

A Brief Manual for SQLite

Download SQLite

Link: <http://www.sqlite.org/download.html>

Download **Precompiled Binaries** for your OS (e.g., Windows) and unzip the package

Precompiled Binaries for Linux

[sqlite-shell-linux-x86-3080200.zip](#) (335.40 KiB) A [command-line shell](#) for accessing (sha1: 4530766c70e1c472f3163fd5)

[sqlite-analyzer-linux-x86-3080200.zip](#) (282.65 KiB) An analysis program for database (sha1: 6fde1862dcf28744ee1bca93)

Precompiled Binaries for Mac OS X (x86)

[sqlite-shell-osx-x86-3080200.zip](#) (348.67 KiB) A [command-line shell](#) for accessing (sha1: 32aea883a5f6ad88a16e26f1)

[sqlite-analyzer-osx-x86-3080200.zip](#) (810.99 KiB) An analysis program for database (sha1: a1caaf8ed02be3d178945161)

Precompiled Binaries for Windows

[sqlite-shell-win32-x86-3080200.zip](#) (285.50 KiB) A [command-line shell](#) for accessing (sha1: 90bf1c653a3bf9363f88423d)

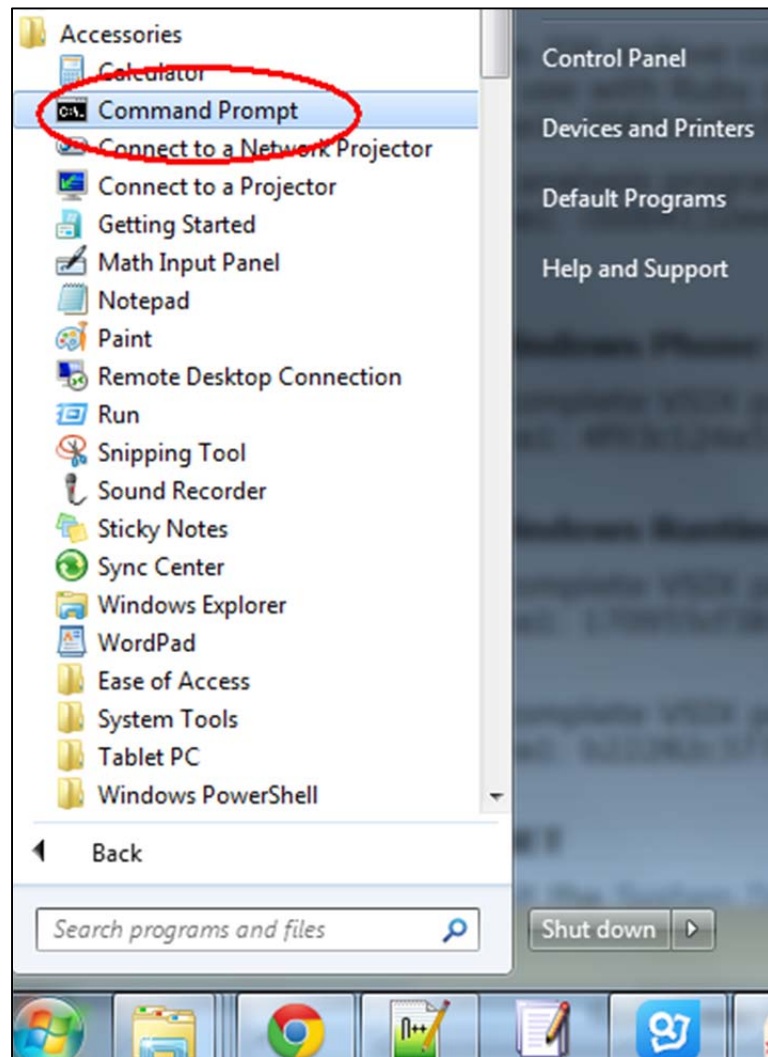
[sqlite-dll-win32-x86-3080200.zip](#) (320.26 KiB) This ZIP archive contains a DLL for use with Ruby on Rails. (sha1: 3583caa55518d68e92c96fef)

[sqlite-analyzer-win32-x86-3080200.zip](#) (677.28 KiB) An analysis program for database (sha1: cb0b4132ee20981f0ee09e2)

Create a database using SQLite

1. Open command line

Start->Accessories->Command Prompt



2. Find the location of SQLite executable file

Use disk label and 'cd' command to get into the correct directory.

(The snapshot shows that the SQLite file is located in directory sqlite-shell-win32-x86-3080200 of Disk d in this example)

```
C:\> Command Prompt

Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\workshop>D:

D:\>cd D:\sqlite-shell-win32-x86-3080200

D:\sqlite-shell-win32-x86-3080200>
```

3. Create a database named cs2102
Command: sqlite3 yourdatabasename.db

```
C:\> Command Prompt - sqlite3 cs2102.db

Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\workshop>d:

D:\>cd sqlite-shell-win32-x86-3080200

D:\sqlite-shell-win32-x86-3080200>sqlite3 cs2102.db
SQLite version 3.8.2 2013-12-06 14:53:30
Enter ".help" for instructions
Enter SQL statements terminated with a ";"
sqlite>
```

Create tables

Similar to Oracle

```

D:\sqlite-shell-win32-x86-3080200>sqlite3 cs2102.db
SQLite version 3.8.2 2013-12-06 14:53:30
Enter ".help" for instructions
Enter SQL statements terminated with a ";"
sqlite> CREATE TABLE book <
...> title VARCHAR(256) NOT NULL,
...> format CHAR(9) CHECK(format = 'paperback' OR format='hardcover'),
...> pages INT,
...> language VARCHAR(32),
...> authors VARCHAR(256),
...> publisher VARCHAR(64),
...> year DATE,
...> ISBN10 CHAR(10) NOT NULL UNIQUE,
...> ISBN13 CHAR(14) PRIMARY KEY
...> >;
sqlite> =

```

```

...> >;
sqlite> CREATE TABLE student <
...> name VARCHAR(32) NOT NULL,
...> email VARCHAR(256) PRIMARY KEY,
...> year DATE NOT NULL,
...> faculty VARCHAR(62) NOT NULL,
...> department VARCHAR(32) NOT NULL,
...> graduate DATE,
...> CHECK(graduate >= year)
...> >;
sqlite>

```

Show created tables

Command: .tables

```

...> graduate DATE,
...> CHECK(graduate >= year)
...> >;
sqlite>
sqlite>
sqlite> .tables
book      student
sqlite>
sqlite>
sqlite>
sqlite>

```

Show table definition

Command: .schema table name

```

sqlite>
sqlite> .schema copy
CREATE TABLE copy (
owner VARCHAR(256) REFERENCES student(email) ON DELETE CASCADE,
book CHAR(14) REFERENCES book(ISBN13),
copy INT CHECK(copy>0),
available VARCHAR(6) CHECK(available = 'TRUE' OR available='FALSE'),
PRIMARY KEY (owner, book, copy)
);
sqlite>

```

Insert data into tables

Similar to Oracle

```

sqlite>
sqlite>
sqlite> Insert into BOOK (TITLE,FORMAT,PAGES,LANGUAGE,AUTHORS,PUBLISHER,YEAR,ISBN10,ISBN13) values ('The Digital Photography Book','paperback',219,'English','Scott Kelby','Peachpit Press','2006-01-01','032147404X','978-0321474049');
sqlite> _

```

```

sqlite>
sqlite> Insert into STUDENT (NAME,EMAIL,YEAR,FACULTY,DEPARTMENT,GRADUATE) values ('HUANG ZHANPENG','huangzhanpeng1992@msn.com','2010-08-01','Faculty of Arts and Social Science','Geography',null);
sqlite> Insert into STUDENT (NAME,EMAIL,YEAR,FACULTY,DEPARTMENT,GRADUATE) values ('ZHENG ZHEMIN','zhengzhemin1991@yahoo.com','2008-08-01','Faculty of Arts and Social Science','History',null);
sqlite>
sqlite>

```

Select information from tables

Similar to Oracle

```

sqlite>
sqlite>
sqlite> SELECT NAME,EMAIL,YEAR FROM STUDENT;
HUANG ZHANPENG|huangzhanpeng1992@msn.com|2010-08-01
ZHENG ZHEMIN|zhengzhemin1991@yahoo.com|2008-08-01
sqlite>
sqlite>

```

Change output format

Command:

.mode column shows the column output mode

.headers on show column headers

```
sqlite>
sqlite> .mode column
sqlite> .headers on
sqlite> SELECT NAME,EMAIL,YEAR FROM STUDENT;
name          email          year
-----
HUANG ZHANPENG  huangzhanpeng1992@msn.com  2010-08-01
ZHENG ZHEMIN    zhengzhemin1991@yahoo.com  2008-08-01
sqlite> _
```

Delete tuples in tables

Similar to Oracle

```
sqlite>
sqlite> DELETE from STUDENT WHERE NAME='ZHENG ZHEMIN';
sqlite>
sqlite> SELECT NAME,EMAIL,YEAR FROM STUDENT;
HUANG ZHANPENG:huangzhanpeng1992@msn.com:2010-08-01
sqlite>
sqlite>
sqlite>
```

Update values in tuples

Similar to Oracle

```
sqlite>
sqlite>
sqlite>
sqlite> UPDATE STUDENT SET YEAR='2010-01-08' WHERE NAME='HUANG ZHANPENG';
sqlite> SELECT NAME,EMAIL,YEAR FROM STUDENT;
HUANG ZHANPENG:huangzhanpeng1992@msn.com:2010-01-08
sqlite> _
```

Enable Foreign Key constraint

In SQLite, foreign key constraints are disabled by default. To enable it, use the following command:

```
PRAGMA foreign_keys = ON;
```

To know whether the foreign key constraint is enabled or not, use command:

```
PRAGMA foreign_keys;
```

Value 0 represents disabled; value 1 represents enabled

```
sqlite>
sqlite> PRAGMA foreign_keys;
0
sqlite>
sqlite>
```

```
sqlite>
sqlite>
sqlite> PRAGMA foreign_keys = ON;
sqlite>
sqlite> PRAGMA foreign_keys;
1
sqlite>
```

```
sqlite>
sqlite>
sqlite> Insert into COPY (OWNER,BOOK,COPY,AVAILABLE) values ('tsohuilin1989@msn.
com','978-1449389673',1,'TRUE');
Error: FOREIGN KEY constraint failed
sqlite>
```

Drop tables

Similar to Oracle

```
sqlite>
sqlite> Drop table book;
sqlite>
sqlite>
sqlite>
sqlite> .tables
copy      student
sqlite>
```

Close database

Command: .exit

```
sqlite>
sqlite>
sqlite>
sqlite>
sqlite> .exit

D:\sqlite-shell-win32-x86-3080200>
```