

Setting up C compiler on Windows

Installing GCC

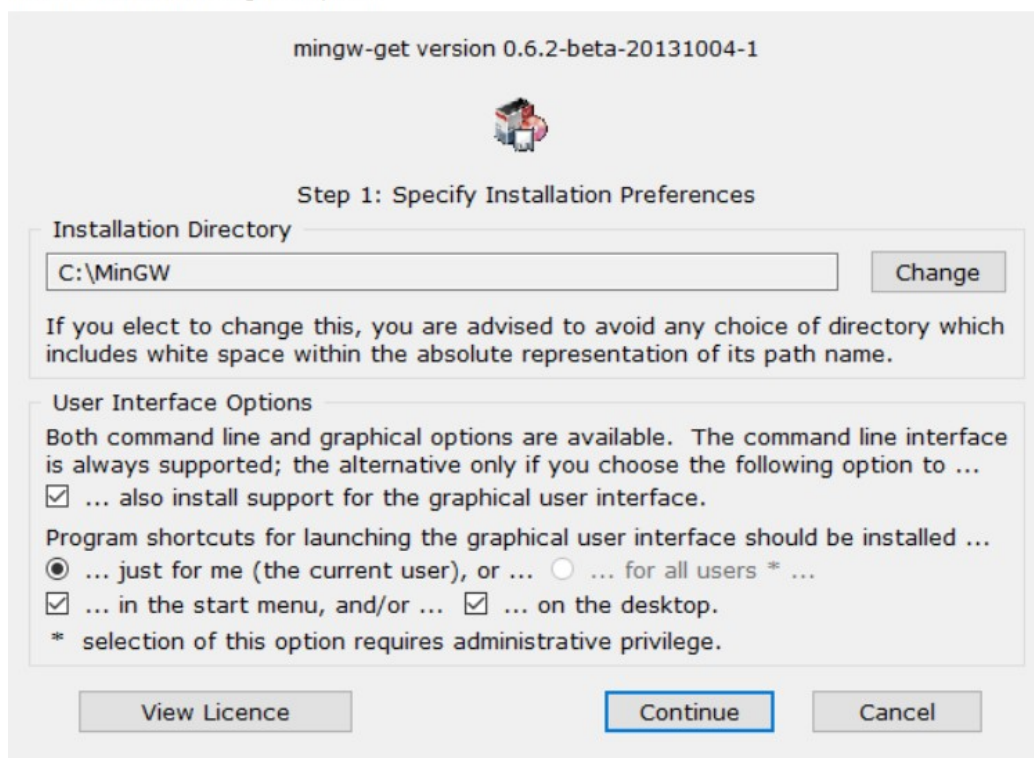
Installing GCC is pretty straightforward. Here's the process to instal GCC on Windows, coz it's preinstalled on Ubuntu.

1) Download the MinGW installer from the SourceForge page [here](#).

2) Open the installer. It shows a license agreement, where you should just click Install. Ensure you are connected to the internet.

3) The next window shows the installation location. It is defaulted to "C:\MinGW". I suggest you install it in the default directory specified so that future steps will be easy.

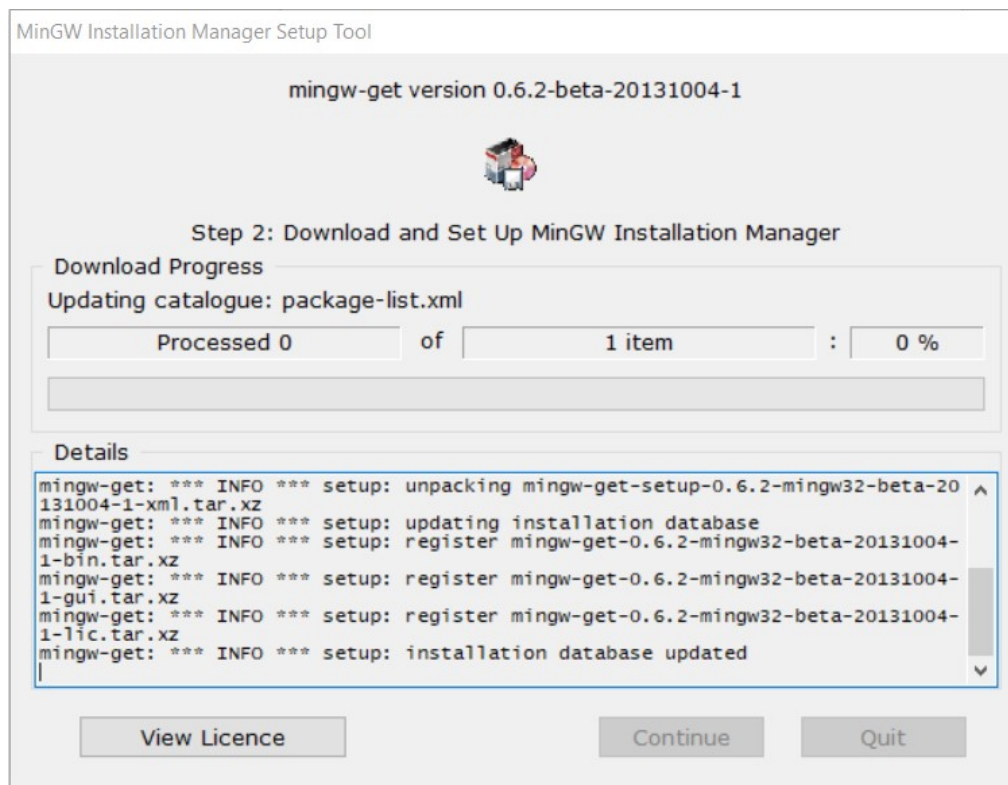
MinGW Installation Manager Setup Tool



Just click Continue to go to the next page.

Installing GCC

4) At this point, the installer fetches the catalog of software available for install through the installer.



After it is done, click Continue to go to the next page.

5) Now it opens up an Installation Manager with a list of stuff available to download:

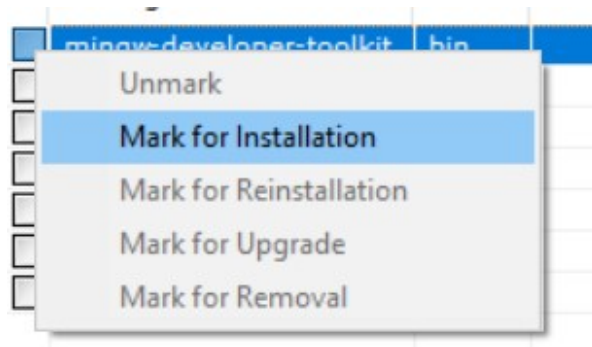
Package	Class	Installed Version	Repository Version	Description
<input type="checkbox"/> mingw-developer-toolkit	bin		2013072300	An MSYS Installation for MinGW Developers (meta)
<input type="checkbox"/> mingw32-base	bin		2013072200	A Basic MinGW Installation
<input type="checkbox"/> mingw32-gcc-ada	bin		6.3.0-1	The GNU Ada Compiler
<input type="checkbox"/> mingw32-gcc-fortran	bin		6.3.0-1	The GNU FORTRAN Compiler
<input type="checkbox"/> mingw32-gcc-g++	bin		6.3.0-1	The GNU C++ Compiler
<input type="checkbox"/> mingw32-gcc-objc	bin		6.3.0-1	The GNU Objective-C Compiler
<input type="checkbox"/> msys-base	bin		2013072300	A Basic MSYS Installation (meta)

We are interested in the following ones only:

- mingw-developer-toolkit
- mingw32-base
- mingw32-gcc-g++
- msys-base

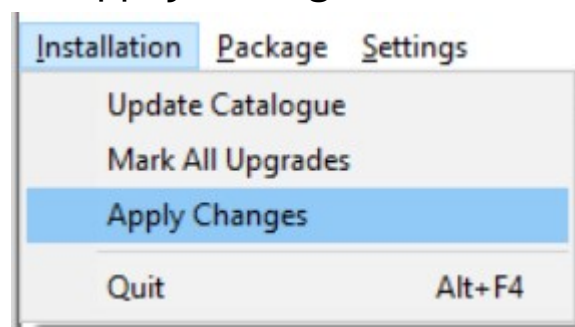
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6) To select the required feature, left-click in the checkbox next to its name and select Mark for Installation.

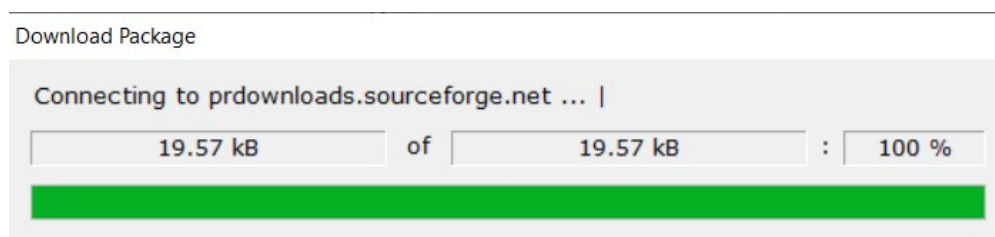


Follow this step to select all the required files.

7) Once done, click the Installation tab on the top left corner and select Apply Changes. In the next window, click Apply.



At this point it starts downloading and installing all the required stuff from the server. It might take upto 5 minutes based on the connection speed.



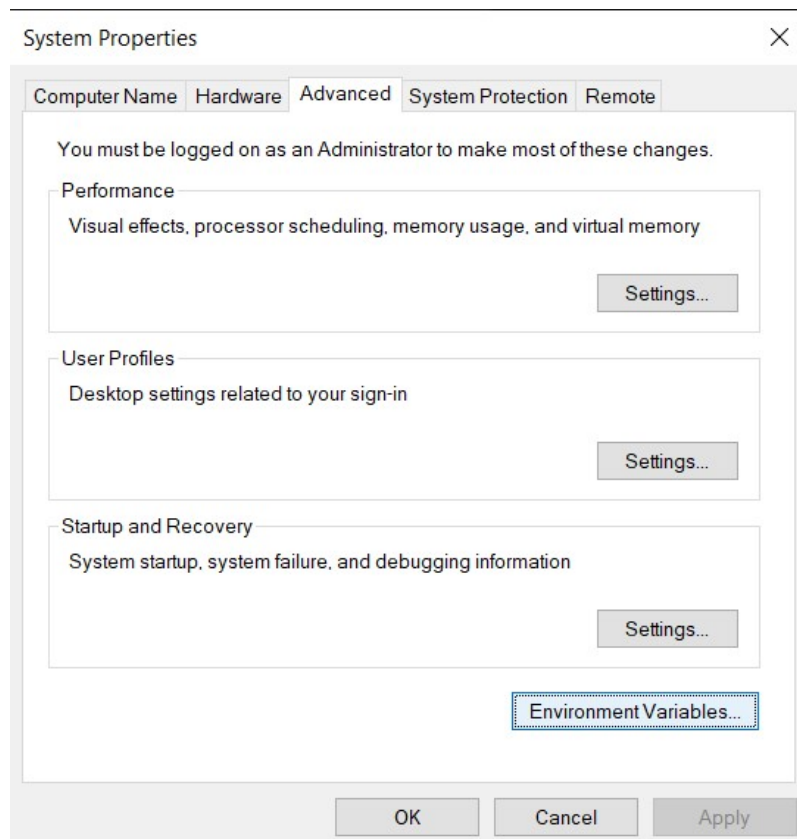
Once everything is done, click Close, and close the Installation Manager. GCC is successfully installed.

Adding GCC to PATH

GCC is installed on your machine, but it needs to be added to a special variable called the PATH to be able to access it anywhere on your PC.

1) Right-click on the This PC icon, or inside the This PC window, and select Properties. A window showing all the system properties opens.

2) In the same window, search for an option called Advanced System Settings, and click it. [The location of that option varies in each version of Windows, but is always in that window.]

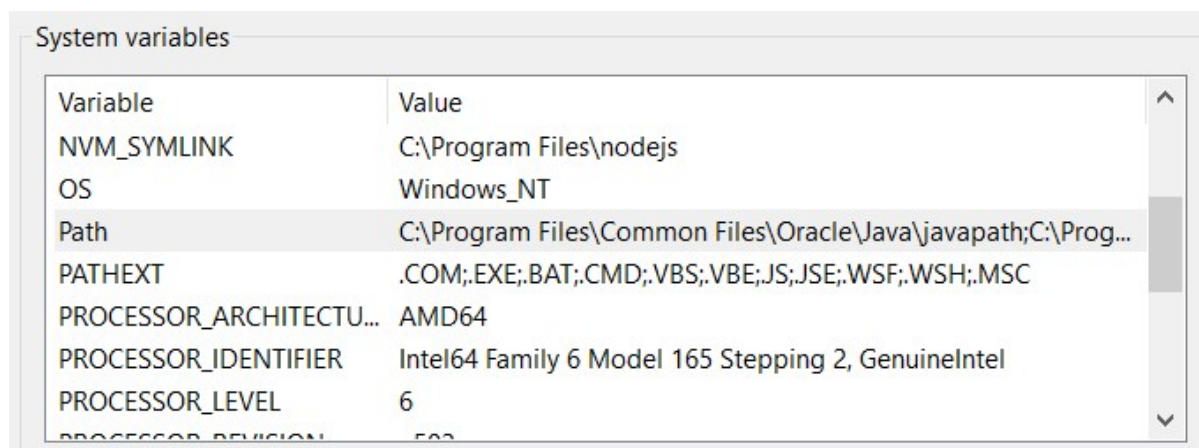


In the dialog box that opens, click the Environment Variables... button.

Adding GCC to PATH

NOTE: Be very careful with what you do in the Environment Variables window. One small misstep may permanently affect your PC.

3) In the dialog box that opens, scroll down in the System variables list till you find a variable named "Path".



Double-click the Path variable to open a new dialog box.

4) Before you edit anything else, go to the installation directory of MinGW.

bin	08-03-2023 20:05	File folder
include	08-03-2023 20:05	File folder
lib	08-03-2023 20:05	File folder
libexec	08-03-2023 20:05	File folder
mingw32	08-03-2023 20:05	File folder
msys	08-03-2023 20:05	File folder
share	08-03-2023 20:05	File folder
var	08-03-2023 19:49	File folder

Open the bin folder, and copy the full path from the address bar. If you installed it in the default directory, the full path will be "C:\MinGW\bin" (without quotes).

Adding GCC to PATH

5) In the Path variable dialog box, click the New button to add a new path at the end of the list. Paste the copied path at the end of the list, and click OK thrice to close all the open windows. Close the Properties window, too.

6) To test out if the compiler is installed successfully, press `⌘ + R` to open the Run.. dialog box, type `cmd` and press Enter to open the Command Prompt.

7) In the Command Prompt window, type the following command and press Enter:

```
gcc --version
```

If you get an output similar to the one below:

```
gcc (MinGW.org GCC-6.3.0-1) 6.3.0  
Copyright (C) 2016 Free Software Foundation, Inc.  
This is free software; see the source for copying conditions. There is NO  
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

you have installed GCC completely. If you DON'T get the above output, you may have missed out some step above.

With this, the GCC Compiler is ready to use on your PC.

All commands related to compilation, linking, execution and debugging of C programs will be covered in the SilicoSheets.

STAY TUNED!!