

Example – SQLite

DB Browser for SQLite (<https://sqlitebrowser.org/dl/>)

1. activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="50dp"
        android:text="Example - SQLite"
        android:textSize="24sp"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/addbutton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="50dp"
        android:layout_marginLeft="50dp"
        android:layout_marginTop="59dp"
        android:onClick="adduser"
        android:text="Add"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <Button
        android:id="@+id/updatebutton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="59dp"
        android:layout_marginEnd="50dp"
        android:layout_marginRight="50dp"
        android:onClick="update"
        android:text="Update"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <Button
        android:id="@+id/deletebutton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="50dp"
        android:layout_marginLeft="50dp"
```

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        android:layout_marginTop="31dp"
        android:onClick="delete"
        android:text="Delete"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/addbutton" />

<Button
    android:id="@+id/viewbutton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="31dp"
    android:layout_marginEnd="50dp"
    android:layout_marginRight="50dp"
    android:onClick="viewdata"
    android:text="View"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/updatebutton" />

<EditText
    android:id="@+id/nameedit"
    android:layout_width="185dp"
    android:layout_height="48dp"
    android:layout_marginStart="20dp"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="65dp"
    android:ems="10"
    android:hint="Name"
    android:inputType="textPersonName"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/deletebutton" />

<EditText
    android:id="@+id/classedit"
    android:layout_width="185dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="30dp"
    android:ems="10"
    android:hint="Class"
    android:inputType="textPersonName"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/nameedit" />

<EditText
    android:id="@+id/subjectedit"
    android:layout_width="185dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="30dp"
    android:ems="10"
    android:hint="Subject"
    android:inputType="textPersonName"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/classedit" />

<EditText
    android:id="@+id/emailedit"
    android:layout_width="185dp"

```

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        android:layout_height="wrap_content"
        android:layout_marginStart="20dp"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="30dp"
        android:ems="10"
        android:hint="Email"
        android:inputType="textEmailAddress"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/subjectedit" />

<EditText
    android:id="@+id/newnameedit"
    android:layout_width="185dp"
    android:layout_height="46dp"
    android:layout_marginStart="15dp"
    android:layout_marginLeft="15dp"
    android:layout_marginTop="65dp"
    android:ems="10"
    android:hint="New name"
    android:inputType="textPersonName"
    app:layout_constraintStart_toEndOf="@+id/nameedit"
    app:layout_constraintTop_toBottomOf="@+id/viewbutton" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

2. myDbAdapter.java

```

package com.example.examplesqlite;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.os.Message;
import android.widget.Toast;

public class myDbAdapter {

    myDBHelper myHelper;

    public myDbAdapter(Context context){
        myHelper = new myDBHelper(context);
    }

    public long insertdata(String name, String classyear, String
subject, String email){
        SQLiteDatabase dbb = myHelper.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(myDBHelper.NAME, name);
        contentValues.put(myDBHelper.CLASSYEAR, classyear);
        contentValues.put(myDBHelper.SUBJECT, subject);
        contentValues.put(myDBHelper.EMAIL, email);
        long id =
        dbb.insert(myDBHelper.TABLE_NAME, null, contentValues);
        return id;
    }
}

```

```

    public String getData()
    {
        SQLiteDatabase db = myHelper.getWritableDatabase();
        String[] columns =
        {myDBHelper.UID,myDBHelper.NAME,myDBHelper.CLASSYEAR,myDBHelper.SUBJ
ECT,myDBHelper.EMAIL};
        Cursor cursor
        =db.query(myDBHelper.TABLE_NAME,columns,null,null,null,null,null);
        StringBuffer buffer= new StringBuffer();
        while (cursor.moveToNext())
        {
            int cid
            =cursor.getInt(cursor.getColumnIndex(myDBHelper.UID));
            String name
            =cursor.getString(cursor.getColumnIndex(myDBHelper.NAME));
            String classyear
            =cursor.getString(cursor.getColumnIndex(myDBHelper.CLASSYEAR));
            String subject
            =cursor.getString(cursor.getColumnIndex(myDBHelper.SUBJECT));
            String email
            =cursor.getString(cursor.getColumnIndex(myDBHelper.EMAIL));
            buffer.append(cid+ " " + name + " " + classyear + "
" + subject + " " + email +"\n");
        }
        return buffer.toString();
    }

    public int delete(String uname)
    {
        SQLiteDatabase db = myHelper.getWritableDatabase();
        String[] whereArgs ={uname};

        int count =db.delete(myDBHelper.TABLE_NAME
,myDBHelper.NAME+" = ?",whereArgs);
        return count;
    }

    public int updateName(String oldName , String newName)
    {
        SQLiteDatabase db = myHelper.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(myDBHelper.NAME,newName);
        String[] whereArgs= {oldName};
        int count =db.update(myDBHelper.TABLE_NAME,contentValues,
myDBHelper.NAME+" = ?",whereArgs );
        return count;
    }

    public class myDBHelper extends SQLiteOpenHelper {
        private static final String DATABASE_NAME = "myDatabase";
        private static final String TABLE_NAME = "myTable";
        private static final int DATABASE_Version = 1;
        private static final String UID = "id";
        private static final String NAME = "Name";
        private static final String CLASSYEAR = "Class";
        private static final String SUBJECT = "Subject";
        private static final String EMAIL = "Email";
        private static final String CREATE_TABLE = "CREATE TABLE " +

```

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TABLE_NAME + " (" + UID + " INTEGER PRIMARY KEY AUTOINCREMENT, " +
NAME + " VARCHAR(255) ," + CLASSYEAR + " VARCHAR(255) ," + SUBJECT +
" VARCHAR(255) ," + EMAIL + " VARCHAR(255));";
private static final String DROP_TABLE ="DROP TABLE IF
EXISTS "+TABLE_NAME;
private Context context;

public myDBHelper(Context context) {
    super(context, DATABASE_NAME, null, DATABASE_Version);
    this.context = context;
}

@Override
public void onCreate(SQLiteDatabase db) {
    try {
        db.execSQL(CREATE_TABLE);
    } catch (Exception e) {
        String message = "Exception error";

        Toast.makeText(context,message,Toast.LENGTH_LONG).show();

    }
}

@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
    try {

        Toast.makeText(context,"OnUpgrade",Toast.LENGTH_LONG).show();
        db.execSQL(DROP_TABLE);
        onCreate(db);
    }catch (Exception e) {
        Toast.makeText(context,"Exception
Error",Toast.LENGTH_LONG).show();
    }
}
}
}

```

3. MainActivity.java

```

package com.example.examplesqlite;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    Button addbutton,viewbutton, deletebutton, updatebutton;
    EditText namedit, classedit, subjectedit, emailedit,
newnamedit;
    myDbAdapter helper;
}

```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    addbutton = findViewById(R.id.addbutton);
    viewbutton = findViewById(R.id.viewbutton);
    updatebutton = findViewById(R.id.updatebutton);
    deletebutton = findViewById(R.id.deletebutton);
    nameedit = findViewById(R.id.nameedit);
    classedit = findViewById(R.id.classedit);
    subjectedit = findViewById(R.id.subjectedit);
    emailedit = findViewById(R.id.emailedit);
    newnamedit = findViewById(R.id.newnamedit);

    helper = new myDbAdapter(this);
    nameedit.setVisibility(View.INVISIBLE);
    classedit.setVisibility(View.INVISIBLE);
    subjectedit.setVisibility(View.INVISIBLE);
    emailedit.setVisibility(View.INVISIBLE);
    newnamedit.setVisibility(View.INVISIBLE);
}

public void viewdata(View view)
{
    nameedit.setVisibility(View.INVISIBLE);
    classedit.setVisibility(View.INVISIBLE);
    subjectedit.setVisibility(View.INVISIBLE);
    emailedit.setVisibility(View.INVISIBLE);
    newnamedit.setVisibility(View.INVISIBLE);
    String data = helper.getData();

    Toast.makeText(getApplicationContext(),data,Toast.LENGTH_LONG).show(
    );
}

public void adduser(View view){
    nameedit.setVisibility(View.VISIBLE);
    classedit.setVisibility(View.VISIBLE);
    subjectedit.setVisibility(View.VISIBLE);
    emailedit.setVisibility(View.VISIBLE);
    newnamedit.setVisibility(View.INVISIBLE);
    String n = nameedit.getText().toString();
    String c = classedit.getText().toString();
    String s = subjectedit.getText().toString();
    String e = emailedit.getText().toString();
    if (n.isEmpty() || c.isEmpty() || s.isEmpty() ||
e.isEmpty()){
        Toast.makeText(getApplicationContext(),"Enter name,
class, subject and email",Toast.LENGTH_LONG).show();
    }
    else{
        long id = helper.insertdata(n,c,s,e);
        if (id<=0){
            Toast.makeText(getApplicationContext(),"Insertion
Unsuccessful",Toast.LENGTH_LONG).show();

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```

        nameedit.setText("");
        classedit.setText("");
        subjectedit.setText("");
        emailedit.setText("");
    }
    else{
        Toast.makeText(getApplicationContext(),"Insertion
Successful",Toast.LENGTH_LONG).show();
        nameedit.setVisibility(View.INVISIBLE);
        classedit.setVisibility(View.INVISIBLE);
        subjectedit.setVisibility(View.INVISIBLE);
        emailedit.setVisibility(View.INVISIBLE);
        nameedit.setText("");
        classedit.setText("");
        subjectedit.setText("");
        emailedit.setText("");
    }
}

}

public void update( View view)
{
    nameedit.setVisibility(View.VISIBLE);
    classedit.setVisibility(View.INVISIBLE);
    subjectedit.setVisibility(View.INVISIBLE);
    emailedit.setVisibility(View.INVISIBLE);
    newnamedit.setVisibility(View.VISIBLE);
    addbutton.setEnabled(false);
    deletebutton.setEnabled(false);
    viewbutton.setEnabled(false);

    String u1 = nameedit.getText().toString();
    String u2 = newnamedit.getText().toString();
    if(u1.isEmpty() || u2.isEmpty())
    {
        Toast.makeText(getApplicationContext(),"Enter
data",Toast.LENGTH_LONG).show();
    }
    else
    {
        int a= helper.updateName( u1, u2);
        if(a<=0)
        {
            Toast.makeText(getApplicationContext(),"Update
Unsuccessful",Toast.LENGTH_LONG).show();
            nameedit.setText("");
            newnamedit.setText("");
        } else {
            Toast.makeText(getApplicationContext(),"Update
Successful",Toast.LENGTH_LONG).show();
            nameedit.setText("");
            newnamedit.setText("");
        }
    }
    addbutton.setEnabled(true);
    deletebutton.setEnabled(true);
    viewbutton.setEnabled(true);
    updatebutton.setEnabled(true);
}

```

```

    }

    public void delete (View view){
        nameedit.setVisibility(View.VISIBLE);
        classedit.setVisibility(View.INVISIBLE);
        subjectedit.setVisibility(View.INVISIBLE);
        emailedit.setVisibility(View.INVISIBLE);
        newnamedit.setVisibility(View.INVISIBLE);
        addbutton.setEnabled(false);
        updatebutton.setEnabled(false);
        viewbutton.setEnabled(false);
        String nametodelete = nameedit.getText().toString();
        if (nametodelete.isEmpty()){
            Toast.makeText(getApplicationContext(),"Enter name to
delete",Toast.LENGTH_LONG).show();
        }else{
            int a = helper.delete(nametodelete);
            if(a<=0)
            {
                Toast.makeText(getApplicationContext(),"Unsuccessful
Deletion",Toast.LENGTH_LONG).show();
            }
            else
            {
                Toast.makeText(getApplicationContext(),"Successful
Deletion",Toast.LENGTH_LONG).show();
            }
            nameedit.setText("");
            nameedit.setVisibility(View.INVISIBLE);
            addbutton.setEnabled(true);
            updatebutton.setEnabled(true);
            viewbutton.setEnabled(true);
        }
    }

}

}

```