Building IMF Tool under Windows

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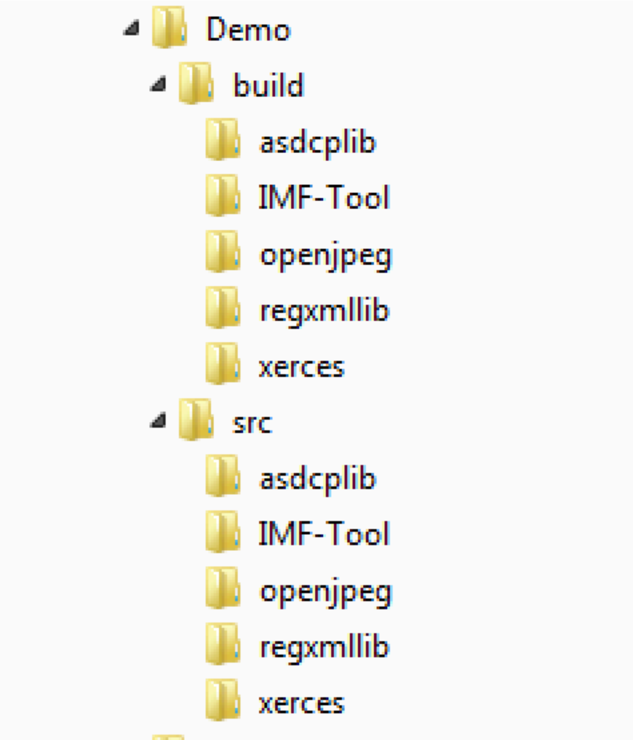
Preparations

Create directories for asdcplib, regxmllib, openjepeg, xerces and IMF Tool:



```
Demo
  build
    asdcplib
    IMF-Tool
    openjpeg
    regxmllib
    xerces
  src
    asdcplib
    IMF-Tool
    openjpeg
    regxmllib
    xerces
```

Prerequisites

Visual Studio:
Install Visual Studio 2015. These instructions will likely also work with other versions of Visual Studio.

Qt5
Download http://download.qt.io/archive/qt/5.7/5.7.0/
It is recommended to install Qt 5.7.

Run installer, select to install the 64 bit version for VS 2015 only, deselect all other options. (saves disk space)

After the installation, verify the following directory is present on the file system:
C:\Qt5.7\5.7\msvc2015_64

Cmake:
Download: https://cmake.org/download/
A binary installer is provided for Windows (win64-x64).

Qt5
Download Qt 5.7.2 (64 bit) from
http://download.qt.io/archive/qt/5.7/5.7.1/qt-opensource-windows-x86-msvc2015_64-5.7.1.exe
Run installer, deselect all but Win64 binaries. (saves disk space)

NOTE: Qt 5.9 ist not supported yet, there are issues with full screen mode playback.
NOTE: A Qt account is required to install the Qt binaries.

OpenSSL Windows 64
Download binaries from
https://slproweb.com/download/Win64OpenSSL-1_0_2L.exe

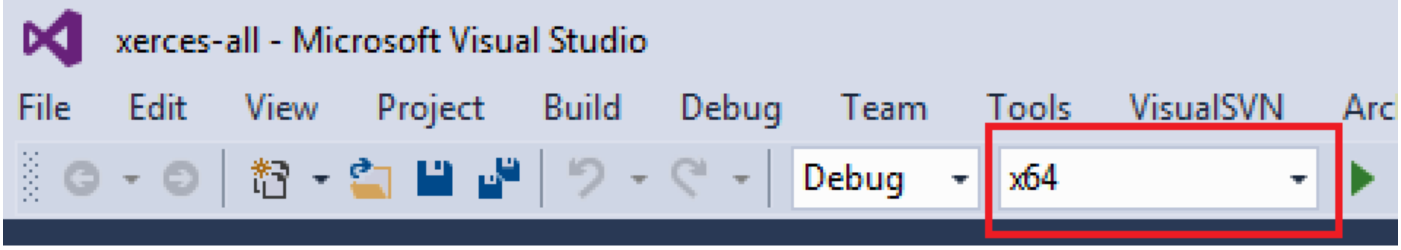
(Win 64 bit)
Execute the installer. OpenSSL is required for building asdcplib.

Downloading and building Xerces

Download source code from
http://archive.apache.org/dist/xerces/c/3/sources/xerces-c-3.1.3.zip
Unpack into Demo/src/xerces
NOTE: Xerces 3.2.0 is not tested and supported yet.

Open File
\Demo\src\xerces\xerces-c-3.1.3\projects\Win32\VC12\xerces-all\xerces-all.sln
using Right-Click an “Open with..” Visual Studio 2015

In Visual Studio 2015:
Set Target Platform to “x64”:



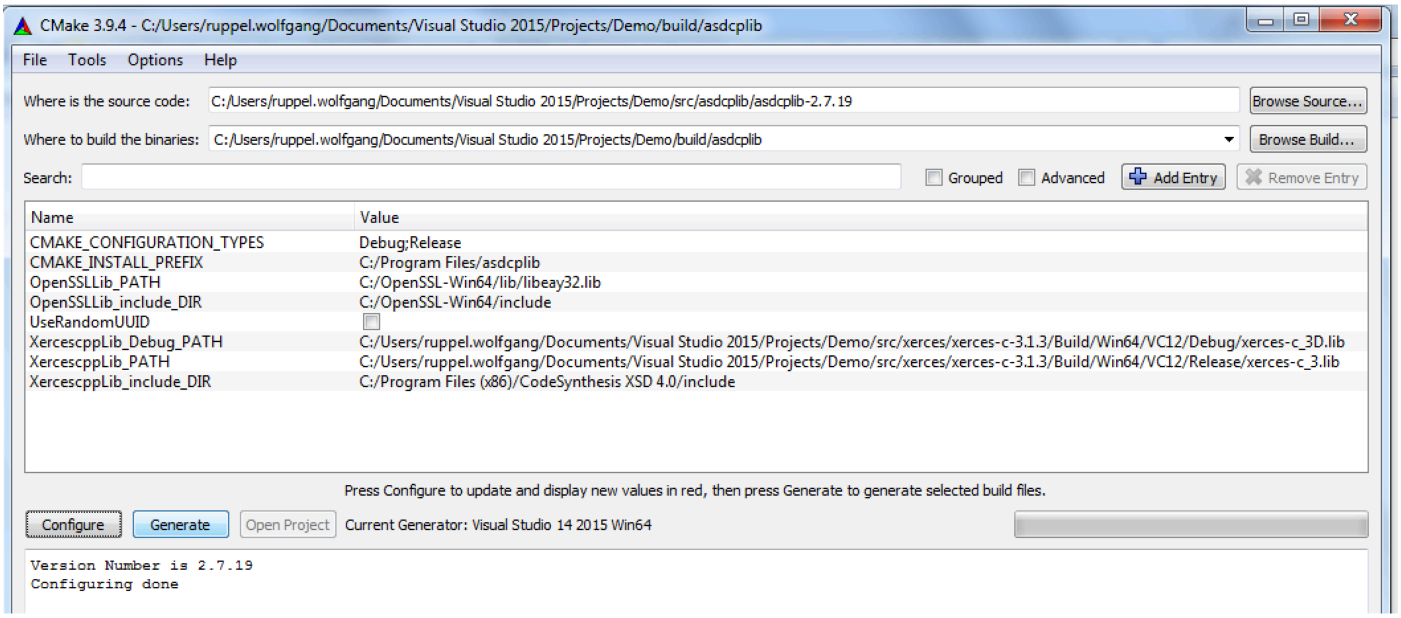
xerces-all - Microsoft Visual Studio

Build Project “all” in both Debug and Release mode
Note: The Output will go to \Demo\src\xerces\xerces-c-3.1.3\Build\Win64\VC12

Downloading and building asdcplib

Download asdcplib-2.7.19.tar.gz, unpack into Demo/src/asdcplib.

Use CMake to create a Visual Studio 14 2015 Win64 Solution File:



Where is the source code: C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/src/asdcplib/asdcplib-2.7.19

Where to build the binaries: C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/build/asdcplib

Name	Value
CMAKE_CONFIGURATION_TYPES	Debug;Release
CMAKE_INSTALL_PREFIX	C:/Program Files/asdcplib
OpenSSLLib_PATH	C:/OpenSSL-Win64/lib/libeay32.lib
OpenSSLLib_include_DIR	C:/OpenSSL-Win64/include
UseRandomUUID	□
XercescppLib_Debug_PATH	C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/src/xerces/xerces-c-3.1.3/Build/Win64/VC12/Debug/xerces-c_3D.lib
XercescppLib_PATH	C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/src/xerces/xerces-c-3.1.3/Build/Win64/VC12/Release/xerces-c_3.lib
XercescppLib_include_DIR	C:/Program Files (x86)/CodeSynthesis XSD 4.0/include

Press Configure to update and display new values in red, then press Generate to generate selected build files.

Current Generator: Visual Studio 14 2015 Win64

```
Version Number is 2.7.19
Configuring done
```

Open VS 2015 Solution File
Demo\build\asdcplib\asdcplib.sln
Build Project “ALL_BUILD” in Debug and Release mode

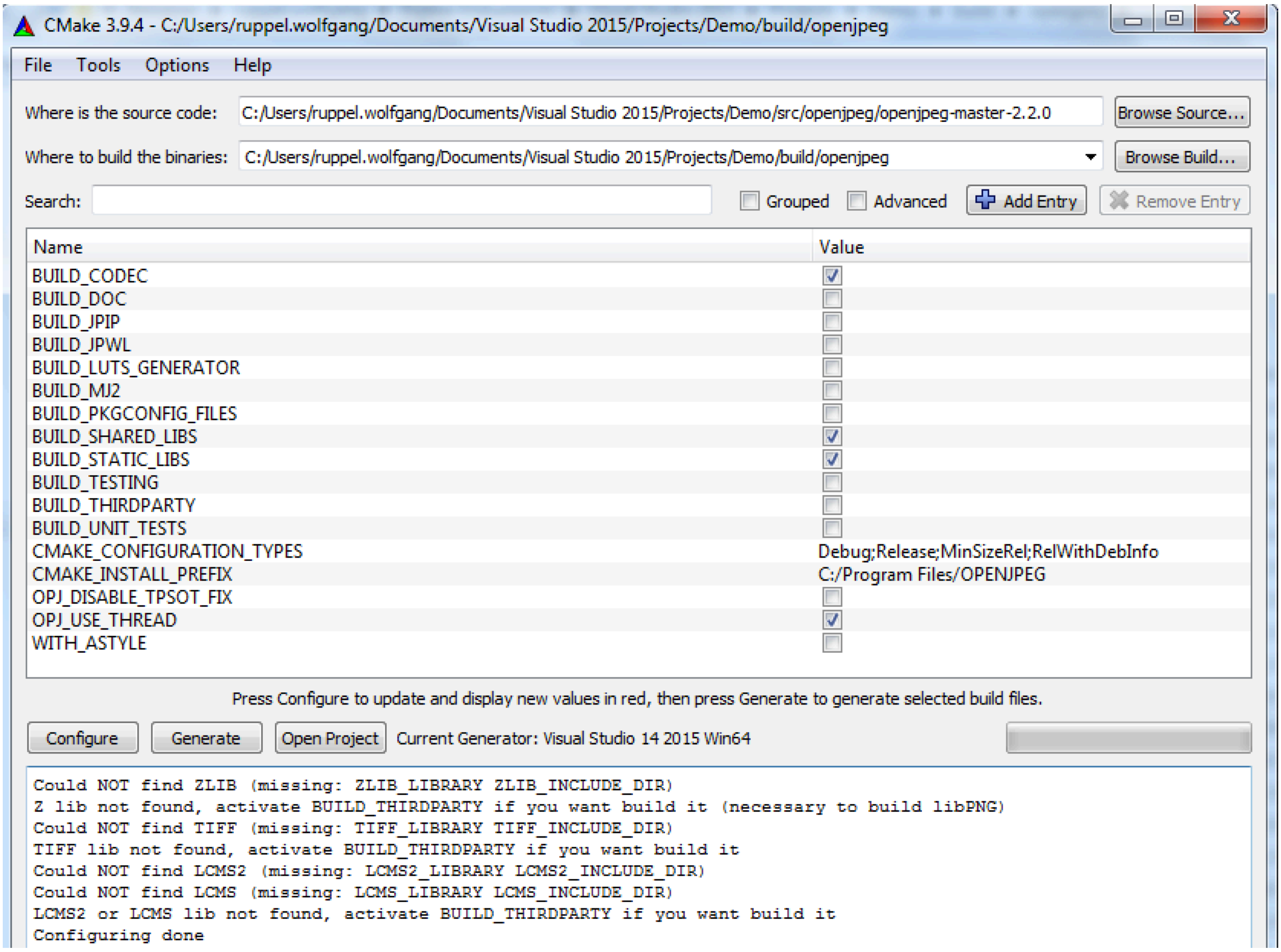
MANUAL STEP REQUIRED:
Create folder Demo\build\asdcplib\src\CMakeFiles\Export\lib
Copy these files into the Export\lib folder:
Demo\build\asdcplib\src\Debug\*.lib
Demo\build\asdcplib\src\Release\*.lib
(6 files in total)

Downloading and building openjpeg

Download OpenJPEG from https://github.com/uclouvain/openjpeg/
Note: OpenJPEG 2.2 (with multi-threading support) is required!

Unpack into Demo/src/openjpeg.

Use CMake to create a Visual Studio 14 2015 Win64 Solution File:



CMake 3.9.4 - C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/build/openjpeg

Where is the source code: C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/src/openjpeg/openjpeg-master-2.2.0

Where to build the binaries: C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/build/openjpeg

Search:

Name	Value
BUILD_CODEC	☑
BUILD_DOC	□
BUILD_JPIP	□
BUILD_JPWL	□
BUILD_LUTS_GENERATOR	□
BUILD_MJ2	□
BUILD_PKGCONFIG_FILES	□
BUILD_SHARED_LIBS	☑
BUILD_STATIC_LIBS	☑
BUILD_TESTING	□
BUILD_THIRDPARTY	□
BUILD_UNIT_TESTS	□
CMAKE_CONFIGURATION_TYPES	Debug;Release;MinSizeRel;RelWithDebInfo
CMAKE_INSTALL_PREFIX	C:/Program Files/OPENJPEG
OPJ_DISABLE_TPSOT_FIX	□
OPJ_USE_THREAD	☑
WITH_ASTYLE	□

Press Configure to update and display new values in red, then press Generate to generate selected build files.

Current Generator: Visual Studio 14 2015 Win64

```
Could NOT find ZLIB (missing: ZLIB_LIBRARY ZLIB_INCLUDE_DIR)
Z lib not found, activate BUILD_THIRDPARTY if you want build it (necessary to build libPNG)
Could NOT find TIFF (missing: TIFF_LIBRARY TIFF_INCLUDE_DIR)
TIFF lib not found, activate BUILD_THIRDPARTY if you want build it
Could NOT find LCMS2 (missing: LCMS2_LIBRARY LCMS2_INCLUDE_DIR)
Could NOT find LCMS (missing: LCMS_LIBRARY LCMS_INCLUDE_DIR)
LCMS2 or LCMS lib not found, activate BUILD_THIRDPARTY if you want build it
Configuring done
```

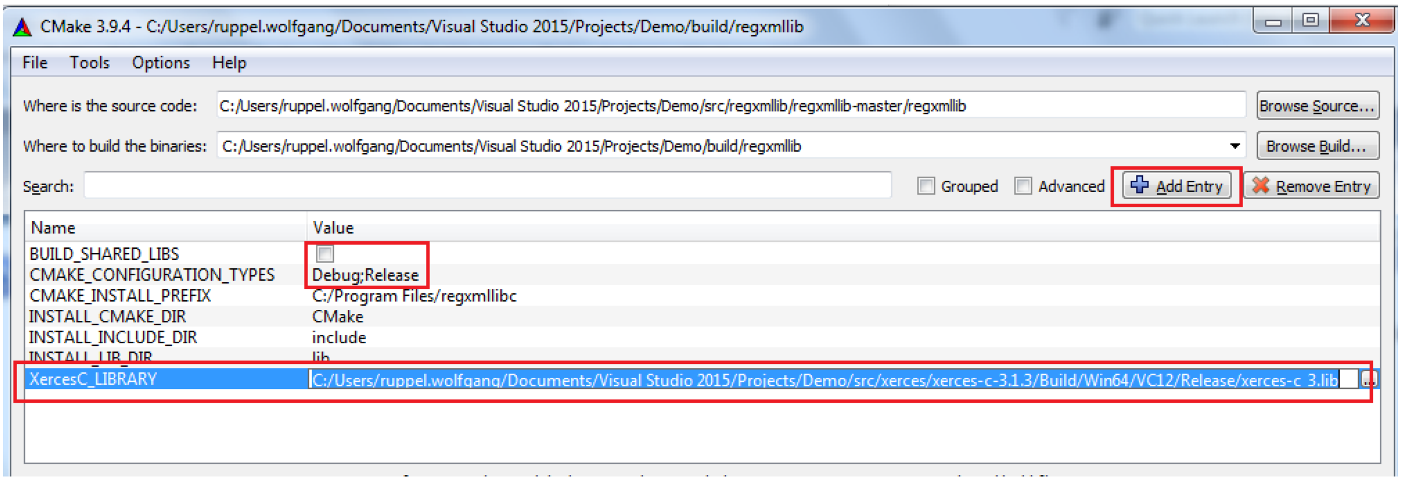
Build Project “ALL_BUILD” in Release mode ONLY.

This project needs to be installed in addition:

- Create folder C:/Program Files/OPENJPEG
- Open Properties of folder OPENJPEG, add current user with read/write access (full permissions).
- Build project “INSTALL”, make sure “Release” mode is selected.
- Verify that target files have been installed in C:/Program Files/OPENJPEG

Downloading and building regxmllibc

Download tar or zip archive from
https://github.com/IMFTool/regxmllib/tree/FEATURE-regxmllibc
Configure, build and install using CMake:



CMake 3.9.4 - C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/build/regxmllib
File Tools Options Help
Browse Source...
Browse Build...
□ Grouped
□ Advanced
Add Entry
Remove Entry

Where is the source code: C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/src/regxmllib/regxmllib-master/regxmllib

Where to build the binaries: C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/build/regxmllib

Search:

Name	Value
BUILD_SHARED_LIBS	□
CMAKE_CONFIGURATION_TYPES	Debug;Release
CMAKE_INSTALL_PREFIX	C:/Program Files/regxmllibc
INSTALL_CMAKE_DIR	CMake
INSTALL_INCLUDE_DIR	include
INSTALL_LIB_DIR	lib
XercesC_LIBRARY	C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/Demo/src/xerces/xerces-c-3.1.3/Build/Win64/VC12/Release/xerces-c_3.lib

The Key XercesC_LIBRARY (Type FILEPATH) needs to be added manually.
The Value of XercesC_LIBRARY should point to xerces-c_3.lib
Make sure BUILD_SHARED_LIBS is deselected.

Open Solution file, build project “BUILD_ALL” for both Release and Debug version.

This project needs to be installed in addition:

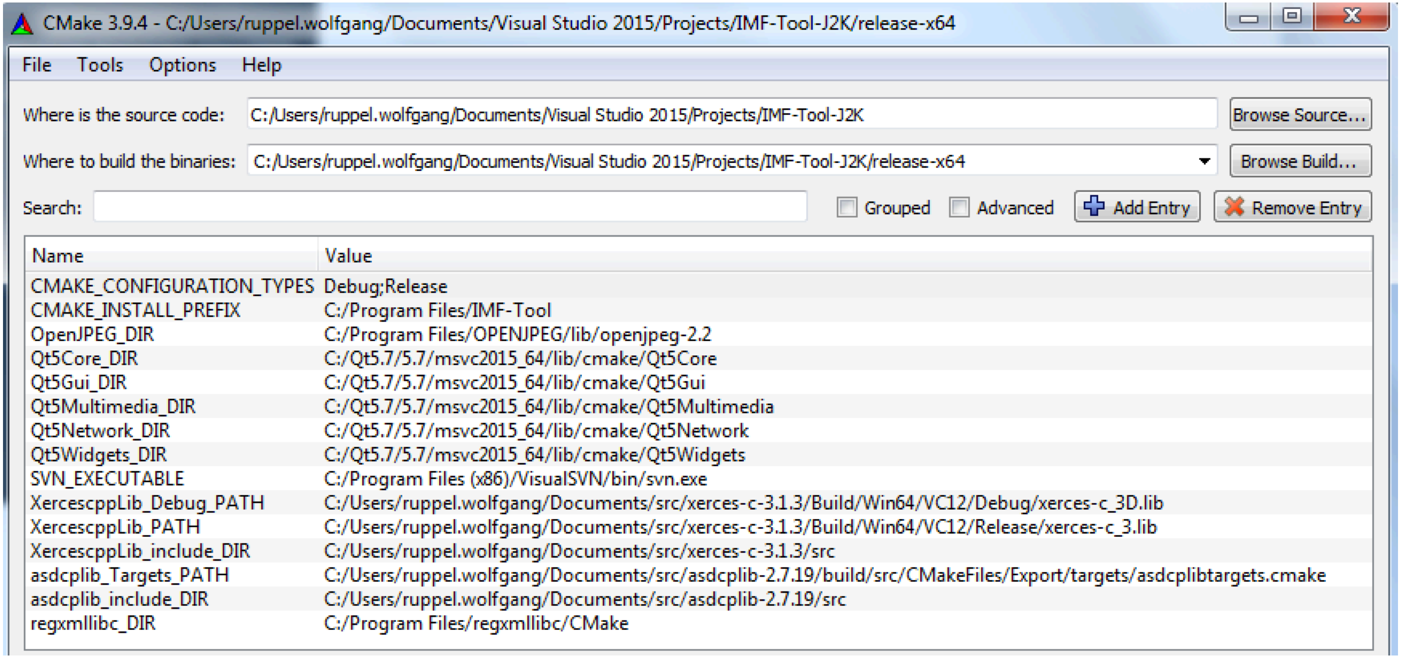
- Create folder
  C:/Program Files/regxmlibc
- Open Properties of folder regxmlibc, add current user with read/write access (full permissions).
- Build project “INSTALL”, for both “Release” and “Debug” mode.
- Verify that target files have been installed in C:/Program Files/regxmlibc

Installing and downloading IMF Tool

`Download or clone IMF Tool from http://github.com/IMFTool/IMFTool`

Configure and build using CMake:

Carefully fill in all PATHs as shown below, several values have to be selected manually:



CMake 3.9.4 - C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/IMF-Tool-J2K/release-x64
File Tools Options Help
Browse Source...
Browse Build...
□ Grouped
□ Advanced
Add Entry
Remove Entry

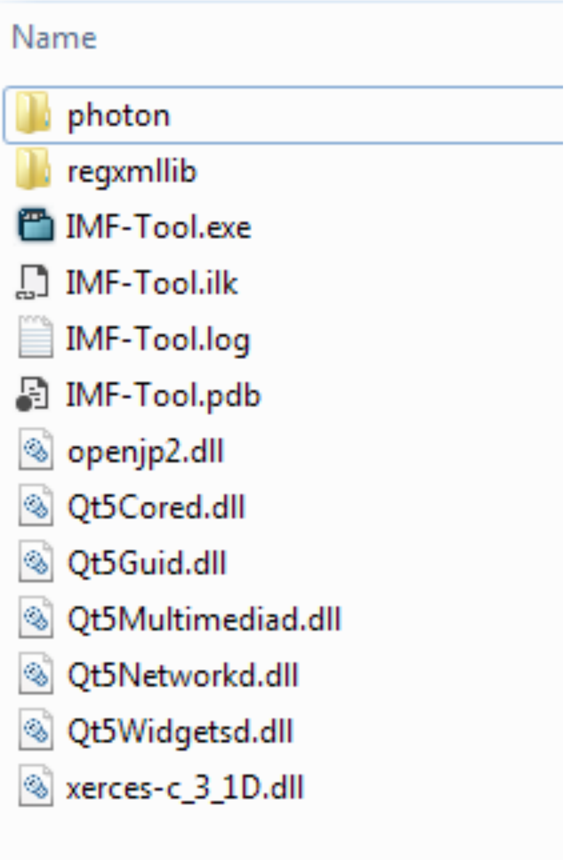
Where is the source code: C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/IMF-Tool-J2K

Where to build the binaries: C:/Users/ruppel.wolfgang/Documents/Visual Studio 2015/Projects/IMF-Tool-J2K/release-x64

Search:

Name	Value
CMAKE_CONFIGURATION_TYPES	Debug;Release
CMAKE_INSTALL_PREFIX	C:/Program Files/IMF-Tool
OpenJPEG_DIR	C:/Program Files/OPENJPEG/lib/openjpeg-2.2
Qt5Core_DIR	C:/Qt5.7/5.7/msvc2015_64/lib/cmake/Qt5Core
Qt5Gui_DIR	C:/Qt5.7/5.7/msvc2015_64/lib/cmake/Qt5Gui
Qt5Multimedia_DIR	C:/Qt5.7/5.7/msvc2015_64/lib/cmake/Qt5Multimedia
Qt5Network_DIR	C:/Qt5.7/5.7/msvc2015_64/lib/cmake/Qt5Network
Qt5Widgets_DIR	C:/Qt5.7/5.7/msvc2015_64/lib/cmake/Qt5Widgets
SVN_EXECUTABLE	C:/Program Files (x86)/VisualSVN/bin/svn.exe
XercescppLib_Debug_PATH	C:/Users/ruppel.wolfgang/Documents/src/xerces-c-3.1.3/Build/Win64/VC12/Debug/xerces-c_3D.lib
XercescppLib_PATH	C:/Users/ruppel.wolfgang/Documents/src/xerces-c-3.1.3/Build/Win64/VC12/Release/xerces-c_3.lib
XercescppLib_include_DIR	C:/Users/ruppel.wolfgang/Documents/src/xerces-c-3.1.3/src
asdcplib_Targets_PATH	C:/Users/ruppel.wolfgang/Documents/src/asdcplib-2.7.19/build/src/CMakeFiles/Export/targets/asdcplibtargets.cmake
asdcplib_include_DIR	C:/Users/ruppel.wolfgang/Documents/src/asdcplib-2.7.19/src
regxmllibc_DIR	C:/Program Files/regxmllibc/CMake

After building, IMF Tool will complain about missing DLL libraries.
Locate the respective libraries and copy them into the folder where `IMF-Tool.exe` is located:



Name

photon
regxmllib
IMF-Tool.exe
IMF-Tool.ilk
IMF-Tool.log
IMF-Tool.pdb
openjp2.dll
Qt5Cored.dll
Qt5Guid.dll
Qt5Multimediad.dll
Qt5Networkd.dll
Qt5Widgetsd.dll
xerces-c_3_1D.dll

Runtime requirements:

Copy the folders `regxmllib/` and `photon/` from the source folder to the folder where `IMF-Tool.exe` is located (see screenshot above)

Some users have reported that on Windows 10 the following additional libraries where required to be copied to the folder containing `IMF-Tool.exe`:

```
libEGLd.dll
libGLESv2d.dll
```