ThriftInstallationWin32

Thrift compiler for Windows is available on the official download site: http://incubator.apache.org/thrift/download/index.html

For C# library and tutorial have a look on the following files and folders within the official distribution:

- lib/csharp/src/Thrift.csproj - MS BuildTask to create the Thrift.dll
- lib/csharp/ThriftMSBuildTask/ThriftMSBuildTask.csproj - MS BuildTask to generate csharp from .thrift files, and compile the code into a library: ThriftImpl.dll
- tutorial/csharp/ - Tutorial

The following instructions install the thrift *compiler* and *runtime library*.

Basic requirements for win32

Thrift's compiler is written in C++ and designed to be portable, but there are some system requirements:

- Cygwin or MinGW
- GNU build tools (autoconf 2.60, automake 1.10, libtool 1.5.24)
- boost 1.33.1+
- g++ 4.0+
- bison 2.3-1
- boost 1.33.1-4
- boost-devel 1.33.1-4
- flex 2.5.33-1
- pkgconfig
- libtool

Thrift's runtime libraries are written in various languages, which are also required for the particular language interface.

Installation steps (Cygwin dependency)

Installing from source

If you are building from the first time out of the source repository, you will need to generate the configure scripts. (This is not necessary if you downloaded a tarball.) From the top directory, do:

```
./bootstrap.sh
```

Once the configure scripts are generated, thrift can be configured. From the top directory, do:

```
export CXXFLAGS="-D PTHREAD_MUTEX_RECURSIVE_NP=PTHREAD_MUTEX_RECURSIVE"
./configure
```

Setting the CXXFLAGS environmental variable works around compile errors with PTHREAD_MUTEX_RECURSIVE_NP being undeclared, by replacing it with the newer, portable PTHREAD_MUTEX_RECURSIVE. (Tested on cygwin 20100320, Thrift r760184, latest pthread.)

Optional: You *may not* be able to make from the root Thrift directory due to errors (see below to resolve). To make the compiler only, change to the compiler directory before running make:

```
cd compiler/cpp
```

Now make the thrift compiler (& runtime libraries if make is run from the thrift root directory):

```
make
make install
```

Some language packages must be installed manually using build tools better suited to those languages (at the time of this writing, this applies to Java, Ruby, PHP).

Look for the README file in the lib/<language>/ folder for more details on the installation of each language library package.

Possible issues with Cygwin install

See also Possible issues with MinGW install.

Syntax error in ./configure

The following error occurs for some users when running ./configure:

```
./configure: line 21183: syntax error near unexpected token `MONO,'
./configure: line 21183: `  PKG_CHECK_MODULES(MONO, mono >= 1.2.6, have_mono=yes, have_mono=no)'
```

To resolve this, you'll need to find your pkg.m4 (installed by the pkg-config package) file and copy it to the thrift/aclocal directory. From the top-level thrift directory, you can copy the file by running

```
        cp /usr/share/aclocal/pkg.m4 aclocal
```

Finally, re-run ./bootstrap.sh and ./configure. (Note that pkg.m4 is created by the pkg-config tool. If your /usr/share/aclocal directory doesn't contain the pkg.m4 file, you may not have pkg-config installed.)

Installing perl runtime libraries

Sometimes, there will be an error during the install of the perl libraries with chmod.

A workaround is to avoid installing the perl libraries if they are not needed.

If you don't need perl, run configure with `--without-perl`.

If you need perl, and are happy to manually install it, replace the contents of thrift/lib/perl/Makefile with the following, after building thrift:

```
        install:
```

TODO - Fix

Linking to installed C++ runtime libraries

Sometimes, the installed libthrift.a will not link using g++, with linker errors about missing vtables and exceptions for Thrift classes.

A workaround is to link the compiled object files directly from your Thrift build, corresponding to the missing classes.

This can be implemented in a Makefile using the following lines:

```
        THRIFT_O=<path to>/thrift/lib/cpp
        LTHRIFT=$(THRIFT_O)/Thrift.o $(THRIFT_O)/TSocket.o $(THRIFT_O)/TBinaryProtocol.o $(THRIFT_O)
/TBufferTransports.o
```

Then linking using $(LTHRIFT) instead of -lthrift.

TODO - diagnose issue further

C++ runtime segfault with cygwin 1.7.5-1, g++-4.3.4, fork() and throw

If your thrift C++ programs segfault on throw after fork()ing, compile them with g++-3.

The issue and patch are described on the Cygwin mailing list at http://cygwin.com/ml/cygwin/2010-05/msg00203.html

This issue should be fixed in Cygwin versions after 1.7.5-1, or g++ 4.5.0.

Installation from Source (No Cygwin dependency)

To compile the Thrift generator & runtime libraries (untested) without the cygwin.dll dependency you need to install MinGW (www.mingw.org). In addition you need to add the following entry to your windows PATH variable.

```
        C:\MINGW\BIN
```

Next, open compiler/cpp/Makefile.am and add the following line to thrift_CXXFLAGS

```
-DMINGW -mno-cygwin -lfl
```

Run bootstrap.sh:

```
./bootstrap.sh
```

Make sure you have java in your $PATH variable, if not do(adjust path if necessary):

```
export PATH=$PATH:"/cygdrive/c/program files/java/jre1.6.0_05/bin"
```

Run configure - using CXXFLAGS to work around an issue with an old pthreads define (untested on MinGW - works on Cygwin):

```
export CXXFLAGS="-D PTHREAD_MUTEX_RECURSIVE_NP=PTHREAD_MUTEX_RECURSIVE"
./configure
```

Optional: To make the compiler only, change to the compiler directory before running make:

```
cd compiler/cpp
```

Run make:

```
mingw32-make.exe
```

Possible issues with MinGW install

See also Possible issues with Cygwin install, including the discussion about PTHREAD_MUTEX_RECURSIVE_NP.

yywrap is not found

Make sure you add -lfl in your cxxflags in Makefile, also try adding -Lc:/cygwin/libs

boost is not found

Try and change the include dir to use the windows path from c like this: Edit compiler/cpp/Makefile, look for the declaration of BOOST_CPPFLAGS, change that line for

```
BOOST_CPPFLAGS = -Ic:/cygwin/usr/include/boost-1_33_1
```

realpath is not found

add -DMINGW -mno-cygwin to the CXXDEFS variable in Makefile