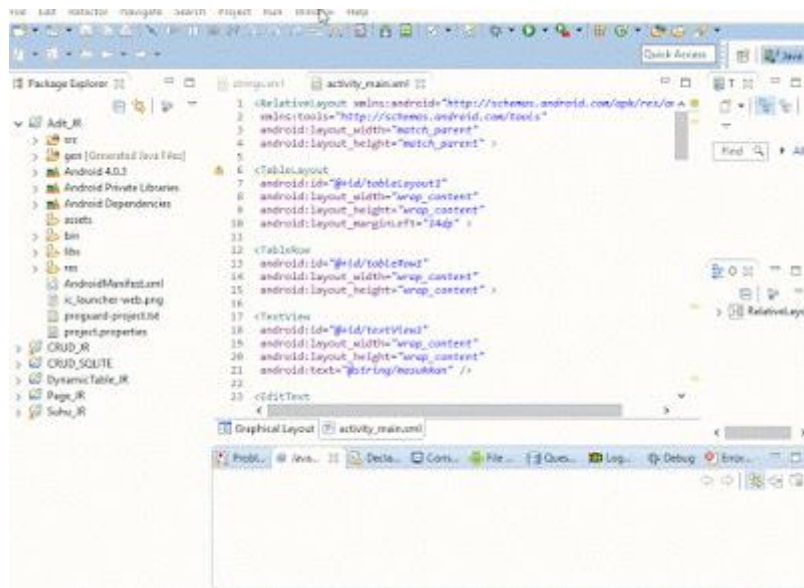


SQLite Android dengan Eclipse



Database yang akan kita gunakan yakni SQLite atau bisa disebut juga database internal. Ada beberapa hal yang harus disiapkan terlebih dahulu seperti berikut :

- Download [SQLite Manager](#).
- Letakkan SQLite Manager pada Eclipse/dropin/sqlitemanager.jar
- Jalankan emulator android kalian.
- Pada eclipse, buka Windows - Show View - Other - File Explorer



1. Sekarang kita akan membuat "SQLiteHelper.java" yang berfungsi untuk membuat database dengan nama "adit_jr.db" dan tabel "tabel_mahasiswa".

```
package com.adit_jr;  
import java.util.ArrayList;
```

```
import java.util.HashMap;
```

```
import android.content.ContentValues;
```

```
import android.content.Context;
```

```
import android.database.Cursor;
```

```
import android.database.sqlite.SQLiteDatabase;
```

```
import android.database.sqlite.SQLiteOpenHelper;
```

```
public class SQLiteHelper extends SQLiteOpenHelper {
```

```
    private static final String nama_database = "adit_jr.db";
```

```
    private static final int versi_database = 1;
```

```
    private static final String query_buat_tabel_mahasiswa_pemain = "CREATE TABLE IF NOT  
EXISTS tabel_mahasiswa (id INTEGER PRIMARY KEY AUTOINCREMENT, nim  
INTEGER, nama TEXT, jurusan TEXT)";
```

```
    private static final String query_hapus_tabel_mahasiswa_pemain = "DROP TABLE IF  
EXISTS query_buat_tabel_mahasiswa_pemain";
```

```
    public SQLiteHelper(Context context) {
```

```
        super(context, nama_database, null, versi_database);
```

```
    }
```

```
    @Override
```

```
    public void onCreate(SQLiteDatabase sqLiteDatabase) {
```

```

        sqLiteDatabase.execSQL(query_buat_tabel_mahasiswa_pemain);

        System.out.println("tabel_mahasiswa sudah dibuat");
    }

    @Override

    public void onUpgrade(SQLiteDatabase database, int versi_lama,
        int versi_baru) {

        database.execSQL(query_hapus_tabel_mahasiswa_pemain);

        onCreate(database);
    }


    public void tambah_mahasiswa(String nim, String nama, String jurusan) {

        SQLiteDatabase database = this.getWritableDatabase();

        ContentValues values = new ContentValues();

        values.put("nim", nim);

        values.put("nama", nama);

        values.put("jurusan", jurusan);

        database.insert("tabel_mahasiswa", null, values);

        database.close();
    }


    public ArrayList<HashMap<String, String>> tampil_semua_mahasiswa() {

        // deklarasikan sebuah arraylist yang bisa menampung hashmap

        ArrayList<HashMap<String, String>> arrayListMahasiswa= new
        ArrayList<HashMap<String, String>>();
    }

```

```

        SQLiteDatabase database = this.getWritableDatabase();
        Cursor cursor = database.rawQuery("SELECT * FROM tabel_mahasiswa", null);

        // kursor langsung diarkan ke posisi paling awal data pada tabel_mahasiswa

        if (cursor.moveToFirst()) {

            do {

                // deklarasikan sebuah hashmap, yang bisa menamp

                HashMap<String, String> hashMapmahasiswa = new HashMap<String, String>();

                // masukkan masing-masing field dari tabel_mahasiswa ke dalam hashMapMahasiswa

                //pastikan id_mahasiswa, nim, nama dan jurusan sama persis dengan field yang ada
                pada id_mahasiswa

                hashMapmahasiswa.put("id", cursor.getString(0));

                hashMapmahasiswa.put("nim", cursor.getString(1));

                hashMapmahasiswa.put("nama", cursor.getString(2));

                hashMapmahasiswa.put("jurusan", cursor.getString(3));

                // masukkan hashMapmahasiswa ke dalam arrayListMahasiswa

                arrayListMahasiswa.add(hashMapmahasiswa);

            } while (cursor.moveToNext());

        }

        return arrayListMahasiswa;

    }

```

```

public int update_mahasiswa(int id, String nim, String nama, String jurusan) {

    SQLiteDatabase database = this.getWritableDatabase();

```

```

ContentValues recordMahasiswa = new ContentValues();

recordMahasiswa.put("nim", nim);

recordMahasiswa.put("nama", nama);

recordMahasiswa.put("jurusan", jurusan);

return database.update("tabel_mahasiswa", recordMahasiswa, "id=" + id, null);
}

```

```

public void hapus_mahasiswa (int id) {

    SQLiteDatabase database = this.getWritableDatabase();

    database.execSQL("DELETE FROM tabel_mahasiswa WHERE id=" + id+ "");

    database.close();

}

```

```

public HashMap<String, String> tampil_mahasiswa_berdasarkan_id(int id) {

    SQLiteDatabase database = this.getReadableDatabase();

    HashMap<String, String> hashMapmahasiswa = new HashMap<String, String>();

    Cursor cursor = database.rawQuery("SELECT * FROM tabel_mahasiswa WHERE id=" +
id + "", null);

    if (cursor.moveToFirst()) {

        do {

            hashMapmahasiswa.put("id", cursor.getString(0));

            hashMapmahasiswa.put("nim", cursor.getString(1));

            hashMapmahasiswa.put("nama", cursor.getString(2));

            hashMapmahasiswa.put("jurusan", cursor.getString(3));


```

```

    } while (cursor.moveToNext());

}

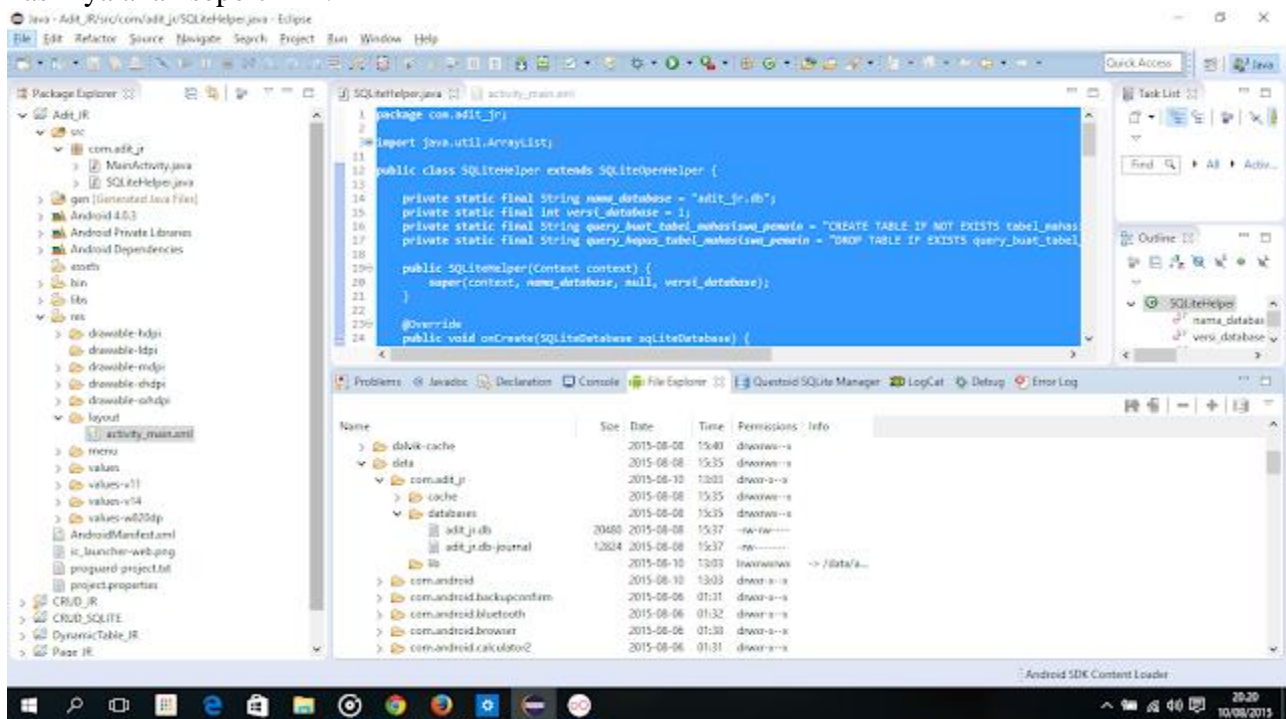
return hashMapmahasiswa;

}

}

```

Untuk melihat hasilnya pilih "File Explorer - data - data - com.adit_jr - database - adit_jr.db" dan hasilnya akan seperti ini :



2. Sekarang kita akan membuat "activiti_mian.xml" untuk desain tampilan androidnya.

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
```

```
    xmlns:tools="http://schemas.android.com/tools"
```

```
    android:id="@+id/LinearLayout1"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
```

```
    android:layout_gravity="center"
```

```
    android:orientation="vertical"
```

```
    tools:context=".MainActivity" >
```

```
<Button
```

```
    android:id="@+id/buttonTambahMahasiswa"
```

```
    style="@style/btnStyleColor"
```

```

        android:layout_width="186dp"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="5dp"
        android:text="@string/tambah"
        android:textColor="#fff" />

```

```

<HorizontalScrollView
    android:id="@+id/horizontalScrollView"
    android:layout_marginTop="8dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >

```

```

<ScrollView
    android:id="@+id/verticalScrollView"
    android:layout_width="wrap_content"
    android:layout_height="match_parent" >

```

```

        <TableLayout
            android:id="@+id/tabelMahasiswa"
            android:layout_width="match_parent"
            android:layout_height="wrap_content" >

```

```

        </TableLayout>

```

```

    </ScrollView>

```

```

</HorizontalScrollView>

```

```

</LinearLayout>

```

3. Jangan lupa untuk edit "String.xml" seperti berikut :

Data hosted with ♥ by [Pastebin.com](https://pastebin.com) - [Download Raw](#) - [See Original](#)

```

<?xml version="1.0" encoding="utf-8"?>

```

```

<resources>

```

```

    <string name="app_name">Adit_JR</string>
    <string name="hello_world">Hello world!</string>
    <string name="action_settings">Settings</string>
    <string name="tambah">Masukkan Data</string>

```

```

</resources>

```

4. Untuk "MainActivity.java" kita ubah seperti berikut :

Data hosted with ♥ by [Pastebin.com](https://pastebin.com) - [Download Raw](#) - [See Original](#)

```

package com.adit_jr;

```

```

import java.util.ArrayList;

```

```

import java.util.HashMap;

import android.app.Activity;
import android.app.AlertDialog;
import android.content.DialogInterface;
import android.graphics.Color;
import android.os.Bundle;
import android.support.v4.view.ViewPager.LayoutParams;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.LinearLayout;
import android.widget.TableLayout;
import android.widget.TableRow;
import android.widget.TextView;

public class MainActivity extends Activity implements OnClickListener {

    SQLiteHelper sqLiteHelper = new SQLiteHelper(this);

    TableLayout tabelMahasiswa;
    Button buttonTambahMahasiswa;
    ArrayList<Button> buttonEdit = new ArrayList<Button>();
    ArrayList<Button> buttonDelete = new ArrayList<Button>();

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        tabelMahasiswa = (TableLayout) findViewById(R.id.tabelMahasiswa);
        buttonTambahMahasiswa = (Button) findViewById(R.id.buttonTambahMahasiswa);
        buttonTambahMahasiswa.setOnClickListener(this);

        TableRow barisTabel = new TableRow(this);
        barisTabel.setBackgroundColor(Color.CYAN);

        TextView viewHeaderId = new TextView(this);
        TextView viewHeaderNim = new TextView(this);
        TextView viewHeaderNama = new TextView(this);
        TextView viewHeaderJurusan = new TextView(this);
        TextView viewHeaderAction = new TextView(this);

        viewHeaderId.setText("ID");
        viewHeaderNim.setText("Nim");

```



```

viewHeaderNama.setText("Nama");
viewHeaderJurusan.setText("Jurusan");
viewHeaderAction.setText("Action");

viewHeaderId.setPadding(5, 1, 5, 1);
viewHeaderNim.setPadding(5, 1, 5, 1);
viewHeaderNama.setPadding(5, 1, 5, 1);
viewHeaderJurusan.setPadding(5, 1, 5, 1);
viewHeaderAction.setPadding(5, 1, 5, 1);

barisTabel.addView(viewHeaderId);
barisTabel.addView(viewHeaderNim);
barisTabel.addView(viewHeaderNama);
barisTabel.addView(viewHeaderJurusan);
barisTabel.addView(viewHeaderAction);

tabelMahasiswa.addView(barisTabel, new TableLayout.LayoutParams(
    LayoutParams.WRAP_CONTENT, LayoutParams.WRAP_CONTENT));

ArrayList<HashMap<String, String>> arrayListMahasiswa = sqLiteHelper
    .tampil_semua_mahasiswa();

if (arrayListMahasiswa.size() > 0) {

    for (int i = 0; i < arrayListMahasiswa.size(); i++) {

        // ambil masing-masing hasmap dari arrayListMahasiswa
        HashMap<String, String> hashMapRecordMahasiswa = arrayListMahasiswa
            .get(i);

        // JSONObject jsonChildNode = arrayMahasiswa.getJSONObject(i);
        String nim = hashMapRecordMahasiswa.get("nim");
        String nama = hashMapRecordMahasiswa.get("nama");
        String jurusan = hashMapRecordMahasiswa.get("jurusan");
        String id = hashMapRecordMahasiswa.get("id");

        System.out.println("Nim :" + nim);
        System.out.println("Nama :" + nama);
        System.out.println("Jurusan :" + jurusan);
        System.out.println("ID :" + id);

        barisTabel = new TableRow(this);

        if (i % 2 == 0) {
            barisTabel.setBackgroundColor(Color.LTGRAY);
        }
    }
}

```

```

        TextView viewId = new TextView(this);
        viewId.setText(id);
        viewId.setPadding(5, 1, 5, 1);
        barisTabel.addView(viewId);

        TextView viewNim = new TextView(this);
        viewNim.setText(nim);
        viewNim.setPadding(5, 1, 5, 1);
        barisTabel.addView(viewNim);

        TextView viewNama = new TextView(this);
        viewNama.setText(nama);
        viewNama.setPadding(5, 1, 5, 1);
        barisTabel.addView(viewNama);

        TextView viewJurusan = new TextView(this);
        viewJurusan.setText(jurusan);
        viewJurusan.setPadding(5, 1, 5, 1);
        barisTabel.addView(viewJurusan);

        buttonEdit.add(i, new Button(this));
        buttonEdit.get(i).setId(Integer.parseInt(id));
        buttonEdit.get(i).setTag("Edit");
        buttonEdit.get(i).setText("Edit");
        buttonEdit.get(i).setOnClickListener(this);
        barisTabel.addView(buttonEdit.get(i));

        buttonDelete.add(i, new Button(this));
        buttonDelete.get(i).setId(Integer.parseInt(id));
        buttonDelete.get(i).setTag("Delete");
        buttonDelete.get(i).setText("Delete");
        buttonDelete.get(i).setOnClickListener(this);
        barisTabel.addView(buttonDelete.get(i));

        tabelMahasiswa.addView(barisTabel, new TableLayout.LayoutParams(
            LayoutParams.MATCH_PARENT, LayoutParams.MATCH_PARENT));
    }
}

@Override
public void onClick(View view) {

```

```

if (view.getId() == R.id.buttonTambahMahasiswa) {
    // Toast.makeText(MainActivity.this, "Button Tambah Data",
    // Toast.LENGTH_SHORT).show();

    tambahMahasiswa();

} else {

    // Melakukan pengecekan pada data array, agar sesuai dengan index
    masing-masing button

    for (int i = 0; i < buttonEdit.size(); i++) {

        // jika yang diklik adalah button edit
        if (view.getId() == buttonEdit.get(i).getId()
            && view.getTag().toString().trim().equals("Edit")) {
            // Toast.makeText(MainActivity.this, "Edit : " +
            // buttonEdit.get(i).getId(), Toast.LENGTH_SHORT).show();
            int id = buttonEdit.get(i).getId();
            getDataByID(id);

        } // jika yang diklik adalah button delete
        else if (view.getId() == buttonDelete.get(i).getId()
            && view.getTag().toString().trim().equals("Delete")) {
            // Toast.makeText(MainActivity.this, "Delete : " +
            // buttonDelete.get(i).getId(), Toast.LENGTH_SHORT).show();
            int id = buttonDelete.get(i).getId();
            deleteMahasiswa(id);

        }
    }
}

}

public void deleteMahasiswa(int id) {

    sqLiteHelper.hapus_mahasiswa(id);

    // restart activity
    finish();
    startActivity(getIntent());

}

public void getDataByID(int id) {

```

```
String nimEdit = null, namaEdit = null, jurusanEdit = null;
```

```
HashMap<String, String> hashMapMahasiswa = sqLiteHelper  
    .tampil_mahasiswa_berdasarkan_id(id);
```

```
for (int i = 0; i < hashMapMahasiswa.size(); i++) {  
    nimEdit = hashMapMahasiswa.get("nim");  
    namaEdit = hashMapMahasiswa.get("nama");  
    jurusanEdit = hashMapMahasiswa.get("jurusan");  
}
```

```
LinearLayout layoutInput = new LinearLayout(this);  
layoutInput.setOrientation(LinearLayout.VERTICAL);
```

```
// buat id tersembunyi di alertbuilder  
final TextView viewId = new TextView(this);  
viewId.setText(String.valueOf(id));  
viewId.setTextColor(Color.TRANSPARENT);  
layoutInput.addView(viewId);
```

```
final EditText editNim = new EditText(this);  
editNim.setText(nimEdit);  
layoutInput.addView(editNim);
```

```
final EditText editNama = new EditText(this);  
editNama.setText(namaEdit);  
layoutInput.addView(editNama);
```

```
final EditText editJurusan = new EditText(this);  
editJurusan.setText(jurusanEdit);  
layoutInput.addView(editJurusan);
```

```
AlertDialog.Builder builderEditMahasiswa = new AlertDialog.Builder(this);  
builderEditMahasiswa.setTitle("Update Mahasiswa");  
builderEditMahasiswa.setView(layoutInput);  
builderEditMahasiswa.setPositiveButton("Update",  
    new DialogInterface.OnClickListener() {  
        @Override  
        public void onClick(DialogInterface dialog, int which) {  
            String nim = editNim.getText().toString();  
            String nama = editNama.getText().toString();  
            String jurusan = editJurusan.getText().toString();  
  
            System.out.println("Nim : " + nim + " Nama " + nama + " Jurusan : "  
                + jurusan);
```

```

        sqLiteHelper.update_mahasiswa(Integer.parseInt(viewId
            .getText().toString()), editNim.getText()
            .toString(), editNama.getText().toString(),
            editJurusan.getText().toString());

        // restart activity
        finish();
        startActivity(getIntent());
    }

});

builderEditMahasiswa.setNegativeButton("Cancel",
    new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            dialog.cancel();
        }
    });
builderEditMahasiswa.show();
}

public void tambahMahasiswa() {
    // layout akan ditampilkan pada AlertDialog
    LinearLayout layoutInput = new LinearLayout(this);
    layoutInput.setOrientation(LinearLayout.VERTICAL);

    final EditText editNim = new EditText(this);
    editNim.setHint("Nim");
    layoutInput.addView(editNim);

    final EditText editNama = new EditText(this);
    editNama.setHint("Nama");
    layoutInput.addView(editNama);

    final EditText editJurusan = new EditText(this);
    editJurusan.setHint("Jurusan");
    layoutInput.addView(editJurusan);

    AlertDialog.Builder builderInsertMahasiswa = new AlertDialog.Builder(this);
    builderInsertMahasiswa.setTitle("Insert Mahasiswa");
    builderInsertMahasiswa.setView(layoutInput);
    builderInsertMahasiswa.setPositiveButton("Insert",
        new DialogInterface.OnClickListener() {

```

```

@Override
public void onClick(DialogInterface dialog, int which) {
    String nim = editNim.getText().toString();
    String nama = editNama.getText().toString();
    String jurusan = editJurusan.getText().toString();

    System.out.println(" Nim " + nim + " Nama : " + nama + " Jurusan : "
        + jurusan);

    sqLiteHelper.tambah_mahasiswa(nim,nama,jurusan);
    // restart activity
    finish();
    startActivity(getIntent());
}

});

builderInsertMahasiswa.setNegativeButton("Cancel",
    new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            dialog.cancel();
        }
    });
builderInsertMahasiswa.show();
}
}

```

5. hasilnya seperti berikut ini :

