“Minimalist Gnu for Windows”

What is “MinGW”?

MinGW is an open source package freely available for Microsoft Windows based systems that makes it possible to write, develop and run the same numerical C code on Windows that you would usually develop on Linux systems. The package provides the Gnu Compiler Collection (gcc) and a bash command shell that can be run within Windows for compiling source code. The executable files that the MinGW gcc compiles will run directly in Windows. This means that you won't be able to write C code that uses special Linux operating system calls, but all the capabilities in C for computational coding and standard file input and output will work fine.

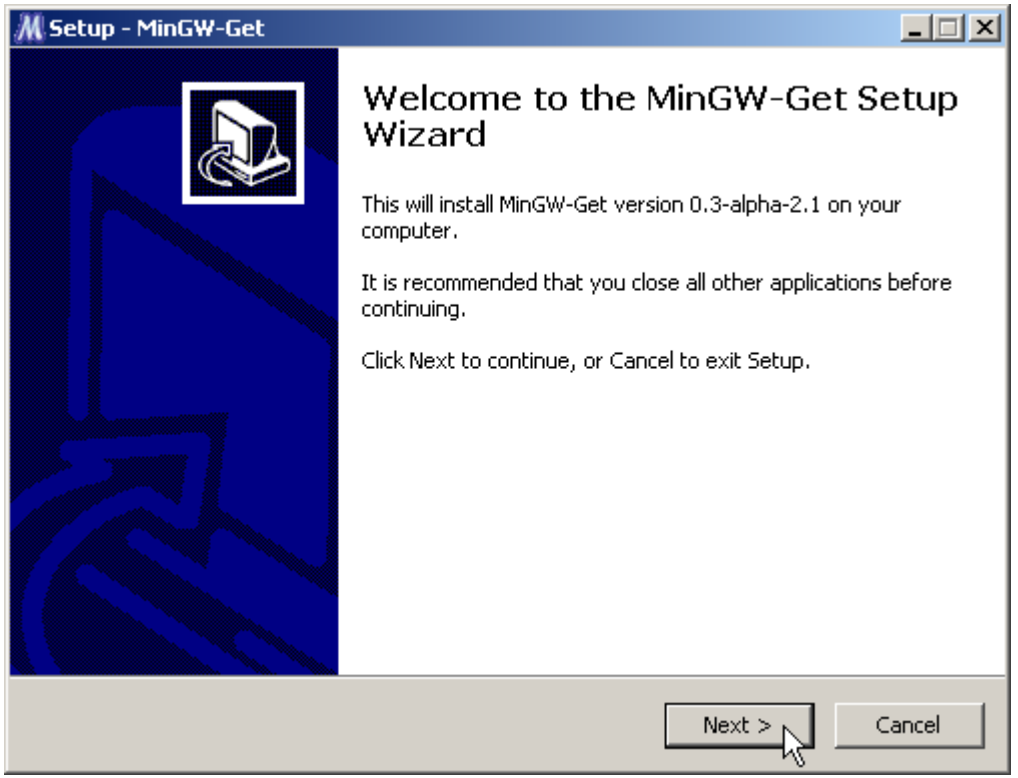
Description and documentation is available from:
`http://www.mingw.org/`

Most recent release files may be downloaded from:
`http://sourceforge.net/projects/mingw/files/`

For convenience, I have placed the latest version of the “Automated MinGW Installer”, which is currently
`mingw-get-inst-20120426.exe`
on the Physics 3340 web page for downloading

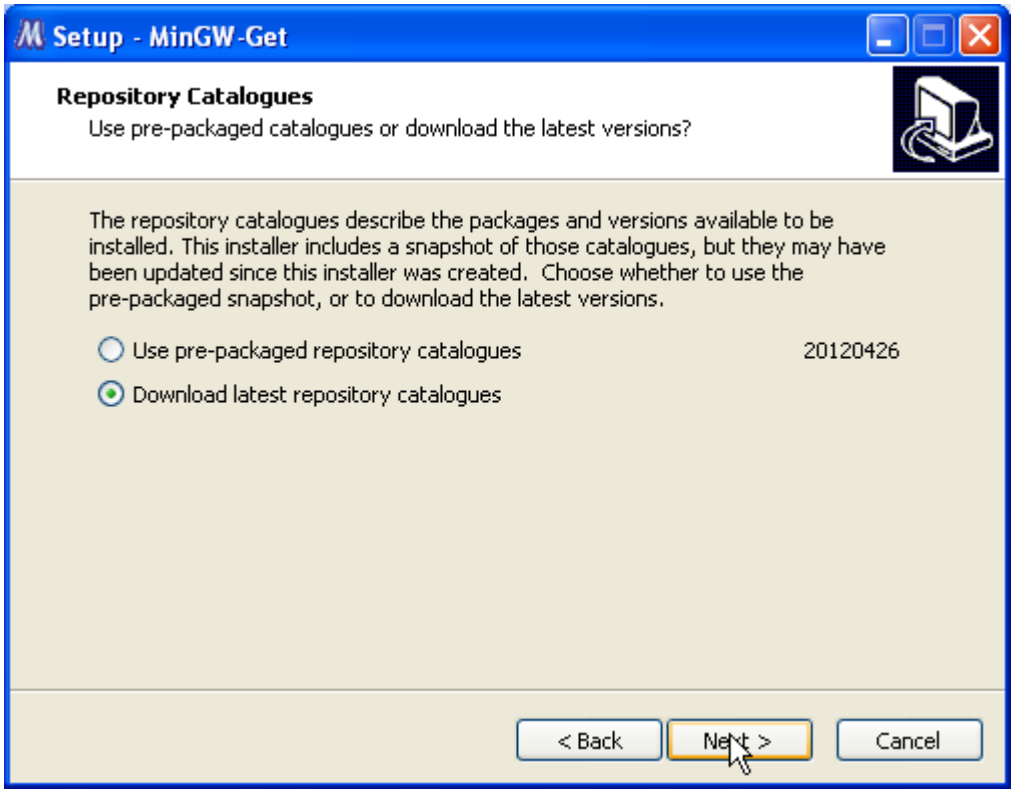
Starting the Automated MinGW Installer

Run `mingw-get-inst-20120426.exe` to get started



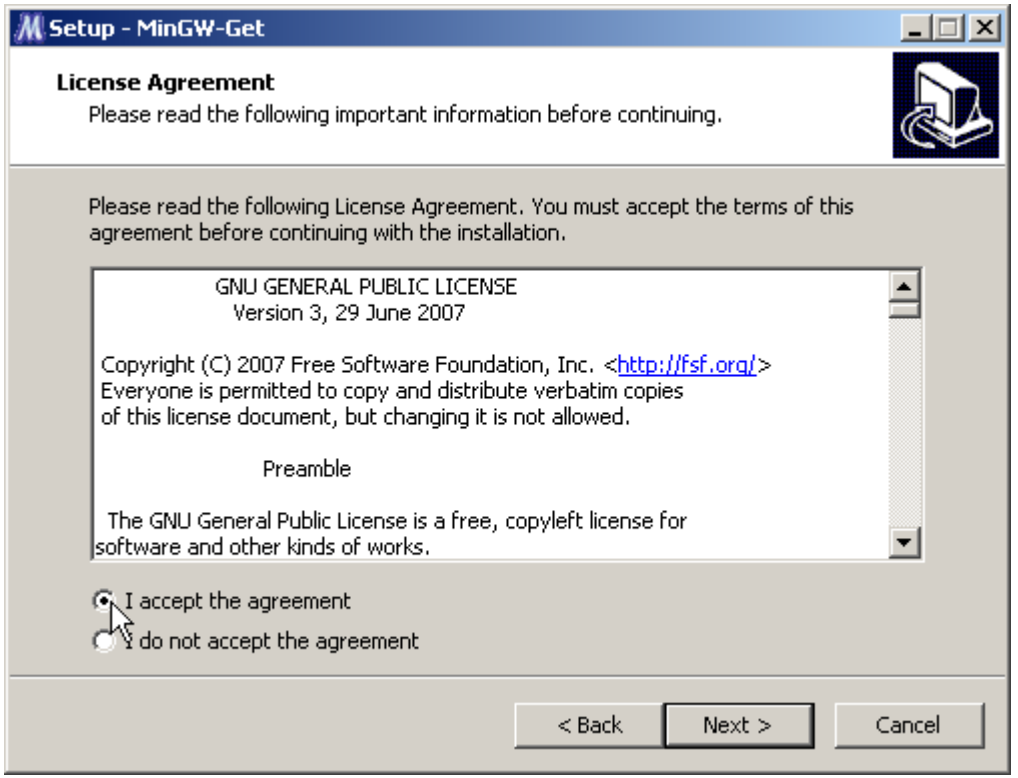
Just click “Next”

Installing MinGW



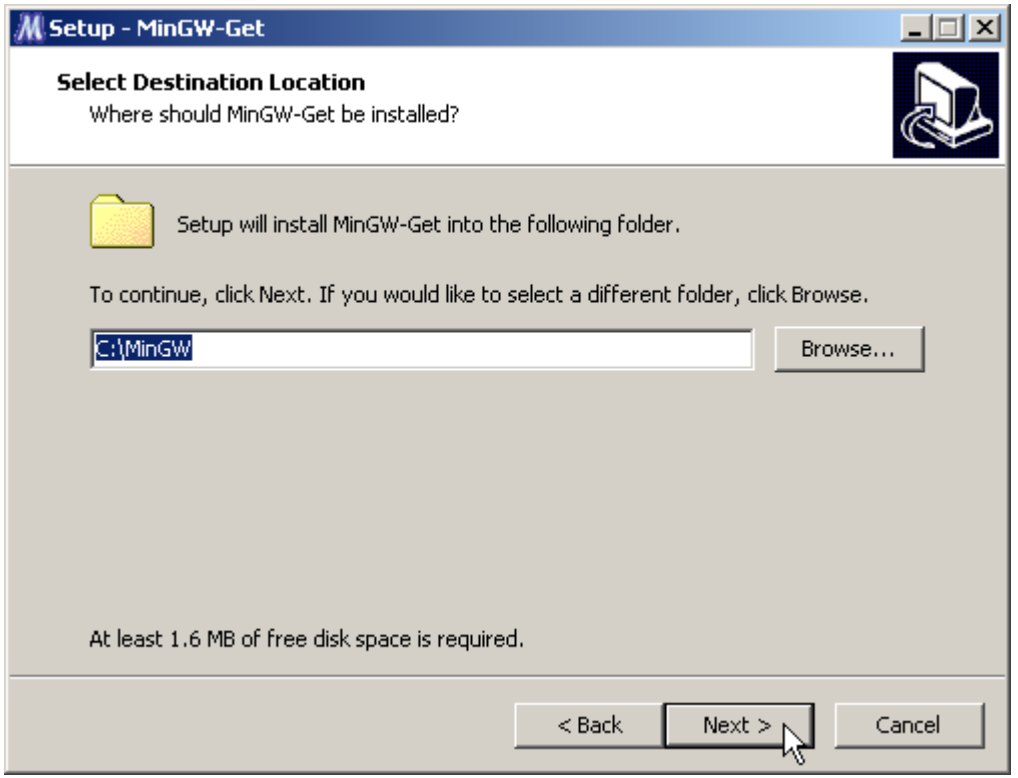
Set mingw-get-inst to always download the most recent repository catalog and click “Next”

Installing MinGW



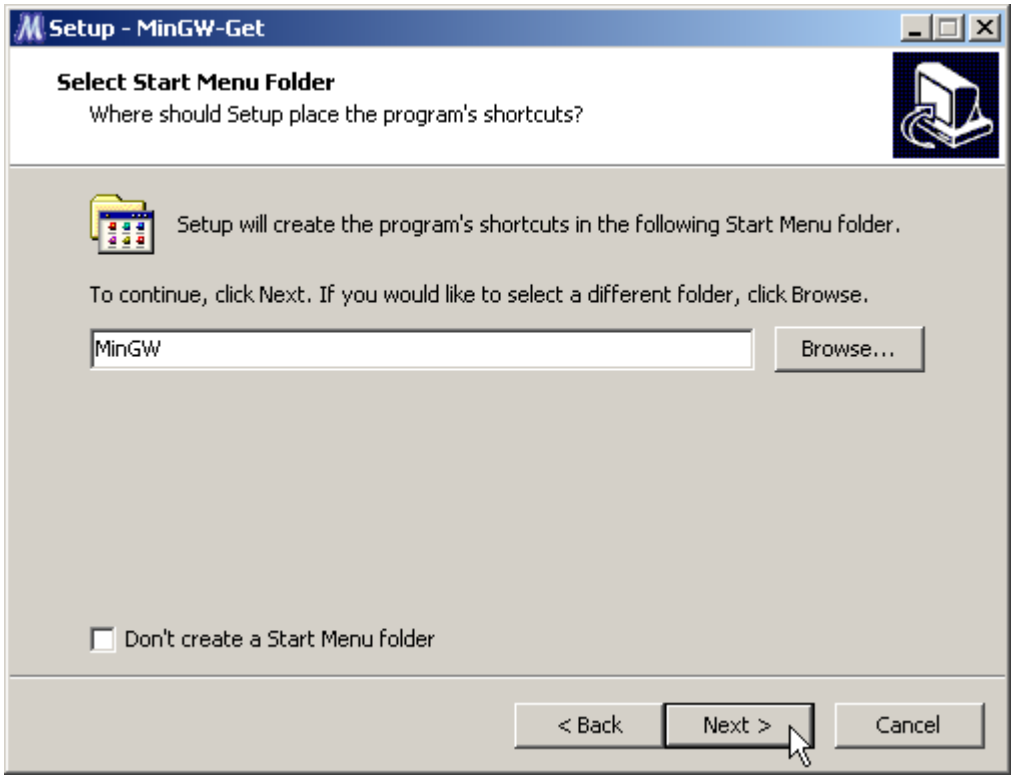
Accept the Gnu license agreement and click “Next”

Installing MinGW



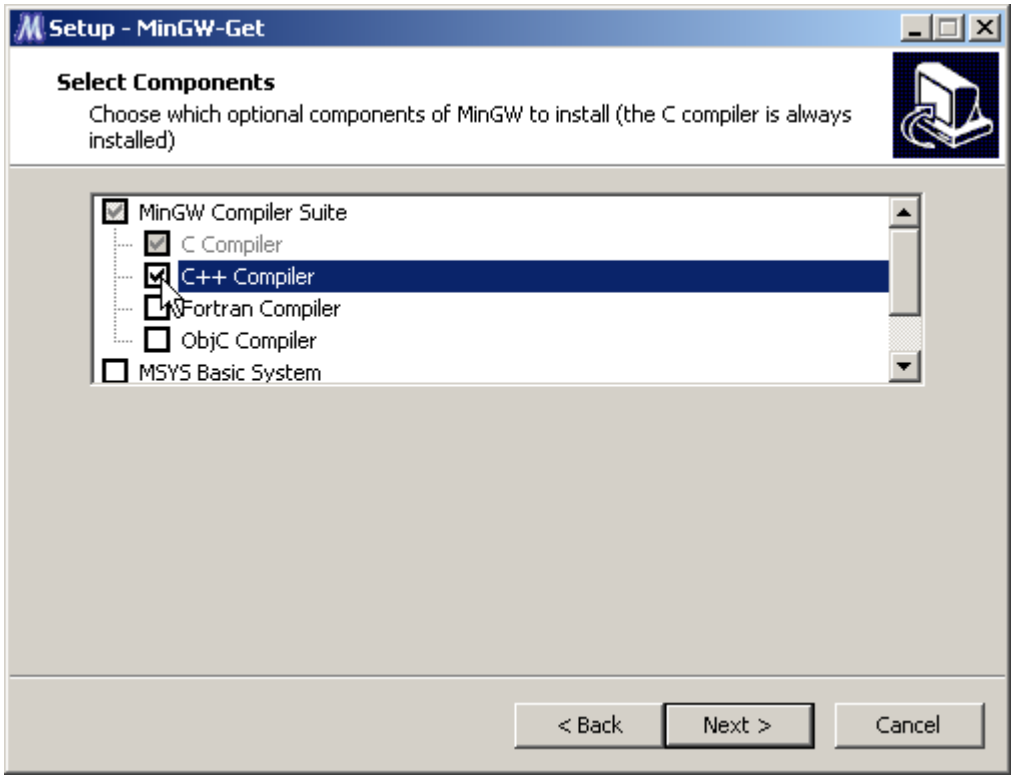
It is important that you leave the installation directory to the default C:\MinGW and just click “Next”

Installing MinGW



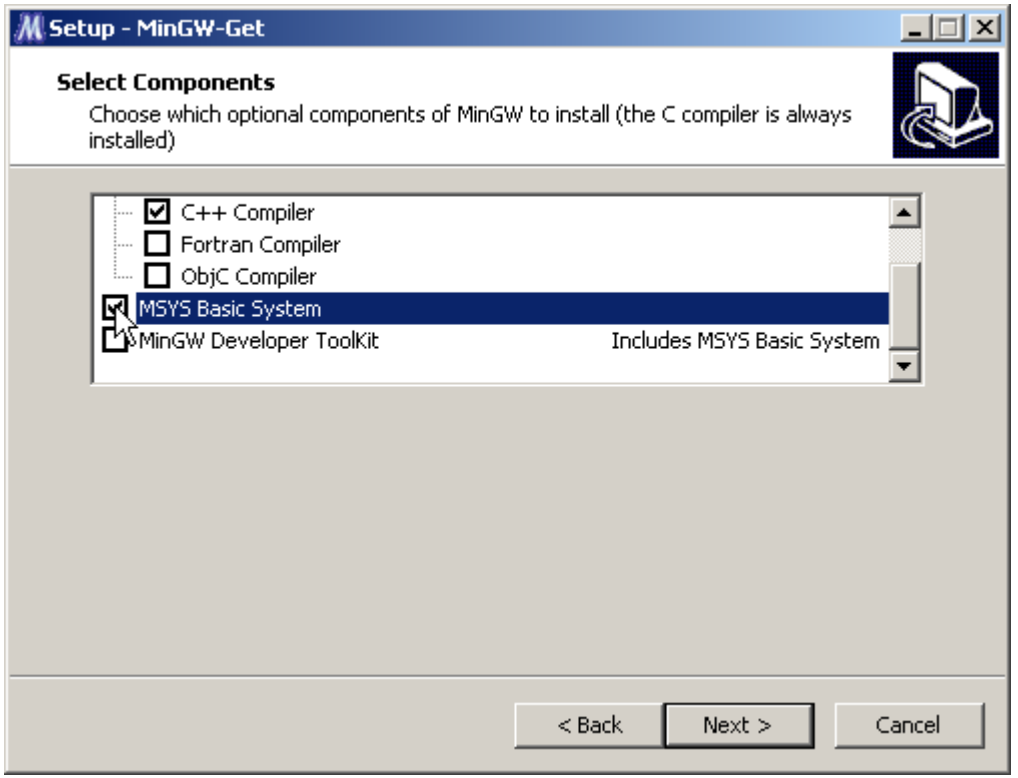
Select where you want the Windows program shortcut icons under your Start menu; the default MinGW is fine; click “Next”

Installing MinGW



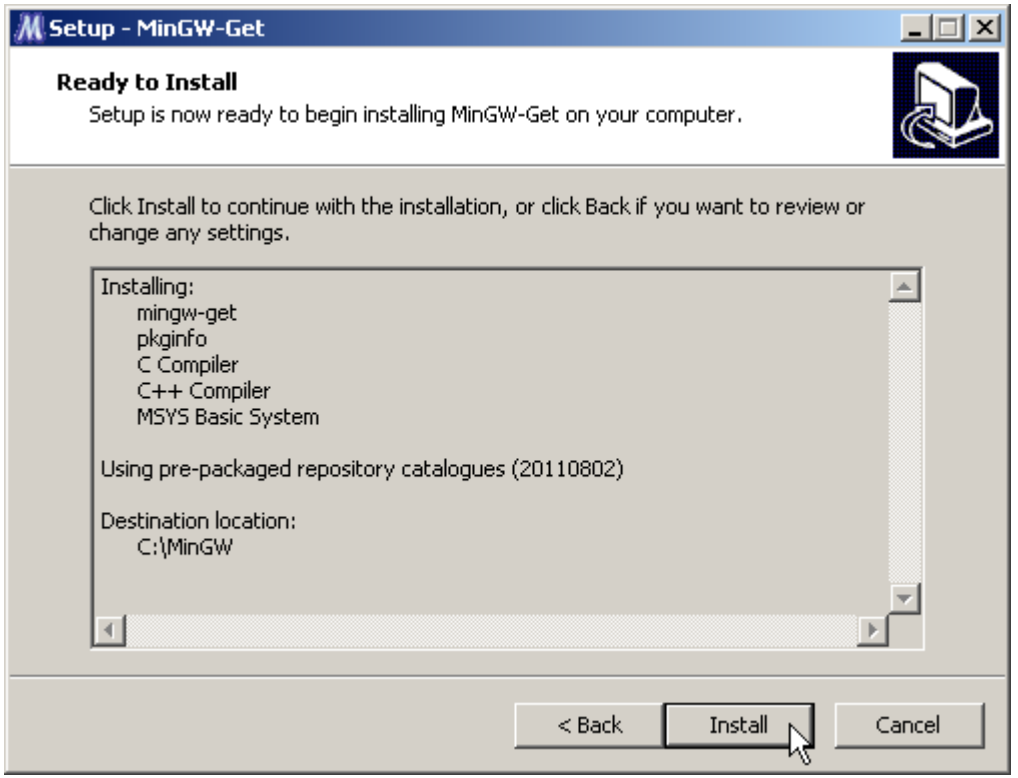
By default the C compiler component will be installed, and if you optionally want the C++ compiler you can check the box shown, but do NOT click “Next” yet!

Installing MinGW



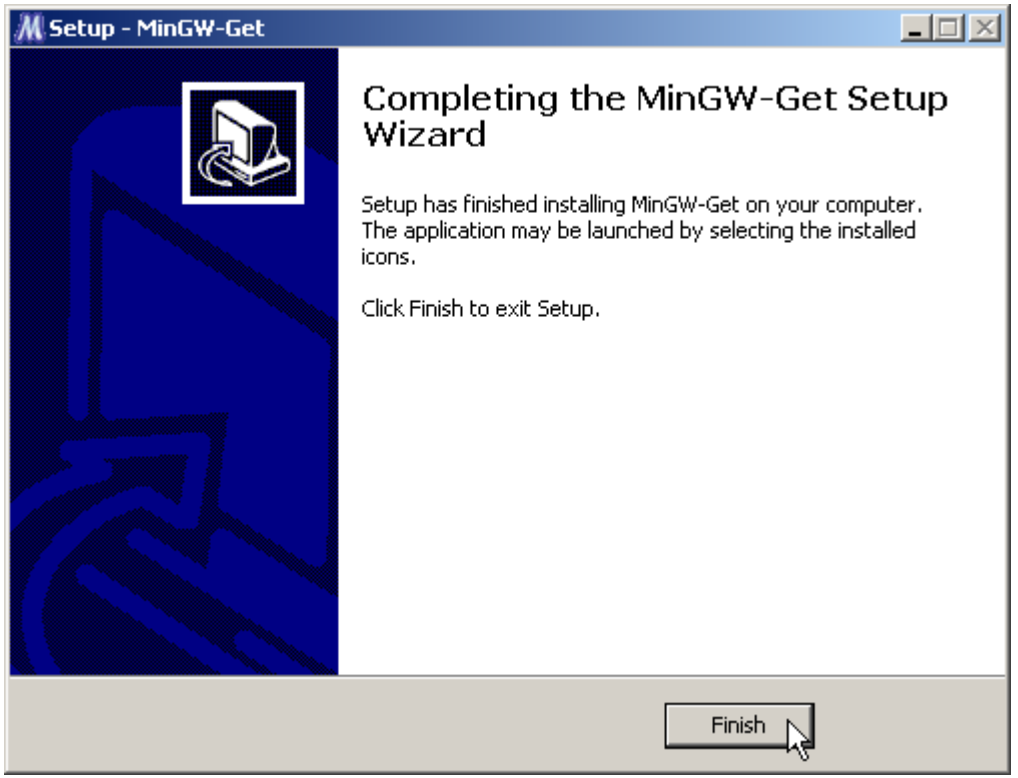
Scroll down the component option list and check “MSYS Basic System” to add the bash command shell and a basic Linux emulation sub-system; now click “Next”

Installing MinGW



Verify installation choices and click “Install”

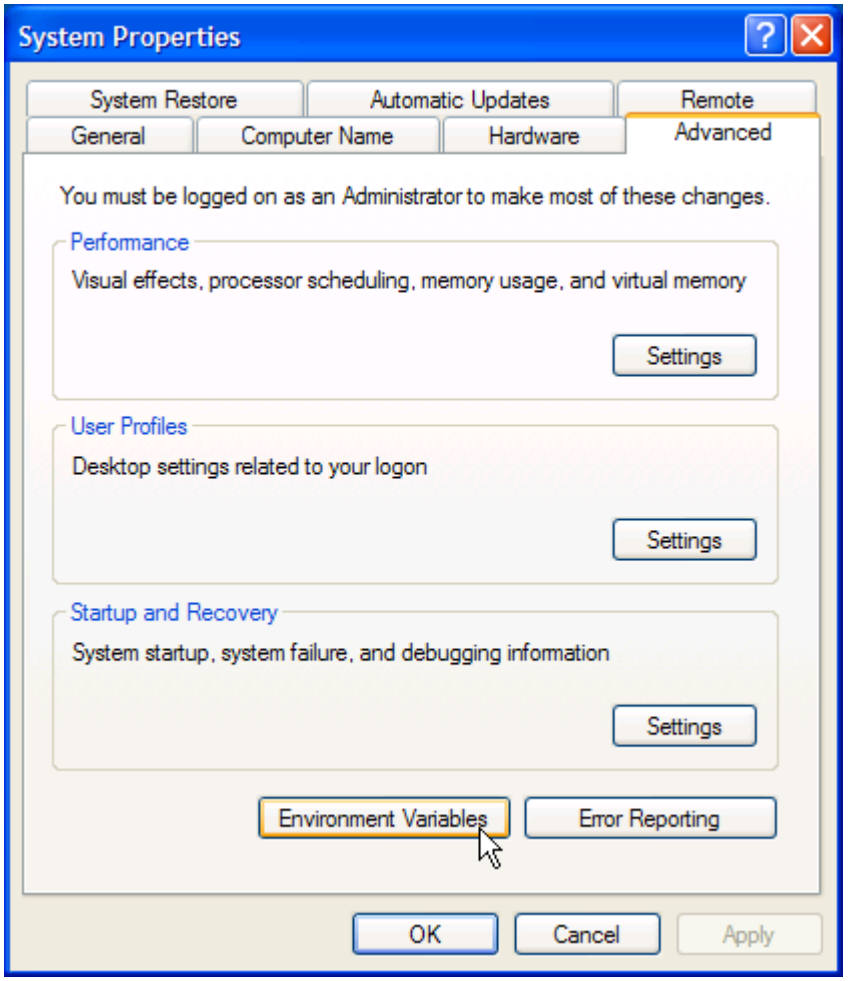
Installing MinGW



Installation will proceed automatically downloading needed files from the MinGW server and provide a progress report in a separate command window; after waiting for it to complete click “Finish”

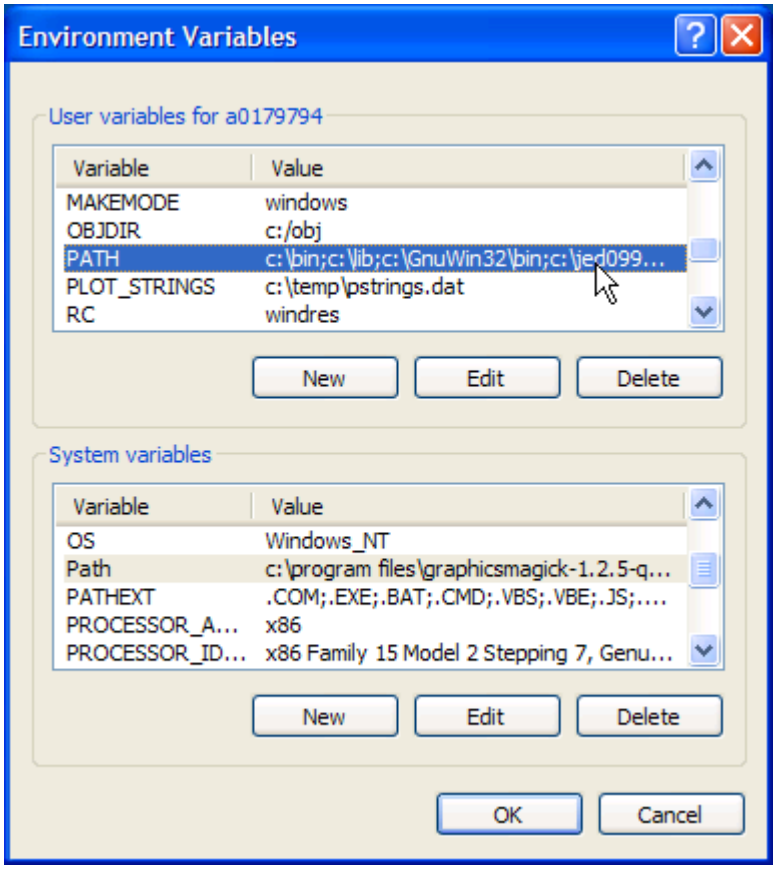
Updating Windows PATH for MinGW

The Windows PATH variable must be updated to include the C:\MinGW\bin directory for the executable files just installed to be found



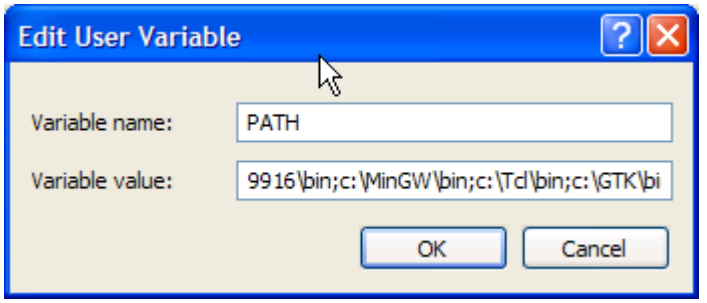
In Windows XP, for example, run Settings->Control Panel->System and click on the "Advanced" tab as above; click on "Environment Variables"
Other Windows versions will be similar

Updating Windows PATH for MinGW



In the User variables area, select the PATH variable and click “Edit”; if it is not yet defined, click “New” and create it

Updating Windows PATH for MinGW



In the Edit window, insert or append the path name “c:\MinGW\bin” into the PATH variable value
It is important that there must be a semicolon character (;) separating each path name in the variable value
Click “OK” here, back in the “Environment Variables” window, and back in the “System Properties” window

Running Your New MinGW Command Shell

Under Program Files->MinGW you should now have a shortcut for “MinGW Shell”; click it to start your bash shell and minimal Linux system emulator