

프로그래밍 환경 구축

Spring 2021

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Video Lecture: <http://lms.mju.ac.kr>

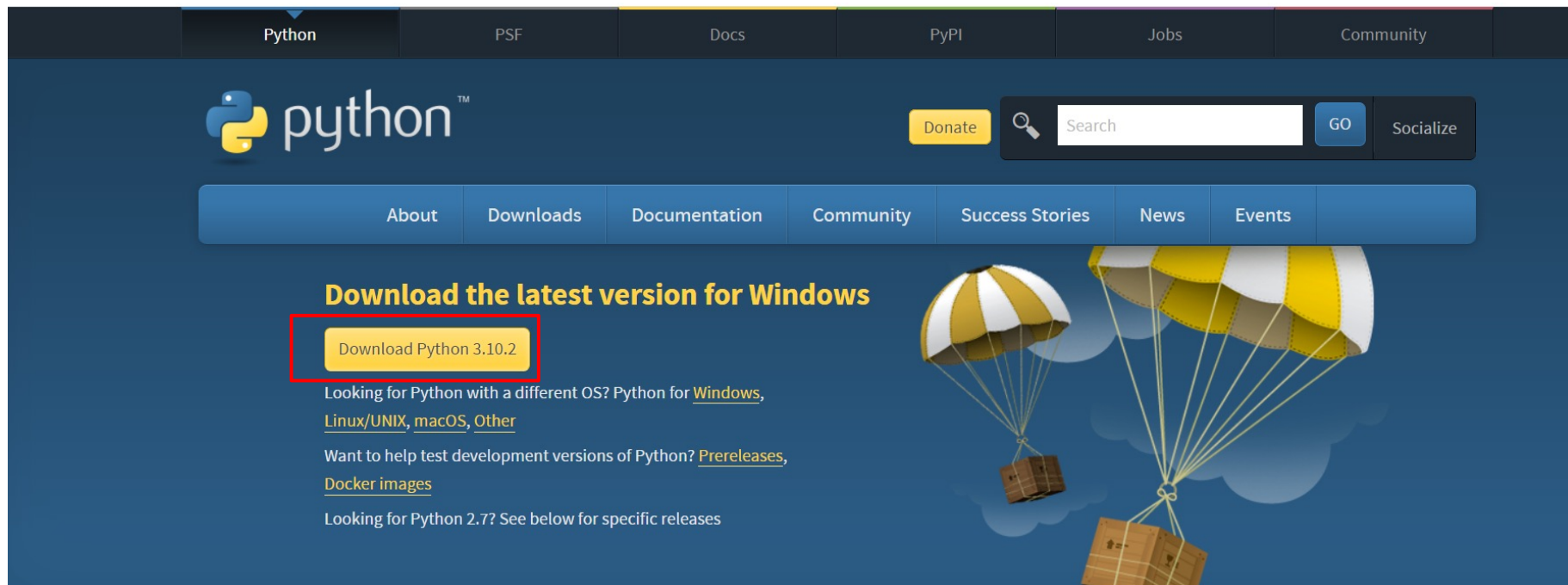
Lecture Note: <https://lms.mju.ac.kr>

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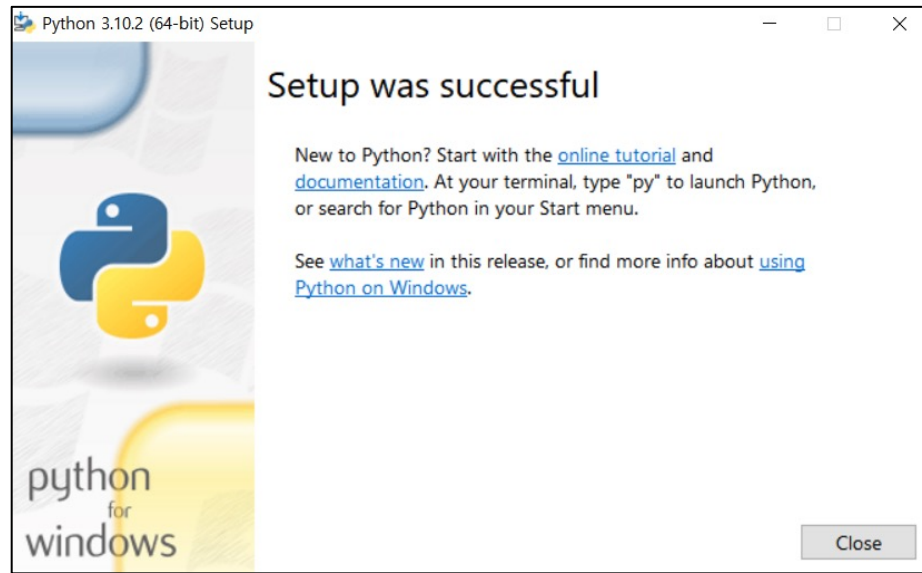
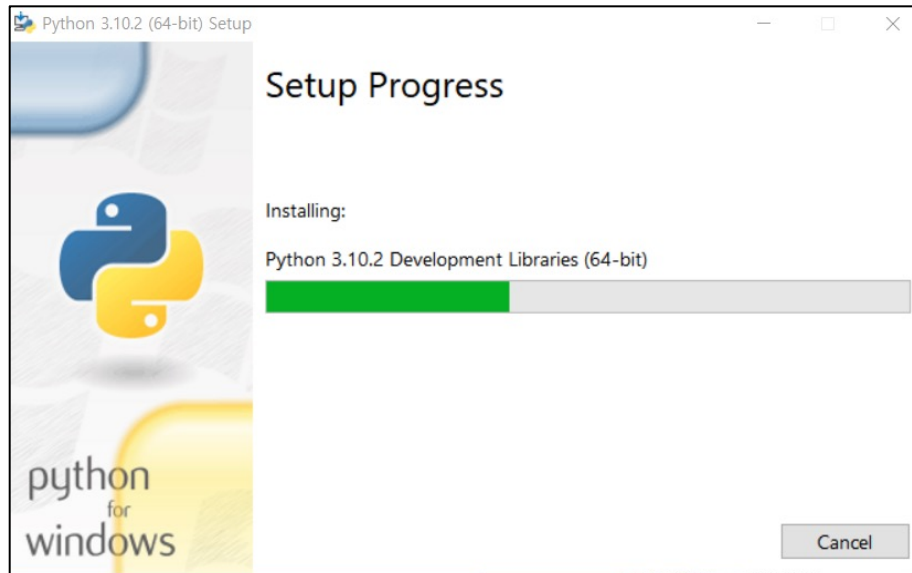
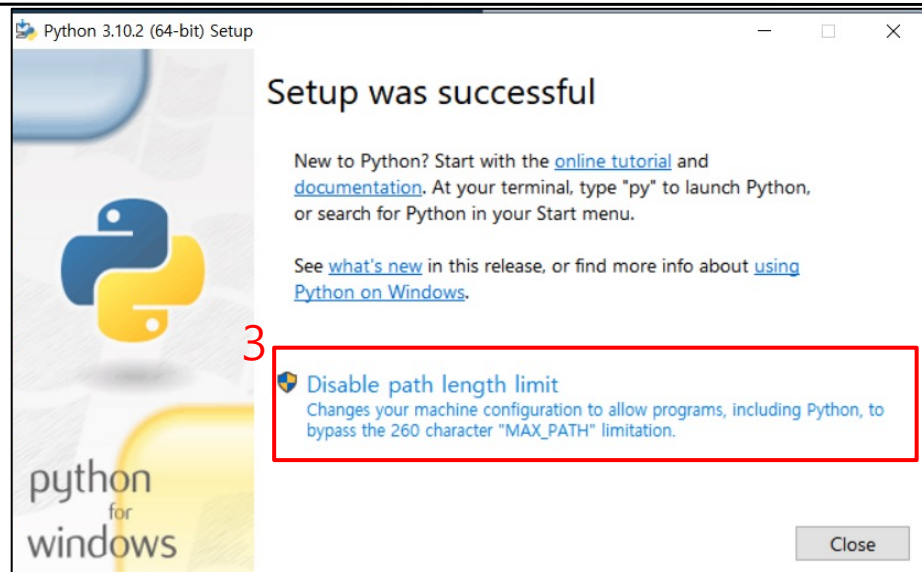
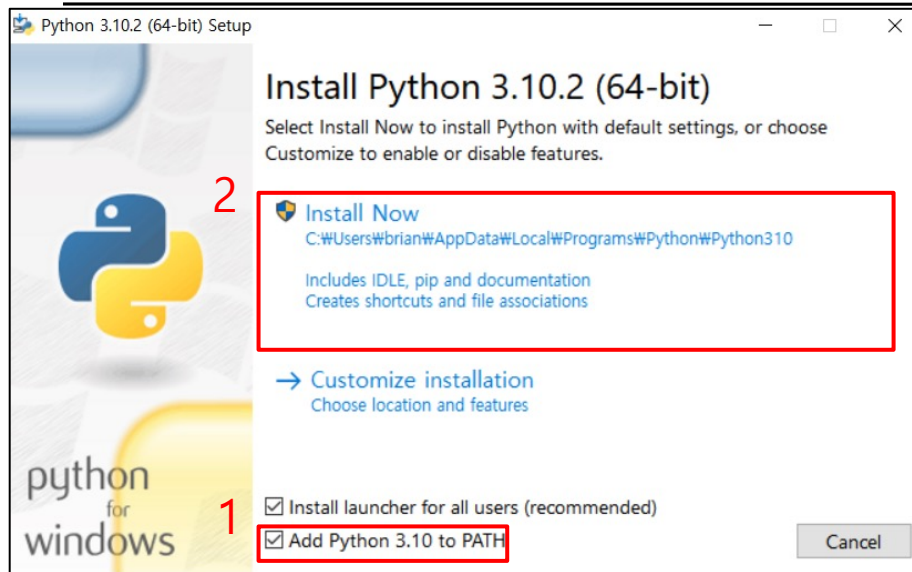
- Install Python
- Install Source Code Editor
 - Sublime Text 4
 - Visual Studio Code
 - Jupyter Notebook

Install Python (Windows10)

- Downloading Python
 - <https://www.python.org/downloads/>



Install Python (Windows10)



Install Python (Windows10)

- 설치된 python, pip 버전 확인
 - python -V
 - pip -V

```
명령 프롬프트
Microsoft Windows [Version 10.0.19042.1466]
(c) Microsoft Corporation. All rights reserved.

C:\Users\>python -V
Python 3.10.2

C:\Users\>pip -V
pip 21.2.4 from C:\Users\\AppData\Local\Programs\Python\Python310\lib\site-packages\pip (python 3.10)

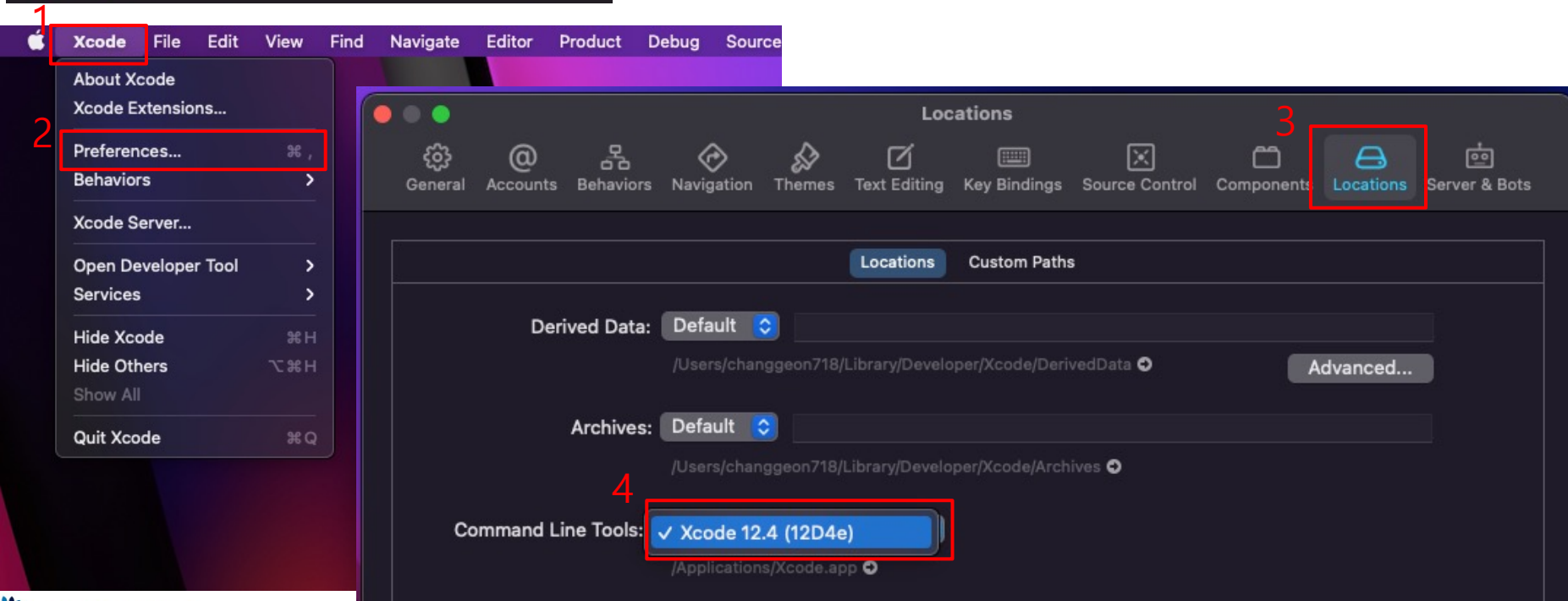
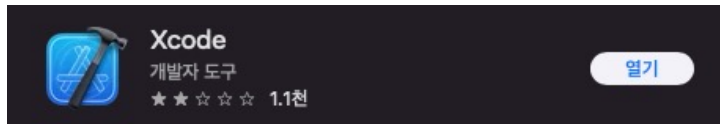
C:\Users\>'
```

Install Python (Mac OS)

- Check the Python version
 - Mac OS는 기본적으로 python2와 3 모두 사용
 - Python 3.4 이상 버전을 사용.

Install Python (Mac OS)

- Install Xcode
 - AppStore에서 다운로드.
 - Xcode에서 command lines tools 옵션이 필요.



Install Python (Mac OS)

- Install homebrew
 - package manager for Mac OS
 - https://brew.sh/index_ko

Homebrew 설치하기

```
$ /bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```



터미널에 붙여넣기 하세요.

해당 스크립트는 무엇을 할지 설명하고 실행하기 전에 잠시 멈춥니다. 더 자세한 설치 옵션사항을 보려면 [여기](#)를 참고하세요.

- Install Python
 - Install with Homebrew

```
$ brew install python
```


Sublime Text 4

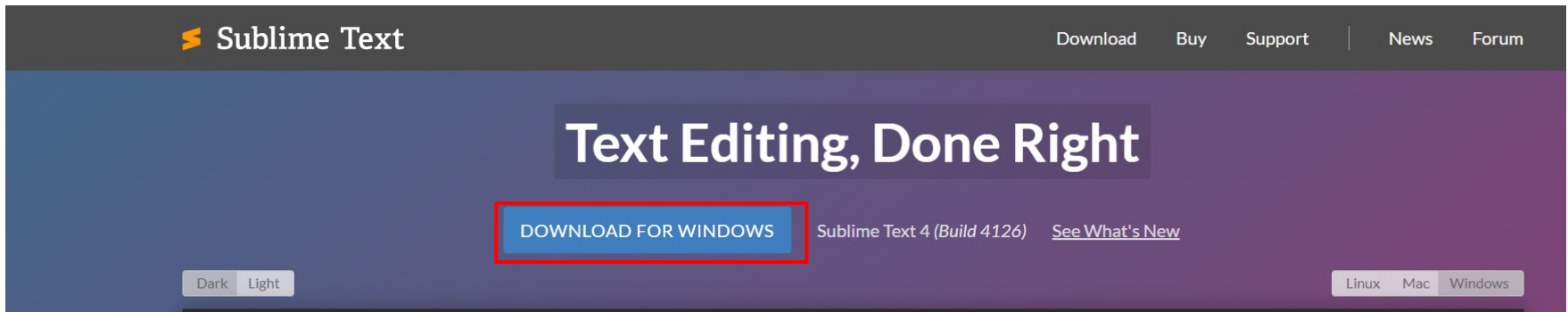
- Cross-platform source code editor.
- 동작 속도가 매우 빠르다.
- 현대에 주로 사용되는 언어를 기본으로 지원.



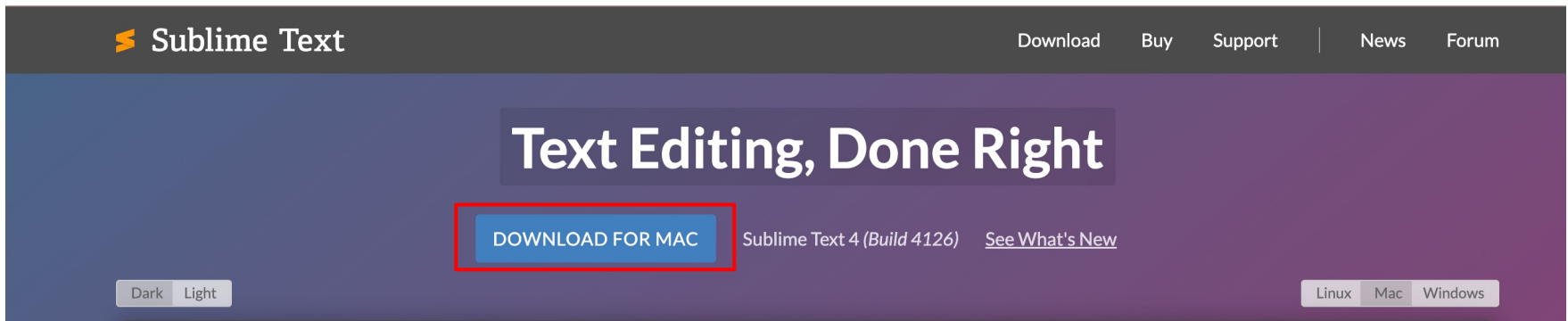
Sublime Text

Install Sublime Text 4

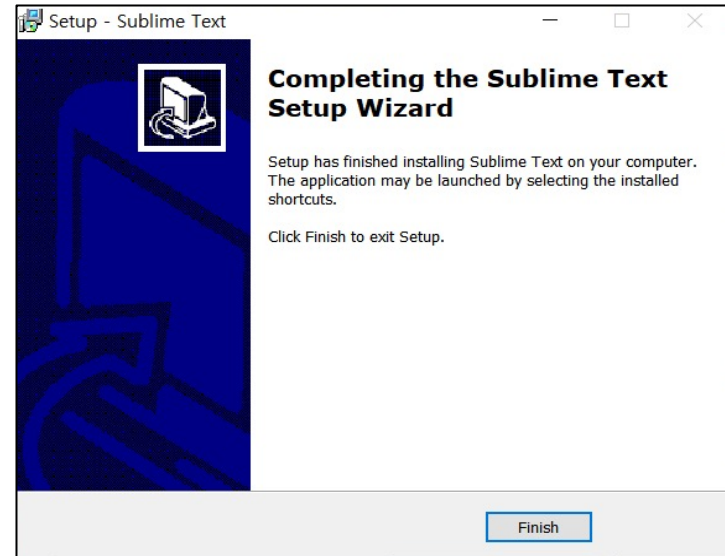
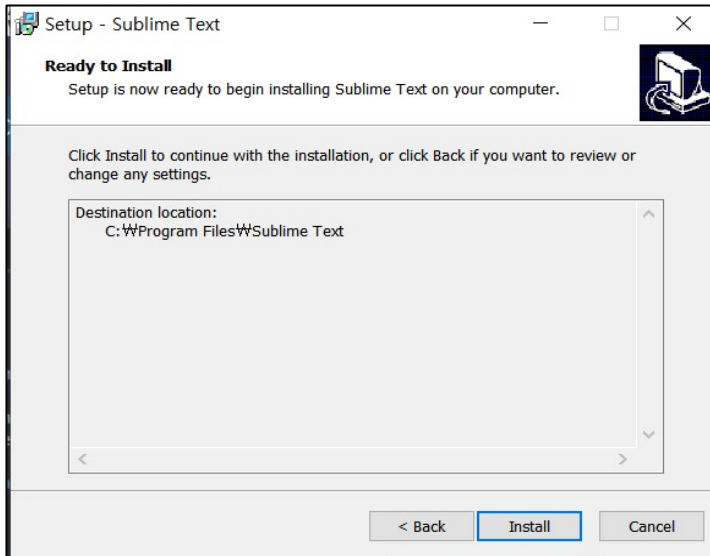
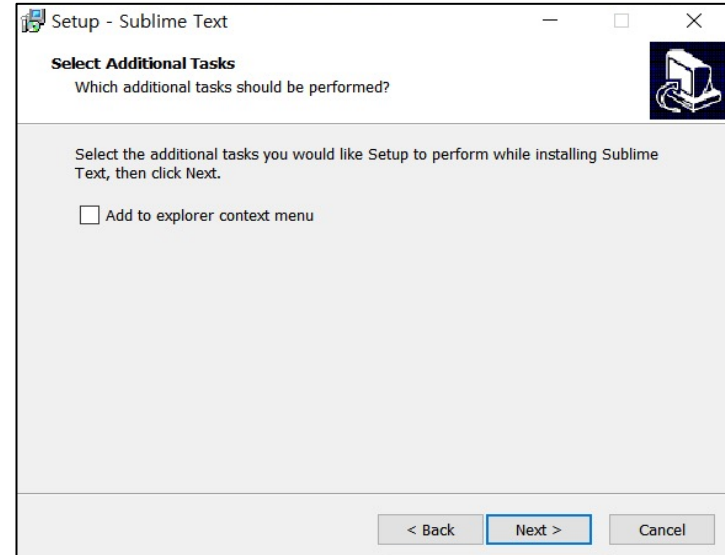
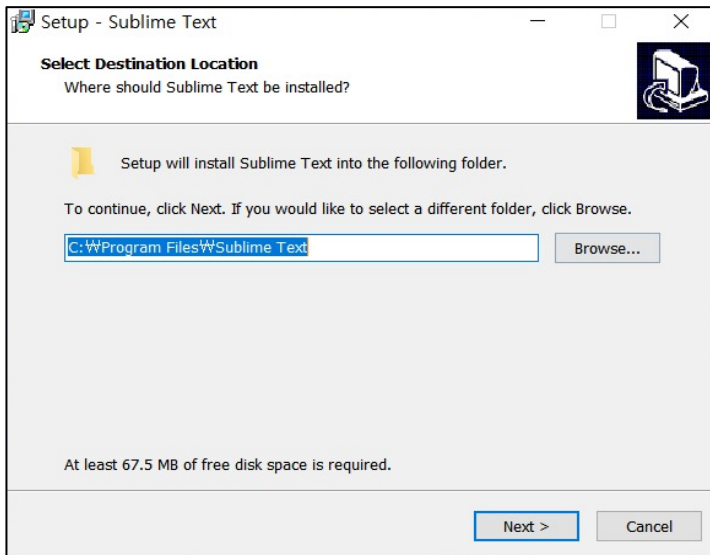
- Downloading Sublime Text 4
 - <https://www.sublimetext.com/>
- Windows10



- Mac OS

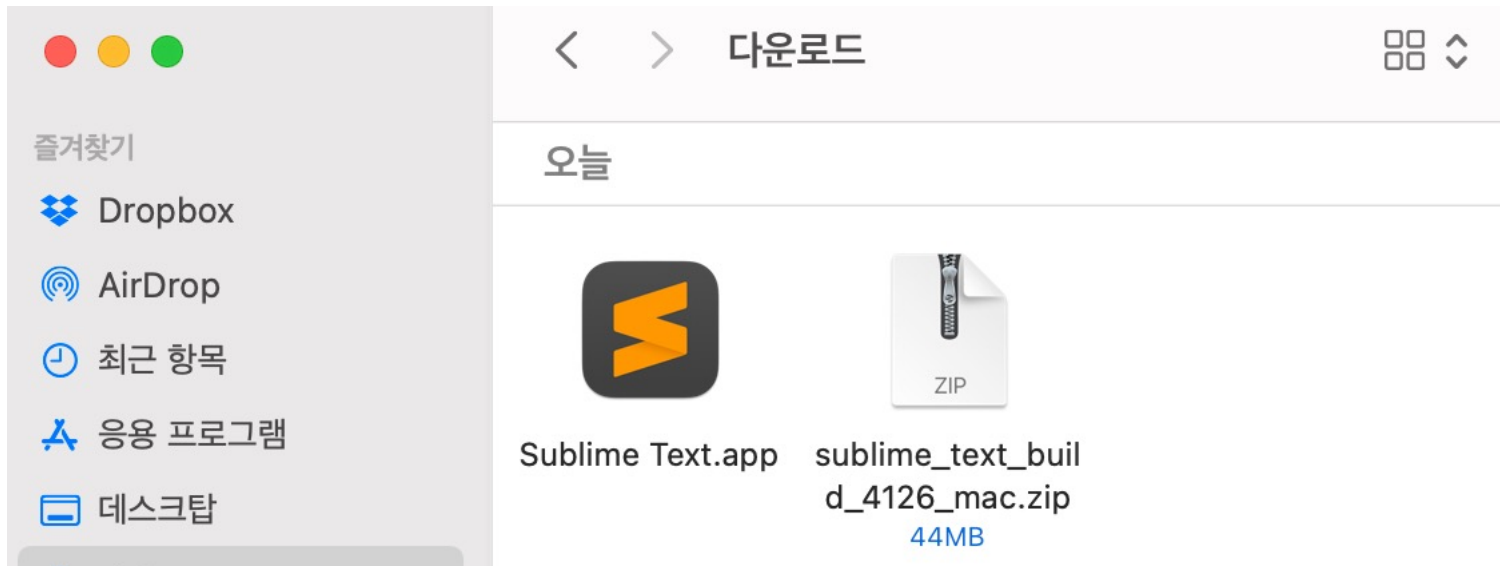


Install Sublime Text 4 (Windows10)



Install Sublime Text 4 (Mac OS)

- 다운로드한 zip 파일 압축 해제
- Sublime Text 드래그 하여 응용 프로그램 옮기기



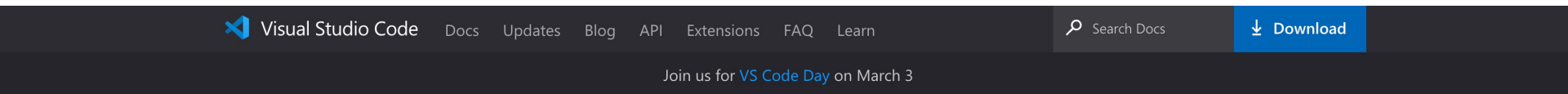
Visual Studio Code

- Cross-platform source code editor.
- 터미널이 내장되어 별도로 터미널을 열 필요가 없음.
- 확장 기능이 매우 많음.



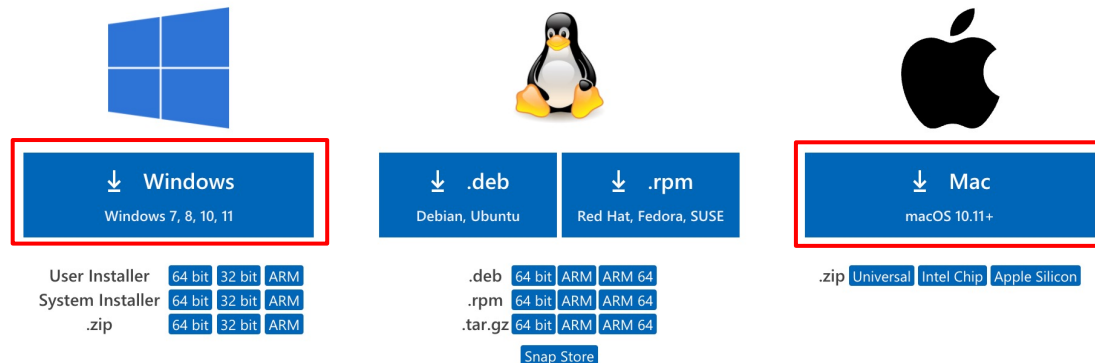
Install Visual Studio Code

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

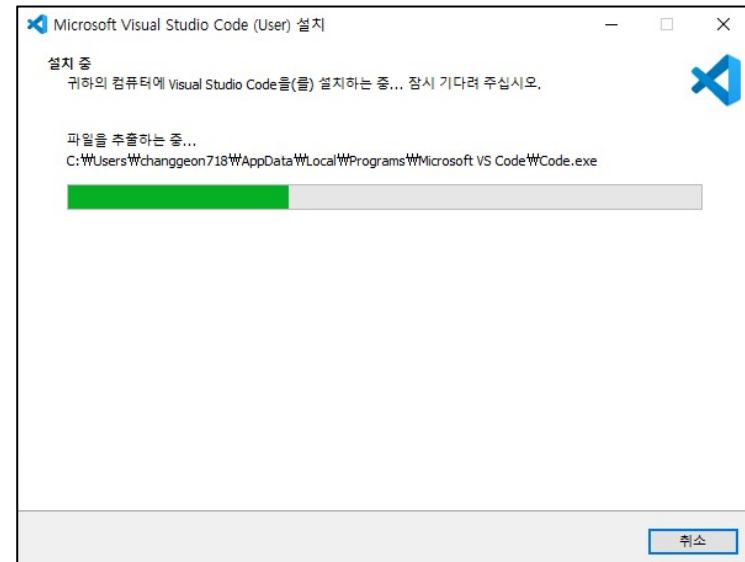
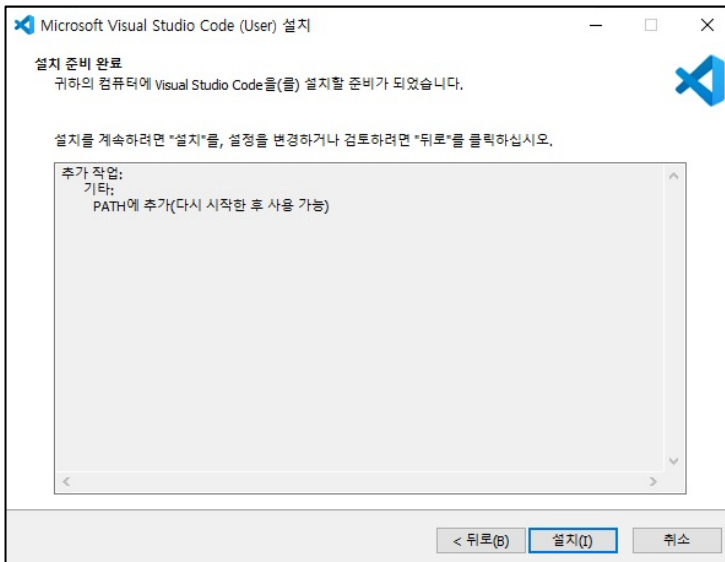
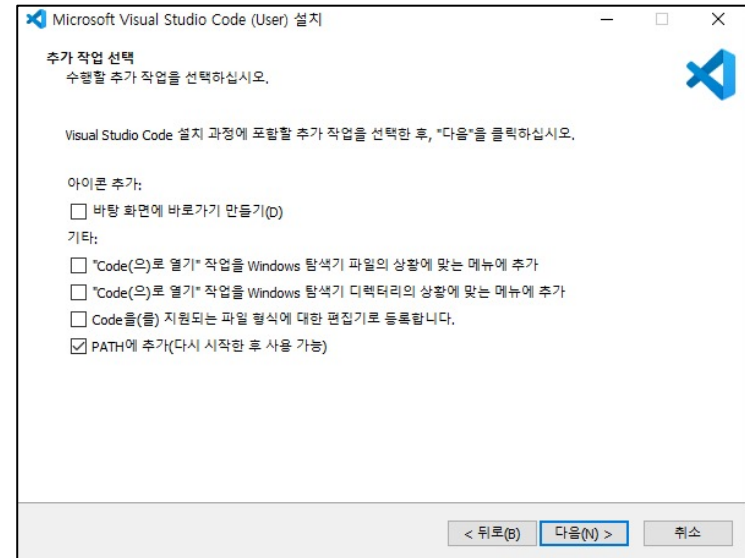
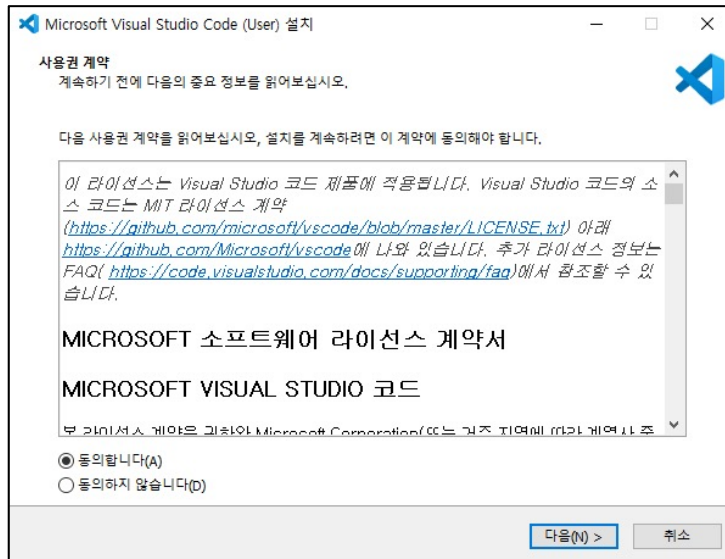


Download Visual Studio Code

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

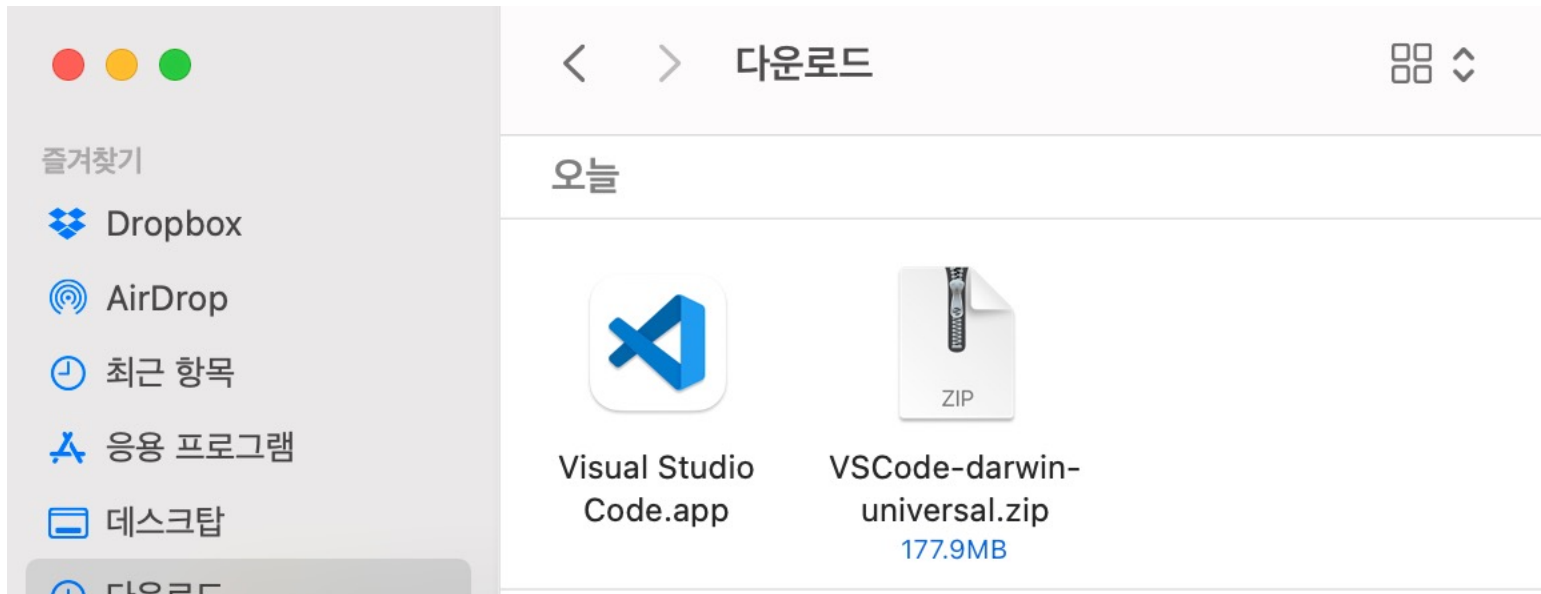


Install Visual Studio Code (Windows10)



Install Visual Studio Code (Mac OS)

- 다운로드한 zip 파일 압축 해제
- Visual Studio Code 드래그 하여 응용 프로그램 옮기기



Jupyter Notebook

- python 기반의 웹 코딩 라이브러리.
- 데이터 분석 및 수치 분석에 많이 사용.



Install Jupyter Notebook

- CMD(Windows10), Terminal(Mac OS)에서 명령어 실행.
 - pip install jupyter

Windows 10

```
명령 프롬프트
C:\Users\changgeon718\Desktop\test>pip install jupyter
Collecting jupyter
  Downloading jupyter-1.0.0-py2.py3-none-any.whl (2.7 kB)
Collecting jupyter-console
  Downloading jupyter_console-6.2.0-py3-none-any.whl (22 kB)
Collecting qtconsole
  Downloading qtconsole-5.0.2-py3-none-any.whl (119 kB)
  [Progress Bar] 119 kB 1.3 MB/s
Collecting ipykernel
  Downloading ipykernel-5.5.0-py3-none-any.whl (120 kB)
  [Progress Bar] 120 kB 6.8 MB/s
Collecting notebook
  Downloading notebook-6.2.0-py3-none-any.whl (9.5 MB)
  [Progress Bar] 9.5 MB 6.4 MB/s
Collecting ipywidgets
  Downloading ipywidgets-7.6.3-py2.py3-none-any.whl (121 kB)
  [Progress Bar] 121 kB ...
Collecting nbconvert
  Downloading nbconvert-6.0.7-py3-none-any.whl (552 kB)
```

Mac OS

```
[~] pip3 install jupyter
Collecting jupyter
  Downloading https://files.pythonhosted.org/397e1ea87cd76244e42d39ec5e88efd25b2abd7e/jup
Collecting ipywidgets (from jupyter)
  Downloading https://files.pythonhosted.org/0a664a30b03068c25ab75243224d6b488800d43a/ipy
  [Progress Bar] 121kB
Collecting notebook (from jupyter)
  Downloading https://files.pythonhosted.org/fef764355f1e3517f6e12b4fceb8d434ece4f8fd/not
  [Progress Bar] 9.5M
Collecting ipykernel (from jupyter)
  Downloading https://files.pythonhosted.org/
```

Jupyter Notebook

- Jupyter Notebook 실행
 - jupyter notebook (사용할 디렉토리에서 명령어 입력)
- Windows10

```
C:\Users\changgeon718\Desktop\test>jupyter notebook
[I 22:46:50.426 NotebookApp] Writing notebook server cookie secret to C:\Users\changgeon718\AppData\Roaming\jupyter\runtime\notebook_cookie_secret
[W 22:46:50.935 NotebookApp] Terminals not available (error was No module named 'winpty.cython')
[I 22:46:51.258 NotebookApp] Serving notebooks from local directory: C:\Users\changgeon718\Desktop\test
[I 22:46:51.258 NotebookApp] Jupyter Notebook 6.2.0 is running at:
[I 22:46:51.258 NotebookApp] http://localhost:8888/?token=f37d81afc95676e47716ef59fcfdb5c97df4478178a83d0b
[I 22:46:51.258 NotebookApp] or http://127.0.0.1:8888/?token=f37d81afc95676e47716ef59fcfdb5c97df4478178a83d0b
[I 22:46:51.258 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 22:46:51.298 NotebookApp]
```

To access the notebook, open this file in a browser:
file:///C:/Users/changgeon718/AppData/Roaming/jupyter/runtime/nbserver-8864-open.html
Or copy and paste one of these URLs:
http://localhost:8888/?token=f37d81afc95676e47716ef59fcfdb5c97df4478178a83d0b
or http://127.0.0.1:8888/?token=f37d81afc95676e47716ef59fcfdb5c97df4478178a83d0b

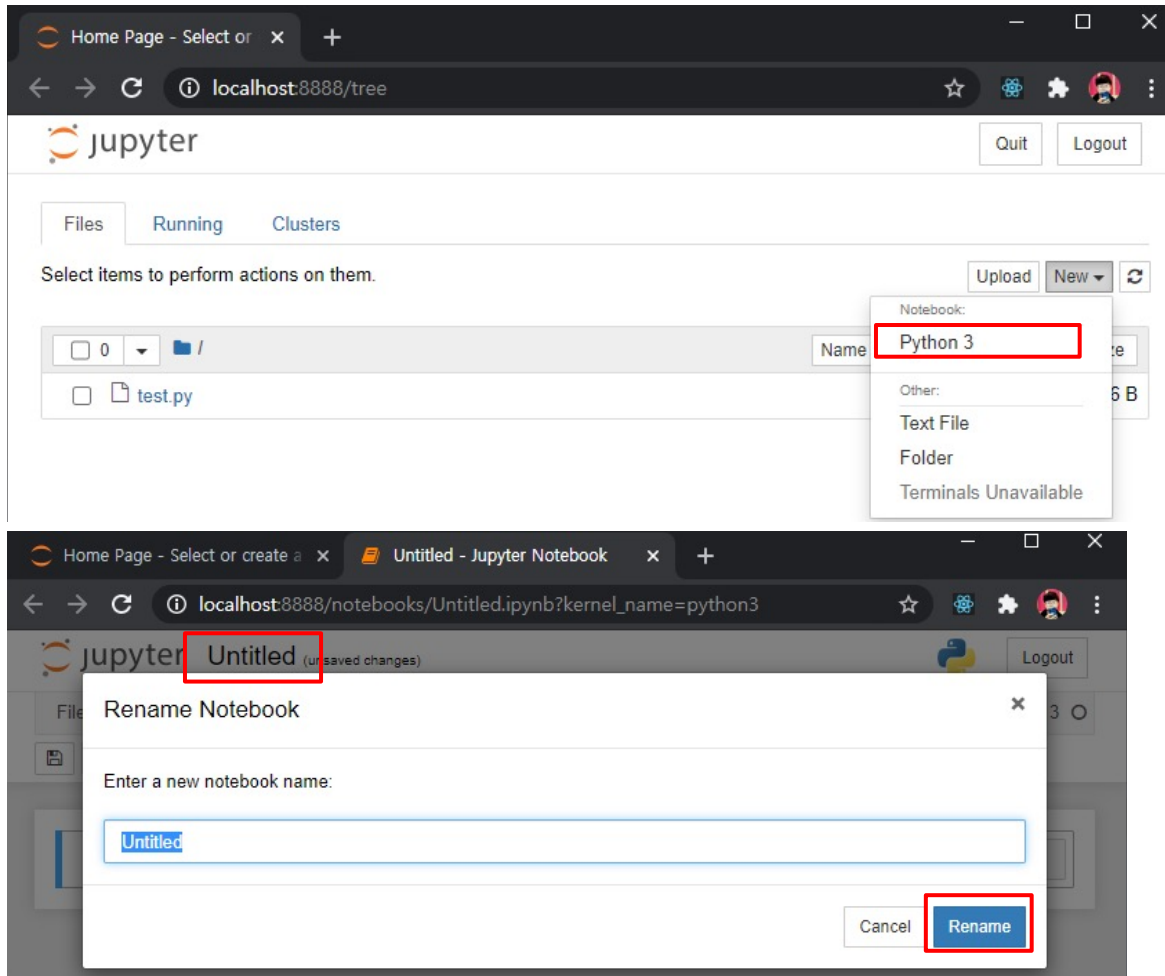
- Mac OS

```
(python3) → Desktop jupyter notebook
[I 02:03:22.108 NotebookApp] Writing notebook server cookie secret to /Users/ichang-geon/Library/Jupyter/runtime/notebook_cookie_secret
[I 02:03:22.198 NotebookApp] Serving notebooks from local directory: /Users/ichang-geon/Desktop
[I 02:03:22.198 NotebookApp] Jupyter Notebook 6.2.0 is running at:
[I 02:03:22.198 NotebookApp] http://localhost:8888/?token=1d3fd85d2227e24185af0eb68201a9c8180e48d062b62c11
[I 02:03:22.198 NotebookApp] or http://127.0.0.1:8888/?token=1d3fd85d2227e24185af0eb68201a9c8180e48d062b62c11
[I 02:03:22.198 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 02:03:22.203 NotebookApp]
```

To access the notebook, open this file in a browser:
file:///Users/ichang-geon/Library/Jupyter/runtime/nbserver-70270-open.html
Or copy and paste one of these URLs:
http://localhost:8888/?token=1d3fd85d2227e24185af0eb68201a9c8180e48d062b62c11
or http://127.0.0.1:8888/?token=1d3fd85d2227e24185af0eb68201a9c8180e48d062b62c11

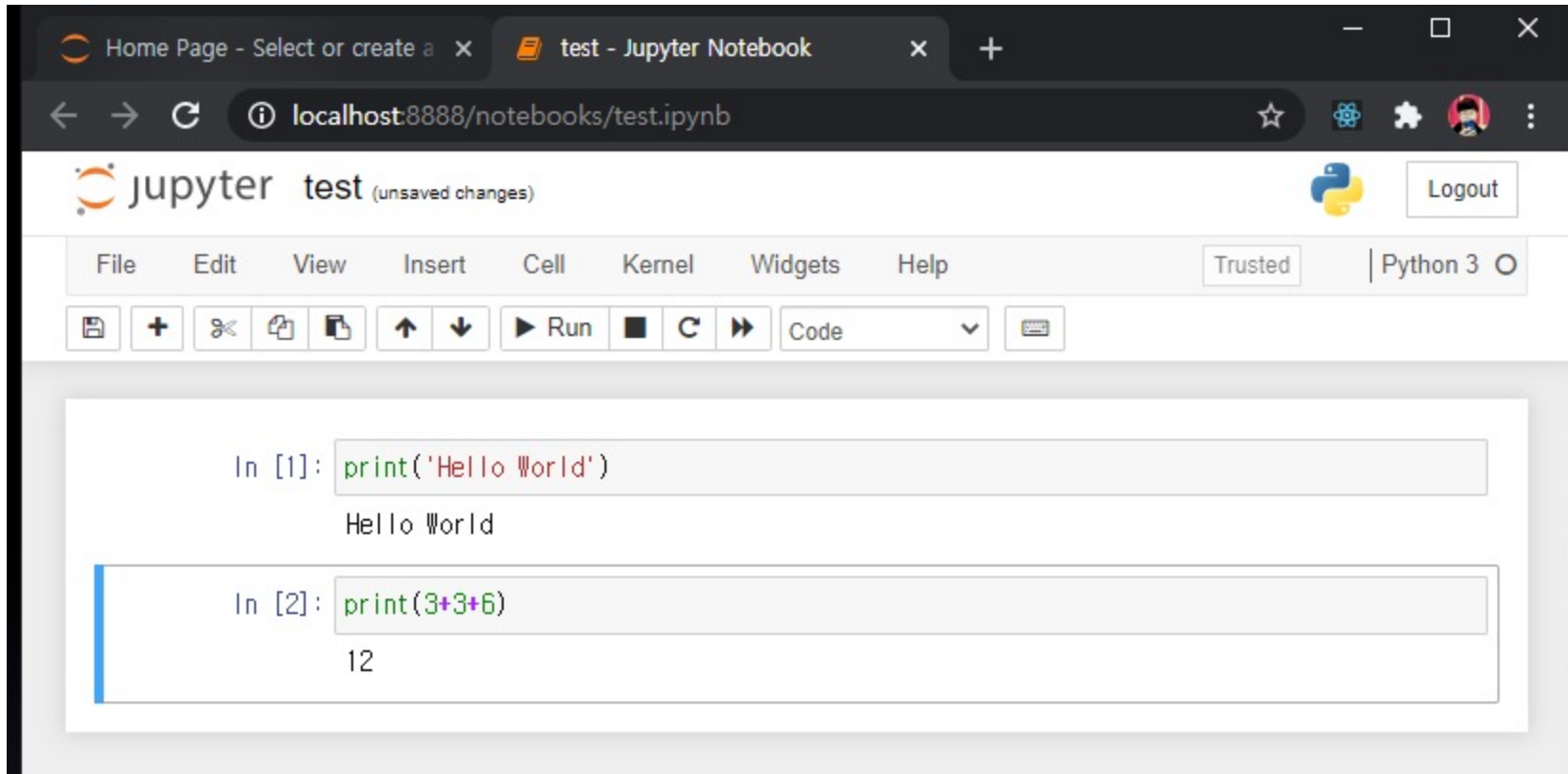
Jupyter Notebook

■ Jupyter Notebook 사용방법



Jupyter Notebook

- 블록 실행
 - Control + enter (현재 블록 실행 후 다음 블록으로 이동)
 - Shift + enter (현재 블록만 실행)



END