
Subject: Lowercase field name in table - error
Posted by [mezise](#) on Fri, 29 Jun 2012 22:51:18 GMT
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I try to use Upp with existing database where there are lowercase field names and I get "Assertion failed" error in NEVER() line:

C:\uppSVN5061\uppsrc\Sql\Sql.cpp, line 339

```
Value Sql::operator[](SqlId id) const {
    String s = ~id;
    for(int i = 0; i < cn->info.GetCount(); i++)
        if(cn->info[i].name == s)
            return operator[](i);
    NEVER(); // <---- here ----
    return Value();
}
```

To repeat error:

- revision: SVN 5061
- use package: reference/SQL_Sqlite3
- in simple.sch: change ID to id
- in simple.cpp: change all ID to id
- Execute

Subject: Re: Lowercase field name in table - error
Posted by [mirek](#) on Wed, 04 Jul 2012 13:25:22 GMT
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Should be now fixed. Anyway, the cause is that you are using lower-cased SqlIds, which is somewhat, well, unexpected; DB column names are uppercased.

Subject: Re: Lowercase field name in table - error
Posted by [mezise](#) on Thu, 05 Jul 2012 07:49:31 GMT
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Thank you for the answer.

Unfortunately the error still appears in SVN5110, and revealed a new one during compilation:

```
C:\uppSVN5110\reference\SQL_Sqlite3\simple.cpp(17) : error C2039: 'LogErrors' : is not a
member of 'Upp::Sqlite3Session'
```

C:\uppSVN5110\uppsrc\plugin/sqlite3/Sqlite3.h(19) : see declaration of 'Upp::Sqlite3Session'

After commenting

```
sqlite3.LogErrors(true);
```

lowercase field name error still appears.

PS. In sqlite and mysql worlds there are a lot of tables with lowercase field names

Subject: Re: Lowercase field name in table - error
Posted by [mirek](#) on Thu, 05 Jul 2012 08:01:46 GMT
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...but it was fixed in 5113 (With LogErrors as well).

See <http://www.ultimatepp.org/redmine/projects/upp/repository>

Mirek

Subject: Re: Lowercase field name in table - error
Posted by [mezise](#) on Thu, 05 Jul 2012 09:01:50 GMT
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Ups, sorry, I thought that last builds are on
[http://www.ultimatepp.org/www\\$suppweb\\$nightly\\$en-us.html](http://www.ultimatepp.org/www$suppweb$nightly$en-us.html)

Subject: Re: Lowercase field name in table - error
Posted by [mirek](#) on Thu, 05 Jul 2012 09:11:53 GMT
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Last builds yes, but they get build in night, not the moment I commit the change. Plus, sometimes nightly building fails...

Subject: Re: Lowercase field name in table - error
Posted by [mezise](#) on Thu, 05 Jul 2012 09:57:45 GMT
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I checked out from repository. Works like a charm. Thank you.

Subject: Re: Lowercase field name in table - error
Posted by [Sender Ghost](#) on Thu, 05 Jul 2012 16:32:25 GMT
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Hello, Mirek.

mirek wrote on Wed, 04 July 2012 15:25 Should be now fixed. Anyway, the cause is that you are using lower-cased Sqllds, which is somewhat, well, unexpected; DB column names are uppercased.

From the source code point of view, there is no problem to create case-sensitive column names, at least for SQLite. The code, which uppercase column names, is on U++ side:

```
for(int i = 0; i < cn->info.GetCount(); i++)  
    cn->info[i].name = ToUpper(cn->info[i].name);
```

Commenting such part of code removes "case-insensitive restriction" of reading column names (but not the other restrictions with the same case-insensitive characters, inside other U++ source code, e.g. id, ID).

In opposite of uppercase, I read about lowercase identifiers on MySQL documentation.

So, in conclusion, I think, it is related to various database support on U++ side, but not a real restrictions of concrete database (e.g. SQLite) or even C++ identifiers, which are case-sensitive. Therefore, "the fix" fixes the effects, but not the cause, which created by some purpose.

Subject: Re: Lowercase field name in table - error
Posted by [mezise](#) on Thu, 05 Jul 2012 17:52:17 GMT
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Even with the fix, code such:

```
ValueMap row;  
sql.Execute("SELECT COUNT(*) cnt FROM info");  
sql.Fetch(row);  
DUMP(row);
```

gives in log file:

```
row = { CNT: 12}
```

instead of:

```
row = { cnt: 12}
```

Commenting the code mentioned by Sender Ghost in <the cause> link fixes this issue, but I guess there is a reason for this code.

Subject: Re: Lowercase field name in table - error
Posted by [mirek](#) on Fri, 06 Jul 2012 07:05:54 GMT
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Sender Ghost wrote on Thu, 05 July 2012 12:32
In opposite of uppercase, I read about lowercase identifiers on MySQL documentation.

Actually, if anything, I believe that above link is more or less supportive to make everything uppercase.

If you consider

```
sql.Execute("SELECT COUNT(*) cnt FROM info");
```

then it is not unlikely that some DB returns "CNT".

As case sensitivity itself is DB dependent issue, having everything insensitive and upper-case on U++ side seems like the most prudent option.

Mirek

Subject: Re: Lowercase field name in table - error
Posted by [Sender Ghost](#) on Fri, 06 Jul 2012 08:25:59 GMT
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In case of SQLite, it returns original column name(s), independent from the query case-sensitivity:

```
sqlite> .header on
sqlite> .mode column
sqlite> create table SIMPLE_TEST1 (id integer primary key, NAME text, LASTNAME text, BDATE
integer);
sqlite> insert into SIMPLE_TEST1(id, NAME, LASTNAME, BDATE) values (0, 'Joe', 'Smith',
20000101);
sqlite> insert into SIMPLE_TEST1(id, NAME, LASTNAME, BDATE) values (1, 'Mike', 'Smith',
20000102);
sqlite> insert into SIMPLE_TEST1(id, NAME, LASTNAME, BDATE) values (2, 'Jon', 'Goober',
20000103);
sqlite> select id, NAME, LASTNAME, BDATE from SIMPLE_TEST1;
id      NAME      LASTNAME  BDATE
-----
0       Joe       Smith     20000101
1       Mike      Smith     20000102
2       Jon       Goober    20000103
```

```
sqlite> select ID, NAME, LASTNAME, BDATE from SIMPLE_TEST1;
```

id	NAME	LASTNAME	BDATE
0	Joe	Smith	20000101
1	Mike	Smith	20000102
2	Jon	Goober	20000103

But yes, I'm aware about possible ambiguities/differences between database engines and why uppercase used instead of lowercase (e.g. because of global `SqlId(s)` and possible lowercase local variables inside developer's source code). While this didn't change the conclusion, in my opinion.

Personally, I thought about access to column names with the case-sensitivity of constructed query. I already did something inside another topic.

Nevertheless, I agree, that in the current constraints, what you did is "the most prudent option".
