Sai Geetha's Blog - Android

While this blog started off as my personal ramblings on Techncial things it has turned out to be a blog dedicated to Android. Any other technical ramblings are shared at my Technical Blog.

NOTE: Of late, I have been getting requests for very trivial problems that many of you are facing in your day-to-day work. This blog is not to solve your "project" problems - surely not a "Support" site.
I just love to share my knowledge in my spare time and would appreciate any questions or feedback on the articles and code I have shared. I also do appreciate thought-provoking questions that would lead me to write more articles and share.
But please do not put your day-to-day trivial problems here. Even if you do, you most probably would not get a response here.
Thanks

WEDNESDAY, OCTOBER 7, 2009

SQLite DB Example | Android Developer Tutorial (Part 12)

There are 4 ways of storing data on the android platform:

- 1. Preferences
- 2. SQLite Database
- 3. Files
- 4. Network

NOTE TO VISITORS

"Knowledge Grows When Shared!" is my belief and hence this blog. It would be wonderful if the visitors to this blog too can contribute by answering to questions posed. Not all questions here have an answer from me.
We can together create a veritable pool of knowledge here.
Thanks

TOTAL PAGEVIEWS

A word about each of them here and then I will move on to an example that shows how to work with SQLite DB that comes along with the android platform.

Preferences –

Basically used for storing user preferences for a single application or across applications for a mobile. This is typically name-value pairs accessible to the context.

Databases –

Android supports creating of databases based on SQLite db. Each database is private to the applications that creates it

Files -

Files can be directly stored on the mobile or on to an extended storage medium. By default other applications cannot access it.
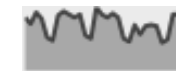
Network -

Data can be stored and retrieved from the network too depending on the availability.

If an application wants to store and retrieve data for its own use, without having to share the data across applications, it can access the SQLite DB directly. There is no need of a content provider. We have seen in an earlier post how to use content providers.

In this example, we will do the following:

1. Create a database (typically a one time activity)
2. Create a table (typically a one time activity)
3. Insert values into the table
4. Retrieve the values from the table
5. Display the retrieved values as a List view

ABOUT ME

B **Sai Geetha**
Bangalore, Karnataka, India

I am a solution designer as well as

6. Delete all the records from the table before closing the connection to the database

Step 1: Create a database:

```
sampleDB =  this.openOrCreateDatabase(SAMPLE_DB_NAME, MODE_PRIVATE, null);
```

This opens a database defined in the constant SAMPLE_DB_NAME, if it already exists. Else it creates a database and opens it. The second parameter is operating mode : MODE_PRIVATE meaning it is accessible to only this context. The other modes are and MODE_WORLD_WRITABLE. MODE_WORLD_READABLE

Step 2: Create a Table:

```
sampleDB.execSQL("CREATE TABLE IF NOT EXISTS " +
                    SAMPLE_TABLE_NAME +
                    " (LastName VARCHAR, FirstName VARCHAR," +
                    " Country VARCHAR, Age INT(3));");
```

Step 3: Insert values into the table:

```
sampleDB.execSQL("INSERT INTO " +
                    SAMPLE_TABLE_NAME +
                    " Values ('Makam','Sai Geetha','India',25);");
```

Step 4: Retrieve values

```
Cursor c = sampleDB.rawQuery("SELECT FirstName, Age FROM " +
```
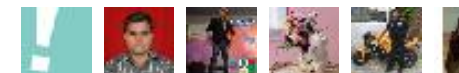
```
                        SAMPLE_TABLE_NAME +
                        " where Age > 10 LIMIT 5", null);


        if (c != null ) {
              if  (c.moveToFirst()) {
                    do {
                    String firstName = c.getString(c.getColumnIndex("FirstName"));
                    int age = c.getInt(c.getColumnIndex("Age"));
                    results.add("" + firstName + ",Age: " + age);
                    }while (c.moveToNext());
              }
        }
```

Step 5: Display the values as a list

```
        this.setListAdapter(new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1,results));
```

The statement displays it as a list as the class extends a `ListActivity`.

Step 6: Delete the values from the table in the finally part of the try block

```
finally {
        if (sampleDB != null)
              sampleDB.execSQL("DELETE FROM " + SAMPLE_TABLE_NAME);
              sampleDB.close();
        }
```

It is as simple as this to work with the SQLite DB even in android. No different from a desktop application. However, there are various overloaded methods of `query()` provided by the SQLIteDatabase class which can be more optimally used instead of `execSQL`.

There was an error in this gadget

The complete code for this example is downloadable here.

Posted by Sai Geetha at 12:51 PM

M B t f g +1   +10 Recommend this on Google

Labels: Android, Android Basics, Android Examples, Content Provider, Data Storage, Developer Tutorial,

SQLIte DB

Reactions: ☐ informative (2)   ☐ just what i wanted (6)   ☐ cool (2)

74 comments:

A Programmer March 22, 2010 6:23 PM

Hi,

Really your tutorial helps me lot..
But DELETE query not working for me. No error. Please post tutorial for updating the row.

Reply

A Programmer March 25, 2010 2:52 PM

Any luck on Delete Query?

Reply

Sai Geetha 🖊 March 25, 2010 4:54 PM

Can you please give more details about what are you trying to do in your delete query? Is it just the tutorial sample code?
Which version of SDK are you using?

Reply

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Anonymous June 10, 2010 2:50 PM

hi,
when i run this sqlitedbsample it is giving errors.

Reply

Nezir June 14, 2010 1:41 AM

Hi Sai I am an android & java beginner I just start to learn android programming and found your blog . You write this database sample very clear and when I start your downloaded project it work very well but now I create new project and try to copy your code and I had a problem with this line of code

" this.setListAdapter(new ArrayAdapter(this, android.R.layout.simple_list_item_1,results));"

Error :"The method setListAdapter(ArrayAdapter) is undefined for the type create"

It's look like method in C# but I can found it in your project .

Where do I mistake ???

Reply

▼ Replies

Dante April 13, 2012 4:21 AM

I had a similiar error on a different project
I solved the error by passing YourActivity.this in the argument of ArrayAdapter

RUCHIT SHAH September 5, 2012 6:29 PM

DOES YOUR ACTIVTY EXTENDS THE LIST ACTIVITY????

CHECK   THIS   ALSO:-http://stackoverflow.com/questions/3033791/the-method-

setlistadapterarrayadapter-is-undefined-for-the-type-create.

Reply

Anonymous June 22, 2010 12:59 PM

Hi Geetha,

Thanks a lot for such a well written blog and it has helped me a lot to get start with android. I was following this DB sample project of yours and wondering... what modifications should I make into your program to insert values into the DB which I capture through edittext widgets? Or in other words how can I capture values from a form and add them to my database? Looking forward for a reply.

Thanks

Reply

Anonymous June 30, 2010 6:03 PM

never mind... got it working. wrote a method like this

```
public void handleDataBase(String username, String email, String mobNum,
String password, String country, String remember) {
remember = "false";
SQLiteDatabase sampleDB = null;
try {
sampleDB = this.openOrCreateDatabase(SAMPLE_DB_NAME, MODE_WORLD_READABLE,
null);

sampleDB.execSQL("INSERT INTO " + SAMPLE_TABLE_NAME + " Values ('"
+ username + "','" + email + "','" + mobNum + "','"
+ password + "','" + country + "','" + remember + "');");

Cursor c = sampleDB.rawQuery("SELECT * FROM " +
```

```
SAMPLE_TABLE_NAME , null);
if (c != null ) {
if (c.moveToFirst()) {
do {
String name = c.getString(c.getColumnIndex("UserName"));
System.out.println("Name ----- "+ name);
}while (c.moveToNext());
}
}

} catch (SQLiteException se) {
Log.e(getClass().getSimpleName(),
"Could not create or Open the database");
}
finally {
if (sampleDB != null)
sampleDB.close();
}
}
```

Reply

John July 20, 2010 3:41 PM

2 things, First... In your delete Query you don't specify WHAT to delete... I think it should read

```
finally {
if (sampleDB != null)
sampleDB.execSQL("DELETE * FROM " + SAMPLE_TABLE_NAME);
sampleDB.close();
}
```
you forgot to put a "*" to signify "all" from the database table between delete and from...

Secondly... the line

this.setListAdapter(new ArrayAdapter(this, android.R.layout.simple_list_item_1,results))

should actually read

this.setListAdapter = new ArrayAdapter(this, android.R.layout.simple_list_item_1,results);

Reply

Sai Geetha 🖉 August 2, 2010 3:50 PM

Hi John,

DELETE FROM TABLE and DELETE * FROM TABLE are both acceptable ways of doing the same thing.

The same with your second comment too. I hope you realize that my program s executing the way it is intended to. So, at least for that reason, they are not wrong syntactically

Reply

Anonymous September 14, 2010 11:21 AM

Hi Geetha ,
Really your tutorail helps me lot..
I'm new to the android , I have the EditText followed by save button in (Settings.java) when click on save button the text has to be saved and the same thing has to be retrieved when click on send button (send.java).How can i do dat.Pls help me..

Reply

ravi September 27, 2010 3:20 PM

hi Geeta, yout docementation is good and also i used your code its works fine, and i need one thing how can i retrieve the stored EditText from DB, can u privide the sample code for it...

Reply

ravi September 27, 2010 4:50 PM

Hi Geetha , here is my code i'm unable to retreive the data from the DB can u help me please.....
http://pastebin.com/8vcKcwwE
http://pastebin.com/kHhp1bP6
http://pastebin.com/q9UAKrUJ

Reply

Gopal October 13, 2010 3:32 AM

Hai Geetha

I am new to android this example easily explain the db concepts in Android

Can you explain how to open the new page on button clicking

Reply

deore.pramod October 18, 2010 1:47 PM

It is really short and sweet tutorial. It really helps me a lot.
Keep posting

Reply

Anonymous October 19, 2010 5:11 PM

hi sai,
how can i create sqlite database in my android first time?
u r example explains about existing database.

Reply

urmila October 19, 2010 5:13 PM

hi sai,

how can i create sqlite database in my android first time?
u r example explains about existing database.

Reply

general suggestions October 23, 2010 8:45 AM

It is really Appreciable Geetha, this Blog is really good work put up by you for sharing. Also i would like to thank you for this.

Reply

Anonymous December 6, 2010 9:02 PM

HELLO MADAM,
THANK-YOU FOR PROVIDING
PERFECT DATABASE EXAMPLE
FROM PAST SEVERAL DAYS I
WAS TRYING TO WORK AROUND
DATABASE & ANDROID,BUT
WAS GETTING CONFUSED,UNTIL I FOUND YOUR HELPFUL BLOG
RAHUL SHAH(PUNE)

Reply

Anonymous December 7, 2010 10:28 AM

hai Geetha, Thanks .Ur tutorial was really helpful. Its working for me.
Now please explain how can we create a new sqlite database.Pls explain where the database is stored physically .

Reply

VS December 7, 2010 10:35 AM

Hi Geetha

In my program i want to enter a value in an edit box,and on clicking the submit button this value should be stored in the database.how can i do this.expecting a fast reply.thanks

Reply

Anonymous December 7, 2010 11:42 AM

Hi Sai, I followed ur tutorial,which looks very useful.but when i did the same code in a new project it is not running even though there is no errors.how can i solve this

Reply

harish December 11, 2010 4:17 PM

Hi i am very new to the database, Can you please tell me where will the database be stored once its created. I couldnot find where its created. Please help.!!But it works fine

Reply

Anonymous December 13, 2010 3:16 PM

How to insert data into database after retrieving it from edittext.

Reply

Anonymous December 13, 2010 3:17 PM

how to insert data from edittext into database

Reply

bhynte December 24, 2010 9:50 AM

thaks for your tutorial miss...

Reply

bhynte December 24, 2010 9:51 AM

thanks for your tutorial miss...

Reply

Sai Geetha January 12, 2011 3:48 PM

Hi Anon - who asked about edit text - you would need to extract the text from an EditText Dialog using its getTExt() method - store it in a local variable - and construct a dynamic SQL query using those variable for insertion into the DB

Reply

Sai Geetha January 12, 2011 3:54 PM

Hi HArish,

The database is created in the specific application folder. In my example, it is in /data/data/com.collabera.labs.sai.db/databases/myFriendsDb
To view this in Eclipse, you must view through the DDMS perspective

Reply

Anonymous January 31, 2011 10:27 AM

Best and easiest guide I have seen yet, thank you thank you thank you!

Reply

Anonymous January 31, 2011 3:59 PM

hi sai geetha, ur tutorials are very helpfull bt im nt able to solve a bug while retriving a particular record in database. the code is below plzzz help.

Cursor c=Main.db.rawQuery("SELECT * FROM details", null);

```
if (c != null ) {
c.moveToFirst();
do {
String firstName = c.getString(0);
String pass = c.getString(1);



if(firstName.equals("harish")){
Intent welcome = new Intent();
welcome.setClass(Main.this, Welcome.class);
startActivity(welcome);

}



}while (c.moveToNext());
}


}

} );
```

TheCottonSilk February 7, 2011 11:39 AM

Hello Sai Geetha,

First, thank you for a simple and all-covered SQLite tutorial!

I would like to take this learning to next level by creating a small app where I can do all this dynamically, except for DB creation - which I want do it during onCreate().

My requirements: Separate UI
1. To insert records

2. To viewing DB records (simple first 10 records)
3. To delete DB record/s (simple - accept first, last name and age and delete) .

Can you please suggest the approach to go about? I am asking w.r.t. design perspective (and not code!).

Reply

Anonymous February 8, 2011 3:37 PM

hai geetha your tutorials are very helpful to me .thanks for you................ARUN,HYD

Reply

abg February 8, 2011 3:56 PM

hai geetha please explain this meaning:

" where Age > 10 LIMIT 5"

Reply

Sai Geetha February 8, 2011 4:02 PM

Hi Abg,

This is a way of paginating the results. If the number of records with AGE > 10 are large in number, this is going to get you only 5 records at a time.

Reply

Sainath February 18, 2011 8:21 PM

Hello mam,
I am Android beginner and I want to store List in database my list is hardcoded. and on the click event the list would be store in DB and after clicking on button "OK" I wan to see my selected list. Please help.

[Reply](#)

Maidul February 28, 2011 10:05 AM

Hello Mam,

I use dbhelper class to store data in sqlite database.when system is rebooting I want to access these data without opening my project??I want to use APpservice class??so how can I use these data in Appservice/wakefullIntentService class.Is there any concept like jdbc?? Mam can u help me ???

[Reply](#)

Maidul February 28, 2011 1:14 PM

mam How should I connect to jdbc using sqlite.

Class.forName("android.database.sqlite.JDBC");
Connection conn =
DriverManager.getConnection("jdbc:sqlite:Eventsdb","","");
Statement stat = conn.createStatement();
System.out.println("conn success");
conn.close();
System.out.println("conn close");

when I am connecting using above code I got below error

02-28   13:07:48.514:   WARN/System.err(281):   java.lang.ClassNotFoundException:
android.database.sqlite.JDBC
02-28 13:07:48.533: WARN/System.err(281): at java.lang.Class.classForName(Native Method)
02-28 13:07:48.533: WARN/System.err(281): at java.lang.Class.forName(Class.java:235)
02-28 13:07:48.543: WARN/System.err(281): at java.lang.Class.forName(Class.java:182)
02-28   13:07:48.543:   WARN/System.err(281):   at
com.gallait.AlarmManager.AppService.doWakefulWork(AppService.java:38)
02-28   13:07:48.556:   WARN/System.err(281):   at

com.gallait.AlarmManager.WakefulIntentService.onHandleIntent(WakefulIntentService.java:81)
02-28   13:07:48.563:   WARN/System.err(281):   at
android.app.IntentService$ServiceHandler.handleMessage(IntentService.java:59)
02-28   13:07:48.573:   WARN/System.err(281):   at
android.os.Handler.dispatchMessage(Handler.java:99)
02-28 13:07:48.573: WARN/System.err(281): at android.os.Looper.loop(Looper.java:123)
02-28   13:07:48.573:   WARN/System.err(281):   at
android.os.HandlerThread.run(HandlerThread.java:60)
02-28 13:07:48.583: WARN/System.err(281): Caused by: java.lang.NoClassDefFoundError:
android.database.sqlite.JDBC

please help me out from this error.

Reply

Anonymous March 17, 2011 12:25 PM

Nice DataBase Tutorial..!

[Divyaraj Rana]
[Ahmedabad,India]
[9998510918]

Reply

guna March 19, 2011 12:12 AM

Madam, is it possible to add two tables using foreign key constraint in sqlite.Kindly give one
example for that

Reply

aditya prakash April 15, 2011 3:36 PM

Hi,
I copied and paste the code but it is giving run time error.Please tell me why it could be and if there
any additional work to be done..

Reply

ravi April 19, 2011 11:26 AM

how can i set the user value in the sqlite database using android

Reply

ravi April 19, 2011 11:29 AM

db.execSQL("CREATE TABLE IF NOT EXISTS " + DeviceType + "(Id INTEGER PRIMARY KEY AUTOINCREMENT," + "DeviceTypeName VARCHAR);");
db.execSQL("CREATE TABLE IF NOT EXISTS " + AlertType + "(Id INTEGER PRIMARY KEY AUTOINCREMENT," + "AlertName VARCHAR);");
db.execSQL("CREATE TABLE IF NOT EXISTS " + Alert + "(Id INTEGER PRIMARY KEY AUTOINCREMENT," + "AlertTypeId Int(3)," + "AlertTypeName VARCHAR);");
db.execSQL("CREATE TABLE IF NOT EXISTS " + Device + "(Id INTEGER PRIMARY KEY AUTOINCREMENT," + "DeviceTypeId Int(3)," + "DeviceTypeName VARCHAR," + "DeviceName VARCHAR," + "MacAddress VARCHAR);");
db.execSQL("CREATE TABLE IF NOT EXISTS " + Configuration + "(Id INTEGER PRIMARY KEY AUTOINCREMENT," + "DeviceId Int(3)," + "DeviceName VARCHAR," + "AlertId Int(3)," + "AlertTypeName VARCHAR," + "ScanDuration INT(3)," + "MailId VARCHAR);");

in the above code the foreign key is not genreted pls solve the problem

Reply

Anonymous April 23, 2011 3:57 PM

like it !!

Reply

Anonymous April 26, 2011 7:30 AM

Hello Sai,
Works fine in emulator but creating the query forces app closed on HTC Desire. Is there something I am doing wrong which is obvious?
Thanks

Kevin

Reply

amrit May 11, 2011 10:57 AM

Hello Sai Geetha.

this blog really help me alot.
can you please tell me.
from we get resource to learn java for android

Reply

Anonymous June 5, 2011 5:55 PM

hi ma'm...nice one

i am beginner for android ......
i want to know how do? add/edit/delete to database using php/mysql......android emulator must show all this button..... once we click button .....it must be work how to do that? ......i try many way ....but i could not do that.....pls help me .....

thank you .....

Reply

Vikram June 22, 2011 2:58 PM

Thanks for ur nice blog and it really helpful for getting idea.

If you have also blog for android app plz give link of all that.
Thanks.

Reply

nik July 8, 2011 4:18 PM

can you help me on this?
http://stackoverflow.com/questions/6532303/problem-to-load-swf-file-in-android

Reply

Anonymous July 26, 2011 2:54 PM

Hi Geetha,
I would like to know how and in what format do I store image in SQLite?

Thanks

Reply

Keerthy September 24, 2011 10:54 AM

can use this example for uploading the image to the table http://android-codes-examples.blogspot.com/2011/09/image-and-content-is-populated-from.html

Reply

sathish November 24, 2011 6:19 PM

Hi Sai Geetha,

Thanks for posting more useful android content for learning.

I have followed the same as you had done in the above blog for SQLite data base creation and querying the data in order.
But i am unable to get the data in order even after using ORDER BY also. can you please let me

know any other things i need to maintain to get the ordered data from the tables.
It is very helpful for me if you provide some examples on this topic.

Thanks in andvance.

Sathish.

Reply

Arun Kumar December 5, 2011 7:33 PM

i try to execute the sample code. i face error.
is any problem by using ListActivity

Reply

Anonymous January 3, 2012 12:27 AM

nyc blog.. itz very help for db .but i have one problem data not inserted to edit box on submit
button..can any one help

Reply

▼ Replies

naren113 June 5, 2012 6:39 PM

```
public void addRow(String rowStringOne, String rowStringTwo,String rowStringthree,
String rowStringfour,String rowStringfive)
{
// this is a key value pair holder used by android's SQLite functions
ContentValues values = new ContentValues();
values.put(TABLE_ROW_ONE, rowStringOne);
values.put(TABLE_ROW_TWO, rowStringTwo);
values.put(TABLE_ROW_THREE, rowStringthree);
values.put(TABLE_ROW_FOUR, rowStringfour);
values.put(TABLE_ROW_FIVE, rowStringfive);
db.insert(TABLE_NAME, null, values);
```

```
// ask the database object to insert the new data
try{

// System.out.println(values);
}
catch(Exception e)
{
Log.e("DB ERROR", e.toString());
e.printStackTrace();
}
}
```

Reply

Anonymous February 1, 2012 1:40 PM

Thanks....

Reply

Anonymous March 12, 2012 1:56 PM

This is very use full for beginner,
Thanks

Reply

Anonymous March 19, 2012 12:18 AM

hi i want a sqlite query using query() method to retrive a rows from table using multiple where clause using "?"

for eg:i want to retrive rows based on the string in 1 of the column name and also according to the

category at the same time

Reply

Anonymous March 24, 2012 4:50 PM

hi geetha :
Im FACING a prob with "like" statement in sqlite.. since couple of days..
My code is char a[]=String.toCharArray();
Cursor c2=db2.query("addingjobsdetails",column,"Jobname"+"like"+"'%a[0]'",null,null,null,null);
HERE a[0]..is as per user ..eg: T,G,J..etc.
Could u plz explain this..

Reply

KKOjha March 24, 2012 8:56 PM

Hi Sai... your blogs are amazing...

I am new to Android and have a question... What is a context? And, more importantly, why at all is it required to be passes?

Krishna Kant Ojha

Reply

aidi001 April 17, 2012 9:51 PM

thaaaaaaaaaaanks very simple code I like :)))))

Reply

Anonymous April 19, 2012 6:36 PM

mam, your blogs always rock, mam its too easy to understand. mam please put some another example on some advance issues like GPS, Sensors, wi-fi and Blue-tooth.

Reply

Unknown May 6, 2012 2:50 PM

mam, i need a Database which contains Images and the same want to copy(in Application) and display in my application... i tried but while opening database i am getting error code=14. please help me to solve this problem.....

Reply

Rui Paiva Monteiro June 1, 2012 3:15 PM

Is it possible this example to work with a database created with sqlite and in the assets folder ?

Reply

▼ Replies

Rui Paiva Monteiro June 1, 2012 8:33 PM

Ok i think your answer is in here http://saigeethamn.blogspot.pt/search?updated-max=2011-02-18T15:44:00%2B05:30&max-results=2&start=10&by-date=false

Thanks

Reply

Anonymous June 2, 2012 10:27 PM

two thumbs up, thanks! a lot, healed me heaps.

Reply

Fredrick Russell June 12, 2012 6:46 PM

I like your post and also inspired to arrive daily to get new latest and new technique of codding

part..Thanks

IT services Orange County

Reply

Him_Android August 6, 2012 5:01 PM

Hello Mam,
I am developing an application in which i have use BroadCastReceiver Class to receive incoming number when someone call to me, now i will get the incoming number through onReceive() method. Now i want to compare the incoming number with records of my database table inwhich i have allready save the phonbook contact......but i have problem to call database in my BroadCastReceiver class.
In BroadCastReceiver Class when i make object of DBAdapter Class and make cursor to get data one by one it throws nullpointerException.

Please mam help me..............i m waiting for your reply ....

Thank you in andvance............

Reply

Anonymous August 9, 2012 12:40 AM

What a nice tutorial is this REALLY !!

Thanks a lot dear!!

Reply

shishir vaidya September 4, 2012 4:33 AM

Thanks a lot, it saved me from a lot of complex code that i used earlier

Reply

Anonymous September 5, 2012 11:45 AM

Thanks buddy for such a nice tutorial.................

Reply

Anonymous October 25, 2012 10:00 AM

heyyy

can u please provide me an example of panning in android, i want my canvas to move from left to right automatically without any click.

please help asap

Reply

Anonymous November 13, 2012 1:01 PM

hi
thanks for blog
how can we see the data stored in file explorer

Reply

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Comment as: Select profile...

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