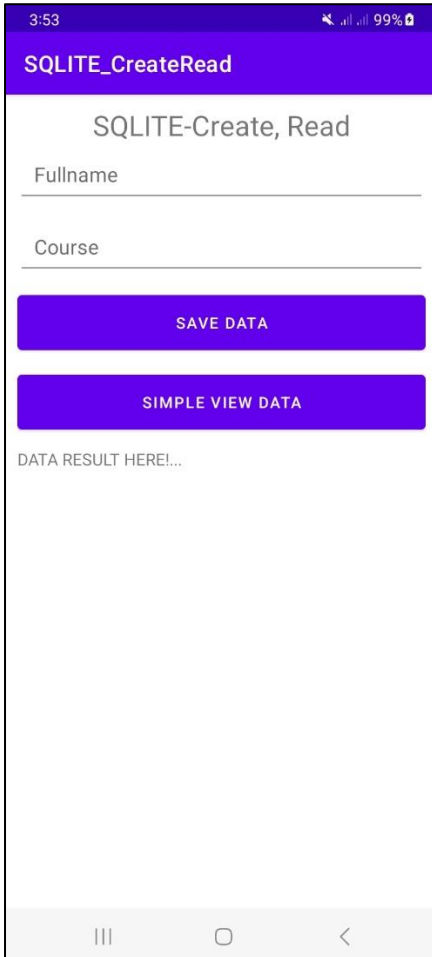


- SQLITE Create, Read (CRUD) -

Create New Project

Project Details	
Activity Template	Empty Activity
Project Name	SQLITE_CreateRead
Language	Java
Minimum SDK	API 24: Android 7.0 (Nougat)



Root / Parent Element [[LinearLayout](#)]

- *attribute*
android:orientation="vertical"
android:gravity="center"
android:padding="10dp"

Child

- [EditText](#) [Fullname]

- *attribute*
android:id="@+id/full_name"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginBottom="10dp"
android:padding="15dp"
android:hint="Fullname"
android:autofillHints=""
android:inputType="textPersonName"

- [EditText](#) [course]

- *attribute*
android:id="@+id/course"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginBottom="10dp"
android:padding="15dp"
android:hint="Course"
android:autofillHints=""
android:inputType="textPersonName"

- [Button](#) [SAVE DATA]

- *attribute*
android:id="@+id/btnSave"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="SAVE DATA"
android:layout_marginBottom="10dp"
android:padding="15dp"

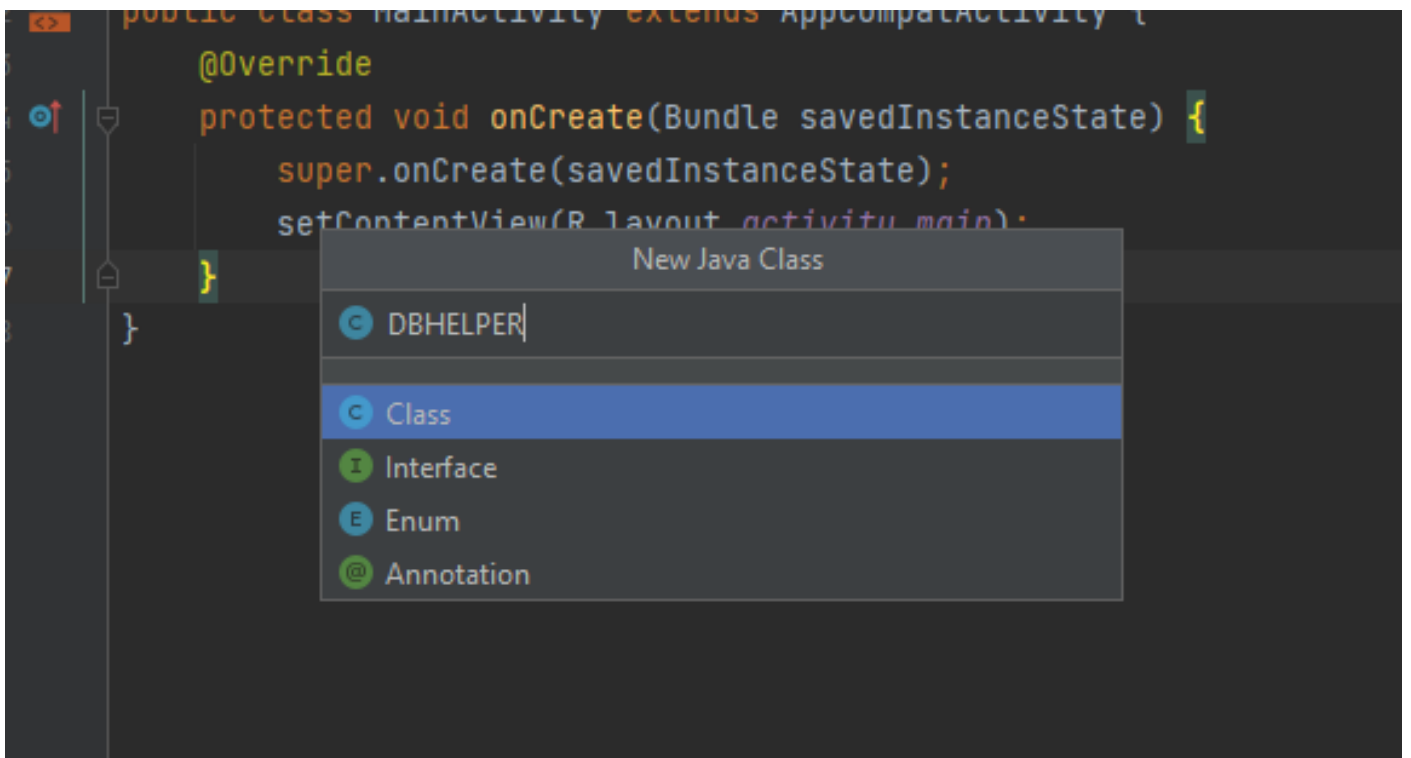
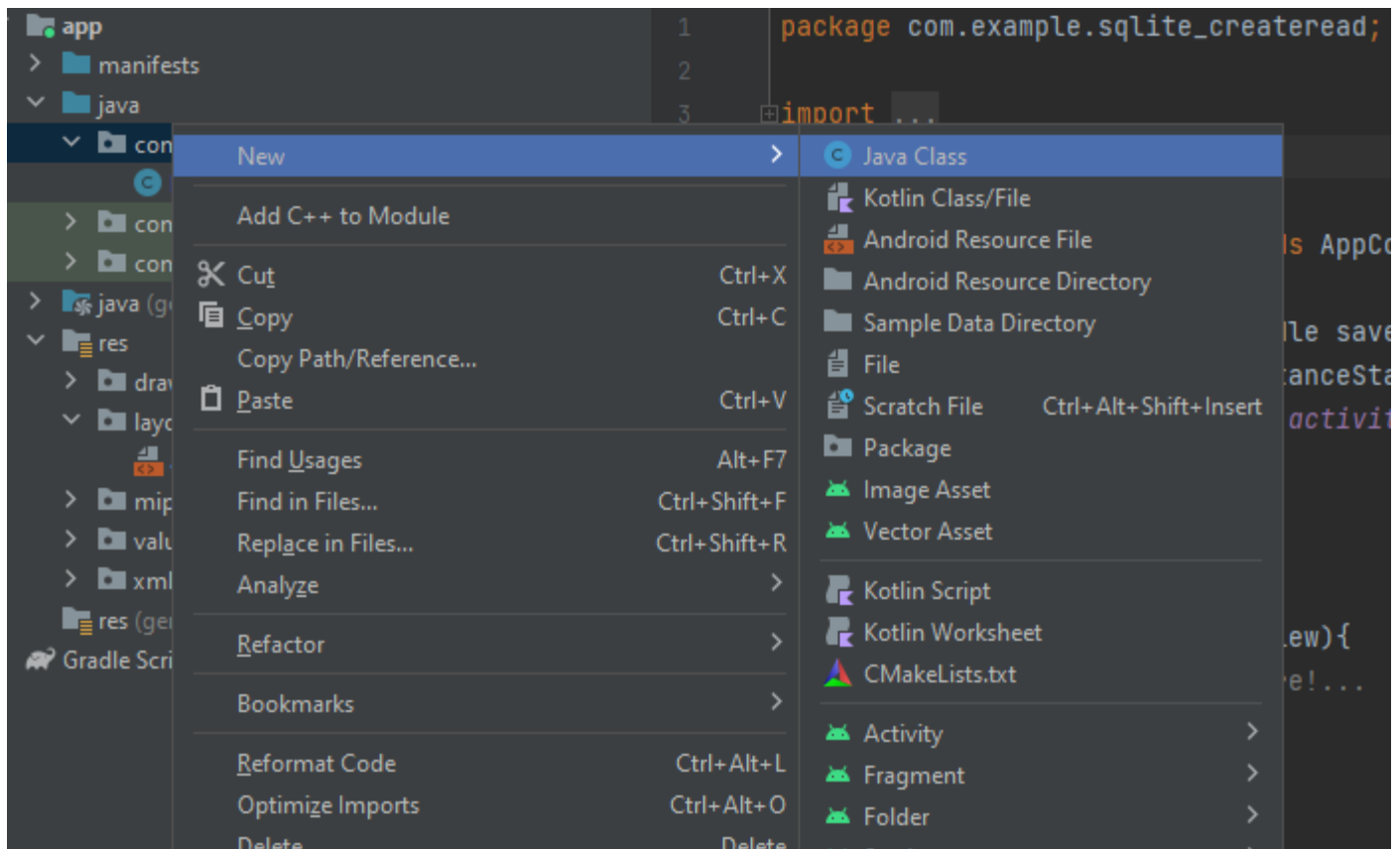
- [Button](#) [SIMPLE VIEW DATA]

- *attribute*
android:id="@+id/btnSimpleView"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="SIMPLE VIEW DATA"
android:layout_marginBottom="10dp"
android:padding="15dp"

- [TextView](#) [DATA RESULT]

- *attribute*
android:id="@+id/data_result"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:text="DATA RESULT HERE!..."
android:textSize="15sp"

1: Create Java Class File Name: DBHELPER



DBHELPER.java

1: *IMPORT CLASSES

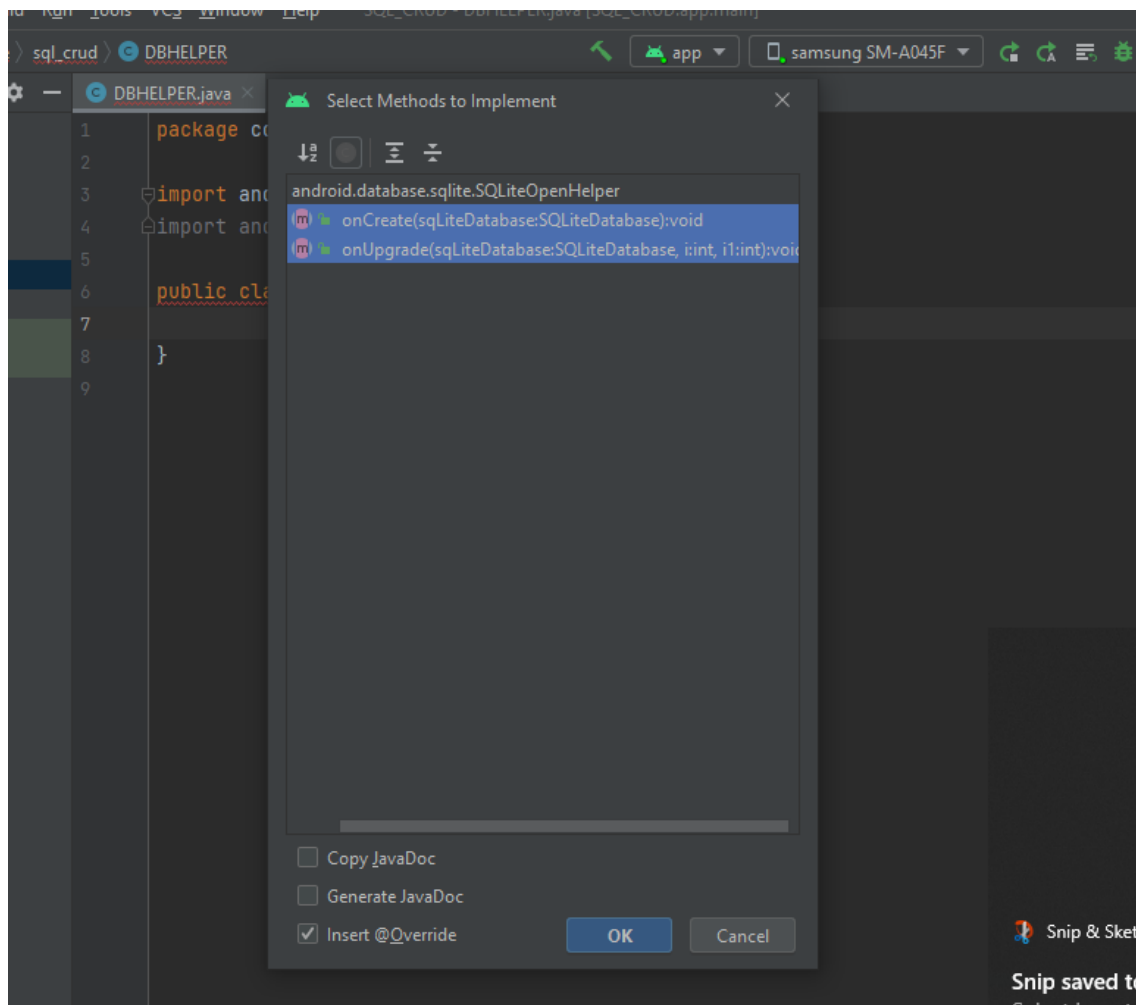
```
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteOpenHelper;
import android.database.sqlite.SQLiteDatabase;
```

2: *Extend the Class with SQLiteOpenHelper

```
public class DBHELPER extends SQLiteOpenHelper{

}
```

3: Implement the methods (onCreate and onUpgrade) *Press CTRL+i in Keyboard then Click OK



4: Define a Class Variable Name and Version of your Database

```
/* DATABASE INFO */
public static final String DB_NAME = "STUDENT.db";
public static final int DB_VERSION = 1;
```

5: Create the default Constructor

```
public DBHELPER(Context context) {
    super(context, DB_NAME, null, DB_VERSION);
}
```

6: Define Class Variable Table Name, Table Column and SQLITE-Script for CREATE TABLE

```
/* TABLE NAME */
public static final String TABLE_NAME = "STUDENT_INFO";
/* TABLE COLUMN */
public static final String COL_STUD_ID = "STUD_ID";
public static final String COL_FULL_NAME = "FULL_NAME";
public static final String COL_COURSE = "COURSE";
/* CREATE TABLE SCRIPT */
public static final String CREATE_TABLE = "CREATE TABLE "+TABLE_NAME+" ("
    +COL_STUD_ID+" INTEGER PRIMARY KEY AUTOINCREMENT,"
    +COL_FULL_NAME+" TEXT,"
    +COL_COURSE+" TEXT)";
```

7: Code inside onCreate method

```
sqliteDatabase.execSQL(CREATE_TABLE);
```

8: Code inside onUpgrade method

```
sqliteDatabase.execSQL("DROP TABLE IF EXISTS "+TABLE_NAME);
onCreate(sqliteDatabase);
```

9: Create a Function for InsertData

```
// Create Function with two Parameters for Full_name and Course
// that returns
// true if Data is Successfully Saved
// false is Data Fails to Insert
public boolean insertData(String strFull_name,String strCourse){
    //getWritableDatabase
    //(Create and/or open a database that will be used for reading and writing).
    SQLiteDatabase db = this.getWritableDatabase();

    //Each Content Values object represents a
    //single table row as a map of column names to values
    ContentValues contentValues = new ContentValues();

    //contentValues.put(String Key, VALUE) // LIKE KEY VALUE PAIR
    //String KEY COLUMN_NAME
    //VALUE value for COLUMN_NAME
    contentValues.put(COL_FULL_NAME,strFull_name);
    contentValues.put(COL_COURSE,strCourse);
    //INSERT TO TABLE_NAME WITH contentValues
    long result = db.insert(TABLE_NAME,null,contentValues);
    //return result
    return result != -1;
}
```

10: Create a Function for viewAllData

```
public Cursor viewAllData(){
    //getWritableDatabase ( Create and/or open a
    //database that will be used for reading and writing).
    SQLiteDatabase db = this.getWritableDatabase();
    //Cursors are what contain the
    //result set of a query made against a database in Android
    Cursor result = db.rawQuery("SELECT * FROM "+TABLE_NAME,null);
    //return result
    return result;
}
```

MainActivity.java

1: Import Classes

```
import android.database.Cursor;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
```

2: DECLARE AN INSTANCE/OBJECT of DBHELPER

```
//DECLARE AN INSTANCE/OBJECT of DBHELPER
//class_name object_name = new class_name();
DBHELPER MYDB = new DBHELPER(this);
```

3: Create a Function with no return value for

- SAVE DATA Button
- SIMPLE VIEW DATA Button

4: Code inside the Function for SAVE DATA Button

```
//ASSIGN UI
EditText full_nameUI = findViewById(R.id.full_name);
EditText courseUI = findViewById(R.id.course);
//CHECK IF UI IS EMPTY
if(full_nameUI.getText().toString().equals("") || courseUI.getText().toString().equals("")){
    Toast.makeText(this, "ERROR: Full name or Course is Empty", Toast.LENGTH_SHORT).show();
}else{
    //Call insertData add Arguments for full_name and course
    //Get The returned Result of Function insertData in DBHELPER
    boolean result = MYDB.insertData(full_nameUI.getText().toString(), courseUI.getText().toString());
    //CHECK IF TRUE
    if(result){
        Toast.makeText(this, "DATA SUCCESSFULLY INSERTED", Toast.LENGTH_SHORT).show();
    }else{
        Toast.makeText(this, "DATA INSERTION FAILED", Toast.LENGTH_SHORT).show();
    }
}
```

5: Code inside the Function for SIMPLE VIEW DATA Button

```
//Get The returned Result of Function viewAllData in DBHELPER
Cursor result = MYDB.viewAllData();
//Assign UI
TextView DATA_RESULT = findViewById(R.id.data_result);
//Declare String Variable resultHolder with no value
String resultHolder = "";
if(result != null && result.getCount() != 0){
    //While Loop Cycle Through Every Data in Cursor
    while(result.moveToNext()){
        // Add Value to resultHolder
        // result.getString(0) is COL_STUD_ID
        // result.getString(1) is COL_FULL_NAME
        // result.getString(2) is COL_COURSE
        // += is like append
        resultHolder += "[ " +result.getString(0)+" ] " +result.getString(2)+" - " +result.getString(1)+"\n";
        //output would be [ COL_STUD_ID ] COL_COURSE - COL_FULL_NAME
    }
    //Display Result
    DATA_RESULT.setText(resultHolder);
}
```

6: BUILD AND RUN