SQL Lite

Tushar B. Kute,
http://tusharkute.com

SQL Lite

- SQLite is a opensource SQL database that stores data to a text file on a device. Android comes in with built in SQLite database implementation.
- SQLite supports all the relational database features. In order to access this database, you don't need to establish any kind of connections for it like JDBC,ODBC e.t.c
- Database - Package
  - The main package is android.database.sqlite that contains the classes to manage your own databases

Database Creation

- In order to create a database you just need to call this method openOrCreateDatabase with your database name and mode as a parameter. It returns an instance of SQLite database which you have to receive in your own object. Its syntax is given below:

```
SQLiteDatabase mydatabase =
openOrCreateDatabase("your database
name",MODE_PRIVATE,null);
```

- Apart from this , there are other functions available in the database package , that does this job.

Database functions

- `openDatabase(String path, SQLiteDatabase.CursorFactory factory, int flags, DatabaseErrorHandler errorHandler)`
  - This method only opens the existing database with the appropriate flag mode. The common flags mode could be OPEN_READWRITE OPEN_READONLY
- `openDatabase(String path, SQLiteDatabase.CursorFactory factory, int flags)`
  - It is similar to the above method as it also opens the existing database but it does not define any handler to handle the errors of databases

Database functions

- `openOrCreateDatabase(String path, SQLiteDatabase.CursorFactory factory)`
  - It not only opens but create the database if it not exists. This method is equivalent to openDatabase method.
- `openOrCreateDatabase(File file, SQLiteDatabase.CursorFactory factory)`
  - This method is similar to above method but it takes the File object as a path rather then a string. It is equivalent to file.getPath()

Database Insertion

- We can create table or insert data into table using execSQL method defined in SQLiteDatabase class. Its syntax is given below:

```
mydatabase.execSQL("CREATE TABLE IF NOT EXISTS 
TutorialsPoint(Username VARCHAR,Password VARCHAR);");
```

```
mydatabase.execSQL("INSERT INTO TutorialsPoint 
VALUES('admin','admin');");
```

- This will insert some values into our table in our database. Another method that also does the same job but take some additional parameter is given below
- `execSQL(String sql, Object[] bindArgs)`
  - This method not only insert data , but also used to update or modify already existing data in database using bind arguments

Database Insertion

- We can retrieve anything from database using an object of the Cursor class. We will call a method of this class called rawQuery and it will return a resultset with the cursor pointing to the table.
- We can move the cursor forward and retrieve the data.

```
Cursor resultSet = mydatbase.rawQuery("Select
* from mitu",null);
resultSet.moveToFirst();
String username = resultSet.getString(0);
String password = resultSet.getString(1);
```

- There are other functions available in the Cursor class that allows us to effectively retrieve the data.

The DBHelper class

- For managing all the operations related to the database , an helper class has been given and is called SQLiteOpenHelper. It automatically manages the creation and update of the database. Its syntax is given below

```
public class DBHelper extends SQLiteOpenHelper {
   public DBHelper(){
      super(context,DATABASE_NAME,null,1);
   }
   public void onCreate(SQLiteDatabase db) {}
   public void onUpgrade(SQLiteDatabase 
database, int oldVersion, int newVersion) {}
}
```

Example:

- DB.java

Thank you

Web Resources
http://mitu.co.in
http://tusharkute.com

Blogs
http://digitallocha.blogspot.in
http://kyamputar.blogspot.in

tushar@tusharkute.com