**Documenting c/c++ code using sphinx by Sina Falakian**

These instructions are written for people who want to use an automatic documentation generator for c/c++ code but want to use sphinx for writing rest of the API in linux. For more information take a look at the “doxygen vs sphinx”.

Here is an example code we want to make documentation for:

#include <iostream>

#include <string>

int var; /\*! <detailed description after member>\*/

/// brife describtion.

//\* detailed describtion\*/

class test\_class

{

public:

///an enum type.

//\*the documentation block can not be put after enum\*/

enum enum\_test

{

int var1; //!< breife describtion after member

int var2; /\*\*< detailed description after member \*/

};

void member(); //!< a member function.

protected:

int var3; /\*!< an integer variable \*/

};

Download the source file from this link:

<http://ftp.stack.nl/pub/users/dimitri/doxygen-1.8.14.src.tar.gz>

Compilation is now done by performing the following steps:

1. Unpack the archive, unless you already have done that:

gunzip doxygen-$VERSION.src.tar.gz # uncompress the archive

tar xf doxygen-$VERSION.src.tar # unpack it

1. Create a build directory (for instance inside the source tree)

cd doxygen-$VERSION

mkdir build

cd build

1. Run cmake with the makefile generator

cmake -G "Unix Makefiles" ..

cmake tries to determine the platform you use, and will look for the requires tools. It will report if something is missing.

If you have Qt-4.3 or higher installed and want to build the GUI front-end, you should enable it as follows:

cmake -Dbuild\_wizard=YES ..

For an overview of other configuration options use

cmake -L ..

1. Compile the program by running make:

make

The program should compile without problems and the binaries (doxygen and optionally doxywizard) should be available in the bin directory within the build directory.

1. Optional: Generate the user manual.

cmake -Dbuild\_doc=YES ..

make docs

To let doxygen generate the HTML and PDF documentation.

The HTML directory within the build directory will now contain the html documentation (just point a HTML browser to the file index.htmlin the html directory).

To document the code with doxygen first you need to make a configuration file which has all the settings you want for documentation.

To do this call doxygen from the command line with the -g option to make configuration file:

doxygen -g <config-file-name>

The configuration file has a format that is similar to that of a (simple) Makefile. It consists of a number of assignments (tags) of the form:

TAGNAME = VALUE or   
TAGNAME = VALUE1 VALUE2 ...

Change GENERATE\_XML = NO to YES you will need it later for using breathe.

For more information about how to set configuration file go to this link: <http://www.doxygen.nl/manual/starting.html>

Now you need to download breathe: <https://files.pythonhosted.org/packages/2d/41/b3799f304116bdc5bce9016861afd676853f18d8222e1f1a057d79a70272/breathe-4.10.0.tar.gz>

You can install sphinx with this command:

apt-get install python3-sphinx

For converting documentation to sphinx using breathe go to this link:

<https://breathe.readthedocs.io/en/latest/quickstart.html>