

## GammaLib - Feature #487

### Add developer info wiki page on how to develop GammaLib with an IDE like Eclipse / XCode

09/16/2012 06:29 PM - Deil Christoph

<b>Status:</b>	New	<b>Start date:</b>	09/16/2012																				
<b>Priority:</b>	Normal	<b>Due date:</b>																					
<b>Assigned To:</b>	Deil Christoph	<b>% Done:</b>	10%																				
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour																				
<b>Target version:</b>																							
<b>Description</b>																							
<p>It would be nice to have some info on how to develop GammaLib with an IDE like Eclipse or XCode. There are many advantages like auto code formatting, code completion, static code analysis, links from build warnings / errors to code lines, ...</p> <p>However it's not obvious and sometimes not even possible to configure the project correctly in the IDE so that everything works, and if someone has figured this stuff it would be nice to add a short description on the developer wiki pages.</p> <p>One thing I did was check out the git repo via the command line and then in Eclipse CDT: Import -&gt; Existing Code as Makefile Project -&gt; Select MacOSX GCC toolchain for the indexer. Right-click Project -&gt; Index -&gt; Rebuild (takes a few seconds) Right-click Project -&gt; Run C/C++ Code Analysis (takes a minute)</p> <p>The CODAN static analyzer shows 20 errors, but I believe that is a CODAN error and gammalib is fine: <a href="https://bugs.eclipse.org/bugs/show_bug.cgi?id=389676">https://bugs.eclipse.org/bugs/show_bug.cgi?id=389676</a></p> <p>It also shows three warnings, which we might as well fix:</p> <table><tr><th>Description</th><th>Resource</th><th>Path</th><th>Location</th><th>Type</th></tr><tr><td>Member 'm_sigma' was not initialized in this constructor</td><td>test_GNumerics.hpp</td><td>/gammalib/test</td><td>line 52</td><td>Code Analysis Problem</td></tr><tr><td>Member 'm_num' was not initialized in this constructor</td><td>test_GVector.hpp</td><td>/gammalib/test</td><td>line 33</td><td>Code Analysis Problem</td></tr><tr><td>Catching by reference is recommended 'GException::matrix_not_factorised'</td><td>test_GSparseMatrix.cpp</td><td>/gammalib/test</td><td>line 988</td><td>Code Analysis Problem</td></tr></table> <p>Code completion, outline, and navigation work fine (except for the one bug mentioned above), so it's already quite useful.</p> <p>TODO:</p> <ul style="list-style-type: none"><li>- How to build from Eclipse? There is the option to import as an autotools project, but I didn't try that yet.</li><li>- How to run unit tests from Eclipse?</li><li>- Why doesn't Eclipse automatically recognize that this is a git repo? It did that for all other projects I imported previously.</li></ul> <p>Really on Mac, XCode with Clang on the fly compilation / code analysis should be better than Eclipse, but I didn't try that yet.</p>				Description	Resource	Path	Location	Type	Member 'm_sigma' was not initialized in this constructor	test_GNumerics.hpp	/gammalib/test	line 52	Code Analysis Problem	Member 'm_num' was not initialized in this constructor	test_GVector.hpp	/gammalib/test	line 33	Code Analysis Problem	Catching by reference is recommended 'GException::matrix_not_factorised'	test_GSparseMatrix.cpp	/gammalib/test	line 988	Code Analysis Problem
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#### History

##### #1 - 09/16/2012 07:45 PM - Deil Christoph

Jürgen: Moved to Bug #505.

##### #2 - 09/19/2012 10:30 PM - Knödlseider Jürgen

Thanks for catching those. For ctools related issues, please post the bugs in the ctools project. I just moved over that one to Bug #505.

##### #3 - 09/19/2012 11:06 PM - Knödlseider Jürgen

I tried Eclipse some time ago, but not recently. Yet I tried the autotools project thing and it worked. If you gain some experience on it, don't hesitate to start a new Wiki page on using Eclipse.

The same for Xcode. I use Xcode as editor, but I have not tried compiling the library using Xcode features. Also here, if you gain some experience don't hesitate to start a Wiki page.

Thanks for running the static code analyzer. cppcheck runs regularly on GammaLib, and I know that there are still a bunch of style errors (see <https://cta-jenkins.irap.omp.eu/job/gammalib-analyse/lastBuild/cppcheckResult/?>). Apparently, those found by CODAN are different.

I'm not sure why enumerations should not be used in classes. Here two weblinks where the usage of enumerations within C++ classes is described:  
[http://msdn.microsoft.com/en-us/library/2dzy4k6e\(v=vs.71\).aspx](http://msdn.microsoft.com/en-us/library/2dzy4k6e(v=vs.71).aspx)

<http://www.yolinux.com/TUTORIALS/C++Enum.html>

Isn't this rather a CODAN problem.

Concerning the NULL, CODAN is somehow right, they should not be used in C++ code. Here some web links (one in french) telling the story:

<http://h-deb.clg.qc.ca/Sujets/Divers--cplusplus/CPP--NULL.html>

<http://www.cplusplus.com/forum/beginner/5604/>

Needs to be checked whether the NULLs should be replaced by "0" or "nullptr".

I just fixed the three CODAN warnings.

**#4 - 09/19/2012 11:06 PM - Knödlseider Jürgen**

- % *Done changed from 0 to 10*