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Subject: MySqlConnection Close and Reconnect crashes Application

Posted by [hoelblin](#) on Wed, 25 Nov 2020 16:17:33 GMT

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Hi,

I have an Application with a Connection to MySQL. When the Application is Idle for a long Period of Time the Connection is Closed with session.Close.

After that session.IsOpen returns false.

When I try to reconnect with session.Reconnect() the App Crashes with a Null Pointer dereference.

It seems like in Sql.Cancel cn->cancel is called while Member cn == NULL.

This behavior is on TheIDE Version 15512 on Windows with CLANG, on TheIDE 13664 with minGW this works as expected without crashing.

To reproduce the Crash i have taken the SQL\_MySql reference Example and make some minor changes.

```
#include <MySQL/MySQL.h>
```

```
// debian: sudo apt-get install libmysqlclient-dev
```

```
using namespace Upp;
```

```
#define SCHEMADIALECT <MySQL/MySQLSchema.h>
```

```
#define MODEL <mysqlCrash/schema.sch>
```

```
#include <Sql/sch_header.h>
```

```
#include <Sql/sch_source.h>
```

```
#include <Sql/sch_schema.h>
```

```
CONSOLE_APP_MAIN
```

```
{  
    MySqlConnection session;  
    // edit the connection parameters if necessary  
    if(session.Connect("test_user", "test", "test")) {  
        Cout() << "Connected\n";  
        SQL = session;
```

```
  
        SqlSchema sch(MY_SQL);  
        All_Tables(sch);  
        // create the table if necessary  
        SqlPerformScript(sch.Upgrade());  
        SqlPerformScript(sch.Attributes());
```

```

SQL.ClearError();

try {
// insert some random data
SQL & Insert(TEST_TABLE)(VALUE, Uuid::Create().ToString());
// fetch some data
Sql sql;
sql * Select(ID, VALUE).From(TEST_TABLE)
        .OrderBy(Descending(ID))
        .Limit(5);
while(sql.Fetch())
    Cout() << AsString(sql[0]) << ": " << AsString(sql[VALUE]) << "\n";
}
catch(SqlExc &ex) {
    Cerr() << "ERROR: " << ex << "\n";
    SetExitCode(1);
}

session.Close();

Sleep(2000);

if(session.IsOpen()) {
    Cout() << "Connection closed FAILED!\n";
} else {
    Cout() << "Connection closed!\n";
}

Sleep(2000);

Cout() << "Try open Connection again\n";

if(session.Reconnect()) { // CRASH !!!!!!!!!!!
try {
    Sql sql;
    sql * Select(ID, VALUE).From(TEST_TABLE)
            .OrderBy(Descending(ID))
            .Limit(3);
while(sql.Fetch())
    Cout() << AsString(sql[0]) << ": " << AsString(sql[VALUE]) << "\n";
}
catch(SqlExc &ex) {
    Cerr() << "ERROR: " << ex << "\n";
    SetExitCode(1);
}
} else {
    Cout() << "ERROR: " << session.GetLastError() << "\n";
}
}

```

```
}  
}  
else {  
    Cerr() <<"ERROR: Unable to connect to database\n";  
    SetExitCode(1);  
}  
}
```

// Moderator: PLEASE USE CODE TAG FOR THE NEXT TIME!

My Question is what is the right way to do a Reconnect after Close ?

## File Attachments

1) [mysqlCrash1.PNG](#), downloaded 795 times

schema.sch | mysqlCrash.cpp | MySQL.cpp | Session.cpp | Vcont.h | Sqs.h

```

173
174 void SetFetchRows(int nrows) { cn->fetchrow
175 void SetLongSize(int lsz) { cn->longsize
176
177 void Cancel() { cn->Cancel()
178
179 Value Select(const String& what); // Deprecated
180
181 // $-
182 #define E_Select(I) Value Select(const String& what, __List##I(E
183     __Expand(E_Select)
184
185 #define E_Insert(I) bool Insert(const char *tb, const char *c0, co
186     __Expand(E_Insert)
187
188 #define E_InsertId(I) bool Insert(SqlId tb, SqlId c0, const Value&
189     __Expand(E_InsertId)
190
191 #define E_Update(I) bool Update(const char *tb, const char *k, con
192     __Expand(E_Update)
193
194 #define E_UpdateId(I) bool Update(SqlId tb, SqlId k, const Value&
195     __Expand(E_UpdateId)
196 // $+
197
198 bool Insert(Fields nf);
199 bool Insert(Fields nf, const char *table);
200 bool Insert(Fields nf, SqlId table);
201
202 bool InsertNoKey(Fields nf, const char *table);
203 bool InsertNoKey(Fields nf);
204 bool InsertNoKey(Fields nf, SqlId table);
205
206 bool InsertNoNulls(Fields nf, const char *table);
207 bool InsertNoNulls(Fields nf);
208 bool InsertNoNulls(Fields nf, SqlId table);
209
210 bool Update(Fields nf);
211 bool Update(Fields nf, const char *table);
212 bool Update(Fields nf, SqlId table);
213
214 bool Delete(const char *table, const char *key, const Valu
215 bool Delete(SqlId table, SqlId key, const Value& keyval);
216

```

Symbol/lineno (Ctrl+G)

- \* Upp::Sql::Cancel
- Upp (sql/sqs.h)
- Upp::SqlSession
- Upp::SqlExc
- Upp::SqlRaw
- Upp::SqlColumnInfo
- operator=(const S
- SqlSource(const S
- Upp::Sql
- Sql: class
- cn: SqlConnection
- param: Vector<Va
- Select0(const Stri
- SetSession(SqlSou
- Attach(SqlConnec
- Detach(): void
- Sql(SqlConnection
- Compile(const Sql
- Clear(): void
- SetParam(int i, co
- SetStatement(co
- SetStatement(co
- Execute(): bool
- ExecuteX(): void
- Run(): bool
- RunX(): void
- Execute(const Stri
- ExecuteX(const St
- Execute(const Sql
- ExecuteX(const S
- Run(const Value&
- Execute(const Stri
- Fetch(): bool
- Fetch(Ref v1 [, Ref
- Fetch(Vector<Valu
- Fetch(ValueMap&
- Fetch(Fields fields
- GetRowsProcesse

sql/sqs.h (177)

Autos | Locals | this | Watches | CPU | Memory | Threads | 0x1d80 | Upp::Sql::Cancel()

cn	0
this	6a11420->{ cn=0, param=[0] {} }, { cn=f95eef2565657246, param=[1701147206] [{ chr=6a113c0 "", p

2) [mysqlCrash2.PNG](#), downloaded 764 times

```
Upp::Sql::Cancel() at C:\uppClang\upp\uppsrc\Sql\Sqls.h 177
Upp::SqlSession::SessionClose() at C:\uppClang\upp\uppsrc\Sql\Session.cpp 92
Upp::MySqlSession::Close() at C:\uppClang\upp\uppsrc\MySql\MySql.cpp 142
Upp::MySqlSession::Reconnect() at C:\uppClang\upp\uppsrc\MySql\MySql.cpp 79
ConsoleMainFn_() at C:\uppClang\upp\MyApps\mysqlCrash\mysqlCrash.cpp 51
Upp::AppExecute__(app=140002370) at C:\uppClang\upp\uppsrc\Core\App.cpp 442
main(argc=1, argv=18995d0->189f430 "C:\\uppClan") at C:\uppClang\upp\MyApps\mysqlCrash\mysqlCr
WinMainCRTStartup()
mainCRTStartup()
BaseThreadInitThunk()
RtlUserThreadStart()
```

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Subject: Re: MySqlSession Close and Reconnect crashes Application

Posted by [Alboni](#) on Thu, 03 Dec 2020 18:55:45 GMT

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If you closed the session yourself you need to do a normal Connect() I think, not a Reconnect.

Reconnect is for when the session lost the connection from a network error etc. When that happens MySqlSession::WhenReconnect callback is activated.

The default behaviour is to call MySqlSession::Reconnect(), but you can set it to your own function from which you can call MySqlSession::Reconnect()

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Subject: Re: MySqlSession Close and Reconnect crashes Application

Posted by [mirek](#) on Fri, 11 Dec 2020 10:11:55 GMT

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Alboni wrote on Thu, 03 December 2020 19:55 If you closed the session yourself you need to do a normal Connect() I think, not a Reconnect.

Reconnect is for when the session lost the connection from a network error etc. When that happens MySqlSession::WhenReconnect callback is activated.

The default behaviour is to call MySqlSession::Reconnect(), but you can set it to your own function from which you can call MySqlSession::Reconnect()

That is correct, this was the intention of Reconnect. That said, expecting that you can call Reconnect after Close makes sense too, so I have plugged all holes (well, there was actually just one, in Cancel) to make possible, with one catch: Close unsets global SQL session (and that is probably correct behaviour), so you need to assign it again after Reconnect ("SQL = session").

Mirek

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Subject: Re: MySqlSession Close and Reconnect crashes Application

Posted by [hoelblin](#) on Sun, 17 Jan 2021 20:30:53 GMT

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Sorry for my late Reply and thanks for all Answers !

I had now time for testing so I have written a small GUI Testapplication where I can CONNECT, DISCONNECT, RECONNECT, SELECT to a Mysql Database.

When I

CONNECT

SELECT

.....

.....

DISCONNECT

RECONNECT

SELECT

....

all works well, but with

CONNECT

SELECT

.....

.....

DISCONNECT

CONNECT

SELECT -> crashes in String0.isLarge

It is OK for me to use Reconnect but as Alboni and Mirek wrote Connect should also work.  
So is still something wrong with my Connect Code ?

TheIDE 15596 from 2020-12-17 Windows with CLANG

Code of the Testapplication

```
mysqltest::mysqltest()
```

```
{  
  CtrlLayout(*this, "Window title");
```

```
  acResult.AddColumn("Text");
```

```
  btConnect.WhenAction = THISBACK(mysqlConnect);
```

```
  btReConnect.WhenAction = THISBACK(mysqlReconnect);
```

```
  btDisconnect.WhenAction = THISBACK(mysqlDisconnect);
```

```
  btSelect.WhenAction = THISBACK(mysqlSelect);
```

```

btConnect.Enable();
btReConnect.Disable();
btDisconnect.Disable();
btSelect.Disable();
}

```

```

void mysqltest::mysqlConnect()
{
if(session.Connect("user", "pw", "db", "localhost")) {
    SQL = session;

    btDisconnect.Enable();
    btSelect.Enable();
    btConnect.Disable();

    firstConnect = true;
} else {
    Exclamation(session.GetLastError());
}
}

```

```

void mysqltest::mysqlReconnect()
{
if(!session.IsOpen()) {
if(firstConnect) {
if(session.Reconnect()) {
    SQL = session;

    btReConnect.Disable();
    btConnect.Disable();
    btSelect.Enable();
    btDisconnect.Enable();

    Exclamation("Reconnect succesfull!");
} else {
    Exclamation(String() << "Reconnect failed with " << session.GetLastError());
}
} else {
    Exclamation("Use Connect first!");
}
}
}
}

```

```

void mysqltest::mysqlDisconnect()
{
if(session.IsOpen()) {
    session.Close();
}
}

```

```

acResult.Clear();

if(!session.IsOpen()) {
    btConnect.Enable();
    btReConnect.Enable();
    btDisconnect.Disable();
    btSelect.Disable();

    Exclamation("Connection closed!");
} else {
    Exclamation("Connection NOT closed!!!!!!");
}
}
}

```

```

void mysqltest::mysqlSelect()
{
    if(session.IsOpen()) {

        try {
            Sql sql;
            sql.Execute("select name from names");

            if(sql.WasError()) {
                Exclamation(sql.GetLastError());
            } else {
                while(sql.Fetch()) {
                    acResult.Add(sql[0]);
                }
            }
        } catch(SqlExc &ex) {
            Exclamation(ex);
        }
    } else {
        Exclamation("Database not opened!");
    }
}

```

```

GUI_APP_MAIN
{
    mysqltest().Run();
}

```

The Backtrace from the Debugger

Upp::String0::IsLarge() at C:\upp\uppsrc\Core\String.h 214

Upp::String0::Free() at C:\upp\uppsrc\Core\String.h 256  
Upp::String0::Assign(s=) at C:\upp\uppsrc\Core\String.h 273  
Upp::String::operator=(s=) at C:\upp\uppsrc\Core\String.h 376  
Upp::Sql::SetStatement(s=) at C:\upp\uppsrc\Sql\Sql.cpp 105  
Upp::Sql::Execute(s=) at C:\upp\uppsrc\Sql\Sql.cpp 166  
mysqltest::mysqlSelect() at C:\upp\MyApps\mysqltest\main.cpp 83  
Upp::callback<mysqltest,mysqltest>::<unnamed-tag>::operator()() at  
C:\upp\uppsrc\Core\CallbackNP.i 38  
Upp::Function<void ()>::Wrapper<`lambda at C:\upp\uppsrc\Core\CallbackNP.i:38:17'>::Execute()  
at C:\upp\uppsrc\Core\Function.h 17  
Upp::Function<void ()>::operator()() at C:\upp\uppsrc\Core\Function.h 76  
Upp::Ctrl::Action() at C:\upp\uppsrc\CtrlCore\Ctrl.cpp 474  
Upp::Pusher::PerformAction() at C:\upp\uppsrc\CtrlLib\Button.cpp 17  
Upp::Pusher::FinishPush() at C:\upp\uppsrc\CtrlLib\Button.cpp 101  
Upp::Pusher::LeftUp() at C:\upp\uppsrc\CtrlLib\Button.cpp 58  
Upp::Ctrl::MouseEvent(event=145, p=, zdelta=0, keyflags=0) at  
C:\upp\uppsrc\CtrlCore\CtrlMouse.cpp 169  
Upp::Ctrl::MouseEvent0(event=145, p=, zdelta=0, keyflags=0) at  
C:\upp\uppsrc\CtrlCore\CtrlMouse.cpp 92  
Upp::Ctrl::MouseEventH(event=145, p=, zdelta=0, keyflags=0) at  
C:\upp\uppsrc\CtrlCore\CtrlMouse.cpp 110  
Upp::Ctrl::MEvent0(e=145, p=, zd=0) at C:\upp\uppsrc\CtrlCore\CtrlMouse.cpp 337  
Upp::Ctrl::DispatchMouseEvent(e=145, p=, zd=0) at C:\upp\uppsrc\CtrlCore\CtrlMouse.cpp 598  
Upp::Ctrl::DispatchMouse(e=145, p=, zd=0) at C:\upp\uppsrc\CtrlCore\CtrlMouse.cpp 588  
Upp::Ctrl::DoMouse(e=145, p=, zd=0) at C:\upp\uppsrc\CtrlCore\Win32Wnd.cpp 571  
Upp::Ctrl::WindowProc(message=514, wParam=0, lParam=5046318) at  
C:\upp\uppsrc\CtrlCore\Win32Proc.cpp 136  
Upp::TopWindow::WindowProc(message=514, wParam=0, lParam=5046318) at  
C:\upp\uppsrc\CtrlCore\TopWin32.cpp 70  
Upp::Ctrl::WndProc(hWnd=302bc, message=514, wParam=0, lParam=5046318) at  
C:\upp\uppsrc\CtrlCore\Win32Wnd.cpp 674  
CallWindowProcW()  
DispatchMessageW()  
Upp::Ctrl::sProcessMSG(msg=) at C:\upp\uppsrc\CtrlCore\Win32Wnd.cpp 770  
Upp::Ctrl::ProcessEvent(quit=171e47f) at C:\upp\uppsrc\CtrlCore\Win32Wnd.cpp 794  
Upp::Ctrl::ProcessEvents(quit=171e47f) at C:\upp\uppsrc\CtrlCore\Win32Wnd.cpp 808  
Upp::Ctrl::EventLoop(ctrl=171e5e8) at C:\upp\uppsrc\CtrlCore\Win32Wnd.cpp 840  
Upp::TopWindow::Run(appmodal=0) at C:\upp\uppsrc\CtrlCore\TopWindow.cpp 324  
GuiMainFn\_() at C:\upp\MyApps\mysqltest\main.cpp 103  
Upp::AppExecute\_\_(app=1400022e0) at C:\upp\uppsrc\Core\App.cpp 442  
WinMain(hInstance=140000000, lpCmdLine=17cf286 "", nCmdShow=10) at  
C:\upp\MyApps\mysqltest\main.cpp 101  
WinMainCRTStartup()  
WinMainCRTStartup()  
BaseThreadInitThunk()  
RtlUserThreadStart()

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Subject: Re: MySqlConnection Close and Reconnect crashes Application

Posted by [mirek](#) on Tue, 19 Jan 2021 08:28:42 GMT

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Could you please .zip the whole package and post here so that I do not need to invent the rest of the code?

Mirek

---

Subject: Re: MySqlConnection Close and Reconnect crashes Application

Posted by [hoelblin](#) on Tue, 19 Jan 2021 21:13:36 GMT

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Here is the zipped Package.

hoelblin

#### File Attachments

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1) [mysqltest.7z](#), downloaded 258 times

---

Subject: Re: MySqlConnection Close and Reconnect crashes Application

Posted by [mirek](#) on Thu, 21 Jan 2021 14:19:27 GMT

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Thank you. Should be now fixed, can you please check (trunk or nightly tomorrow)?

Mirek

---

Subject: Re: MySqlConnection Close and Reconnect crashes Application

Posted by [hoelblin](#) on Sat, 23 Jan 2021 14:40:53 GMT

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Tested with nightly 15689 and all works fine.

Thank you very much

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