

GammaLib - Feature #1484

Support out-of-source builds

06/28/2015 08:33 PM - Deil Christoph

Status:	Closed	Start date:	06/28/2015
Priority:	Normal	Due date:	
Assigned To:	Knödseder Jürgen	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:	1.1.0		
Description			
Looks like Gammalib doesn't support out-of-source builds ... it falls over with the Python extensions: https://gist.github.com/cdeil/804e727d7b5bd038f8ea			
Out-of-source builds are important for developers that want to test multiple compilers / options, or have debug / production builds, switch between branches ... basically everyone that wants to have more than one build.			
Possible?			

History

#1 - 06/28/2015 09:09 PM - Knödseder Jürgen

What are out of source builds?

#2 - 06/28/2015 09:18 PM - Deil Christoph

An in-source build is if the generated files (object files, library files ... any generated files) are mixed with the source files.

An out-of source build is if the generated files go to a separate folder, leaving the source folder clean.

<http://stackoverflow.com/a/1311299/498873>

http://www.gnu.org/software/automake/manual/html_node/VPATH-Builds.html

<http://voices.canonical.com/jussi.pakkanen/2013/04/16/why-you-should-consider-using-separate-build-directories/>

#3 - 07/04/2016 12:10 AM - Knödseder Jürgen

- Status changed from New to In Progress

- Assigned To set to Knödseder Jürgen

- Target version set to 1.1.0

The following should work:

```
make distclean
mkdir build
cd build
../configure --srcdir=..
make
```

For the moment it crashes with:

```
../pyext/gammalib/app.i:43: Error: Unable to find 'typemap_GFilename.i'
../pyext/gammalib/model.i:43: Error: Unable to find 'typemap_GFilename.i'
../pyext/gammalib/model.i:46: Error: Unable to find 'GBase.i'
../pyext/gammalib/model.i:47: Error: Unable to find 'GContainer.i'
../pyext/gammalib/model.i:48: Error: Unable to find 'GRegistry.i'
```

```
../../pyext/gammalib/model.i:51: Error: Unable to find 'GException.i'
```

```
...
```

#4 - 07/04/2016 11:02 PM - Knödlseeder Jürgen

- % Done changed from 0 to 50

The following works now:

```
make distclean
mkdir build
cd build
./configure --srcdir=..
make -j8
make check
```

however the following still fails:

```
./configure
make dist
make distcheck
clang -fno-strict-aliasing -fno-common -dynamic -g -O2 -DNDEBUG -g -fwrapv -O3 -Wall -Wstrict-prototypes -I../../include -I../../inst/mwl/include -I../../inst/cta/include -I../../inst/lat/include -I../../inst/com/include -I/usr/local/include -I/usr/local/opt/openssl/include -I/usr/local/opt/sqlite/include -I/usr/local/Cellar/python/2.7.11/Frameworks/Python.framework/Versions/2.7/include/python2.7 -c gammalib/app_wrap.cpp -o build/temp.macosx-10.11-x86_64-2.7/gammalib/app_wrap.o
clang: error: no such file or directory: 'gammalib/app_wrap.cpp'
clang: error: no input files
error: command 'clang' failed with exit status 1
```

and also the following

```
./configure
make dist
make distcheck
Making all in pyext
/Applications/Xcode.app/Contents/Developer/usr/bin/make all-am
make[4]: *** No rule to make target `./test/test_python.py', needed by `all-am'. Stop.
```

#5 - 07/04/2016 11:14 PM - Knödseder Jürgen

The second problem was solved by adding the .py files to EXTRA_DIST in the test Makefile.am, now we have

```
../configure
make dist
make distcheck
clang -fno-strict-aliasing -fno-common -dynamic -g -O2 -DNDEBUG -g -fwrapv -O3 -Wall -Wstrict-prototypes -I../..../include -I../..../inst/mwl/include
-I../..../inst/cta/include -I../..../inst/lat/include -I../..../inst/com/include -I/usr/local/include -I/usr/local/opt/openssl/include -I/usr/local/opt/sqlite/include
-I/usr/local/Cellar/python/2.7.11/Frameworks/Python.framework/Versions/2.7/include/python2.7 -c gmmalib/app_wrap.o
build/temp.macosx-10.11-x86_64-2.7/gmmalib/app_wrap.o
clang: error: no such file or directory: 'gmmalib/app_wrap.cpp'
clang: error: no input files
error: command 'clang' failed with exit status 1
```

so the same error is for the build in the source directory.

#6 - 07/07/2016 03:49 PM - Knödseder Jürgen

- % Done changed from 50 to 80

This now works for Gmmalib. Merged into devel. Still need to make sure that ctools also supports out of source builds.

#7 - 07/11/2016 12:45 PM - Knödseder Jürgen

- Status changed from In Progress to Closed

- % Done changed from 80 to 100

This now also works for ctools.