

Installing c++/g++ on Windows

Disclaimer: This page is being maintained mainly for my students. Use these instructions at your own risk. There is no warranty in any form or shape whatsoever!. There is no guarantee that these instructions are up-to-date. With that understood you may continue with the rest of this page if you choose to accept these terms.

This page was last updated on September 13, 2005, but still good as of November 6, 2011.

Follow these steps to install g++ (the GNU C++ compiler) for Windows. **There is no room for creativity here; you must follow the directions exactly.**

1. Pick the drive and a folder in which you want to install g++. I'll assume that it is `c:`, but you can choose a different one. **If you choose a different drive or a different folder, you'll need to adapt the directions below accordingly.**
2. Download [full.exe](#), an about 14 megabyte executable, to `c:\full.exe` by right-clicking on the link. Use **Save Link As...** or **Save Target As...** Be sure the browser saves the file as `c:\full.exe`.
3. Run the downloaded executable. This will install g++ (and a lot of other things that you don't really need) on your hard drive. Go to the `c:` drive using Windows Explorer and double-click on `full.exe`. Or, open a DOS window (**Start > Programs > Command Prompt**), connect to the `c:` drive using the `cd` command, and type `full`.
4. Locate where the `bin` folder was created for the g++ installation. On my Windows XP machine, it was created in the following path:

```
C:\cygnus\cygwin-b20\H-i586-cygwin32\bin
```

You now should add it to the `PATH` environment variable. You do that by following:

```
Start -> Control Panel -> System -> Advanced -> Environment Variables
```

At this point you can see the `PATH` variable either in the `User Variables` or in the `System Variables`. Add the g++ path into the `PATH` variable. You add it to the end of the *existing* value separated by a semicolon (;). Make sure that you do not lose the original value. You are just appending more to the end separated by a semicolon.

5. Restart your computer. **A Cygnus Solutions entry will appear in your Programs menu, and an icon may appear on your desktop. Don't use them!** You will use it using the `g++` command on a DOS prompt as explained below.

You should now be able to run g++ from a DOS (Command Prompt) window. For example, to compile a file called `C:\mine\hello.cpp`, connect to the `C:\mine` folder and enter

```
g++ -g hello.cpp -o hello -lm
```

You'll then be able to run the compiled program by entering `hello` in the DOS window.

If you've installed Emacs as described [here](#), you will also be able to run g++ from Emacs. If, when you do this,

Emacs tries to compile with the command `make -k`, you made a mistake during the Emacs installation. If you want to learn how to run g++ on emacs, see [here](#).

If you'd like to learn more about where this free compiler came from, we downloaded it from an older site of <http://sourceware.org/cygwin/>.

If you wish to clean up a little, you may delete the file: `full.exe` at this point. Your g++ compiler is installed under `C:\cygnus`.

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