

GammaLib - Bug #1094

make check from gammalib-00-08-00 has one failure

01/21/2014 09:37 PM - Cohen-Tanugi Johann

Status:	Closed	Start date:	01/21/2014
Priority:	Normal	Due date:	
Assigned To:	Knödseder Jürgen	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:	00-08-01		
Description			
Test binned observation: ..E. NOK			
Related issues:			
Related to GammaLib - Change request # 1102: Clean-up calibration database ha...		Closed	01/24/2014

History

#1 - 01/24/2014 09:06 AM - Knödseder Jürgen

- Project changed from ctools to GammaLib

#2 - 01/24/2014 09:14 AM - Knödseder Jürgen

Johann, could you please upload the files test/test_COM.log and test/reports/GCOM.xml so that I can check what's going on? It seems that Stefan Klepser has encountered the same problem. I'm wondering why I don't see this on my machine ...

#3 - 01/24/2014 09:31 AM - Cohen-Tanugi Johann

- File GCOM.xml added

here they are.

#4 - 01/24/2014 09:31 AM - Cohen-Tanugi Johann

- File test_COM added

#5 - 01/24/2014 09:32 AM - Knödseder Jürgen

- File config.log added

For the record, I grabbed the gammalib-00-08-00 release tarball and build it on my Mac OS X 10.6.8. All tests passed. Here the configuration file: attachment:config.log

#6 - 01/24/2014 09:36 AM - Cohen-Tanugi Johann

- File config.log added

ok here is mine. The first thing is that we do not use the same gcc version, and I am on 64bits while you are on 32bits. Beyond that, I see that there are compilation failures in the logs, for both of us.....

#7 - 01/24/2014 09:46 AM - Knödseder Jürgen

Okay, problem is as I expected in Test XML constructor:

```
<testcase assertions="" classname="COMPTEL instrument specific class testing" name="Test binned observation: Test XML constructor" status="" time="0">
24
<error message="*** ERROR in GFits::open(std::string&): Unable to open FITS file
```

```
"/home/cohen/sources/CTA/CTOOLS/ctools-00-07-00/share/caldb/u47569_iaq.fits" (status=104) type="N10GException15fits_open_errorE" />
25
</testcase>
```

It tries to open the file /home/cohen/sources/CTA/CTOOLS/ctools-00-07-00/share/caldb/u47569_iaq.fits. In the XML file, the filename is u47569_iaq.fits. The code apparently adds the path /home/cohen/sources/CTA/CTOOLS/ctools-00-07-00/share/caldb which is, I guess, the GAMMALIB_CALDB environment variable. Here the relevant code

```
void GCOMResponse::load(const std::string& iaqname)
{
    // Save calibration database name
    std::string caldb = m_caldb;

    // Clear instance
    clear();

    // Restore calibration database name
    m_caldb = caldb;

    // Save IAQ name
    m_iaqname = iaqname;

    // Build filename
    std::string filename = m_caldb + "/" + m_iaqname;

    // Open FITS file
    GFits file(filename);

    // Get IAQ image
    const GFitsImage& iaq = *file.image(0);

    // Read IAQ
    read(iaq);

    // Close ARF FITS file
    file.close();

    // Return
    return;
}
```

m_caldb is set by the std::string GCald::rootdir() method and is either the environment variable GAMMALIB_CALDB or CALDB (whichever exists in the given order). The GAMMALIB_CALDB is set by the GammaLib configuration script. CALDB is set by the ctools configuration script. Maybe this is the problem?

#8 - 01/24/2014 09:48 AM - Knödseder Jürgen

- Assigned To set to Knödseder Jürgen
- % Done changed from 0 to 10

I checked GCaldb::rootdir() again and noticed that in contrary to expectations, CALDB takes precedence over GAMMALIB_CALDB. I still need to dive more in the code to understand the problem. For now I try to reproduce this by setting the CALDB environment variable.

#9 - 01/24/2014 09:51 AM - Knödseder Jürgen

Got it. Setting the CALDB environment variable gave

```
*****  
* COMPTEL instrument specific class testing *  
*****  
Test instrument direction: ..... ok  
Test response: ... ok  
Test binned observation: ..E. NOK  
Test event bin: ..... ok  
Test event cube: ..... ok
```

#10 - 01/24/2014 10:00 AM - Knödseder Jürgen

- Target version set to 00-08-01
- % Done changed from 10 to 20

And understood. The COMPTEL unit test sets internally the GAMMALIB_CALDB environment variable before jumping into the code:

```
// Set GAMMALIB_CALDB environment variable  
std::string caldb = "GAMMALIB_CALDB="+com_caldb;  
putenv((char*)caldb.c_str());
```

This should work if GAMMALIB_CALDB takes precedence over CALDB. As the code is in fact not doing this, CALDB is used if it's set, directing to a directory that does not contain the response files.

So the immediate correction is to correct the GCaldb::rootdir() method.

Follow-up actions should be taken to clean up the CALDB interface. Actually, the expected structure

```
$CALDB/data/<mission>  
$CALDB/data/<mission>/<instrument>  
$GAMMALIB_CALDB/data/<mission>  
$GAMMALIB_CALDB/data/<mission>/<instrument>
```

is not really used (the data directory is actually missing), and the GCOMResponse response class does not use the appropriate GCaldb::path() method to access the data.

The latter is followed up by change request #1102.

#11 - 02/06/2014 11:15 PM - Knödseder Jürgen

- Status changed from New to Closed

#12 - 02/06/2014 11:16 PM - Knödseder Jürgen

- % Done changed from 20 to 100

Files

GCOM.xml	35.1 KB	01/24/2014	Cohen-Tanugi Johann
test_COM	5.13 KB	01/24/2014	Cohen-Tanugi Johann
config.log	62.6 KB	01/24/2014	Knödseder Jürgen
config.log	52.2 KB	01/24/2014	Cohen-Tanugi Johann