Command Line Development Using VC++ 2005 How-To

Introduction

This how-to provides detailed instructions for installing the required and optional tools and setting up the environment for **command-line development** of Transims on a Windows platform.

Compiling Transims on a Windows environment is relatively simple if one chooses to use the Visual C++ IDE. However, it is often useful to systematically rebuild Transims without user interaction. In these cases, one should prepare their systems to support command-line development.

These instructions were developed in November 2007. The instructions were patched together from various web pages to produce a single checklist.

Note that over time, some of the links presented below may change.

Revision History

11/6/2007   Created by John Leonard, Georgia Tech

4/1/2010   Edited by RSG, Inc.

Download and install the compiler environment

The following software packages should be downloaded and installed on your system:

1. **Install Microsoft Visual C++ 2005 Express Edition**

   http://msdn2.microsoft.com/en-us/express/aa975050.aspx

2. **Install Microsoft Visual C++ 2005 Express Edition – Service Pack 1**

Follow the links on the page above (Step 3) and download and install the file *vs80sp1-kb926748-x86-intl.exe*.

3. **Install Microsoft Platform SDK**

   http://msdn2.microsoft.com/en-us/express/aa700755.aspx

4. **Update the Visual C++ directories in the Projects and Solutions section in the Options dialog box.**

Add the paths to the appropriate entries in the file *VCProjectEngine.dll.config* file located in the \vc\vcpackages subdirectory of the Visual C++ Express install location.:

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- Executable files: C:\Program Files\Microsoft Platform SDK for Windows Server 2003 R2\Bin
- Include files: C:\Program Files\Microsoft Platform SDK for Windows Server 2003 R2\Include
- Library files: C:\Program Files\Microsoft Platform SDK for Windows Server 2003 R2\Lib

Please make sure that you also delete the file "vccomponents.dat" located in the "%USERPROFILE%\Local Settings\Application Data\Microsoft\VCExpress\8.0" if it exists before restarting Visual C++ Express Edition.

5. Update the corewin_express.vsprops file.

One more step is needed to make the Win32 template work in Visual C++ Express. You need to edit the corewin_express.vsprops file (found in C:\Program Files\Microsoft Visual Studio 8\VC\VCProjectDefaults) and

Change the string that reads:

    AdditionalDependencies="kernel32.lib"

to

    AdditionalDependencies="kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib"

6. Ensure the appropriate paths are set

VC++ includes a BAT file that SETs the necessary variables in your environment. Here is the command:

>> "C:\Program Files\Microsoft Visual Studio 8\VC\vcvarsall.bat"

This command need only be run once during the life of a CMD shell.

7. Verify that MSBUILD is installed

MSBUILD is a command line tool, similar to make, that builds .sln files. This program is part of the Microsoft .NET framework. Look for MSBUILD with the following command:

>> dir C:\WINDOWS\Microsoft.NET\Framework\v2.0.50727\MSBuild.exe

If 6) above was performed, you can directly check for MSBUILD with:

>> msbuild /help

If not found, you should visit:

http://msdn2.microsoft.com/en-us/netframework/aa569263.aspx

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Download and install Subversion

Subversion is a version control tool that helps developers keep track of changes made to their projects. The command-line version of the software may be downloaded and installed from:

http://subversion.tigris.org/project_packages.html

Scroll down and look for the Windows binaries. At the time of this writing, the explicit Win32 setup file for version 1.4.5 is:

http://subversion.tigris.org/files/documents/15/39559/svn-1.4.5-setup.exe

Download the Transims Source

Once subversion is installed, the following command will get the Transims source from the sourceforge.net repository:

>> svn checkout https://transims.svn.sourceforge.net/svnroot/transims/version4/trunk/ transims4

This command will create a local copy of the Version4 trunk in the folder "transims4" directly underneath your present working directory

Ensure the appropriate paths are set

VC++ includes a BAT file that SETs the necessary variables in your environment. Here is the command:

>> "C:\Program Files\Microsoft Visual Studio 8\VC\vcvarsall.bat"

This command need only be run once during the life of a shell.

Build the Transims Source

Change to the directory that contains the Transims40.sln file and build it:

>> cd transims4\src

>> msbuild Transims40.sln

Other useful tools

Two extremely useful command line tools for subsequent develop include Perl and Make.

ActivePerl is a free version of perl and can be found at:

http://www.activestate.com/solutions/perl/

Follow the links (you need not register) and select the 5.8.8 version.

Make is a command line tool for maintaining relationships between files. One can consider it a "smart" version of a .BAT file manager. A free version of Make can be found on SourceForge at:

http://sourceforge.net/project/showfiles.php?group_id=2435

Because of an odd inconsistency with MSBUILD, I suggest downloading version 3.81 or newer.

Once downloaded, I suggest 1) adding \MinGW\bin to your path, and 2) copying mingw32-make.exe to make.exe. This will permit you to run make directly from the command line.