
Subject: SQLite and foreign keys
Posted by [wimpie](#) on Thu, 17 Oct 2013 00:28:35 GMT
[View Forum Message](#) <> [Reply to Message](#)

Hello,

I am using SQLite, with a Schema with a few tables with references and I noticed I could delete rows in one table which were used in another.
After some digging I noticed in Sqlite3Schema.h the REFERENCES*** macro's are not defined.

First I wondered why, but after reading Sqlite doc's I think it's because it doesn't allow adding constraints to an existing table. Am I right?

But, it does allow it when creating the column, so I changed this in Sqlite3Schema.h:

```
#define REFERENCES(x)          INLINE_ATTRIBUTE("references " #x)
```

And as far as I can see, this works. I think it can also work with CASCADE ("references " #x " on delete cascade") but I did not test that.

But it seems not to be the perfect solution because I can't reference TABLE.COLUMN; Sqlite gives error on the ".". it needs TABLE(COLUMN) to work.

This can be put in the schema also like

```
TABLE (TEST)
  INT (ID) PRIMARY_KEY
  INT (KEY1) REFERENCES(SIMPLE_TEST1(ID))
END_TABLE
```

but I guess this is not portable with other SQL engines?

Can someone please comment on this?

Subject: Re: SQLite and foreign keys
Posted by [chickenk](#) on Thu, 17 Oct 2013 08:13:34 GMT
[View Forum Message](#) <> [Reply to Message](#)

it seems that REFERENCES TABLE(COLUMN) is a portable construct:
http://www.w3schools.com/sql/sql_foreignkey.asp

Subject: Re: SQLite and foreign keys
Posted by [chickenk](#) on Thu, 17 Oct 2013 08:20:21 GMT
[View Forum Message](#) <> [Reply to Message](#)

Another note: foreign keys in sqlite3 are deactivated by default.

To have them enabled by default, one should define the CPP macro `SQLITE_DEFAULT_FOREIGN_KEYS`, see line 112284 of `uppsrc/plugin/sqlite3/lib/sqlite3.c`.

I use `sqlite3` at work outside of U++, and my own solution is the following code (because I use a precompiled `sqlite3` library), but I suppose defining `SQLITE_DEFAULT_FOREIGN_KEYS` is equivalent:

```
int fkey_support;
int sqlRet = sqlite3_open(path, &DB);
/* [...] */
if (sqlite3_db_config(DB, SQLITE_DBCONFIG_ENABLE_FKEY, 1, &fkey_support) !=
SQLITE_OK)
{
    /* handle error */
}
printf("Foreign keys support is %s.\n", fkey_support?"ON":"OFF");
```

Subject: Re: SQLite and foreign keys
Posted by [wimpie](#) on Thu, 17 Oct 2013 08:33:54 GMT
[View Forum Message](#) <> [Reply to Message](#)

chickenk wrote on Thu, 17 October 2013 10:20Another note: foreign keys in `sqlite3` are deactivated by default.

You are right; I forget to mention, I use `"PRAGMA foreign_keys = ON"` in my program.

Subject: Re: SQLite and foreign keys
Posted by [mirek](#) on Mon, 25 Nov 2013 19:05:22 GMT
[View Forum Message](#) <> [Reply to Message](#)

wimpie wrote on Wed, 16 October 2013 20:28Hello,

I am using SQLite, with a Schema with a few tables with references and I noticed I could delete rows in one table which were used in another.

After some digging I noticed in `Sqlite3Schema.h` the `REFERENCES***` macro's are not defined.

First I wondered why, but after reading `Sqlite` doc's I think it's because it doesn't allow adding constraints to an existing table. Am I right?

Actually, it is rather because nobody bothered so far to implement it

In fact, the issue is in RM for 2 years already:

<http://www.ultimatepp.org/redmine/issues/172>

I did not know there is problem with adding references later, if that is true, it really is kind of problem...

Mirek
