }  
 }  
 public List<ModelPelanggan> getPelanggan(){  
 List<ModelPelanggan> pel = new ArrayList<ModelPelanggan>();  
 String query = "SELECT \* FROM " + *TABLE\_PELANGGAN*;  
 SQLiteDatabase db = this.getWritableDatabase();  
 Cursor cursor = db.rawQuery(query, null);  
 if (cursor.moveToFirst()){  
 do{  
 ModelPelanggan k = new ModelPelanggan();  
 k.setId(cursor.getString(0));  
 k.setNama(cursor.getString(1));  
 k.setEmail(cursor.getString(2));  
 k.setHp(cursor.getString(3));  
 pel.add(k);  
 }while (cursor.moveToNext());  
 }  
 return pel;  
 }  
  
 // Fungsi untuk memperbarui pelanggan  
 public boolean updatePelanggan(String id, String name, String email, String hp) {  
 SQLiteDatabase db = this.getWritableDatabase();  
 ContentValues contentValues = new ContentValues();  
 contentValues.put(*KEY\_PELANGGAN\_NAMA*, name);  
 contentValues.put(*KEY\_PELANGGAN\_EMAIL*, email);  
 contentValues.put(*KEY\_PELANGGAN\_HP*, hp);  
  
 // Update the row where the id matches  
 int result = db.update(*TABLE\_PELANGGAN*, contentValues, *KEY\_PELANGGAN\_ID* + " = ?", new String[]{id});  
 db.close();  
 return result > 0; // Mengembalikan true jika update berhasil  
 }  
  
 // Fungsi untuk menghapus pelanggan  
 public boolean deletePelanggan(String id) {  
 SQLiteDatabase db = this.getWritableDatabase();  
 int result = db.delete(*TABLE\_PELANGGAN*, *KEY\_PELANGGAN\_ID* + " = ?", new String[]{id});  
 db.close();  
 return result > 0; // Mengembalikan true jika penghapusan berhasil  
 }  
  
 public boolean insertLayanan(ModelLayanan ml){  
 SQLiteDatabase database = this.getReadableDatabase();  
 ContentValues contentValues = new ContentValues();  
 contentValues.put(*KEY\_LAYANAN\_ID*, ml.getId());  
 contentValues.put(*KEY\_LAYANAN\_TIPE*, ml.getTipe());  
 contentValues.put(*KEY\_LAYANAN\_HARGA*, ml.getHarga());  
 long id = database.insert(*TABLE\_LAYANAN*, null, contentValues);  
 database.close();  
 if (id != -1){  
 return true;  
 }else{  
 return false;  
 }  
 }  
 public List<ModelLayanan> getLayanan() {  
 List<ModelLayanan> lay = new ArrayList<ModelLayanan>();  
 String query = "SELECT \* FROM " + *TABLE\_LAYANAN*;  
 SQLiteDatabase db = this.getWritableDatabase();  
 Cursor cursor = db.rawQuery(query, null);  
 if (cursor.moveToFirst()){  
 do {  
 ModelLayanan k = new ModelLayanan();  
 k.setId(cursor.getString(0));  
 k.setTipe(cursor.getString(1));  
 k.setHarga(cursor.getString(2));  
 lay.add(k);  
 } while (cursor.moveToNext());  
 }  
 return lay;  
 }  
  
 public boolean updateLayanan(String id, String tipe, String harga) {  
 SQLiteDatabase db = this.getWritableDatabase();  
 ContentValues contentValues = new ContentValues();  
 contentValues.put(*KEY\_LAYANAN\_TIPE*, tipe);  
 contentValues.put(*KEY\_LAYANAN\_HARGA*, harga);  
 int result = db.update(*TABLE\_LAYANAN*, contentValues, *KEY\_LAYANAN\_ID* + " = ?", new String[]{id});  
 db.close();  
 return result > 0;  
 }  
  
 public boolean deleteLayanan(String id) {  
 SQLiteDatabase db = this.getWritableDatabase();  
 int result = db.delete(*TABLE\_LAYANAN*, *KEY\_LAYANAN\_ID* + " = ?", new String[]{id});  
 db.close();  
 return result > 0;  
 }  
  
}

**C. Adapter**

**Adapter Pelanggan:**

package id.myryan.laundry.Adapter;  
  
import android.content.Context;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.TextView;  
  
import androidx.recyclerview.widget.RecyclerView;  
  
import id.myryan.laundry.R;  
import id.myryan.laundry.model.ModelPelanggan;  
  
import java.util.List;  
  
public class AdapterPelanggan extends  
 RecyclerView.Adapter<AdapterPelanggan.ViewHolder> {  
 private static final String *TAG* =  
 AdapterPelanggan.class.getSimpleName();  
 private Context context;  
 private List<ModelPelanggan> list;  
 private View.OnClickListener onItemClicked;  
 public void setOnItemClickListener(View.OnClickListener  
 itemClickListener) {  
 onItemClicked = itemClickListener;  
 }  
 public AdapterPelanggan(Context context, List<ModelPelanggan> list) {  
 this.context = context;  
 this.list = list;  
 }  
 @Override  
 public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {  
 View view =  
 LayoutInflater.*from*(parent.getContext()).inflate(R.layout.*item\_pelanggan*,  
 parent, false);  
 return new ViewHolder(view);  
 }  
 @Override  
 public void onBindViewHolder(ViewHolder holder, int position) {  
 ModelPelanggan item = list.get(position);  
 holder.tvNama.setText(item.getNama());  
 holder.tvHp.setText(item.getHp());  
 }  
 @Override  
 public int getItemCount() {  
 return list.size();  
 }  
 public void clear() {  
 int size = this.list.size();  
 this.list.clear();  
 notifyItemRangeRemoved(0, size);  
 }  
 public class ViewHolder extends RecyclerView.ViewHolder {  
 TextView tvNama, tvHp;  
 public ViewHolder(View itemView) {  
 super(itemView);  
 tvNama = (TextView) itemView.findViewById(R.id.*tvItemPelNama*);  
 tvHp = (TextView) itemView.findViewById(R.id.*tvItemPelHp*);  
 itemView.setTag(this);  
 itemView.setOnClickListener(onItemClicked);  
 }  
 }  
}

**Adapter Layanan:**

package id.myryan.laundry.Adapter;  
  
import android.content.Context;  
import android.view.LayoutInflater;  
import android.view.View;  
import android.view.ViewGroup;  
import android.widget.TextView;  
  
import androidx.recyclerview.widget.RecyclerView;  
  
import id.myryan.laundry.R;  
import id.myryan.laundry.model.ModelLayanan;  
  
import java.util.List;  
  
public class AdapterLayanan extends RecyclerView.Adapter<AdapterLayanan.ViewHolder> {  
 private static final String *TAG* = AdapterLayanan.class.getSimpleName();  
 private Context context;  
 private List<ModelLayanan> list;  
 private View.OnClickListener onItemClicked;  
  
 public void setOnItemClickListener(View.OnClickListener  
 itemClickListener) {  
 onItemClicked = itemClickListener;  
 }  
 public AdapterLayanan(Context context, List<ModelLayanan> list) {  
 this.context = context;  
 this.list = list;  
 }  
  
 @Override  
 public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {  
 View view =  
 LayoutInflater.*from*(parent.getContext()).inflate(R.layout.*item\_layanan*,  
 parent, false);  
 return new ViewHolder(view);  
 }  
  
 @Override  
 public void onBindViewHolder(ViewHolder holder, int position) {  
 ModelLayanan item = list.get(position);  
 holder.tvTipe.setText(item.getTipe());  
 holder.tvHarga.setText(item.getHarga());  
 }  
 @Override  
 public int getItemCount() {  
 return list.size();  
 }  
  
 public void clear() {  
 int size = this.list.size();  
 this.list.clear();  
 notifyItemRangeRemoved(0, size);  
 }  
 public class ViewHolder extends RecyclerView.ViewHolder {  
 TextView tvTipe, tvHarga;  
  
 public ViewHolder(View itemView) {  
 super(itemView);  
 tvTipe = (TextView) itemView.findViewById(R.id.*tvItemLayTipe*);  
 tvHarga = (TextView) itemView.findViewById(R.id.*tvItemLayHarga*);  
 itemView.setTag(this);  
 itemView.setOnClickListener(onItemClicked);  
  
 }  
 }  
}

**D. Pelanggan**

**PelangganAddActivity**

• **Java:**

package id.myryan.laundry.pelanggan;  
  
import android.annotation.SuppressLint;  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import androidx.activity.EdgeToEdge;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.graphics.Insets;  
import androidx.core.view.ViewCompat;  
import androidx.core.view.WindowInsetsCompat;  
  
import id.myryan.laundry.R;  
import id.myryan.laundry.database.SQLiteHelper;  
import id.myryan.laundry.model.ModelPelanggan;  
  
import java.util.UUID;  
  
public class PelangganAddActivity extends AppCompatActivity {  
 EditText nama, email, hp;  
 Button btnSimpan, btnBatal;  
  
 @SuppressLint("MissingInflatedId")  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 EdgeToEdge.*enable*(this);  
 setContentView(R.layout.*activity\_pelanggan\_add*);  
 ViewCompat.*setOnApplyWindowInsetsListener*(findViewById(R.id.*main*), (v, insets) -> {  
 Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.*systemBars*());  
 v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);  
 return insets;  
 });  
  
 nama = (EditText) findViewById(R.id.*edPelAddNama*);  
 email = (EditText) findViewById(R.id.*edPelAddEmail*);  
 hp = (EditText) findViewById(R.id.*edPelAddHp*);  
 btnSimpan = (Button) findViewById(R.id.*btnPelAddSimpan*);  
 btnBatal = (Button) findViewById(R.id.*btnPelAddBatal*);  
  
 SQLiteHelper db;  
 db = new SQLiteHelper(PelangganAddActivity.this);  
  
 btnSimpan.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 ModelPelanggan mp = new ModelPelanggan();  
 String uniqueID = UUID.*randomUUID*().toString();  
 mp.setId(""+uniqueID);  
 mp.setNama(nama.getText().toString());  
 mp.setEmail(email.getText().toString());  
 mp.setHp(hp.getText().toString());  
  
 Toast.*makeText*(PelangganAddActivity.this, ""+mp.getId()+mp.getNama()+mp.getEmail()+mp.getHp(), Toast.*LENGTH\_SHORT*).show();  
  
 boolean cek = db.insertPelanggan(mp);  
 if (cek == true){  
 Toast.*makeText*(PelangganAddActivity.this, "Data Berhasil Disimpan", Toast.*LENGTH\_SHORT*).show();  
 startActivity(new Intent(PelangganAddActivity.this, PelangganActivity.class));  
 finish();  
 }else {  
 Toast.*makeText*(PelangganAddActivity.this, "Data gagal disimpan", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
  
 btnBatal.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 finish();  
 }  
 });  
 }  
}

• **XML:**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="@dimen/lg"  
 android:background="@color/orangeputih"  
 tools:context=".pelanggan.PelangganAddActivity">  
  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:layout\_margin="@dimen/lg">  
  
 <TextView  
 android:textColor="@color/yellow"  
 android:textStyle="bold"  
 android:layout\_marginBottom="@dimen/lg"  
 android:textSize="23dp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="PELANGGAN" />  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical">  
  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Nama"  
 android:textSize="15sp"  
 android:textColor="@color/black"/>  
 <EditText  
 android:id="@+id/edPelAddNama"  
 android:layout\_width="match\_parent"  
 android:layout\_height="60dp"  
 android:drawablePadding="@dimen/sm"  
 android:drawableLeft="@drawable/ic\_username"  
 android:layout\_marginTop="10dp"  
 android:padding="@dimen/md"  
 android:background="@drawable/border\_custom"/>  
 </LinearLayout>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical">  
  
 <TextView  
 android:layout\_marginTop="@dimen/lg"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Email"  
 android:textSize="15sp"  
 android:textColor="@color/black"/>  
  
 <EditText  
 android:id="@+id/edPelAddEmail"  
 android:layout\_width="match\_parent"  
 android:layout\_height="60dp"  
 android:layout\_marginTop="10dp"  
 android:background="@drawable/border\_custom"  
 android:drawableLeft="@drawable/ic\_mail"  
 android:drawablePadding="@dimen/sm"  
 android:inputType="textEmailAddress"  
 android:padding="@dimen/md" />  
 </LinearLayout>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical">  
  
 <TextView  
 android:layout\_marginTop="@dimen/lg"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="HP"  
 android:textSize="15sp"  
 android:textColor="@color/black"/>  
  
 <EditText  
 android:id="@+id/edPelAddHp"  
 android:layout\_width="match\_parent"  
 android:layout\_height="60dp"  
 android:layout\_marginTop="10dp"  
 android:background="@drawable/border\_custom"  
 android:drawableLeft="@drawable/ic\_phone"  
 android:drawablePadding="@dimen/sm"  
 android:inputType="textEmailAddress"  
 android:padding="@dimen/md" />  
 </LinearLayout>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="40dp"  
 android:orientation="horizontal"  
 android:weightSum="2">  
  
  
 <Button  
 android:id="@+id/btnPelAddSimpan"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginRight="20dp"  
 android:layout\_weight="1"  
 android:background="@drawable/custom\_button2"  
 android:text="Simpan"  
 android:textColor="@color/black" />  
  
 <Button  
 android:id="@+id/btnPelAddBatal"  
 android:layout\_marginLeft="20dp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="Batal"  
 android:background="@drawable/custom\_button3"/>  
 </LinearLayout>  
  
 </LinearLayout>  
</LinearLayout>

**PelangganActivity**

• **Java:**

package id.myryan.laundry.pelanggan;  
  
import android.app.ProgressDialog;  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.view.animation.AlphaAnimation;  
import android.widget.Button;  
import android.widget.Toast;  
  
import androidx.activity.EdgeToEdge;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.graphics.Insets;  
import androidx.core.view.ViewCompat;  
import androidx.core.view.WindowInsetsCompat;  
import androidx.recyclerview.widget.LinearLayoutManager;  
import androidx.recyclerview.widget.RecyclerView;  
  
import id.myryan.laundry.Adapter.AdapterPelanggan;  
import id.myryan.laundry.R;  
import id.myryan.laundry.database.SQLiteHelper;  
import id.myryan.laundry.model.ModelPelanggan;  
  
import java.util.ArrayList;  
import java.util.List;  
  
public class PelangganActivity extends AppCompatActivity {  
  
 SQLiteHelper db; // Untuk operasi database SQLite  
 Button btnPelAdd; // Tombol untuk tambah pelanggan  
 RecyclerView rvPelanggan; // RecyclerView untuk menampilkan data pelanggan  
 AdapterPelanggan adapterPelanggan; // Adapter untuk RecyclerView  
 ArrayList<ModelPelanggan> list; // List untuk menyimpan data pelanggan  
 ProgressDialog progressDialog; // Untuk menampilkan loading dialog  
 AlphaAnimation btnAnimasi = new AlphaAnimation(1F, 0.5F); // Animasi tombol  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 EdgeToEdge.*enable*(this);  
 setContentView(R.layout.*activity\_pelanggan*);  
  
 // Set window insets untuk system bars  
 ViewCompat.*setOnApplyWindowInsetsListener*(findViewById(R.id.*main*), (v, insets) -> {  
 Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.*systemBars*());  
 v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);  
 return insets;  
 });  
  
 // Inisialisasi view dan event handling  
 setView();  
 eventHandling();  
 getData();  
 }  
  
 public void getData() {  
 list.clear(); // Bersihkan list sebelum mengambil data baru  
 showMsg(); // Tampilkan loading dialog  
 progressDialog.dismiss(); // Sembunyikan loading dialog setelah data berhasil diambil  
  
 try {  
 List<ModelPelanggan> p = db.getPelanggan(); // Ambil data dari database  
 if (p.size() > 0) {  
 for (ModelPelanggan pel : p) {  
 ModelPelanggan mp = new ModelPelanggan();  
 mp.setId(pel.getId());  
 mp.setNama(pel.getNama());  
 mp.setEmail(pel.getEmail());  
 mp.setHp(pel.getHp());  
 list.add(mp); // Tambahkan data ke list  
 }  
  
 // Inisialisasi adapter dan set ke RecyclerView  
 adapterPelanggan = new AdapterPelanggan(this, list);  
 adapterPelanggan.notifyDataSetChanged(); // Beritahu adapter bahwa ada data baru  
 rvPelanggan.setAdapter(adapterPelanggan);  
  
 // Set event handling untuk klik item di RecyclerView  
 adapterPelanggan.setOnItemClickListener(onClickListener);  
 } else {  
 Toast.*makeText*(this, "Data tidak ditemukan", Toast.*LENGTH\_SHORT*).show();  
 }  
 } catch (Exception e) {  
 e.printStackTrace();  
 }  
 }  
  
 private void eventHandling() {  
 btnPelAdd.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 startActivity(new Intent(PelangganActivity.this, PelangganAddActivity.class));  
 }  
 });  
 }  
  
 private void setView() {  
 db = new SQLiteHelper(this); // Inisialisasi SQLiteHelper  
 progressDialog = new ProgressDialog(this); // Inisialisasi ProgressDialog  
 btnPelAdd = findViewById(R.id.*btnPelAdd*); // Temukan tombol tambah pelanggan dari layout  
 rvPelanggan = findViewById(R.id.*rvPelanggan*); // Temukan RecyclerView dari layout  
 list = new ArrayList<>(); // Inisialisasi list untuk menampung data pelanggan  
  
 // Inisialisasi LinearLayoutManager untuk RecyclerView  
 LinearLayoutManager llm = new LinearLayoutManager(this);  
 llm.setOrientation(LinearLayoutManager.*VERTICAL*); // Mengatur orientasi menjadi vertikal  
 rvPelanggan.setHasFixedSize(true); // Optimalkan ukuran RecyclerView  
 rvPelanggan.setLayoutManager(llm); // Set layout manager ke RecyclerView  
 }  
  
 private void showMsg() {  
 if (progressDialog == null) {  
 progressDialog = new ProgressDialog(this);  
 progressDialog.setTitle("Informasi");  
 progressDialog.setMessage("Loading Data...");  
 progressDialog.setCancelable(false); // Tidak bisa dibatalkan dengan menekan di luar  
 }  
 progressDialog.show(); // Tampilkan dialog  
 }  
}

• **XML:**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="@color/orangecerah"  
 tools:context=".pelanggan.PelangganActivity">  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:padding="16dp">  
 <Button  
 android:id="@+id/btnPelAdd"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="10sp"  
 android:padding="@dimen/lg"  
 android:layout\_marginLeft="@dimen/lg"  
 android:layout\_marginBottom="12dp"  
 android:text="Tambah Pelanggan"  
 android:textColor="@color/white"  
 android:textStyle="bold"  
 android:background="@drawable/custom\_button" />  
 <androidx.recyclerview.widget.RecyclerView  
 android:id="@+id/rvPelanggan"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="@dimen/lg"  
 android:layout\_marginTop="@dimen/sm"/>  
 </LinearLayout>  
  
</LinearLayout>

**Item\_pelanggan.XML**

• **XML:**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:orientation="vertical"  
 android:layout\_marginTop="@dimen/sm"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="@color/orangecerah">  
  
 <androidx.cardview.widget.CardView  
 android:id="@+id/cvItemPel"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 app:cardCornerRadius="16dp"  
 app:cardBackgroundColor="@color/orangeputih"  
 android:layout\_marginTop="10dp">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:padding="@dimen/lg"  
 android:orientation="vertical">  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:weightSum="2"  
 android:orientation="horizontal">  
 <LinearLayout  
 android:layout\_weight="1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical">  
 <TextView  
 android:id="@+id/tvItemPelNama"  
 android:textSize="15sp"  
 android:textStyle="bold"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="FULAN"  
 android:textColor="@color/black"/>  
 <TextView  
 android:id="@+id/tvItemPelHp"  
 android:textSize="12sp"  
 android:layout\_marginTop="@dimen/xs"  
 android:textColor="@color/black"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="0853xxxx"/>  
 </LinearLayout>  
 </LinearLayout>  
 </LinearLayout>  
 </androidx.cardview.widget.CardView>  
</LinearLayout>

**E. Layanan**

**LayananActivity**

• **Java:**

package id.myryan.laundry.layanan;  
  
import android.app.ProgressDialog;  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.view.animation.AlphaAnimation;  
import android.widget.Button;  
import android.widget.Toast;  
  
import androidx.activity.EdgeToEdge;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.graphics.Insets;  
import androidx.core.view.ViewCompat;  
import androidx.core.view.WindowInsetsCompat;  
import androidx.recyclerview.widget.LinearLayoutManager;  
import androidx.recyclerview.widget.RecyclerView;  
  
import id.myryan.laundry.Adapter.AdapterLayanan;  
import id.myryan.laundry.R;  
import id.myryan.laundry.database.SQLiteHelper;  
import id.myryan.laundry.model.ModelLayanan;  
import id.myryan.laundry.pelanggan.PelangganActivity;  
import id.myryan.laundry.pelanggan.PelangganEditActivity;  
  
import java.util.ArrayList;  
import java.util.List;  
  
  
public class LayananActivity extends AppCompatActivity {  
  
 SQLiteHelper db; // Untuk operasi database SQLite  
 Button btnLayAdd; // Tombol untuk tambah pelanggan  
 RecyclerView rvLayanan; // RecyclerView untuk menampilkan data pelanggan  
 AdapterLayanan adapterLayanan; // Adapter untuk RecyclerView  
 ArrayList<ModelLayanan> list; // List untuk menyimpan data pelanggan  
 ProgressDialog progressDialog; // Untuk menampilkan loading dialog  
 AlphaAnimation btnAnimasi = new AlphaAnimation(1F, 0.5F);  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 EdgeToEdge.*enable*(this);  
 setContentView(R.layout.*activity\_layanan*);  
 ViewCompat.*setOnApplyWindowInsetsListener*(findViewById(R.id.*main*), (v, insets) -> {  
 Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.*systemBars*());  
 v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);  
 return insets;  
 });  
 setView();  
 eventHandling();  
 getData();  
 }  
  
 private View.OnClickListener onClickListener = new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 v.startAnimation(btnAnimasi); // Menjalankan animasi tombol  
 RecyclerView.ViewHolder viewHolder = (RecyclerView.ViewHolder) v.getTag();  
 int position = viewHolder.getAdapterPosition();  
 ModelLayanan ml = list.get(position); // Ambil data pelanggan dari posisi yang diklik  
 // kirim data ke activity lain  
 Intent intent= new Intent(LayananActivity.this, LayananEditActivity.class);  
 intent.putExtra("id", ml.getId());  
 intent.putExtra("tipe", ml.getTipe());  
 intent.putExtra("harga", ml.getHarga());  
 startActivity(intent);  
 }  
 };  
  
 private void getData() {  
 list.clear(); // Bersihkan list sebelum mengambil data baru  
 showMsg(); // Tampilkan loading dialog  
 progressDialog.dismiss(); // Sembunyikan loading dialog setelah data berhasil diambil  
  
 try {  
 List<ModelLayanan> l = db.getLayanan(); // Ambil data dari database  
 if (l.size() > 0) {  
 for (ModelLayanan lay : l) {  
 ModelLayanan ml = new ModelLayanan();  
 ml.setId(lay.getId());  
 ml.setTipe(lay.getTipe());  
 ml.setHarga(lay.getHarga());  
 list.add(ml); // Tambahkan data ke list  
 }  
  
 adapterLayanan = new AdapterLayanan(this, list);  
 adapterLayanan.notifyDataSetChanged();  
 rvLayanan.setAdapter(adapterLayanan);  
  
 adapterLayanan.setOnItemClickListener(onClickListener);  
 } else {  
 Toast.*makeText*(this, "Data tidak ditemukan", Toast.*LENGTH\_SHORT*).show();  
 }  
 } catch (Exception e) {  
 e.printStackTrace();  
 }  
 }  
  
 private void eventHandling() {  
 btnLayAdd.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 startActivity(new Intent(LayananActivity.this, LayananAddActivity.class));  
 }  
 });  
 }  
  
 private void setView() {  
 db = new SQLiteHelper(this); // Inisialisasi SQLiteHelper  
 progressDialog = new ProgressDialog(this); // Inisialisasi ProgressDialog  
 btnLayAdd = findViewById(R.id.*btnLayAdd*); // Temukan tombol tambah pelanggan dari layout  
 rvLayanan = findViewById(R.id.*rvLayanan*); // Temukan RecyclerView dari layout  
 list = new ArrayList<>(); // Inisialisasi list untuk menampung data pelanggan  
  
 // Inisialisasi LinearLayoutManager untuk RecyclerView  
 LinearLayoutManager llm = new LinearLayoutManager(this);  
 llm.setOrientation(LinearLayoutManager.*VERTICAL*); // Mengatur orientasi menjadi vertikal  
 rvLayanan.setHasFixedSize(true); // Optimalkan ukuran RecyclerView  
 rvLayanan.setLayoutManager(llm); // Set layout manager ke RecyclerView  
 }  
  
 private void showMsg() {  
 if (progressDialog == null) {  
 progressDialog = new ProgressDialog(this);  
 progressDialog.setTitle("Informasi");  
 progressDialog.setMessage("Loading Data...");  
 progressDialog.setCancelable(false); // Tidak bisa dibatalkan dengan menekan di luar  
 }  
 progressDialog.show(); // Tampilkan dialog  
 }  
}

• **XML:**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="@color/orangecerah"  
 tools:context=".layanan.LayananActivity">  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:padding="16dp">  
 <Button  
 android:id="@+id/btnLayAdd"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="10sp"  
 android:padding="@dimen/lg"  
 android:layout\_marginLeft="@dimen/lg"  
 android:layout\_marginBottom="12dp"  
 android:text="Tambah Layanan"  
 android:textColor="@color/white"  
 android:textStyle="bold"  
 android:background="@drawable/custom\_button" />  
 <androidx.recyclerview.widget.RecyclerView  
 android:id="@+id/rvLayanan"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="@dimen/lg"  
 android:layout\_marginTop="@dimen/sm"/>  
 </LinearLayout>  
  
</LinearLayout>

**LayananAddActivity:**

• **Java:**

package id.myryan.laundry.layanan;  
  
import android.os.Bundle;  
  
import android.annotation.SuppressLint;  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import androidx.activity.EdgeToEdge;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.graphics.Insets;  
import androidx.core.view.ViewCompat;  
import androidx.core.view.WindowInsetsCompat;  
  
import id.myryan.laundry.R;  
import id.myryan.laundry.database.SQLiteHelper;  
import id.myryan.laundry.model.ModelLayanan;  
  
import java.util.UUID;  
  
public class LayananAddActivity extends AppCompatActivity {  
 EditText edLayAddTipe, edLayAddHarga;  
 Button btnLayAddSimpan, btnLayAddBatal;  
 SQLiteHelper db;  
  
 @SuppressLint("MissingInflatedId")  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 EdgeToEdge.*enable*(this);  
 setContentView(R.layout.*activity\_layanan\_add*);  
 ViewCompat.*setOnApplyWindowInsetsListener*(findViewById(R.id.*main*), (v, insets) -> {  
 Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.*systemBars*());  
 v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);  
 return insets;  
 });  
  
 edLayAddTipe = (EditText) findViewById(R.id.edLayAddTipe);  
 edLayAddHarga = (EditText) findViewById(R.id.edLayAddHarga);  
 btnLayAddSimpan = (Button) findViewById(R.id.btnLayAddSimpan);  
 btnLayAddBatal = (Button) findViewById(R.id.btnLayAddBatal);  
  
 db = new SQLiteHelper(LayananAddActivity.this);  
 btnLayAddSimpan.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 ModelLayanan ml = new ModelLayanan();  
 String uniqueID = UUID.*randomUUID*().toString();  
 ml.setId(""+uniqueID);  
 ml.setTipe(edLayAddTipe.getText().toString());  
 ml.setHarga(edLayAddHarga.getText().toString());  
  
 Toast.*makeText*(LayananAddActivity.this, ""+ml.getId()+ml.getTipe()+ml.getHarga(), Toast.*LENGTH\_SHORT*).show();  
  
 boolean cek = db.insertLayanan(ml);  
 Toast.*makeText*(LayananAddActivity.this, ""+cek, Toast.*LENGTH\_SHORT*).show();  
 if (cek == true){  
 Toast.*makeText*(LayananAddActivity.this, "Data berhasil ditambahkan", Toast.*LENGTH\_SHORT*).show();  
 startActivity(new Intent(LayananAddActivity.this, LayananActivity.class));  
 finish();  
 } else {  
 Toast.*makeText*(LayananAddActivity.this, "Data gagal ditambahkan", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 });  
 btnLayAddBatal.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 finish();  
 }  
 });  
 }  
}

• **XML:**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:id="@+id/main"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="@color/orangecerah"  
 tools:context=".layanan.LayananActivity">  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 android:padding="16dp">  
 <Button  
 android:id="@+id/btnLayAdd"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textSize="10sp"  
 android:padding="@dimen/lg"  
 android:layout\_marginLeft="@dimen/lg"  
 android:layout\_marginBottom="12dp"  
 android:text="Tambah Layanan"  
 android:textColor="@color/white"  
 android:textStyle="bold"  
 android:background="@drawable/custom\_button" />  
 <androidx.recyclerview.widget.RecyclerView  
 android:id="@+id/rvLayanan"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="@dimen/lg"  
 android:layout\_marginTop="@dimen/sm"/>  
 </LinearLayout>  
  
</LinearLayout>

**Item\_layanan:**

• **XML:**

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:orientation="vertical"  
 android:layout\_marginTop="@dimen/sm"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="@color/orangecerah">  
  
 <androidx.cardview.widget.CardView  
 android:id="@+id/cvItemLay"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 app:cardCornerRadius="16dp"  
 app:cardBackgroundColor="@color/orangeputih"  
 android:layout\_marginTop="10dp">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:padding="@dimen/lg"  
 android:orientation="vertical">  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:weightSum="2"  
 android:orientation="horizontal">  
 <LinearLayout  
 android:layout\_weight="1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical">  
 <TextView  
 android:id="@+id/tvItemLayTipe"  
 android:textSize="15sp"  
 android:textStyle="bold"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="SETRIKA"  
 android:textColor="@color/black"/>  
 <TextView  
 android:id="@+id/tvItemLayHarga"  
 android:textSize="12sp"  
 android:layout\_marginTop="@dimen/xs"  
 android:textColor="@color/black"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="5.000/Kg"/>  
 </LinearLayout>  
 </LinearLayout>  
 </LinearLayout>  
 </androidx.cardview.widget.CardView>  
</LinearLayout>

**F. Manifest**

<uses-permission android:name="android.permission.READ\_EXTERNAL\_STORAGE" />