Basic LLVM Installation for Windows 7

1. Prerequisites
As the preferred development environment, Mac is the simplest to configure. The only prerequisites are:

- Windows 7 or higher
- Visual Studio 2013 (Optional – just for code editing)
- ~5GB free space. LLVM takes about 4 GB when built

2. Installing Cywin (This may take about 1 hour)
i)   Download cigwin from https://www.cygwin.com/
ii)   Select the default options until you get to the page asking for which packages you want to install. You need to add the following optional packages: flex, make, gcc-g++, python, libncurses-devel, git, gdb, and curl.

3. Installing LLVM
i)   Open the Cygwin terminal and cd to the directory you want to work in. In Cygwin, if you want to access your normal drives, it's mapped to /cygdrive. So C:\dir is accessible from /cygdrive/c/dir. You will be making multiple directories and links, so it's not recommended to do this in ~.
ii)   Download the LLVM 3.5 source:
$ curl -O http://llvm.org/releases/3.5.0/llvm-3.5.0.src.tar.xz
iii) Extract the archive:
$ tar xJf llvm-3.5.0.src.tar.xz
iv)   Rename the directory to llvm:
$ mv llvm-3.5.0.src llvm

4. Installing Clang
i)   Download Clang source file http://llvm.org/releases/3.5.0/cfe-3.5.0.src.tar.xz
ii)   Move it to llvm/tools
$ cp your/path/to/this/file ./llvm/tools
v)   Extract the archive:
$ tar xJf cfe-3.5.0.src.tar.xz
iii) Rename it to clang
$ mv xJf cfe-3.5.0.src clang

5. Building LLVM and Clang (On my windows it took about 9-10 hours)
i)   Configure LLVM to build a debug build:
$ ./configure CC=gcc CXX=g++   --disable-optimized --enable-terminfo=no
ii)   Add the following rule in llvm/Makefile.rules file:
        ifeq ($(HOST_OS), $(filter $(HOST_OS), Cygwin MingW))
                CXX.Flags += -Xassembler -mbig-obj
         endif
iii) Go to llvm directory and build it:
$ make
iv)   Once you've built LLVM, you need to make a couple of links in the parent directory, so:
$ ln -s llvm/Debug+Asserts/lib/ lib
$ ln -s llvm/Debug+Asserts/bin/ bin