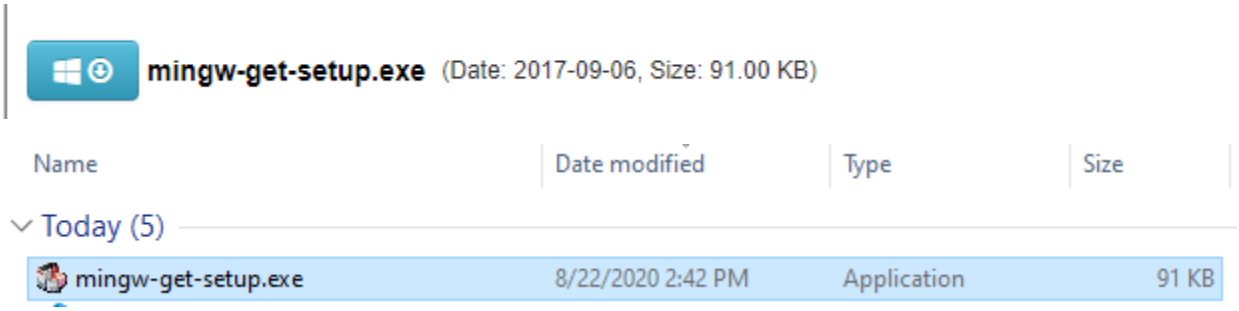
If you are using the Ubuntu prebuild image I provided for this class, there is NO need to do the following.

If you want to install C++ compiler for window 10 environment and don't want to use the image I provided, you can follow the instruction below when you have time.

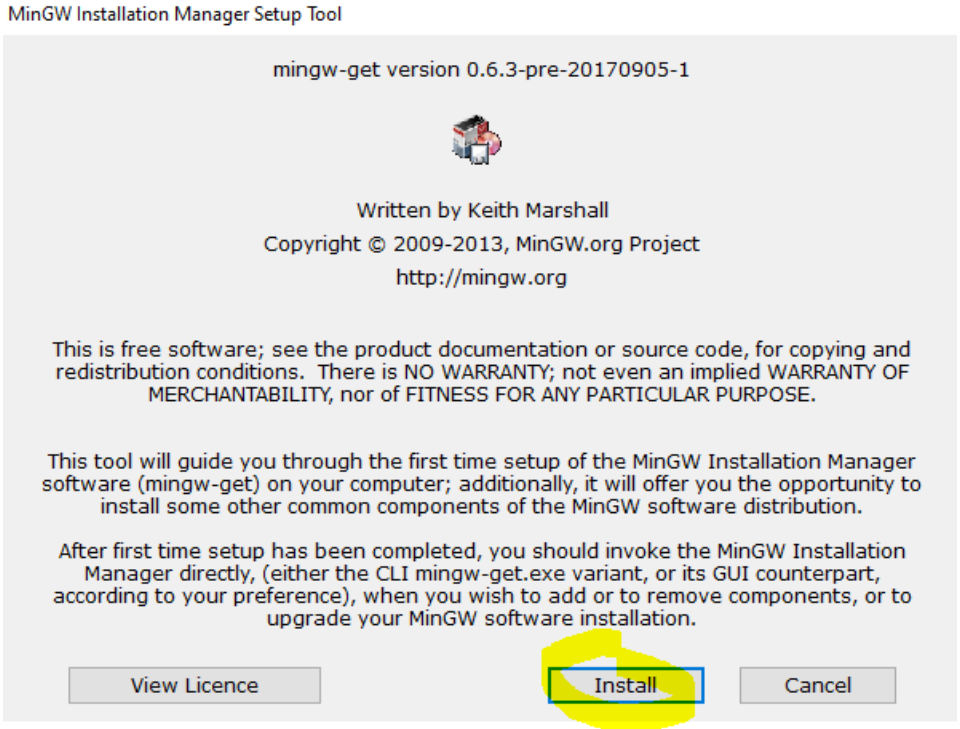
If you don't have any C++ compiler already installed on your computer, you may want to use MinGW, a contraction of "Minimalist GNU for Windows", is a minimalist development environment for native Microsoft Windows applications.

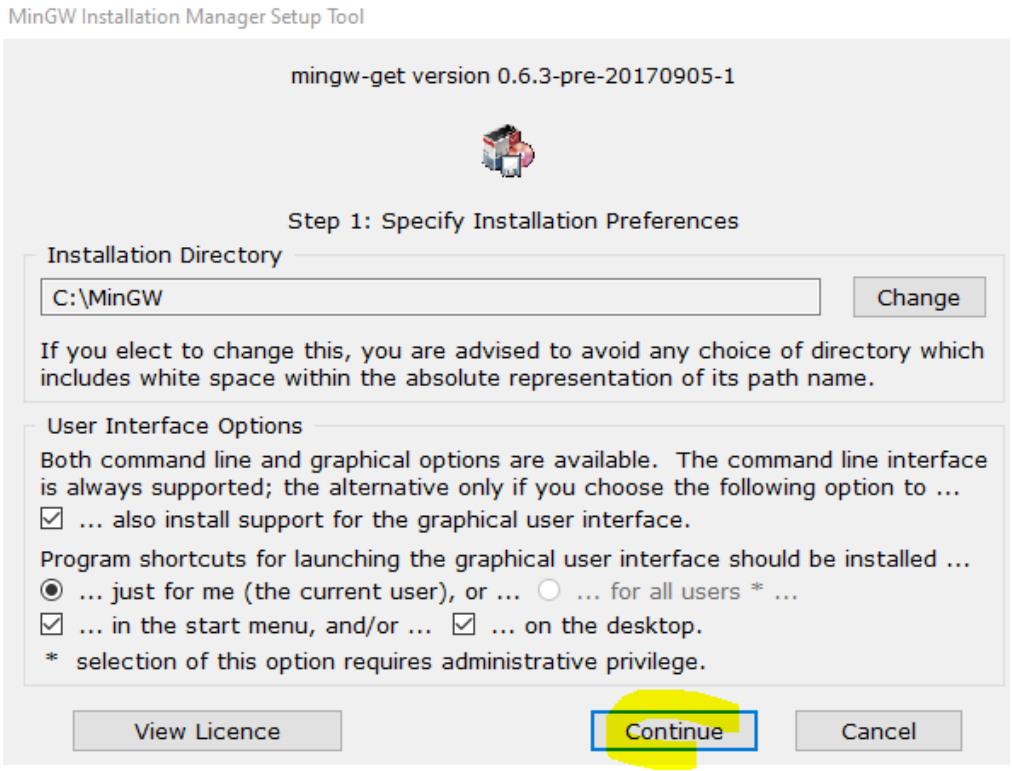
- http://www.mingw.org/
- https://osdn.net/projects/mingw/releases/

Download the setup executable and install the MinGW on your computer.

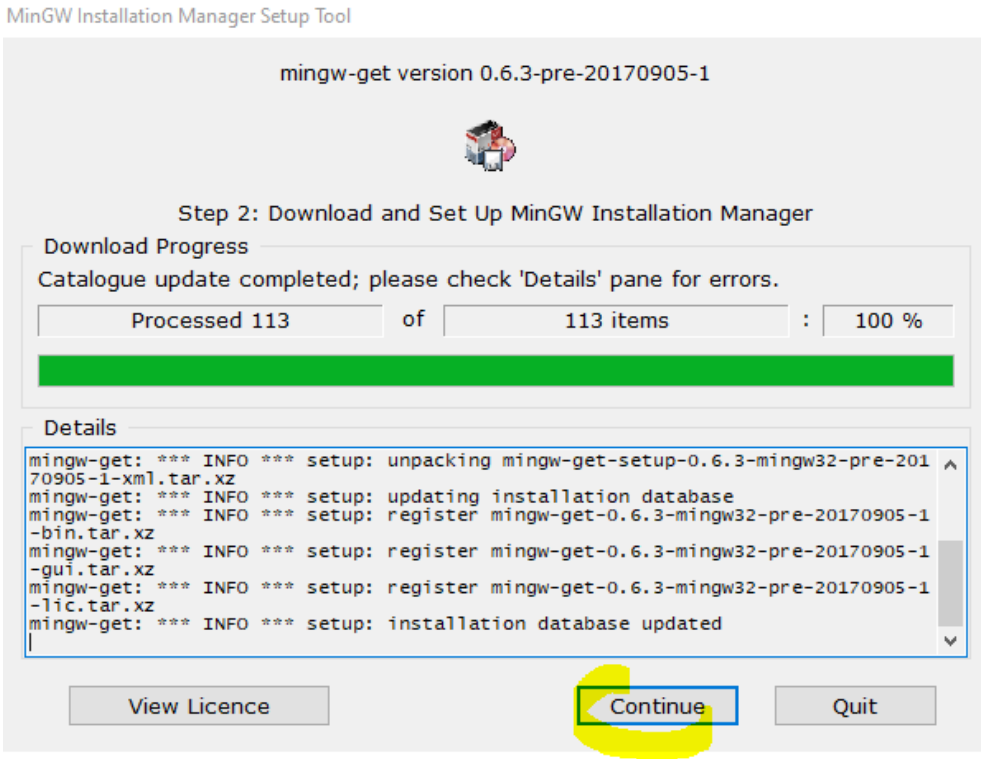


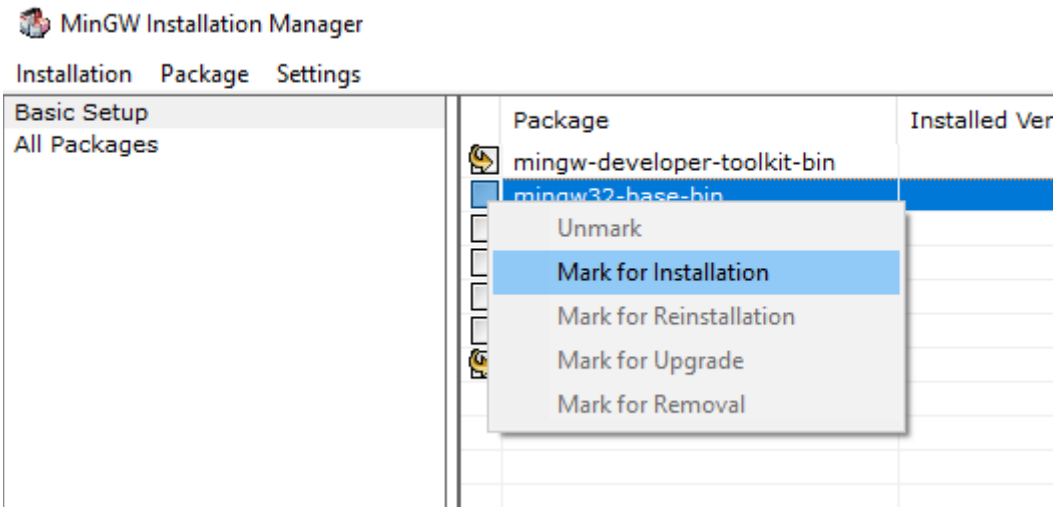
Running the setup program

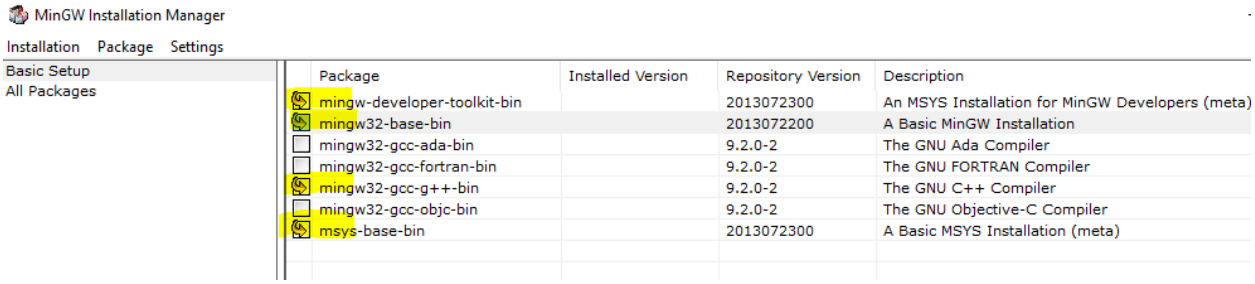


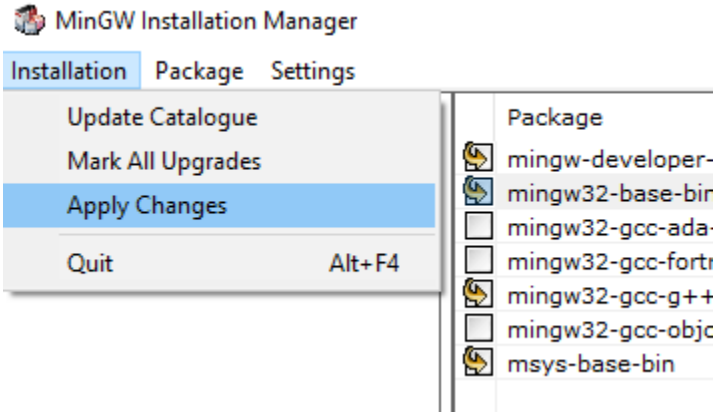


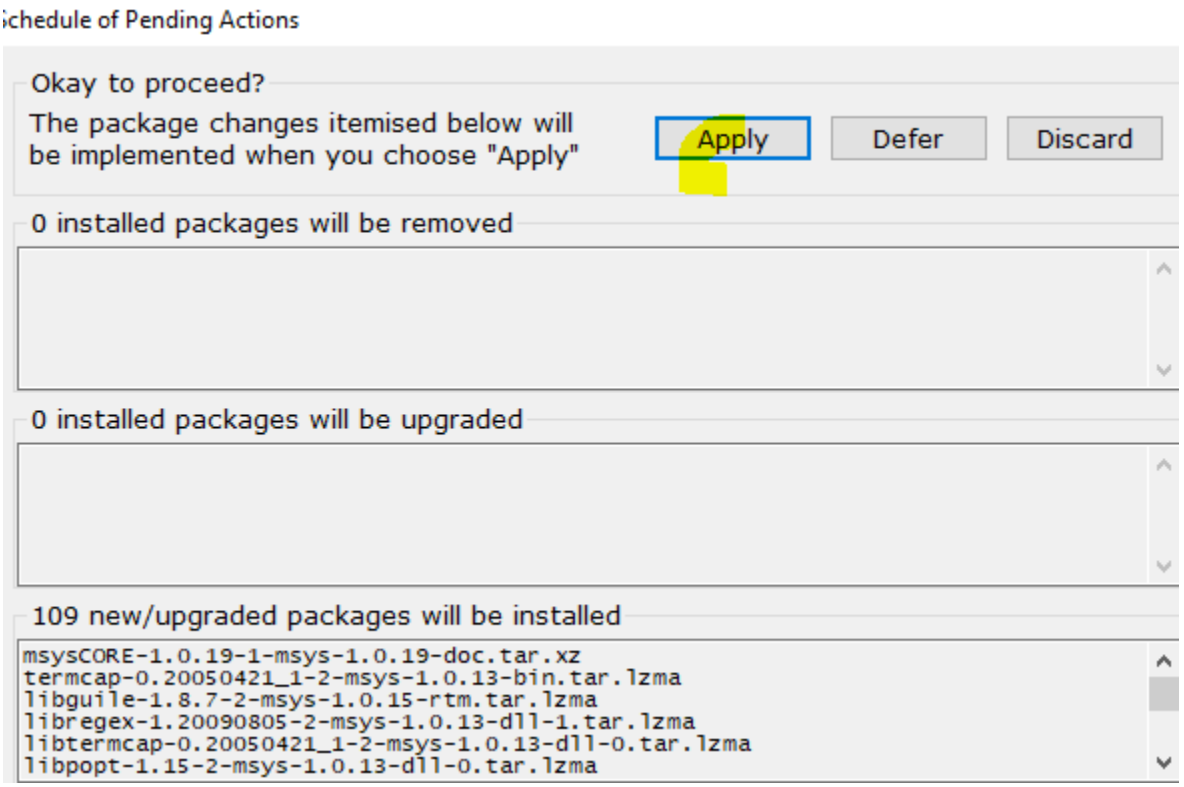
Now it is installing



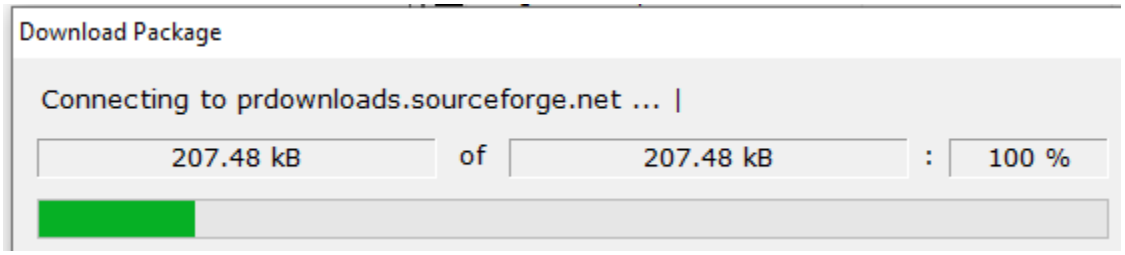

MinGW Installation Manager
Installation Package Settings
Basic Setup
All Packages
Package
Installed Ver
mingw-developer-toolkit-bin
Unmark
Mark for Installation
Mark for Reinstallation
Mark for Upgrade
Mark for Removal

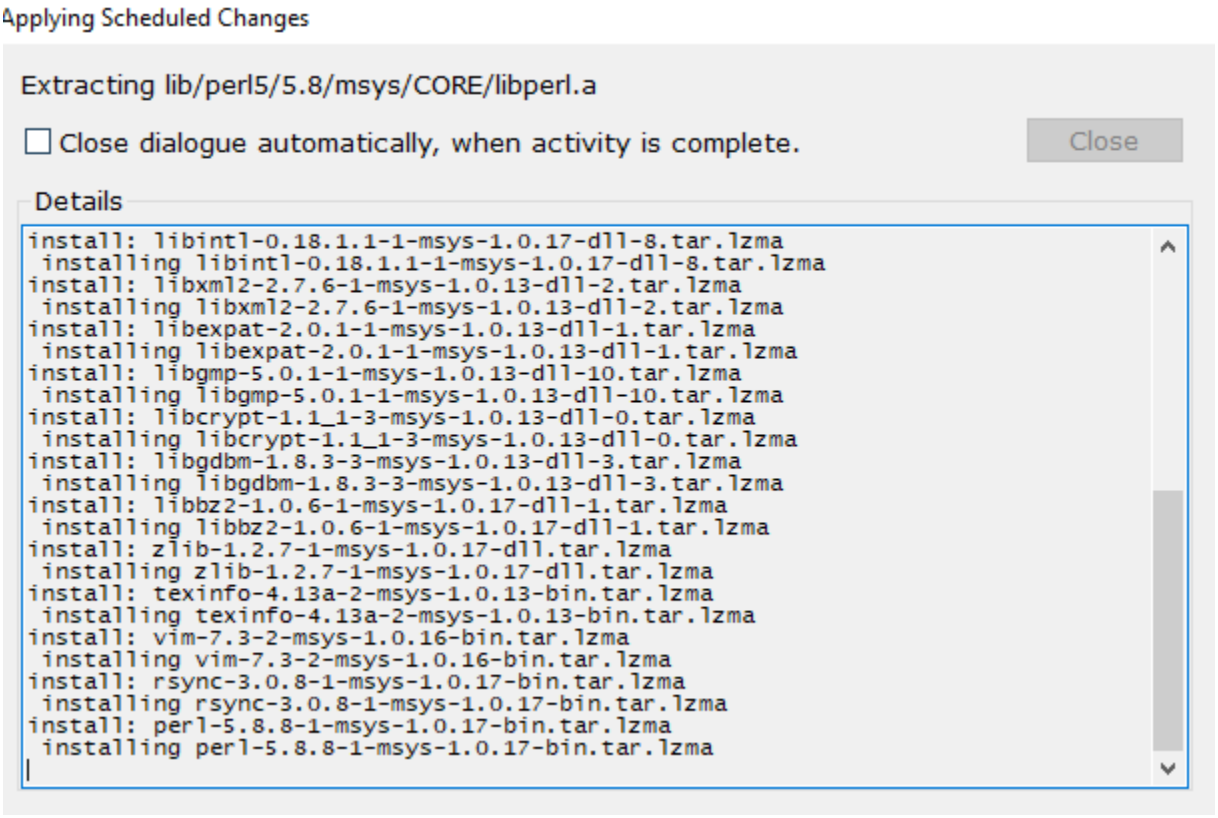

MinGW Installation Manager
Installation Package Settings
Basic Setup
All Packages
Package
Installed Version
Repository Version
Description
mingw-developer-toolkit-bin 2013072300 An MSYS Installation for MinGW Developers (meta)
mingw32-base-bin 2013072200 A Basic MinGW Installation
mingw32-gcc-ada-bin 9.2.0-2 The GNU Ada Compiler
mingw32-gcc-fortran-bin 9.2.0-2 The GNU FORTRAN Compiler
mingw32-gcc-g++-bin 9.2.0-2 The GNU C++ Compiler
mingw32-gcc-objc-bin 9.2.0-2 The GNU Objective-C Compiler
msys-base-bin 2013072300 A Basic MSYS Installation (meta)

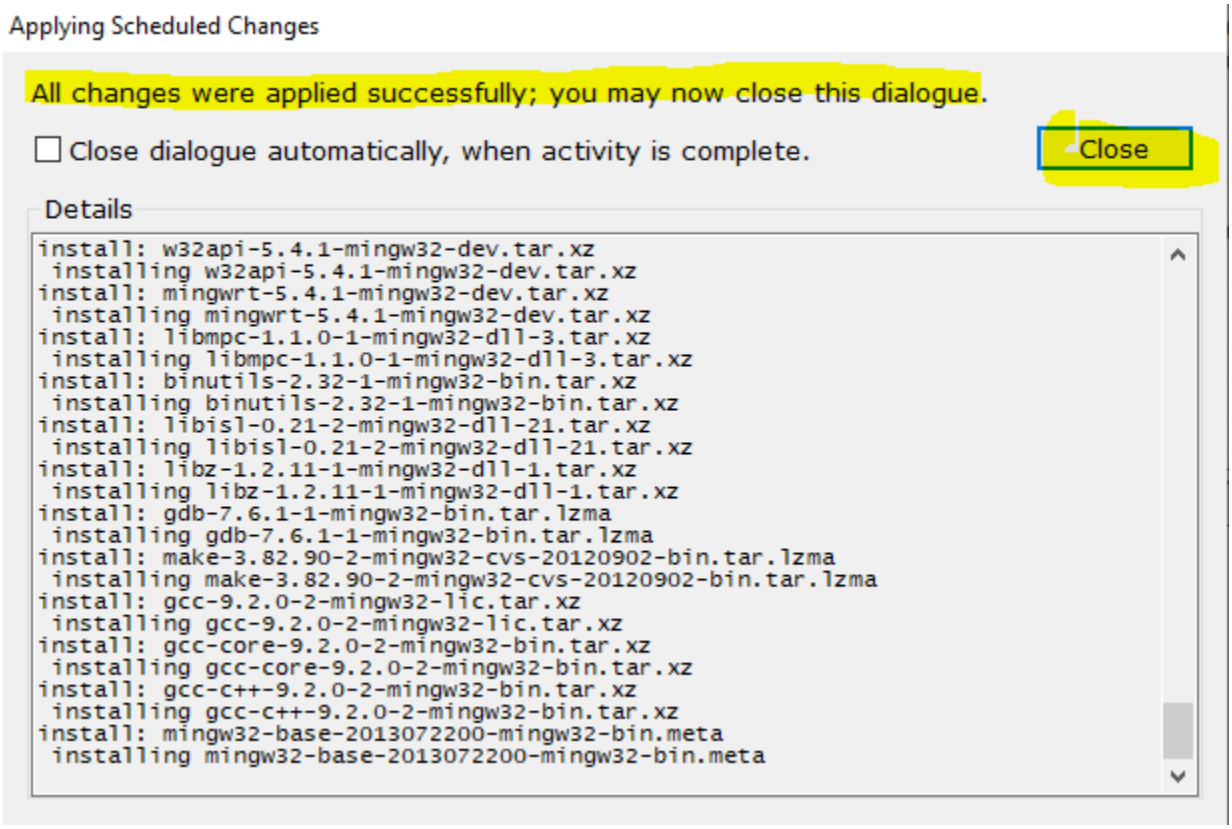

MinGW Installation Manager
Installation Package Settings
Update Catalogue
Mark All Upgrades
Apply Changes
Quit Alt+F4
Package
mingw-developer-
mingw32-base-bir
mingw32-gcc-ada
mingw32-gcc-fortr
mingw32-gcc-g++
mingw32-gcc-objc
msys-base-bin



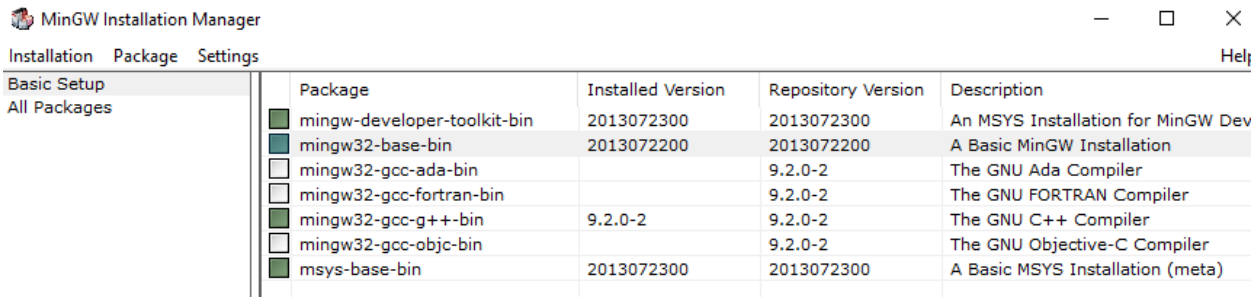
Now installation starts by downloading the packages you selected




Applying Scheduled Changes
Extracting lib/perl5/5.8/msys/CORE/libperl.a
Close dialogue automatically, when activity is complete.
Close
Details
install: libintl-0.18.1.1-1-msys-1.0.17-dll-8.tar.lzma
installing libintl-0.18.1.1-1-msys-1.0.17-dll-8.tar.lzma
install: libxml2-2.7.6-1-msys-1.0.13-dll-2.tar.lzma
installing libxml2-2.7.6-1-msys-1.0.13-dll-2.tar.lzma
install: libexpat-2.0.1-1-msys-1.0.13-dll-1.tar.lzma
installing libexpat-2.0.1-1-msys-1.0.13-dll-1.tar.lzma
install: libgmp-5.0.1-1-msys-1.0.13-dll-10.tar.lzma
installing libgmp-5.0.1-1-msys-1.0.13-dll-10.tar.lzma
install: libcrypt-1.1_1-3-msys-1.0.13-dll-0.tar.lzma
installing libcrypt-1.1_1-3-msys-1.0.13-dll-0.tar.lzma
install: libgdbm-1.8.3-3-msys-1.0.13-dll-3.tar.lzma
installing libgdbm-1.8.3-3-msys-1.0.13-dll-3.tar.lzma
install: libbz2-1.0.6-1-msys-1.0.17-dll-1.tar.lzma
installing libbz2-1.0.6-1-msys-1.0.17-dll-1.tar.lzma
install: zlib-1.2.7-1-msys-1.0.17-dll.tar.lzma
installing zlib-1.2.7-1-msys-1.0.17-dll.tar.lzma
install: texinfo-4.13a-2-msys-1.0.13-bin.tar.lzma
installing texinfo-4.13a-2-msys-1.0.13-bin.tar.lzma
install: vim-7.3-2-msys-1.0.16-bin.tar.lzma
installing vim-7.3-2-msys-1.0.16-bin.tar.lzma
install: rsync-3.0.8-1-msys-1.0.17-bin.tar.lzma
installing rsync-3.0.8-1-msys-1.0.17-bin.tar.lzma
install: perl-5.8.8-1-msys-1.0.17-bin.tar.lzma
installing perl-5.8.8-1-msys-1.0.17-bin.tar.lzma

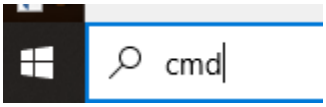

Applying Scheduled Changes
All changes were applied successfully; you may now close this dialogue.
Close dialogue automatically, when activity is complete.
Close
Details
install: w32api-5.4.1-mingw32-dev.tar.xz
installing w32api-5.4.1-mingw32-dev.tar.xz
install: mingwrt-5.4.1-mingw32-dev.tar.xz
installing mingwrt-5.4.1-mingw32-dev.tar.xz
install: libmpc-1.1.0-1-mingw32-dll-3.tar.xz
installing libmpc-1.1.0-1-mingw32-dll-3.tar.xz
install: binutils-2.32-1-mingw32-bin.tar.xz
installing binutils-2.32-1-mingw32-bin.tar.xz
install: libisl-0.21-2-mingw32-dll-21.tar.xz
installing libisl-0.21-2-mingw32-dll-21.tar.xz
install: libz-1.2.11-1-mingw32-dll-1.tar.xz
installing libz-1.2.11-1-mingw32-dll-1.tar.xz
install: gdb-7.6.1-1-mingw32-bin.tar.lzma
installing gdb-7.6.1-1-mingw32-bin.tar.lzma
install: make-3.82.90-2-mingw32-cvs-20120902-bin.tar.lzma
installing make-3.82.90-2-mingw32-cvs-20120902-bin.tar.lzma
install: gcc-9.2.0-2-mingw32-lic.tar.xz
installing gcc-9.2.0-2-mingw32-lic.tar.xz
install: gcc-core-9.2.0-2-mingw32-bin.tar.xz
installing gcc-core-9.2.0-2-mingw32-bin.tar.xz
install: gcc-c++-9.2.0-2-mingw32-bin.tar.xz
installing gcc-c++-9.2.0-2-mingw32-bin.tar.xz
install: mingw32-base-2013072200-mingw32-bin.meta
installing mingw32-base-2013072200-mingw32-bin.meta

Now all the selected packages are installed.



To check if MinGW is installed.

Use window cmd



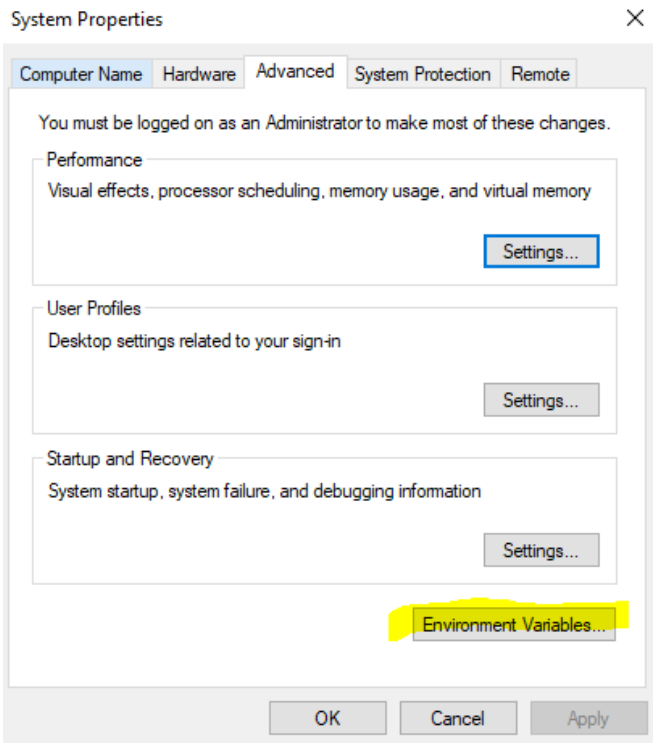
Command Prompt

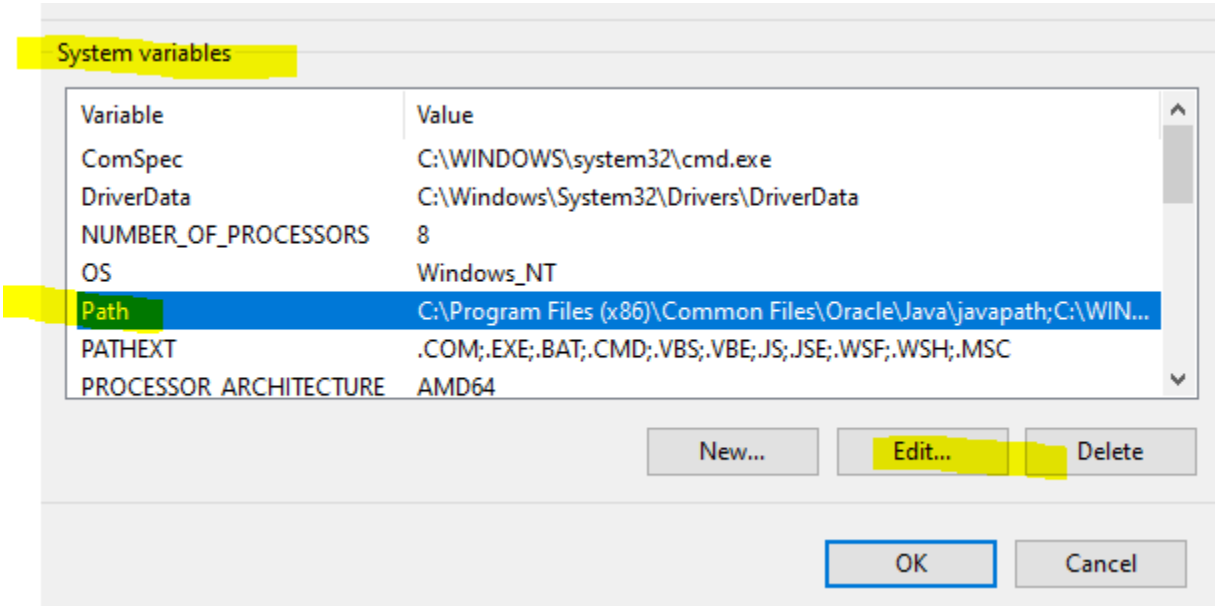
App

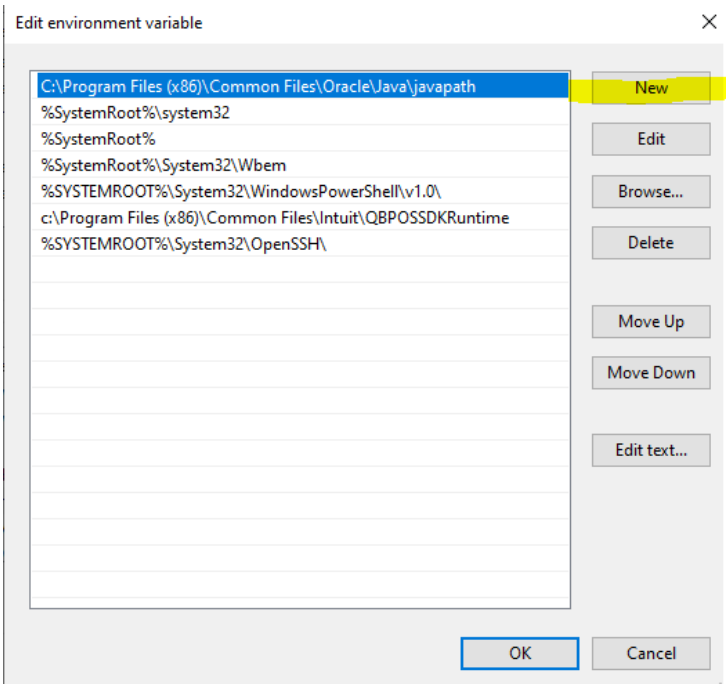
Add PATH to environment

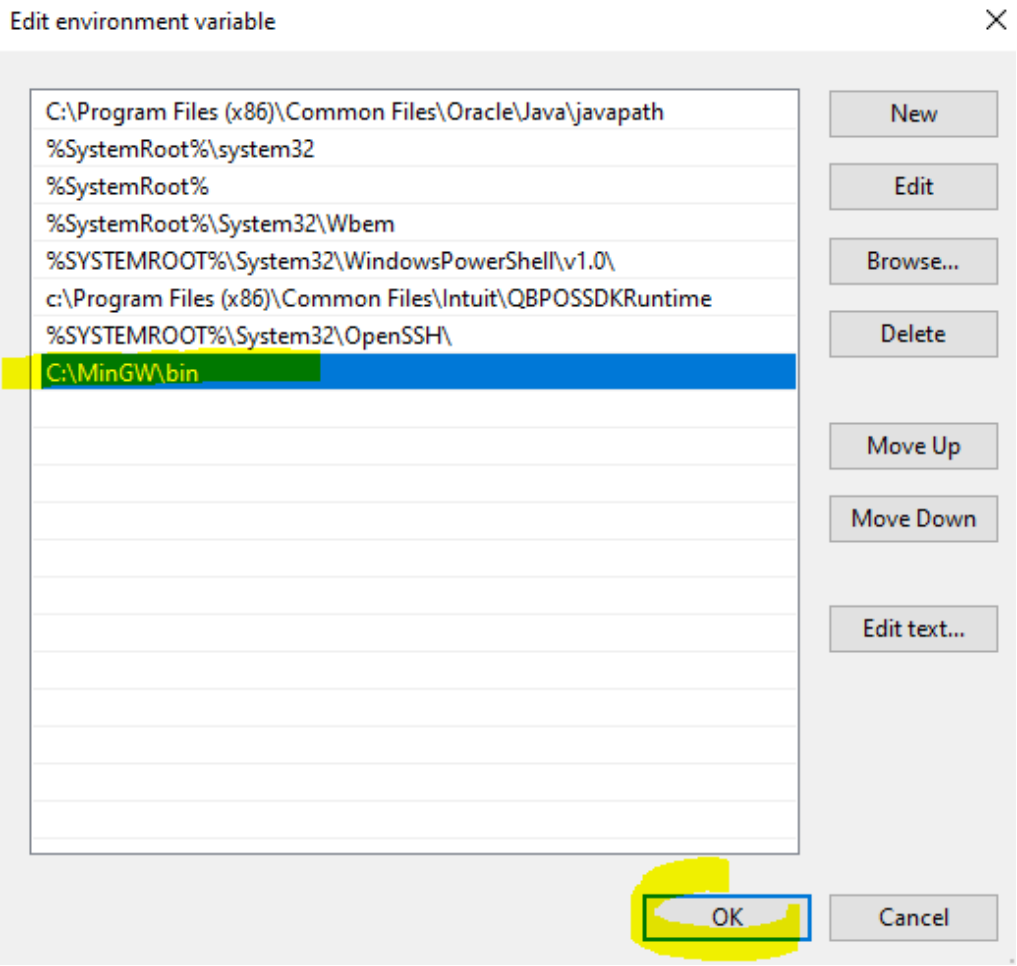
Edit the system environment variables

Control panel


System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...
User Profiles
Desktop settings related to your sign-in
Settings...
Startup and Recovery
System startup, system failure, and debugging information
Settings...
Environment Variables...
OK
Cancel
Apply


System variables
Variable
Value
ComSpec
C:\WINDOWS\system32\cmd.exe
DriverData
C:\Windows\System32\Drivers\DriverData
NUMBER_OF_PROCESSORS
8
OS
Windows_NT
Path
C:\Program Files (x86)\Common Files\Oracle\Java\javapath;C:\WIN...
PATHEXT
.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE
AMD64
New...
Edit...
Delete
OK
Cancel

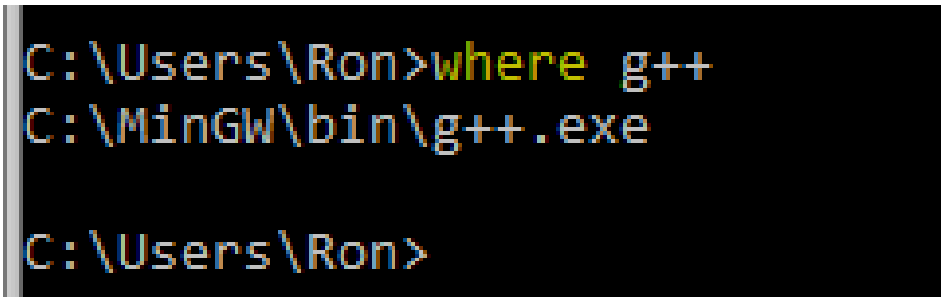

Edit environment variable
C:\Program Files (x86)\Common Files\Oracle\Java\javapath
%SystemRoot%\system32
%SystemRoot%
%SystemRoot%\System32\Wbem
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\
c:\Program Files (x86)\Common Files\Intuit\QBPOSSDKRuntime
%SYSTEMROOT%\System32\OpenSSH\
New
Edit
Browse...
Delete
Move Up
Move Down
Edit text...
OK
Cancel



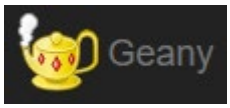
use

C:\MinGW\bin

Exit cmd tool, and restart a new cmd tool. If you type the command *where g++* and if the path is corrected added, it should tells you that the g++ (c++ compiler) is installed at C:\MinGW\bin\g++.exe



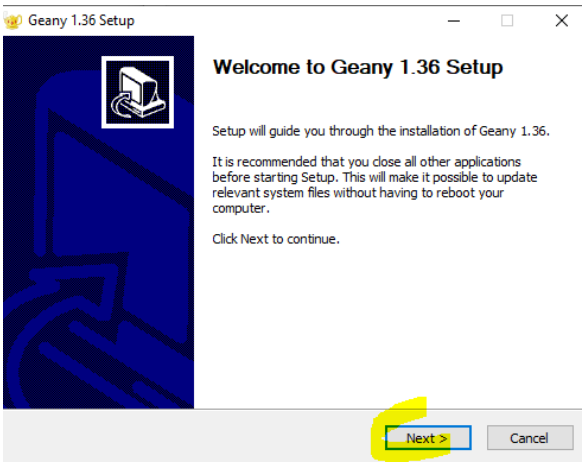
MinGW by default is installed at c:\MinGW

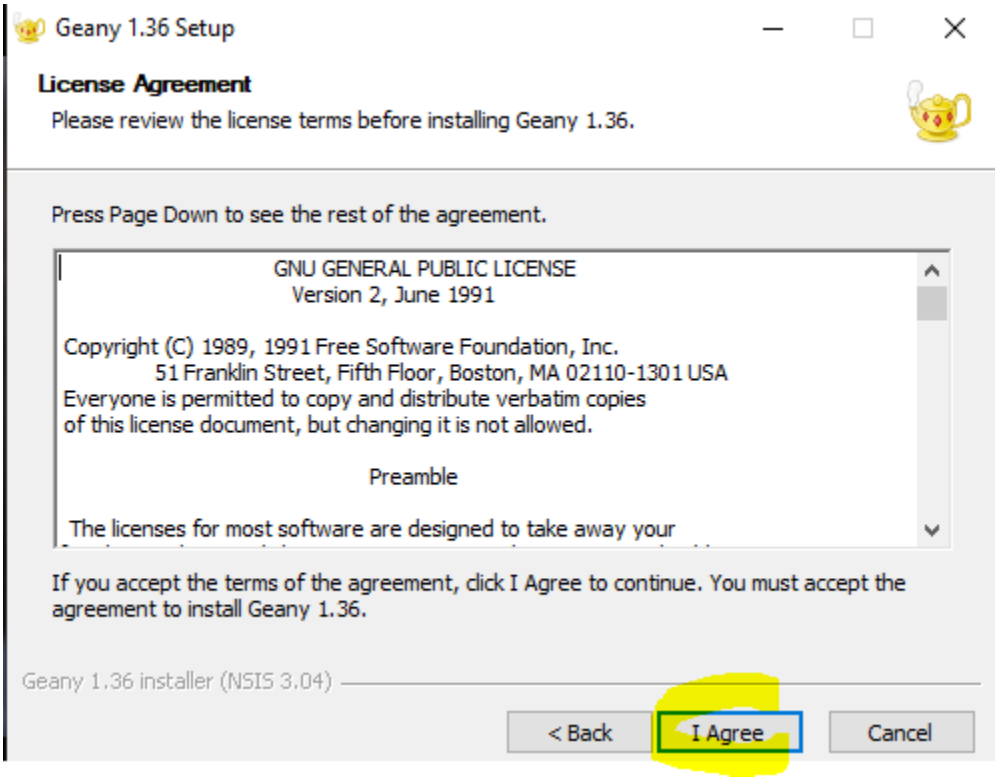
C++ IDE -  https://www.geany.org/

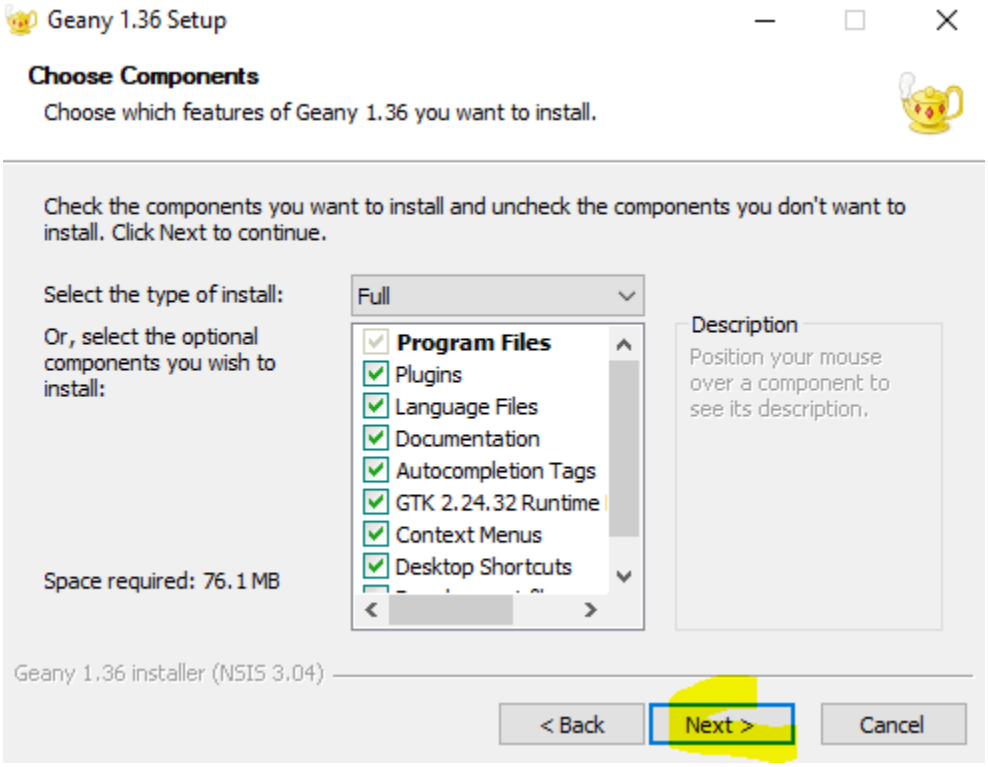
Geany is a powerful, stable and lightweight programmer's text editor that provides tons of useful features without bogging down your workflow. It runs on Linux, Windows and MacOS is translated into over 40 languages, and has built-in support for more than 50 programming languages.

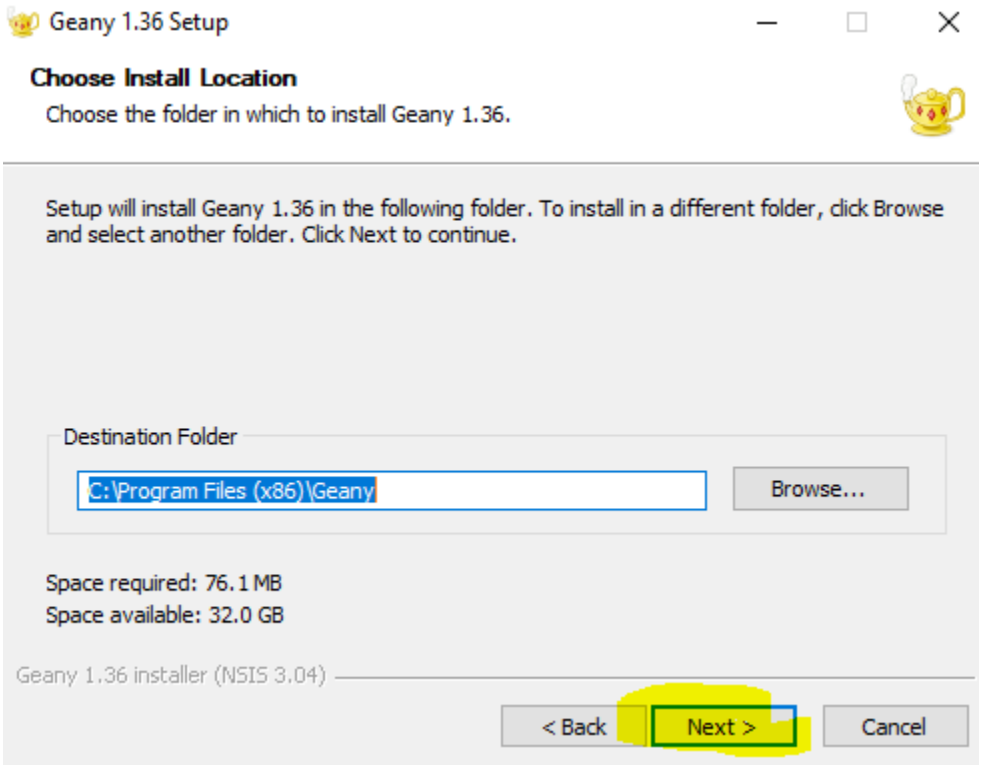
Download the installation setup program.

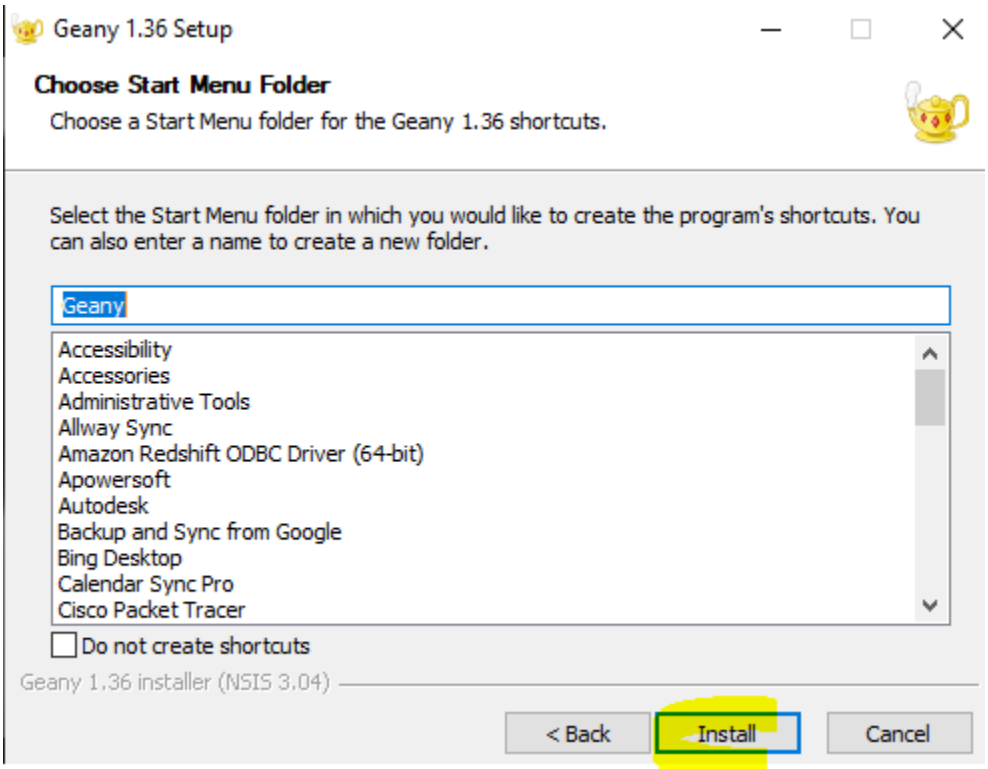
https://www.geany.org/download/releases/

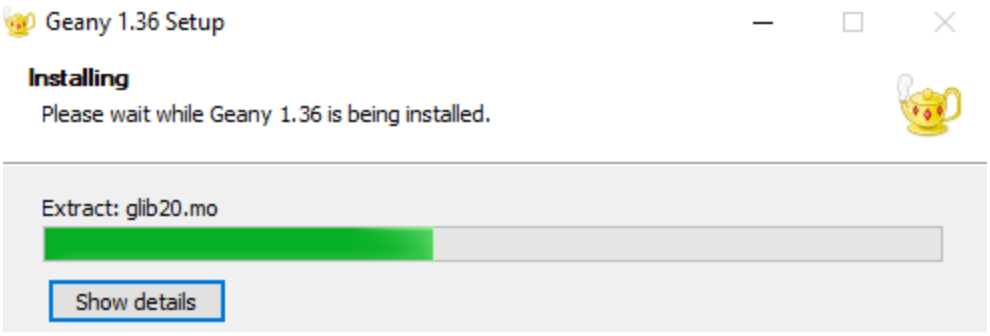



Geany 1.36 Setup
License Agreement
Please review the license terms before installing Geany 1.36.
Press Page Down to see the rest of the agreement.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
Preamble
The licenses for most software are designed to take away your
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Geany 1.36.
Geany 1.36 installer (NSIS 3.04)
< Back
I Agree
Cancel

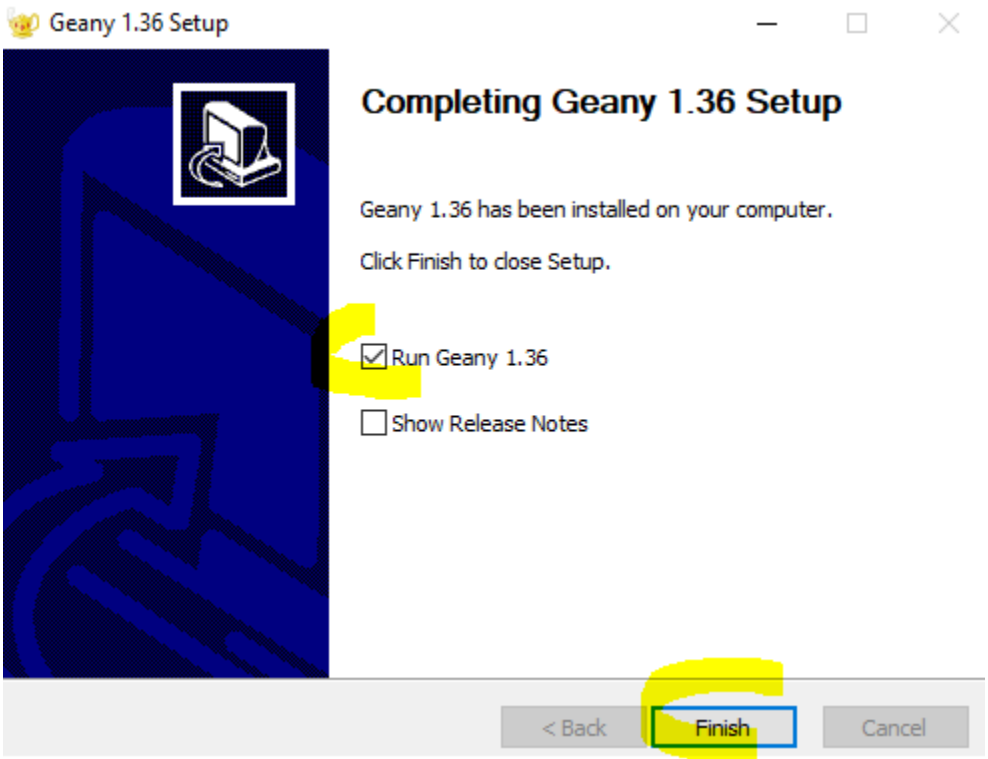

Geany 1.36 Setup
Choose Components
Choose which features of Geany 1.36 you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select the type of install:
Full
Or, select the optional components you wish to install:
Program Files
Plugins
Language Files
Documentation
Autocompletion Tags
GTK 2.24.32 Runtime
Context Menus
Desktop Shortcuts
Description
Position your mouse over a component to see its description.
Space required: 76.1 MB
Geany 1.36 installer (NSIS 3.04)
< Back
Next >
Cancel


Geany 1.36 Setup
Choose Install Location
Choose the folder in which to install Geany 1.36.
Setup will install Geany 1.36 in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
Destination Folder
C:\Program Files (x86)\Geany
Browse...
Space required: 76.1 MB
Space available: 32.0 GB
Geany 1.36 installer (NSIS 3.04)
< Back
Next >
Cancel


Geany 1.36 Setup
Choose Start Menu Folder
Choose a Start Menu folder for the Geany 1.36 shortcuts.
Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder.
Geany
Accessibility
Accessories
Administrative Tools
Allway Sync
Amazon Redshift ODBC Driver (64-bit)
Apowersoft
Autodesk
Backup and Sync from Google
Bing Desktop
Calendar Sync Pro
Cisco Packet Tracer
Do not create shortcuts
Geany 1.36 installer (NSIS 3.04)
< Back
Install
Cancel



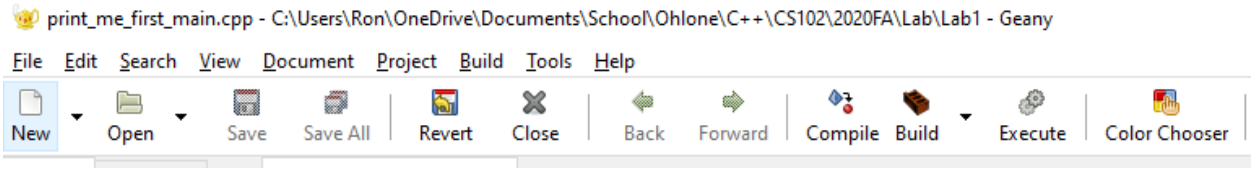
Now after it successfully installed, you can run the Geany IDE



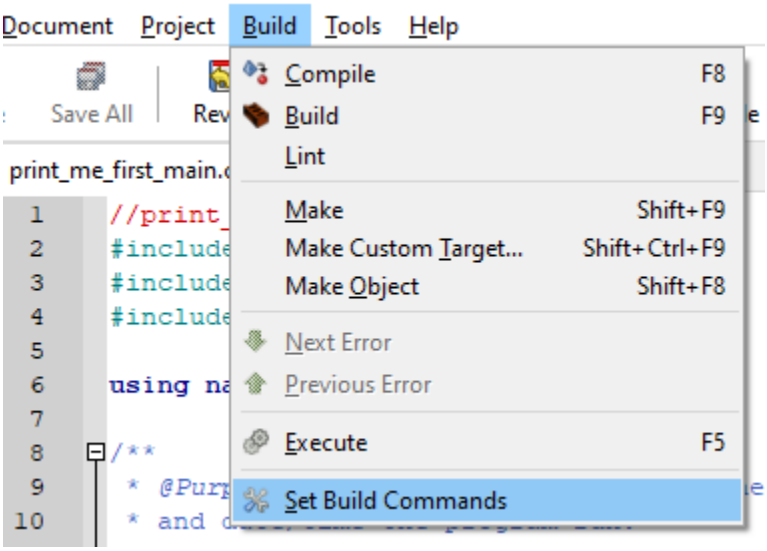
It should have an shortcut icon placed on your desktop 

.

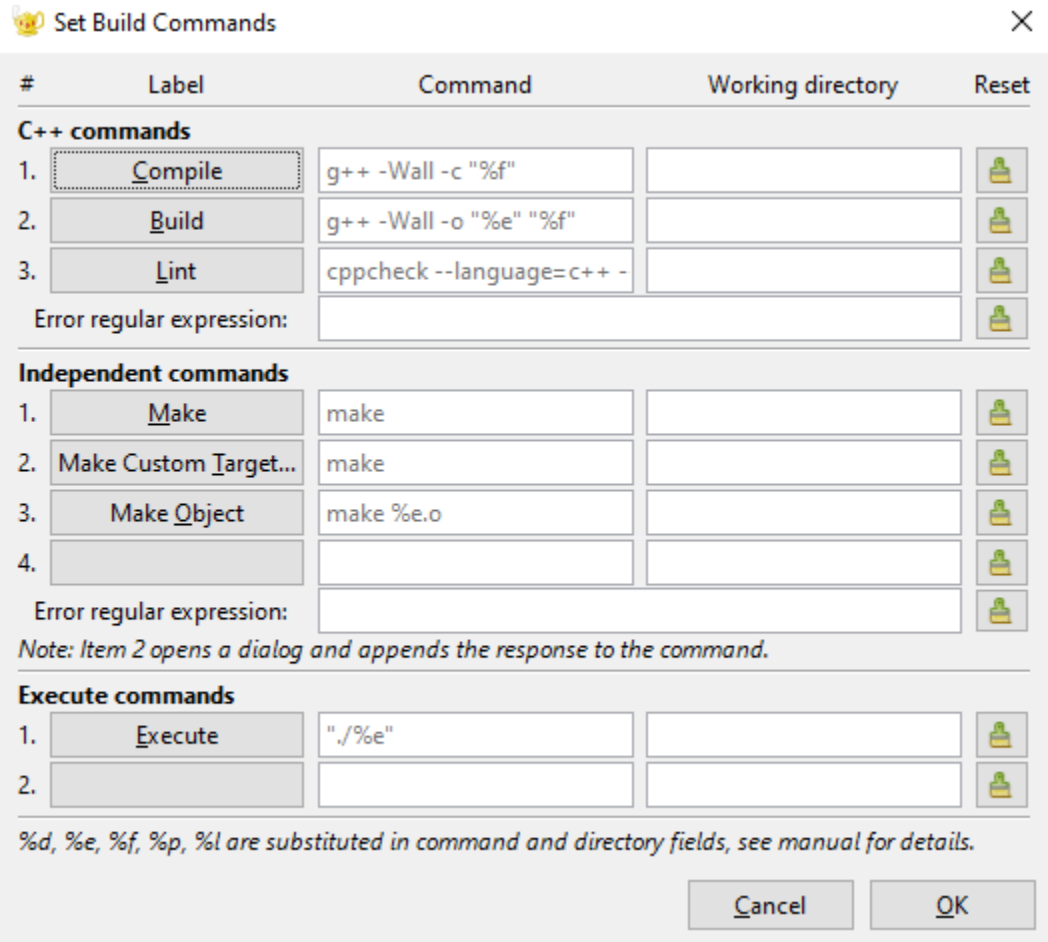
Or you can search Geany using the search command tool.



Configure Geany "Set Build Commands" configuration



The configuration should be like the one below:



Here is documentation of Geany

https://www.geany.org/manual/current/index.html

gnu

No need to change, if it is already been setup.

g++ is the GNU C++ compiler

g++ command is a GNU c++ compiler invocation command, which is used for preprocessing, compilation, assembly and linking of source code to generate an executable file. The different “options” of g++ command allow us to stop this process at the intermediate stage.

If you are using Mac OS, here is the information on how to setup in Mac environment.

https://www.macobserver.com/analysis/5-ways-to-write-c-code-on-your-mac/