

# QGIS Application - Bug report #14176

## test -V -R qgis\_analyzertest segfaults

2016-01-27 04:01 AM - Sandro Santilli

<b>Status:</b> Closed	
<b>Priority:</b> Normal	
<b>Assignee:</b> Sandro Santilli	
<b>Category:</b> Data Provider/OGR	
<b>Affected QGIS version:</b> master	<b>Regression?:</b> No
<b>Operating System:</b>	<b>Easy fix?:</b> No
<b>Pull Request or Patch Applied:</b> Yes	<b>Resolution:</b>
<b>Crashes QGIS or corrupts data:</b> Yes	<b>Copied to github as #:</b> 22178

### Description

I get a segfault running test -V -R qgis\_analyzertest.  
The standalone test is output/bin/qgis\_analyzertest, which segfaults on exit:

```
PASS : TestQgsVectorAnalyzer::cleanupTestCase()
Totals: 10 passed, 0 failed, 0 skipped
***** Finished testing of TestQgsVectorAnalyzer *****
src/core/layertree/qgslayertreeregistrybridge.cpp: 78: (layersWillBeRemoved) [12ms] 0 layers will be removed, enabled:1
src/providers/postgres/qgspostgresconnpool.cpp: 33: (~QgsPostgresConnPool) [1ms] Entering.
src/providers/postgres/qgspostgresconnpool.cpp: 33: (~QgsPostgresConnPool) [0ms] Leaving.
src/providers/ogr/qgsogrconnpool.cpp: 33: (~QgsOgrConnPool) [0ms] Entering.
src/providers/ogr/qgsogrconnpool.cpp: 33: (~QgsOgrConnPool) [0ms] Leaving.

Program received signal SIGSEGV, Segmentation fault.
0x0000000000000141 in ?? ()
(gdb) bt
#0 0x0000000000000141 in ?? ()
#1 0x00007ffffbfc71ad in QgsConnectionPool_ConnectionDestroy (c=0x954500) at
/usr/src/qgis/qgis-master/src/providers/ogr/qgsogrconnpool.h:45
#2 0x00007ffffbfc7fca in QgsConnectionPoolGroup<QgsOgrConn*>::~~QgsConnectionPoolGroup (this=0x90c410,
__in_chrg=<optimized out>)
    at /usr/src/qgis/qgis-master/src/providers/ogr/././core/qgsconnectionpool.h:77
#3 0x00007ffffbfd973c in QgsOgrConnPoolGroup::~~QgsOgrConnPoolGroup (this=0x90c400, __in_chrg=<optimized out>)
    at /usr/src/qgis/build/master/src/providers/ogr/./././././qgis-master/src/providers/ogr/qgsogrconnpool.h:59
#4 0x00007ffffbfd9778 in QgsOgrConnPoolGroup::~~QgsOgrConnPoolGroup (this=0x90c400, __in_chrg=<optimized out>)
    at /usr/src/qgis/build/master/src/providers/ogr/./././././qgis-master/src/providers/ogr/qgsogrconnpool.h:59
#5 0x00007ffffbfd75d4 in QgsConnectionPool<QgsOgrConn*, QgsOgrConnPoolGroup>::~~QgsConnectionPool (
this=0x7ffffbdeb300 <QgsOgrConnPool::sInstance>, __in_chrg=<optimized out>)
    at /usr/src/qgis/qgis-master/src/providers/ogr/././core/qgsconnectionpool.h:238
#6 0x00007ffffbfd726d in QgsOgrConnPool::~~QgsOgrConnPool (this=0x7ffffbdeb300 <QgsOgrConnPool::sInstance>,
__in_chrg=<optimized out>)
    at /usr/src/qgis/qgis-master/src/providers/ogr/qgsogrconnpool.cpp:31
#7 0x00007ffff5328259 in __run_exit_handlers (status=0, listp=0x7ffff56aa6c8 <__exit_funcs>,
run_list_atexit=run_list_atexit@entry=true)
    at exit.c:82
```

Happens to me as of commit 80e3f8fc749e31d19667665fb90c9fb1a64d7f3f

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## Associated revisions

Revision 05125388 - 2016-02-02 05:24 PM - Sandro Santilli

Ensure GDAL deinitialization runs after last possible use

Closes #14176

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## History

#1 - 2016-02-01 09:45 AM - Sandro Santilli

Still happening as of today. Any idea ?

#2 - 2016-02-01 09:48 AM - Sandro Santilli

Valgrind view on the matter:

```
src/providers/postgres/qgspostgresconnpool.cpp: 33: (~QgsPostgresConnPool) [36ms] Entering.
src/providers/postgres/qgspostgresconnpool.cpp: 33: (~QgsPostgresConnPool) [1 ms] Leaving.
src/providers/ogr/qgsogrconnpool.cpp: 33: (~QgsOgrConnPool) [14ms] Entering.
src/providers/ogr/qgsogrconnpool.cpp: 33: (~QgsOgrConnPool) [1ms] Leaving.
==17630== Invalid read of size 8
==17630== at 0x95CF5A5: OGR_DS_Destroy (ogrdatasource.cpp:69)
==17630== by 0x2E1EB54C: QgsConnectionPool_ConnectionDestroy(QgsOgrConn*) (qgsogrconnpool.h:45)
==17630== by 0x2E1EC369: QgsConnectionPoolGroup<QgsOgrConn*>::~~QgsConnectionPoolGroup() (qgsconnectionpool.h:77)
==17630== by 0x2E1FDB89: QgsOgrConnPoolGroup::~~QgsOgrConnPoolGroup() (in
/usr/src/qgis/build/0-master/output/lib/qgis/plugins/libogrprovider.so)
==17630== by 0x2E1FDBC5: QgsOgrConnPoolGroup::~~QgsOgrConnPoolGroup() (qgsogrconnpool.h:59)
==17630== by 0x2E1FBA21: QgsConnectionPool<QgsOgrConn*, QgsOgrConnPoolGroup>::~~QgsConnectionPool() (qgsconnectionpool.h:238)
==17630== by 0x2E1FB6BA: QgsOgrConnPool::~~QgsOgrConnPool() (qgsogrconnpool.cpp:31)
==17630== by 0x75A0258: __run_exit_handlers (exit.c:82)
==17630== by 0x75A02A4: exit (exit.c:104)
==17630== by 0x7585ECB: (below main) (libc-start.c:321)
==17630== Address 0x320543c0 is 0 bytes inside a block of size 280 free'd
==17630== at 0x4C2C131: operator delete(void*) (vg_replace_malloc.c:510)
==17630== by 0x9379FF5: GDALDriverManager::~GDALDriverManager() (gdaldrivermanager.cpp:183)
==17630== by 0x937A158: GDALDriverManager::~GDALDriverManager() (gdaldrivermanager.cpp:289)
==17630== by 0x2BC2EB4D: cleanupProvider (qgsdalprovider.cpp:3024)
==17630== by 0x5D0F0F1: QgsProviderRegistry::clean() (qgsproviderregistry.cpp:244)
==17630== by 0x5D0F205: QgsProviderRegistry::~~QgsProviderRegistry() (qgsproviderregistry.cpp:253)
==17630== by 0x5D0F2A5: QgsProviderRegistry::~~QgsProviderRegistry() (qgsproviderregistry.cpp:254)
==17630== by 0x5AF7EA2: QgsApplication::exitQgis() (qgsapplication.cpp:868)
==17630== by 0x406064: TestQgsVectorAnalyzer::cleanupTestCase() (testqgsvectoranalyzer.cpp:89)
==17630== by 0x406566: TestQgsVectorAnalyzer::qt_static_metacall(QObject*, QMetaObject::Call, int, void**) (testqgsvectoranalyzer.moc:64)
==17630== by 0x4FBB907: QMetaMethod::invoke(QObject*, Qt::ConnectionType, QGenericReturnArgument, QGenericArgument,
QGenericArgument, QGenericArgument, QGenericArgument, QGenericArgument, QGenericArgument, QGenericArgument,
QGenericArgument, QGenericArgument) const (in /usr/lib/x86_64-linux-gnu/libQtCore.so.4.8.6)
==17630== by 0x532408E: ??? (in /usr/lib/x86_64-linux-gnu/libQtTest.so.4.8.6)
==17630==
```

### #3 - 2016-02-01 02:42 PM - Nyal Dawson

- Status changed from Open to Feedback

I'm not seeing that locally, and it works on Travis under Linux/OSX and appveyor under windows.

Maybe try fully deleting your build folder and rebuilding?

The only tests with issues (that I'm aware of) are:

- QgsBlendModes - occasionally fails on Windows. I'm having a hard time tracking this down.
- PyQgsComposerMap - as above, likely same issue
- PyQgsRuleBasedRenderer - occasionally crashes on exit.

### #4 - 2016-02-02 12:19 AM - Sandro Santilli

My build configuration (while I clean-rebuild):

```
cmake \  
-D CMAKE_BUILD_TYPE=Debug \  
-D WITH_SERVER=ON \  
-D WITH_STAGED_PLUGINS=ON \  
-D WITH_PYSPATIALITE=ON \  
-D ENABLE_TESTS=1 \  
-D CMAKE_CXX_COMPILER:FILEPATH=/usr/lib/ccache/g++ \  
-D WITH_ASTYLE=1 \  
-D WITH_INTERNAL_QWTPOLAR=1
```

### #5 - 2016-02-02 12:34 AM - Sandro Santilli

Still happens on a clean rebuild. GDAL version is 2.1.0. Segfault is on exit, so might be related to how the compiler chooses to order deinialization:

```
(gdb) bt  
#0 0x0000000000000161 in ?? ()  
#1 0x00007fadcac66577 in QgsConnectionPool_ConnectionDestroy (c=0x16fad60) at  
/usr/src/qgis/qgis-master/src/providers/ogr/qgsogrconnpool.h:45  
#2 0x00007fadcac67394 in QgsConnectionPoolGroup<QgsOgrConn*>::~QgsConnectionPoolGroup (this=0x15fde30, __in_chrg=<optimized  
out>)  
    at /usr/src/qgis/qgis-master/src/providers/ogr/././core/qgsconnectionpool.h:77  
#3 0x00007fadcac78bb4 in QgsOgrConnPoolGroup::~QgsOgrConnPoolGroup (this=0x15fde20, __in_chrg=<optimized out>)  
    at /usr/src/qgis/build/master/src/providers/ogr/./././././qgis-master/src/providers/ogr/qgsogrconnpool.h:59  
#4 0x00007fadcac78bf0 in QgsOgrConnPoolGroup::~QgsOgrConnPoolGroup (this=0x15fde20, __in_chrg=<optimized out>)  
    at /usr/src/qgis/build/master/src/providers/ogr/./././././qgis-master/src/providers/ogr/qgsogrconnpool.h:59  
#5 0x00007fadcac76a4c in QgsConnectionPool<QgsOgrConn*, QgsOgrConnPoolGroup>::~QgsConnectionPool (  
    this=0x7fadcae8b310 <QgsOgrConnPool::sInstance>, __in_chrg=<optimized out>)  
    at /usr/src/qgis/qgis-master/src/providers/ogr/./././core/qgsconnectionpool.h:238  
#6 0x00007fadcac766e5 in QgsOgrConnPool::~QgsOgrConnPool (this=0x7fadcae8b310 <QgsOgrConnPool::sInstance>, __in_chrg=<optimized  
out>)
```

```
at /usr/src/qgis/qgis-master/src/providers/ogr/qgsogrconnpool.cpp:31
#7 0x00007fae0044c259 in __run_exit_handlers (status=0, listp=0x7fae007ce6c8 <__exit_funcs>, run_list_atexit=run_list_atexit@entry=true)
  at exit.c:82
#8 0x00007fae0044c2a5 in __GI_exit (status=<optimized out>) at exit.c:104
#9 0x00007fae00431ecc in __libc_start_main (main=0x406440 <main(int, char**)>, argc=1, argv=0x7fff95784758, init=<optimized out>,
  fini=<optimized out>, rtd_fini=<optimized out>, stack_end=0x7fff95784748) at libc-start.c:321
#10 0x000000000404619 in _start ()
```

Compiler is g++ (Ubuntu 4.8.4-2ubuntu1~14.04) 4.8.4

#### **#6 - 2016-02-02 12:42 AM - Sandro Santilli**

I see code in QgsOgrConnPool class that seem to protect against a call to ::instance() happening *after* a call to the destructor, and it surprises me such an occurrence may actually happen (why should it?).

Allocating the singleton on the heap and letting it leak fixes the segfault for me, see <https://github.com/qgis/QGIS/pull/2754>

#### **#7 - 2016-02-02 12:46 AM - Sandro Santilli**

- Status changed from *Feedback* to *In Progress*
- Pull Request or Patch supplied changed from *No* to *Yes*
- % Done changed from *0* to *90*
- Target version set to *Version 2.14*
- Assignee set to *Sandro Santilli*
- Category set to *Data Provider/OGR*

#### **#8 - 2016-02-02 01:04 AM - Nyal Dawson**

Nice catch.

For completeness - there is one other test with issues. QgsLegendRenderer fails occasionally under windows.

#### **#9 - 2016-02-02 01:39 AM - Sandro Santilli**

There is also output/bin/qgis\_diagramtest (#14212) which seems to be another symptom of the same bug

#### **#10 - 2016-02-02 08:25 AM - Sandro Santilli**

- Status changed from *In Progress* to *Closed*

Fixed in changeset commit:"051253888810b06f6b055bfea57a7c6a009e3fdc".