Installing NWTC CAE Tools on PCs Running Windows®

by

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Introduction

Installing and running console applications such as the National Wind Technology Center (NWTC) computer-aided engineering (CAE) tools is different than it is for normal 32/64-bit Windows applications. Usually, you will want to install our tools in such a way that they will run from a command window and from any folder.

This short paper will guide you through the installation of our tools for the various Windows® operating systems. This tutorial will assume the tool being installed is Crunch, but these instructions should work for any of the other command-line tools we distribute.

Retrieving Files from the Archives

You should download the archive of a tool from our web server page http://wind.nrel.gov/designcodes/. The archive file should have a name such as *Crunch_v3.02.00c-mlb.exe*. Create a folder called *Crunch* somewhere on your file system and put this file there. For this example, we will assume the folder's name is *C:\DesignCodes\Crunch*. You can double click on the file from Windows Explorer or by entering *Crunch_v233* at a command prompt with the *Crunch* folder as the current directory. This will create some files and folders. Included in the *Crunch* folder will be files called *Crunch_win32.exe* and *Crunch_win64.exe*. These are the executable files for 32- and 64-bit versions of Crunch.

Not all of our programs have both versions and if it not specified, the program is probably a 32-bit program. The 32-bit programs can run on 64-bit Windows, but 64-bit programs cannot run on 32-bit Windows. Using a 64-bit version is more important for our postprocessors than it is for other programs because some of them hold large quantities of data in memory at once.

Setting Up a Folder for Batch Files

This is something you need to do only once. After you've done it for one of our tools, you will not need to repeat the process for other tools.

Create a folder somewhere in your file system. This tutorial will use *C:\Batch*. Now, add the folder to your search path; you must have Administrator privileges on your PC to do this.

In Windows XP, you click on *Start*, *Settings*, and then *Control Panel*. Double-clicking on the *System* file or icon will bring up the System Properties window. Click on the *Advanced* tab. Near the bottom of this tab, click the *Environment Variables* button.

In Windows 7, Windows 8, Server 2008, or Server 2012, hit the *Windows* key (*Alt-Home* for a remote system), right-click on *Computer*, and select *Properties*. Click on *Advanced system settings*. You will likely be asked to provide administrative rights to proceed. Click on the *Environment Variables* button.

The *Environment Variables* window is the same for all versions of Windows. Under *System Variables*, scroll down to find the *Path* variable and click on *Edit*. Click inside the *Variable Value* box and hit the *Home* key to get to the beginning of the line. Enter "*C:\Batch;*" to the beginning of the path in the *Variable value* box. Do not forget to put in the semicolon separator. Click the *OK* buttons to close all the windows we used to change the path and put the change into effect.

The change you just made will be permanent and will apply to any new command windows you open. You do not need to reboot your PC. The search paths for windows that were already open when you make the change will not be updated, so you cannot use them to run the tool.

Creating a Batch File

The next step is to create a batch file to invoke the tool. Using a plain-text editor, create a file called *Crunch.bat* in the *C:\Batch* folder. You need only one line in the batch file. Its contents should look something similar to this:

    C:\DesignCodes\Crunch\Crunch_win64.exe %*

This tells the operating system to find an executable file named *Crunch_win64.exe* in the *C:\DesignCodes\Crunch* folder. The *%** tells the batch file to pass the command-line arguments to *Crunch_win64.exe*.

Invoking the Tool

To run a tool, open a command window and set the folder to one where you have your user-created files. *It is inadvisable to do your work in the design-code folders*. To start the tool, enter something similar to this:

    Crunch MyFile.cru

That's all there is to it. Happy computing!

Caveats

NREL makes no promises about the usability or accuracy of this tutorial.

Acknowledgements

Feedback

If you have comments about this tutorial, please contact Marshall Buhl. E-mail and posting to our forums are the preferred methods of communication.

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