Lime microsystems suite

- Compilation guide -

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Contents

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Added compilation for Linux

1

Introduction

The scope of this document is compilation of the lms-suite software on Windows OS. Lms-suite uses wxWidgets, EZ-USB FX3 SDK and FFTW3 libraries, each of these libraries set-up is discussed first. Then detailed procedure of lms-suite compilation is provided.

Software required to compile lms-suite:
- CMake 2.8(or greater)
- Visual Studio 2013
- wxWidgets 3.0.0(or greater)
- EZ-USB FX3 SDK
- FFTW 3.3.4

2

Installation and compilation of wxWidgets library on Windows

Installation and compilation of wxWidgets library is covered in this chapter.

2.1   wxWidgets installation

Step by step instruction how to install, prepare and compile wxWidgets library is provided bellow:

1. Download wxWidgets source code or Installer from http://wxwidgets.org/downloads/
2. Install or extract wxWidgets 3.0.2 source code to the c:\wxWidgets-3.0.2\
3. Open C:\wxWidgets-3.0.2\build\msw\wx_vc12.sln Visual Studio 2013 solution
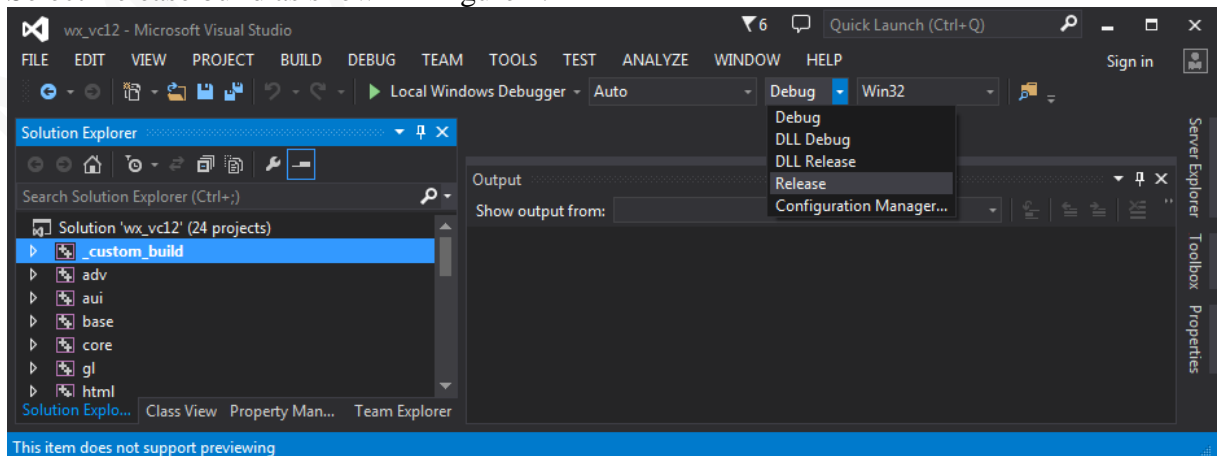4. Select Release build as shown in Figure 1.

Figure 1 Selecting build target

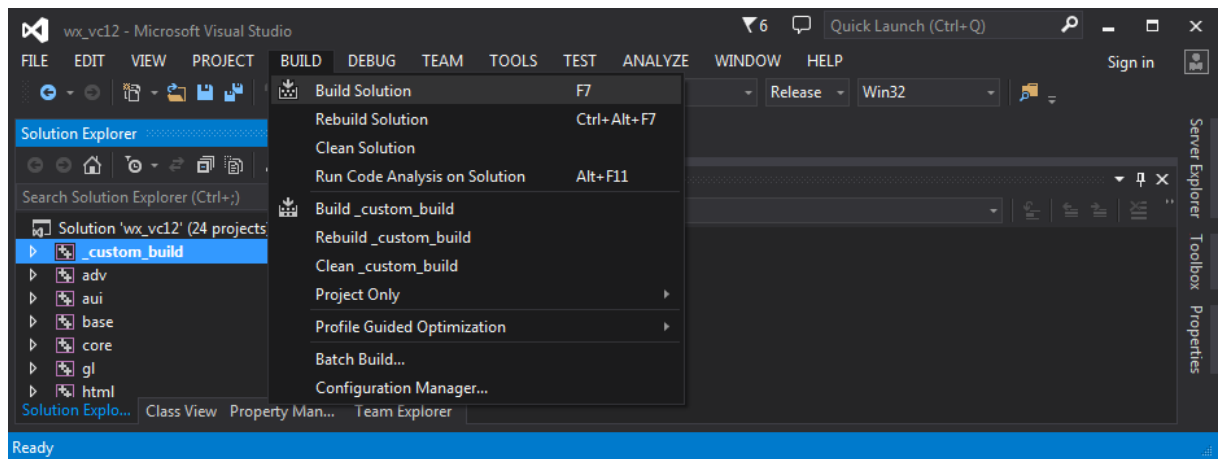5. Compile wxWidgets library by clicking PROJECT->BUILD SOLUTION as show in Figure 2

Figure 2 Compiling wxWidgets library

6. Wait for the compilation process to complete
7. After compilation there should be created wxWidgets libraries in C:\wxWidgets-3.0.2\lib\vc_lib directory

3

EZ-USB FX3 SDK

Setup of EZ-USB FX3 SDK is discussed in this chapter.

3.1   EZ-USB FX3 SDK installation

1. Download EZ-USB FX3 SDK for Windows from http://www.cypress.com/?rID=57990
2. Install it into C:\Cypress\EZ-USB FX3 SDK directory

4

FFTW

Setup of FFTW library is discussed in this chapter.

4.1 FFTW installation

1. Download precompiled DLLs (fftw-3.3.4-dll32.zip) for Windows from
   http://www.fftw.org/install/windows.html
2. Extract archive into C:\fftw-3.3.4-dll32 directory.

5

lms-suite compilation on Windows

Compilation instructions of lms-suite software is discussed in this chapter.

5.1 lms-suite compilation description

Lms-suite uses CMake system to setup build projects for your environment. First you need to install CMake system, you can download it from http://www.cmake.org/download/. To configure lms-suite project CMake-gui will be used in the instructions.

1. Place lms-suite folder into C:\lms-suite directory
2. Run cmake-gui
3. Browse source to where lms-suite source code is located. (e.g. C:/lms-suite/lms-suite/src)
4. Browse Build to where you want to place created binaries (e.g. C:/lms-suite/lms-suite/build)
5. Click Congifure button
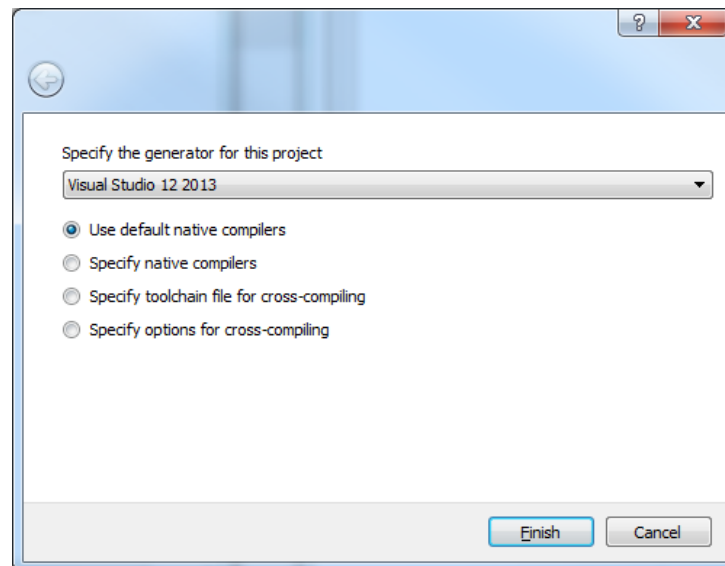6. In popup menu select Use default native compilers as shown in Figure 3

Figure 3 CMake project generator

7. Error dialog will popup informing that configuration process may be invalid and CMake window will show error of not found libraries as shown in Figure 4
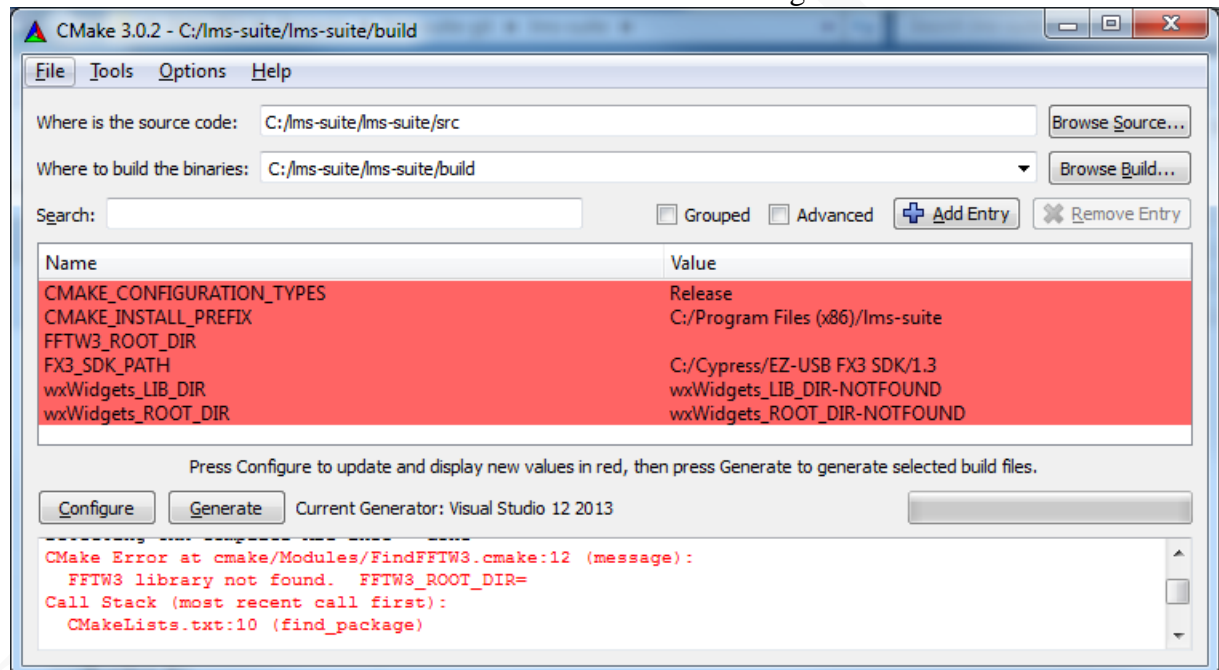

Figure 4 CMake not found libraries

8. Set FFTW3_ROOT_DIR value to directory where you placed FFTW library (e.g. C:\fftw-3.3.4-dll32)
9. Set wxWidgets_ROOT_DIR value to directory where you placed wxWidgets library (e.g C:\wxWidgets-3.0.2)
10. Click Configure
11. Click Generate, this will create Visual Studio project inside your selected build directory
12. Open created project C:\lms-suite\lms-suite\build\lms-suite.sln
13. In Visual Studio menu select BUILD->Build Solution
14. Wait for compilation process to complete
15. Compiled binaries will be places inside build directory in Release folder
16. Execute lms-suite.exe, lms-suite needs to have libfftw3f-3.dll file in the same directory

6

Compilation on Linux OS

This chapter contains instructions for installation and compilation of WxWidgets library and compiling LMS6Suite on Linux operating system. Compiling is done using CMake and GCC tools.

6.1 Required libraries

This is a list of required libraries to compile wxWidgets and LMS6Suite.
1. Libusb-1.0
2. libgtk2.0-dev

To install these libraries execute the following command in terminal:
 "sudo apt-get install libusb-1.0 libgtk2.0-dev"

6.2 wxWidgets installation on Linux

Step by step instruction how to install, prepare and compile wxWidgets library is provided bellow. In this example the user home directory will be used as /home/linuxuser

3. Download wxWidgets source code from http://wxwidgets.org/downloads/ (wxWidgets-3.0.0.tar.bz)
4. Create "libraries" directory in your home directory
5. Extract wxWidgets-3.0.0 archive to /home/linuxuser/libraries directory
6. Open terminal and navigate to /home/linuxuser/libraries/wxWidgets-3.0.0 directory
7. Execute command "./configure"
8. Execute command "make"
9. Compilation process will start right now. It will take some time to compile the library, please wait until this process is complete.
10. Execute command "sudo make install" and enter administrator password. This command will install and configure library paths.

11. Now wxWidgets are installed and can be used for LMS7Suite project.

6.3   Compiling LMS6 Suite

1. Extract the source code into desired directory (e.g. /home/linuxuser/lms6suite)
2. Open command line and go to directory where the source code is located (/home/linuxuser/lms6suite/build)
3. Inside the build directory execute command "cmake .."
4. Inside the build directory execute command "cmake --build ."
5. Wait for the compilation process to complete
6. LMS6Suite binary file can be found in /home/linuxuser/lms7suite/build/bin directory