

# LAB 0

## VSCODE IDE & GDB

UEE 1303

Department of Electrical and Computer Engineering, Institute of Electronics  
National Chiao Tung University

# C++ for Visual Studio Code

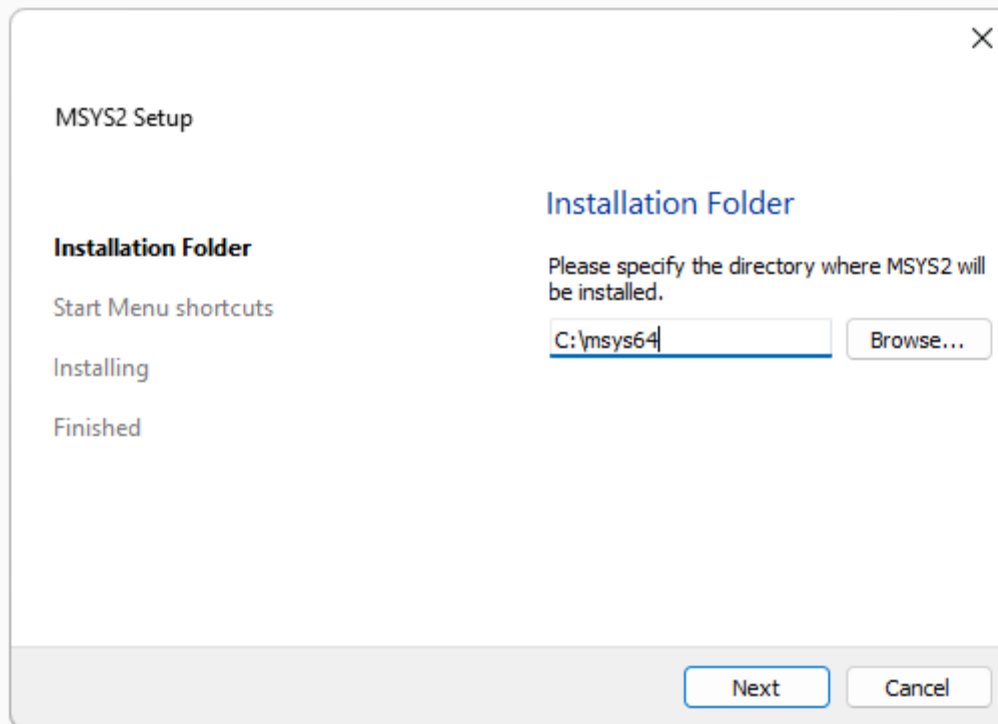
- ❑ <https://code.visualstudio.com/download>
- ❑ <https://code.visualstudio.com/docs/languages/cpp>
- ❑ <https://www.msys2.org/>

# Installation

1. Download the installer: [msys2-x86\\_64-20240113.exe](#)

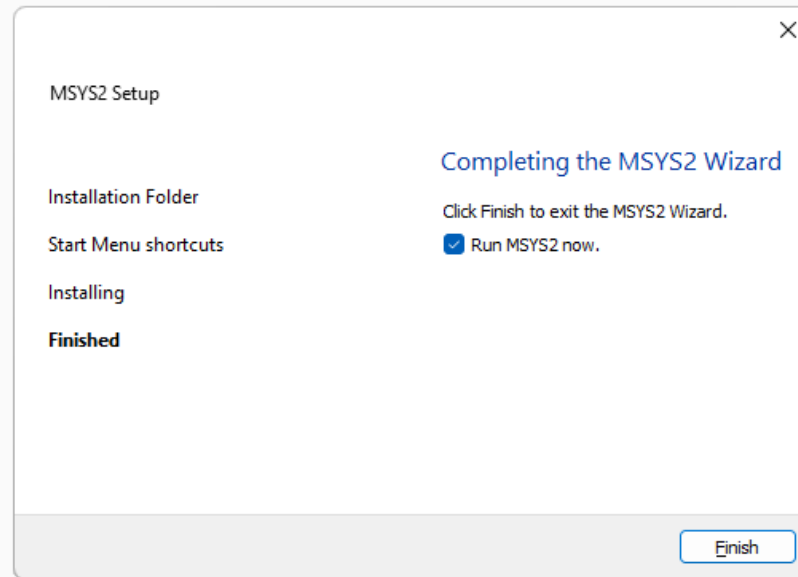
For more information on the installer, like command line options, or how to verify the checksum and signature of the installer, see the [installer guide](#).

2. Run the installer. MSYS2 requires 64 bit Windows 8.1 or newer.
3. Enter your desired **Installation Folder** (short ASCII-only path on a NTFS volume, no accents, no spaces, no symlinks, no subst or network drives, no FAT).

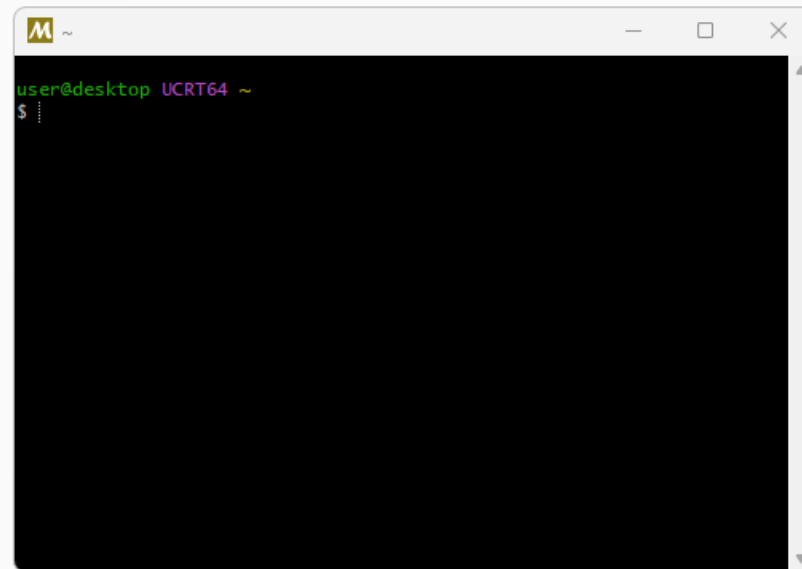


The image shows a screenshot of the MSYS2 Setup window. The window has a title bar with a close button (X) in the top right corner. The main content area is divided into two sections. On the left, there is a sidebar with the following items: "MSYS2 Setup" (the current step), "Installation Folder", "Start Menu shortcuts", "Installing", and "Finished". The "Installation Folder" section is active and displays the text "Please specify the directory where MSYS2 will be installed." Below this text is a text input field containing the path "C:\msys64" and a "Browse..." button to its right. At the bottom of the window, there are two buttons: "Next" and "Cancel".

4. When done, click **Finish**.



5. Now MSYS2 is ready for you and a terminal for the **UCRT64 environment** will launch.



6. You will probably want to install some tools like the mingw-w64 GCC to start compiling projects. Run the following command:

```
$ pacman -S mingw-w64-ucrt-x86_64-gcc
```



7. The terminal window will show the output as below. Press 'Enter' to continue:

```
resolving dependencies...
looking for conflicting packages...

Packages (15) mingw-w64-ucrt-x86_64-binutils-2.41-2
               mingw-w64-ucrt-x86_64-crt-git-11.0.0.r216.gffe883434-1
               mingw-w64-ucrt-x86_64-gcc-libs-13.2.0-2  mingw-w64-ucrt-x86_64-gmp-6.3.0-2
               mingw-w64-ucrt-x86_64-headers-git-11.0.0.r216.gffe883434-1
               mingw-w64-ucrt-x86_64-isl-0.26-1  mingw-w64-ucrt-x86_64-libiconv-1.17-3
               mingw-w64-ucrt-x86_64-libwinpthread-git-11.0.0.r216.gffe883434-1
               mingw-w64-ucrt-x86_64-mpc-1.3.1-2  mingw-w64-ucrt-x86_64-mpfr-4.2.1-2
               mingw-w64-ucrt-x86_64-windows-default-manifest-6.4-4
               mingw-w64-ucrt-x86_64-winpthread-git-11.0.0.r216.gffe883434-1
               mingw-w64-ucrt-x86_64-zlib-1.3-1  mingw-w64-ucrt-x86_64-zstd-1.5.5-1
               mingw-w64-ucrt-x86_64-gcc-13.2.0-2

Total Download Size:    49.38 MiB
Total Installed Size:  418.82 MiB

:: Proceed with installation? [Y/n]
[... downloading and installation continues ...]
```



8. Now you can call `gcc` to build software for Windows.

```
$ gcc --version
gcc.exe (Rev2, Built by MSYS2 project) 13.2.0
```



9. After installing MSYS2 it will update itself via `pacman`, see the [update guide](#) for more information.

7. Add the path to your MinGW-w64 **bin** folder to the Windows **PATH** environment variable by using the following steps:

1. In the Windows search bar, type **Settings** to open your Windows Settings.
  2. Search for **Edit environment variables for your account**.
  3. In your **User variables**, select the **Path** variable and then select **Edit**.
  4. Select **New** and add the MinGW-w64 destination folder you recorded during the installation process to the list. If you selected the default installation steps, the path is:  
**C:\msys64\ucrt64\bin.**
  5. Select **OK** to save the updated PATH. For the new **PATH** to be available, reopen your console windows.
8. Check that your MinGW-w64 tools are correctly installed and available, open a **new** Command Prompt and type:

```
gcc --version  
g++ --version  
gdb --version
```

## Windows 設定



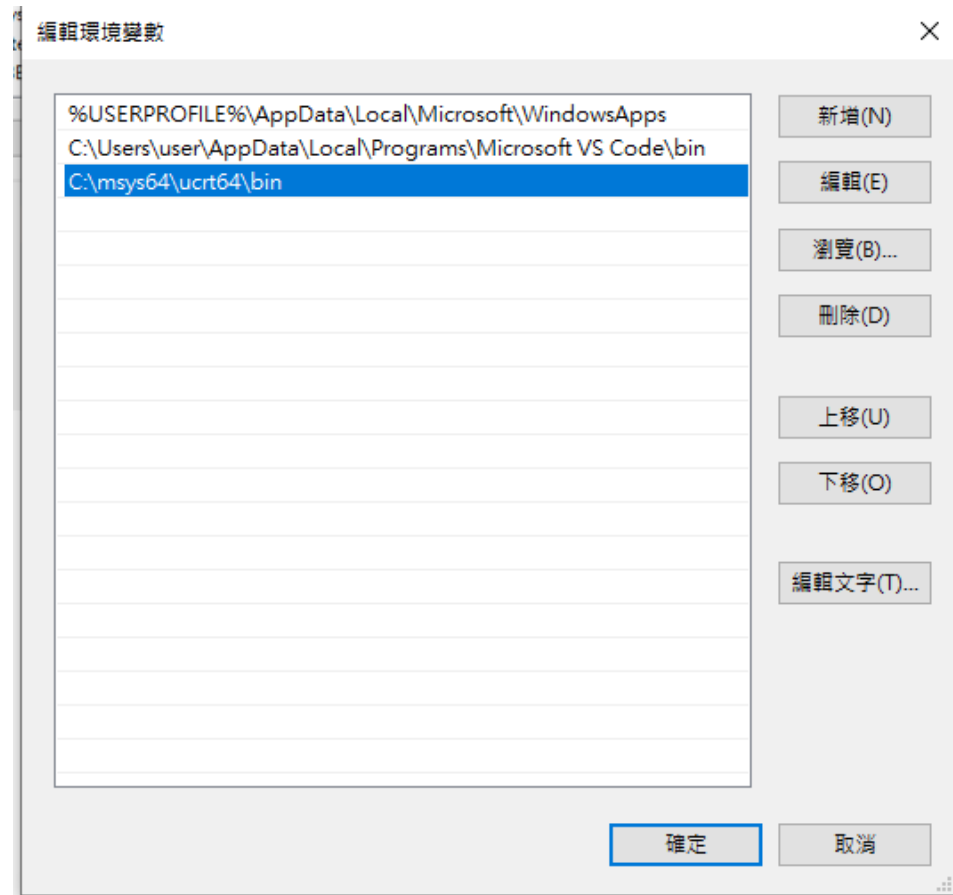
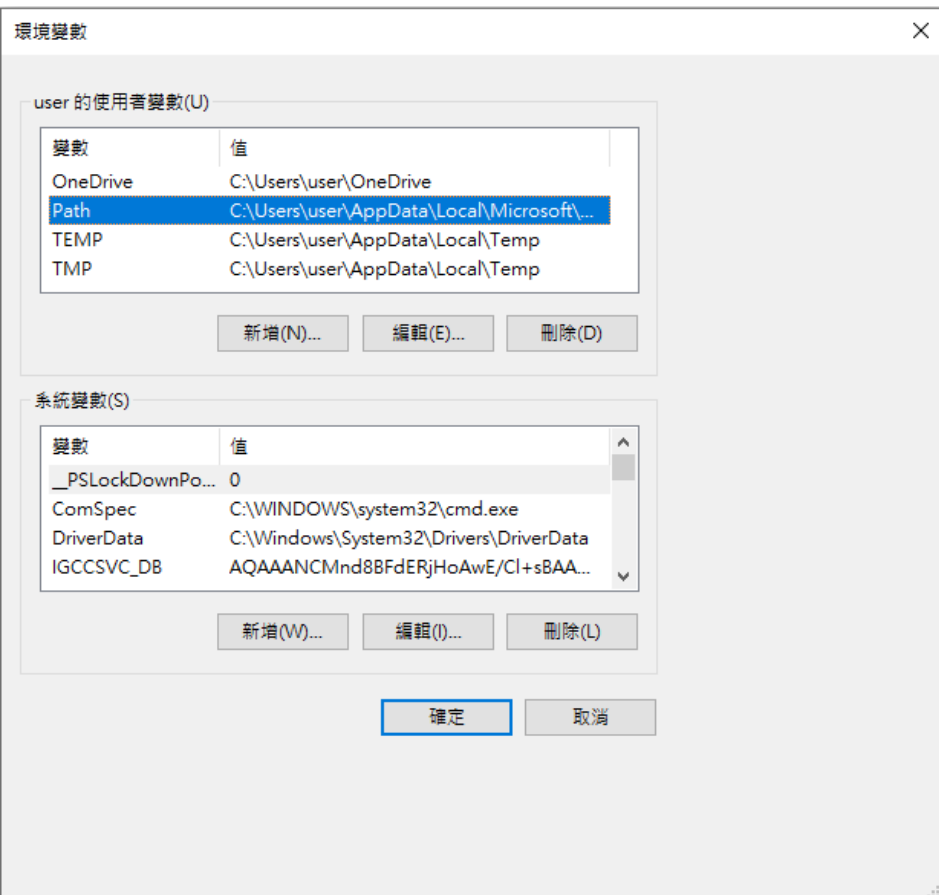
網路和網際網路  
Wi-Fi、飛行模式、VPN

時間與語言  
語言、地區、日期

遊戲  
Game Bar、擷取、遊戲

更新與安全性





# GDB

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- <http://www.study-area.org/cyril/opentools/opentools/x1253.html>