

Installing CLion and Clang

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Install/Confirm Clang compiler



For MacOS

- Open a new terminal window.
- Enter the command `clang --version` to confirm that you already have Clang installed on your machine. You should get a similar message followed if Clang is installed:

```
Apple LLVM version 9.0.0 (clang-900.0.39.2)
Target: x86_64-apple-darwin17.3.0
Thread model: posix
```

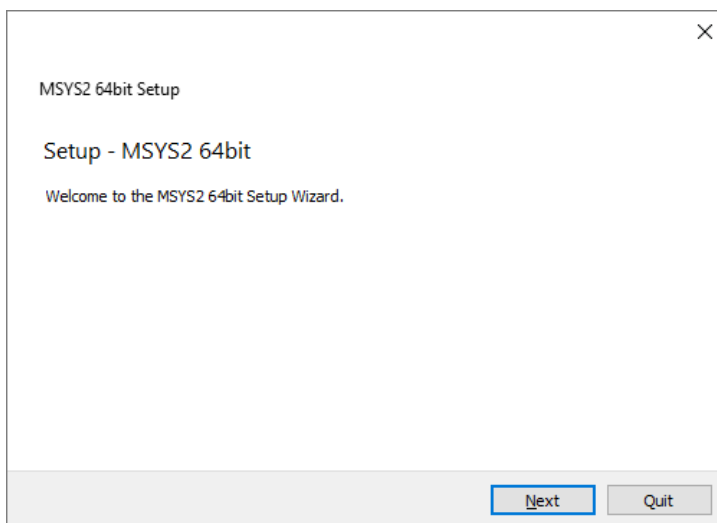
If you want to install or update Clang, enter the command `command xcode-select --install`.



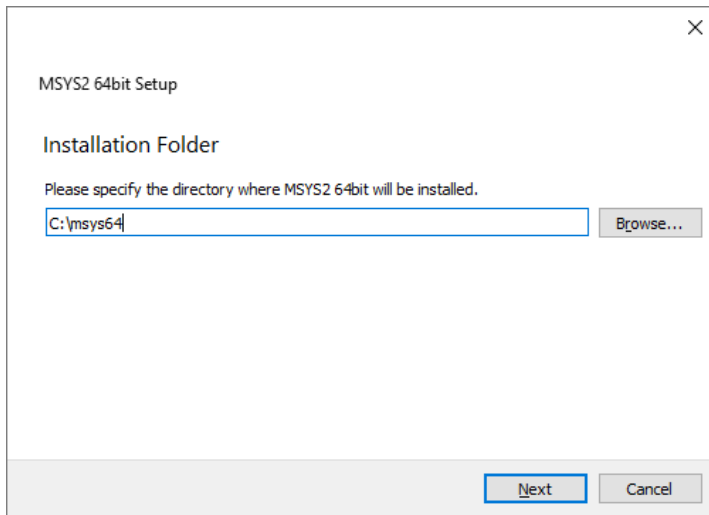
For Windows

During the installation of MSYS2, you must have Internet access as the installer will be downloading files during the installation process.

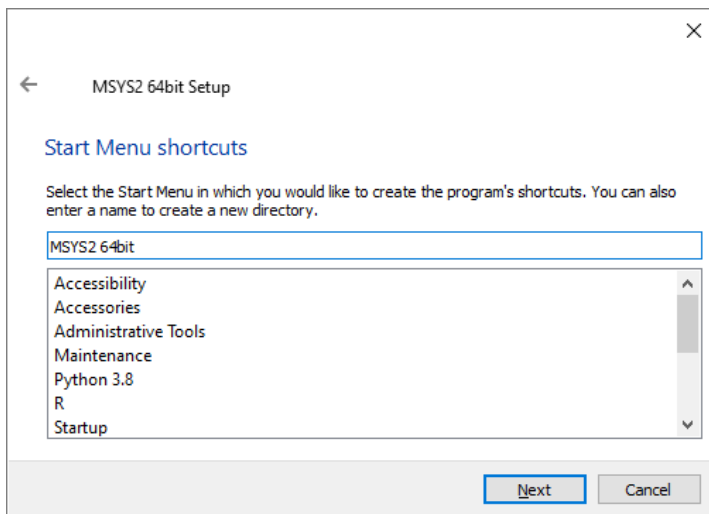
- Open the MSYS2 website at: msys2.org
- On the homepage, download the 64-bit installer (the .exe file that starts with "msys2-x86_64") and run it.
- On the **Setup – MSYS2 64bit** dialog window, click **Next**.



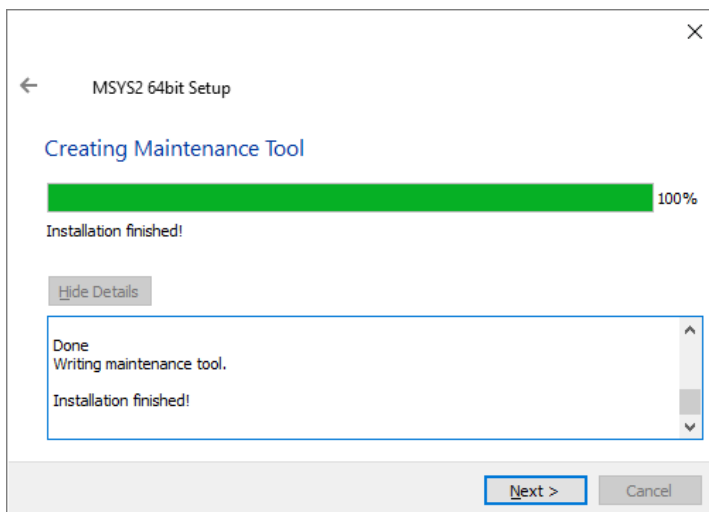
- On the **Installation Folder** dialog window, keep the default folder (should be `c:\msys64`) and click **Next**.



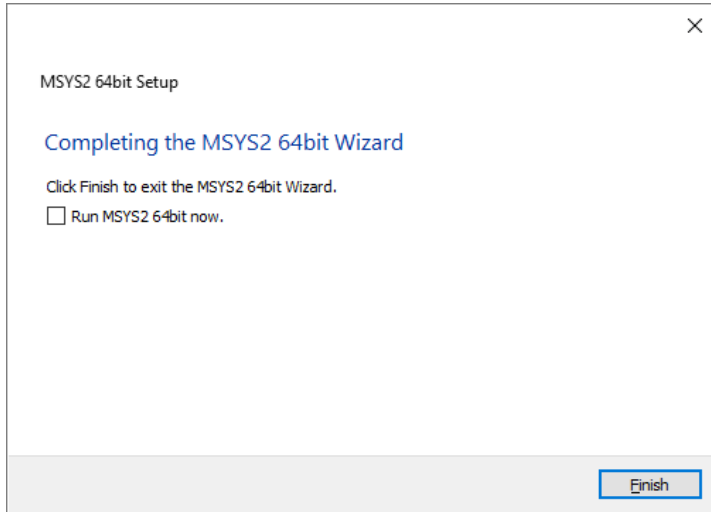
- On the **Start Menu shortcuts** dialog window, keep the default name (should be `MSYS 64bit`) and click **Next**.



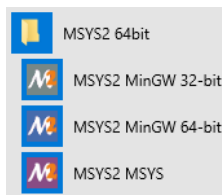
- Once installation is complete, you should see the following dialog window. Click **Next**.



- On the **Completing the MSYS2 64bit Wizard** dialog window, uncheck **Run MSYS2 64bit now** and click **Finish**.



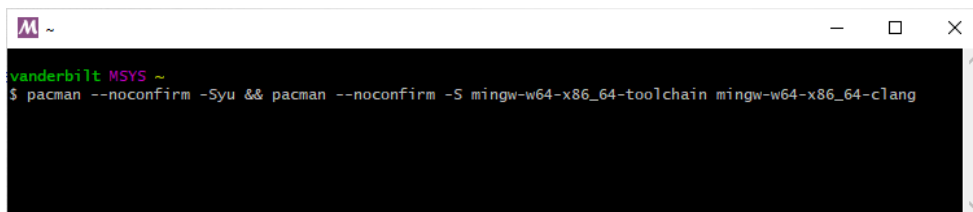
- **Make sure there are no MSYS2 command prompt windows that are still open.** Find the MSYS2 menu in the Start menu and select **MSYS2 MSYS** to open an MSYS command prompt window.



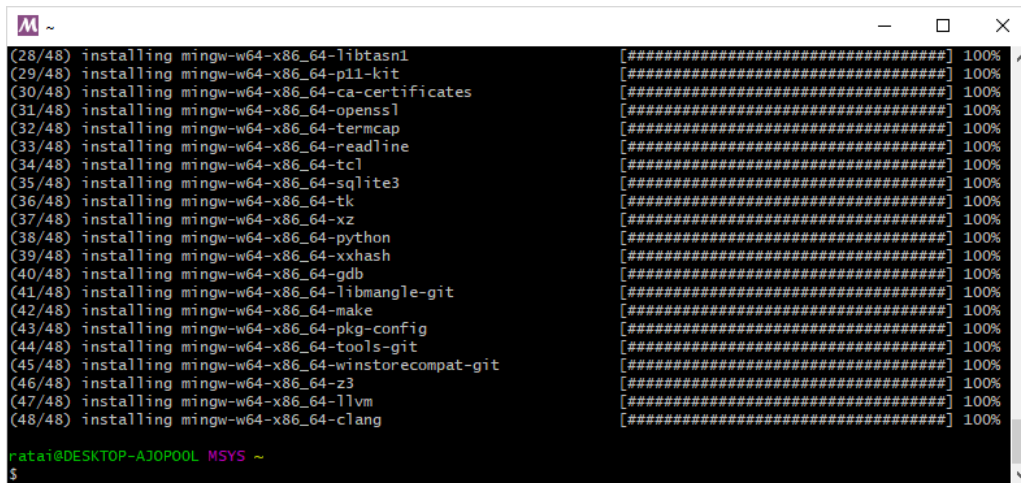
- On the MSYS command prompt, type the following command and press **Enter**.

```
pacman --noconfirm -Syu && pacman --noconfirm -S mingw-w64-x86_64-toolchain mingw-w64-x86_64-clang
```

Note: you may copy the command above. To paste it into the command prompt, right click in the command prompt window and select **Paste**.



- Once the installation of the MinGW toolchain and Clang is complete, you should see the following text in the MSYS command prompt. Type `exit` and press **Enter**.



```
M ~
(28/48) installing mingw-w64-x86_64-libtasn1 [#####] 100%
(29/48) installing mingw-w64-x86_64-p11-kit [#####] 100%
(30/48) installing mingw-w64-x86_64-ca-certificates [#####] 100%
(31/48) installing mingw-w64-x86_64-openssl [#####] 100%
(32/48) installing mingw-w64-x86_64-termcap [#####] 100%
(33/48) installing mingw-w64-x86_64-readline [#####] 100%
(34/48) installing mingw-w64-x86_64-tcl [#####] 100%
(35/48) installing mingw-w64-x86_64-sqlite3 [#####] 100%
(36/48) installing mingw-w64-x86_64-tk [#####] 100%
(37/48) installing mingw-w64-x86_64-xz [#####] 100%
(38/48) installing mingw-w64-x86_64-python [#####] 100%
(39/48) installing mingw-w64-x86_64-xxhash [#####] 100%
(40/48) installing mingw-w64-x86_64-gdb [#####] 100%
(41/48) installing mingw-w64-x86_64-libmangle-git [#####] 100%
(42/48) installing mingw-w64-x86_64-make [#####] 100%
(43/48) installing mingw-w64-x86_64-pkg-config [#####] 100%
(44/48) installing mingw-w64-x86_64-tools-git [#####] 100%
(45/48) installing mingw-w64-x86_64-winstorecompat-git [#####] 100%
(46/48) installing mingw-w64-x86_64-z3 [#####] 100%
(47/48) installing mingw-w64-x86_64-llvm [#####] 100%
(48/48) installing mingw-w64-x86_64-clang [#####] 100%

ratai@DESKTOP-AJOP00L MSYS ~
$
```

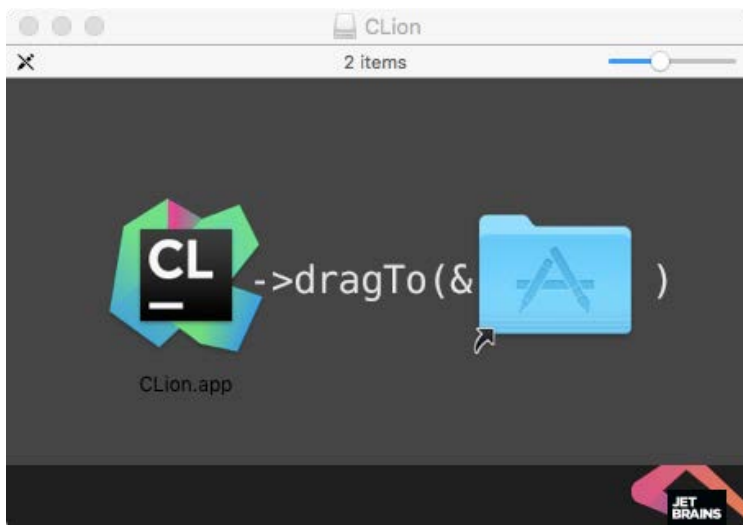
Install CLion IDE

We will be using the CLion IDE developed by JetBrains. If you haven't already done so, you will need to obtain an individual license for JetBrains products. For students, this license is free.

- Visit the CLion website at: jetbrains.com/clion.
- On the CLion homepage, click **Buy** near top of the page.
- On the *Toolbox Subscription* page, click on the **Special Offers** tab.
- Under the *For students and teachers* header, click **Learn more**.
- On the *Free individual license for students and teachers* page, scroll down and click on the **Apply Now** button.
- Apply for a license with the **UNIVERSITY EMAIL ADDRESS** option. You must use your Vanderbilt email address to receive the free license. You will receive a confirmation email. Click on the **Confirm Request** link in the email you received. Follow any instructions on the page you visit. As you go through this process, be sure to make notes of your user name, password, license ID, and your activation code.
- You will receive another email confirming your student license. Click on the provided link in the email to activate your educational license and save your activation code. On this page, there are links to download various products. Click on the **CLion** link that will take you back to the CLion home page.

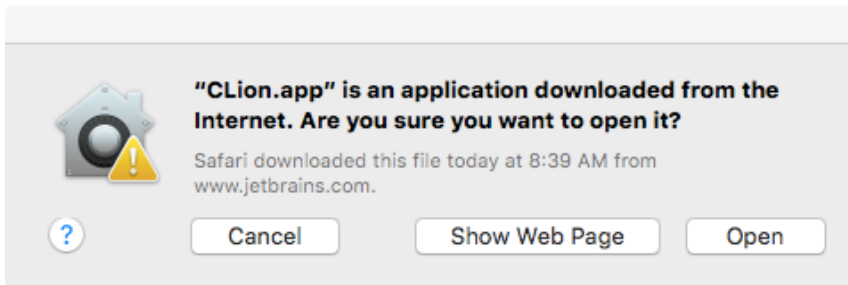
For MacOS

- Click on the **Download** button near the top-right of the page on the JetBrains website.
- On the **Download** page, download the macOS version of CLion and open it.
- Drag the CLion icon into your **Applications** folder as shown.

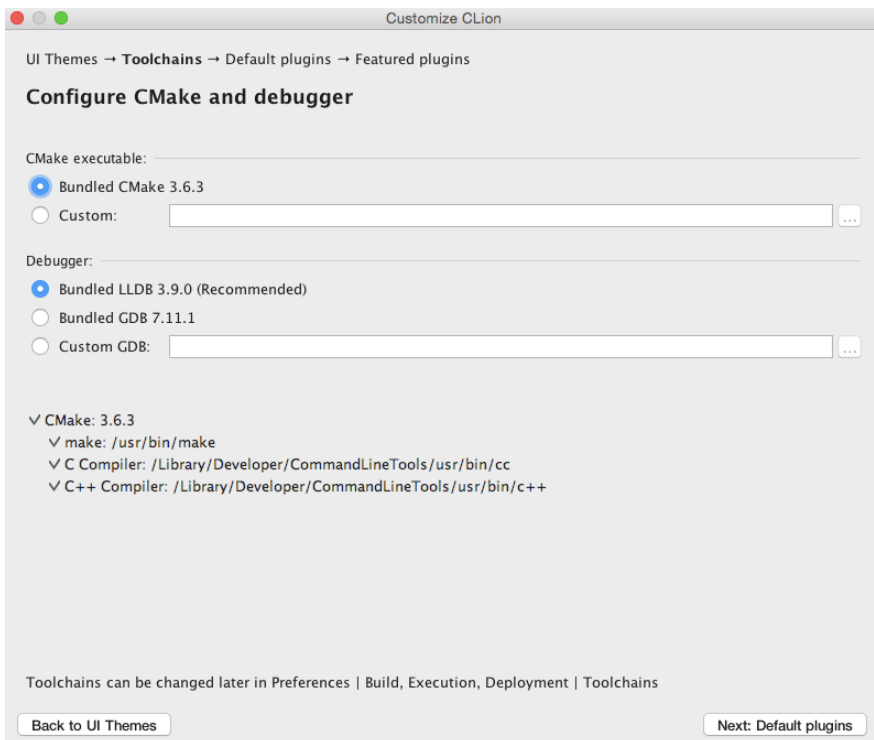


- You can now unmount the CLion DMG and throw it in the trash.

- Now, go to your **Applications** folder and open **CLion.app**. You may get the following dialogue checking to make sure you really want to run the application. If you do, click **Open**.



- When asked, select **I do not have a previous version of CLion or I do not want to import my settings**.
- You next can select your desired user interface theme, and then click **Next: Toolchains**.
- Confirm your settings (usually the default) and click **Next: Default plugins**.

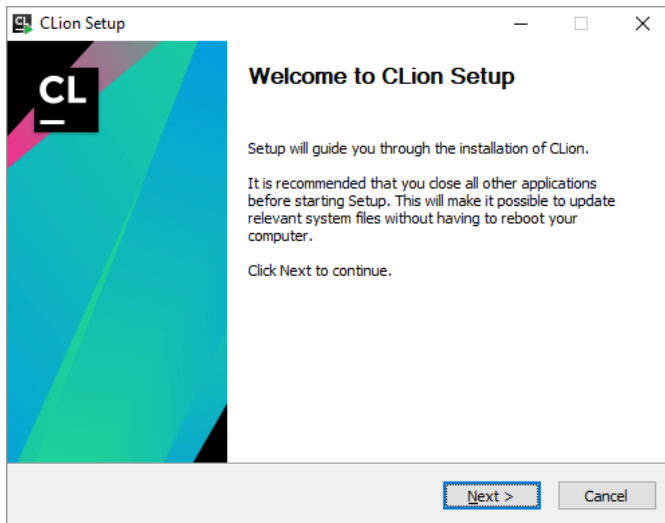


We do not plan to use any featured plugins, so simply click through the *Default plugins* and *Featured plugins* dialogues.

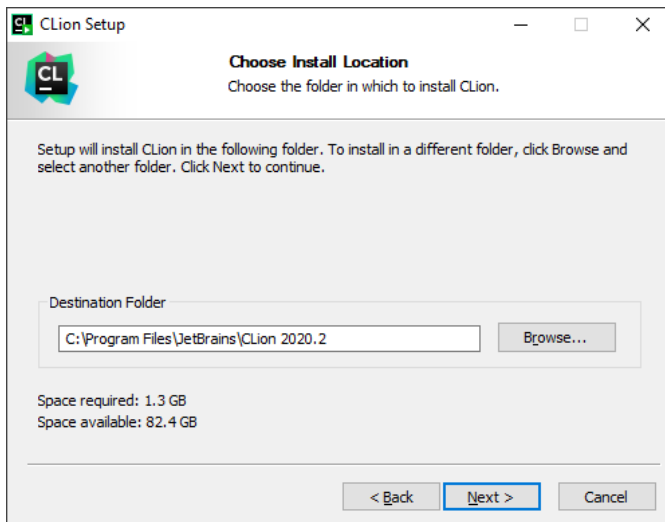


For Windows

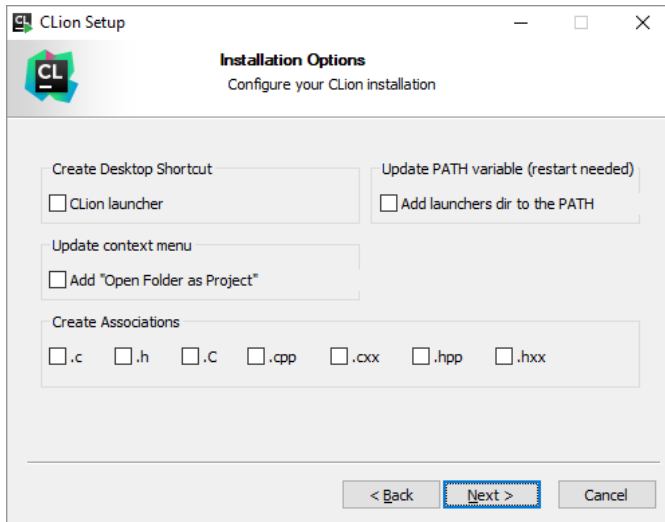
- Now click on the **Download** button near the top-right of the page on the JetBrains website.
- On the **Download** page, download the Windows version of CLion and save the installer to your computer.
- Run the CLion installer you just saved. Click **Next** on the welcome dialog window.



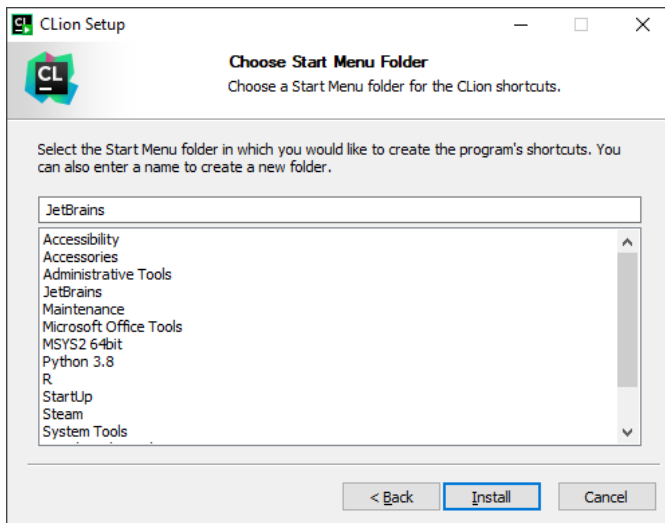
- On the **Choose Install Location** dialog window, accept the default folder by clicking **Next**.



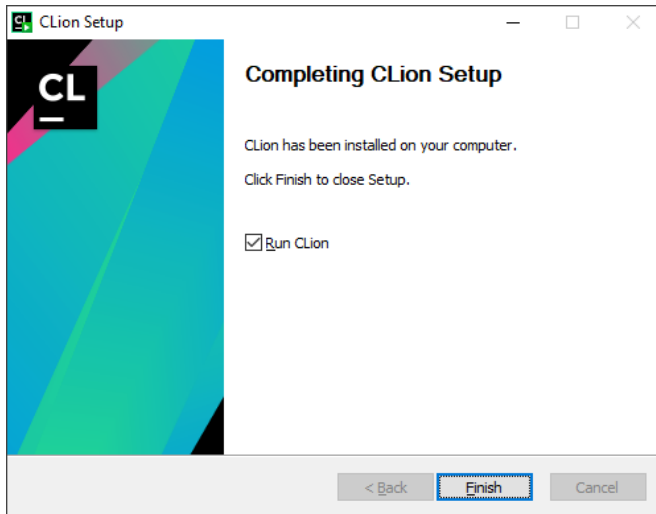
- On the **Installation Options** dialog window, select whether you want to create a desktop shortcut and associate related file extensions with CLion. When done, click **Next**.



- On the **Choose Start Menu Folder** dialog window, the name of the new menu folder for CLion will be listed. Click **Install**.



- When the install has completed, check the **Run CLion** box and click **Finish**.

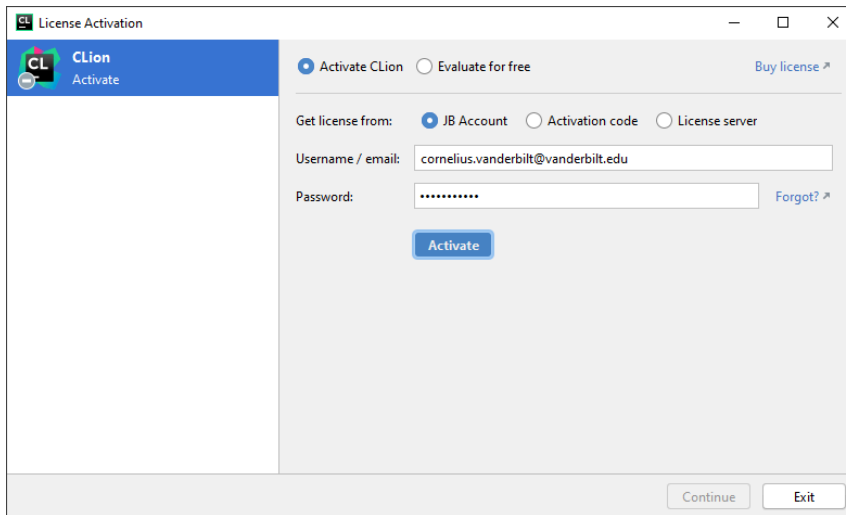


- When starting CLion for the first time, you will be asked whether to accept the JetBrains User Agreement. If you do not want to continue installation, click **Exit**. Otherwise, check the checkbox and click **Continue**.

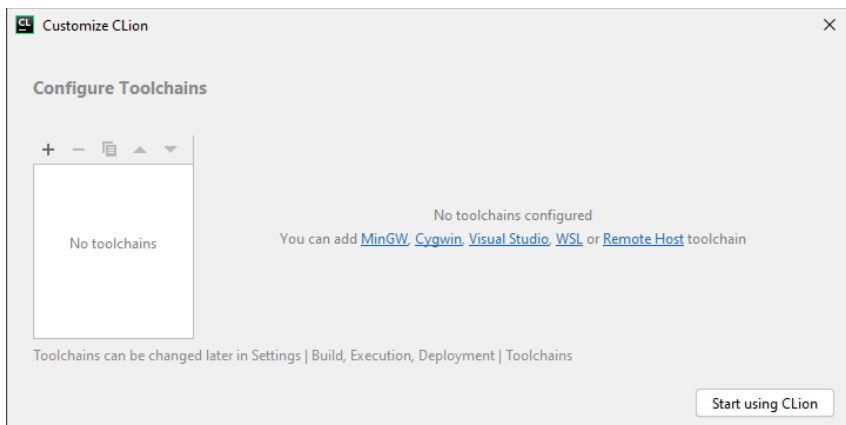


- On the **UI Themes** dialog window (not shown), select between the options for your user interface theme. Then click **Next: Default Plugins**.
- On the **Default plugins** dialog window (not shown), there is nothing to do, so click **Next: Featured Plugins**.
- On the **Featured plugins** dialog window (not shown), there is nothing to do, so click **Next: Featured Plugins**.

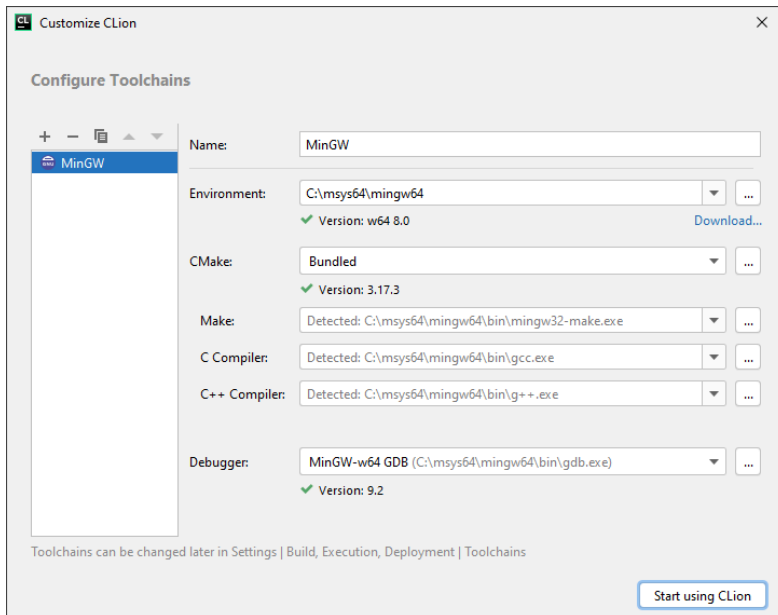
- You will then be presented with the following **License Activation** dialog window. Check the **Activation code** button and copy-n-paste your activation code that you saved into the text box, and click **OK**. You also to select the **JB Account** option (pictured below) and enter your JetBrains username/password.



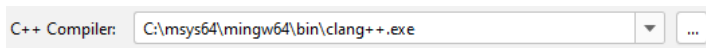
- On the **Configure Toolchains** dialog window, click **MinGW**.



- Click on the three dots to the right of **MinGW**. Search for and select the `C:\msys64\mingw64` folder. After a few moments, the following contents of the dialog window should appear.

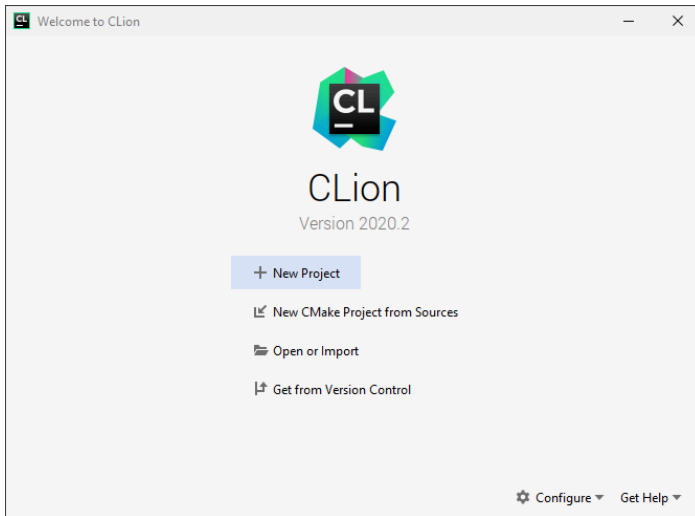


- To set the C++ compiler to Clang, click on the three dots to the right of **C++ Compiler**. Search for and select the `C:\msys64\mingw64\bin\clang++.exe` file. The listing of that file should now be displayed on the dialog window. Click **Start using CLion**.

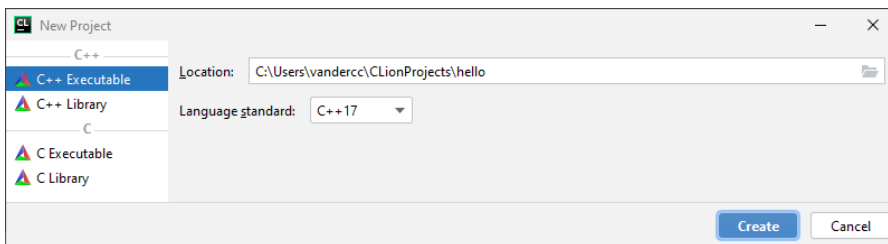


Test installation

- After the previous step, the **Welcome to CLion** dialog window should be displayed. Click **New Project**.



- Enter a folder name (something other than "test") and a location for the project (use a directory you can later find or accept the default), and press **Create**. In the example below, the project name is **Hello** with the associated located at **C:\Users\vandercc\CLionProjects\hello**.



The IDE will now open up with two tabs: CMakeLists.txt and main.cpp. The main.cpp tab will be displayed and it will contain a simple Hello World program.

- From the menu options, select **Run | Run hello**. The text "Hello, World!" at the bottom.

