

Getting Started with SQLite3

CMPUT 391

Which version of SQLite should I use?

To complete the coding assignments you will need a recent version (e.g., 3.1 and above).

In the lab machines, version 3.15 can be run as:

```
> /usr/local/bin/sqlite3
```

```
SQLite version 3.15.1 2016-11-04 12:08:49
```

Depending on your PATH settings, just running `sqlite3` might lead you to an older version (which is there for a host of good reasons).



Compiling SQLite3

To complete the tasks in the lab units that do not involve programming, you may use the SQLite3 (v3.15) already installed in the lab machines
(`/usr/local/bin/sqlite3`)

To get SQLite3 on your own computer, and also for completing the lab exams that require coding, you will need to compile SQLite yourself on your CSID account or on your own computer.

Before you start: get **gcc** and **libreadline**

No need to complete these steps on the lab machines

On ubuntu

```
% sudo apt-get install gcc  
% sudo apt-get install libreadline-dev
```

On OS X you can install XCode (which comes with an IDE) or just the command line development tools (e.g., by running gcc from terminal and following the instructions).

Either way, gcc and libreadline get installed.

How to Compile SQLite

- Download the source code from:
<https://www.sqlite.org/2016/sqlite-src-3140100.zip>
- `./configure --disable-tcl --enable-debug`
 - It does amalgamation!
- `make`
- You should see the following files on the directory:
 - `sqlite3.c` → source code of all of sqlite3
 - `sqlite3.h` → header file for all of sqlite3
 - `sqlite3` → binary executable

Use the SQLite3 you've downloaded

In (some) ubuntu and in OSX, sqlite comes already installed

Reminder from 201:

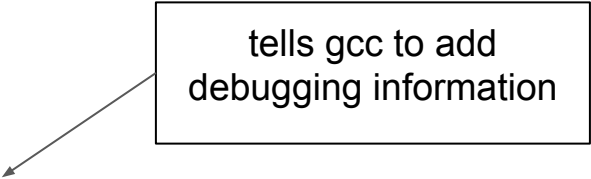
the ``which sqlite3`` command tells you where the default one is

Make sure to always run the one you've downloaded and compiled

always ``cd`` into that directory and run `./sqlite3`

How to Compile Your Code with SQLite3

Go to the folder where you have sqlite3.c and sqlite3.h



tells gcc to add
debugging information

```
gcc -g <filename>.c sqlite3.c -lpthread -ldl
```

You should get a binary executable file called **a.out**

SQLite built-in commands

At a shell prompt, enter: "**sqlite3 mydb.sql**".

- This will create a new empty database named "mydb.sql".

```
$ sqlite3 mydb.sql  
SQLite version 3.13.0 2016-05-18 10:57:30  
Enter ".help" for usage hints.  
sqlite>
```

Enter .help to see all SQLite built-in commands

Create a new Database

```
sqlite> create table mytable(id int, name text, score double);  
sqlite> .schema mytable  
CREATE TABLE mytable(id int, name text, score double);  
sqlite> insert into mytable values (1001, "Elaine", 3.9);  
sqlite> insert into mytable values (1002, "Jerry", 3.5);  
sqlite> .mode tabs  
sqlite> select * from mytable;  
1001 Elaine      3.9  
1002 Jerry       3.5  
sqlite>
```

Next

Programming with SQLite

We will cover C, but SQLite supports other languages too