

GEN AI 인텐시브 과정

강사장철원

□ 깃 설치

□ 미니콘다 설치

□ vscode 설치

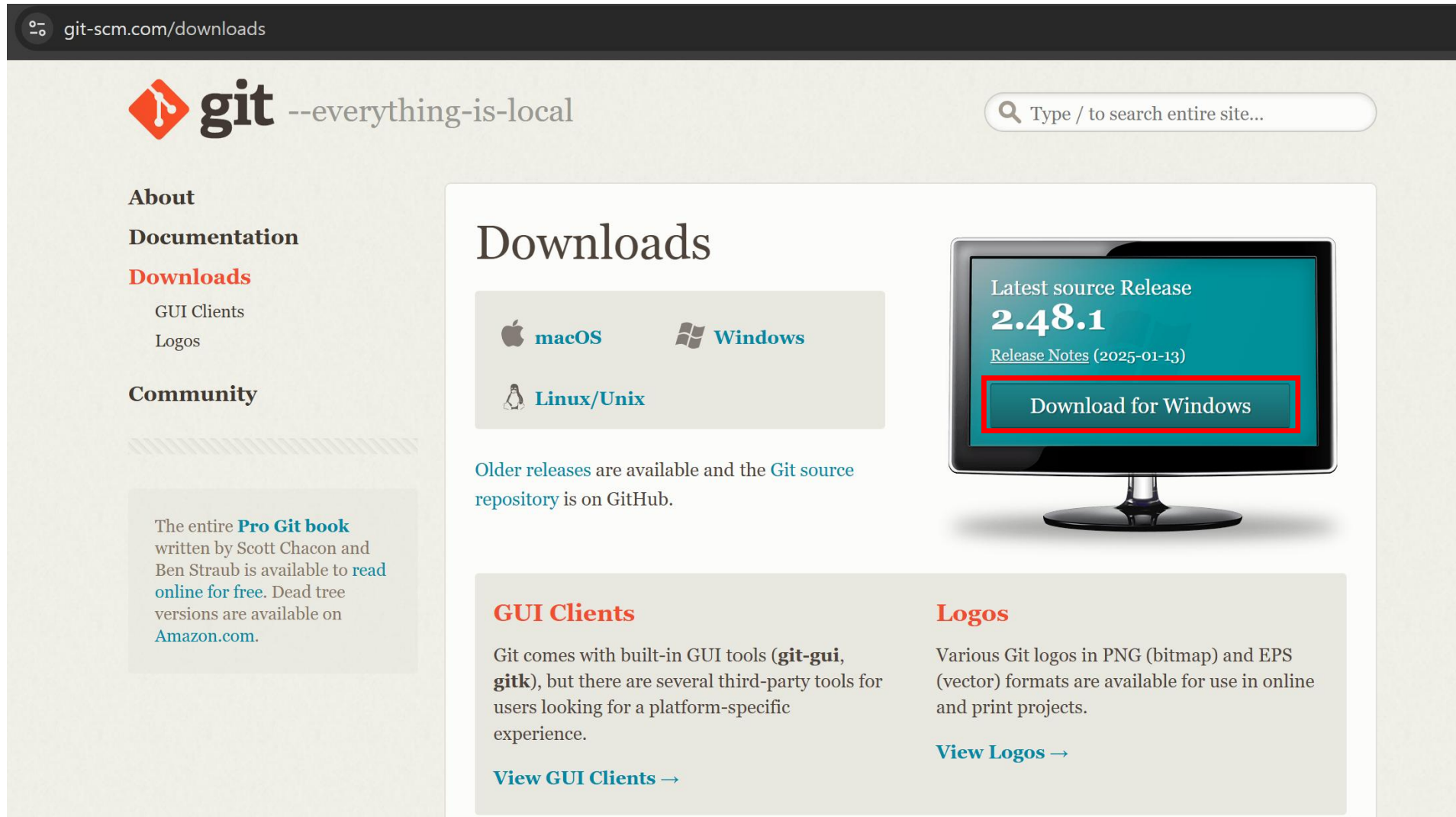
GEN AI 인텐시브 과정

Section 1. 실습환경 구축

Section 1-1. 깃 설치

깃(Git)

<https://git-scm.com/downloads>



The screenshot shows the Git website's download page. The browser's address bar displays 'git-scm.com/downloads'. The page features the Git logo and the tagline '--everything-is-local'. A search bar is located in the top right corner. On the left sidebar, there are links for 'About', 'Documentation', 'Downloads' (highlighted in red), 'GUI Clients', 'Logos', and 'Community'. The main content area is titled 'Downloads' and includes a section for the latest source release, '2.48.1', with a red box highlighting the 'Download for Windows' button. Below this, there are links for 'Older releases' and the 'Git source repository'. At the bottom, there are sections for 'GUI Clients' and 'Logos', each with a 'View' link and an arrow.

git-scm.com/downloads

git --everything-is-local

Type / to search entire site...

About

Documentation

Downloads

GUI Clients

Logos

Community

The entire **Pro Git book** written by Scott Chacon and Ben Straub is available to [read online for free](#). Dead tree versions are available on [Amazon.com](#).

Downloads

macOS Windows Linux/Unix

Latest source Release
2.48.1
[Release Notes \(2025-01-13\)](#)
Download for Windows

Older releases are available and the [Git source repository](#) is on GitHub.

GUI Clients

Git comes with built-in GUI tools (**git-gui**, **gitk**), but there are several third-party tools for users looking for a platform-specific experience.

[View GUI Clients →](#)

Logos


Various Git logos in PNG (bitmap) and EPS (vector) formats are available for use in online and print projects.

[View Logos →](#)

깃(Git)

<https://git-scm.com/downloads>

git-scm.com/downloads/win

 **git** --fast-version-control

Type / to search entire site...

About

Documentation

Downloads

GUI Clients

Logos

Community

The entire **Pro Git book** written by Scott Chacon and Ben Straub is available to [read online for free](#). Dead tree versions are available on [Amazon.com](#).

Download for Windows

[Click here to download](#) the latest (**2.48.1**) **64-bit** version of **Git for Windows**. This is the most recent [maintained build](#). It was released **11 days ago**, on 2025-02-13.

Other Git for Windows downloads

Standalone Installer

[32-bit Git for Windows Setup.](#)

[64-bit Git for Windows Setup.](#)

Portable ("thumbdrive edition")

[32-bit Git for Windows Portable.](#)

[64-bit Git for Windows Portable.](#)

Using winget tool

Install [winget tool](#) if you don't already have it, then type this command in command prompt or Powershell.

```
winget install --id Git.Git -e --source winget
```

The current source code release is version **2.48.1**. If you want the newer version, you can build it from [the source code](#).

GEN AI 인텐시브 과정

Section 1. 실습환경 구축

Section 1-2. 미니콘다 설치

가상 환경(virtual environment)

Anaconda

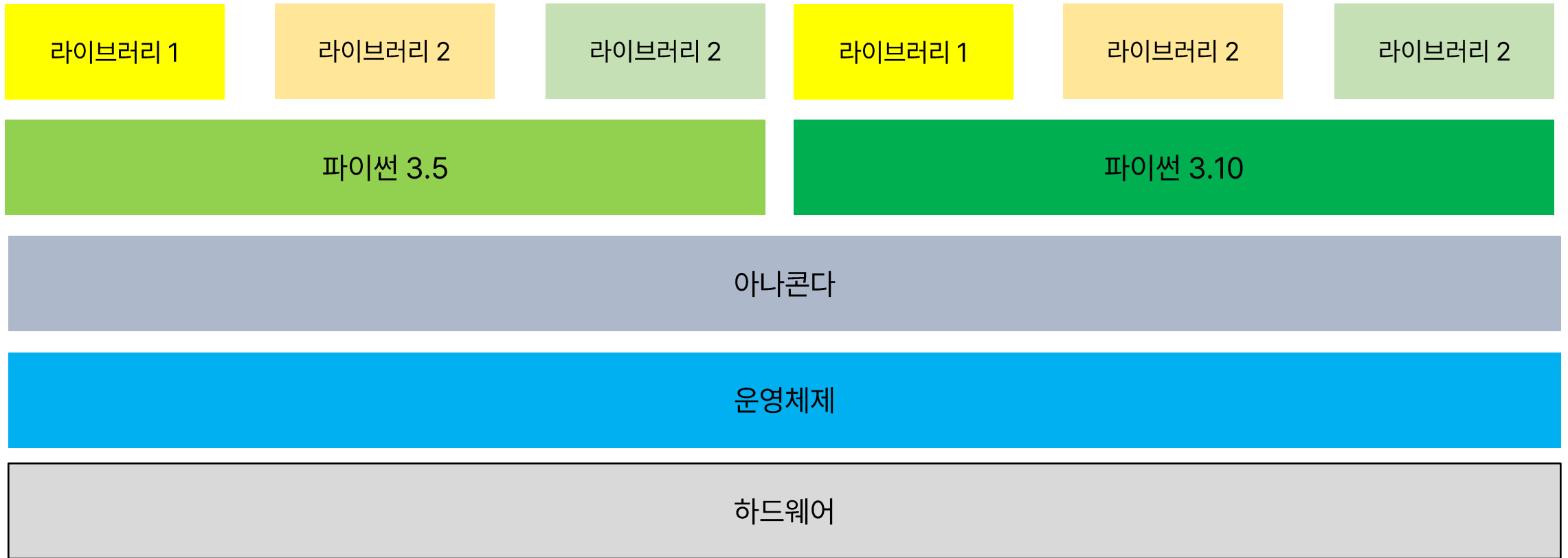
Python

Library

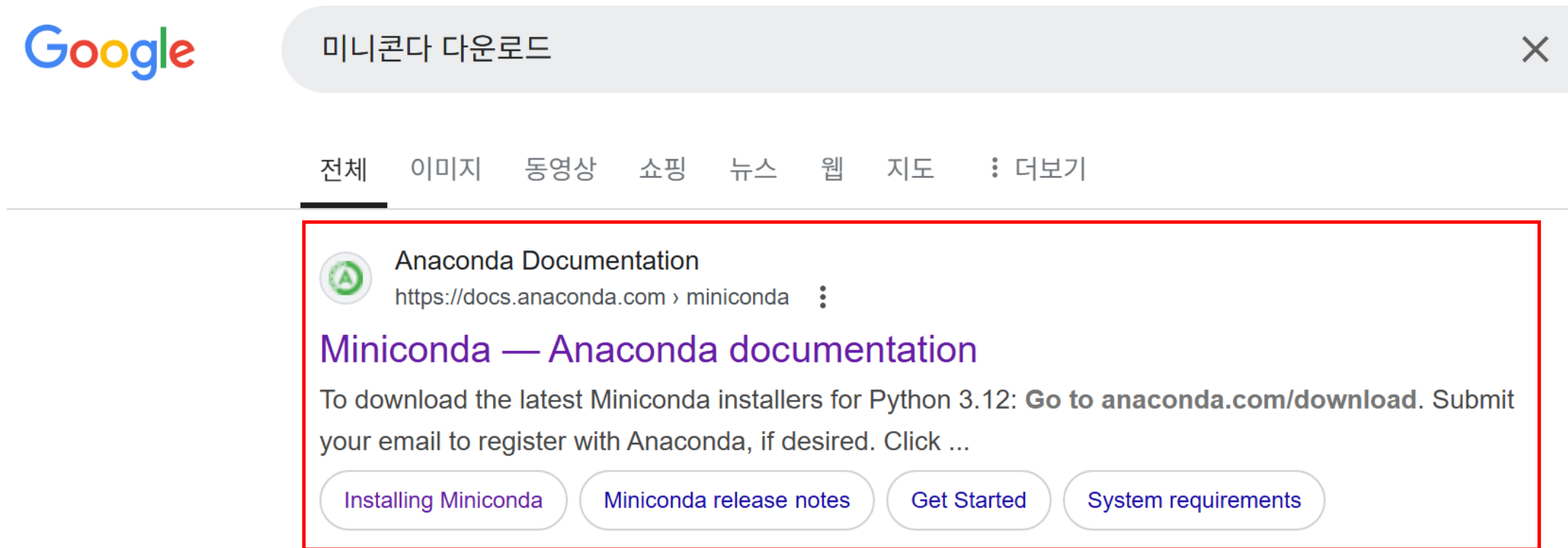
가상 환경(virtual environment)



가상 환경(virtual environment)



파이썬 설치 – 구글에서 '미니콘다 다운로드' 검색



파이썬 설치 - 구글에서 '미니콘다 다운로드' 검색

The screenshot shows the Anaconda documentation website for Miniconda. The browser address bar displays `docs.anaconda.com/miniconda/`. The page features a dark theme with a green Anaconda logo in the top left. A sidebar on the left contains a navigation menu with sections like 'Anaconda Documentation', 'Getting Started', 'Tools', and 'Business Solutions'. The 'Miniconda' link under 'Getting Started' is highlighted. The main content area has the heading 'Miniconda' and a description: 'Miniconda is a free, miniature installation of Anaconda Distribution that includes only conda, Python, the packages they both depend on, and a small number of other useful packages.' Below this, there are two green buttons with white text: 'Is Miniconda free for me?' and 'Should I install Miniconda or Anaconda Distribution?'. Further down, the section 'Latest Miniconda installer links' provides instructions for downloading. The first step, '1. Go to anaconda.com/download.', is highlighted with a red rectangle. Other steps include registering with Anaconda, clicking 'Submit', and scrolling past the Anaconda Distribution installers. A search bar is visible in the top right corner.

docs.anaconda.com/miniconda/

More Resources ▾ Download Anaconda Pricing Search Ctrl + K

Miniconda

Miniconda

Miniconda is a free, miniature installation of Anaconda Distribution that includes only conda, Python, the packages they both depend on, and a small number of other useful packages.

If you need more packages, use the `conda install` command to install from thousands of packages available by default in Anaconda's public repo, or from other channels, like conda-forge or bioconda.

Is Miniconda free for me? >

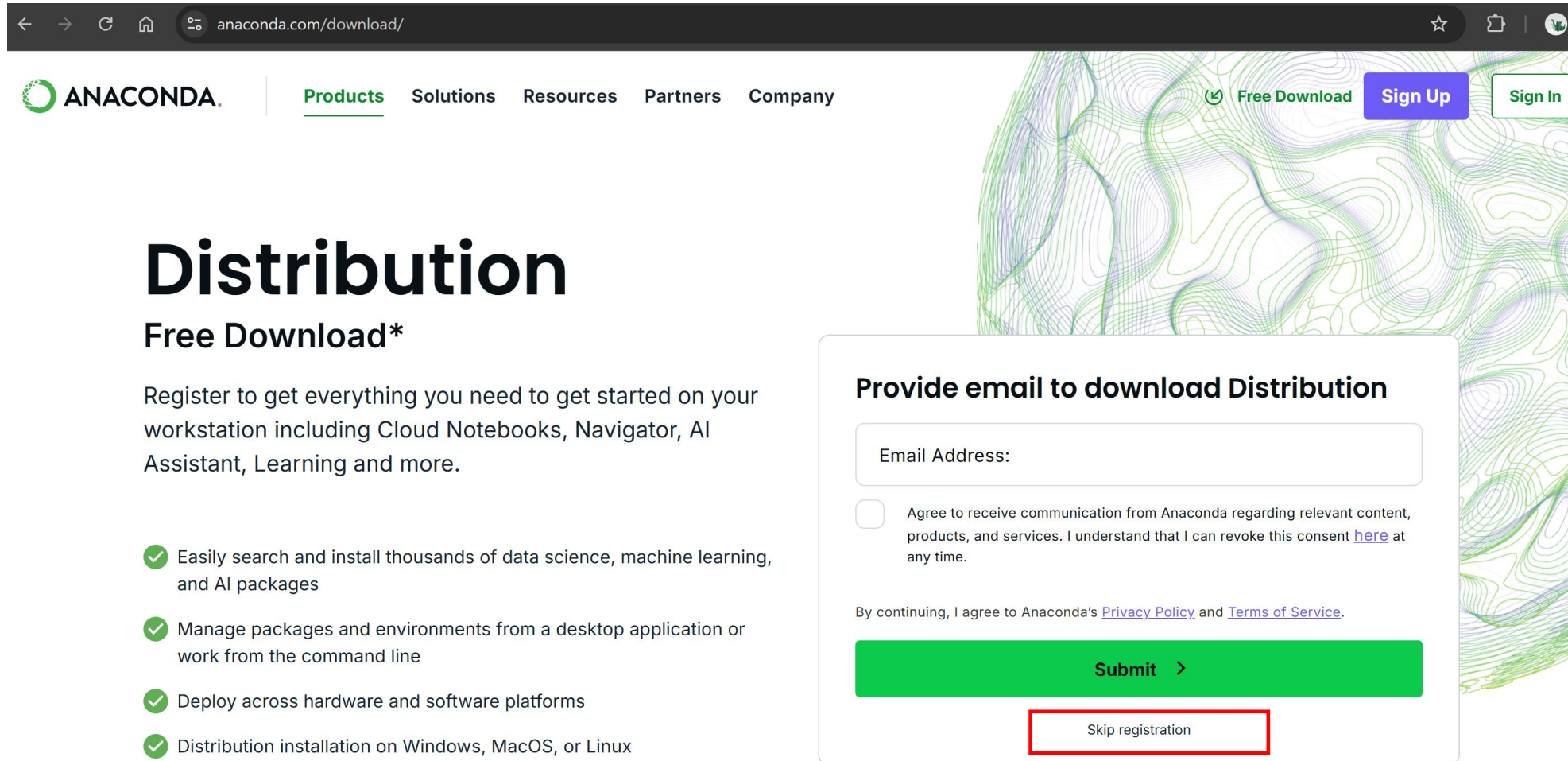
Should I install Miniconda or Anaconda Distribution? >

Latest Miniconda installer links

To download the latest Miniconda installers for Python 3.12:

1. Go to anaconda.com/download.
2. Submit your email to register with Anaconda, if desired.
3. Click **Submit** to continue to the Download Now page.
4. Scroll down past the Anaconda Distribution installers.

파이썬 설치 – 구글에서 '미니콘다 다운로드' 검색



The image shows a web browser window at the URL `anaconda.com/download/`. The page features the Anaconda logo and a navigation menu with links for Products, Solutions, Resources, Partners, and Company. A 'Free Download' link is highlighted in green, and 'Sign Up' and 'Sign In' buttons are visible. The main heading is 'Distribution' with a subheading 'Free Download*'. Below this, a paragraph explains that users can register to get everything needed to get started on their workstation, including Cloud Notebooks, Navigator, AI Assistant, Learning, and more. A list of five benefits is provided, each preceded by a green checkmark. A modal window titled 'Provide email to download Distribution' is open on the right side of the page. It contains an 'Email Address:' input field, a checkbox for agreeing to receive communication from Anaconda, and a 'Submit >' button. A 'Skip registration' link is also present at the bottom of the modal, highlighted with a red rectangle.

ANACONDA. Products Solutions Resources Partners Company

Distribution

Free Download*

Register to get everything you need to get started on your workstation including Cloud Notebooks, Navigator, AI Assistant, Learning and more.

- ✓ Easily search and install thousands of data science, machine learning, and AI packages
- ✓ Manage packages and environments from a desktop application or work from the command line
- ✓ Deploy across hardware and software platforms
- ✓ Distribution installation on Windows, MacOS, or Linux

Provide email to download Distribution

Email Address:

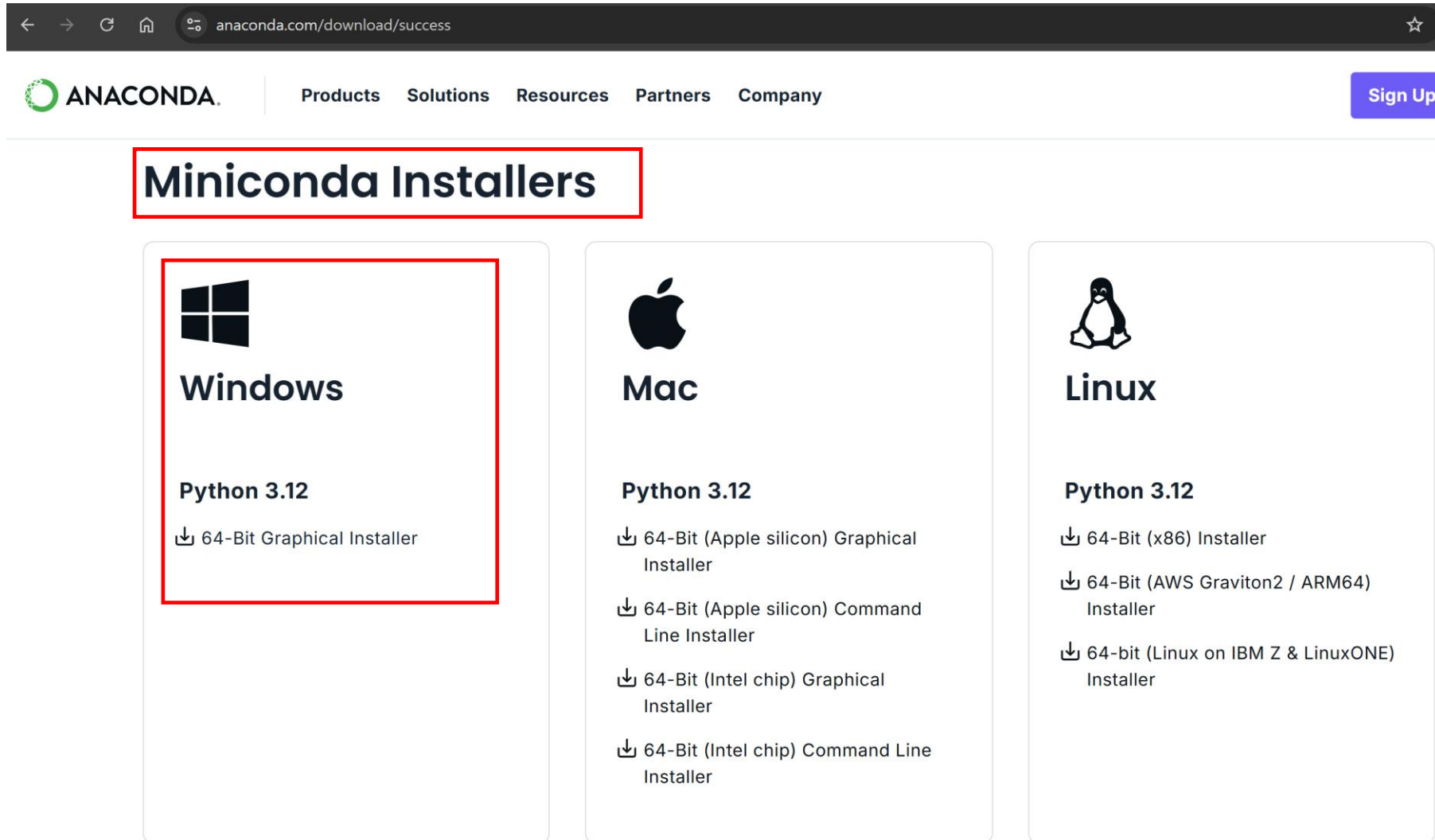
☐ Agree to receive communication from Anaconda regarding relevant content, products, and services. I understand that I can revoke this consent [here](#) at any time.

By continuing, I agree to Anaconda's [Privacy Policy](#) and [Terms of Service](#).

Submit >

[Skip registration](#)

파이썬 설치 - 구글에서 '미니콘다 다운로드' 검색



The screenshot shows the Anaconda website's download page. The browser address bar displays 'anaconda.com/download/success'. The navigation bar includes the Anaconda logo, links for Products, Solutions, Resources, Partners, and Company, and a 'Sign Up' button. The main heading 'Miniconda Installers' is highlighted with a red box. Below this, there are three columns for different operating systems: Windows, Mac, and Linux. Each column lists Python 3.12 installers. The Windows column is also highlighted with a red box and lists a '64-Bit Graphical Installer'. The Mac column lists four installers: '64-Bit (Apple silicon) Graphical Installer', '64-Bit (Apple silicon) Command Line Installer', '64-Bit (Intel chip) Graphical Installer', and '64-Bit (Intel chip) Command Line Installer'. The Linux column lists three installers: '64-Bit (x86) Installer', '64-Bit (AWS Graviton2 / ARM64) Installer', and '64-bit (Linux on IBM Z & LinuxONE) Installer'.


anaconda.com/download/success

ANACONDA

Products Solutions Resources Partners Company

Sign Up


Miniconda Installers



Windows

Python 3.12

↓ 64-Bit Graphical Installer



Mac


Python 3.12

↓ 64-Bit (Apple silicon) Graphical Installer

↓ 64-Bit (Apple silicon) Command Line Installer

↓ 64-Bit (Intel chip) Graphical Installer

↓ 64-Bit (Intel chip) Command Line Installer



Linux

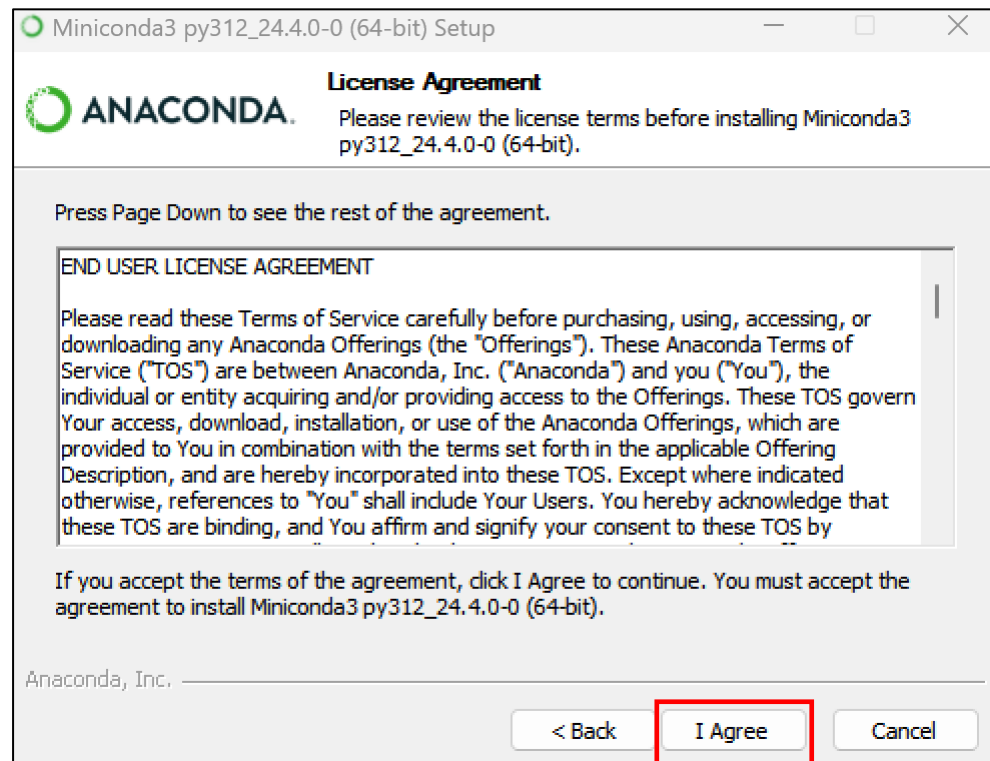
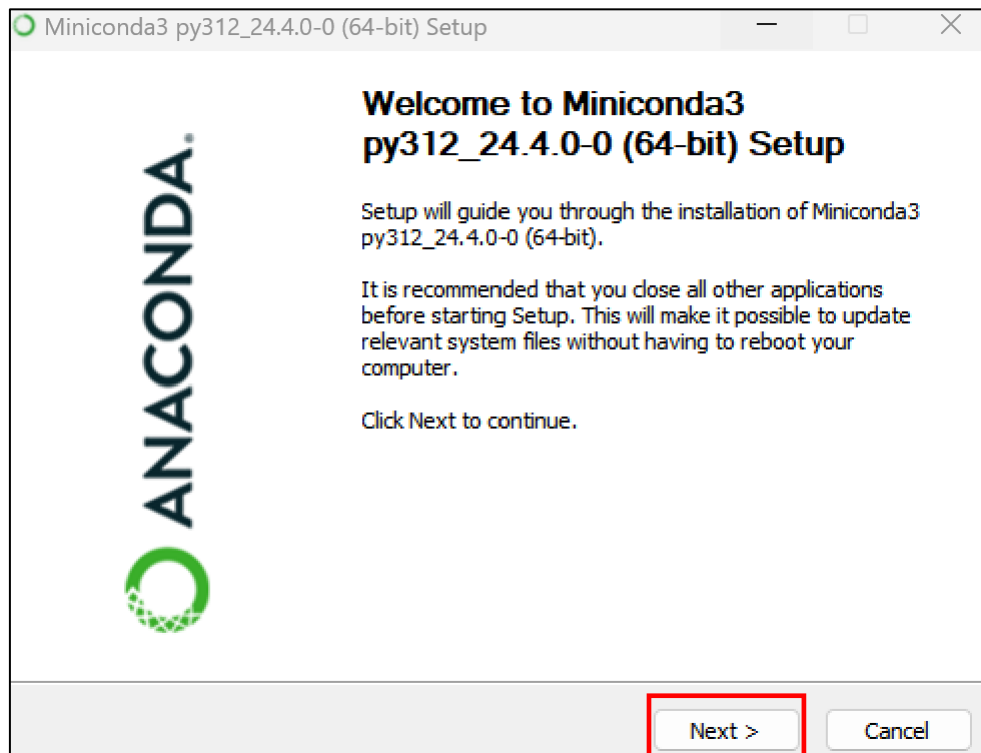
Python 3.12

↓ 64-Bit (x86) Installer

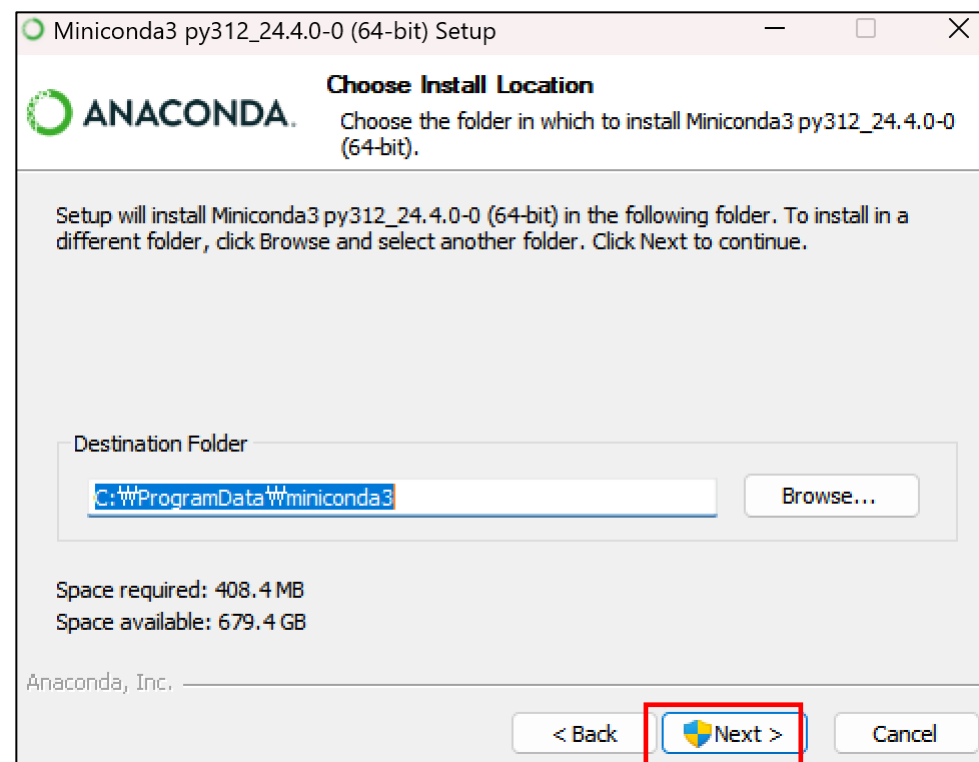
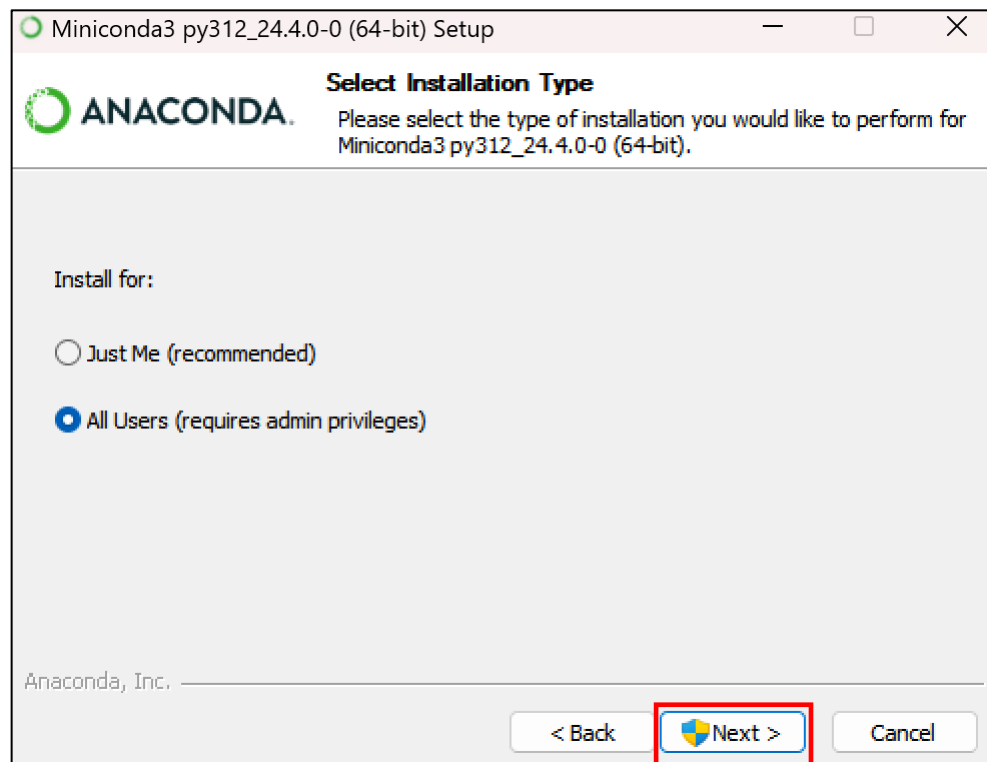
↓ 64-Bit (AWS Graviton2 / ARM64) Installer

↓ 64-bit (Linux on IBM Z & LinuxONE) Installer

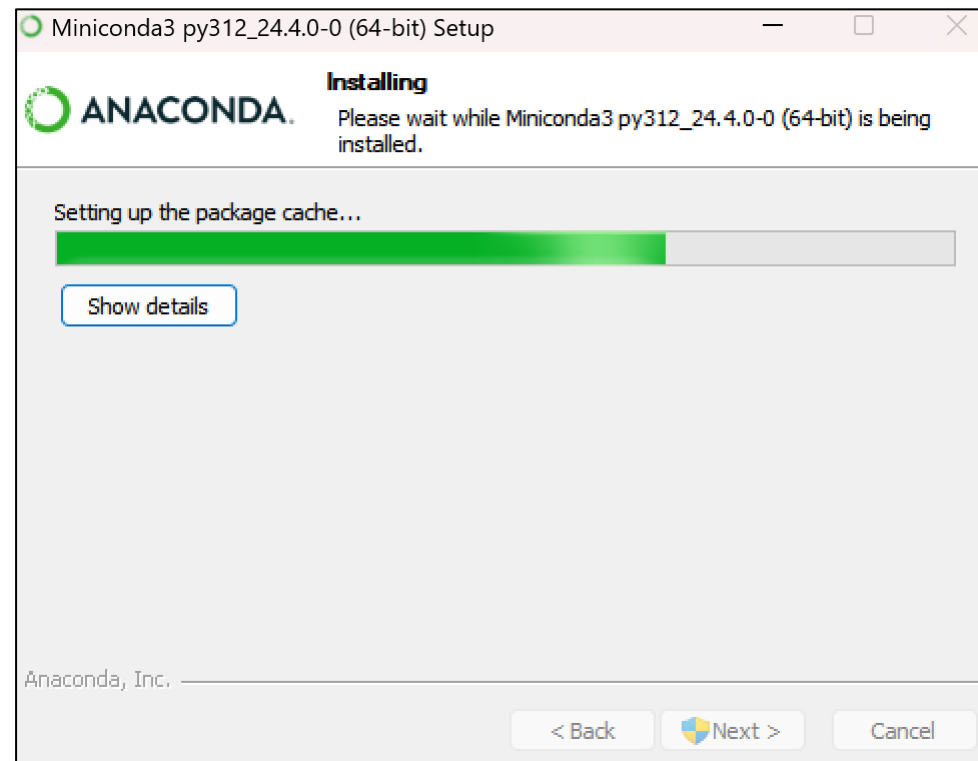
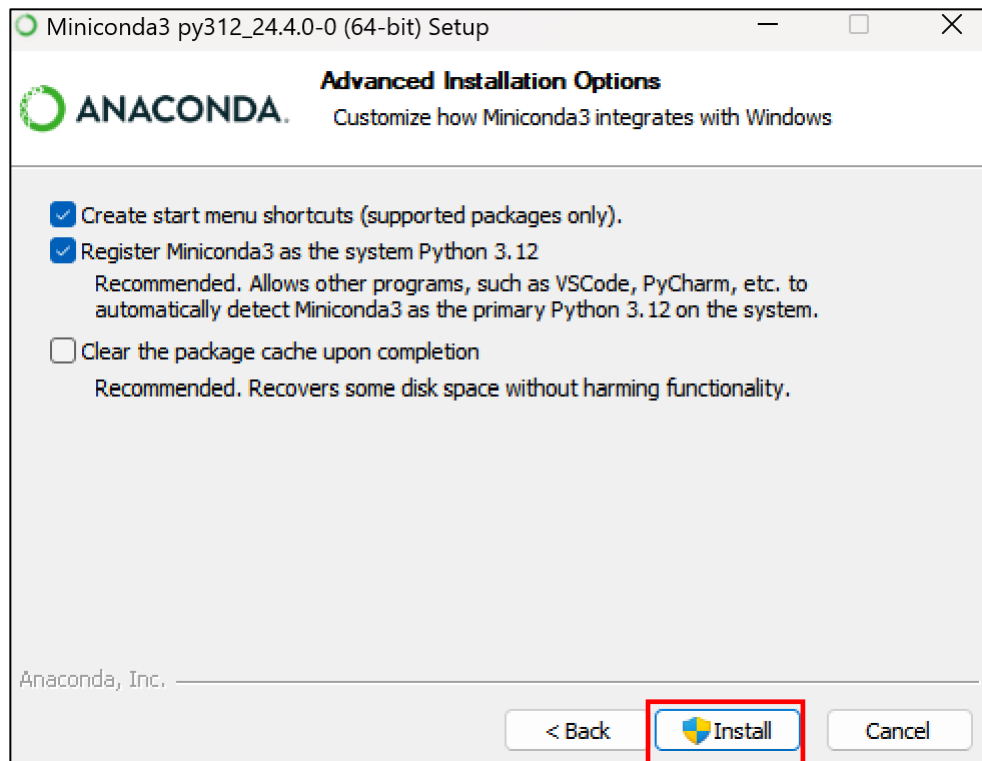
미니콘다 설치



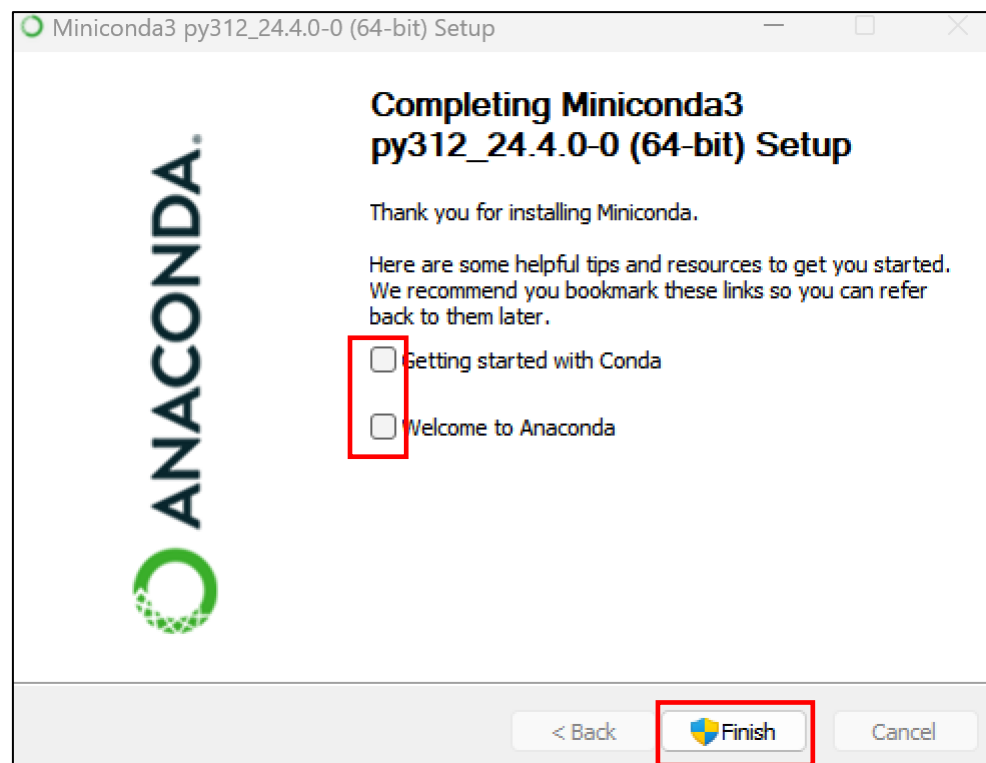
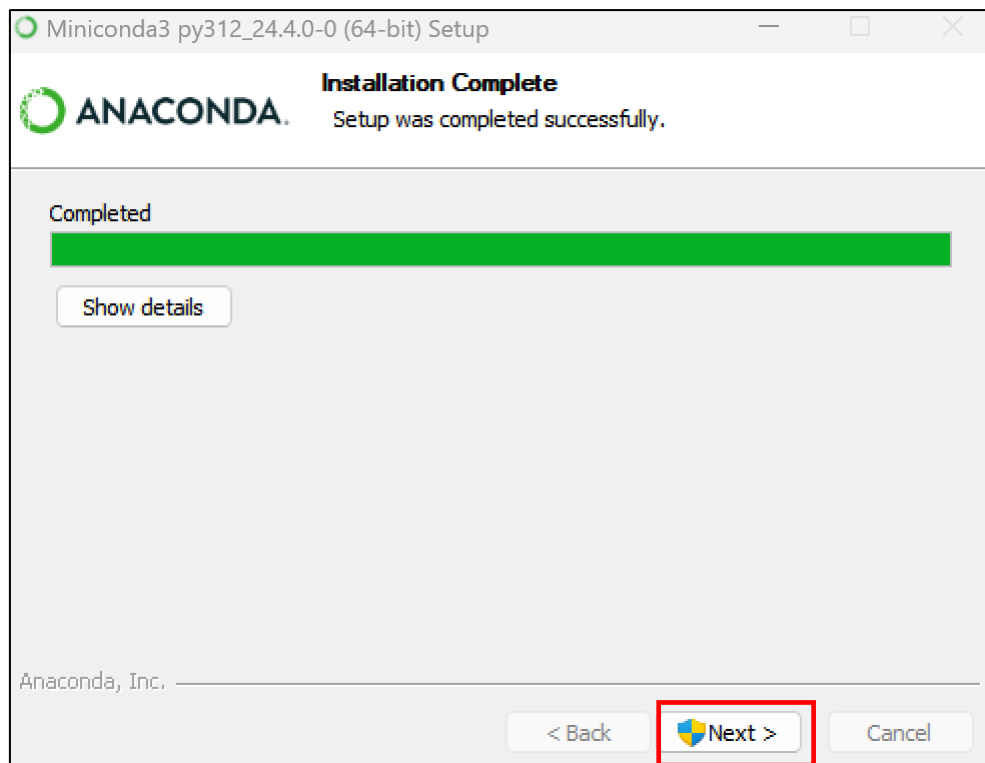
미니콘다 설치



미니콘다 설치

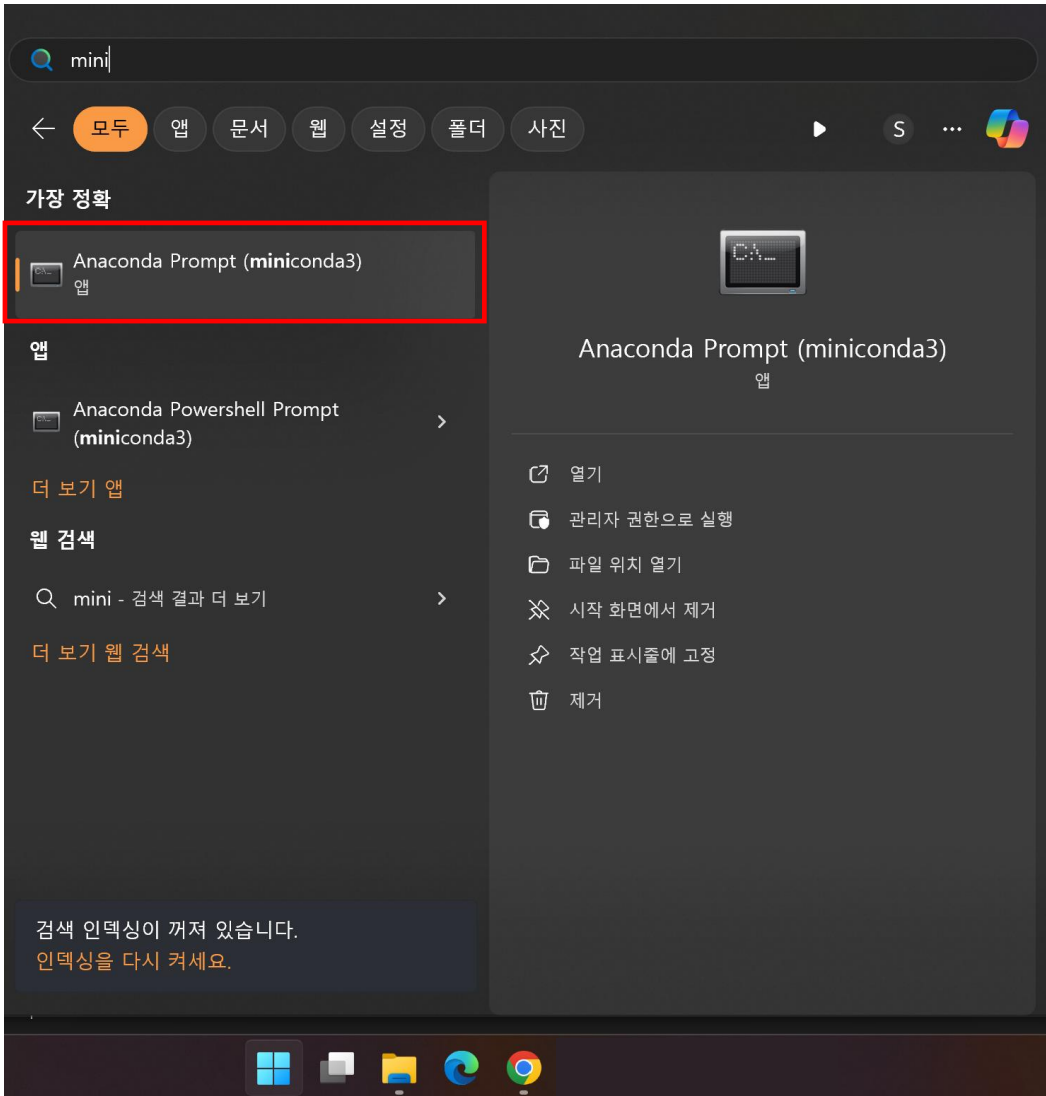


미니콘다 설치



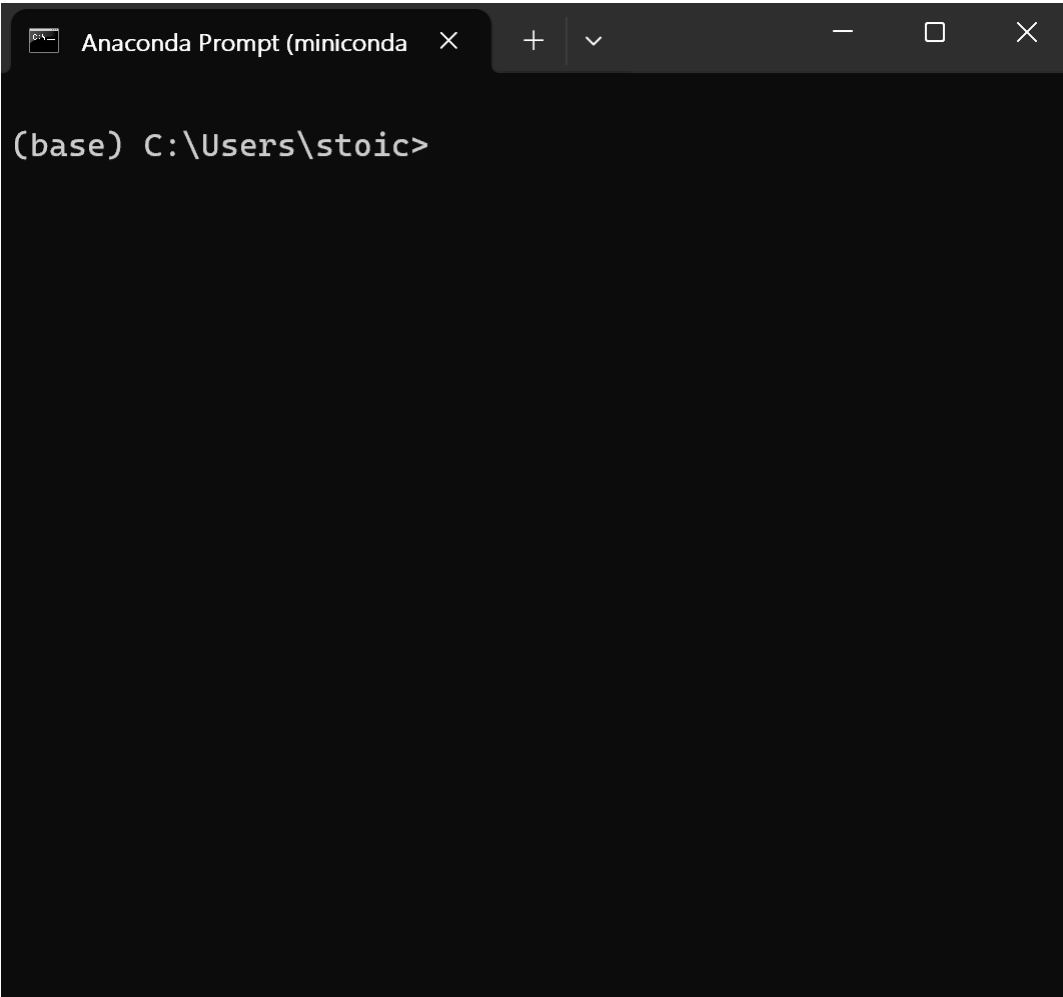
Section 파이썬 설치

미니콘다 실행



윈도우 버튼 -> mini 검색 -> Anaconda Prompt 실행

미니콘다 설정



가상환경 확인

```
(base) C:\Users\stoic>conda info --envs
```

```
# conda environments:
```

```
#
```

```
base * C:\ProgramData\miniconda3
```

설치 가능한 파이썬 확인

```
(base) C:\Users\stoic>conda search python
Loading channels: done
# Name                Version           Build    Channel
python                2.7.13           h1b6d89f_16 pkgs/main
python                2.7.13           h9912b81_15 pkgs/main
python                2.7.13           hb034564_12 pkgs/main
.
.
.
python                3.11.8           he1021f5_0  pkgs/main
python                3.11.9           he1021f5_0  pkgs/main
python                3.12.0           h1d929f7_0  pkgs/main
python                3.12.1           h1d929f7_0  pkgs/main
python                3.12.2           h1d929f7_0  pkgs/main
python                3.12.3           h1d929f7_0  pkgs/main
```

가상환경 설치

```
(base) C:\Users\stoic>conda create --name py3_11_9 python=3.11.9
```

```
Retrieving notices: ...working... done
```

```
Channels:
```

```
- defaults
```

```
Platform: win-64
```

```
Collecting package metadata (repodata.json): done
```

```
Solving environment: done
```

```
.
```

```
.
```

```
.
```

```
Executing transaction: done
```

```
#
```

```
# To activate this environment, use
```

```
#
```

```
#     $ conda activate py3_11_9
```

```
#
```

```
# To deactivate an active environment, use
```

```
#
```

```
#     $ conda deactivate
```

가상환경 확인 및 실행

```
(base) C:\Users\stoic>conda info --envs
# conda environments:
#
base                *  C:\ProgramData\miniconda3
py3_11_9            C:\Users\stoic\.conda\envs\py3_11_9
```

```
(base) C:\Users\stoic>conda activate py3_11_9   가상환경 실행
```

```
(py3_11_9) C:\Users\stoic>conda deactivate     가상환경 해제
```

```
(base) C:\Users\stoic>
```

라이브러리 설치

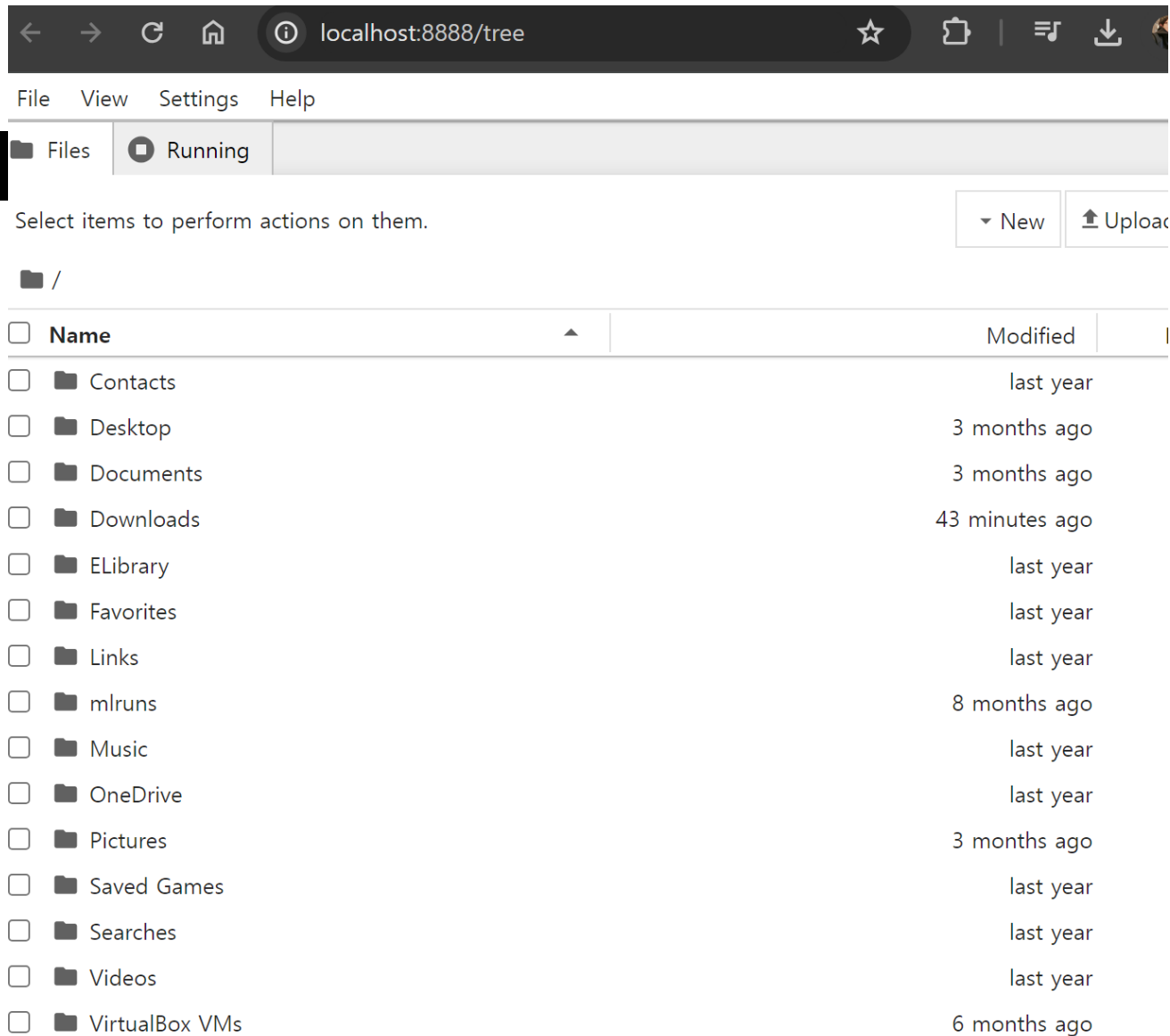
```
(base) C:\Users\stoic>conda activate py3_11_9

(py3_11_9) C:\Users\stoic>pip install numpy
(py3_11_9) C:\Users\stoic>pip install pyarrow
(py3_11_9) C:\Users\stoic>pip install pandas
(py3_11_9) C:\Users\stoic>pip install matplotlib
(py3_11_9) C:\Users\stoic>pip install seaborn
(py3_11_9) C:\Users\stoic>pip install scikit-learn
(py3_11_9) C:\Users\stoic>pip install torch
(py3_11_9) C:\Users\stoic>pip install chromadb
(py3_11_9) C:\Users\stoic>pip install transformers[torch]
(py3_11_9) C:\Users\stoic>pip install peft
(py3_11_9) C:\Users\stoic>pip install -U langchain langchain-core langchain-huggingface langchain-chroma
(py3_11_9) C:\Users\stoic>pip install -U sentence-transformers langchain-community datasets langgraph
(py3_11_9) C:\Users\stoic>pip install streamlit

(py3_11_9) C:\Users\stoic>pip install jupyter
```


주피터 노트북 실행

```
(py3_11_9) C:\Users\stoic>jupyter notebook
```




GEN AI 인텐시브 과정

Section 1. 실습환경 구축

Section 1-3. vscode 설치

구글에서 vscode 검색




vscode

✕ 🗨️ 🗣️ 🔄 🔍

🔍 ⋮

전체 동영상 이미지 뉴스 쇼핑 도서 웹 더보기 도구



Visual Studio Code
<https://code.visualstudio.com>

Visual Studio Code - Code Editing. Redefined

Visual Studio Code redefines AI-powered coding with GitHub Copilot for building and debugging modern web and cloud applications. Visual Studio Code is free.

Download

Use vscode.dev for quick edits online! GitHub, Azure Repos ...

Windows

By default, VS Code is installed under C:\Users\{Username} ...

Docs

Find out how to set-up and get the most from Visual Studio Code ...


VS Code for the Web

To get started, go to <https://vscode.dev> in your browser. VS Code ...

macOS

Install VS Code on macOS · Download Visual Studio Code ...

[visualstudio.com](#) 검색결과 더보기 »



비주얼 스튜디오 코드

비주얼 스튜디오 코드 또는 코드는 마이크로소프트가 마이크로소프트 윈도우, macOS, 리눅스용으로 개발한 소스 코드 편집기이다. 디버깅 지원과 Git 제어, 구문 강조 기능, SSH 접속 등이 포함되어 있으며, 사용자가 편집기의 테마와 단축키, 설정 등을 수정할 수 있다.

Source: 위키백과 >

프로그래밍 언어: 자바스크립트, C, C#, CSS, 타입스크립트

개발자: 마이크로소프트

라이선스: 소스코드: MIT 라이선스; 바이너리: 프리웨어

안정화 버전: 1.97.2 / 2025년 2월 14일

언어: 영어, 프랑스어, 독일어, 이탈리아어, 일본어, 한국어, 러시아어, 스페인어, 중국어 번체 및 간체

종류: 소스 코드 편집기, 디버거

구글에서 vscode 검색


code.visualstudio.com/download

Visual Studio Code Docs Updates Blog API Extensions FAQ GitHub Copilot

Get [GitHub Copilot Free](#) 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 Installer [x64](#) [Arm64](#)
.zip [x64](#) [Arm64](#)
CLI [x64](#) [Arm64](#)



↓ .deb
Debian, Ubuntu

↓ .rpm
Red Hat, Fedora, SUSE

.deb [x64](#) [Arm32](#) [Arm64](#)
.rpm [x64](#) [Arm32](#) [Arm64](#)
.tar.gz [x64](#) [Arm32](#) [Arm64](#)
Snap [Snap Store](#)
CLI [x64](#) [Arm32](#) [Arm64](#)



↓ Mac
macOS 10.15+

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

확장 프로그램 설치

The screenshot shows the Visual Studio Code interface. On the left, the 'Extensions' view is open, displaying a search for 'python'. The search results list several extensions, with the first three highlighted by a red box: 'Python Debugger' (499ms), 'Python' (757ms), and 'Pylance' (354ms). Below these are 'Python Indent', 'Python Extension Pack', and 'Python-for-VSCode'. On the right, the 'Python' extension page is displayed, showing the Python logo, the extension name 'Python', the publisher 'Microsoft', and a rating of 4.5 stars (606 reviews). The page also includes a description of the extension's features and a '설치' (Install) button.

파일(F) 편집(E) 선택 영역(S) 보기(V) ...

확장: 마켓플레이스

python

Python Debugger 499ms
Python Debugger extension using debug...
Microsoft

Python 757ms
Python language support with extension ...
Microsoft

Pylance 354ms
A performant, feature-rich language serv...
Microsoft

Python Indent 13M ★ 4
Correct Python indentation
Kevin Rose

Python Extension Pack 10.7M ★ 4.5
Popular Visual Studio Code extensions for...
Don Jayamanne

Python-for-VSCode 5.8M ★ 2
Python language extension for vscode
Thomas Haakon Townsend

Python
Microsoft microsoft.com | 157,236,784 | ★★★★★ (606)
Python language support with extension access points for IntelliSense (Pylance), Debuggi...

사용 안 함 | 제거 | 시험판 버전으로 전환 | ☒ 자동 업데이트

세부 정보 기능 변경 로그 확장 팩

Python extension for Visual Studio Code

A Visual Studio Code extension with rich support for the Python language (for all actively supported Python versions), providing access points for extensions to seamlessly integrate and offer support for IntelliSense (Pylance), debugging (Python Debugger), formatting, linting, code navigation, refactoring, variable explorer, test explorer, and more!

Support for [vscode.dev](#)

The Python extension does offer some support when running on [vscode.dev](#) (which includes [github.dev](#)). This includes partial IntelliSense for open files in the editor.

설치

식별자

버전

마지막 업데이트

크기

마켓플레이스

게시됨

확장 프로그램 설치

The screenshot shows the Visual Studio Code (VS Code) interface. On the left, the 'Extensions' sidebar is open, displaying a list of installed and available extensions. The search bar at the top of the sidebar contains the text 'jupyter'. The first extension in the list, 'Jupyter' by Microsoft, is highlighted with a red box. This extension is described as 'Jupyter notebook support, interactive pro...' and has a rating of 4 stars. Below it, other Jupyter-related extensions are listed: 'Jupyter Keymap', 'Jupyter Notebook Renderers', 'Jupyter Cell Tags', and 'Jupyter Slide Show'. On the right, the main editor area displays the details for the 'Jupyter' extension. It features the Jupyter logo, the name 'Jupyter', and the publisher 'Microsoft'. The description reads 'Jupyter notebook support, interactive programming and compu...'. There are buttons for '사용 안 함' (Disable), '제거' (Remove), '시험판 버전으로 전환' (Switch to trial version), and '자동 업데이트' (Auto update). Below the extension details, there is a section titled '확장 팩(4)' (Extension Pack (4)) which lists the four related extensions: 'Jupyter Keymap', 'Jupyter Notebook Renderers', 'Jupyter Cell Tags', and 'Jupyter Slide Show'.

확장: 마켓플레이스

jupyter

Jupyter 378ms
Jupyter notebook support, interactive pro...
Microsoft

Jupyter Keymap
Jupyter keymaps for notebooks
Microsoft

Jupyter Notebook Renderers 6ms
Renderers for Jupyter Notebooks (with pl...
Microsoft

Jupyter Cell Tags 9ms
Jupyter Cell Tags support for VS Code
Microsoft

Jupyter Slide Show 9ms
Jupyter Slide Show support for VS Code
Microsoft

Jupyter
Microsoft | 88,251,452 | ★★★★★
Jupyter notebook support, interactive programming and compu...
사용 안 함 | 제거 | 시험판 버전으로 전환 | ☒ 자동 업데이트

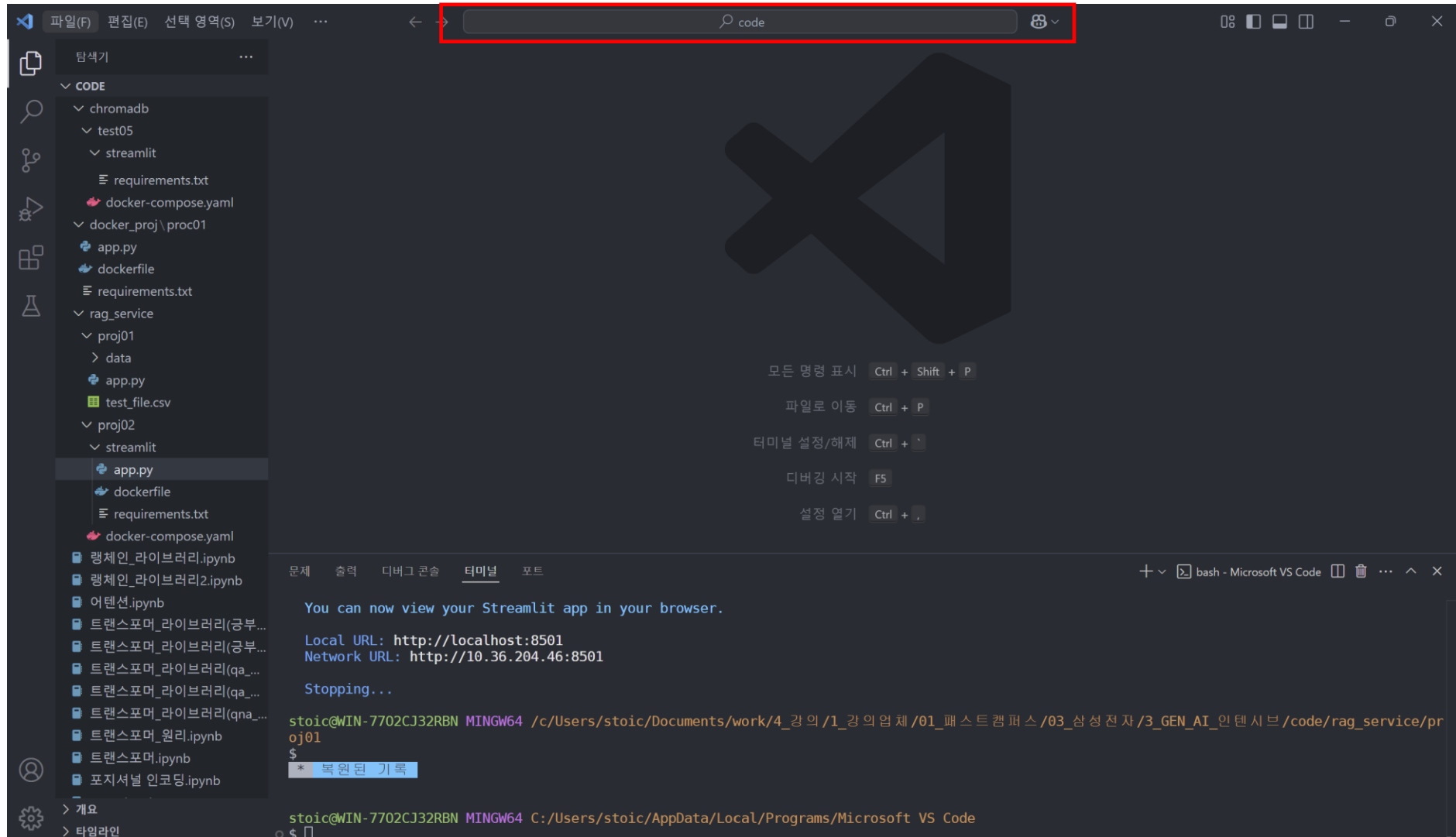
세부 정보 기능 변경 로그

확장 팩(4)

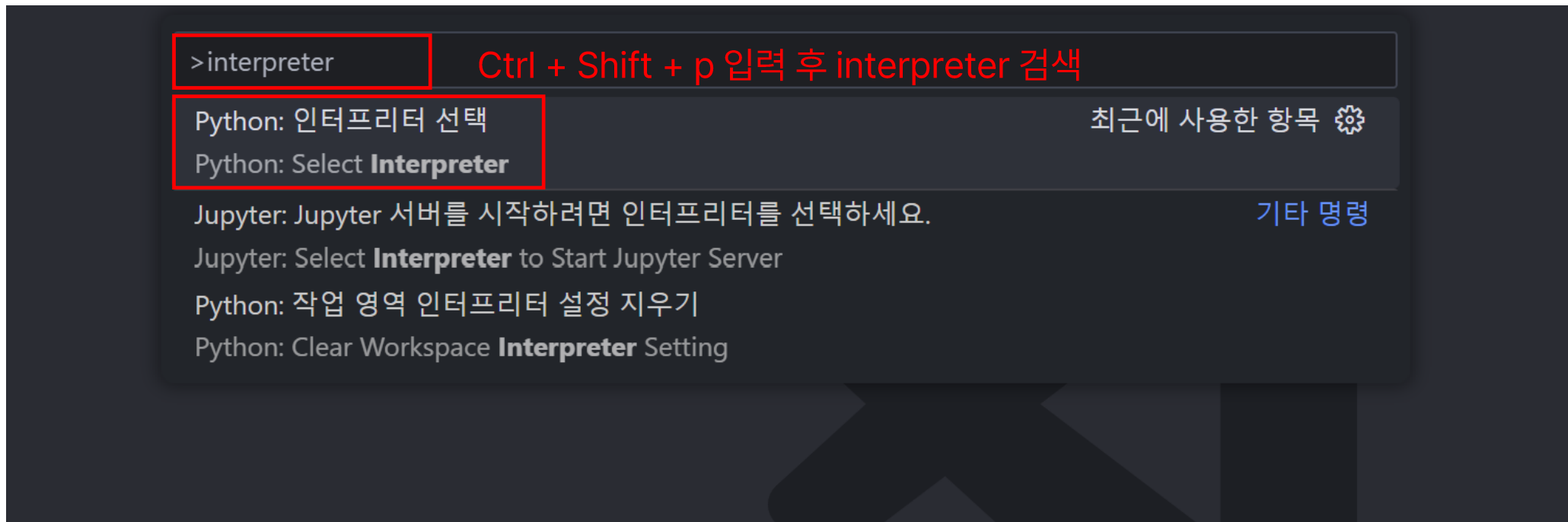
Jupyter Keymap
Jupyter keymaps for notebooks
Microsoft

Jupyter Notebook Renderers 6ms
Renderers for Jupyter Notebooks (with plotly...
Microsoft

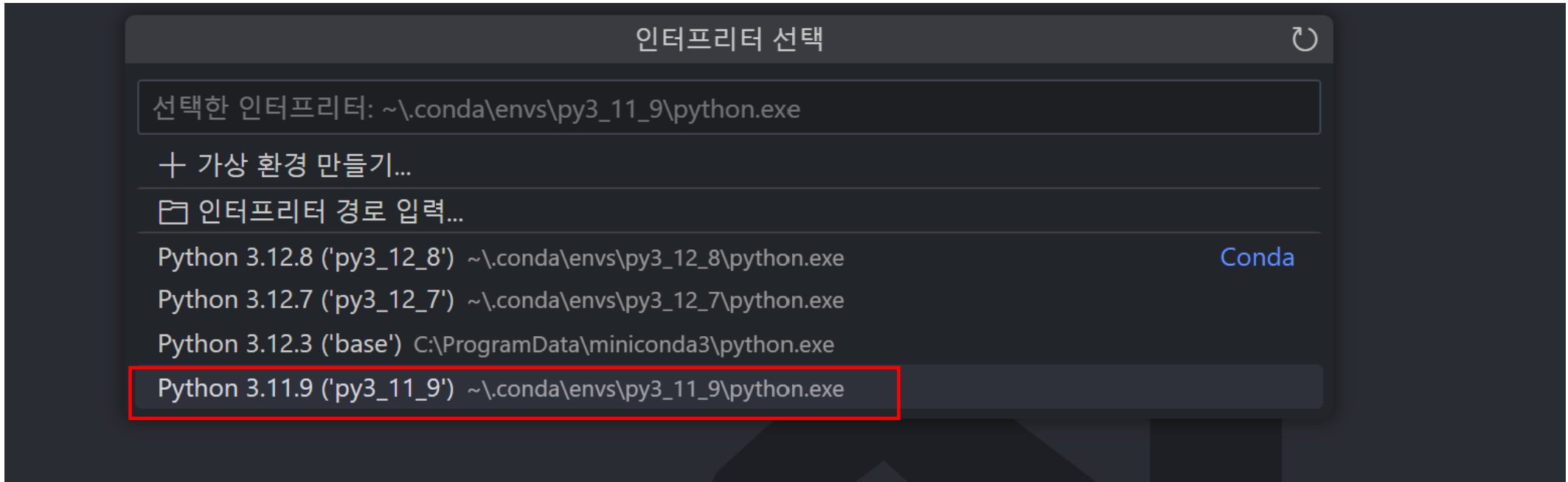
vscode와 미니콘다 가상환경 연동



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감사합니다.

Q & A