

개발환경 구축하기

Visual Studio Code 사용하기

경민기, 2025-09-30

컴퓨터가 1대 더 필요합니다.

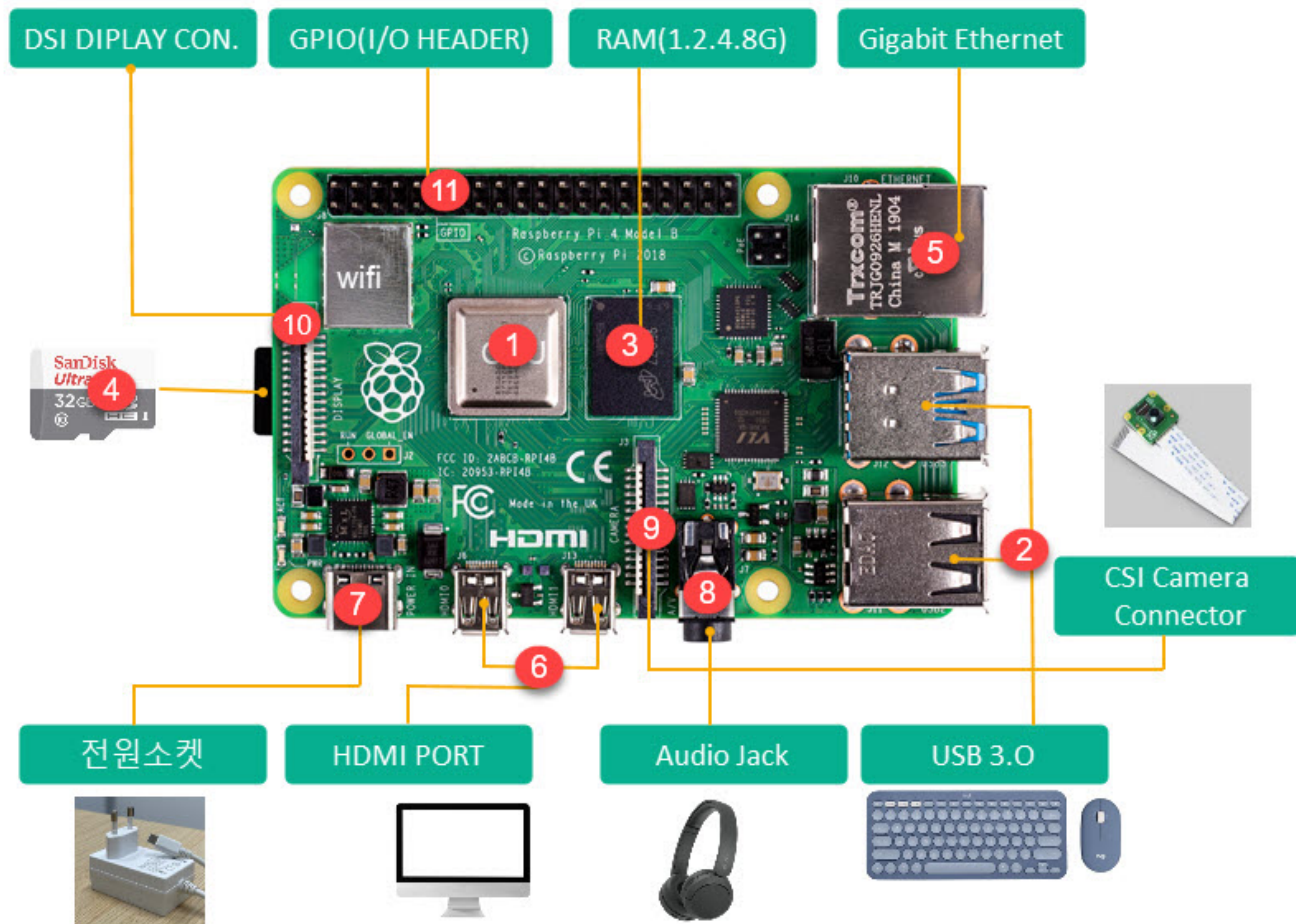
- 여러분 컴퓨터는 많은 고난을 겪습니다.
 - 물을 끼얹는다거나
 - 고장난다거나
 - 누가 훔쳐간다거나
 - 게임 설치하다가 충돌난다거나
- 빌드서버를 하나 만들어두고, 여기에서만 테스트하세요.
- 항상 원격 접근할 수 있는 곳에 두기 바랍니다. 여러분 생각보다 스스로에게 실수 많이 합니다.

기기 마련하기

리눅스 머신이 필요합니다.

- 여러분은 다른 운영체제를 사용할 줄 알아야 합니다.
- 난 회사에 다닐거야
 - 레드햇 / 우분투 리눅스에 웹서버를 돌릴 겁니다.
- 아이폰 앱 개발을 할거야
 - 맥을 사셔야 합니다.
 - 그런데 MacOS는 유닉스 기반

선택지1: 라즈베리 파이



선택지2: 싱크패드

옛날 개발자들이 잘 쓰던 브랜드. 현재에도 리눅스 드라이버 지원이 잘됨



소프트웨어 설정하기

- 다음 설명으로 넘어갑니다.
- <https://chatgpt.com/share/68da8d98-0758-8011-b829-02ee1d4f60df>

비주얼 스튜디오로 원격접속하기

설치하기

<https://code.visualstudio.com/Download>

 Visual Studio Code

Docs Updates Blog API Extensions MCP FAQ Dev Days

Download

Join a [VS Code Dev Days event](#) near you to learn about AI-assisted development in VS Code.

Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.



↓ Windows

Windows 10, 11

User Installer [x64](#) [Arm64](#)

System [x64](#) [Arm64](#)

Installer [x64](#) [Arm64](#)

.zip [x64](#) [Arm64](#)

CLI [x64](#) [Arm64](#)



↓ .deb

Debian, Ubuntu

.deb [x64](#) [Arm32](#) [Arm64](#)

.rpm [x64](#) [Arm32](#) [Arm64](#)

.tar.gz [x64](#) [Arm32](#) [Arm64](#)

Snap [Snap Store](#)

CLI [x64](#) [Arm32](#) [Arm64](#)

↓ .rpm

Red Hat, Fedora, SUSE



↓ Mac

macOS 11.0+

.zip [Intel chip](#) [Apple silicon](#) [Universal](#)

CLI [Intel chip](#) [Apple silicon](#)

By downloading and using Visual Studio Code, you agree to the [license terms](#) and [privacy statement](#).


Want new features sooner?
Get the [Insiders build](#) instead.

Use [vscode.dev](#) for quick
edits online!
GitHub, Azure Repos, and local
files.

플러그인 설치: Remote Development

EXTENSIONS: MARKETPLACE


remote

**Dev Containers**

Open any folder or repository insid...

Microsoft


168ms

**Remote Explorer**

View remote machines for SSH and ...

Microsoft


21.2M 4.5

**Remote Repositories**

Remotely browse and edit git repos...

Microsoft


4.8M 4

**Remote Development**

An extension pack that lets you ope...

Microsoft


7.7M 4.5

**Remote - Tunnels**

Connect to a remote machine throu...

Microsoft


6.9M 4.5

**Remote - SSH**

Open any folder on a remote machi...

Microsoft


29.3M 3.5

**Remote - SSH: Editin...**

Edit SSH configuration files

Microsoft


27.2M 4

**Azure Machine Learni...**

This extension is used by the Azure ...

Microsoft


2.4M 3

**Gitpod Classic Remote**

Auto-installed within Classic worksp...

Gitpod


1.1M 2

**Remote VSCode**

A package that implements the Text...

Rafael Maiolla


189K 4.5

**Save as Root in Remo...**

Edit configuration files with root pri...

yy0931


263K 5

**Remote FS**

Working with any file in everywhere...

liximomo

147K 4.5


**Remote X11 (SSH)**

Enables X11 forwarding with the Re...

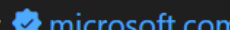
Joel Spadin

189K 5

Extension: Remote Development




Remote Development

Microsoft  7,772,287 | 4.5 (116)

An extension pack that lets you open any folder in a container, on a remote machine, or in WSL and take advantage of...

Install


☒ Auto Update



DETAILS

FEATURES


Extension Pack (4)

**Dev Containers**

Open any folder or repository inside a Docke...

Microsoft

168ms

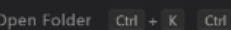

**WSL**

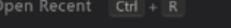
Open any folder in the Windows Subsystem ...

Microsoft

Install

Report Issue

Open Folder  

Open Recent 

Confirming that Python-ML is reachable...

Source: Remote - SSH (Extension)

Cancel

System Requirements

Local: See the minimum requirements for [VS Code](#). For Windows, Remote - Containers requires Windows 10 Pro/Enterprise or Home 2004+ with WSL2 enabled due to Docker requirements. See [installation](#) steps for additional details for each extension.

Remote host / container / WSL support:

- x86_64 / ARMv8l (AArch64) / ARM7l (AArch32) Debian/Raspbian 9+, Ubuntu 16.04+, Ubuntu IoT 18.04+, CentOS / RHEL 7+ SSH hosts, containers, or WSL distributions.
- x86_64 Alpine Linux 3.7+ containers or WSL distributions (no SSH support yet).

Additional SSH support:

- Windows 10 / Server 2016/2019 (1803+) using the [official OpenSSH Server](#).
- macOS 10.14+ (Mojave) SSH hosts with [Remote Login enabled](#).

Other [glibc](#) based Linux SSH Hosts, containers, or WSL distributions may work if they have [needed prerequisites](#).

Some extensions installed on ARMv7l (AArch32) and ARMv8l (AArch64) devices may not work due to the use of

Marketplace

Identifier

ms-vscode-remote.vscod...extensionpack

Version

0.26.0

Published

2019-05-03, 03:40:50

Last Released

2024-10-24, 23:02:38

Categories

Extension Packs

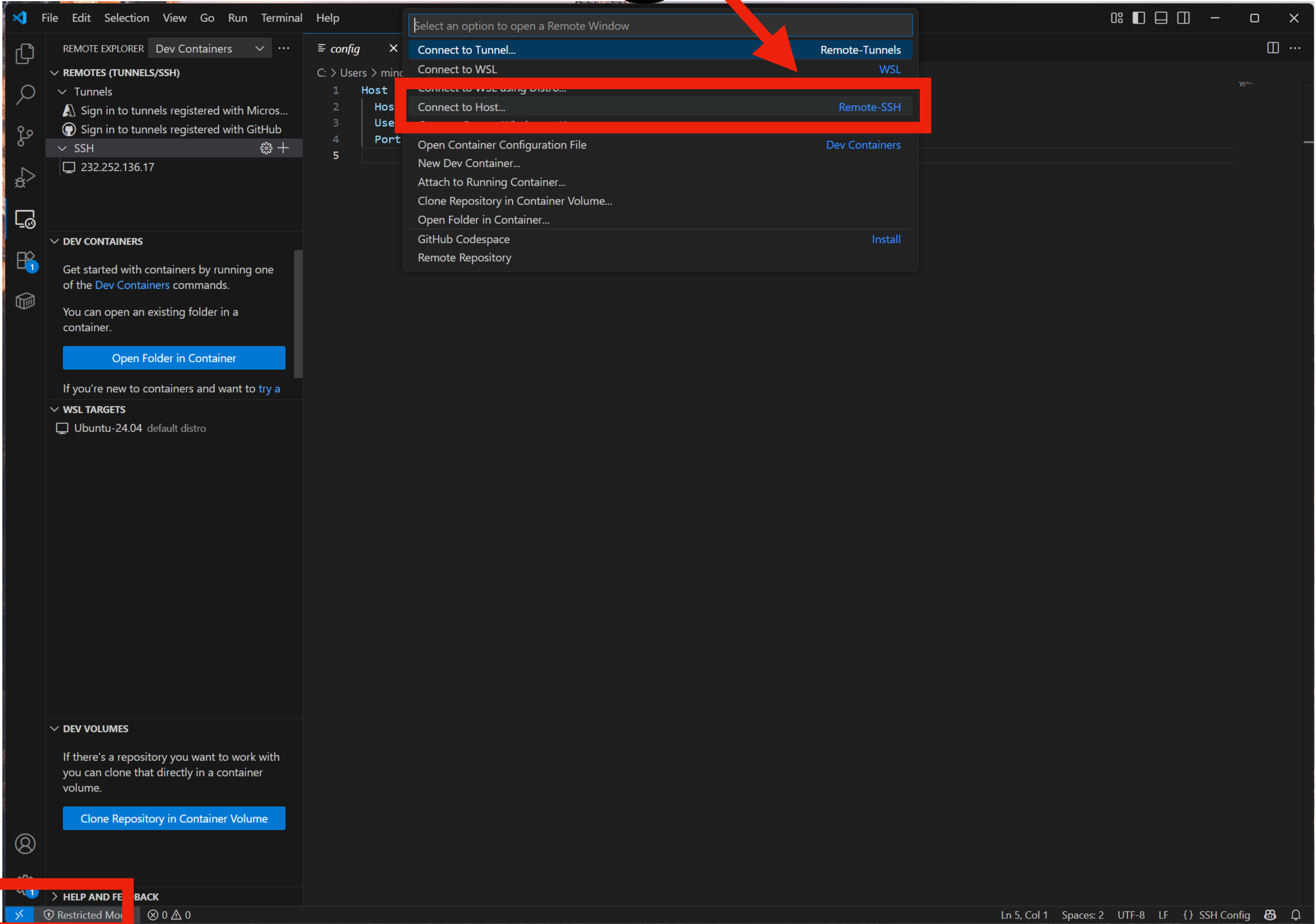
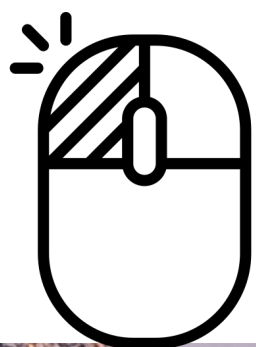
Resources

[Marketplace](#)
[Issues](#)
[Repository](#)
[License](#)
[Microsoft](#)

Restricted Mode

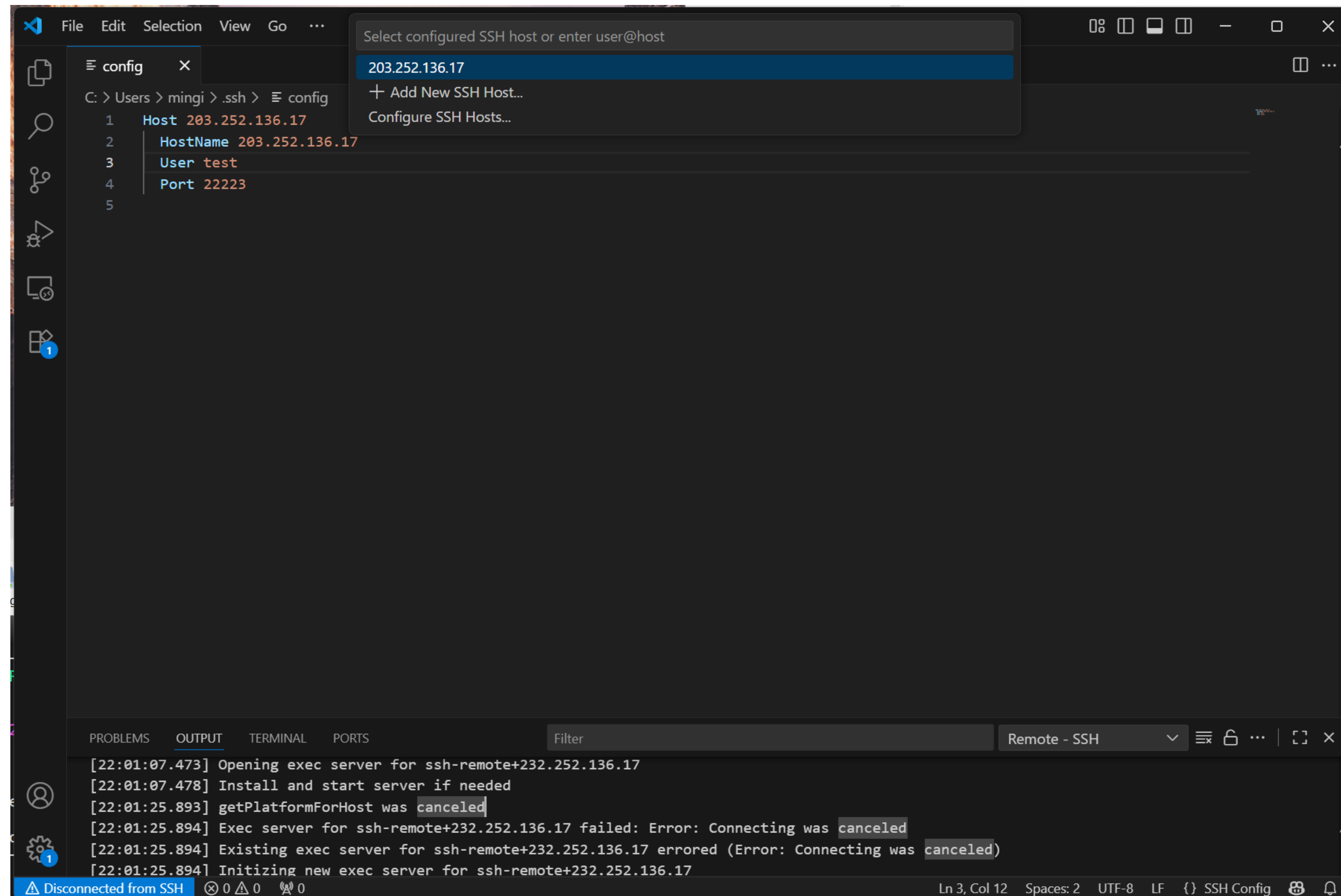
0 0 0

Connect to Host

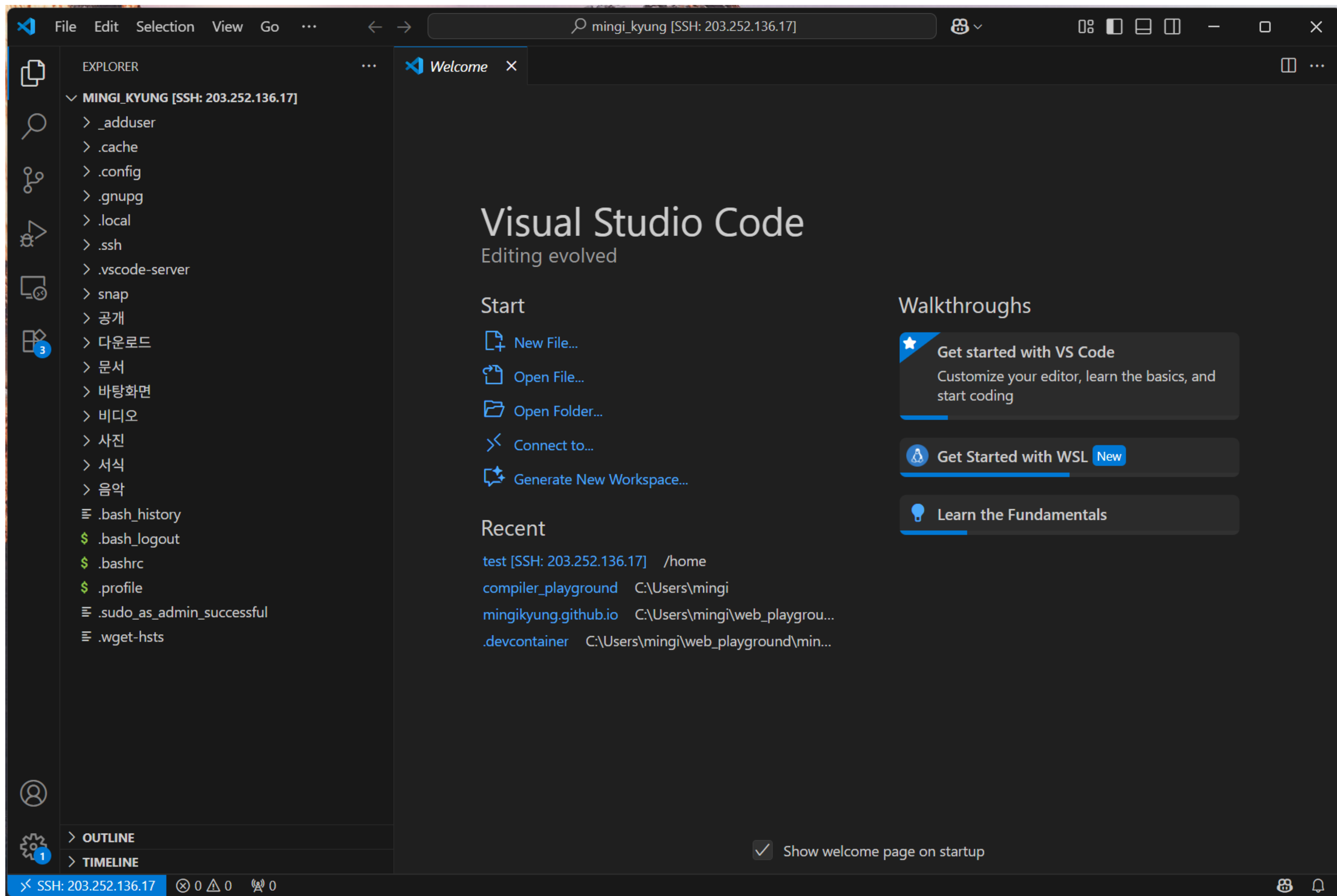


원격접속 설정: ~/.ssh/config

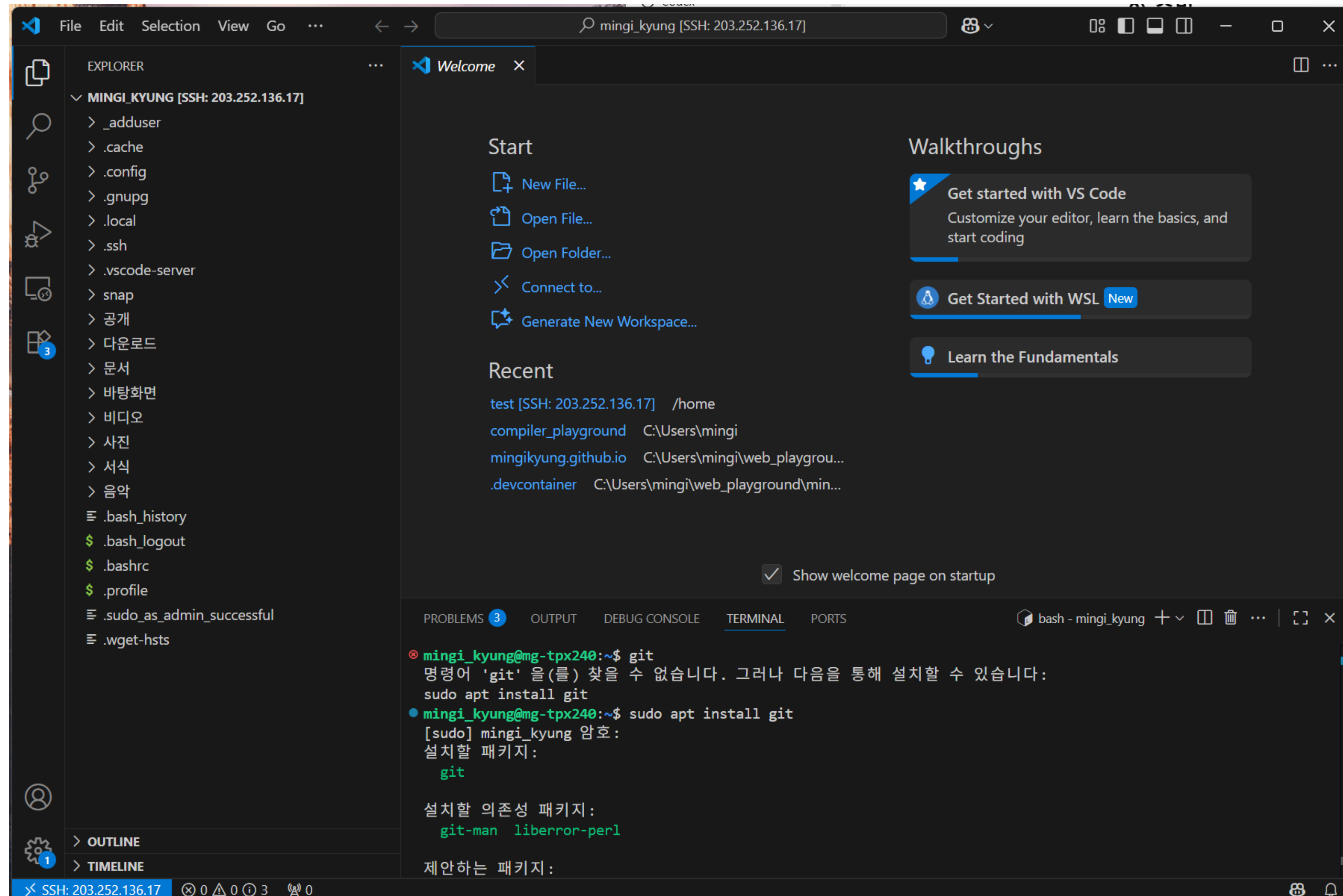
누가 강요하기 전에는 ssh 키를 통한 자동 접속하지 마세요. 보안은 귀찮은 겁니다.



접속 확인



터미널 창은 Ctrl+` 키를 통해 엽니다.



Git clone하기

github에서 주소 복사

The screenshot shows the GitHub interface for the repository 'MinGiKYUNG / compiler_class'. The repository is public and has 6 forks and 8 stars. The 'Code' tab is selected, and a 'Clone' dropdown menu is open, showing the HTTPS URL: `https://github.com/MinGiKYUNG/compiler_class.git`. The repository contains a README.md file and a folder named '2wk'.

Repository Details:

- Repository: MinGiKYUNG / compiler_class (Public)
- Notifications: 0
- Fork: 6
- Star: 8

Repository Structure:

- main branch (1 Branch)
- 0 Tags
- Files: README.md, compiler_dev_env-V01.pdf
- Folders: 2wk, 3wk, 4wk

Clone Options:

- Clone using the web URL: `https://github.com/MinGiKYUNG/compiler_class.git`
- Open with GitHub Desktop
- Download ZIP

About:

- No description, website, or topics provided.
- Readme
- Activity
- 8 stars
- 0 watching
- 6 forks
- Report repository

Releases:

- No releases published

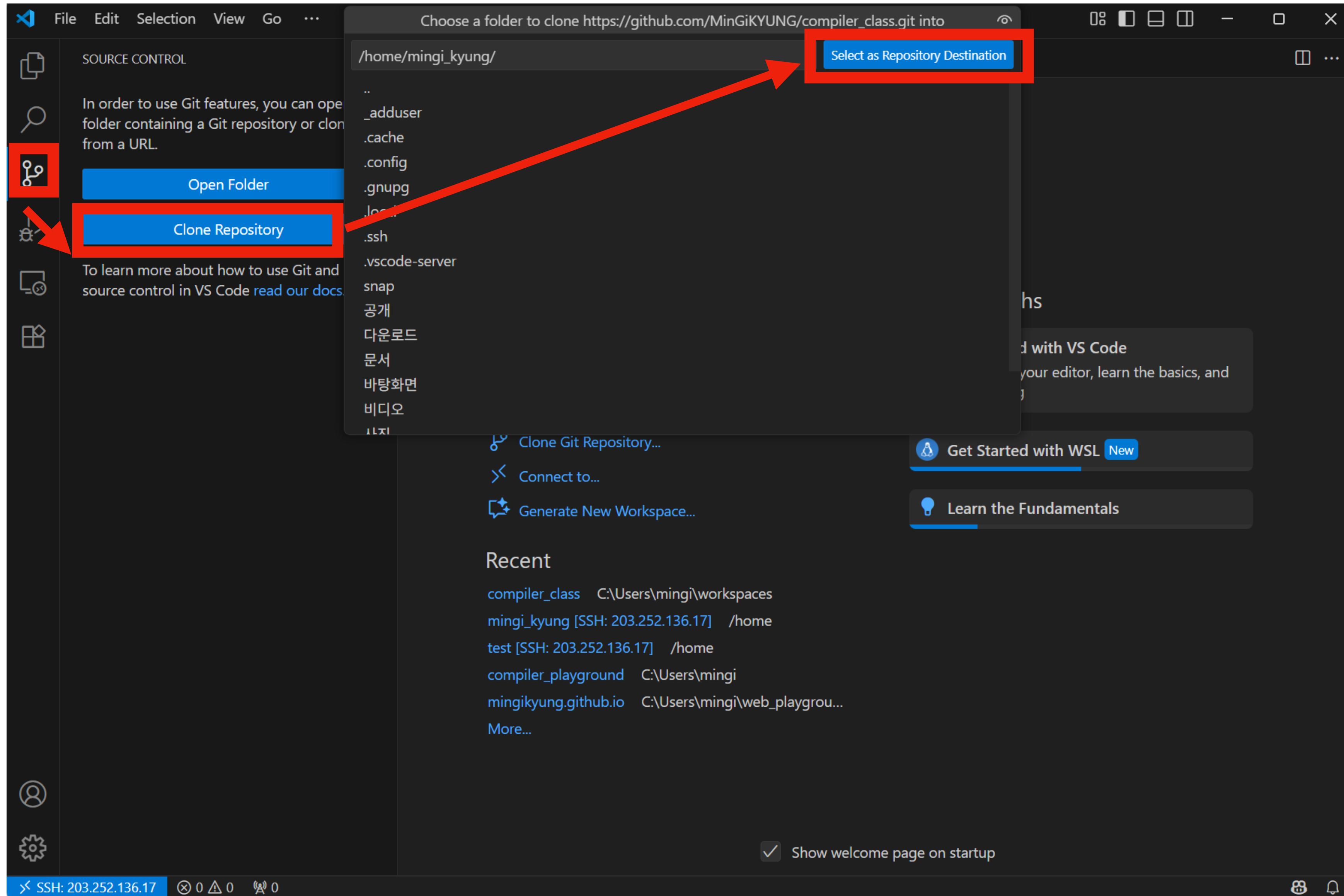
Packages:

- No packages published

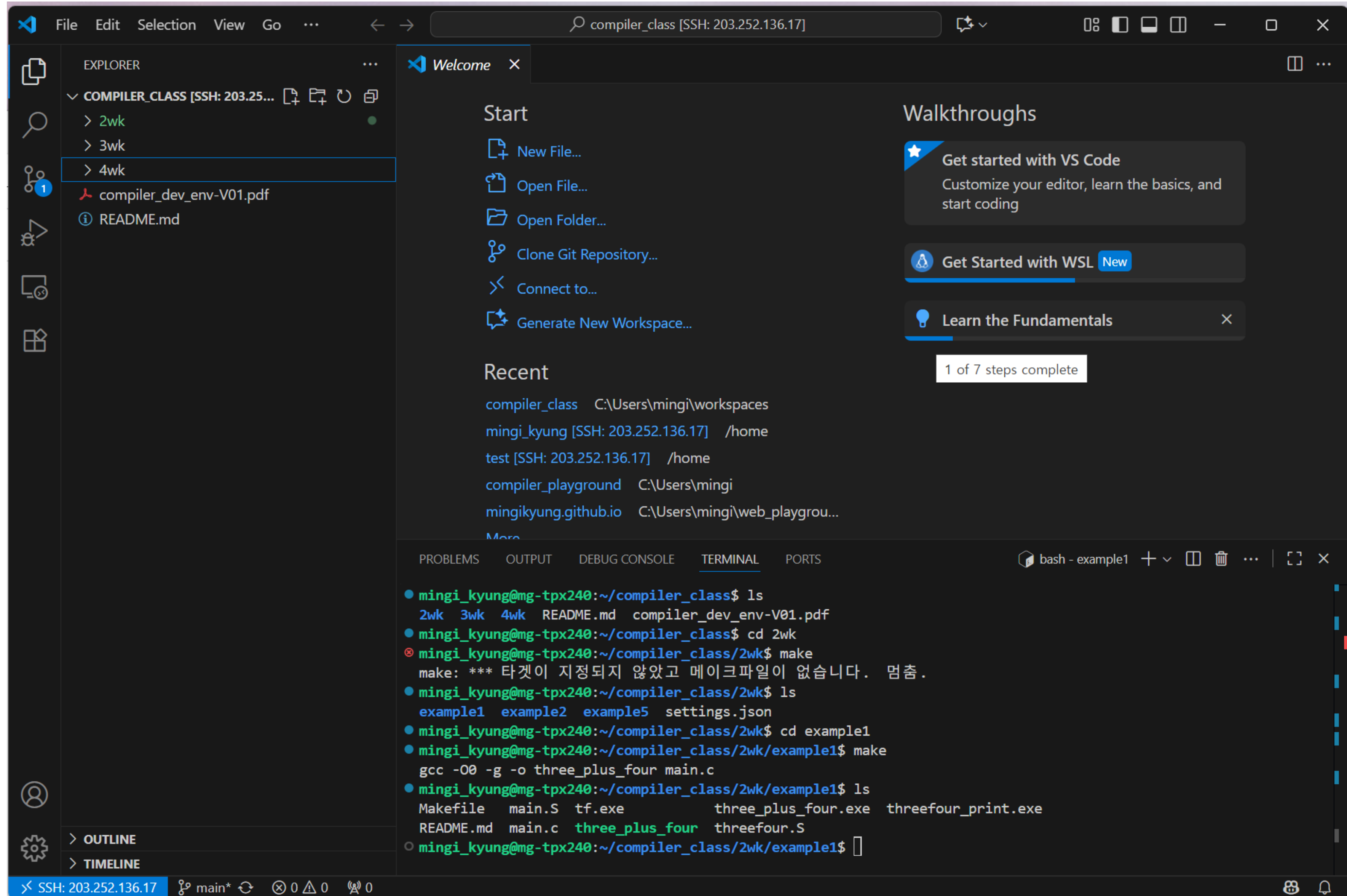
README:

1. 테스트 계정 생성용 설문지:

git clone



터미널 열어 실행



ssh 접속프로그램 따로 쓰기

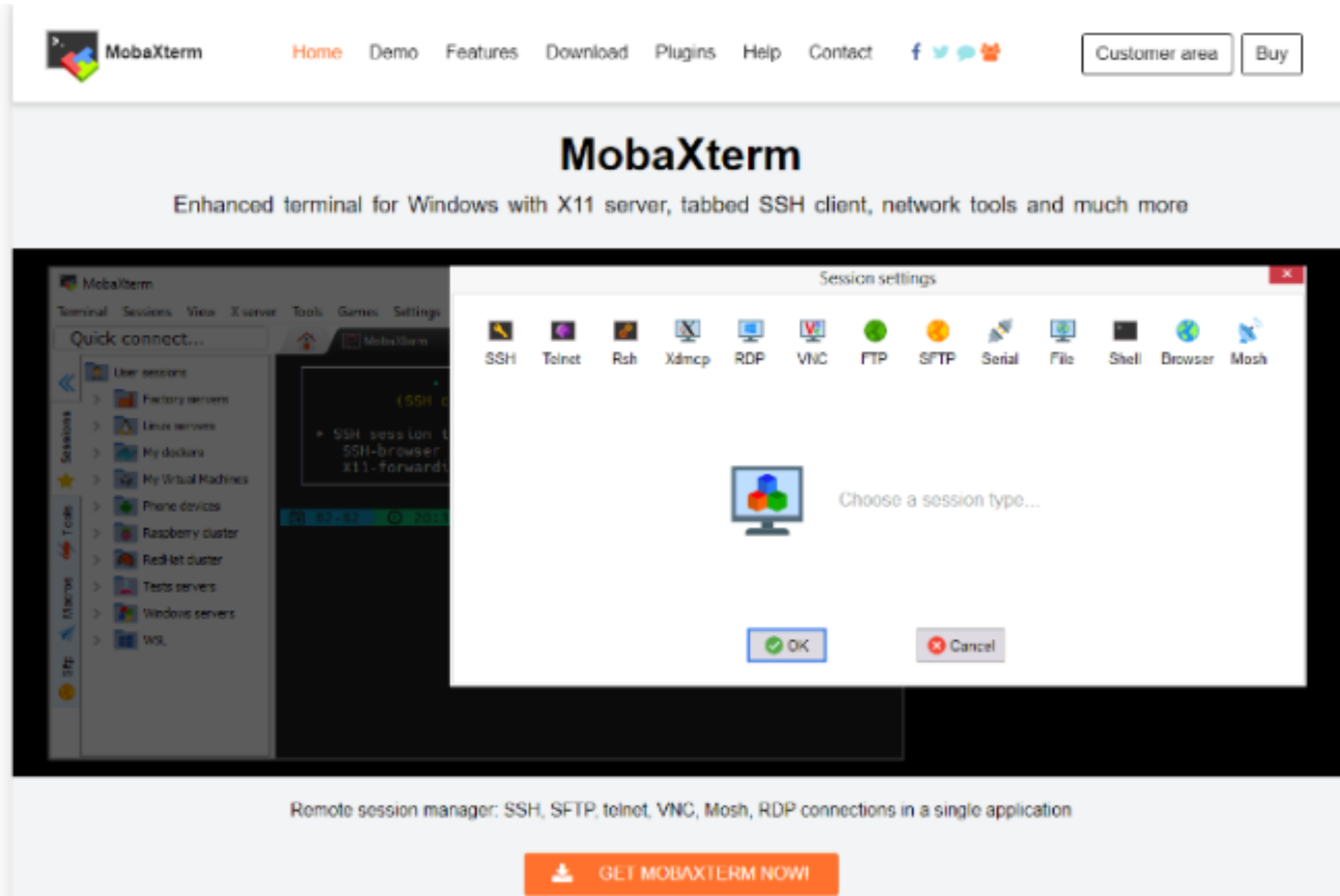
왜 ssh 접속프로그램을 따로 쓰는가

모든 개발도구가 터미널 기능을 가지고 있지만, 원격접속도구는 창 따로 띄움

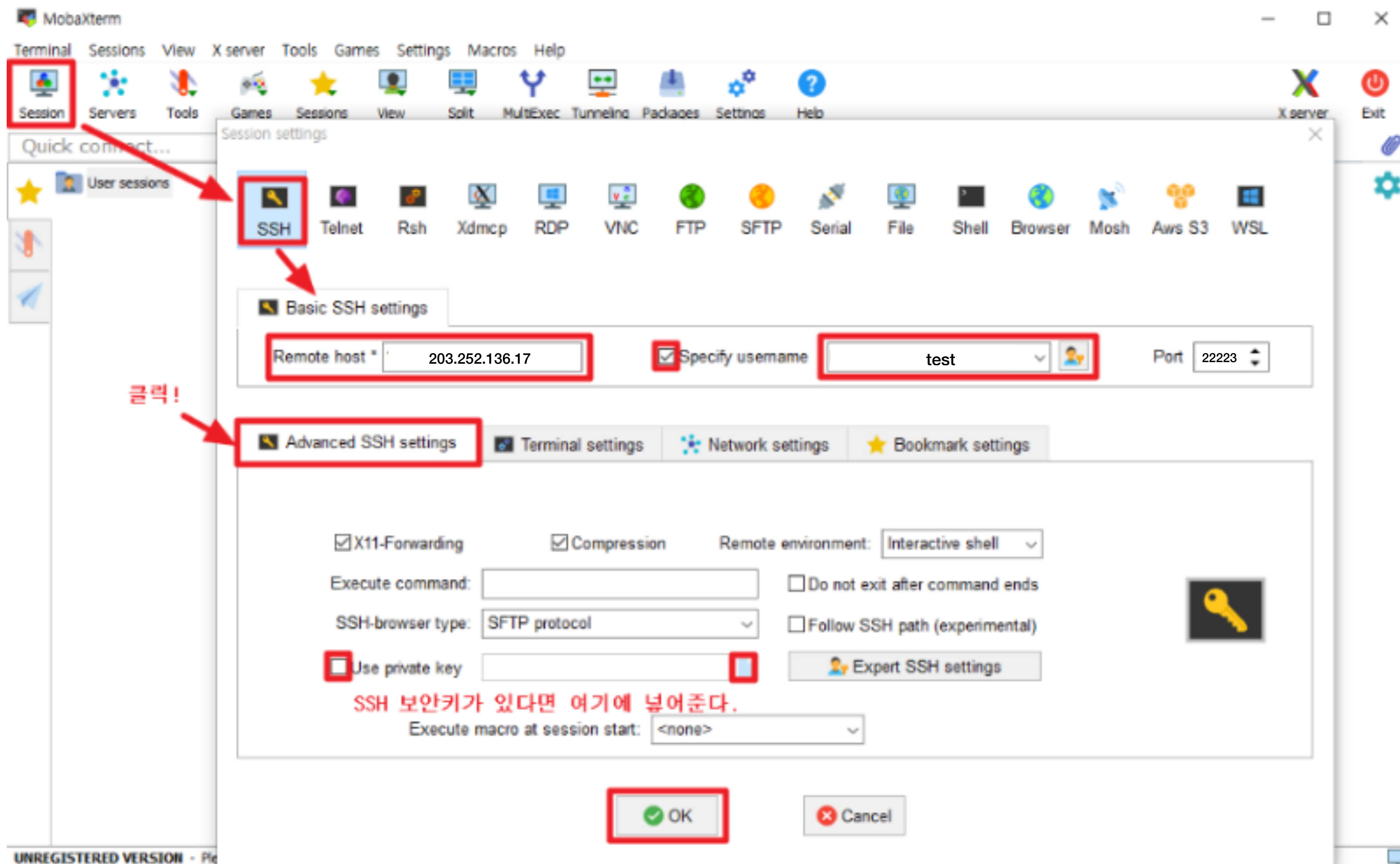
- Visual studio code에서 빌드 명령 같은 걸 일일이 설정해야 함
 - make에 다양한 옵션 주는 프로그래머도 있음
 - 여러 프로그램 다루다보면 귀찮음
 - 그냥 터미널 켜고 make 명령 입력하는게 편함
- Visual studio code 같은 프로그램들은 여러 기능이 들어간 프로그램이라 잘 뺌
 - 안정적인 화면 하나 필요함

Mobaxterm

<https://mobaxterm.mobatek.net>



설정



컴파일러 수업 환경 구축: Ubuntu linux & Mac OS

Ubuntu 24.04

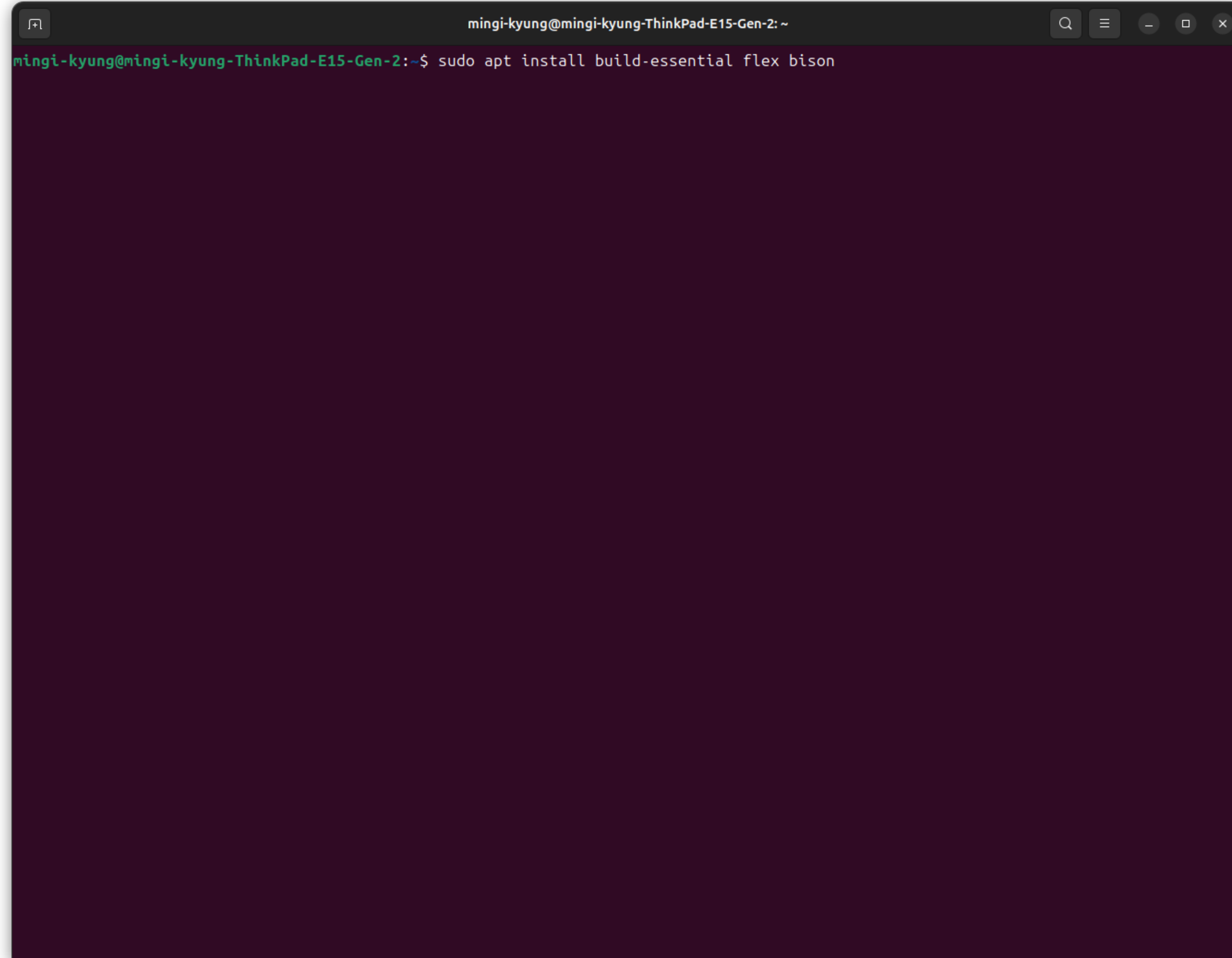
- 2024년 4월 출시된 버전으로 장기 지원 (Long-term support) 지원되는 우분투 버전
- 여러분 졸업할 때까지는 지원될 겁니다.
- 소프트웨어 패키지는 업데이트해도, 배포판은 업데이트하지 마세요.

sudo apt update

- SW 패키지 업데이트

```
mingi-kyung@mingi-kyung-ThinkPad-E15-Gen-2: ~  
mingi-kyung@mingi-kyung-ThinkPad-E15-Gen-2:~$ sudo apt update  
기존:1 http://security.ubuntu.com/ubuntu noble-security InRelease  
기존:2 http://kr.archive.ubuntu.com/ubuntu noble InRelease  
기존:3 https://download.docker.com/linux/ubuntu noble InRelease  
기존:4 http://kr.archive.ubuntu.com/ubuntu noble-updates InRelease  
기존:5 https://packages.microsoft.com/repos/code stable InRelease  
기존:6 http://kr.archive.ubuntu.com/ubuntu noble-backports InRelease  
패키지 목록을 읽는 중입니다... 완료  
의존성 트리를 만드는 중입니다... 완료  
상태 정보를 읽는 중입니다... 완료  
42 패키지를 업그레이드할 수 있습니다. 확인하려면 'apt list --upgradable'를 실행하십시오.  
mingi-kyung@mingi-kyung-ThinkPad-E15-Gen-2:~$
```

sudo apt install -y build-essential flex bison



```
mingi-kyung@mingi-kyung-ThinkPad-E15-Gen-2: ~  
mingi-kyung@mingi-kyung-ThinkPad-E15-Gen-2:~$ sudo apt install build-essential flex bison
```

A terminal window with a dark background and light green text. The window title bar shows the user 'mingi-kyung' and the machine 'mingi-kyung-ThinkPad-E15-Gen-2'. The command 'sudo apt install build-essential flex bison' has been entered and is visible on the first line of the terminal output.

Mac os에서 설치

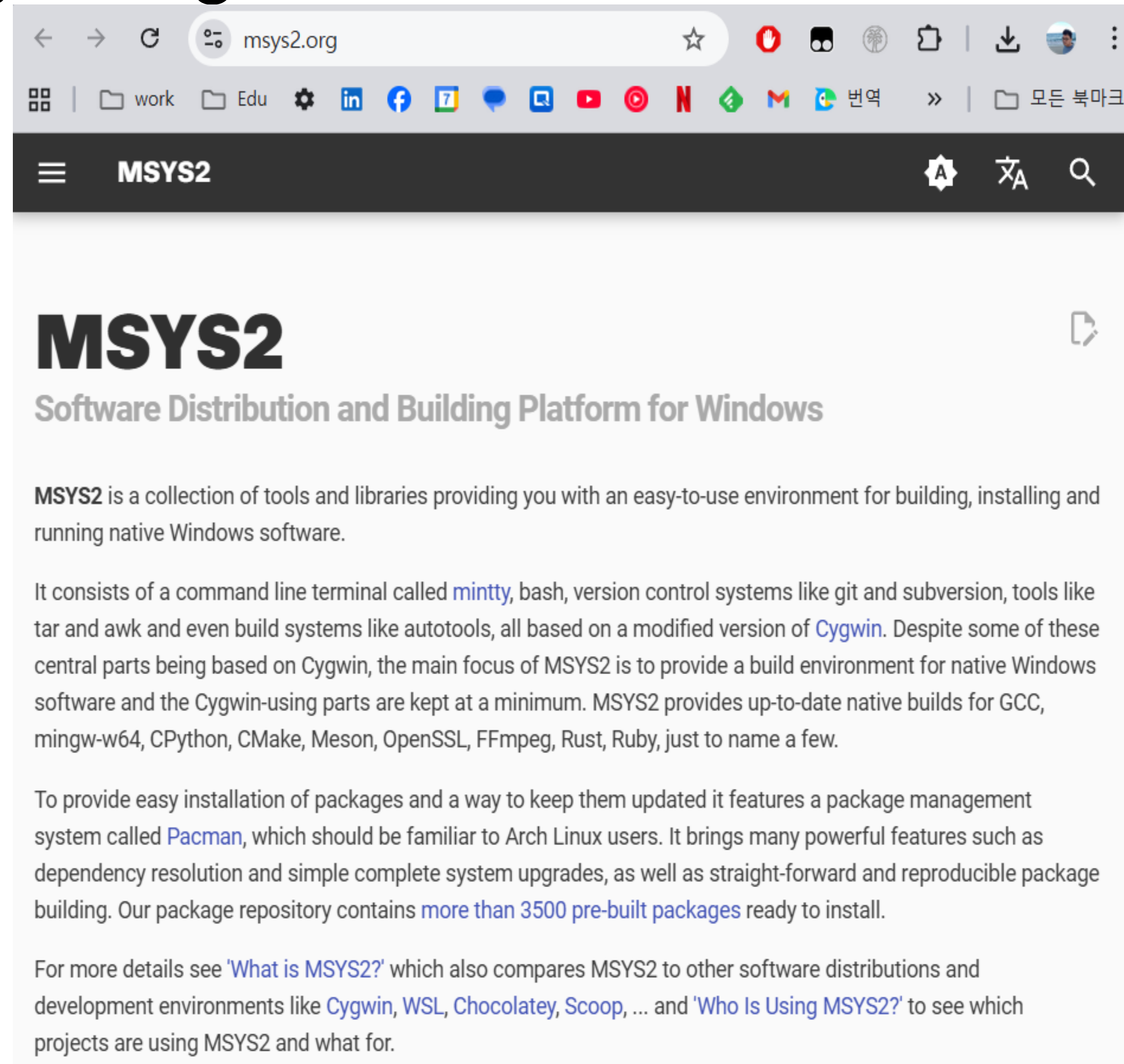
- Command + space 키를 동시에 누른 뒤, terminal을 쳐서 터미널을 띄움
- Brew 설치
 - `/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"`
- Gcc & Flex & bison 설치
 - `$ brew install gcc flex bison`

컴파일러 수업 환경 구축:

Windows

msys2 설치

<https://www.msys2.org/>



Tool 설치

- msys2의 터미널 창을 띄웁니다.
- 아래 명령으로 프로그램 설치합니다.
- `pacman -S --needed base-devel git mingw-w64-ucrt-x86_64-toolchain flex bison gdb`

```
mingi@mg_winlaptop UCRT64 ~
$ pacman -S --needed base-devel git mingw-w64-ucrt-x86_64-toolchain flex bison gdb
:: There are 13 members in group mingw-w64-ucrt-x86_64-toolchain:
:: Repository ucrt64
 1) mingw-w64-ucrt-x86_64-binutils  2) mingw-w64-ucrt-x86_64-crt-git
 3) mingw-w64-ucrt-x86_64-gcc      4) mingw-w64-ucrt-x86_64-gdb
 5) mingw-w64-ucrt-x86_64-gdb-multiarch  6) mingw-w64-ucrt-x86_64-headers-git
 7) mingw-w64-ucrt-x86_64-libmangle-git  8) mingw-w64-ucrt-x86_64-libwinpthread
 9) mingw-w64-ucrt-x86_64-make      10) mingw-w64-ucrt-x86_64-pkgconf
11) mingw-w64-ucrt-x86_64-tools-git 12) mingw-w64-ucrt-x86_64-winthreads
13) mingw-w64-ucrt-x86_64-winstorecompat-git

Enter a selection (default=all):
resolving dependencies...
looking for conflicting packages...

Packages (94) binutils-2.45-1 diffstat-1.68-1 diffutils-3.12-1 dos2unix-7.5.2-1
heimdal-7.8.0-5 libcbor-0.12.0-1 libfido2-1.16.0-1 libgc-8.2.8-1
libguile-3.0.10-3 libxxhash-0.8.3-1 m4-1.4.19-2 make-4.4.1-2
mingw-w64-ucrt-x86_64-bzip2-1.0.8-3 mingw-w64-ucrt-x86_64-expat-2.7.1-2
mingw-w64-ucrt-x86_64-gcc-libs-15.2.0-8
mingw-w64-ucrt-x86_64-gettext-runtime-0.26-1 mingw-w64-ucrt-x86_64-gmp-6.3.0-2
mingw-w64-ucrt-x86_64-is1-0.27-1 mingw-w64-ucrt-x86_64-libffi-3.5.1-1
mingw-w64-ucrt-x86_64-libiconv-1.18-1 mingw-w64-ucrt-x86_64-libsystre-1.0.2-1
mingw-w64-ucrt-x86_64-libtre-0.9.0-1 mingw-w64-ucrt-x86_64-mpc-1.3.1-2
mingw-w64-ucrt-x86_64-mpdecimal-4.0.1-1 mingw-w64-ucrt-x86_64-mpfr-4.2.2-1
mingw-w64-ucrt-x86_64-ncurses-6.5.20241228-3 mingw-w64-ucrt-x86_64-openssl-3.5.2-1
mingw-w64-ucrt-x86_64-python-3.12.11-1 mingw-w64-ucrt-x86_64-readline-8.3.001-1
mingw-w64-ucrt-x86_64-sqlite3-3.50.4-1 mingw-w64-ucrt-x86_64-tcl-8.6.16-1
mingw-w64-ucrt-x86_64-termcap-1.3.1-7 mingw-w64-ucrt-x86_64-tk-8.6.16-1
mingw-w64-ucrt-x86_64-tzdata-2025b-2
mingw-w64-ucrt-x86_64-windows-default-manifest-6.4-4
mingw-w64-ucrt-x86_64-xxhash-0.8.3-1 mingw-w64-ucrt-x86_64-xz-5.8.1-2
mingw-w64-ucrt-x86_64-zlib-1.3.1-1 mingw-w64-ucrt-x86_64-zstd-1.5.7-1 mpc-1.3.1-1
mpdecimal-4.0.1-1 openssh-10.0p1-2 patch-2.7.6-3 perl-Authen-SASL-2.1900-1
perl-Clone-0.47-2 perl-Convert-BinHex-1.125-2 perl-Encode-Locale-1.05-2
perl-Error-0.17030-1 perl-File-Listing-6.16-1 perl-HTML-Parser-3.83-2
perl-HTML-Tagset-3.24-1 perl-HTTP-Cookies-6.11-1 perl-HTTP-Daemon-6.16-1
perl-HTTP-Date-6.06-1 perl-HTTP-Message-7.00-1 perl-HTTP-Negotiate-6.01-3
perl-IO-HTML-1.004-2 perl-IO-Socket-SSL-2.094-1 perl-IO-Stringy-2.113-2
perl-LWP-MediaTypes-6.04-2 perl-MIME-tools-5.515-1 perl-MailTools-2.22-1
perl-Net-HTTP-6.23-1 perl-Net-SMTP-SSL-1.04-2 perl-Net-SSLeay-1.94-3
perl-TermReadKey-2.38-7 perl-TimeDate-2.33-2 perl-Try-Tiny-0.32-1 perl-URI-5.32-1
perl-WWW-RobotRules-6.02-3 perl-http-cookiejar-0.014-1 perl-libwww-6.79-1
python-3.12.11-1 texinfo-7.2-2 texinfo-tex-7.2-2 xxhash-0.8.3-1
base-devel-2024.11-1 bison-3.8.2-5 flex-2.6.4-4 gdb-16.2-8 git-2.51.0-1
mingw-w64-ucrt-x86_64-binutils-2.45-2
mingw-w64-ucrt-x86_64-crt-git-13.0.0.r124.g2717de84e-1
mingw-w64-ucrt-x86_64-gcc-15.2.0-8 mingw-w64-ucrt-x86_64-gdb-16.3-1
mingw-w64-ucrt-x86_64-gdb-multiarch-16.3-1
mingw-w64-ucrt-x86_64-headers-git-13.0.0.r124.g2717de84e-1
mingw-w64-ucrt-x86_64-libmangle-git-13.0.0.r124.g2717de84e-1
mingw-w64-ucrt-x86_64-libwinpthread-13.0.0.r124.g2717de84e-1
mingw-w64-ucrt-x86_64-make-4.4.1-3 mingw-w64-ucrt-x86_64-pkgconf-1~2.5.1-1
mingw-w64-ucrt-x86_64-tools-git-13.0.0.r124.g2717de84e-1
mingw-w64-ucrt-x86_64-winthreads-13.0.0.r124.g2717de84e-1
mingw-w64-ucrt-x86_64-winstorecompat-git-13.0.0.r124.g2717de84e-1

Total Download Size: 177.92 MiB
Total Installed Size: 1264.60 MiB

:: Proceed with installation? [Y/n] y
```