

# Configure for Lab

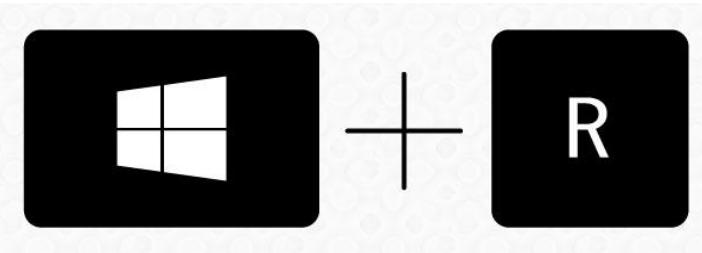
Bok, Jong Soon  
[javaexpert@nate.com](mailto:javaexpert@nate.com)  
<https://github.com/swacademy/Python>

# Installation Python Interpreter on Windows 10 64-bit Platform

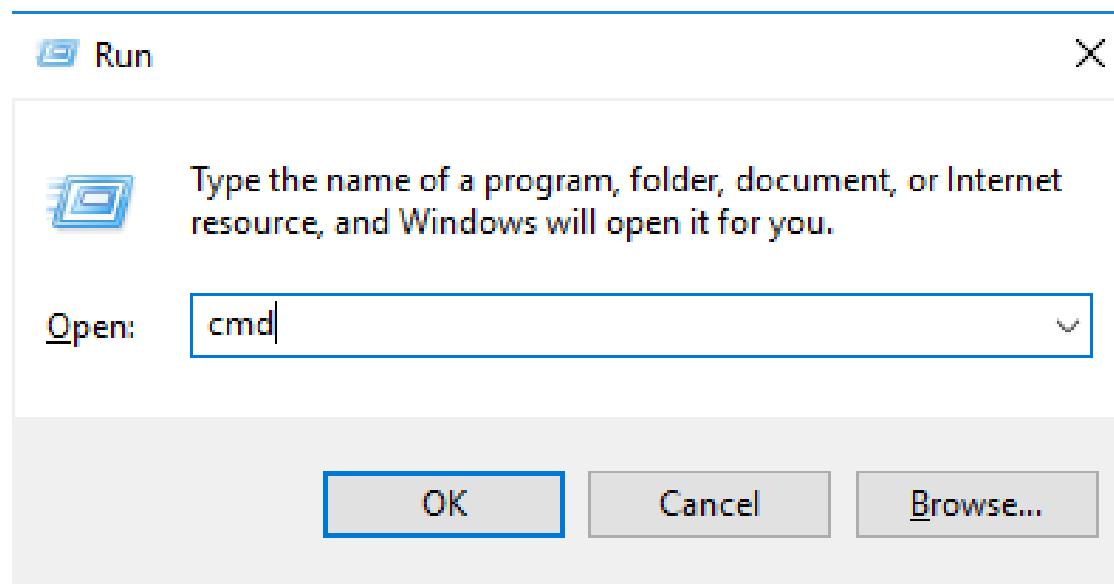


# Install Python Interpreter

1. Type



2. Type **cmd**



# Install Python Interpreter (Cont.)

## 3. Type **python**.

 Command Prompt

```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.
```

```
C:\Users\instructor>python
'python' is not recognized as an internal or external command,
operable program or batch file.
```

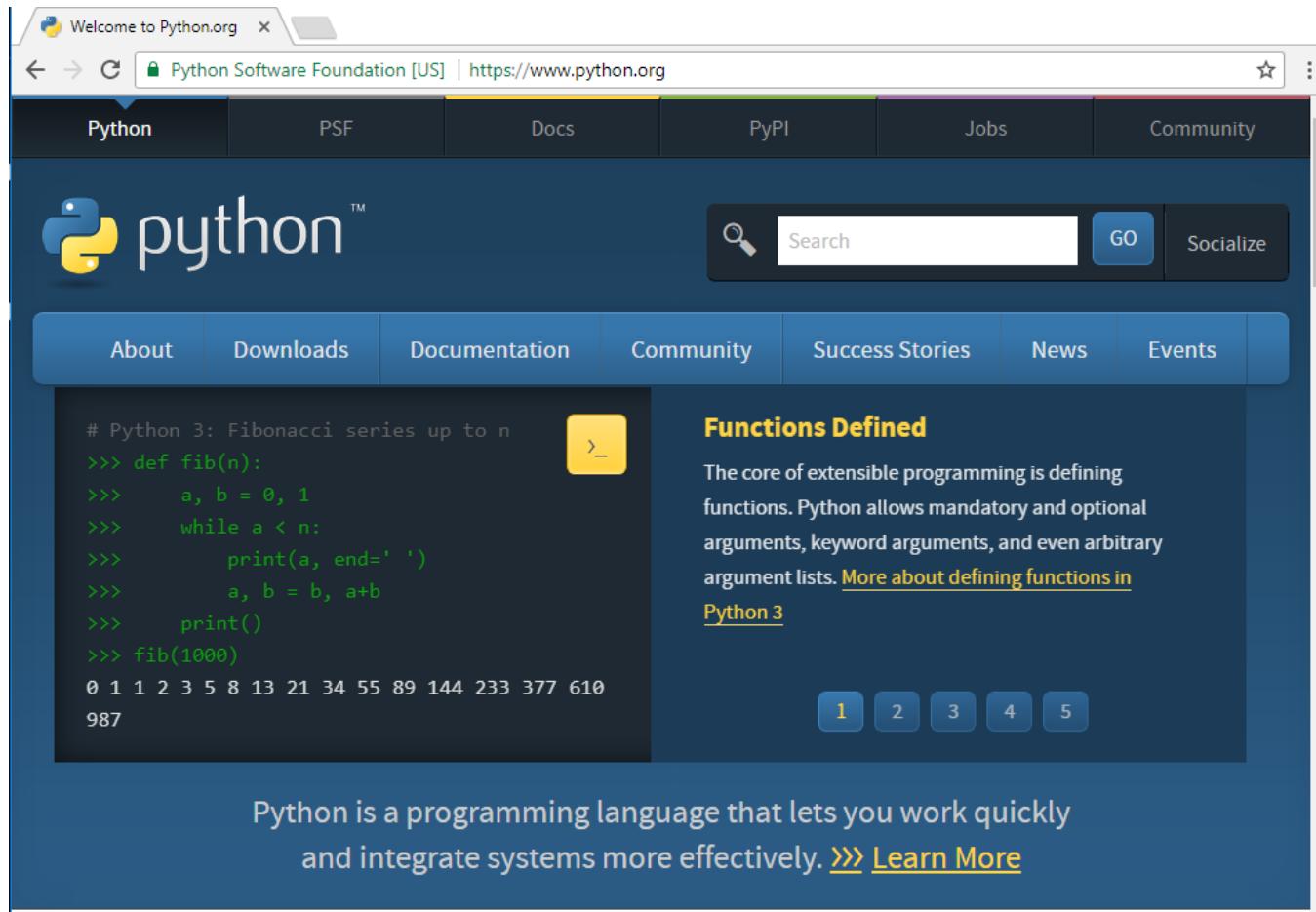
## 4. Type **wmic os get osarchitecture**

 Command Prompt

```
C:\Users\instructor>wmic os get osarchitecture
OSArchitecture
64-bit
```

# Install Python Interpreter (Cont.)

## 5. Visit <https://www.python.org>



# Install Python Interpreter (Cont.)

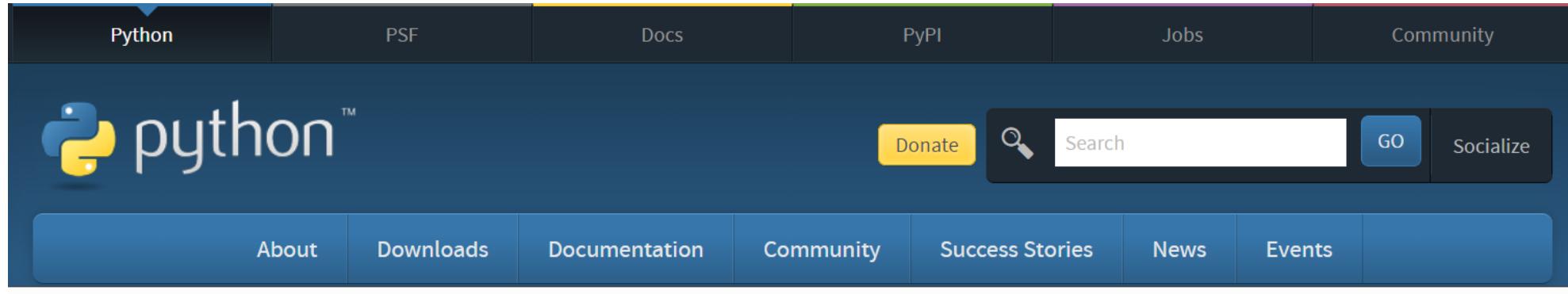
6. Click **Windows** link like below.

The screenshot shows the Python.org homepage. At the top, there is a navigation bar with links for Python, PSF, Docs, PyPI, Jobs, and Community. Below the navigation bar is the Python logo and a search bar with a magnifying glass icon. A red box highlights the 'Downloads' button in the main menu. To the right of the menu, there is a large illustration of two parachutes descending from the sky, each carrying a wooden crate. Below the menu, there is a section titled 'Download the latest version of Python' with a 'Download Python 3.8.2' button. Further down, there is a link 'Looking for Python with a different OS? Python for [Windows](#), [Linux/UNIX](#), [Mac OS X](#), [Other](#)' with a red box highlighting the 'Windows' link. There is also a link for 'Prereleases' and 'Docker images'. At the bottom of the page, there is a section titled 'Active Python Releases' with a table showing information about Python versions 3.8, 3.7, and 3.6.

Python version	Maintenance status	First released	End of support	Release schedule
3.8	bugfix	2019-10-14	2024-10	PEP 569
3.7	bugfix	2018-06-27	2023-06-27	PEP 537
3.6	security	2016-12-23	2021-12-23	PEP 494

# Install Python Interpreter (Cont.)

7. Click **Lastest Python 3 Release** link like below.



Python »» Downloads »» Windows

## Python Releases for Windows

- [Latest Python 3 Release - Python 3.8.2](#)
- [Latest Python 2 Release - Python 2.7.18](#)

### Stable Releases

- [Python 3.8.3rc1 - April 29, 2020](#)

Note that Python 3.8.3rc1 cannot be used on Windows XP or earlier.

- Download [Windows help file](#)

Download Windows x86-64 embeddable zip file

### Pre-releases

- [Python 3.9.0a6 - April 28, 2020](#)
  - Download [Windows help file](#)
  - Download [Windows x86-64 embeddable zip file](#)
  - Download [Windows x86-64 executable installer](#)

# Install Python Interpreter (Cont.)

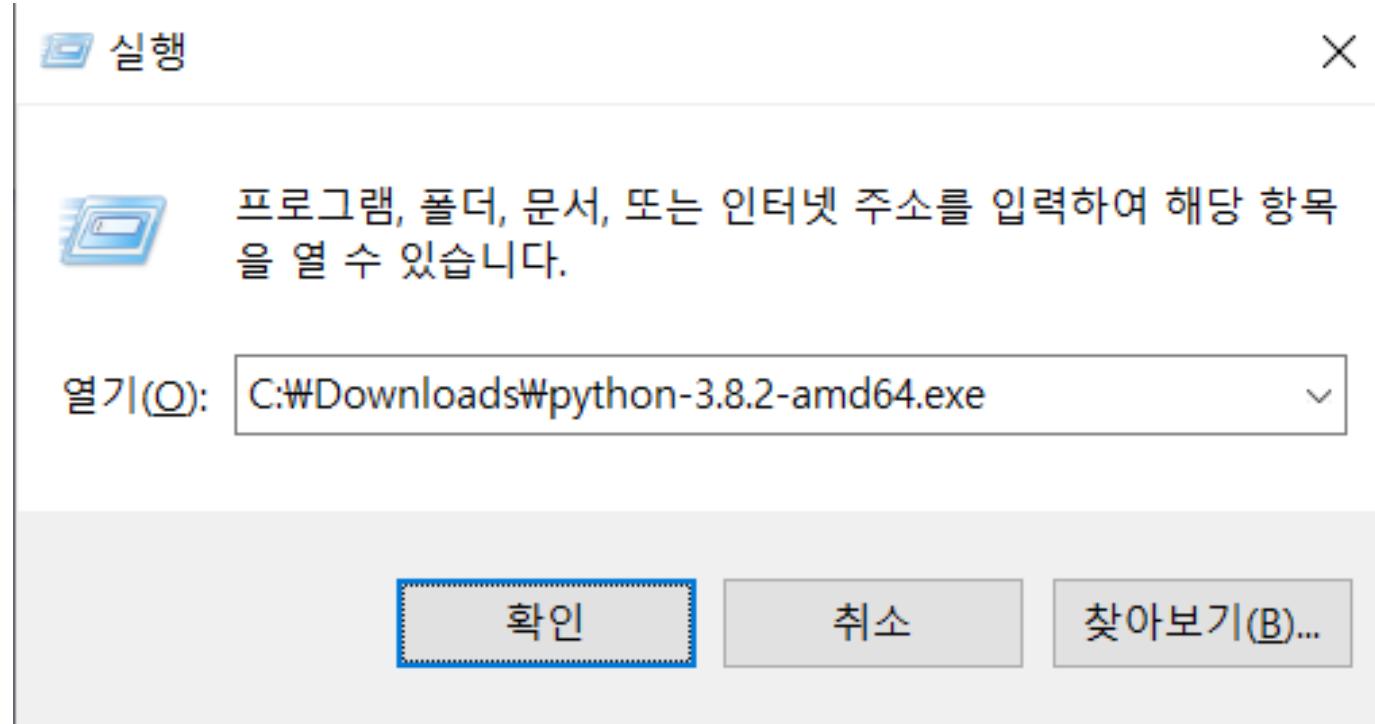
## 8. Click Windows x86-64 executable installer link.

### Files

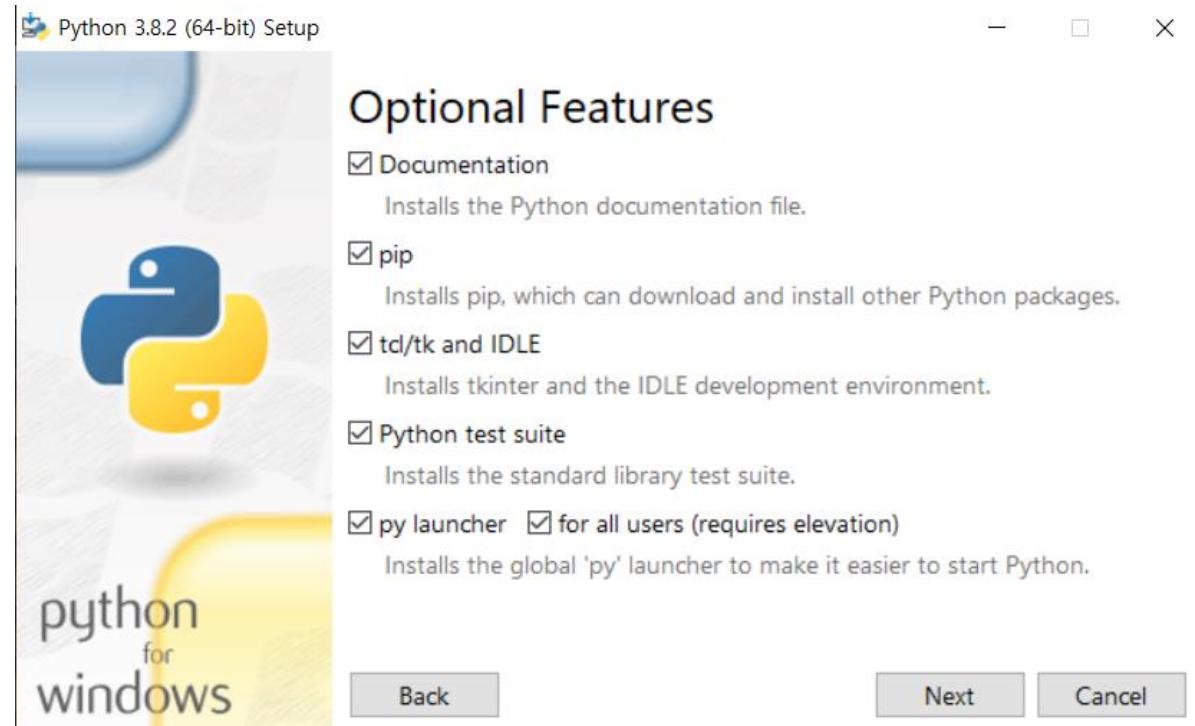
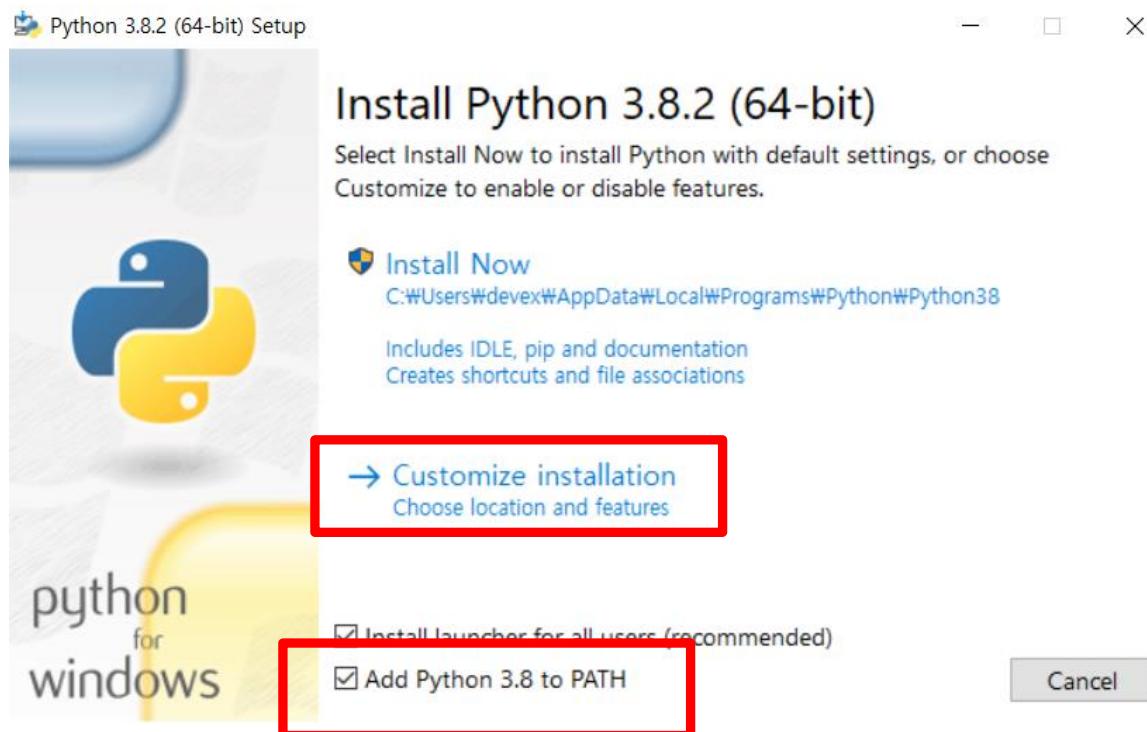
Version	Operating System	Description	MD5 Sum	File Size	GPG
<a href="#">Gzipped source tarball</a>	Source release		f9f3768f757e34b342dbc06b41cbc844	24007411	<a href="#">SIG</a>
<a href="#">XZ compressed source tarball</a>	Source release		e9d6ebc92183a177b8e8a58cad5b8d67	17869888	<a href="#">SIG</a>
<a href="#">macOS 64-bit installer</a>	Mac OS X	for OS X 10.9 and later	f12203128b5c639dc08e5a43a2812cc7	30023420	<a href="#">SIG</a>
<a href="#">Windows help file</a>	Windows		7506675dcbb9a1569b54e600ae66c9fb	8507261	<a href="#">SIG</a>
<a href="#">Windows x86-64 embeddable zip file</a>	Windows	for AMD64/EM64T/x64	1a98565285491c0ea65450e78afe6f8d	8017771	<a href="#">SIG</a>
<a href="#">Windows x86-64 executable installer</a>	Windows	for AMD64/EM64T/x64	b5df1cbb2bc152cd70c3da9151cb510b	27586384	<a href="#">SIG</a>
<a href="#">Windows x86-64 web-based installer</a>	Windows	for AMD64/EM64T/x64	2586cdad1a363d1a8abb5fc102b2d418	1363760	<a href="#">SIG</a>
<a href="#">Windows x86 embeddable zip file</a>	Windows		1b1f0f0c5ee8601f160cfad5b560e3a7	7147713	<a href="#">SIG</a>
<a href="#">Windows x86 executable installer</a>	Windows		6f0ba59c7dbeba7bb0ee21682fe39748	26481424	<a href="#">SIG</a>
<a href="#">Windows x86 web-based installer</a>	Windows		04d97979534f4bd33752c183fc4ce680	1325416	<a href="#">SIG</a>

# Install Python Interpreter (Cont.)

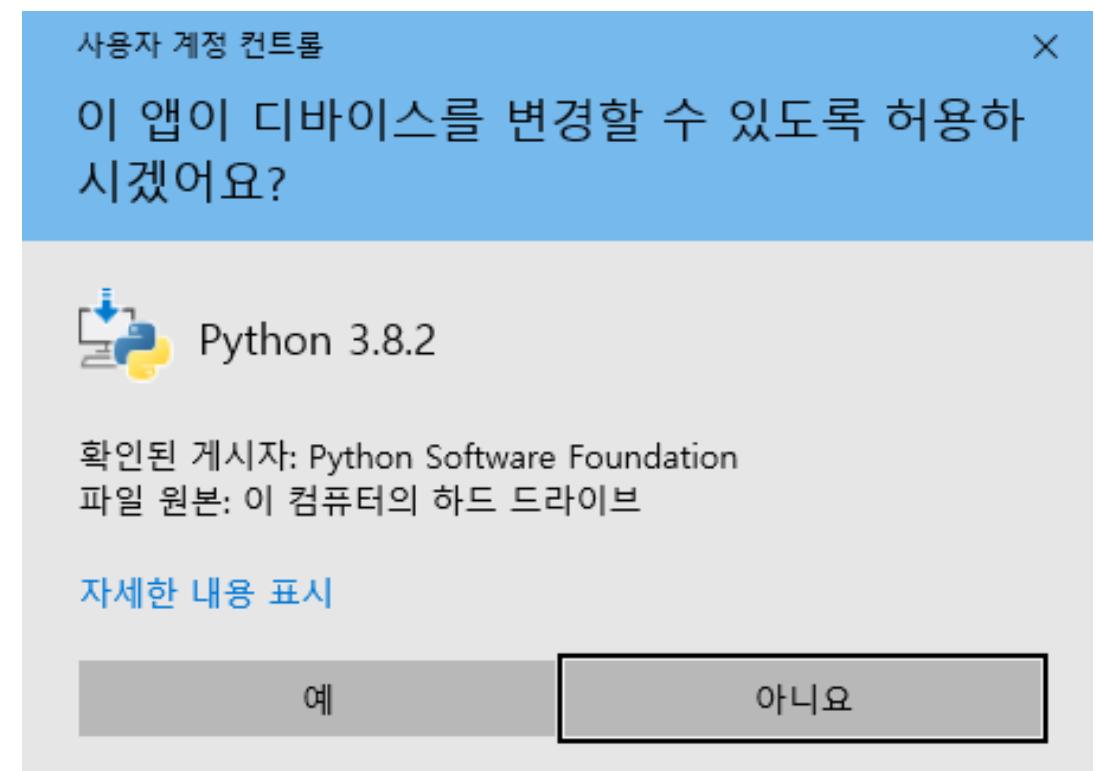
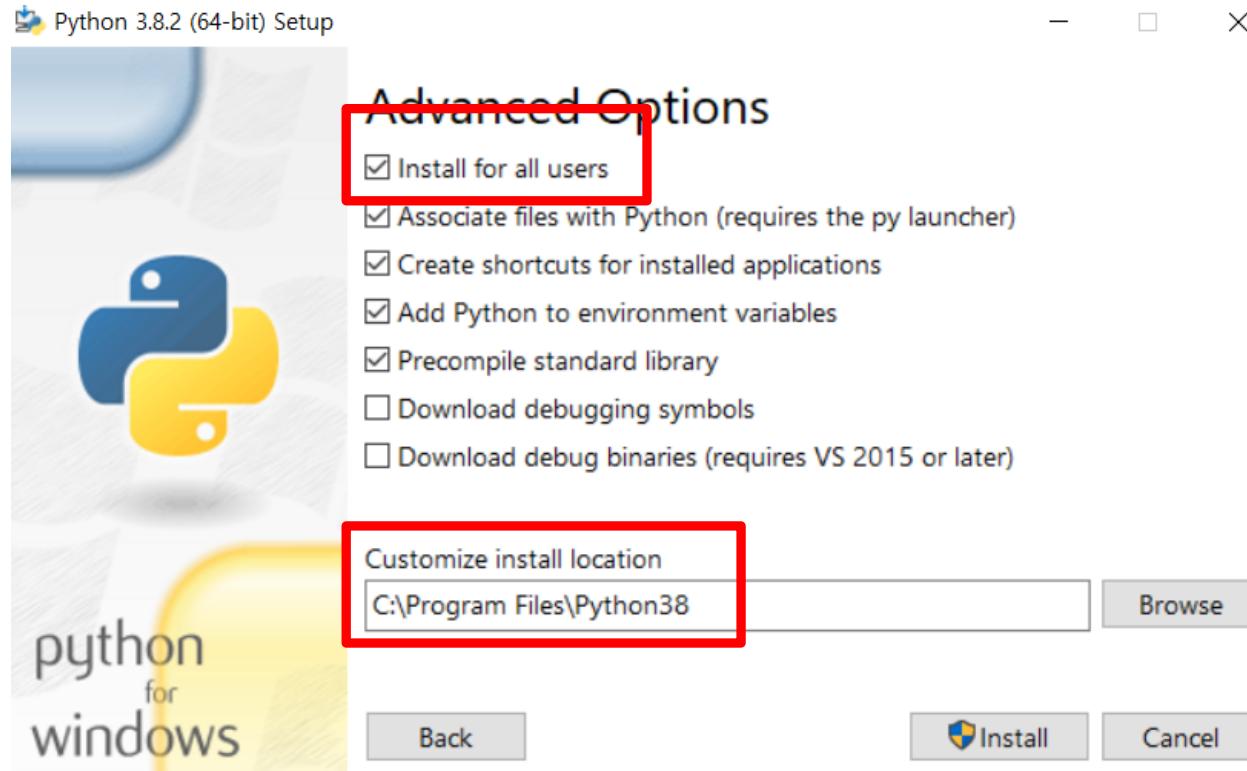
## 9. Execute **pytyon-3.8.2-amd64.exe**.



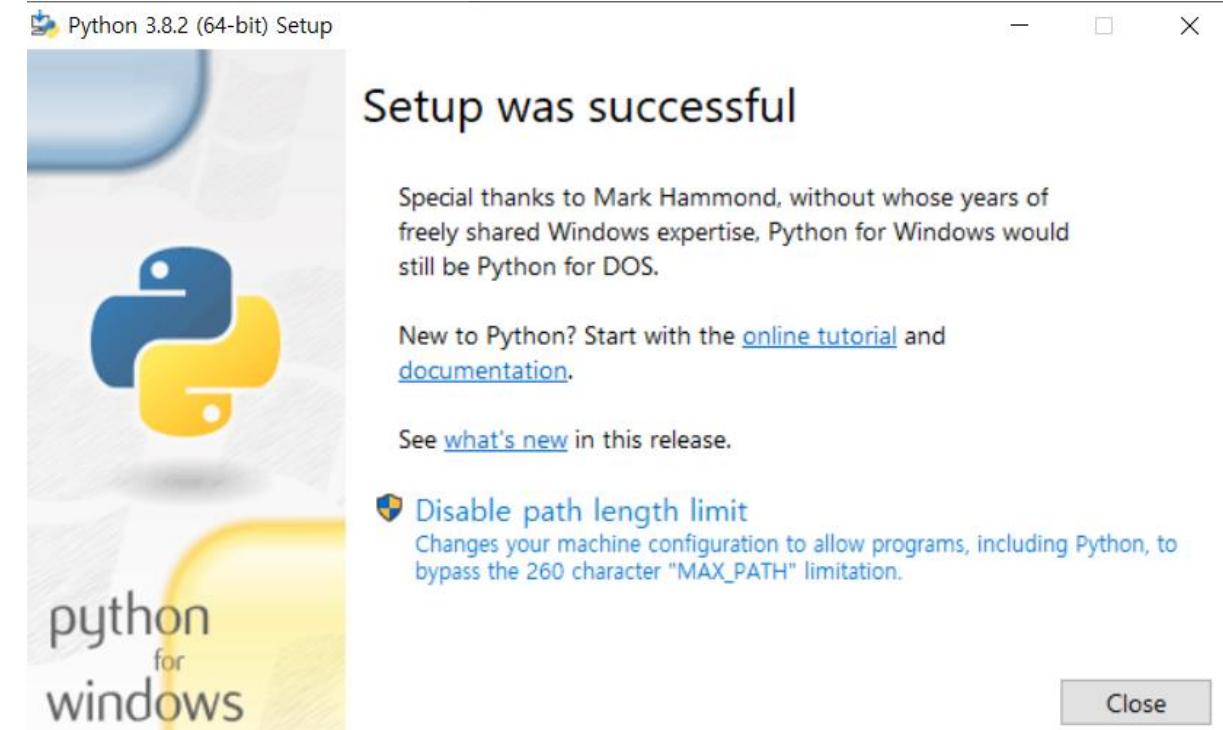
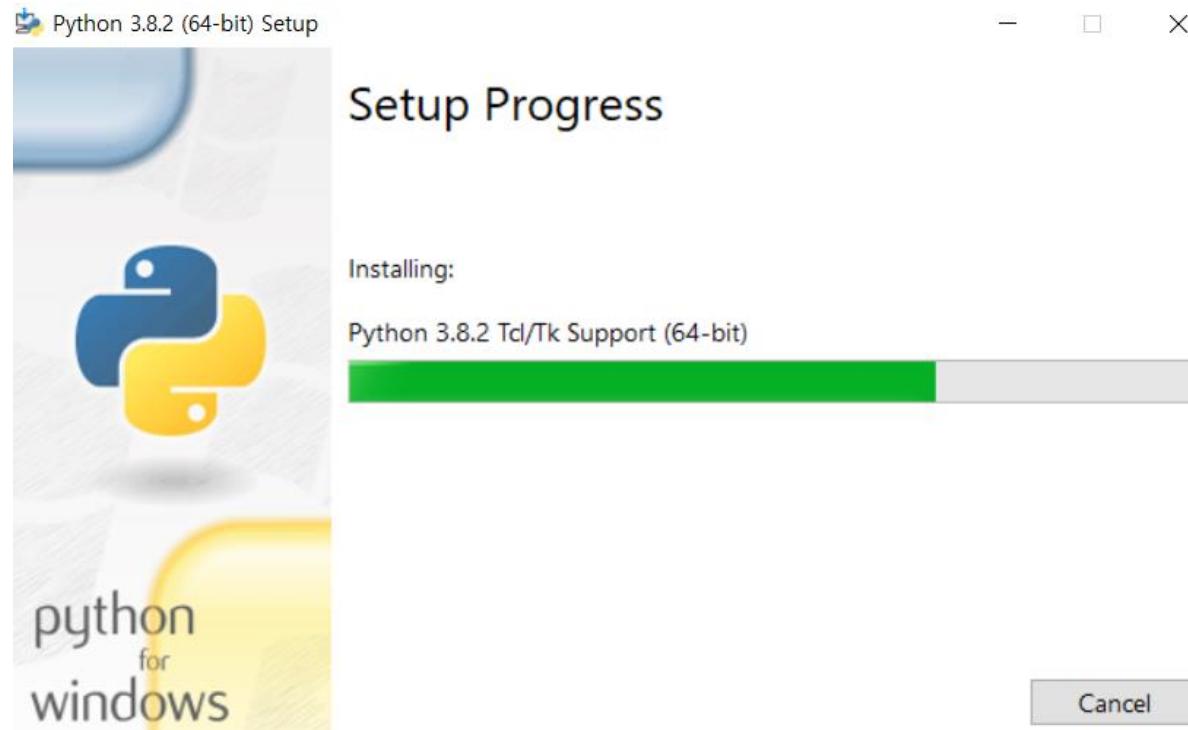
# Install Python Interpreter (Cont.)



# Install Python Interpreter (Cont.)

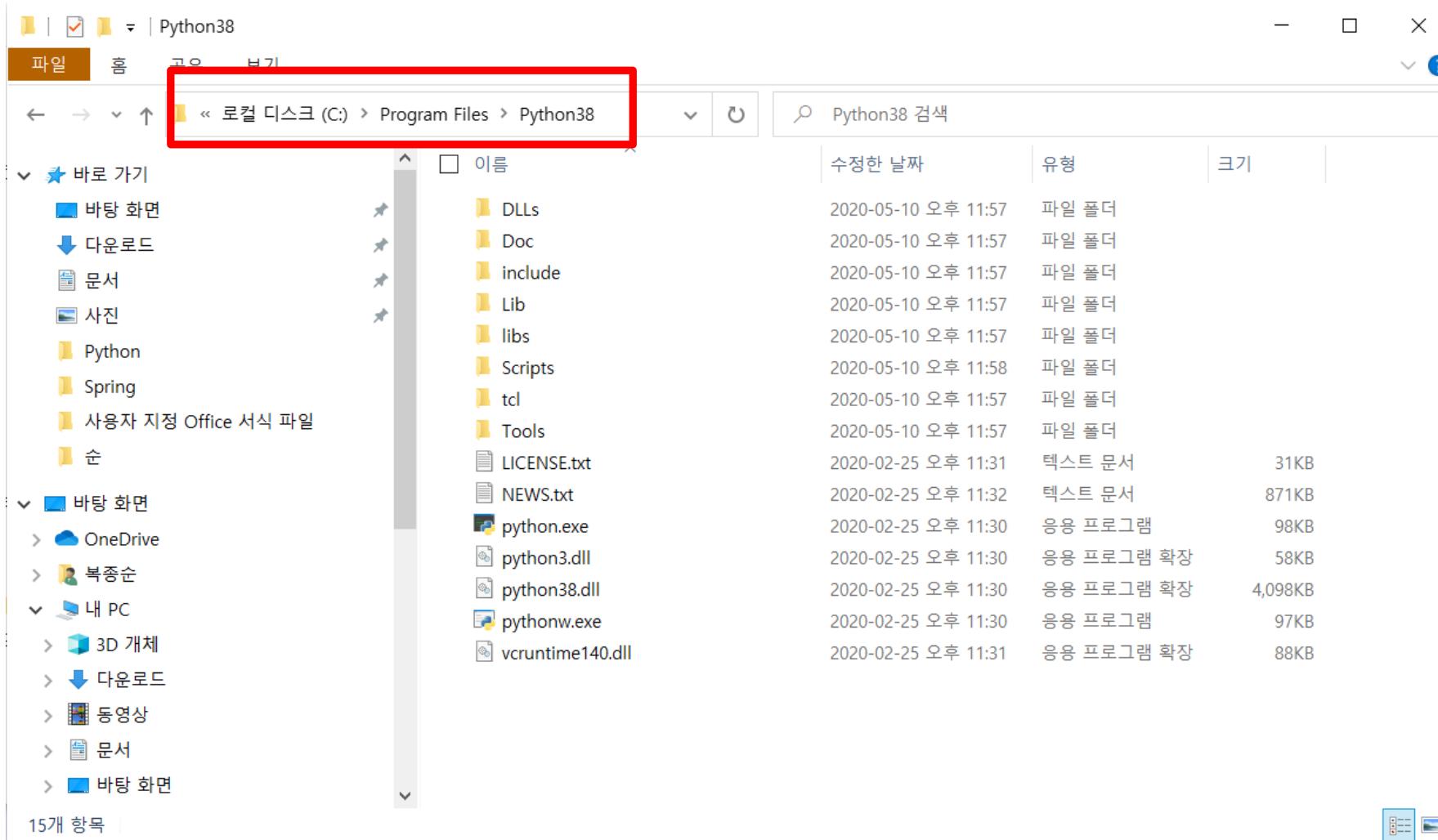


# Install Python Interpreter (Cont.)



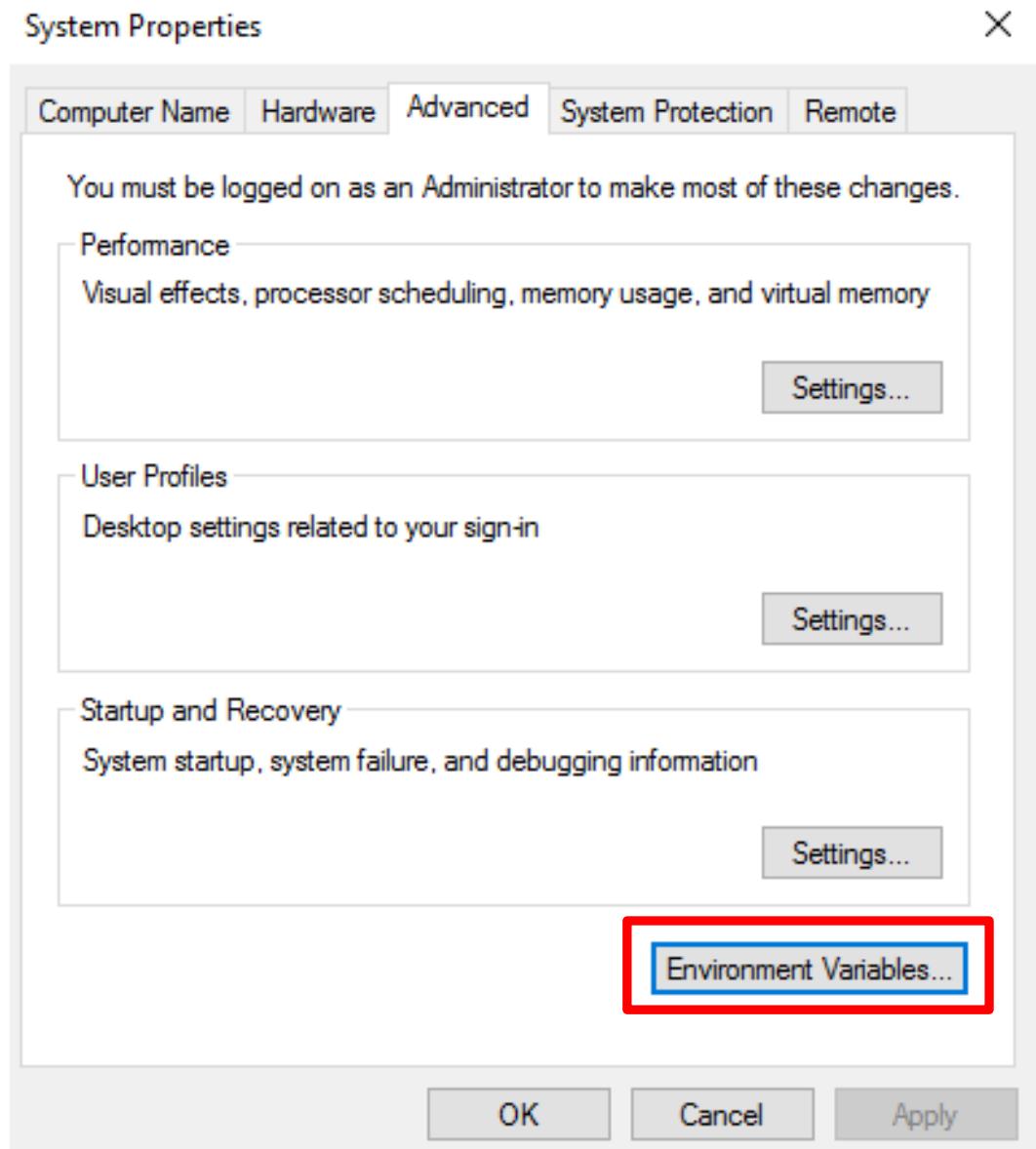
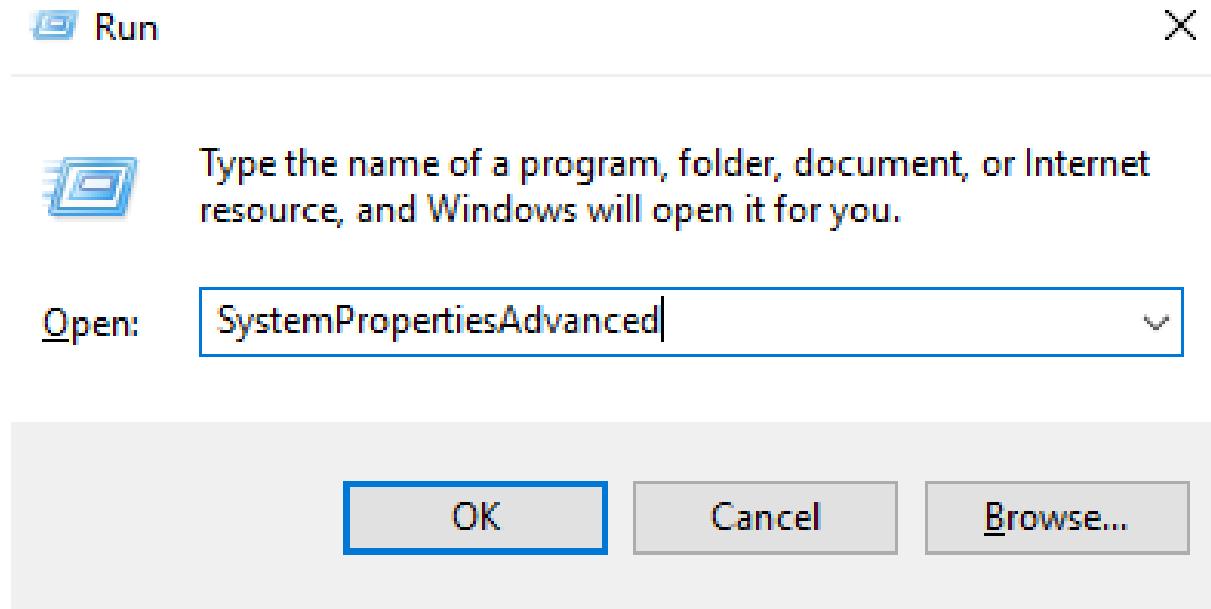
# Check Python Installation

## ■ Installation Folder



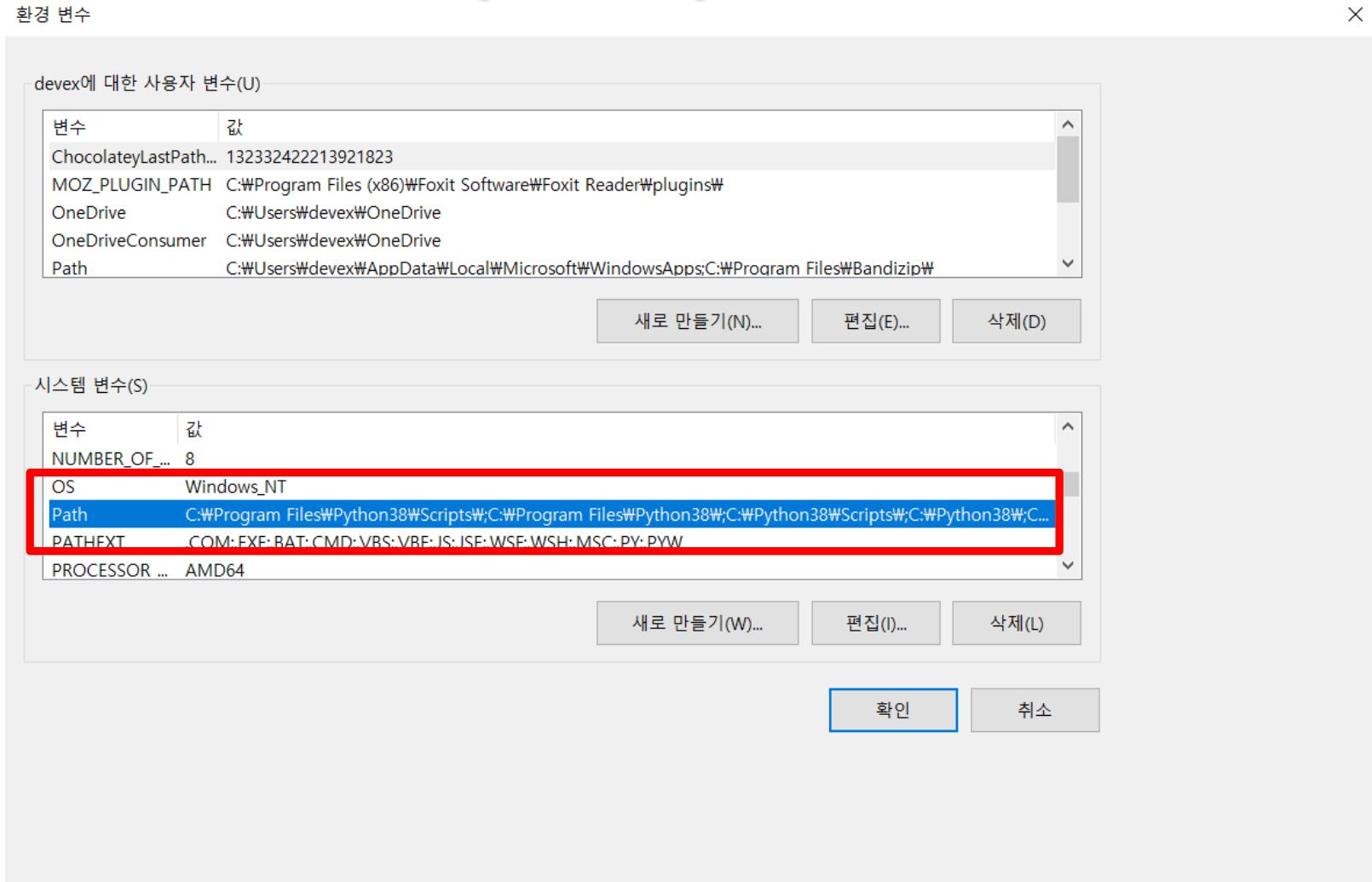
# Check Python Installation (Cont.)

## ■ Windows %PATH%



# Check Python Installation (Cont.)

## ■ Windows %PATH% (Cont.)



# Check Python Installation (Cont.)

## ■ Python Interpreter Version

```
C:\Users\devex>python -V  
Python 3.8.2
```

```
C:\Users\devex>python --version  
Python 3.8.2
```

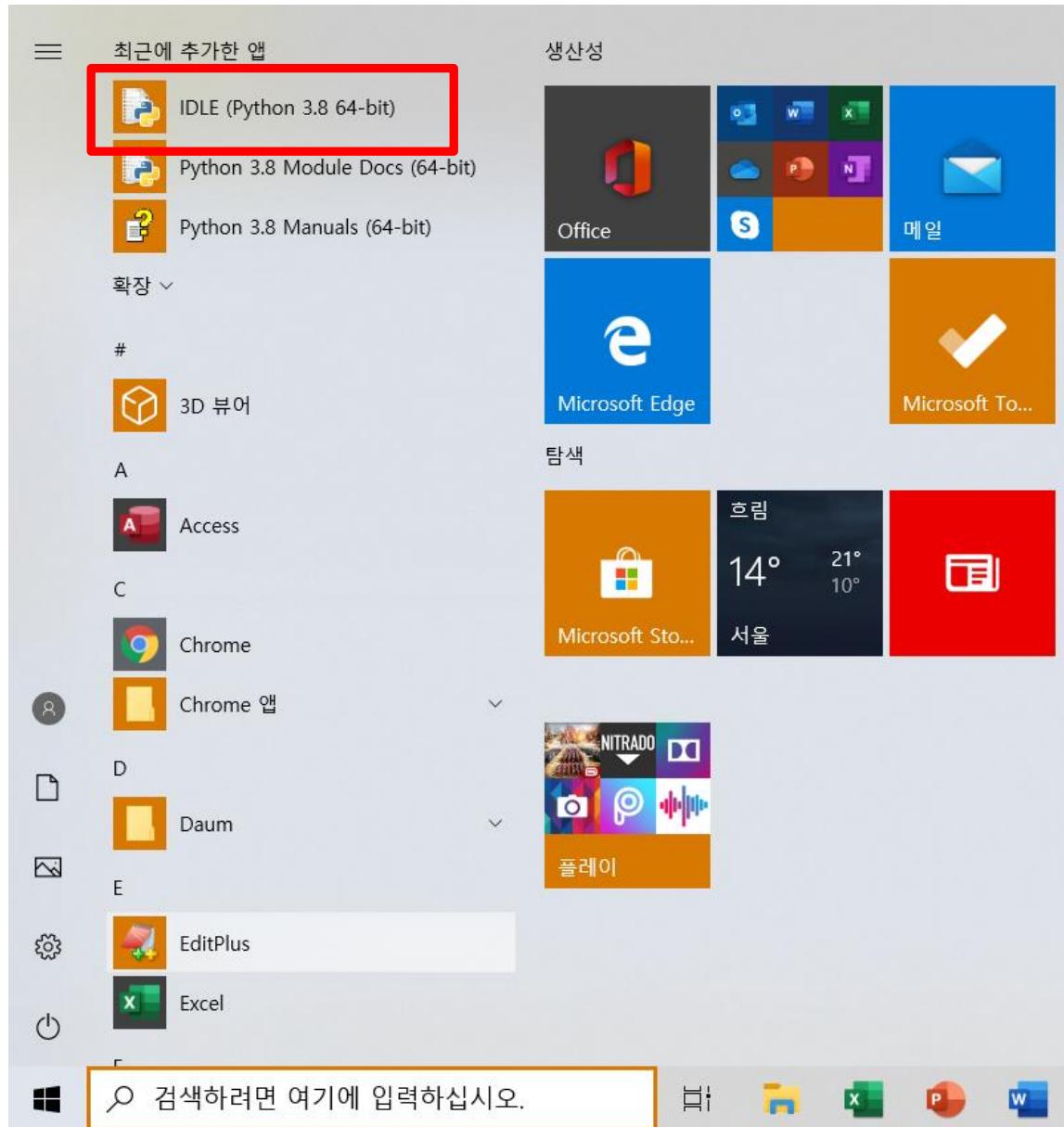
# Python Shell in Windows

- Type **python** in Command window.

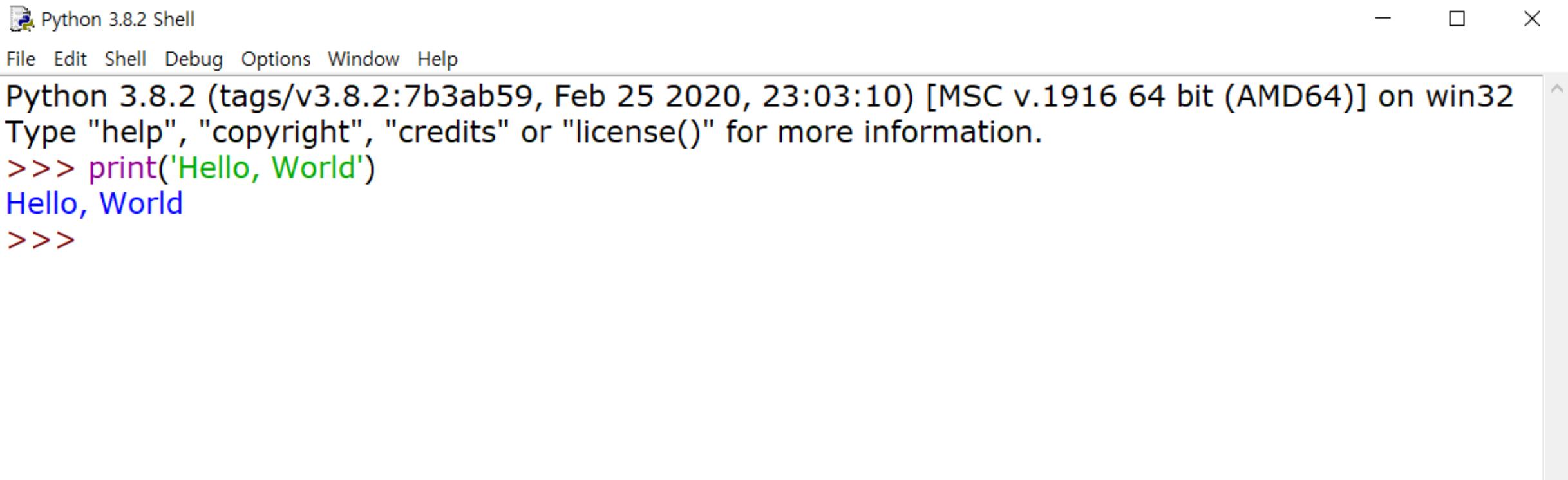
```
C:\Users\Wdevex>python
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print('Hello, World')
Hello, World
>>> quit()

C:\Users\Wdevex>
```

# IDLE in Windows



# IDLE in Windows (Cont.)



A screenshot of the Python 3.8.2 Shell window in Windows. The window title is "Python 3.8.2 Shell". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main text area displays the Python version information: "Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD64)] on win32". It also shows the prompt ">>>" followed by the command "print('Hello, World')", the output "Hello, World", and another ">>>".

```
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> print('Hello, World')
Hello, World
>>>
```

# Installation Python Interpreter on Ubuntu Platform



# First way – Source Compile

```
instructor@Ubuntu-00:~$ python -V
```

Command 'python' not found, but can be installed with:

```
sudo apt install python3  
sudo apt install python  
sudo apt install python-minimal
```

You also have python3 installed, you can run 'python3' instead.

```
instructor@Ubuntu-00:~$ █
```

# First way – Source Compile (Cont.)

1. Visit <https://www.python.org/downloads>



The screenshot shows the Python.org website's download section. At the top, there is a navigation bar with tabs for Python, PSF, Docs, PyPI, Jobs, and Community. Below the navigation bar is the Python logo. To the right of the logo are buttons for Donate, Search, and Go, along with a Socialize link. A main menu below the logo includes About, Downloads, Documentation, Community, Success Stories, News, and Events. A large yellow button labeled "Download Python 3.8.2" is prominently displayed. Below this button, text links to "Python for Windows", "Linux/UNIX", "Mac OS X", and "Other". A red box highlights the "Linux/UNIX" link. Further down, text links to "Prereleases" and "Docker images". At the bottom, there is a note about Python 2.7 releases. The background features a graphic of two wooden crates descending from the sky on yellow and white striped parachutes.

# First way – Source Compile (Cont.)

## 2. Click to Latest Python 3 Release – Python 3.8.2

The screenshot shows the Python.org homepage with a dark blue header. The Python logo is on the left, followed by the word "python" in white. To the right are buttons for "Donate", "Search" (with a magnifying glass icon), "GO", and "Socialize". Below the header is a navigation bar with links: "About", "Downloads", "Documentation", "Community", "Success Stories", "News", and "Events". A breadcrumb trail "Python >> Downloads >> Source code" is visible above a horizontal line. The main content area has a light gray background. A section titled "Python Source Releases" contains two items: "Latest Python 3 Release - Python 3.8.2" (which is highlighted with a red box) and "Latest Python 2 Release - Python 2.7.16". Below this are two columns: "Stable Releases" and "Pre-releases", each with a list of download links.

python

Donate Search GO Socialize

About Downloads Documentation Community Success Stories News Events

Python >> Downloads >> Source code

### Python Source Releases

- [Latest Python 3 Release - Python 3.8.2](#)
- [Latest Python 2 Release - Python 2.7.16](#)

#### Stable Releases

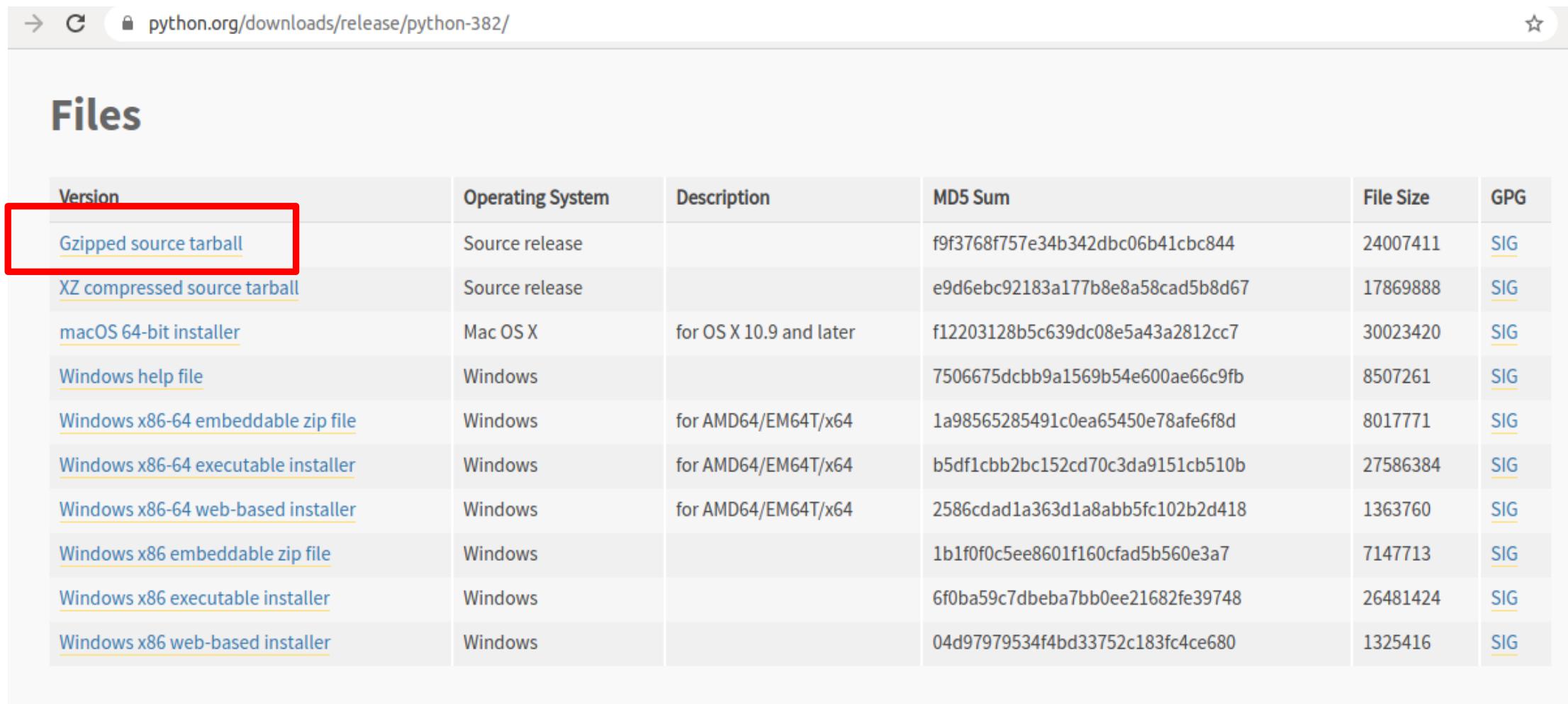
- [Python 3.8.3rc1 - April 29, 2020](#)
  - Download [Gzipped source tarball](#)
  - Download [XZ compressed source tarball](#)

#### Pre-releases

- [Python 3.9.0a6 - April 28, 2020](#)
  - Download [Gzipped source tarball](#)
  - Download [XZ compressed source tarball](#)

# First way – Source Compile (Cont.)

## 3. Click to Gzipped source tarball



The screenshot shows a web browser window with the URL [python.org/downloads/release/python-382/](https://python.org/downloads/release/python-382/). The page title is "Files". A table lists various Python 3.8.2 download options. The first row, "Gzipped source tarball", is highlighted with a red box around its link.

Version	Operating System	Description	MD5 Sum	File Size	GPG
<a href="#">Gzipped source tarball</a>	Source release		f9f3768f757e34b342dbc06b41cbc844	24007411	<a href="#">SIG</a>
<a href="#">XZ compressed source tarball</a>	Source release		e9d6ebc92183a177b8e8a58cad5b8d67	17869888	<a href="#">SIG</a>
<a href="#">macOS 64-bit installer</a>	Mac OS X	for OS X 10.9 and later	f12203128b5c639dc08e5a43a2812cc7	30023420	<a href="#">SIG</a>
<a href="#">Windows help file</a>	Windows		7506675dcbb9a1569b54e600ae66c9fb	8507261	<a href="#">SIG</a>
<a href="#">Windows x86-64 embeddable zip file</a>	Windows	for AMD64/EM64T/x64	1a98565285491c0ea65450e78afe6f8d	8017771	<a href="#">SIG</a>
<a href="#">Windows x86-64 executable installer</a>	Windows	for AMD64/EM64T/x64	b5df1cbb2bc152cd70c3da9151cb510b	27586384	<a href="#">SIG</a>
<a href="#">Windows x86-64 web-based installer</a>	Windows	for AMD64/EM64T/x64	2586cdad1a363d1a8abb5fc102b2d418	1363760	<a href="#">SIG</a>
<a href="#">Windows x86 embeddable zip file</a>	Windows		1b1f0f0c5ee8601f160cfad5b560e3a7	7147713	<a href="#">SIG</a>
<a href="#">Windows x86 executable installer</a>	Windows		6f0ba59c7dbeba7bb0ee21682fe39748	26481424	<a href="#">SIG</a>
<a href="#">Windows x86 web-based installer</a>	Windows		04d97979534f4bd33752c183fc4ce680	1325416	<a href="#">SIG</a>

## First way – Source Compile (Cont.)

```
instructor@Ubuntu-00:~/Downloads$ ls  
Python-3.8.2.tgz  
instructor@Ubuntu-00:~/Downloads$
```

### 4. Uncompress downloaded file.

```
instructor@Ubuntu-00:~/Downloads$ ls  
Python-3.8.2.tgz  
instructor@Ubuntu-00:~/Downloads$ tar xvfv Python-3.8.2.tgz █
```

# First way – Source Compile (Cont.)

```
instructor@Ubuntu-00:~/Downloads$ ls  
Python-3.8.2  Python-3.8.2.tgz  
instructor@Ubuntu-00:~/Downloads$
```

## 5. Change directory.

```
instructor@Ubuntu-00:~/Downloads$ cd Python-3.8.2/  
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ ls  
aclocal.m4          Doc        m4          Parser      README.rst  
CODE_OF_CONDUCT.md Grammar    Mac          PC          setup.py  
config.guess       Include    Makefile.pre.in PCbuild    Tools  
config.sub         install-sh Misc          Programs  
configure          Lib        Modules      pyconfig.h.in  
configure.ac       LICENSE    Objects      Python  
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ █
```

# First way – Source Compile (Cont.)

## 6. Type `./configure`

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ ./configure
```

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ ./configure
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for python3.8... no
checking for python3... python3
checking for --enable-universalsdk... no
checking for --with-universal-archs... no
checking MACHDEP... "linux"
checking for gcc... no
checking for cc... no
checking for cl.exe... no
configure: error: in `/home/instructor/Downloads/Python-3.8.2':
configure: error: no acceptable C compiler found in $PATH
See `config.log' for more details
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$
```

# First way – Source Compile (Cont.)

## 6. Install `gcc`

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ sudo apt install gcc
```

```
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  efibootmgr gir1.2-geocodeglib-1.0 libfwup1 libllvm8 ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  gcc-7 libasan4 libatomic1 libc-dev-bin libc6-dev libcilkrt5 libgcc-7-dev
  libitm1 liblsan0 libmpx2 libquadmath0 libtsan0 libubsan0 linux-libc-dev
  manpages-dev
Suggested packages:
  gcc-multilib make autoconf automake libtool flex bison gcc-doc
  gcc-7-multilib gcc-7-doc gcc-7-locales libgcc1-dbg libgomp1-dbg libitm1-dbg
  libatomic1-dbg libasan4-dbg liblsan0-dbg libtsan0-dbg libubsan0-dbg
  libcilkrt5-dbg libmpx2-dbg libquadmath0-dbg glibc-doc
The following NEW packages will be installed:
  gcc gcc-7 libasan4 libatomic1 libc-dev-bin libc6-dev libcilkrt5
  libgcc-7-dev libitm1 liblsan0 libmpx2 libquadmath0 libtsan0 libubsan0
  linux-libc-dev manpages-dev
0 upgraded, 16 newly installed, 0 to remove and 0 not upgraded.
Need to get 18.8 MB of archives.
After this operation, 75.0 MB of additional disk space will be used.
Do you want to continue? [Y/n] 
```

```
checking for openssl/ssl.h in /usr/ssl... no
checking for openssl/ssl.h in /usr/pkg... no
checking for openssl/ssl.h in /usr/local... no
checking for openssl/ssl.h in /usr... no
checking whether compiling and linking against OpenSSL works... no
checking for --with-ssl-default-suites... python
configure: creating ./config.status
config.status: creating Makefile.pre
config.status: creating Misc/python.pc
config.status: creating Misc/python-embed.pc
config.status: creating Misc/python-config.sh
config.status: creating Modules/ld_so_aix
config.status: creating pyconfig.h
creating Modules/Setup.local
creating Makefile

If you want a release build with all stable optimizations active (PGO, etc),
please run ./configure --enable-optimizations
```

# First way – Source Compile (Cont.)

## 7. Type **make**

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ make
```

Command 'make' not found, but can be installed with:

```
sudo apt install make  
sudo apt install make-guile
```

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ █
```

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ sudo apt install make  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  efibootmgr gir1.2-geocodeglib-1.0 libfwup1 libllvm8 ubuntu-web-launchers  
Use 'sudo apt autoremove' to remove them.  
Suggested packages:  
  make-doc  
The following NEW packages will be installed:  
  make  
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.  
Need to get 154 kB of archives.  
After this operation, 381 kB of additional disk space will be used.  
Get:1 http://ftp.harukasan.org/ubuntu bionic/main amd64 make amd64 4.1-9.1ubuntu  
1 [154 kB]
```

# First way – Source Compile (Cont.)

## 7. Type **make**

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ make
```

```
copying and adjusting /home/instructor/Downloads/Python-3.8.2/Tools/scripts/idle
3 -> build/scripts-3.8
copying and adjusting /home/instructor/Downloads/Python-3.8.2/Tools/scripts/2to3
-> build/scripts-3.8
changing mode of build/scripts-3.8/pydoc3 from 644 to 755
changing mode of build/scripts-3.8/idle3 from 644 to 755
changing mode of build/scripts-3.8/2to3 from 644 to 755
renaming build/scripts-3.8/pydoc3 to build/scripts-3.8/pydoc3.8
renaming build/scripts-3.8/idle3 to build/scripts-3.8/idle3.8
renaming build/scripts-3.8/2to3 to build/scripts-3.8/2to3-3.8
/usr/bin/install -c -m 644 ./Tools/gdb/libpython.py python-gdb.py
gcc -pthread -c -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall
    -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-
initializers -Werror=implicit-function-declaration -I./Include/internal -I. -I
./Include -DPy_BUILD_CORE -o Programs/_testembed.o ./Programs/_testembed.c
gcc -pthread -Xlinker -export-dynamic -o Programs/_testembed Programs/_teste
mbed.o libpython3.8.a -lcrypt -lpthread -ldl -lutil -lm -lm
sed -e "s,@EXENAME@,/usr/local/bin/python3.8," < ./Misc/python-config.in >python
-config.py
LC_ALL=C sed -e 's,\$(\([A-Za-z0-9_]*\)),\$\'{\}\1\},g' < Misc/python-config.sh >py
thon-config
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$
```

# First way – Source Compile (Cont.)

## 8. Type `sudo make install`

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ sudo make install
```

```
      File "/home/instructor/Downloads/Python-3.8.2/Lib/runpy.py", line 86, in _run_code
        exec(code, run_globals)
      File "/home/instructor/Downloads/Python-3.8.2/Lib/ensurepip/__main__.py", line 5, in <module>
        sys.exit(ensurepip._main())
      File "/home/instructor/Downloads/Python-3.8.2/Lib/ensurepip/_init_.py", line 200, in _main
        return _bootstrap()
      File "/home/instructor/Downloads/Python-3.8.2/Lib/ensurepip/_init_.py", line 119, in _bootstrap
        return _run_pip(args + [p[0] for p in _PROJECTS], additional_paths)
      File "/home/instructor/Downloads/Python-3.8.2/Lib/ensurepip/_init_.py", line 27, in _run_pip
        import pip._internal
      File "<frozen zipimport>", line 241, in load_module
      File "<frozen zipimport>", line 709, in _get_module_code
      File "<frozen zipimport>", line 570, in _get_data
zipimport.ZipImportError: can't decompress data; zlib not available
Makefile:1186: recipe for target 'install' failed
make: *** [install] Error 1
```

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$
```

# First way – Source Compile (Cont.)

## 8. Type **sudo apt install zlib1g-dev**

```
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ sudo apt install zlib1g-dev
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  efibootmgr gir1.2-geocodeglib-1.0 libfwup1 libllvm8 ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  zlib1g-dev
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 176 kB of archives.
After this operation, 457 kB of additional disk space will be used.
Get:1 http://ftp.harukasan.org/ubuntu bionic/main amd64 zlib1g-dev amd64 1:1.2.1
1.dfsg-0ubuntu2 [176 kB]
Fetched 176 kB in 1s (299 kB/s)
Selecting previously unselected package zlib1g-dev:amd64.
(Reading database ... 178014 files and directories currently installed.)
Preparing to unpack .../zlib1g-dev_1%3a1.2.11.dfsg-0ubuntu2_amd64.deb ...
Unpacking zlib1g-dev:amd64 (1:1.2.11.dfsg-0ubuntu2) ...
Setting up zlib1g-dev:amd64 (1:1.2.11.dfsg-0ubuntu2) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$ █
```

# First way – Source Compile (Cont.)

## 8. Type **sudo make install**

```
esac; \
./python -E -m ensurepip \
$ensurepip --root=/ ; \
fi
/tmp/tmp2_ct6ruo/pip-19.2.3-py2.py3-none-any.whl/pip/_vendor/ipaddress.py:1106:
SyntaxWarning: 'str' object is not callable; perhaps you missed a comma?
/tmp/tmp2_ct6ruo/pip-19.2.3-py2.py3-none-any.whl/pip/_vendor/ipaddress.py:1106:
SyntaxWarning: 'str' object is not callable; perhaps you missed a comma?
WARNING: The directory '/home/instructor/.cache/pip/http' or its parent directory
is not owned by the current user and the cache has been disabled. Please check
the permissions and owner of that directory. If executing pip with sudo, you may
want sudo's -H flag.
WARNING: The directory '/home/instructor/.cache/pip' or its parent directory is
not owned by the current user and caching wheels has been disabled. Check the
permissions and owner of that directory. If executing pip with sudo, you may want
sudo's -H flag.
Looking in links: /tmp/tmp2_ct6ruo
Collecting setuptools
Collecting pip
Installing collected packages: setuptools, pip
Successfully installed pip-19.2.3 setuptools-41.2.0
instructor@Ubuntu-00:~/Downloads/Python-3.8.2$
```

# First way – Source Compile (Cont.)

```
instructor@Ubuntu: ~/Downloads/Python-3.6.2
fi
rm -f /usr/local/share/man/man1/python3.1
(cd /usr/local/share/man/man1; ln -s python3.6.1 python3.1)
if test "xupgrade" != "xno" ; then \
    case upgrade in \
        upgrade) ensurepip="--upgrade" ;; \
        install|*) ensurepip="" ;; \
    esac; \
    ./python -E -m ensurepip \
        $ensurepip --root=/ ; \
fi
The directory '/home/instructor/.cache/pip/http' or its parent directory is not
owned by the current user and the cache has been disabled. Please check the perm
issions and owner of that directory. If executing pip with sudo, you may want su
do's -H flag.
The directory '/home/instructor/.cache/pip' or its parent directory is not owned
by the current user and caching wheels has been disabled. check the permissions
and owner of that directory. If executing pip with sudo, you may want sudo's -H
flag.
Collecting setuptools
Collecting pip
Installing collected packages: setuptools, pip
Successfully installed pip-9.0.1 setuptools-28.8.0
```

# First way – Source Compile (Cont.)

```
instructor@Ubuntu-00:~$ python --version
```

Command 'python' not found, but can be installed with:

```
sudo apt install python3
```

```
sudo apt install python
```

```
sudo apt install python-minimal
```

You also have python3 installed, you can run 'python3' instead.

```
instructor@Ubuntu-00:~$ python3 --version
```

```
Python 3.8.2
```

```
instructor@Ubuntu-00:~$ python3 -V
```

```
Python 3.8.2
```

# First way – Source Compile (Cont.)

```
instructor@Ubuntu-00:~$ python3
Python 3.8.2 (default, May 11 2020, 09:17:13)
[GCC 7.5.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> print('Hello, World');
Hello, World
>>> quit()
instructor@Ubuntu-00:~$
```

## Second way – Using apt install

1. Type `sudo apt update`

```
instructor@ubuntu-00:~$ sudo apt update  
[sudo] password for instructor:
```

## Second way – Using apt install

2. Type **sudo add-apt-repository  
ppa:deadsnakes/ppa**

```
instructor@Ubuntu-00:~$ sudo add-apt-repository ppa:deadsnakes/ppa
```

# Second way – Using apt install

## 3. Type **sudo apt update**

```
instructor@Ubuntu-00:~$ sudo apt update
Hit:1 http://ftp.harukasan.org/ubuntu bionic InRelease
Hit:2 http://ftp.harukasan.org/ubuntu bionic-updates InRelease
Ign:3 http://dl.google.com/linux/chrome/deb stable InRelease
Hit:4 http://ftp.harukasan.org/ubuntu bionic-backports InRelease
Hit:5 http://ftp.harukasan.org/ubuntu bionic-security InRelease
Hit:6 http://dl.google.com/linux/chrome/deb stable Release
Hit:8 http://ppa.launchpad.net/deadsnakes/ppa/ubuntu bionic InRelease
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
instructor@Ubuntu-00:~$ █
```

# Second way – Using apt install

## 4. Type `sudo apt-get install python3.8`

```
instructor@Ubuntu-00:~$ sudo apt install python3.8
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  efibootmgr gir1.2-geocodeglib-1.0 libfwup1 libllvm8 ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libpython3.8-minimal libpython3.8-stdlib python3.8-minimal
Suggested packages:
  python3.8-venv python3.8-doc binfmt-support
The following NEW packages will be installed:
  libpython3.8-minimal libpython3.8-stdlib python3.8 python3.8-minimal
0 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 4,740 kB of archives.
After this operation, 18.6 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

## Second way – Using apt install

```
Preparing to unpack .../libpython3.8-minimal_3.8.2-1+bionic1_amd64.deb ...
Unpacking libpython3.8-minimal:amd64 (3.8.2-1+bionic1) ...
Selecting previously unselected package python3.8-minimal.
Preparing to unpack .../python3.8-minimal_3.8.2-1+bionic1_amd64.deb ...
Unpacking python3.8-minimal (3.8.2-1+bionic1) ...
Selecting previously unselected package libpython3.8-stdlib:amd64.
Preparing to unpack .../libpython3.8-stdlib_3.8.2-1+bionic1_amd64.deb ...
Unpacking libpython3.8-stdlib:amd64 (3.8.2-1+bionic1) ...
Selecting previously unselected package python3.8.
Preparing to unpack .../python3.8_3.8.2-1+bionic1_amd64.deb ...
Unpacking python3.8 (3.8.2-1+bionic1) ...
Setting up libpython3.8-minimal:amd64 (3.8.2-1+bionic1) ...
Setting up python3.8-minimal (3.8.2-1+bionic1) ...
Setting up libpython3.8-stdlib:amd64 (3.8.2-1+bionic1) ...
Setting up python3.8 (3.8.2-1+bionic1) ...
Processing triggers for gnome-menus (3.13.3-11ubuntu1.1) ...
Processing triggers for mime-support (3.60ubuntu1) ...
Processing triggers for desktop-file-utils (0.23-1ubuntu3.18.04.2) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
instructor@Ubuntu-00:~$
```

## Second way – Using apt install

### 5. Version check

```
instructor@Ubuntu-00:~$ python3 -V  
Python 3.6.9  
instructor@Ubuntu-00:~$ python3.8 -V  
Python 3.8.2
```

## Second way – Using apt install

```
instructor@Ubuntu-00:~$ python3.8
Python 3.8.2 (default, Feb 26 2020, 02:56:10)
[GCC 7.4.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> print('Hello, World')
Hello, World
>>> quit();
instructor@Ubuntu-00:~$
```

# Second way – Using apt install

## 6. Type **apt-cache search python3.8**

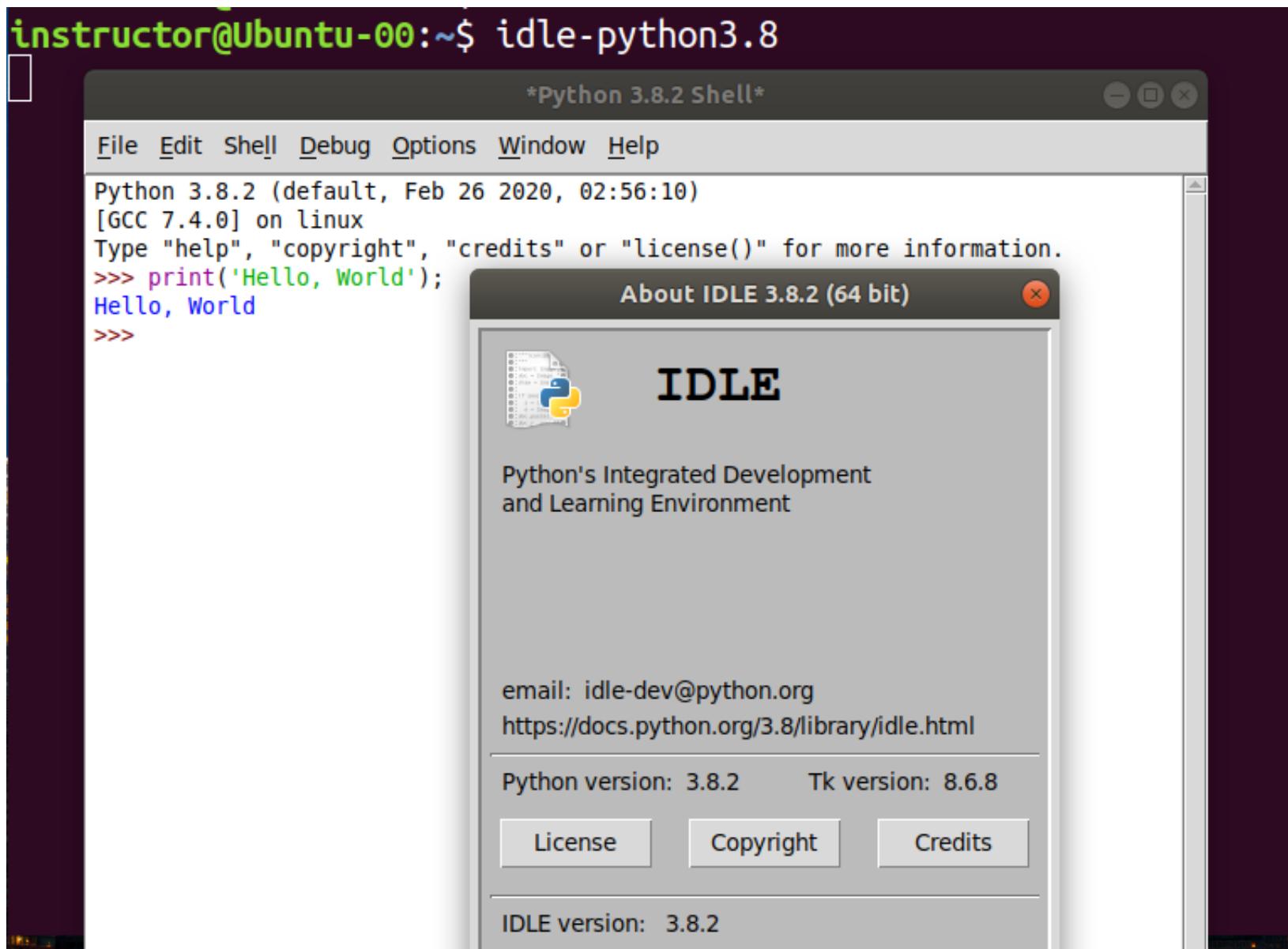
```
instructor@Ubuntu-00:~$ apt-cache search python3.8
python3-distutils - distutils package for Python 3.x
python3-gdbm - GNU dbm database support for Python 3.x
python3-lib2to3 - Interactive high-level object-oriented language (2to3, version
  3.6)
python3-tk - Tkinter - Writing Tk applications with Python 3.x
idle-python3.8 - IDE for Python (v3.8) using Tkinter
libpython3.8 - Shared Python runtime library (version 3.8)
libpython3.8-dbg - Debug Build of the Python Interpreter (version 3.8)
libpython3.8-dev - Header files and a static library for Python (v3.8)
libpython3.8-minimal - Minimal subset of the Python language (version 3.8)
libpython3.8-stdlib - Interactive high-level object-oriented language (standard
library, version 3.8)
libpython3.8-testsuite - Testsuite for the Python standard library (v3.8)
python3.8 - Interactive high-level object-oriented language (version 3.8)
python3.8-dev - Header files and a static library for Python (v3.8)
python3.8-examples - Examples for the Python language (v3.8)
```

# Second way – Using apt install

## 7. Type **sudo apt install idle-python3.8**

```
instructor@Ubuntu-00:~$ sudo apt install idle-python3.8
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  efibootmgr gir1.2-geocodeglib-1.0 libfwup1 libllvm8 ubuntu-web-launchers
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  blt fonts-mathjax libjs-mathjax libtcl8.6 libtk8.6 python3-tk tk8.6-blt2.5
Suggested packages:
  blt-demo fonts-mathjax-extras fonts-stix libjs-mathjax-doc tcl8.6 tk8.6 tix
  python3-tk-dbg
The following NEW packages will be installed:
  blt fonts-mathjax idle-python3.8 libjs-mathjax libtcl8.6 libtk8.6 python3-tk
  tk8.6-blt2.5
0 upgraded, 8 newly installed, 0 to remove and 0 not upgraded.
Need to get 10.5 MB of archives.
After this operation, 58.0 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

# Second way – Using apt install



# Installation Python Interpreter on Mac OS X Platform



Refer to <https://www.digitalocean.com/community/tutorials/how-to-install-python-3-and-set-up-a-local-programming-environment-on-macos>

# Install Python Interpreter – First Way

## 1. Visit <https://www.python.org>

The screenshot shows the Python Software Foundation's website at https://www.python.org. The page features a dark blue header with the Python logo and navigation links for Python, PSF, Docs, PyPI, Jobs, and Community. Below the header is a search bar with a magnifying glass icon and a 'GO' button. A 'Socialize' button is also present. The main content area has a dark blue background. On the left, there is a code editor window displaying Python code to generate a Fibonacci series up to n=1000. On the right, there is a section titled 'Functions Defined' with text about defining functions in Python 3, followed by a set of numbered buttons (1, 2, 3, 4, 5). At the bottom, a quote defines Python as a language for quick work and system integration.

```
# Python 3: Fibonacci series up to n
>>> def fib(n):
>>>     a, b = 0, 1
>>>     while a < n:
>>>         print(a, end=' ')
>>>         a, b = b, a+b
>>>     print()
>>> fib(1000)
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610
987
```

**Functions Defined**

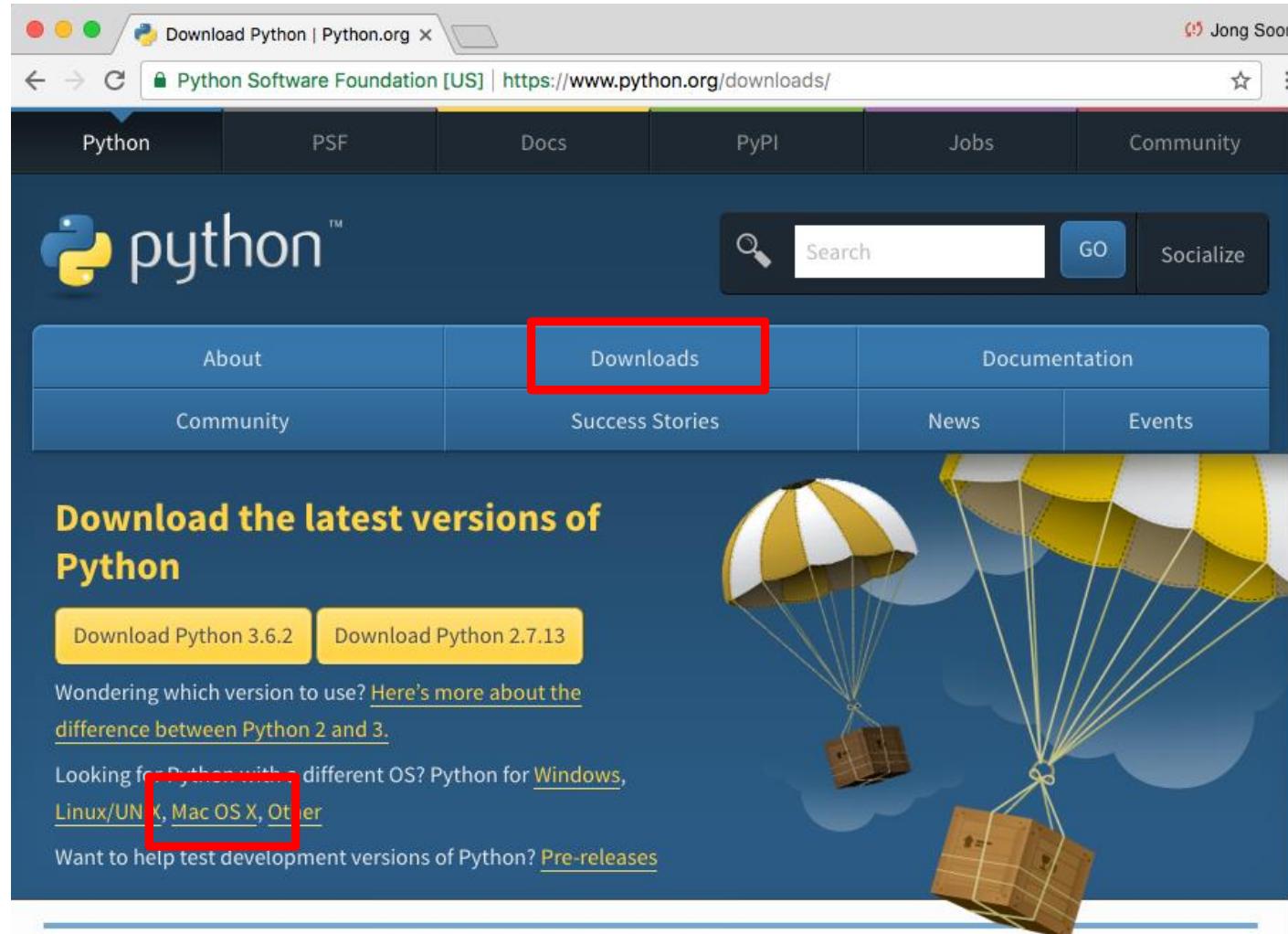
The core of extensible programming is defining functions. Python allows mandatory and optional arguments, keyword arguments, and even arbitrary argument lists. [More about defining functions in Python 3](#)

1 2 3 4 5

Python is a programming language that lets you work quickly and integrate systems more effectively. [» Learn More](#)

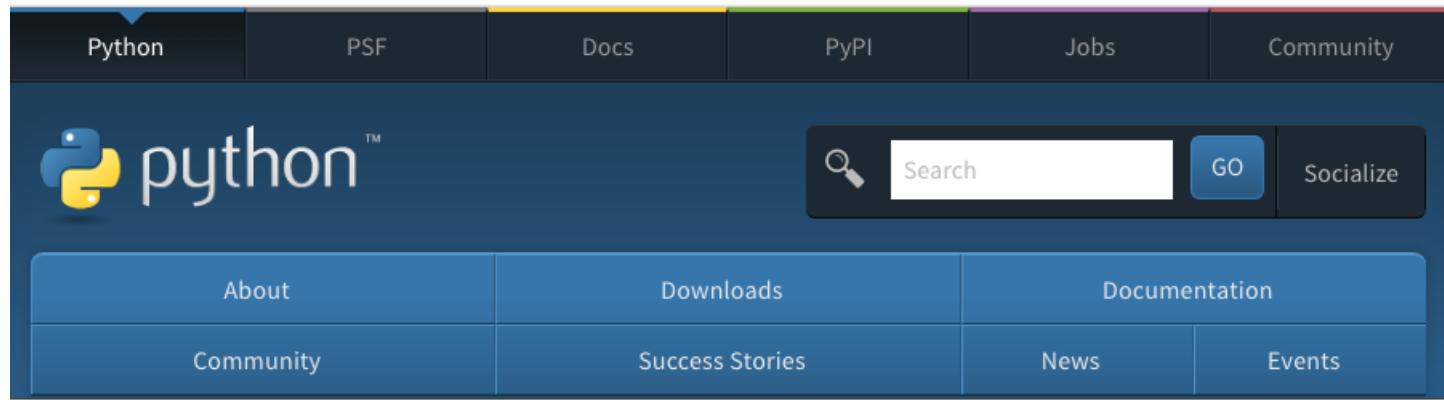
# Install Python Interpreter – First Way (Cont.)

2. Click **Downloads > Mac OS X** link like below.



# Install Python Interpreter – First Way (Cont.)

3. Click **Latest Python 3 Release** link like below.

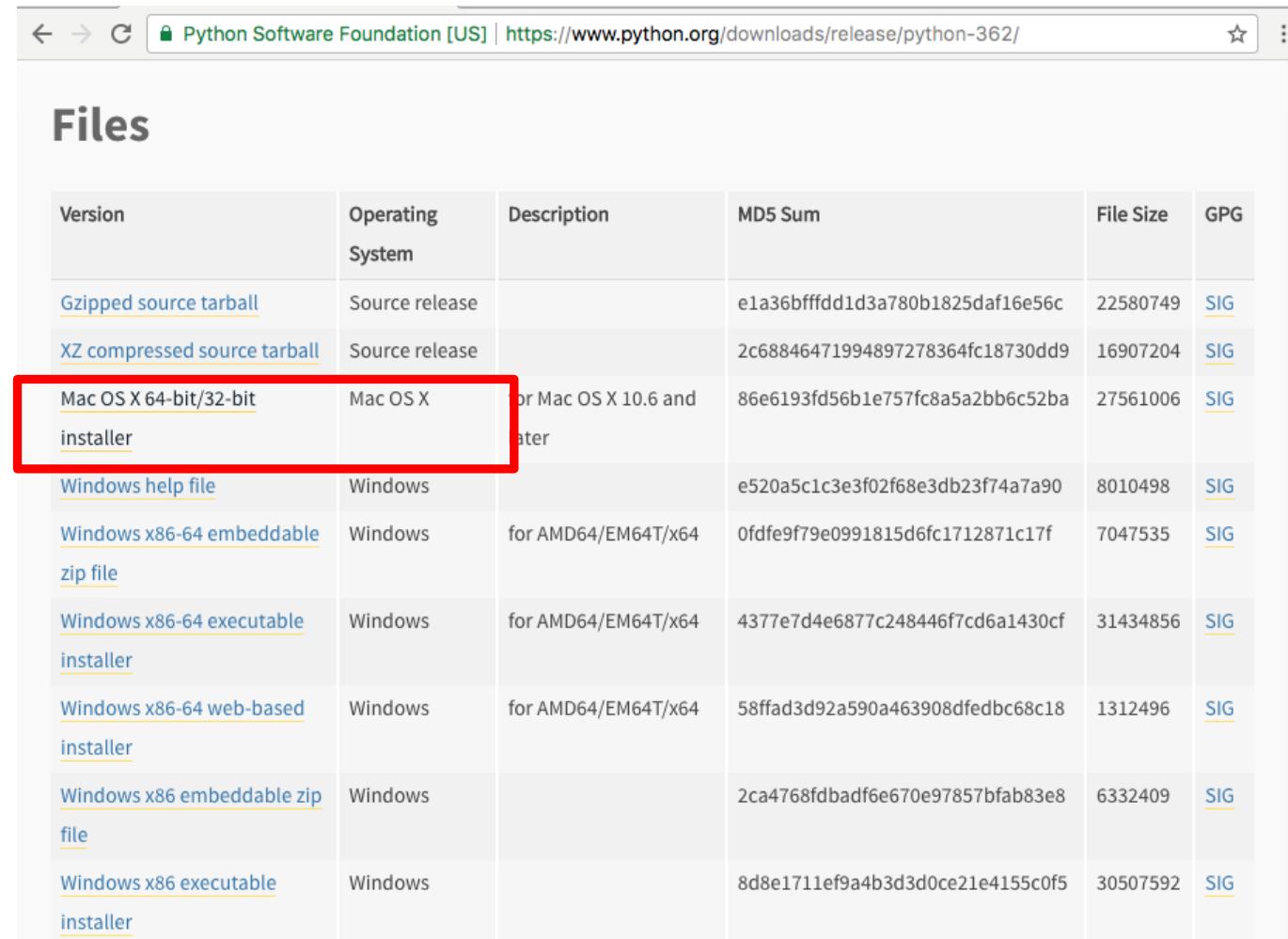


## Python Releases for Mac OS X

- [Latest Python 3 Release - Python 3.6.2](#)
- [Latest Python 2 Release - Python 2.7.13](#)
- [Python 2.7.14rc1 - 2017-08-27](#)
  - Download [Mac OS X 64-bit/32-bit installer](#)
  - Download [Mac OS X 32-bit i386/PPC installer](#)
- [Python 3.5.4 - 2017-08-08](#)
  - Download [Mac OS X 64-bit/32-bit installer](#)

# Install Python Interpreter – First Way (Cont.)

4. Click **Mac OS X 64-bit/32-bit installer** link.



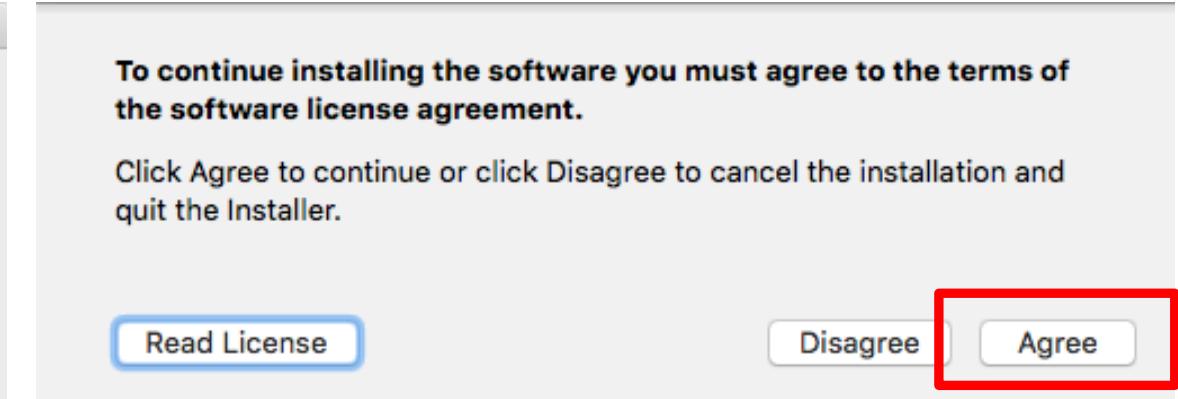
The screenshot shows a table of download links for Python 3.6.2. The 'Mac OS X 64-bit/32-bit installer' link is highlighted with a red box.

Version	Operating System	Description	MD5 Sum	File Size	GPG
<a href="#">Gzipped source tarball</a>	Source release		e1a36bfffdd1d3a780b1825daf16e56c	22580749	<a href="#">SIG</a>
<a href="#">XZ compressed source tarball</a>	Source release		2c68846471994897278364fc18730dd9	16907204	<a href="#">SIG</a>
<a href="#">Mac OS X 64-bit/32-bit installer</a>	Mac OS X	for Mac OS X 10.6 and later	86e6193fd56b1e757fc8a5a2bb6c52ba	27561006	<a href="#">SIG</a>
<a href="#">Windows help file</a>	Windows		e520a5c1c3e3f02f68e3db23f74a7a90	8010498	<a href="#">SIG</a>
<a href="#">Windows x86-64 embeddable zip file</a>	Windows	for AMD64/EM64T/x64	0fdfef9f79e0991815d6fc1712871c17f	7047535	<a href="#">SIG</a>
<a href="#">Windows x86-64 executable installer</a>	Windows	for AMD64/EM64T/x64	4377e7d4e6877c248446f7cd6a1430cf	31434856	<a href="#">SIG</a>
<a href="#">Windows x86-64 web-based installer</a>	Windows	for AMD64/EM64T/x64	58ffad3d92a590a463908dfedbc68c18	1312496	<a href="#">SIG</a>
<a href="#">Windows x86 embeddable zip file</a>	Windows		2ca4768fdbadf6e670e97857bfab83e8	6332409	<a href="#">SIG</a>
<a href="#">Windows x86 executable installer</a>	Windows		8d8e1711ef9a4b3d3d0ce21e4155c0f5	30507592	<a href="#">SIG</a>

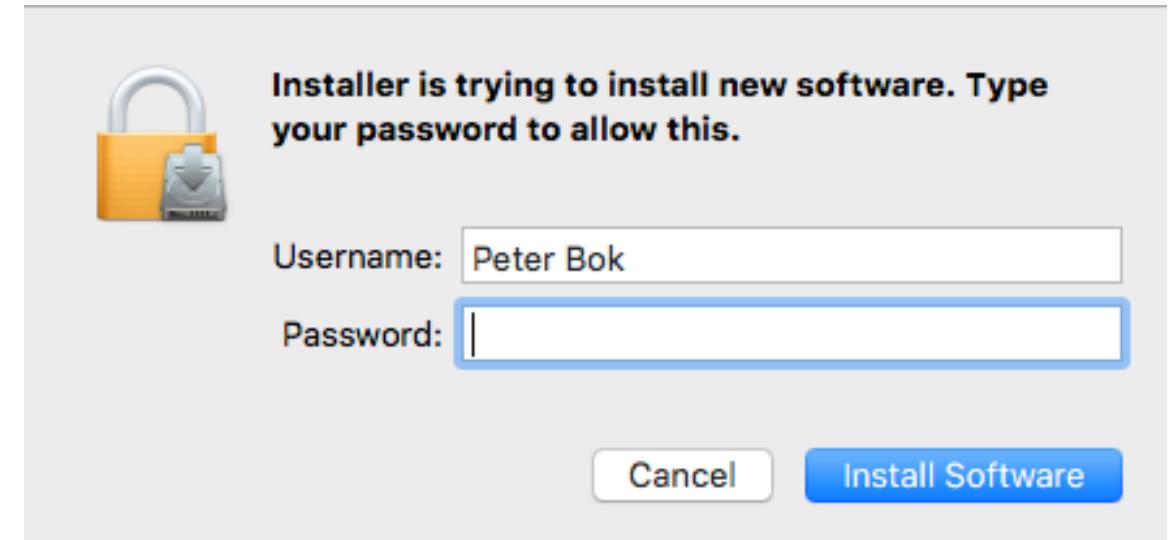
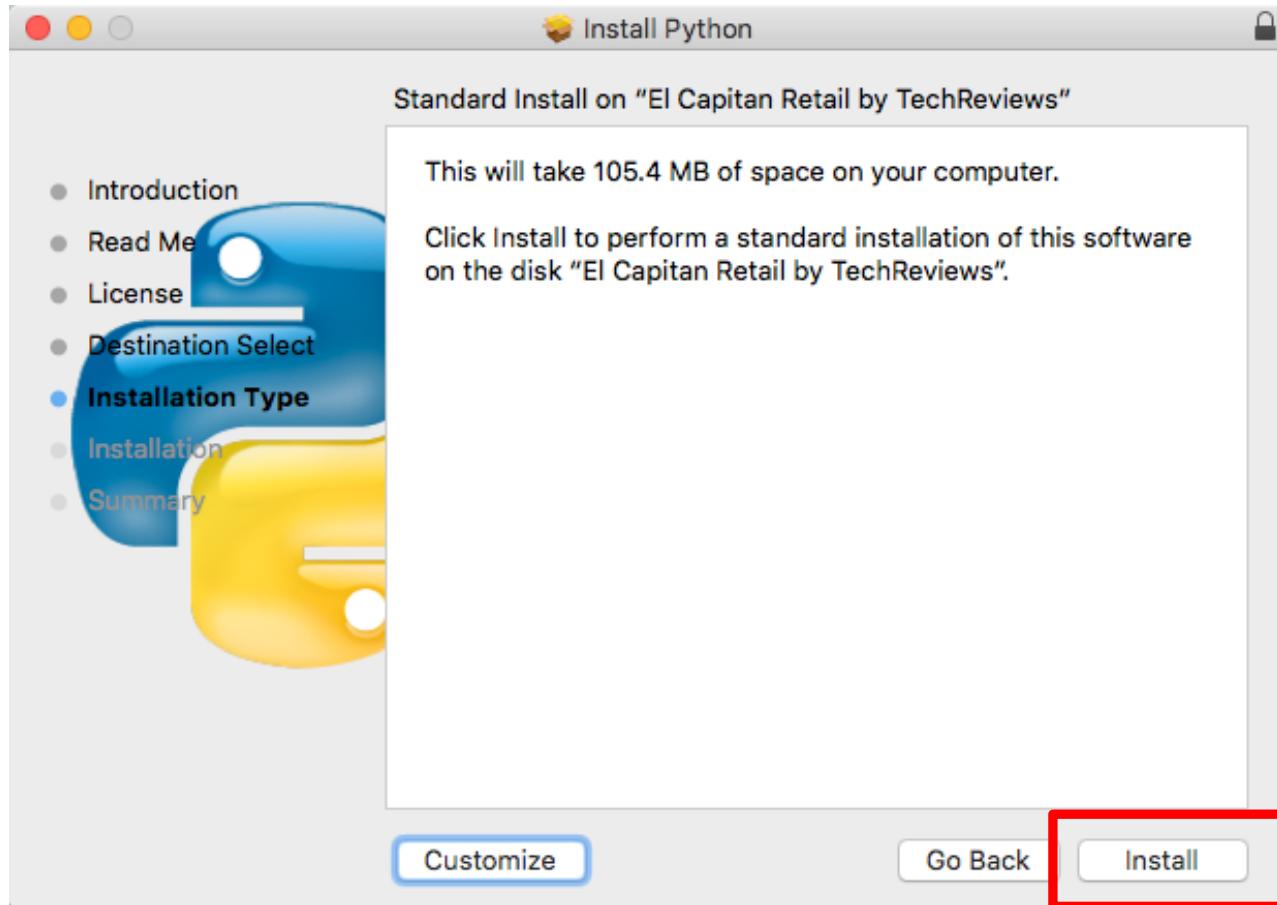
# Install Python Interpreter – First Way (Cont.)



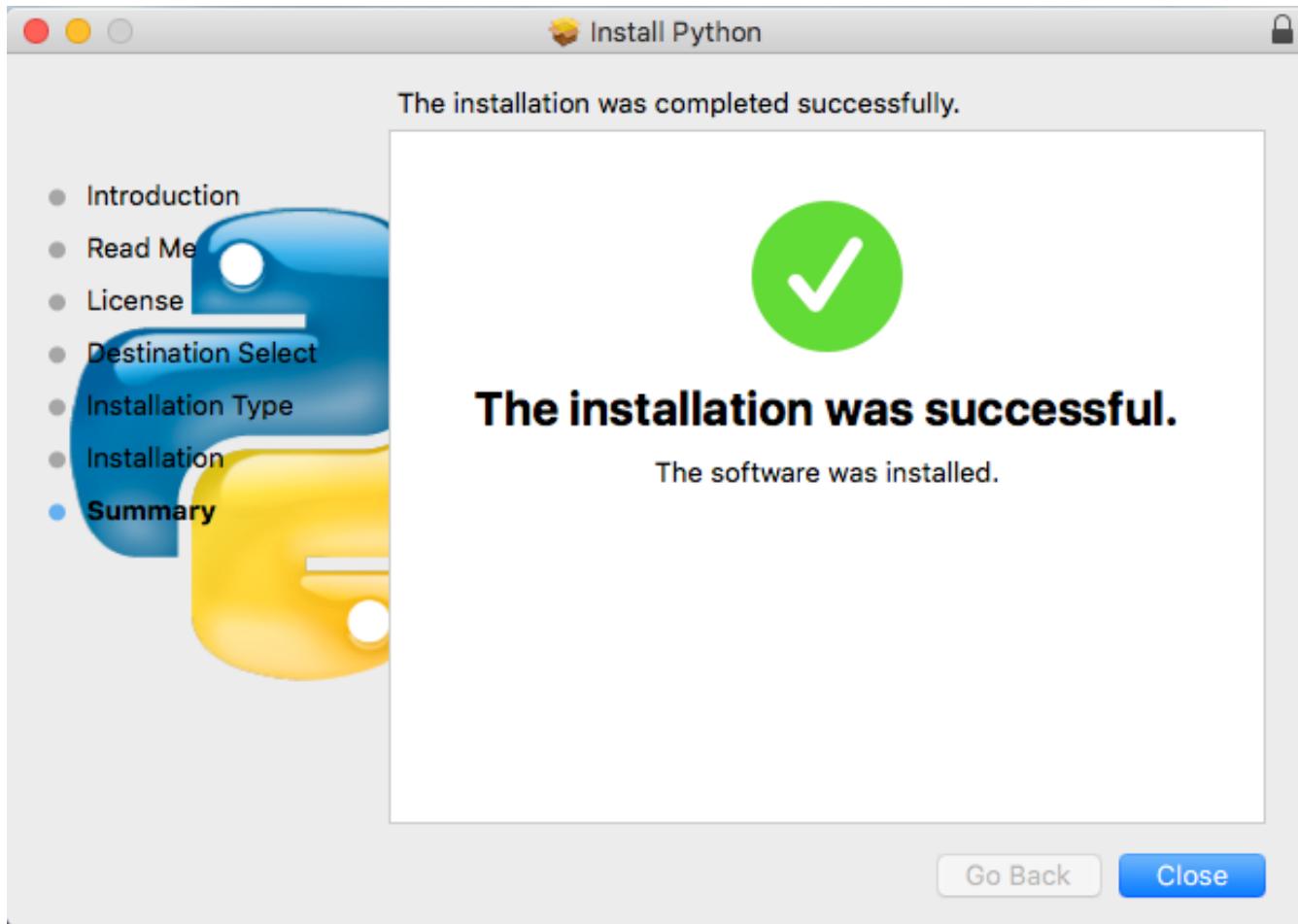
# Install Python Interpreter – First Way (Cont.)



# Install Python Interpreter – First Way (Cont.)



# Install Python Interpreter – First Way (Cont.)



# Install Python IDLE

1. Visit <https://www.python.org/download/mac/tcltk>

The screenshot shows a web browser window with the following details:

- Title Bar:** IDLE and tkinter with Tcl/Tk on macOS
- Address Bar:** Python Software Foundation [US] | https://www.python.org/download/mac/tcltk/
- Header:** Jong Soon
- Navigation:** Community, Success Stories, News, Events
- Left Sidebar (Tweets by @ThePSF):**
  - Python Software Foundation (@ThePSF) tweet about diversity in the Python community.
  - Python Software Foundation (@ThePSF) tweet about a Python event calendar.
- Main Content Area:**

## IDLE and tkinter with Tcl/Tk on macOS

**Important:**

If you are using Python from a python.org 64-bit/32-bit Python installer for Mac OS X 10.6 and later, you should only use IDLE or tkinter with an updated third-party Tcl/Tk 8.5 (not 8.6), like ActiveTcl 8.5 installed.

If you are using Mac OS X 10.6, do not use IDLE or Tkinter from the Apple-supplied Python 2.6.1 in Mac OS X 10.6. If possible, install and use a newer version of Python and of Tcl/Tk.

If you are using Mac OS X 10.7 or later, the Apple-supplied Tcl/Tk 8.5 still has serious bugs that can cause application crashes. If you wish to use IDLE or Tkinter, install and use a newer version of Python and of Tcl/Tk.

Python's integrated development environment, IDLE, and the tkinter GUI toolkit it uses, depend on the Tk GUI toolkit which is not part of Python itself. For best results, it is important that the proper re-

# Install Python IDLE (Cont.)

2. Click **ActiveTcl 8.5.18.0** link like below.

Python Release	Installer Variant	macOS Release	Recommended Tcl/Tk	Alternate Tcl/Tk	Not Recommended
<a href="#">3.6.2, 3.5.3, 2.7.13</a>	64-/32-bit	10.12	<a href="#">ActiveTcl 8.5.18.0</a>	<a href="#">Apple 8.5.9</a>	
		10.11	<a href="#">ActiveTcl 8.5.18.0</a>	<a href="#">Apple 8.5.9</a>	
		10.10	<a href="#">ActiveTcl 8.5.18.0</a>	<a href="#">Apple 8.5.9</a>	
		10.9	<a href="#">ActiveTcl 8.5.18.0</a>	<a href="#">Apple 8.5.9</a>	
		10.8	<a href="#">ActiveTcl 8.5.18.0</a>	<a href="#">Apple 8.5.9</a>	
		10.7	<a href="#">ActiveTcl 8.5.18.0</a>	<a href="#">Apple 8.5.9</a>	
		10.6	<a href="#">ActiveTcl 8.5.18.0</a>		<a href="#">Apple 8.5.7</a>
<a href="#">3.5.3, 2.7.13</a>	32-bit-only	10.5	<a href="#">ActiveTcl 8.4.20</a>	<a href="#">Apple 8.4.7</a>	

# Install Python IDLE (Cont.)

3. Click **the ActiveState web site** link like below.

## ActiveTcl 8.5.18.0

ActiveState provides binary distributions of Tcl/Tk which are upward compatible with and generally more up-to-date than those provided by Apple in macOS releases. This version of Tcl/Tk includes fixes for some critical problems that you may encounter using tkinter or IDLE (see [Apple 8.5.9](#) below). You can download an installer for this release from [the ActiveState web site](#). Note that ActiveState Community Edition binaries are not open source and are covered by an ActiveState license. You should read the license before downloading to verify that your usage complies with its terms of use. This is an *Aqua Cocoa Tk*.

# Install Python IDLE (Cont.)

4. Click **Mac Disk Image (DMG)** link like below.

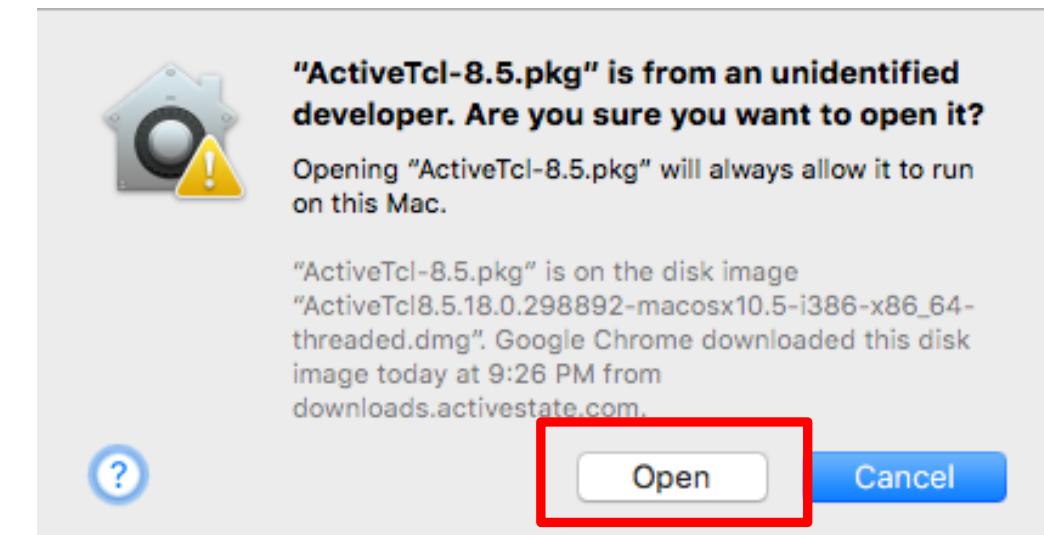
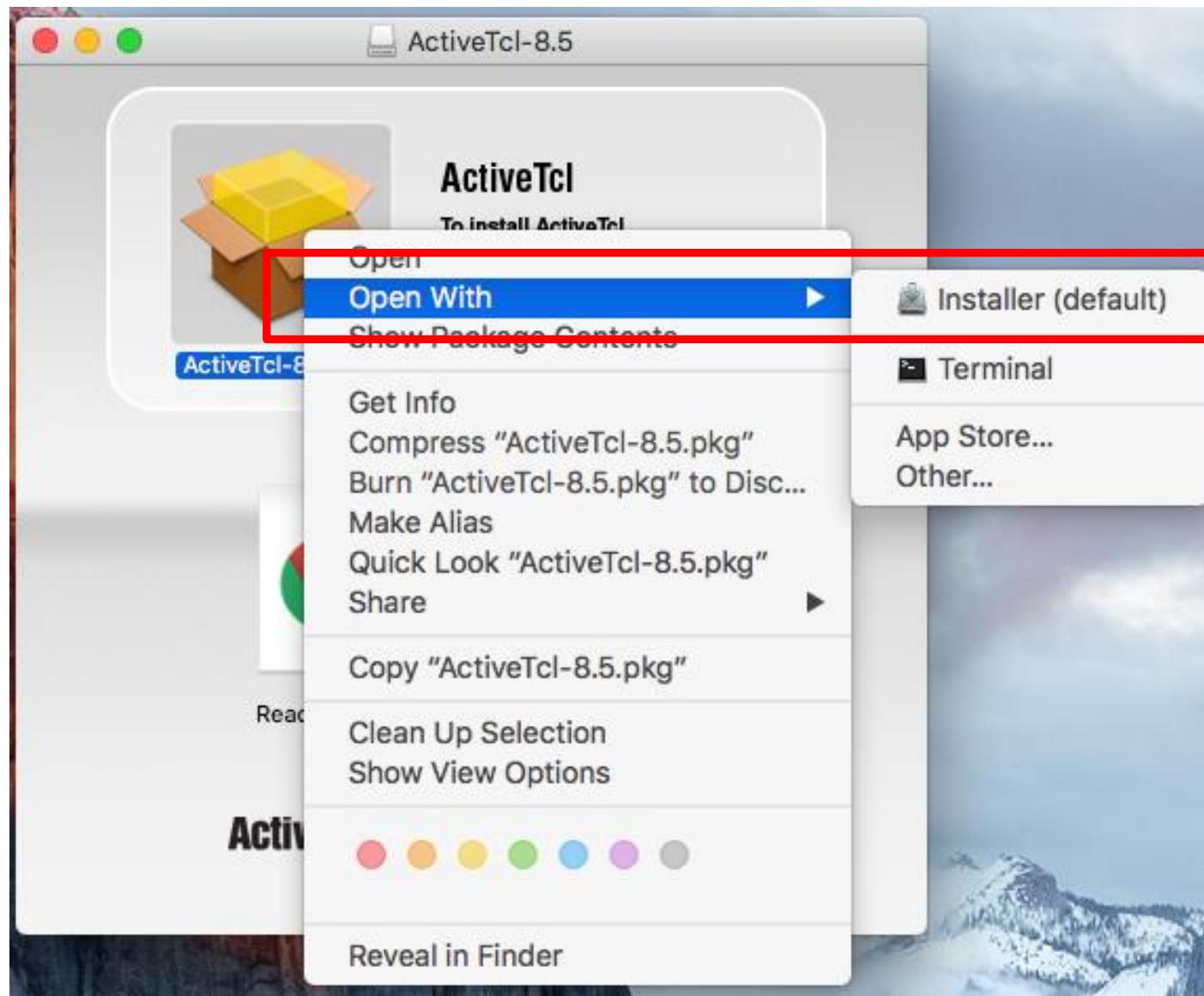
The screenshot shows a web browser window with the title "AS Download and Install Tcl: ActiveTCL Downloads". The URL in the address bar is "https://www.activestate.com/activetcl/downloads". The main content is titled "DOWNLOAD TCL: OTHER PLATFORMS AND VERSIONS". Below this, there is a table of versions and their available packages. The version 8.5.18.0 row is highlighted with a red box around the "Mac Disk Image (DMG)" link in the Windows Installer (EXE) column.

Version	Windows (64-bit, x64)	Mac OS X (10.9+, x86)	Linux (x86)	Linux (x86_64)	Windows (x86)	Mac OS X (10.5+, x86_64/x86)
<b>8.6.6.8606</b>	Windows Installer (EXE)	Mac Package Installer (PKG)	AS Package	AS Package	n/a	n/a
<b>8.6.6.8607</b>	n/a	n/a	AS Package	n/a	Windows Installer (EXE)	n/a
<b>8.5.19.8519</b>	n/a	n/a	AS Package	AS Package	n/a	n/a
<b>8.5.18.0</b>	Windows Installer (EXE)	n/a	AS Package	AS Package	Windows Installer (EXE)	<a href="#">Mac Disk Image (DMG)</a>

# Install Python IDLE (Cont.)



# Install Python IDLE (Cont.)



# Install Python IDLE (Cont.)

Install ActiveState ActiveTcl 8.5.18.0.298892

**ActiveState**

- Introduction
- License
- Destination Select
- Installation Type
- Installation
- Summary



Welcome to the ActiveState ActiveTcl 8.5.18.0.298892 Installer

Welcome to the ActiveState ActiveTcl 8.5.18.0.298892 distribution for OS X/ Leopard/i386-x86\_64.

**Package Management: new**

TEAcup, the TEApot Repository Client

**Packages:**

- Tcl 8.5 Trofs 0.4.4
- Tk 8.5

ActiveTcl 8.5 is compatible with most ActiveTcl 8.4 packages. **More packages can be obtained with the teacup (accessing TEApot), or by installing this distribution into the same directory as an existing ActiveTcl 8.4 installation.**

Using ActiveTcl at work?

Our ActiveTcl Enterprise business solution is a support and maintenance package for organizations of all sizes that depend on Tcl. Safeguard your

Go Back Continue

Install ActiveTcl 8.5.18.0.298892

**ActiveState**

- Introduction
- License**
- Destination Select
- Installation Type
- Installation
- Summary



Software License Agreement

**ACTIVESTATE  
COMMUNITY EDITION  
SOFTWARE LICENSE  
AGREEMENT**

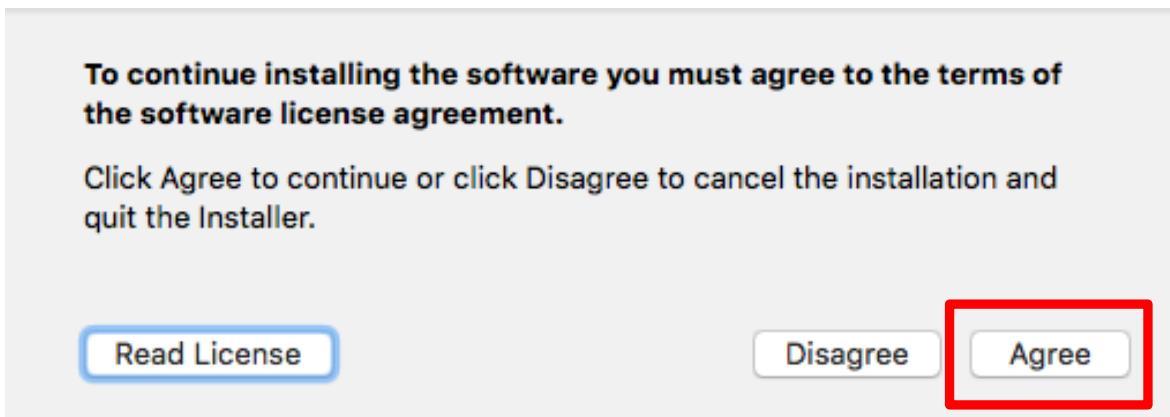
Version effective date: May 31, 2013

Preamble:

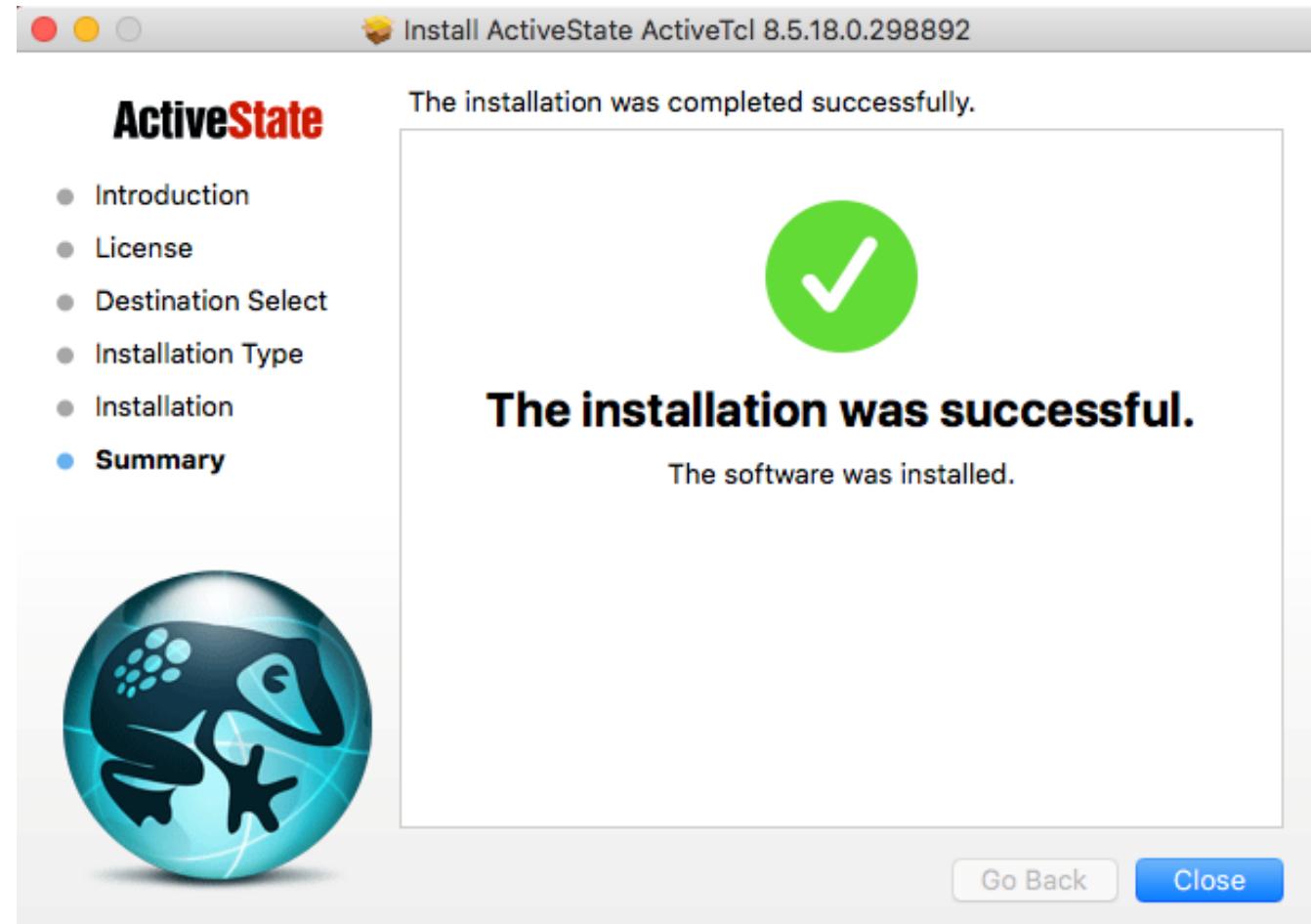
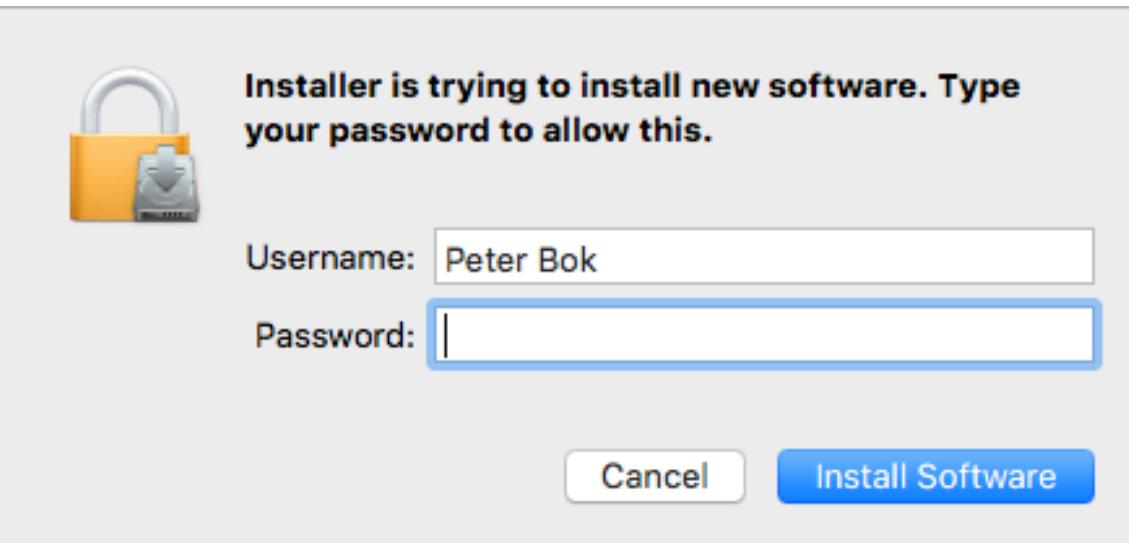
The use of the Software is unsupported and is for non-commercial or non-production use. Support is available from ACTIVESTATE under a separate agreement, see Part 3.d. To use the Software for internal-facing or external-facing production servers you require a Business Edition license, see Part 4.b. For redistribution

Print... Save... Go Back Continue

# Install Python IDLE (Cont.)



# Install Python IDLE (Cont.)



# Install Python IDLE (Cont.)



Python 3.6.2 Shell

```
Python 3.6.2 (v3.6.2:5fd33b5926, Jul 16 2017, 20:11:06)
[GCC 4.2.1 (Apple Inc. build 5666) (dot 3)] on darwin
Type "copyright", "credits" or "license()" for more information.
>>> print ("Hello, World")
Hello, World
>>> |
```

# Install Python Interpreter – Second Way

Refer to

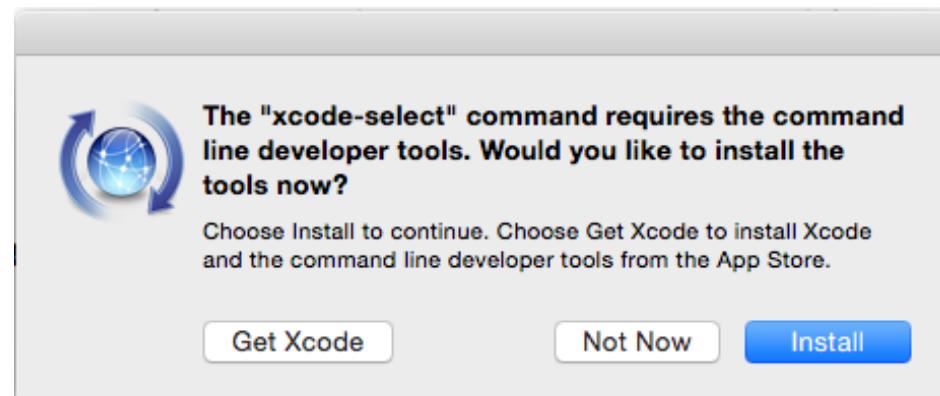
<https://www.digitalocean.com/community/tutorials/how-to-install-python-3-and-set-up-a-local-programming-environment-on-macos>

1. Open **Terminal**

# Install Python Interpreter – Second Way (Cont.)

## 2. Install Xcode

```
Last login: Thu Sep  7 05:22:15 on console
Instructors-Mac:~ instructor$ xcode-select -p
xcode-select: error: unable to get active developer directory, use `xcode-select
--switch` to set one (or see `man xcode-select`)
Instructors-Mac:~ instructor$
Instructors-Mac:~ instructor$
Instructors-Mac:~ instructor$ xcode-select --install
```

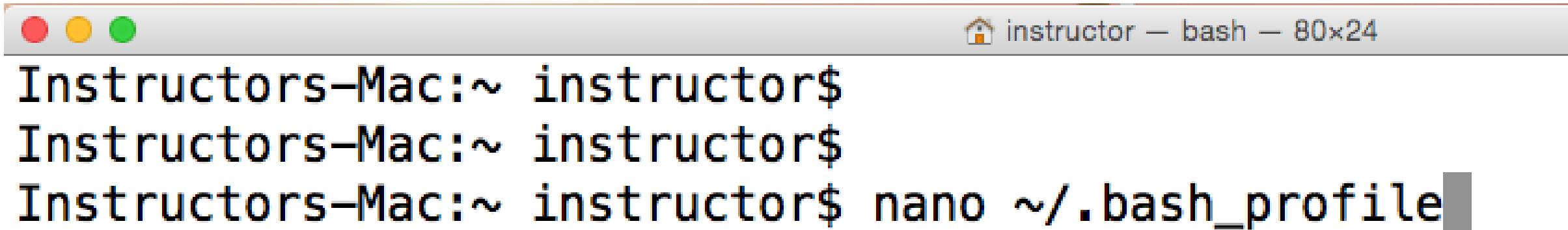


# Install Python Interpreter – Second Way (Cont.)

## 3. Install and Setup up **Homebrew**

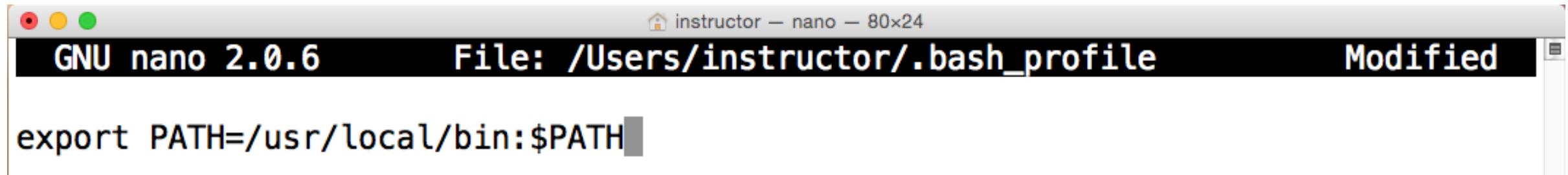


A screenshot of a Mac OS X terminal window titled "instructor – bash – 80x24". The window shows the command: `/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"`. The cursor is at the end of the command line.



A screenshot of a Mac OS X terminal window titled "instructor – bash – 80x24". The window shows three commands entered sequentially: `nano ~/.bash_profile`. The cursor is at the end of the third command line.

# Install Python Interpreter – Second Way (Cont.)



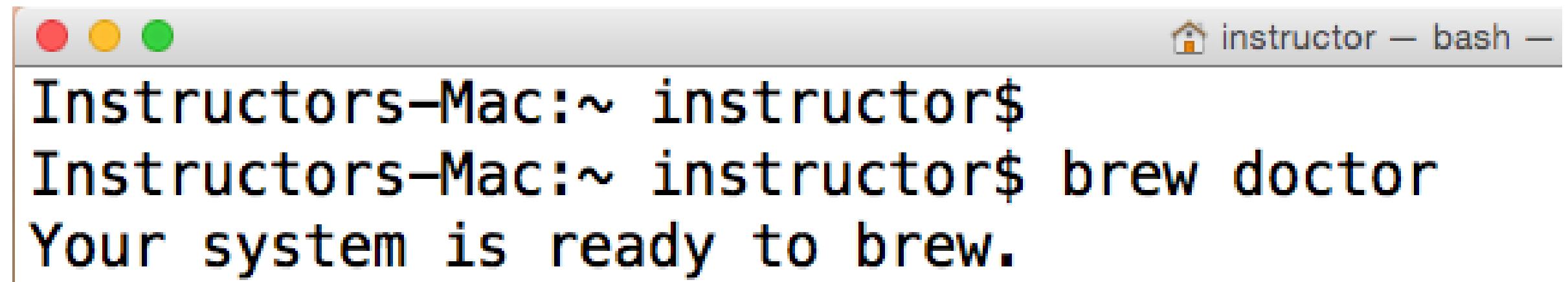
A screenshot of a terminal window titled "instructor – nano – 80x24". The title bar shows "File: /Users/instructor/.bash\_profile". The window content is the following text:

```
GNU nano 2.0.6          File: /Users/instructor/.bash_profile          Modified  
export PATH=/usr/local/bin:$PATH
```

Instructors-Mac:~ instructor\$

Instructors-Mac:~ instructor\$ source ~/.bash\_profile

Instructors-Mac:~ instructor\$



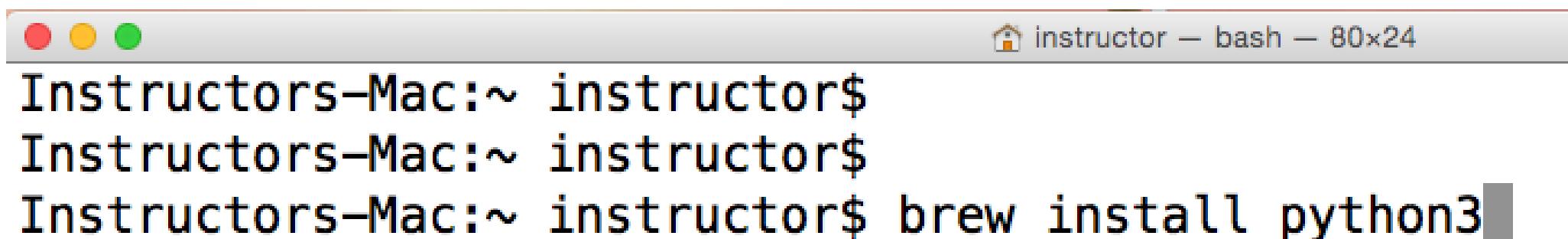
A screenshot of a terminal window titled "instructor – bash –". The title bar shows "File: /Users/instructor/.bash\_profile". The window content is the following text:

```
Instructors-Mac:~ instructor$  
Instructors-Mac:~ instructor$ brew doctor  
Your system is ready to brew.
```

# Install Python Interpreter – Second Way (Cont.)

## 4. Install **Python 3**

```
Instructors-Mac:~ instructor$ brew search python
==> Searching local taps...
app-engine-python    gst-python          micropython      python3
boost-python         ipython            python          wxpython
boost-python@1.59    ipython@5        python-markdown zpython
==> Searching taps on GitHub...
caskroom/cask/mysql-connector-python   homebrew/apache/mod_python
caskroom/cask/kk7ds-python-runtime
==> Searching blacklisted, migrated and deleted formulae...
Instructors-Mac:~ instructor$
```



A screenshot of a Mac OS X terminal window titled "instructor – bash – 80x24". The window has three colored window control buttons (red, yellow, green) at the top left. The main area contains three lines of text:

```
Instructors-Mac:~ instructor$  
Instructors-Mac:~ instructor$  
Instructors-Mac:~ instructor$ brew install python3
```

# Install Python Interpreter – Second Way (Cont.)

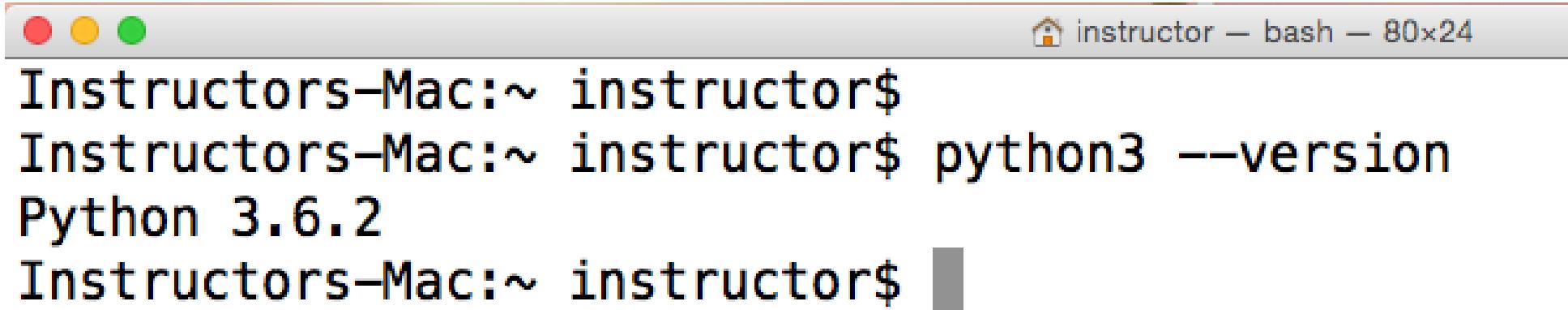
```
instructor ~ % ###### 100.0%
==> Pouring xz-5.2.3.yosemite.bottle.tar.gz
🍺 /usr/local/Cellar/xz/5.2.3: 92 files, 1.4MB
==> Installing python3
==> Downloading https://homebrew.bintray.com/bottles/python3-3.6.2.yosemite.bott
######_ 100.0%
==> Pouring python3-3.6.2.yosemite.bottle.tar.gz
==> /usr/local/Cellar/python3/3.6.2/bin/python3 -s setup.py --no-user-cfg instal
==> /usr/local/Cellar/python3/3.6.2/bin/python3 -s setup.py --no-user-cfg instal
==> /usr/local/Cellar/python3/3.6.2/bin/python3 -s setup.py --no-user-cfg instal
==> Caveats
Pip, setuptools, and wheel have been installed. To update them
    pip3 install --upgrade pip setuptools wheel

You can install Python packages with
    pip3 install <package>

They will install into the site-package directory
    /usr/local/lib/python3.6/site-packages

See: https://docs.brew.sh/Homebrew-and-Python.html
==> Summary
🍺 /usr/local/Cellar/python3/3.6.2: 3,598 files, 56.0MB
Instructors-Mac:~ instructor%
```

# Install Python Interpreter – Second Way (Cont.)



A screenshot of a Mac OS X terminal window titled "instructor – bash – 80x24". The window has three colored window control buttons (red, yellow, green) at the top left. The terminal prompt is "Instructors-Mac:~ instructor\$". The user then types "python3 --version" and presses enter. The output shows "Python 3.6.2" followed by another terminal prompt "Instructors-Mac:~ instructor\$". A small gray rectangular cursor is visible in the bottom right corner of the terminal area.

```
Instructors-Mac:~ instructor$ python3 --version
Python 3.6.2
Instructors-Mac:~ instructor$
```

# Install Python Interpreter – Second Way (Cont.)

## 5. Create a Simple Program.

```
[Peters-Mac:~ instructor$ mkdir PythonHome
[Peters-Mac:~ instructor$ cd PythonHome
[Peters-Mac:PythonHome instructor$ cat > hello.py
print ("Hello, World")
^Z
[2]+  Stopped                  cat > hello.py
[Peters-Mac:PythonHome instructor$ ls
hello.py
[Peters-Mac:PythonHome instructor$ cat hello.py
print ("Hello, World")
[Peters-Mac:PythonHome instructor$ python3 hello.py
Hello, World
Peters-Mac:PythonHome instructor$ ]
```

# Text Editors

# Text Editor – Sublime Text 3

- Sublime Text 3 (<http://www.sublimetext.com/3>) – Half Freeware

A screenshot of the Sublime Text 3 interface. The window title is "hello.py". The status bar at the bottom shows "Line 1, Column 23" and "Spaces: 2 Python". The code editor contains the following Python code:

```
1 print ("Hello, World")
```

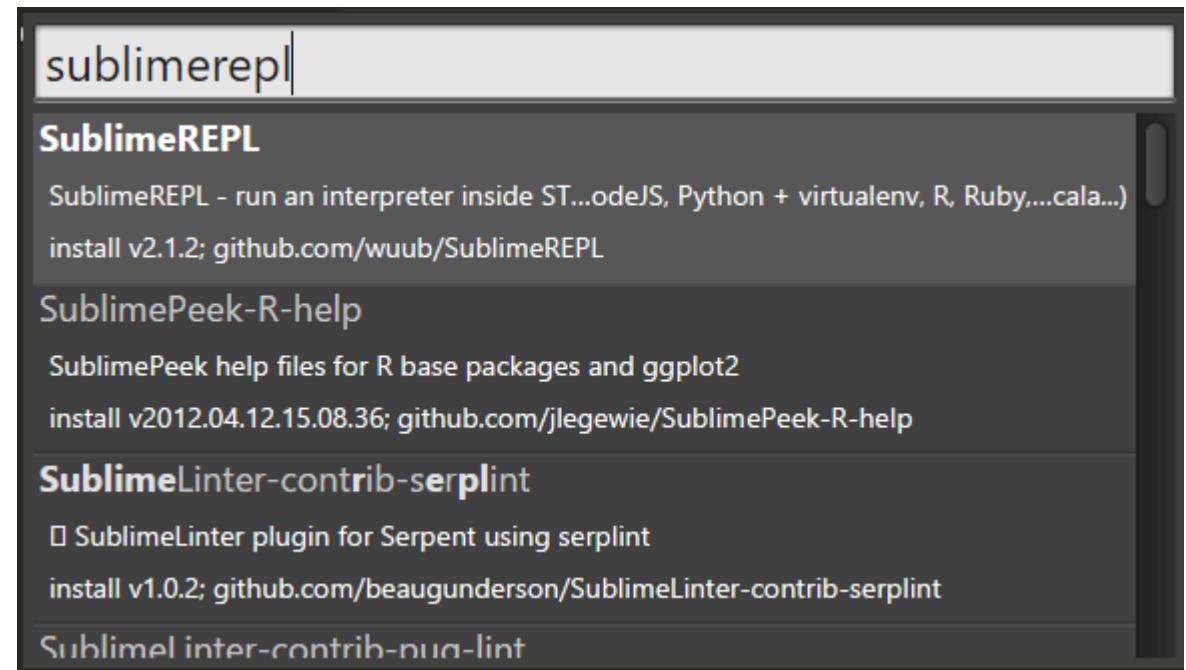
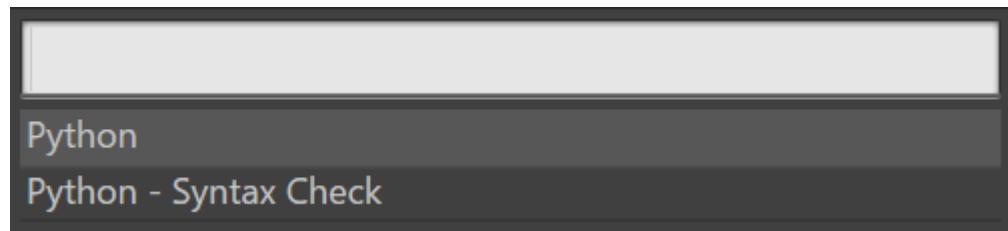
The output panel at the bottom displays the result of the execution:

Hello, World  
[Finished in 0.1s]



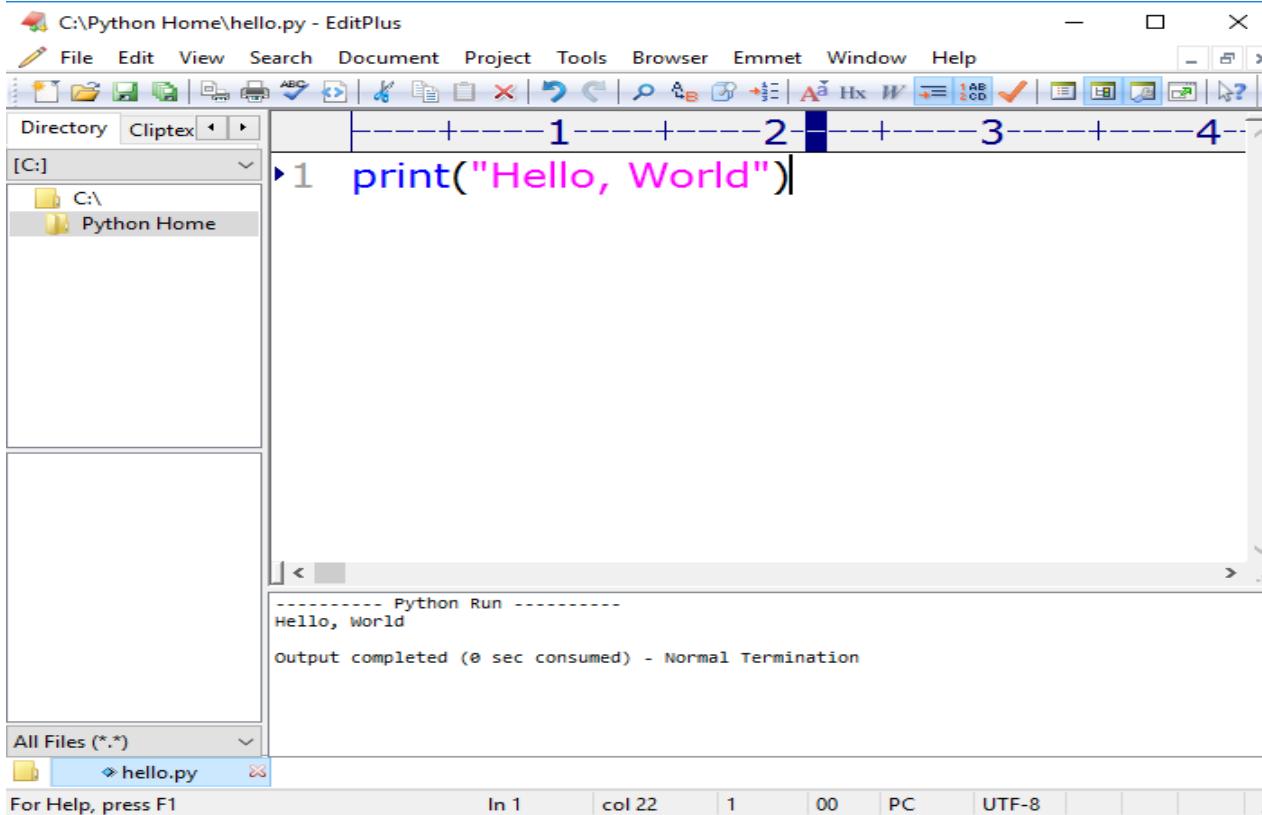
# Text Editor – Sublime Text 3 (Cont.)

- Refer to <http://webnauts.tistory.com/454>



# Text Editor - EditPlus

- EditPlus – (<http://www.editplus.com/>) – Shareware



A screenshot of the EditPlus text editor interface. The title bar shows "C:\Python Home\hello.py - EditPlus". The menu bar includes File, Edit, View, Search, Document, Project, Tools, Browser, Emmet, Window, and Help. The toolbar has various icons for file operations like Open, Save, Print, and Find. The left sidebar shows a directory tree with "C:\Python Home" selected. The main editor area contains the following Python code:

```
1 print("Hello, World")
```

Below the editor is a "Python Run" window showing the output:

```
----- Python Run -----
Hello, World

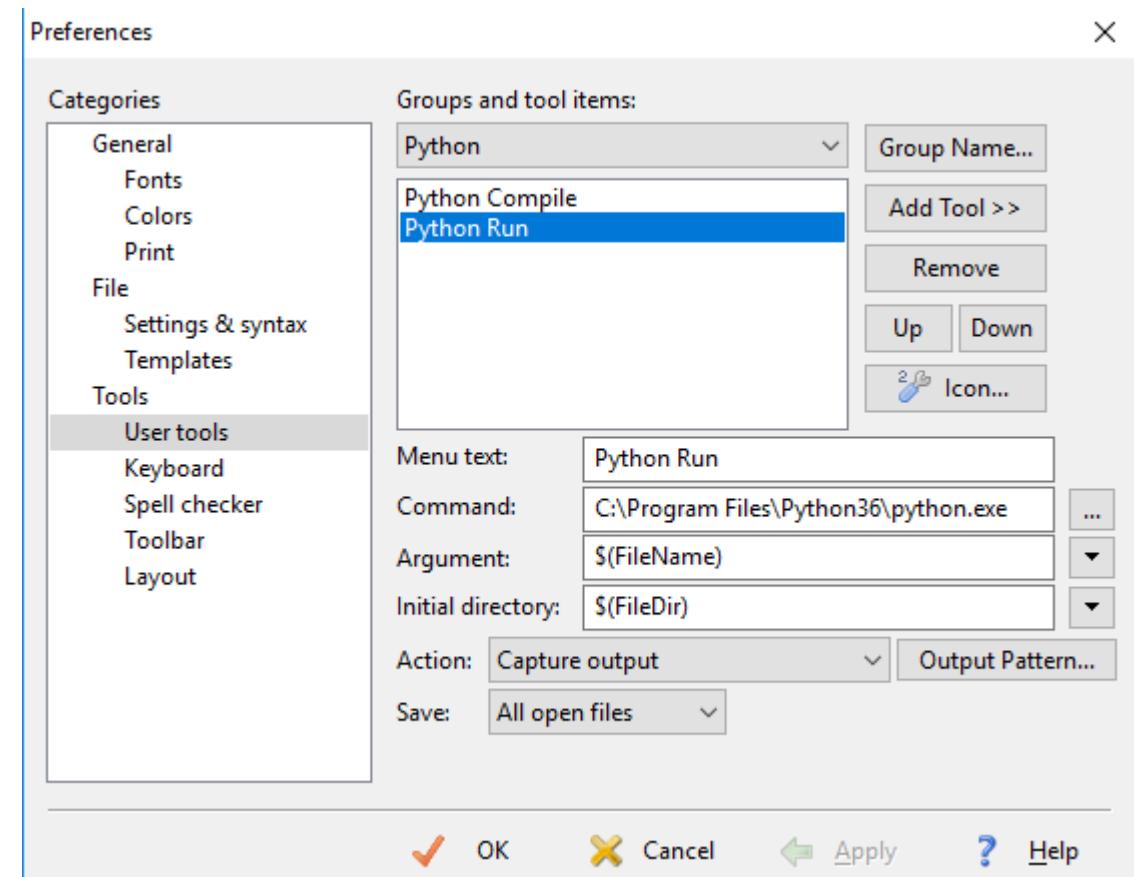
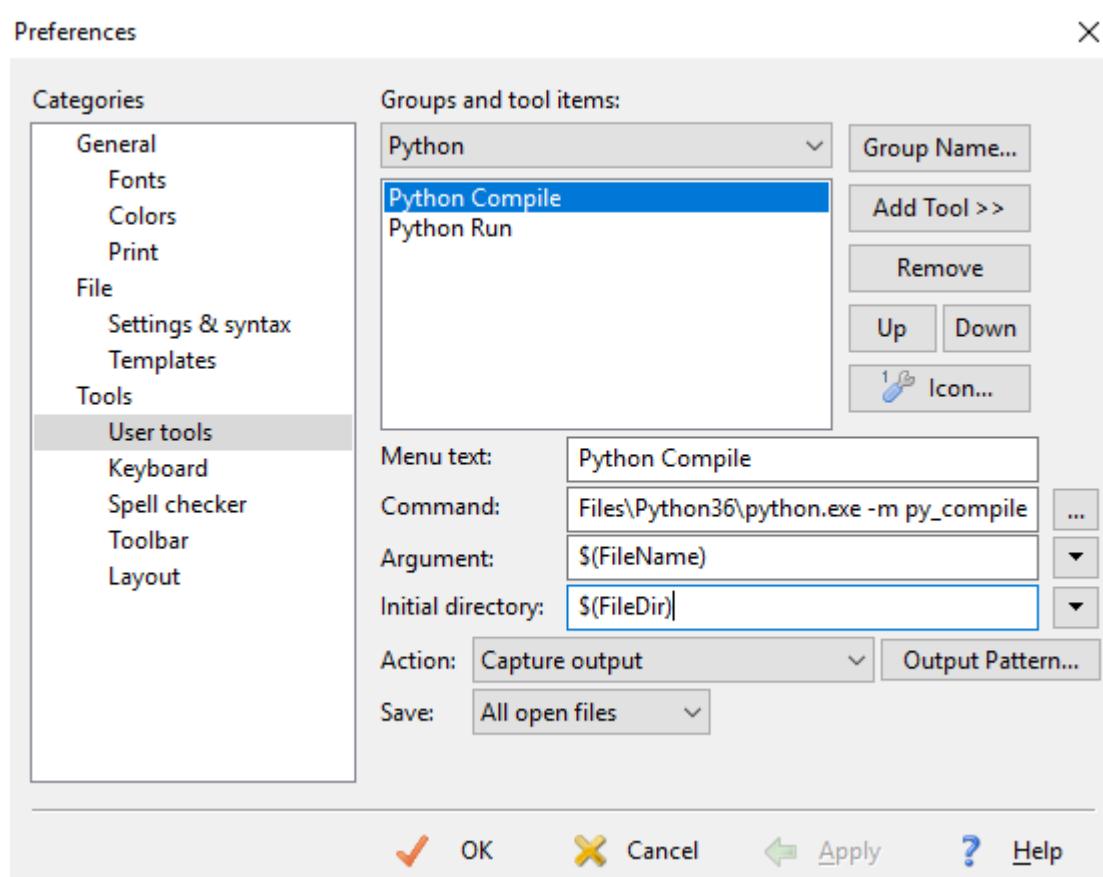
Output completed (0 sec consumed) - Normal Termination
```

The status bar at the bottom displays "All Files (\*.\*)", "hello.py", "In 1", "col 22", "1", "00", "PC", "UTF-8", and "...".



# Text Editor – EditPlus (Cont.)

- Refer to <http://findnew.tistory.com/21>



# Text Editor - Geany

- Geany - (<http://www.geany.org/>) - OpenSource

hello.py - C:\Python Home - Geany

File Edit Search View Document Project Build Tools Help

New Open Save Save All Revert Close Back Forward Compile Build Execute Color Chooser

Symbols Documents hello.py

No symbols found

```
1 print ("Hello, World")
2
```

Status python -m py\_compile "hello.py" (in directory: C:\Python Home)

Compiler Compilation finished successfully.

Messages

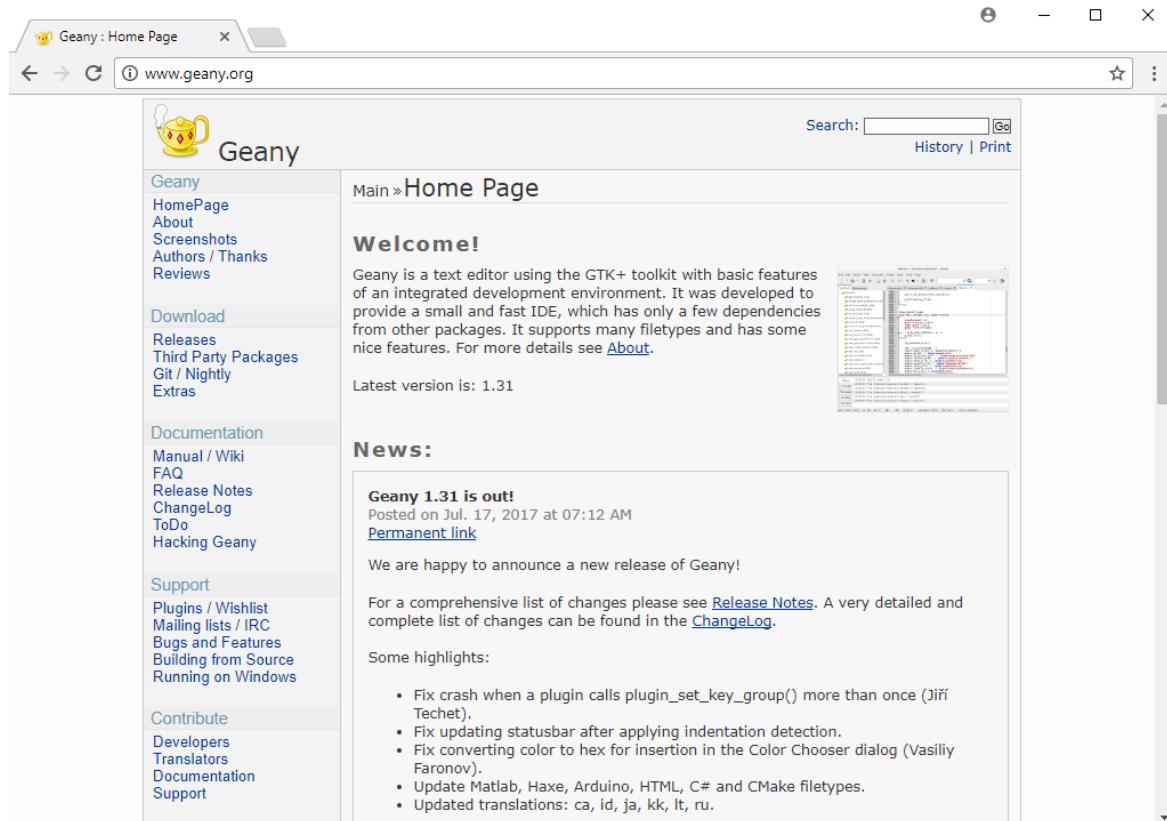
Scribble

line: 1 / 2 col: 22 sel: 0 INS TAB mode: CRLF encoding: UTF-8 filetype: Python scope: unknown



# Text Editor – Geany (Cont.)

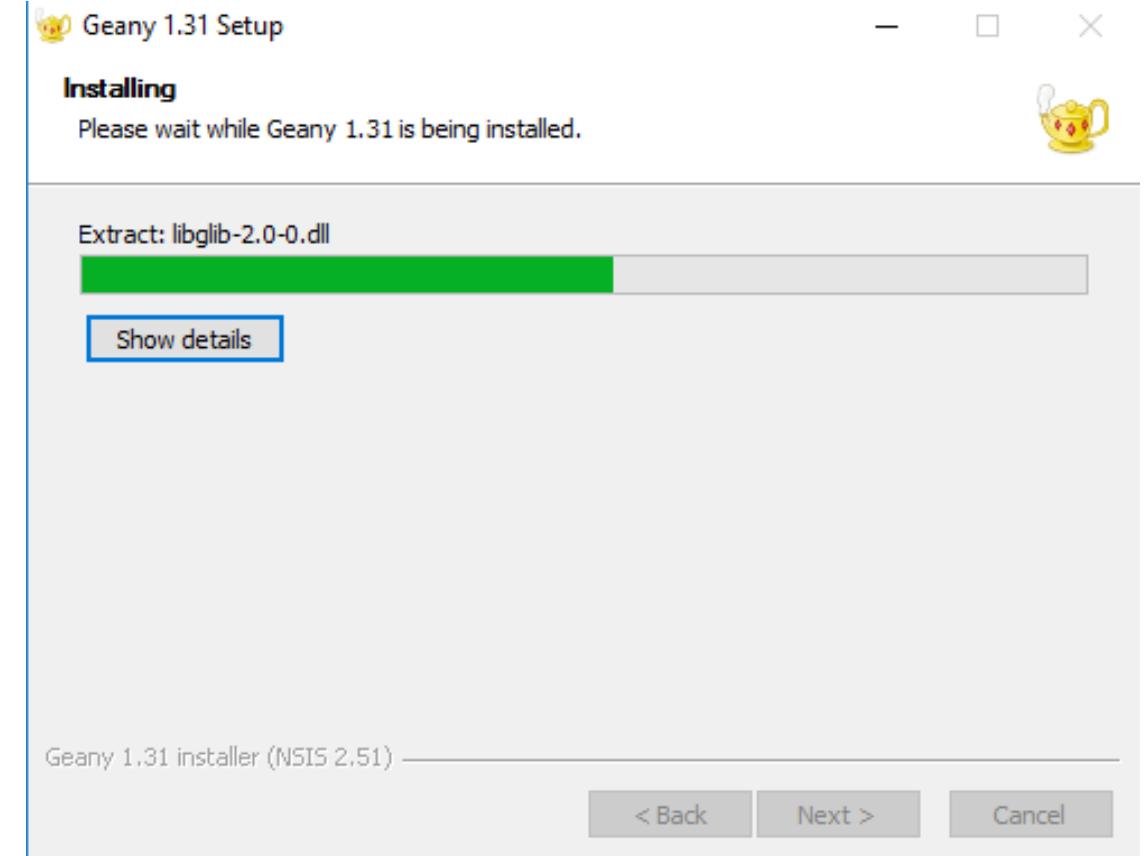
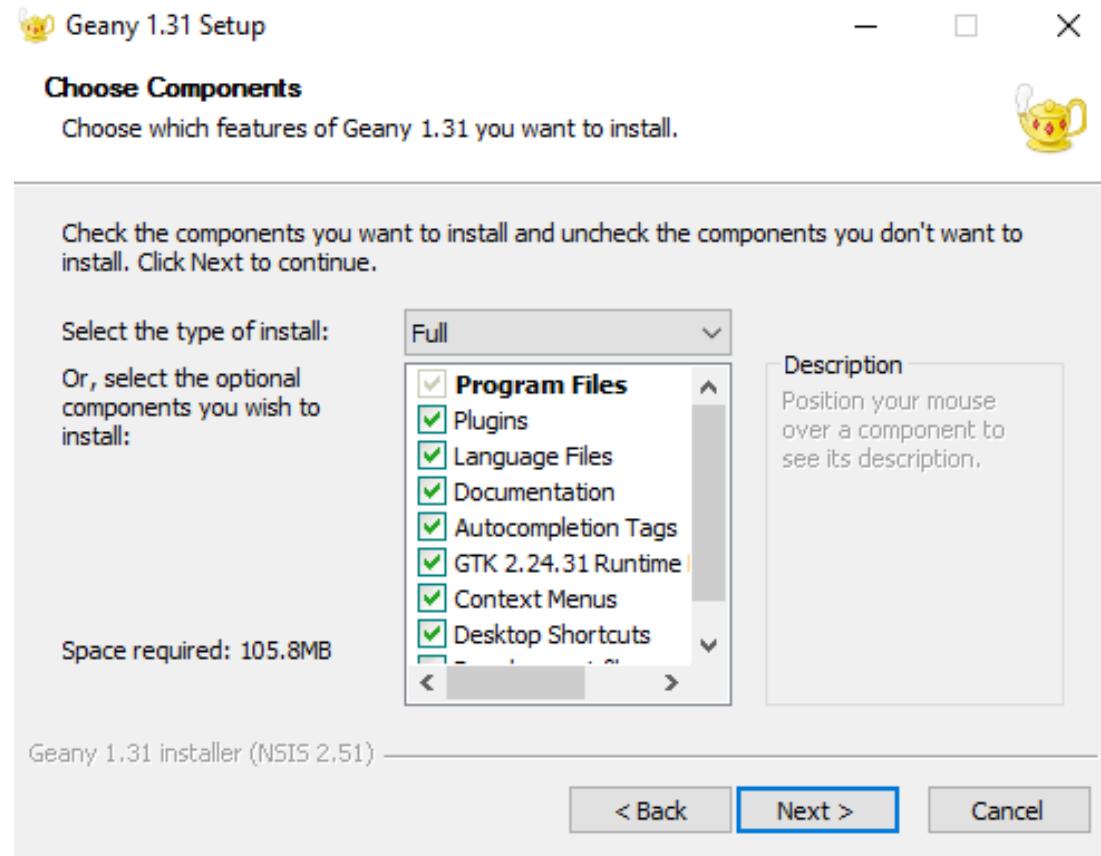
## ■ Geany – (<http://www.geany.org/>) – OpenSource



A screenshot of the Geany website's download page. It shows a sidebar with links for HomePage, About, Screenshots, Authors / Thanks, Reviews, Download, Releases, Third Party Packages, Git / Nightly, Extras, Documentation, Support, and Contribute. The main content area is titled "Download » Releases" and lists "Source" options for Windows and Mac OS X, along with "Source distribution" links for tar.gz and tar.bz2 files. It also mentions a GPG key for source packages and links for Windows and Mac OS X binaries.

# Text Editor – Geany (Cont.)

## ■ Geany – (<http://www.geany.org/>) – OpenSource



# Text Editor – Atom

- Atom – (<https://atom.io>) – OpenSource

A screenshot of the Atom text editor interface. The title bar says "test.py — ~/PythonHome — Atom". The left sidebar shows a "Project" tree with "PythonHome" expanded, containing ".metadata", "0823", and "test.py". The main editor area has "test.py" selected, displaying the following code:

```
1 print ("Hello, World")
```

The bottom status bar shows "Python - test.py:2 ✓" and the output console displays:

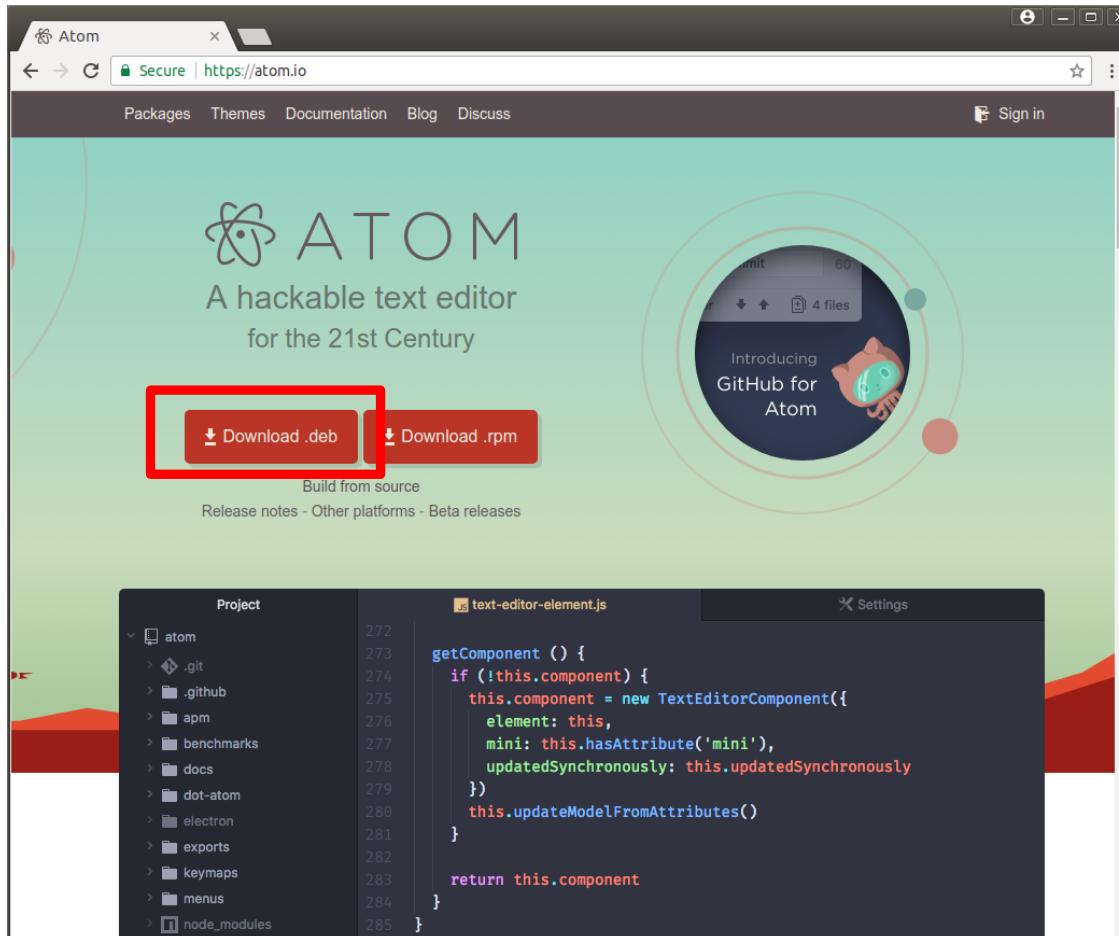
```
Hello, World
[Finished in 0.068s]
```

The bottom navigation bar includes "LF", "UTF-8", "Python", and "0 files".



# Text Editor – Atom

- Atom – (<https://atom.io>) – OpenSource



The screenshot shows a terminal window on an Ubuntu system. The title bar says "instructor@Ubuntu: ~/Downloads". The terminal displays the command "ls" followed by the output "atom-amd64.deb". The background of the terminal window is dark.

```
~/Downloads$ sudo dpkg -i atom-amd64.deb
```

# Text Editor – Atom

## ■ Atom – (<https://atom.io>) – OpenSource

```
instructor@Ubuntu:~/Downloads$ sudo dpkg -i atom-amd64.deb
[sudo] password for instructor:
Selecting previously unselected package atom.
(Reading database ... 249086 files and directories currently installed.)
Preparing to unpack atom-amd64.deb ...
Unpacking atom (1.19.3) ...
dpkg: dependency problems prevent configuration of atom:
  atom depends on git; however:
    Package git is not installed.

dpkg: error processing package atom (--install):
  dependency problems - leaving unconfigured
Processing triggers for desktop-file-utils (0.22-1ubuntu5.1) ...
Processing triggers for gnome-menus (3.13.3-6ubuntu3.1) ...
Processing triggers for bamfdaemon (0.5.3~bzr0+16.04.20160824-0ubuntu1) ...
Rebuilding /usr/share/applications/bamf-2.index...
Processing triggers for mime-support (3.59ubuntu1) ...
Errors were encountered while processing:
  atom
instructor@Ubuntu:~/Downloads$
```

# Text Editor – Atom

## ■ Atom – (<https://atom.io>) – OpenSource

```
instructor@Ubuntu:~/Downloads$ sudo apt-get install -f
Reading package lists... Done
Building dependency tree
Reading state information... Done
Correcting dependencies... Done
The following packages were automatically installed and are no longer required:
  linux-headers-4.8.0-36 linux-headers-4.8.0-36-generic
  linux-image-4.8.0-36-generic linux-image-extra-4.8.0-36-generic snap-confine
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  git git-man liberror-perl
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-el git-email git-gui gitk
  gitweb git-arch git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  git git-man liberror-perl
0 upgraded, 3 newly installed, 0 to remove and 7 not upgraded.
1 not fully installed or removed.
Need to get 3,918 kB of archives.
After this operation, 25.6 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

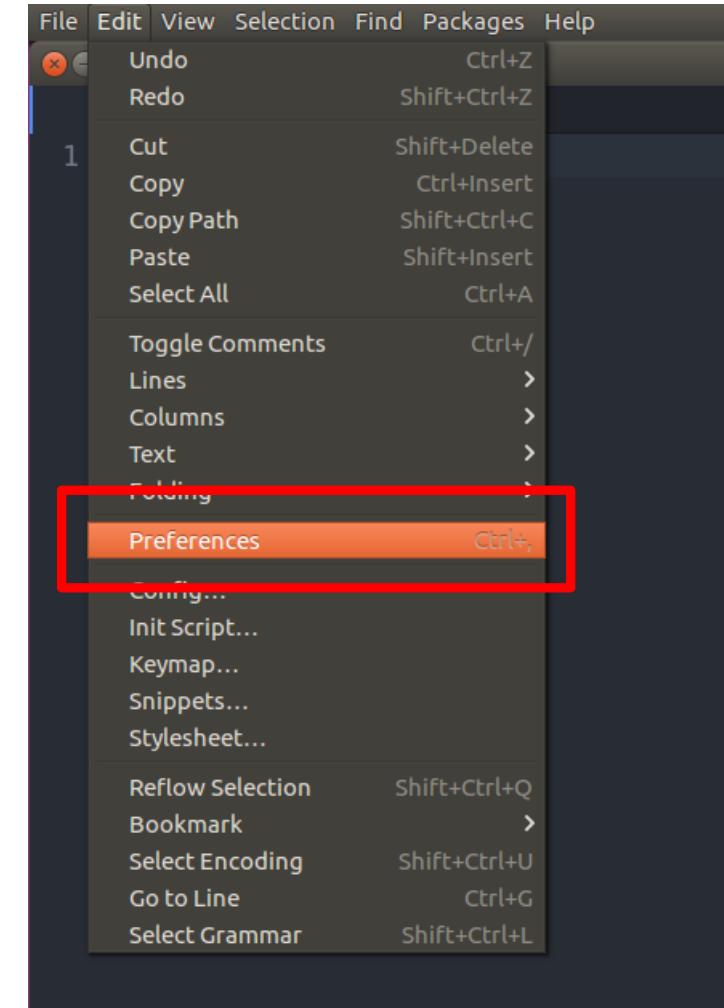
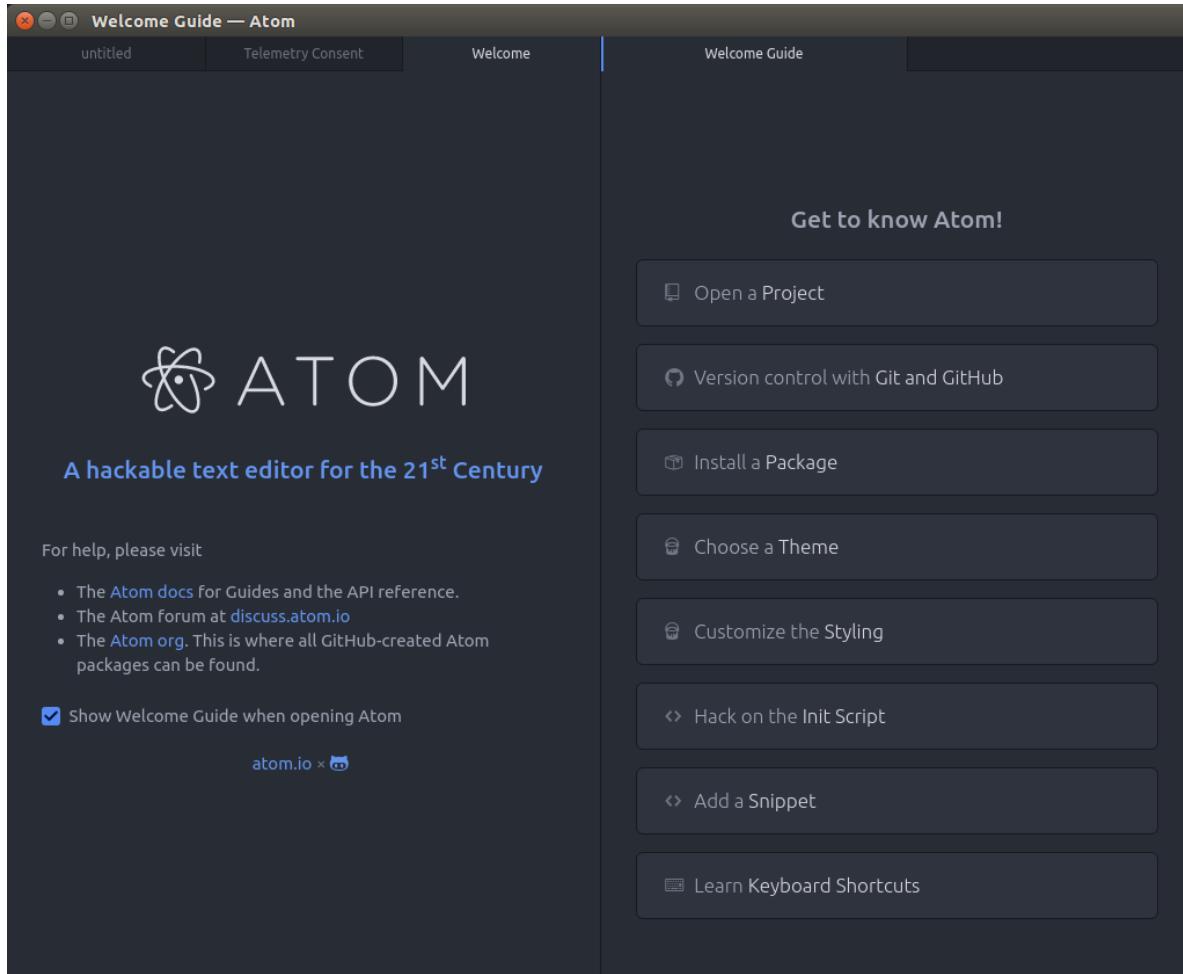
# Text Editor – Atom

- Atom – (<https://atom.io>) – OpenSource



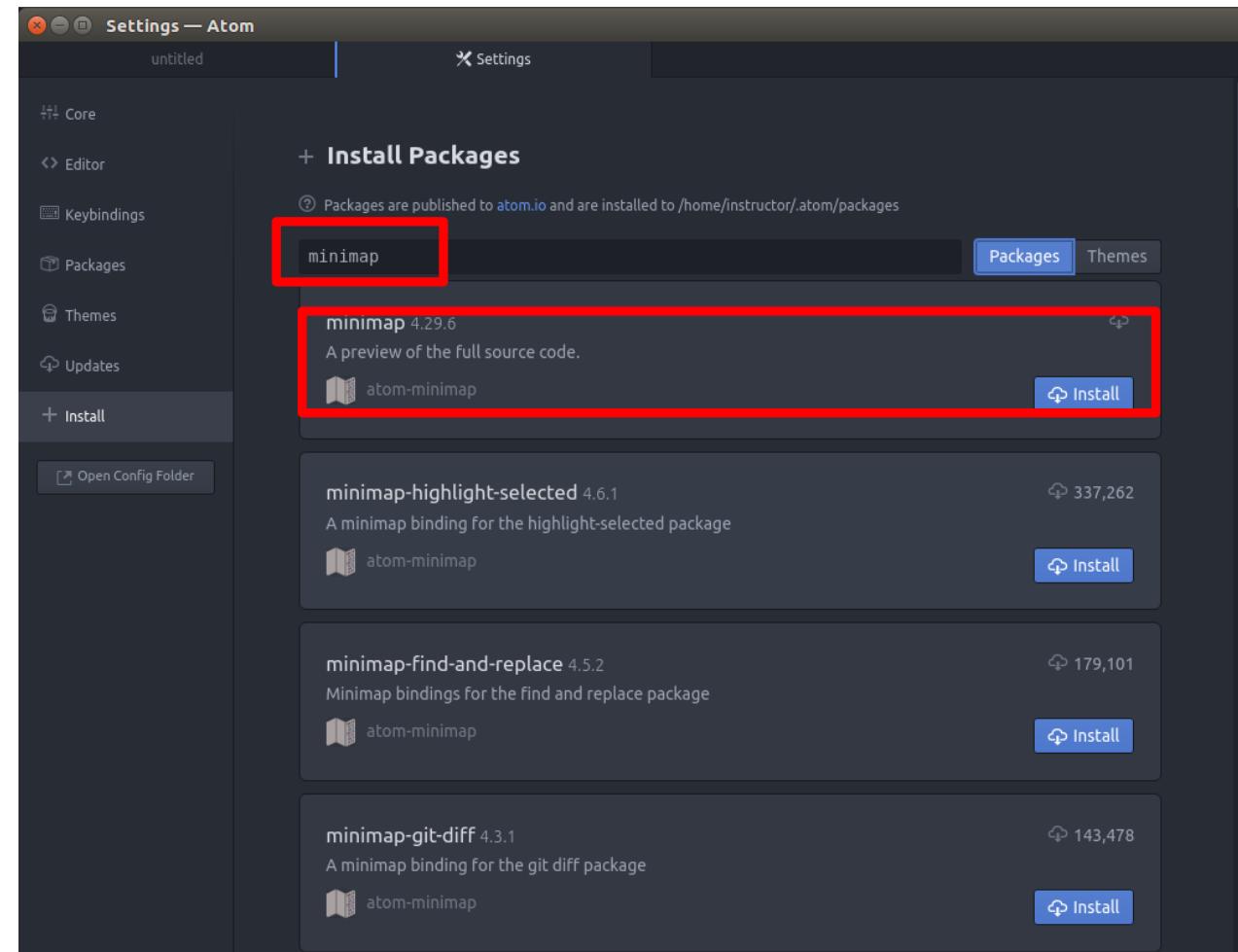
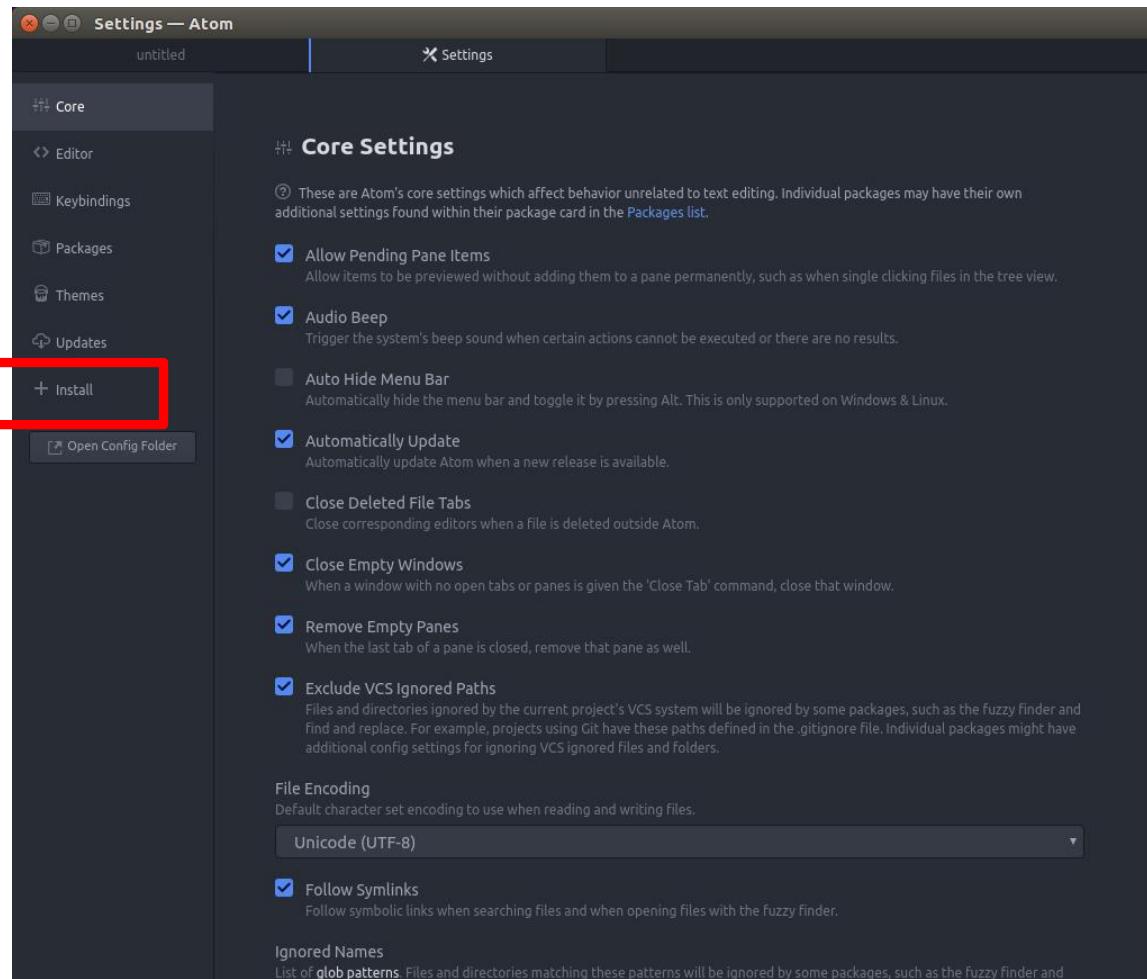
# Text Editor – Atom

## ■ Atom – (<https://atom.io>) – OpenSource



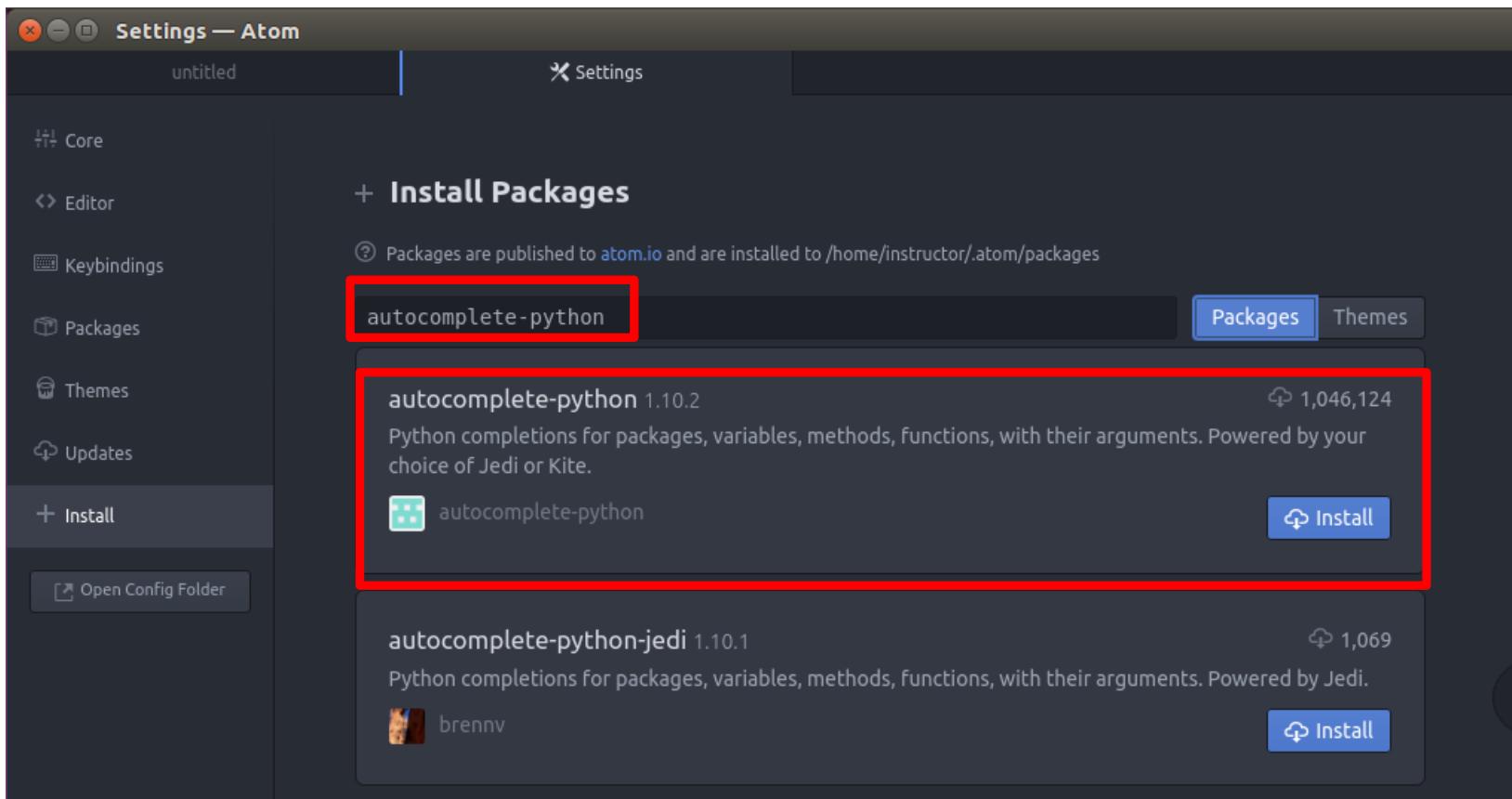
# Text Editor – Atom

## ■ Atom – (<https://atom.io>) – OpenSource



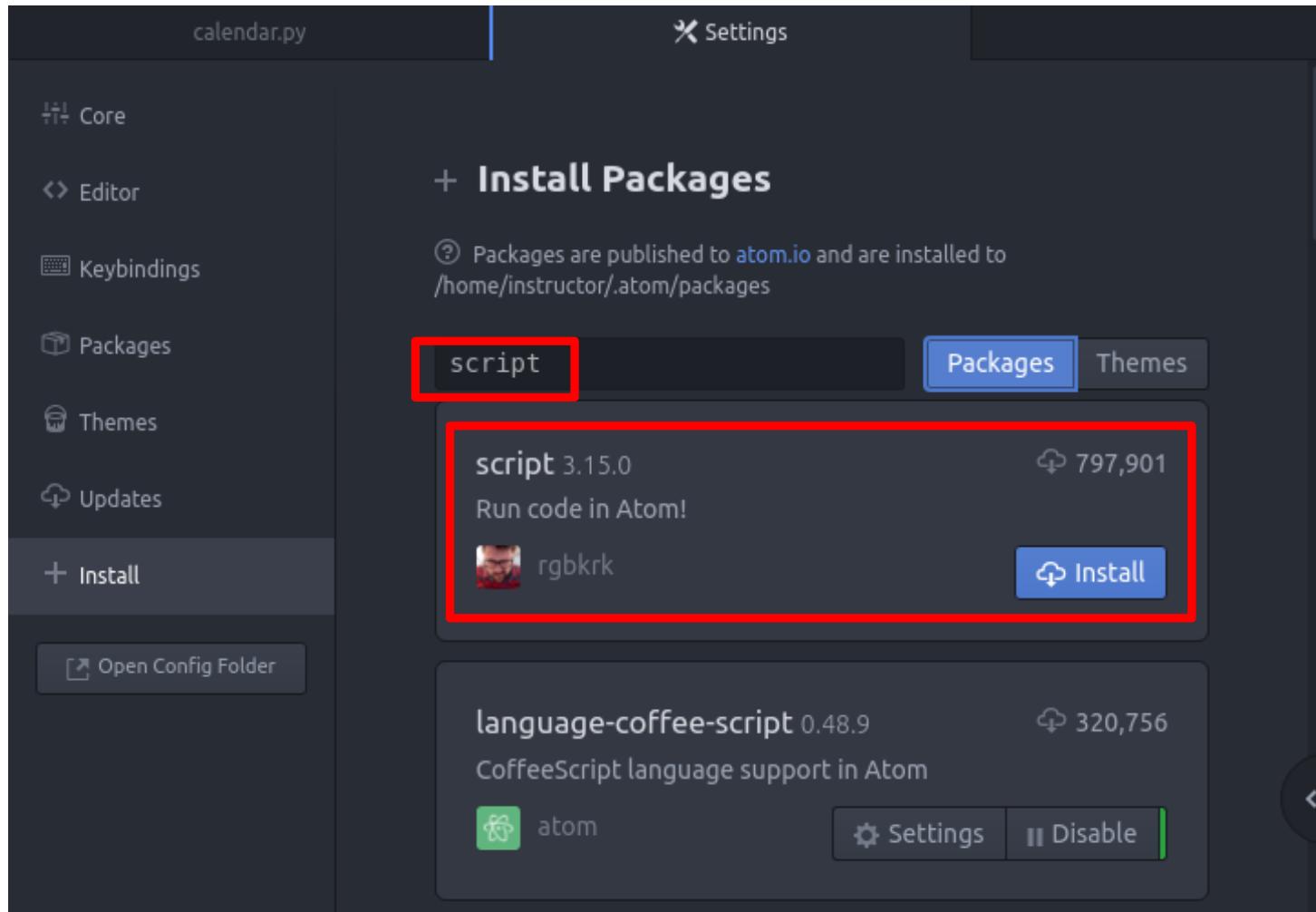
# Text Editor – Atom

## ■ Atom – (<https://atom.io>) – OpenSource



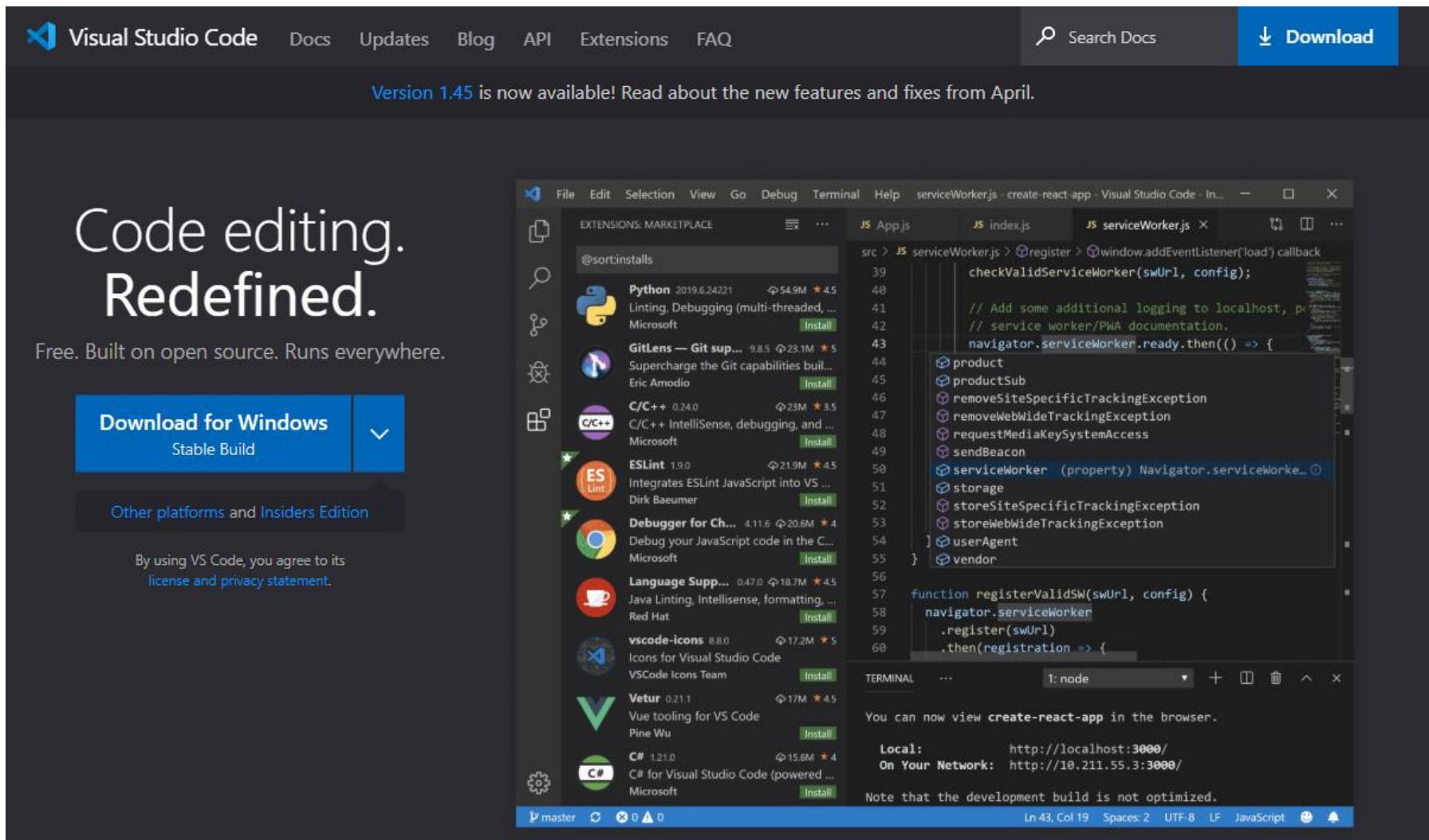
# Text Editor – Atom

## ■ Atom – (<https://atom.io>) – OpenSource



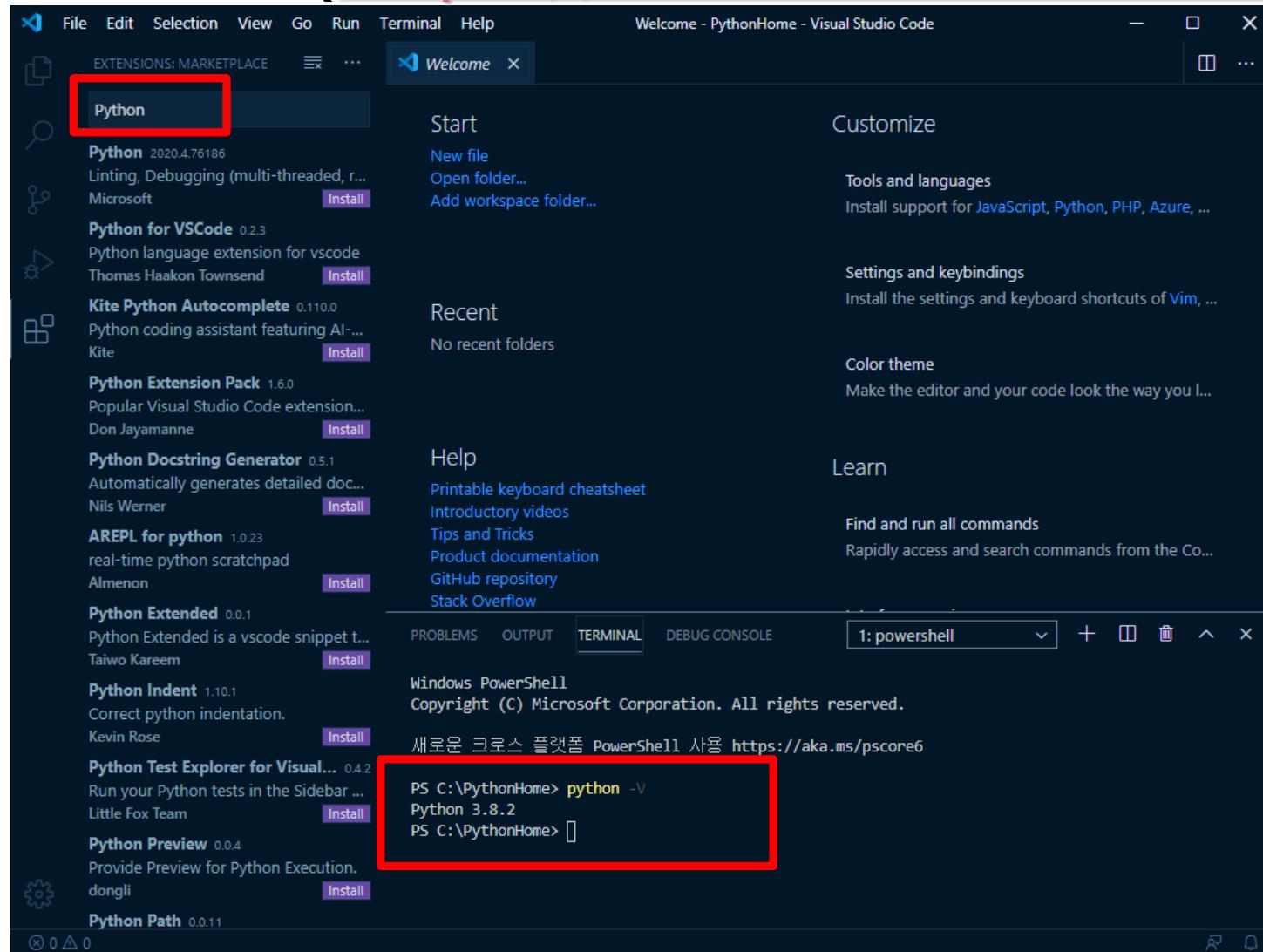
# Text Editor – Visual Studio Code

- Visual Studio Code – (<https://code.visualstudio.com/>) – OpenSource



# Text Editor – Visual Studio Code

- Visual Studio Code – (<https://code.visualstudio.com/>) – OpenSource

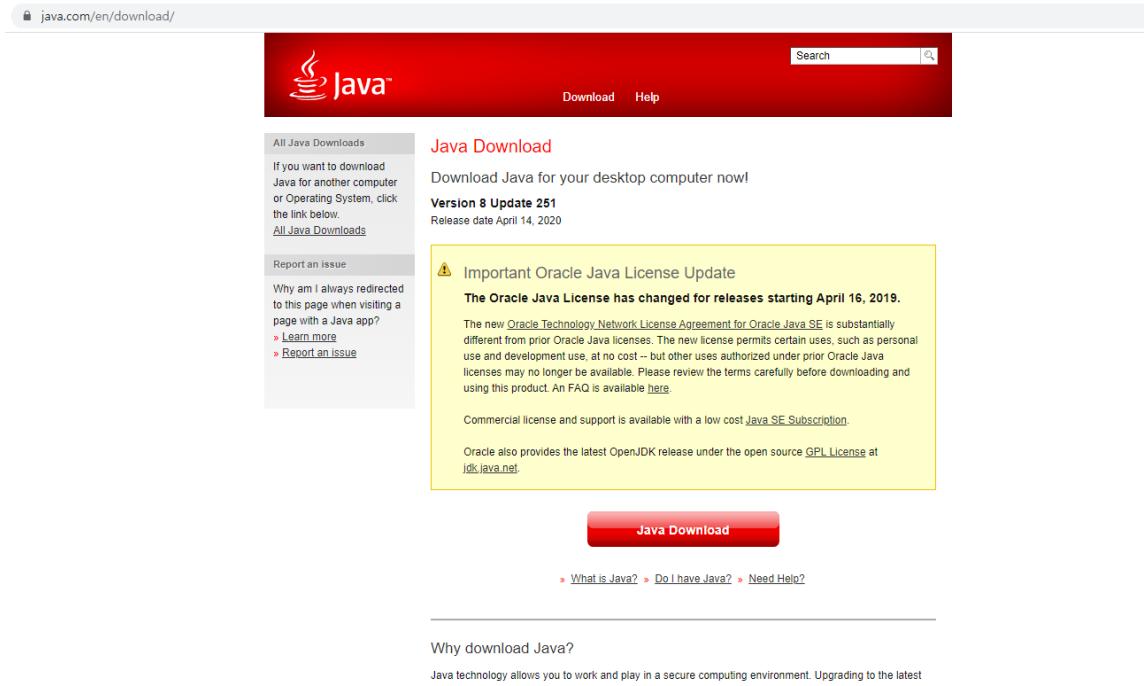


# Text Editor – Visual Studio Code

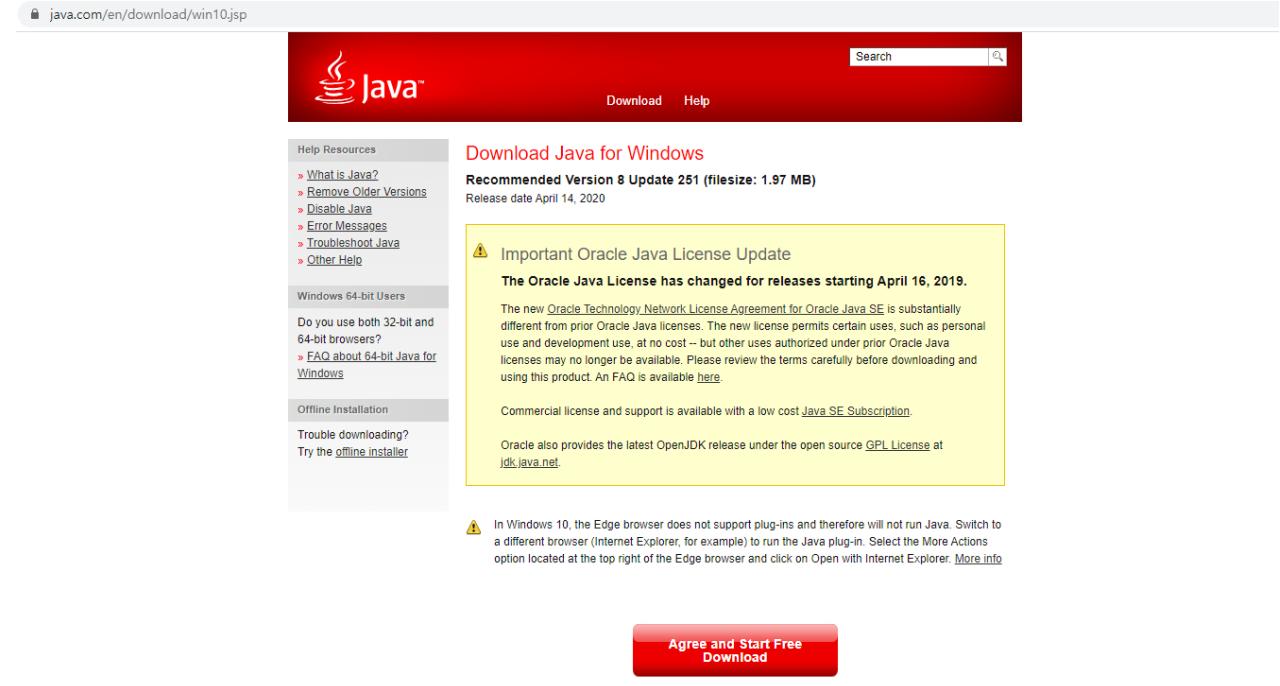
- Visual Studio Code – (<https://code.visualstudio.com/>)
  - OpenSource
  - Extensions
    - Python
    - Python for VSCode
    - Python Extension Pack

# Text Editor – Visual Studio Code

- Visual Studio Code – (<https://code.visualstudio.com/>)
  - OpenSource
  - Installation Java Runtime



The screenshot shows the Java Download page on the official Oracle Java website. At the top, there's a navigation bar with links for "All Java Downloads", "Download", and "Help". A search bar is also present. The main content area features a large "Java Download" button. Below it, there's a section titled "Important Oracle Java License Update" with a warning message about the license change starting April 16, 2019. It includes links to "Learn more" and "Report an issue". Another section below discusses the "Java SE Subscription" and mentions the "GPL License" available at [jdk.java.net](http://jdk.java.net). At the bottom, there's a "Java Download" button and a footer with links to "What is Java?", "Do I have Java?", and "Need Help?".



The screenshot shows the Java Download page specifically for Windows, accessible via the URL [java.com/en/download/win10.jsp](https://java.com/en/download/win10.jsp). The layout is similar to the general download page but includes specific Windows-related information. It features a "Help Resources" sidebar with links like "What is Java?", "Remove Older Versions", and "Disable Java". A prominent "Download Java for Windows" button is at the top. Below it, there's a section for "Windows 64-bit Users" and "Offline Installation". A warning message at the bottom notes that the Edge browser does not support Java plug-ins. A large red "Agree and Start Free Download" button is located at the bottom right.

# Text Editor

## Visual Studio Code

The screenshot shows the Visual Studio Code interface. On the left, the Extensions sidebar is open, displaying a list of installed extensions. A red box highlights the '@installed' button at the top of the list. The list includes:

- Django 0.20.0
- Jinja 0.0.8
- MagicPython 1.1.0
- Material Icon Theme 4.1.0
- Night Owl 1.1.3
- Python 2020.4.76186 (marked with a star)
- Python (PyDev) 0.1.5
- Python Extension Pack 1.6.0
- Python for VSCode 0.2.3
- Visual Studio IntelliCode 1.2.7

The main editor area shows a file named 'first.py' with the following code:

```
print('Hello, World')
```

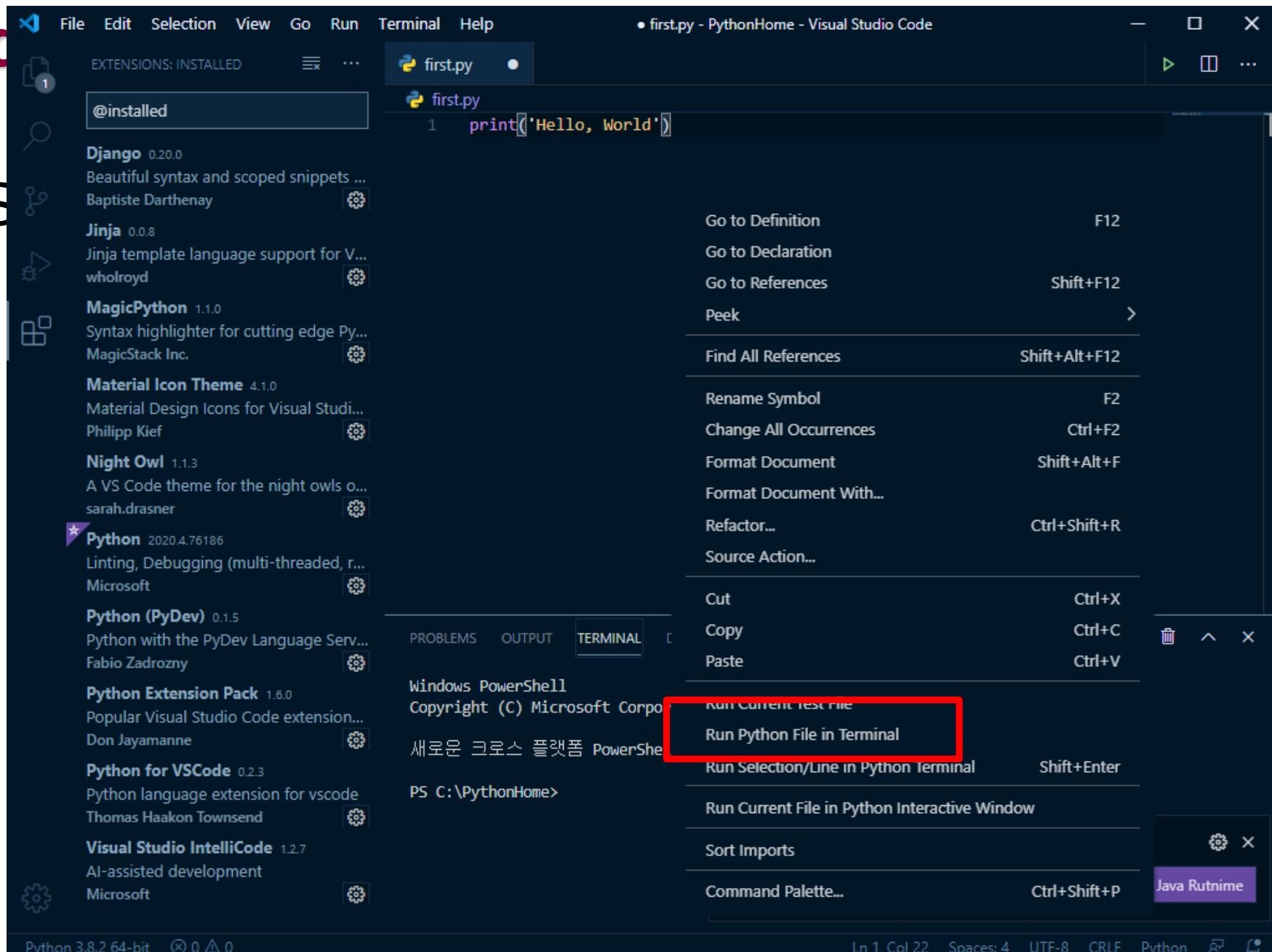
A tooltip for the 'print' function is displayed, providing its documentation:

`print()`  
Prints the values to a stream, or to sys.stdout by default. Optional keyword arguments: file: a file-like object (stream); defaults to the current sys.stdout. sep: string inserted between values, default a space. end: string appended after the last value, default a newline. flush: whether to forcibly flush the stream.

At the bottom, the status bar shows: Python 3.8.2 64-bit, 0 errors, 0 warnings, Line 1, Column 20, Spaces: 4, UTF-8, CRLF, Python, and a few other icons.

# Text Editor

## ■ Visual Studio Code



# Text Ed

## ■ Visual OpenS

The screenshot shows the Visual Studio Code interface with a dark theme. In the top center, the title bar reads "first.py - PythonHome - Visual Studio Code". The left sidebar has an "EXPLORER" section with "OPEN EDITORS" containing "first.py" and a "PYTHONHOME" folder also containing "first.py". The main editor area contains the following Python code:

```
1 print('Hello, World')
```

Below the editor is a tab bar with "PROBLEMS", "OUTPUT", "TERMINAL", and "DEBUG CONSOLE". The "TERMINAL" tab is selected, showing a Windows PowerShell window. The terminal output is:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

새로운 크로스 플랫폼 PowerShell 사용 https://aka.ms/powershell

PS C:\PythonHome> & "C:/Program Files/Python38/python.exe" c:/PythonHome/first.py
Hello, World
PS C:\PythonHome>
```

The terminal output is highlighted with a red rectangular box.

At the bottom, there are status icons for "OUTLINE" and "TIMELINE", and a status bar at the bottom right showing "Ln 1, Col 22" and "Python 3.8.2 64-bit".

# Python IDEs

# Enthought Canopy

- Enthought Canopy (<https://www.enthought.com/products/canopy/>)
  - Half Freeware

The screenshot shows the Enthought Canopy IDE interface. On the left is a 'File Browser' pane with a 'Recent Files' section containing 'instructor'. The main area has a code editor window titled '\*untitled-1' containing the following Python code:

```
1 print ("Hello, World")
2
```

Below the code editor is an IPython console window titled 'Python' with the following output:

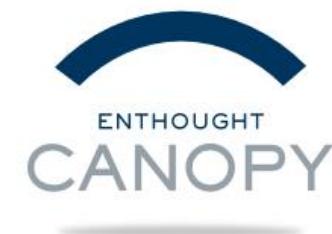
```
Python 2.7.15rc1 |Enthought Canopy| 5.3.0 -- An enhanced Interactive Python.
Type "copyright", "credits" or "license" for more information.

IPython 5.3.0 -- An enhanced Interactive Python.
?          -> Introduction and overview of IPython's features.
%quickref -> Quick reference.
help       -> Python's own help system.
object?    -> Details about 'object', use 'object??' for extra details.

In [1]: %run "c:\users\instructor\appdata\local\temp\tmpipiuljsi.py"
Hello, World

In [2]:
```

The status bar at the bottom shows 'Cursor pos 2: 1' and 'Python 2'.



# Enthought Canopy (Cont.)

[Secure | https://www.enthought.com/products/canopy/](https://www.enthought.com/products/canopy/)

 ENTHOUGHT  
SCIENTIFIC COMPUTING SOLUTIONS

PRODUCTS TRAINING CONSULTING COMPANY CON

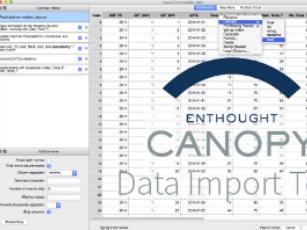
## Enthought Canopy

Proven Scientific Python Distribution Plus Integrated Analysis Environment

Enthought Canopy is a comprehensive [Python analysis environment](#) that provides [easy installation](#) of over 450 core scientific analytic and Python packages, creating a robust platform you can explore, develop, and visualize on. In addition to its [pre-built, tested Python distribution](#), Enthought Canopy has valuable tools for iterative data analysis, visualization and application development including:

- One-Click Python Package Installation with a Graphical Package Manager
- Data Import Tool ([NEW!](#)) for importing columnar text files into Pandas DataFrames and creating repeatable data munging scripts
- Code Editor with Jupyter/IPython Notebook Support
- Interactive Graphical Python Code Debugger and Variable Browser
- Integrated IPython Prompt
- Python for Excel with PyXLL ([add-on](#))
- Integration with the Intel MKL and Microsoft Python Tools for Visual Studio

[Get Canopy >](#)



[Secure | https://www.enthought.com/canopy-subscriptions/](https://www.enthought.com/canopy-subscriptions/)

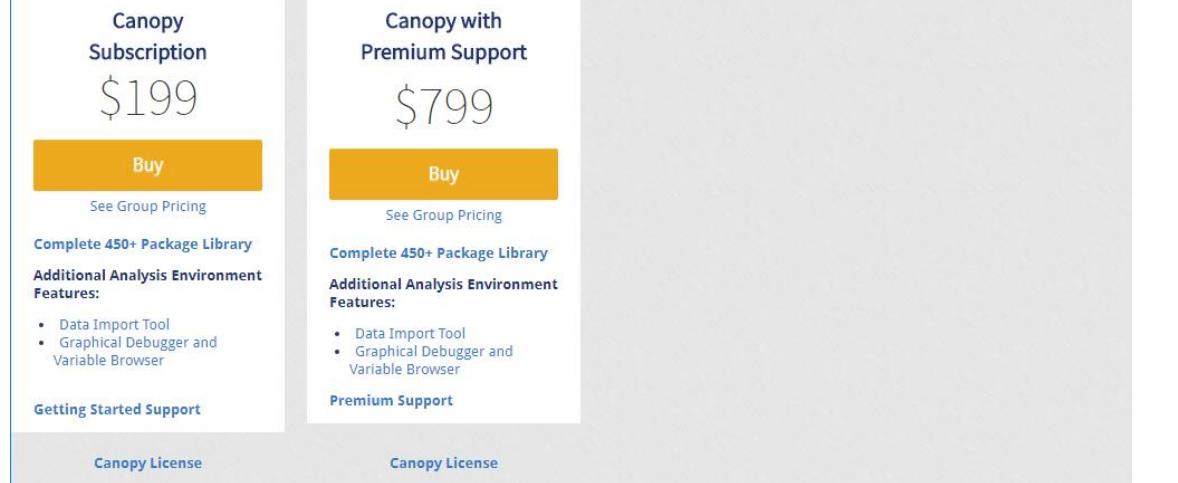
## Download and Subscription Options

Need help choosing the best package for you or your team's needs? [Contact us.](#) (See academic subscriptions [here](#).)

 CANOPY

**Get Started with Canopy Express - FREE**  
450+ Python Packages PLUS Interactive Analysis Environment

[Download](#)



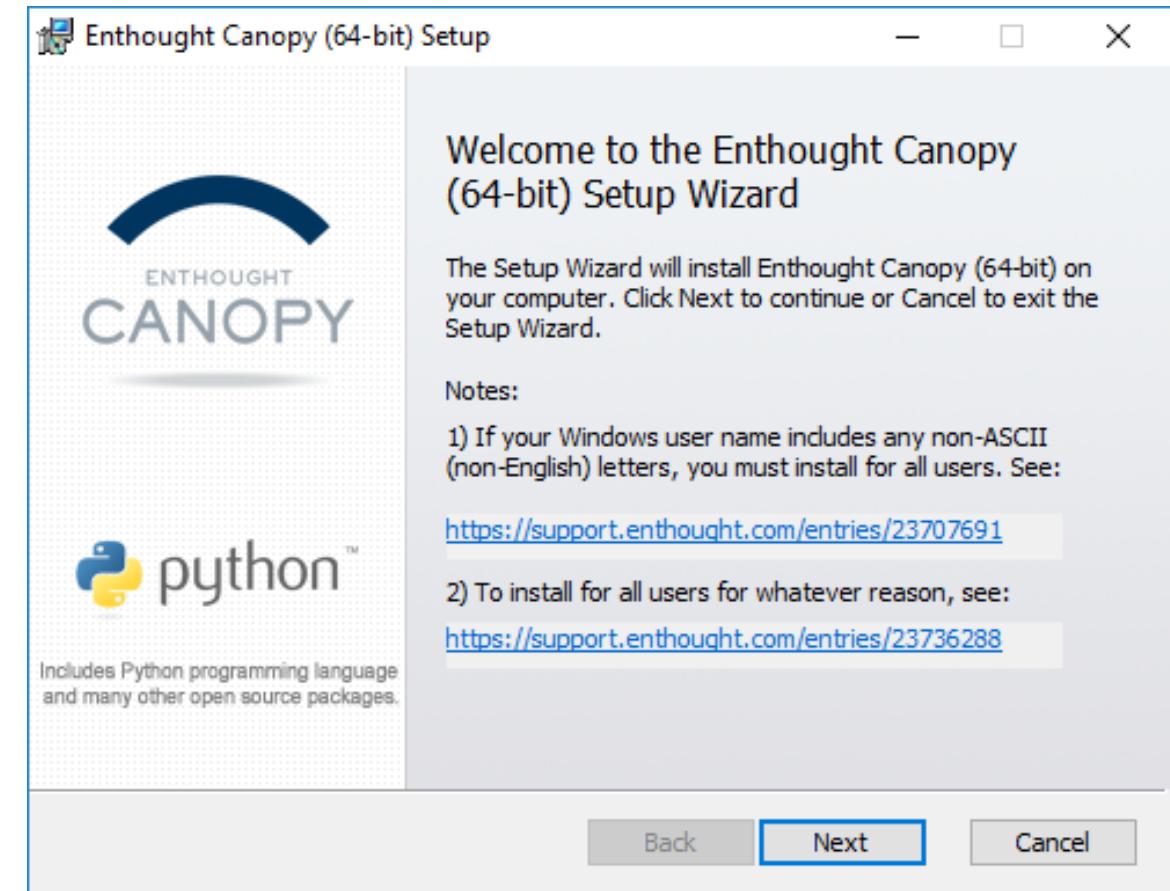
Subscription Type	Price	Features
Canopy Subscription	\$199	<a href="#">Buy</a> <a href="#">See Group Pricing</a> Complete 450+ Package Library Additional Analysis Environment Features: <ul style="list-style-type: none"><li>• Data Import Tool</li><li>• Graphical Debugger and Variable Browser</li></ul>
Canopy with Premium Support	\$799	<a href="#">Buy</a> <a href="#">See Group Pricing</a> Complete 450+ Package Library Additional Analysis Environment Features: <ul style="list-style-type: none"><li>• Data Import Tool</li><li>• Graphical Debugger and Variable Browser</li></ul> <a href="#">Premium Support</a>

[Canopy License](#)    [Canopy License](#)

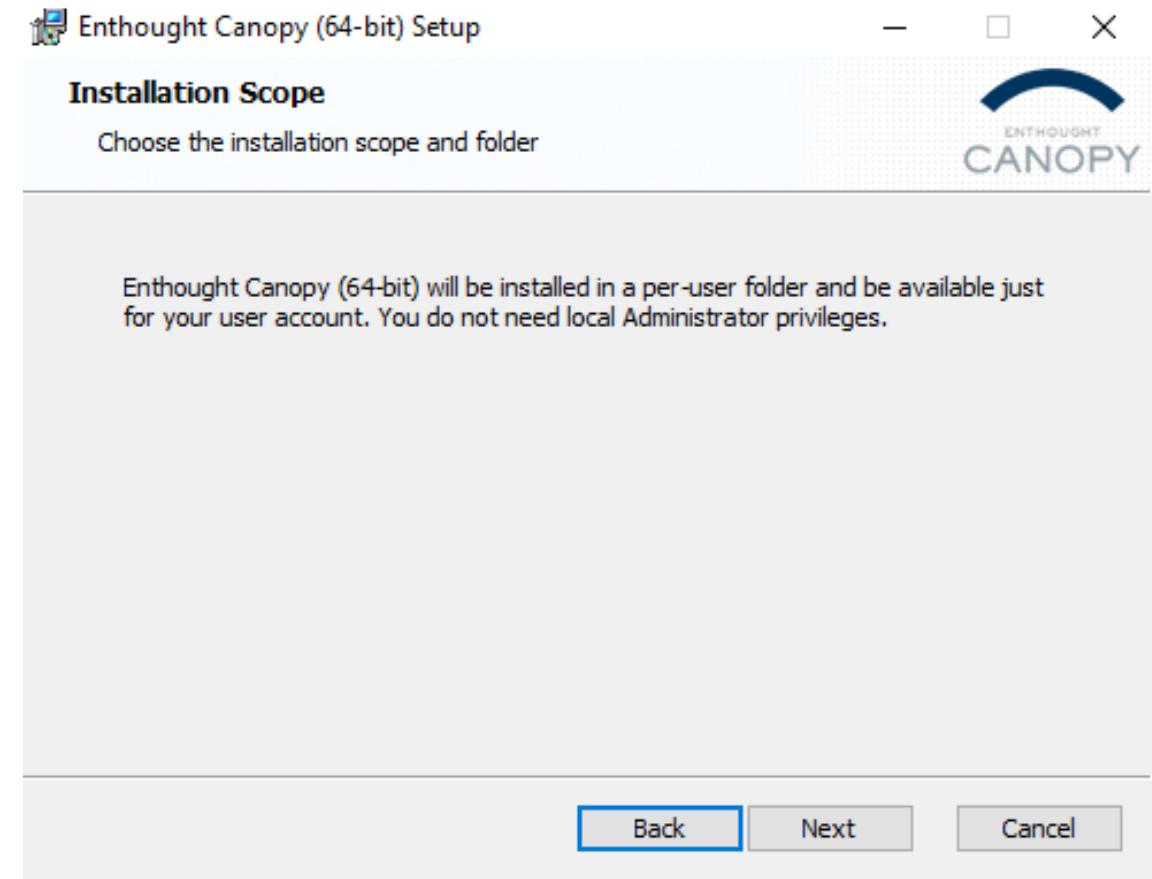
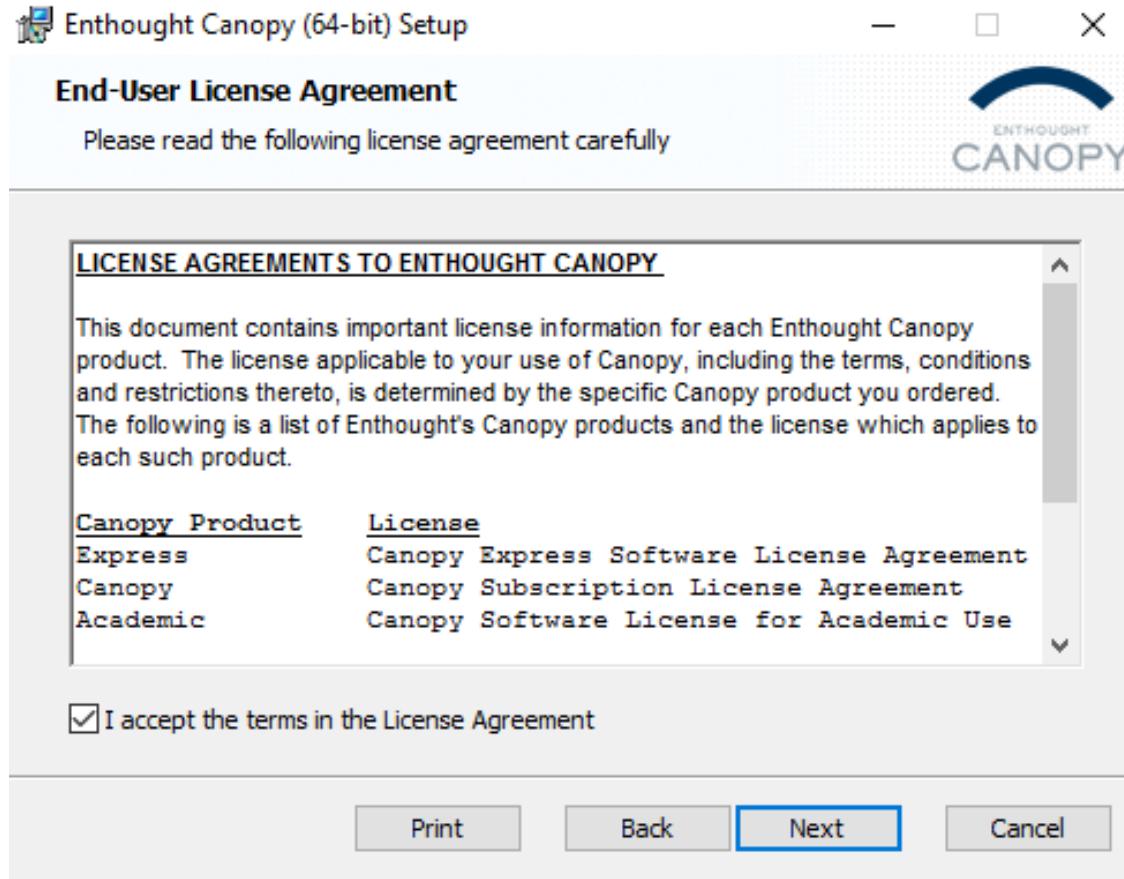
# Enthought Canopy (Cont.)

The screenshot shows the Enthought Canopy download page at <https://store.enthought.com/downloads/#default>. The page displays a table of available Python distributions:

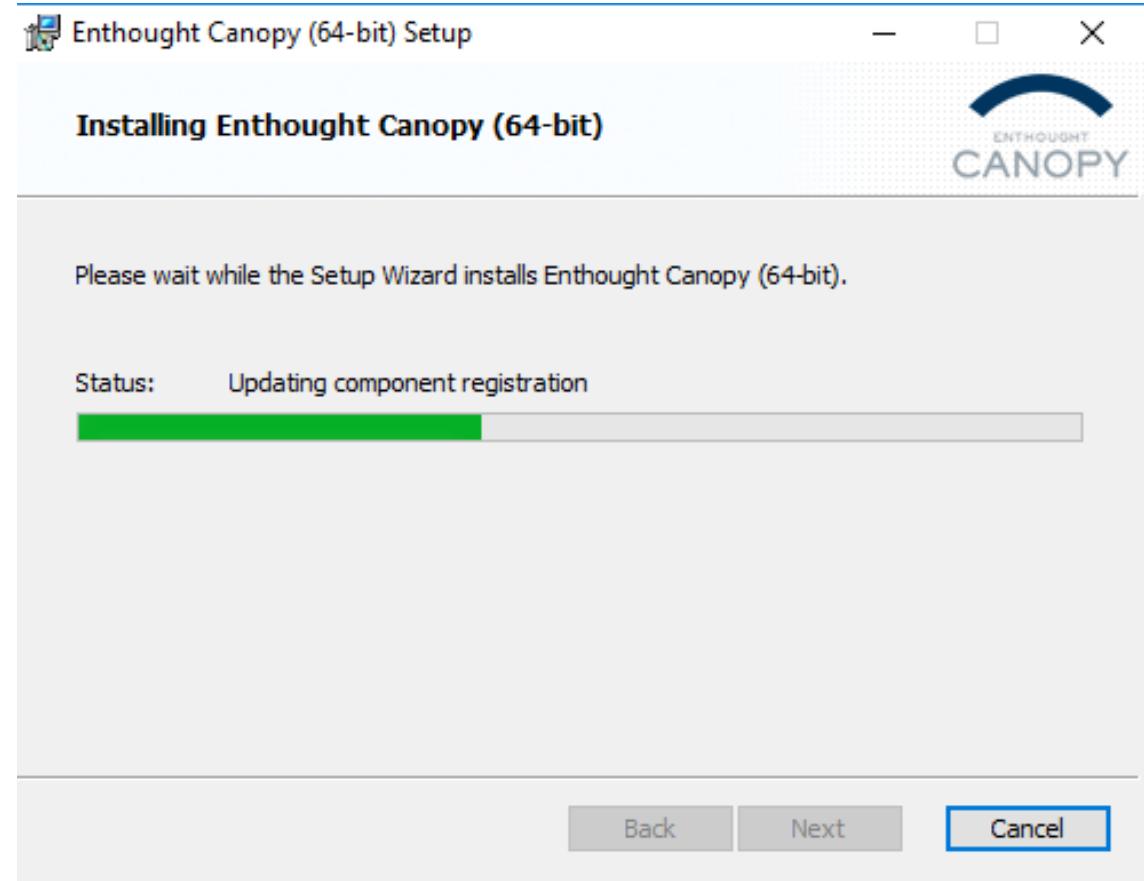
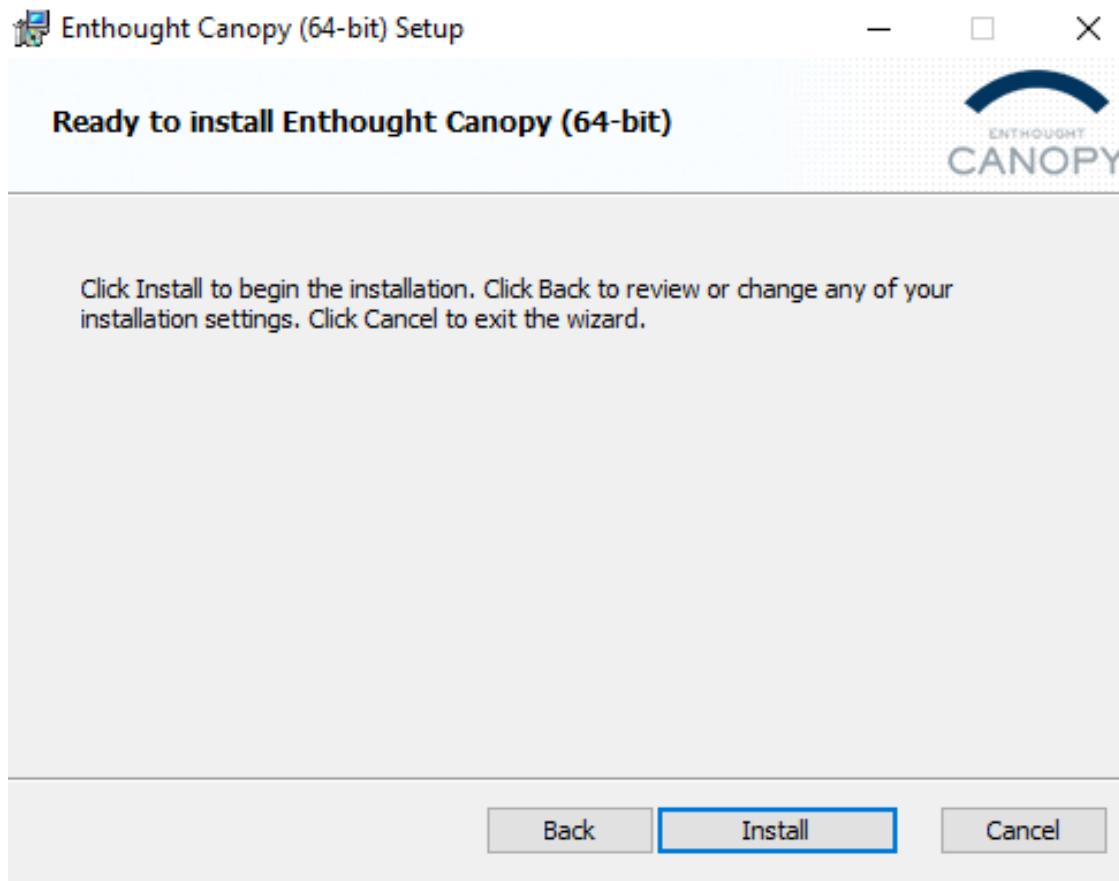
Platform	Python	Released	Size	MD5
Linux [64-bit]	2.7	<a href="#">download</a>	2017-06-16	697.8 MB
Linux [64-bit]	3.5	<a href="#">download</a>	2017-06-16	574.8 MB
macOS [64-bit]	2.7	<a href="#">download</a>	2017-06-16	572.1 MB
macOS [64-bit]	3.5	<a href="#">download</a>	2017-06-16	464.0 MB
Windows [64-bit]	2.7	<a href="#">download</a>	2017-06-16	513.8 MB
Windows [64-bit]	2.7	<a href="#">download</a>	2017-06-16	420.9 MB
Windows [64-bit]	3.5	<a href="#">download</a>	2017-06-16	431.3 MB
Windows [32-bit]	3.5	<a href="#">download</a>	2017-06-16	550.2 MB



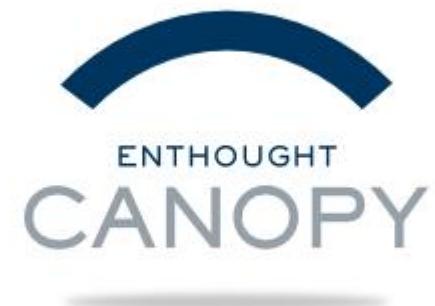
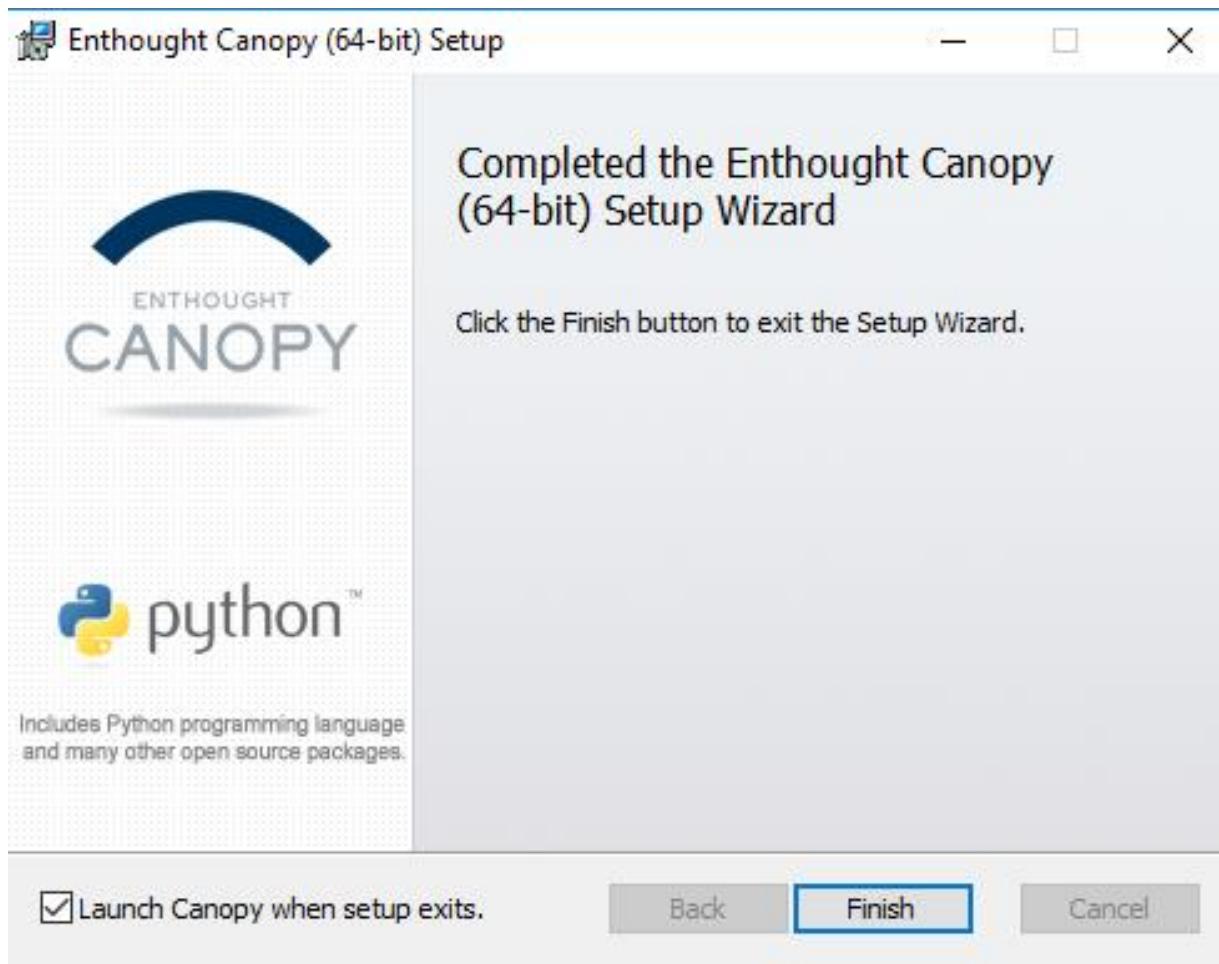
# Enthought Canopy (Cont.)



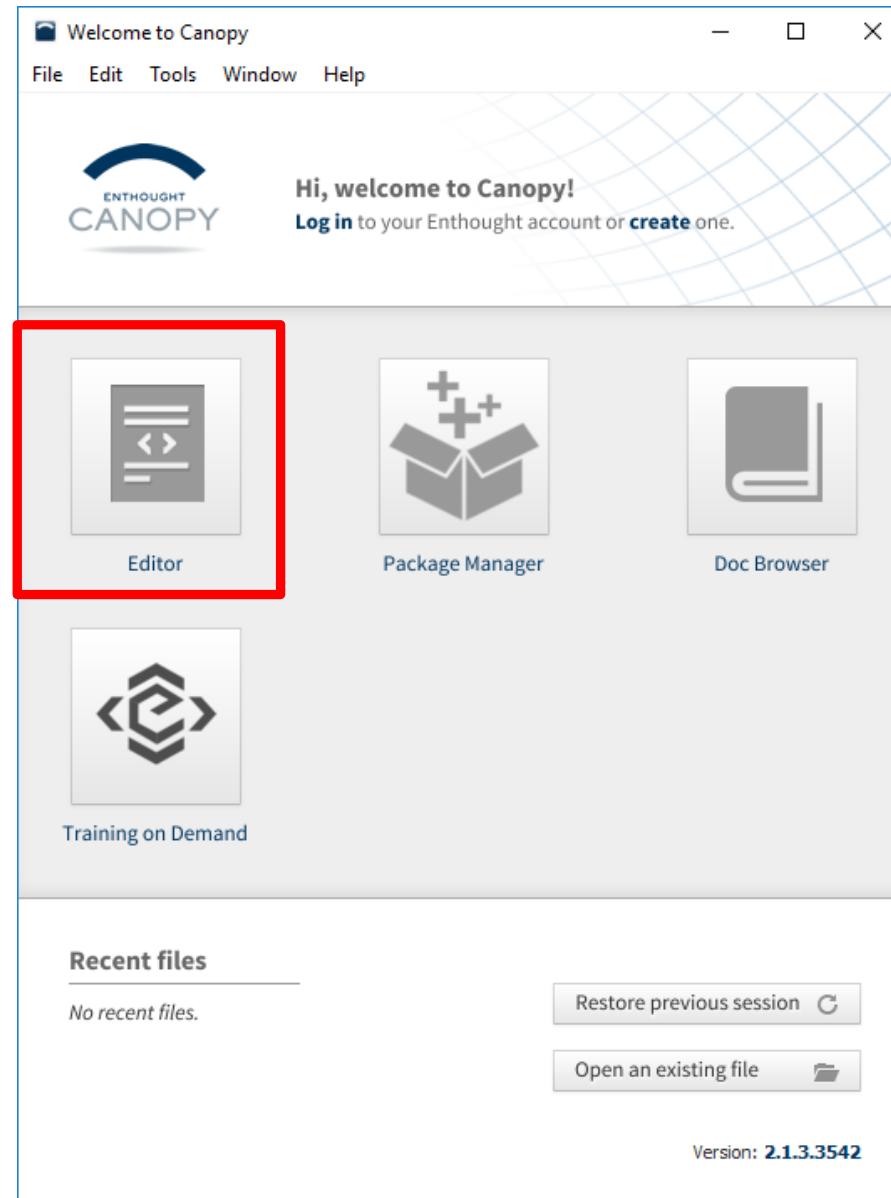
# Enthought Canopy (Cont.)



# Enthought Canopy (Cont.)



# Enthought Canopy (Cont.)



# Eclipse & PyDev in Windows

- Eclipse (<http://www.eclipse.org/>) – Freeware

The screenshot shows the Eclipse IDE interface with the following details:

- Title Bar:** Python Home - 0823/hello.py - Eclipse
- Menu Bar:** File Edit Refactoring Source Navigate Search Project Pydev Run Window Help
- Toolbar:** Standard Eclipse toolbar with various icons.
- PyDev View:** Shows a project named "0823" containing files "hello.py" and "python (C:\Program Files\Python36\python.exe)".
- Editor View:** Displays the Python code for "hello.py":

```
1 import sys
2 print(sys.version)
3
4 print ("Hello, World")
5
6 print (sys.version_info)
```
- Console View:** Shows the output of running the script:

```
<terminated> hello.py [C:\Program Files\Python36\python.exe]
3.6.2 (v3.6.2:5fd33b5, Jul  8 2017, 04:57:36) [MSC v.1900 64 bit (AMD64)]
Hello, World
sys.version_info(major=3, minor=6, micro=2, releaselevel='final', serial=0)
```
- Status Bar:** Writable Insert 7:1



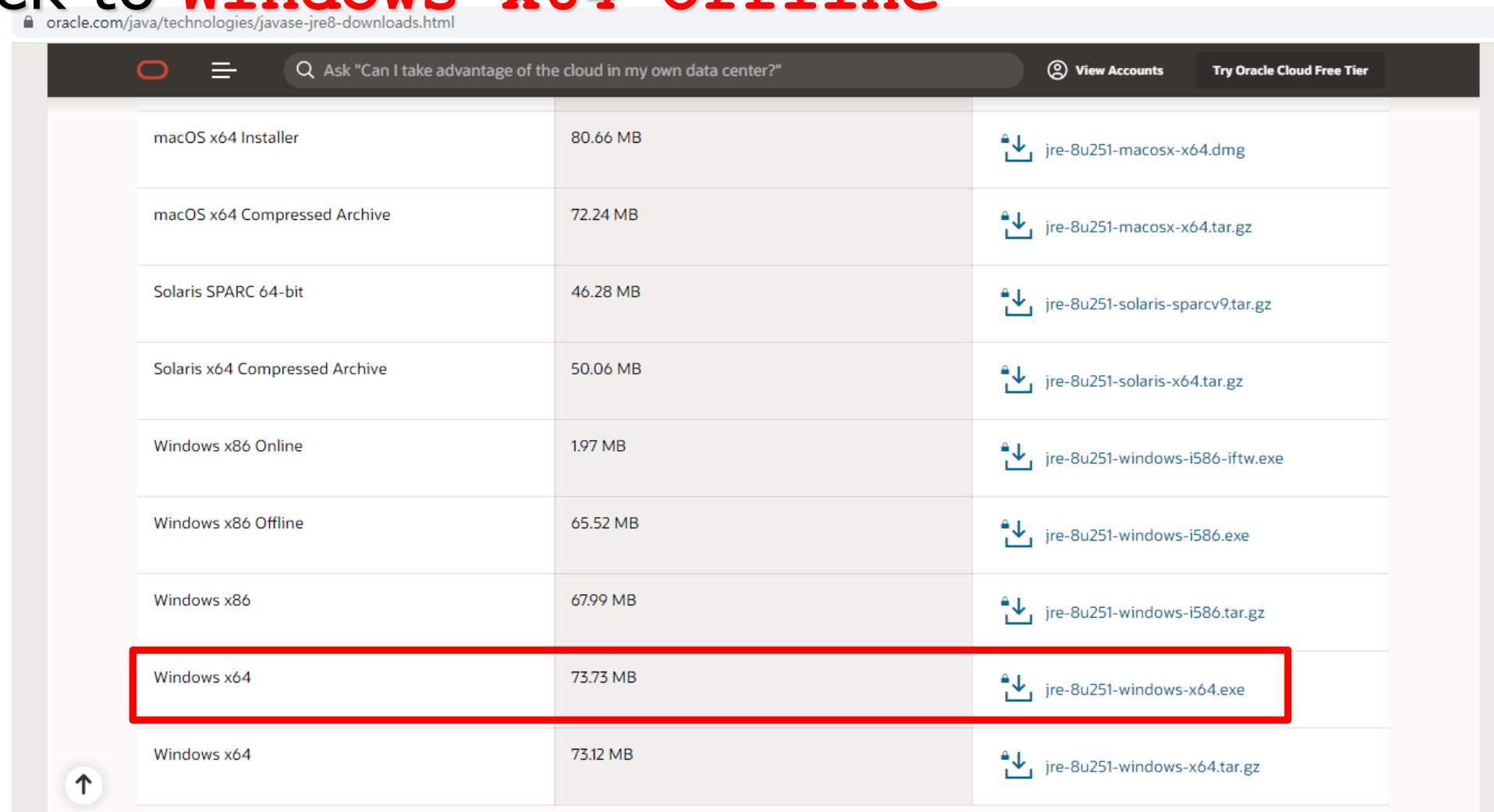
# Eclipse & PyDev in Windows (Cont.)

## 1. Google Search for **jre download 1.8**



# Eclipse & PyDev in Windows (Cont.)

## 2. Click to Windows x64 Offline

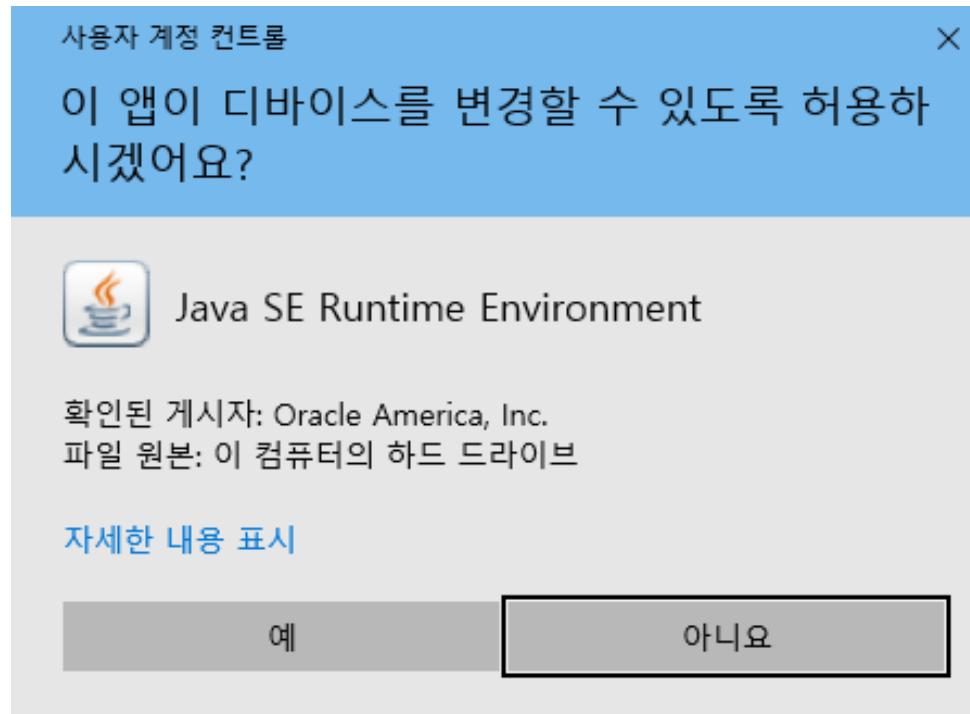


The screenshot shows a list of Java download options from oracle.com. The 'Windows x64' row is highlighted with a red box. The table has three columns: file name, size, and download link.

macOS x64 Installer	80.66 MB	<a href="#">jre-8u251-macosx-x64.dmg</a>
macOS x64 Compressed Archive	72.24 MB	<a href="#">jre-8u251-macosx-x64.tar.gz</a>
Solaris SPARC 64-bit	46.28 MB	<a href="#">jre-8u251-solaris-sparcv9.tar.gz</a>
Solaris x64 Compressed Archive	50.06 MB	<a href="#">jre-8u251-solaris-x64.tar.gz</a>
Windows x86 Online	1.97 MB	<a href="#">jre-8u251-windows-i586-iftw.exe</a>
Windows x86 Offline	65.52 MB	<a href="#">jre-8u251-windows-i586.exe</a>
Windows x86	67.99 MB	<a href="#">jre-8u251-windows-i586.tar.gz</a>
Windows x64	73.73 MB	<a href="#">jre-8u251-windows-x64.exe</a>
Windows x64	73.12 MB	<a href="#">jre-8u251-windows-x64.tar.gz</a>

# Eclipse & PyDev in Windows (Cont.)

## 3. Install Java SE Runtime Environment 8 Update 251



# Eclipse & PyDev in Windows (Cont.)

4. Visit <http://www.eclipse.org>

The screenshot shows the Eclipse Foundation website. At the top, there is a navigation bar with links for 'Members', 'Working Groups', 'Projects', and 'More'. A prominent orange button labeled 'Download' is highlighted with a red box. Below the navigation, the text 'The Platform for Open Innovation and Collaboration' is displayed. Underneath this, a paragraph describes the foundation's mission: 'The Eclipse Foundation provides our global community of individuals and organizations with a mature, scalable and commercially-friendly environment for open source software collaboration and innovation.' Below this text are four orange buttons with icons: 'Members' (people icon), 'Working Groups' (share icon), 'Discover Projects' (eye icon), and 'Business Value' (suitcase icon). The bottom half of the page features a large advertisement for 'JakartaOne Livestream Cloud Native for Java' with a call to action 'Register today'. To the right, there is a 'Sponsored Ad' for 'Jakarta tech talks' about 'Keeping Brazil's Medical Industry Safe with MicroProfile and Jakarta EE'.

<http://www.eclipse.org>

**ECLIPSE FOUNDATION**

Members Working Groups Projects More

Download

The Platform for Open Innovation and Collaboration

The Eclipse Foundation provides our global community of individuals and organizations with a mature, scalable and commercially-friendly environment for open source software collaboration and innovation.

Members Working Groups Discover Projects Business Value

JakartaOne Livestream Cloud Native for Java

Build Enterprise Java on Kubernetes!

Register today

Sponsored Ad

Jakarta tech talks

Keeping Brazil's Medical Industry Safe with MicroProfile and Jakarta EE

with Cesar Hernandez and Rafael Guimaraes

Apr 29 - 8am PT / 11am ET / 5pm CET

RSVP HERE

# Eclipse & PyDev in Windows (Cont.)

## 4. Visit <http://www.eclipse.org>

Download Eclipse Technology  
that is right for you

The screenshot shows the Eclipse.org homepage. On the left, there's a large callout box with the text "Download Eclipse Technology that is right for you". Below it, there's a section for "Eclipse IDE 2020-03" with a logo, a download button for "Download 64 bit", and links for "Download Packages" and "Need Help?". To the right, there's a "Tool Platforms" section with a button, and below it are sections for "Eclipse Che" and "ORION".

Tool Platforms

Get **Eclipse IDE 2020-03**

Install your favorite desktop IDE packages.

Download 64 bit

Download Packages | Need Help?

Eclipse Che

Eclipse Che is a developer workspace server and cloud IDE.

ORION

A modern, open source development environment that runs in the cloud

# Eclipse & PyDev in Windows (Cont.)

## 5. Downloads **Eclipse for Windows 64-bit**

Try the Eclipse **Installer** 2020-03 R

The easiest way to install and update your Eclipse Development Environment.

[Find out more](#)  
 **2,102,787 Downloads**

**Download**

[Mac OS X 64 bit](#)  
[Windows 64 bit](#)  
[Linux 64 bit](#)

Eclipse IDE 2020-03 R Packages

---

**Eclipse IDE for Java Developers**



106 MB | 383,822 DOWNLOADS

The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Mylyn, Maven and Gradle integration

 Windows 64-bit  
Mac Cocoa 64-bit  
Linux 64-bit

---

**Eclipse IDE for Enterprise Java Developers (includes Incubating components)**



400 MB | 325,245 DOWNLOADS

Tools for developers creating Java Enterprise and Web applications. including a

 Windows 64-bit  
Mac OS X 64-bit  
Linux 64-bit

# Eclipse & PyDev in Windows (Cont.)

## 5. Downloads Eclipse for Windows 64-bit (Cont.)

The screenshot shows the Eclipse Foundation's website interface. At the top, there is a dark header with the Eclipse Foundation logo, navigation links for 'Members', 'Working Groups', 'Projects', and 'More', and links for 'Log in' and 'Manage Cookies'. Below the header, the URL 'Home / Downloads / Eclipse downloads - Select a mirror' is visible. A note states: 'All downloads are provided under the terms and conditions of the Eclipse Foundation Software User Agreement unless otherwise specified.' A large orange 'Download' button is prominently displayed. Below it, the download information is listed: 'Download from: Korea, Republic Of - Daum Kakao Corp. (http)', 'File: eclipse-java-2020-03-R-win32-x86\_64.zip', and 'SHA-512'. There is also a link to 'Select Another Mirror'. To the right of the main content area, there is a sidebar for 'JakartaOne Livestream Cloud Native for Java' with icons for 'Virtual', 'May 12, 2020', and a 'REGISTER NOW' button. At the bottom left, a purple banner says 'OR Get It Faster from our Members'. On the right side, there is a section titled 'Other options for this file' with a list containing 'All mirrors (xml)' and 'Direct link to file (download starts immediately from'.

Log in Manage Cookies

ECLIPSE FOUNDATION

Members Working Groups Projects More ▾

Home / Downloads / Eclipse downloads - Select a mirror

All downloads are provided under the terms and conditions of the Eclipse Foundation Software User Agreement unless otherwise specified.

**Download**

Download from: Korea, Republic Of - Daum Kakao Corp. (http)

File: [eclipse-java-2020-03-R-win32-x86\\_64.zip](#) SHA-512

>> Select Another Mirror

JakartaOne Livestream  
Cloud Native for Java

Virtual May 12, 2020

REGISTER NOW

JAKARTA EE MICROPROFILE

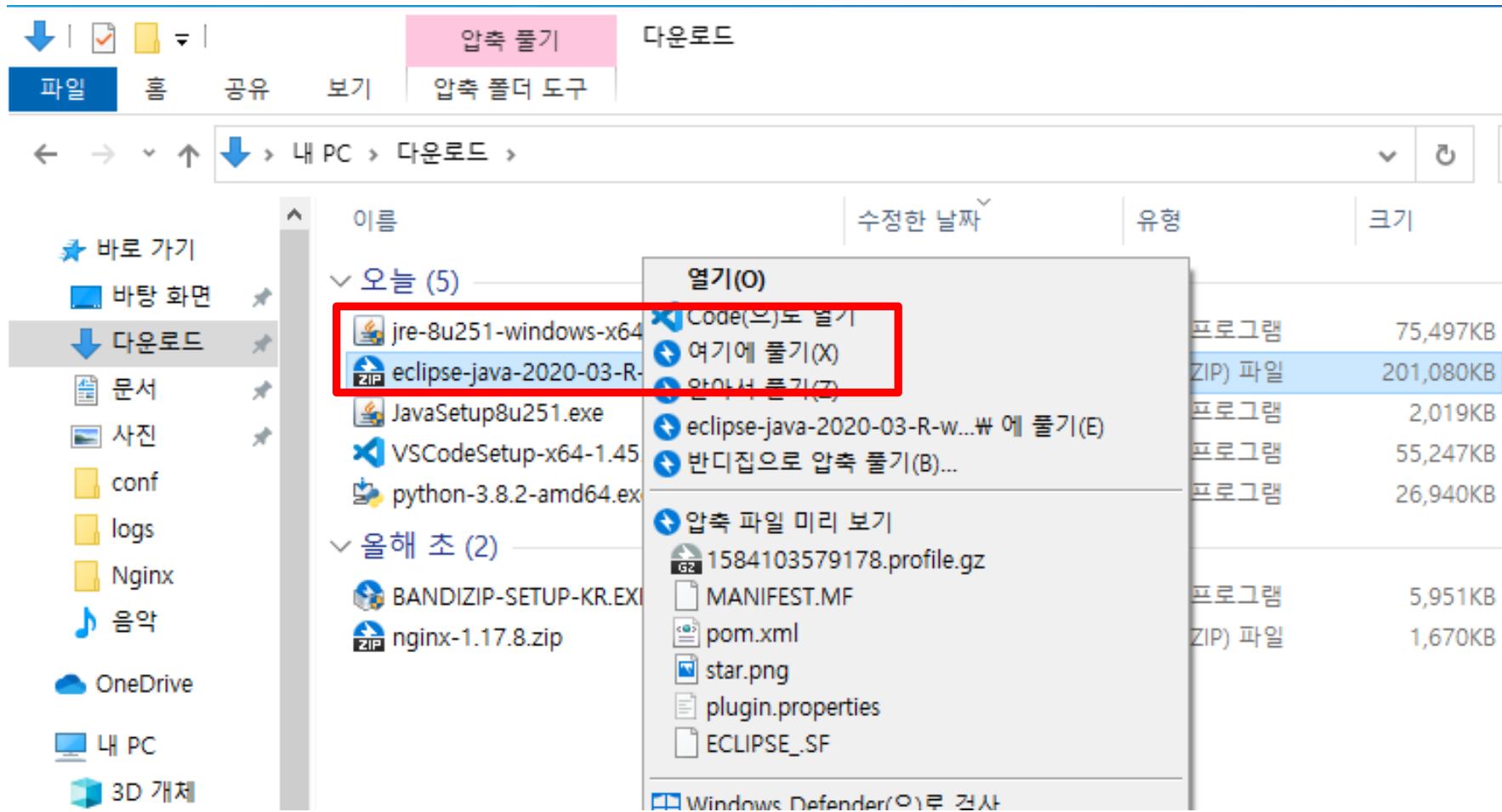
Other options for this file

- All mirrors (xml)
- Direct link to file (download starts immediately from

OR Get It Faster from our Members

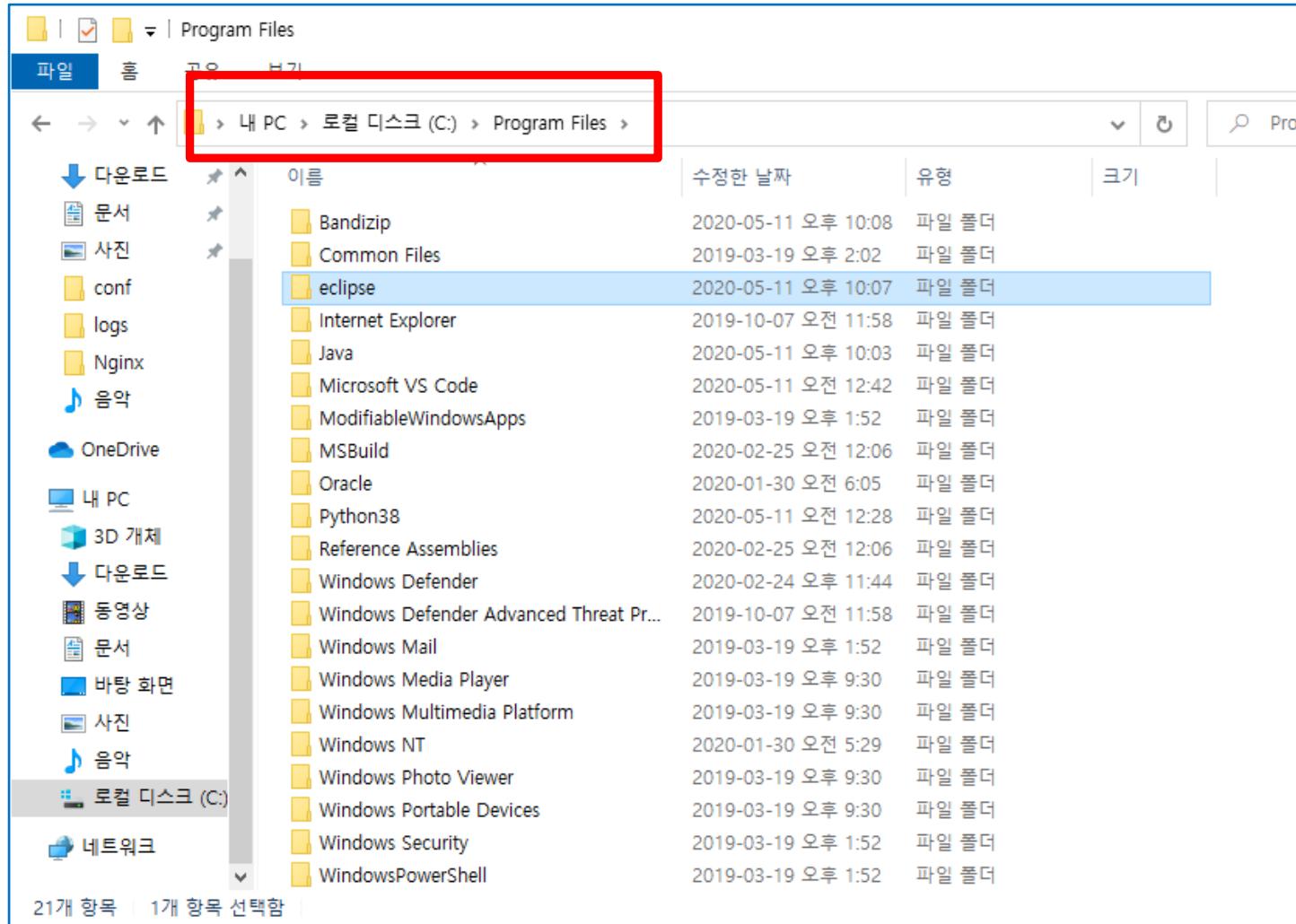
# Eclipse & PyDev in Windows (Cont.)

## 6. Uncompress **eclipse-java-\*\*.zip**



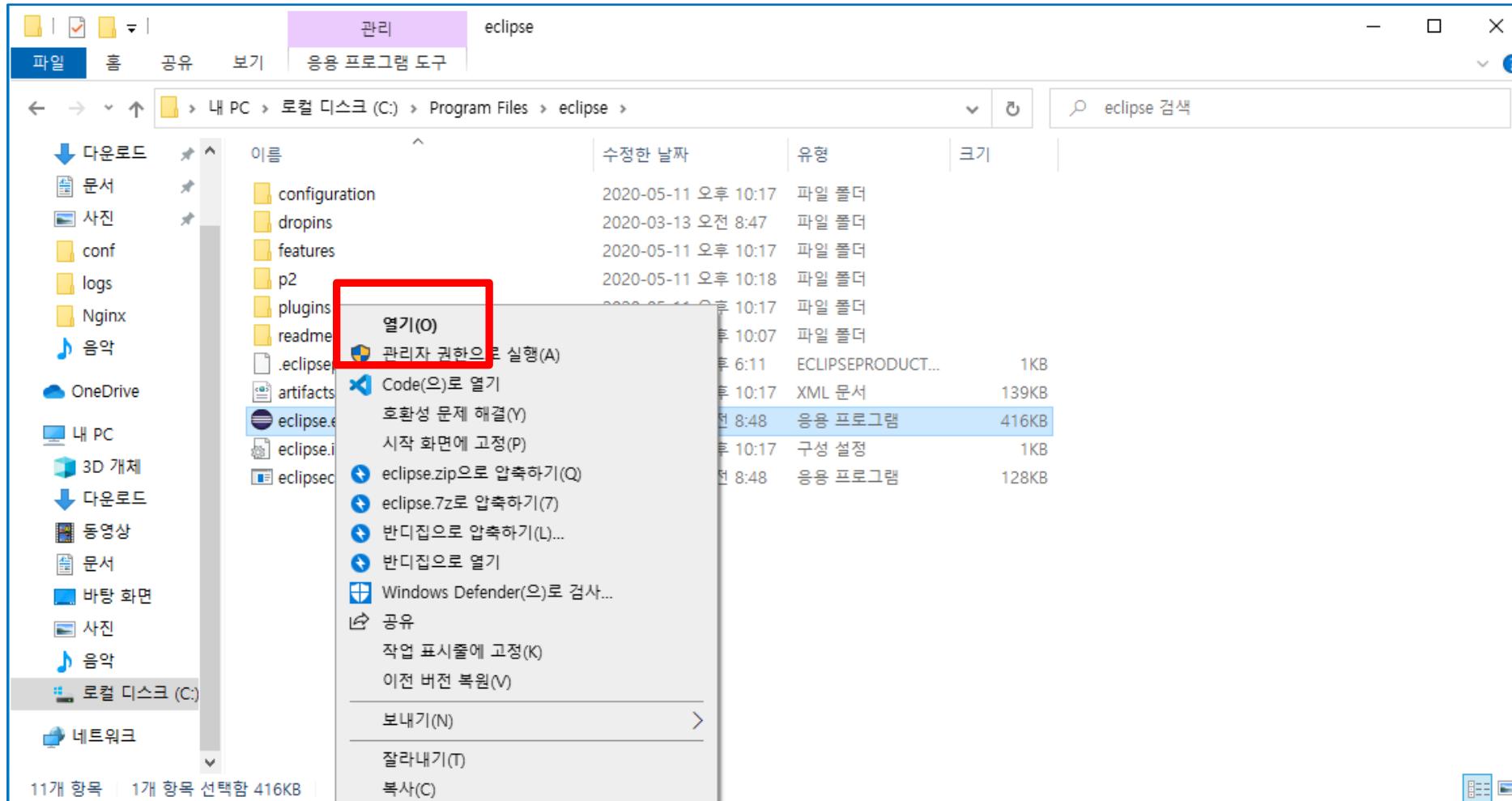
# Eclipse & PyDev in Windows (Cont.)

## 7. Move uncompressed **eclipse** into **Program Files**



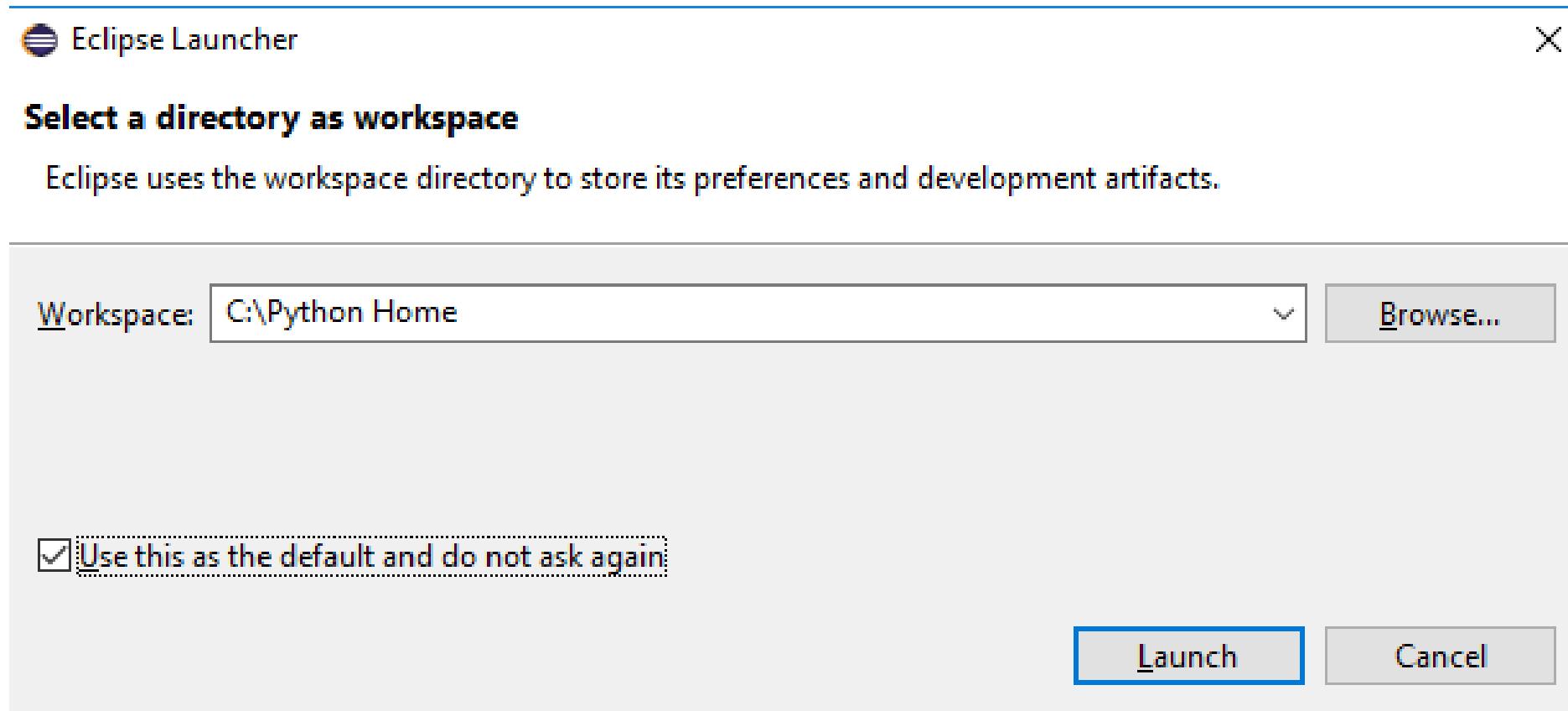
# Eclipse & PyDev in Windows (Cont.)

## 8. Execute `eclipse`

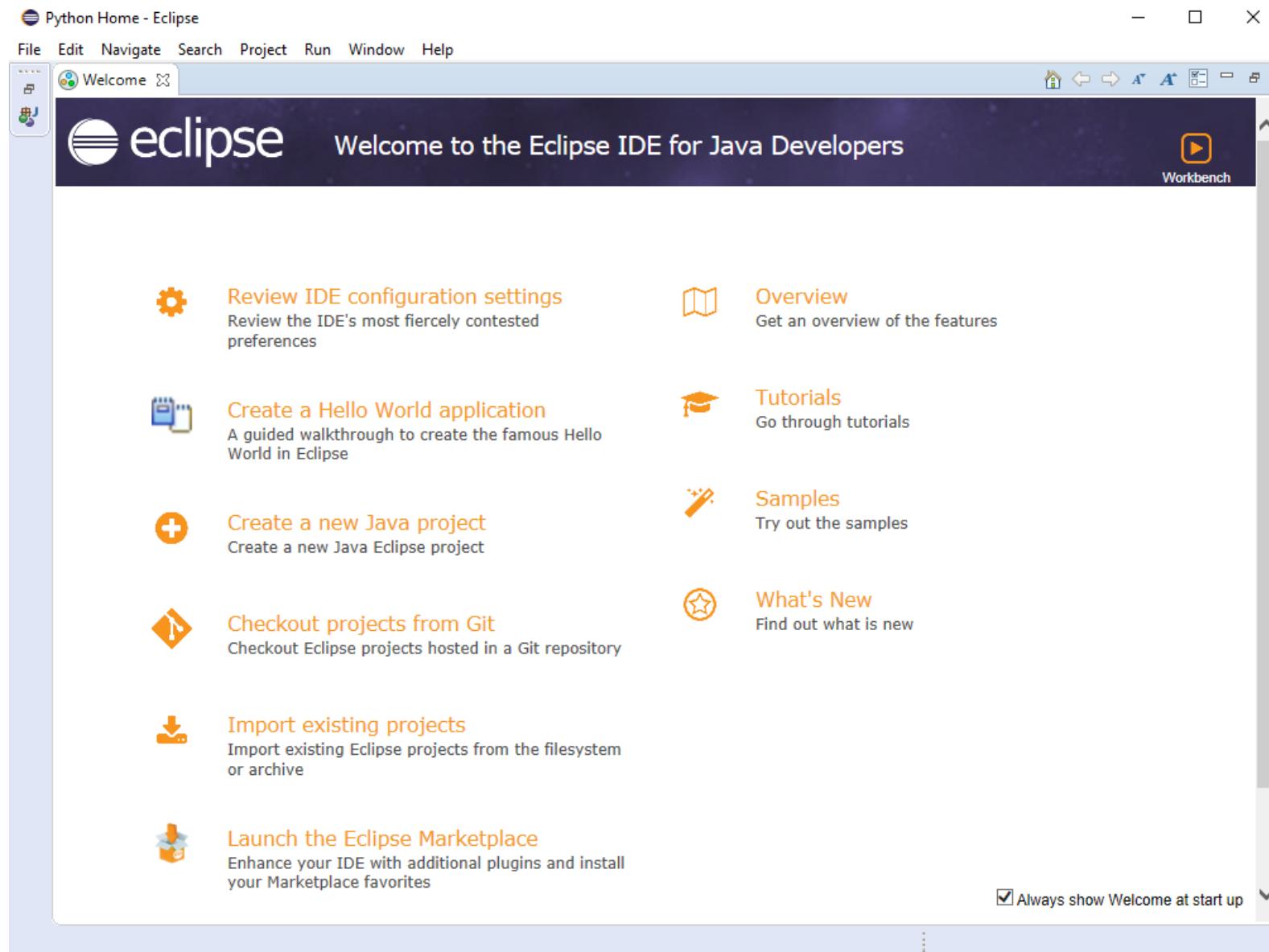


# Eclipse & PyDev in Windows (Cont.)

## 9. Select **workspace** for python code.

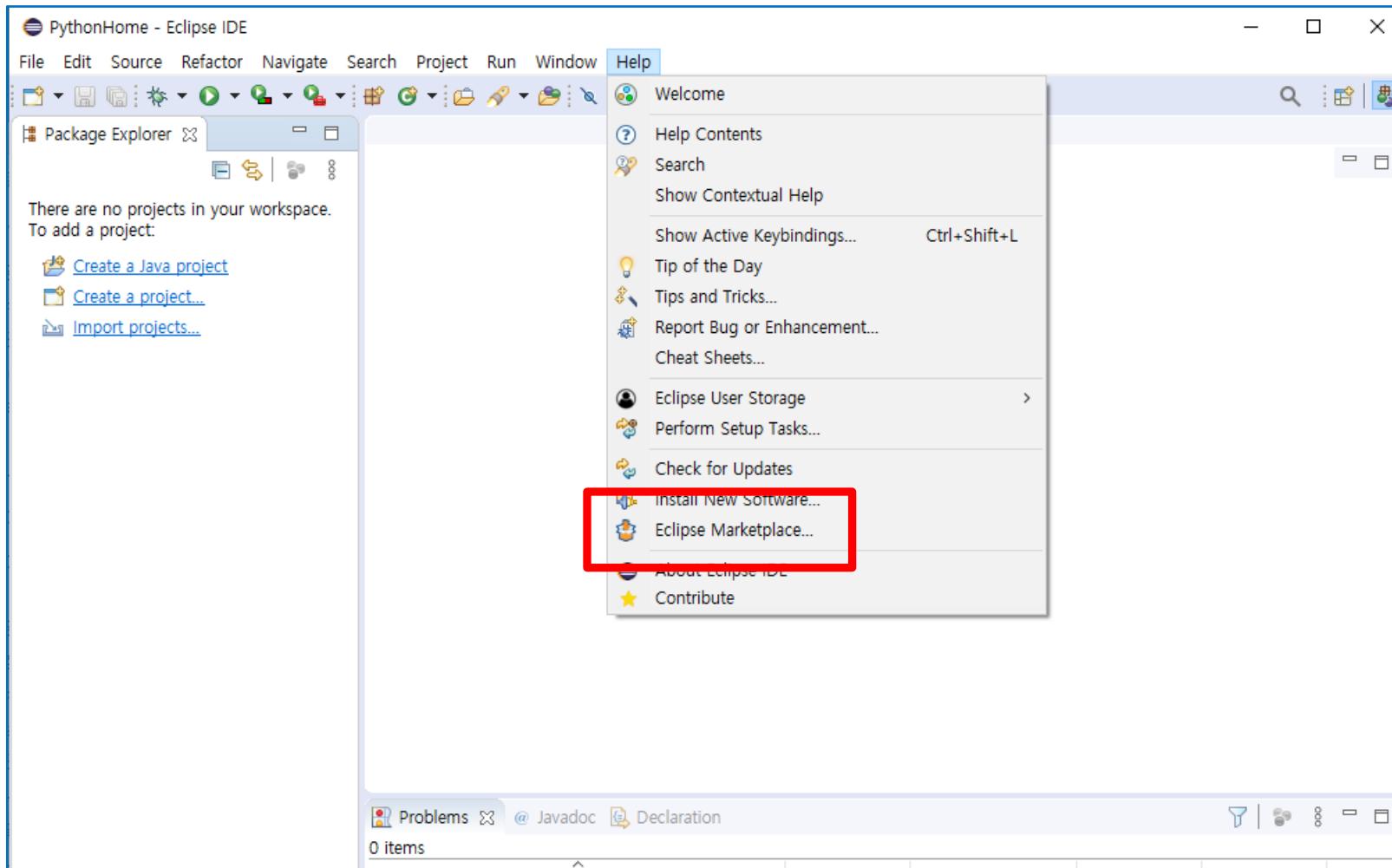


# Eclipse & PyDev in Windows (Cont.)



# Eclipse & PyDev in Windows (Cont.)

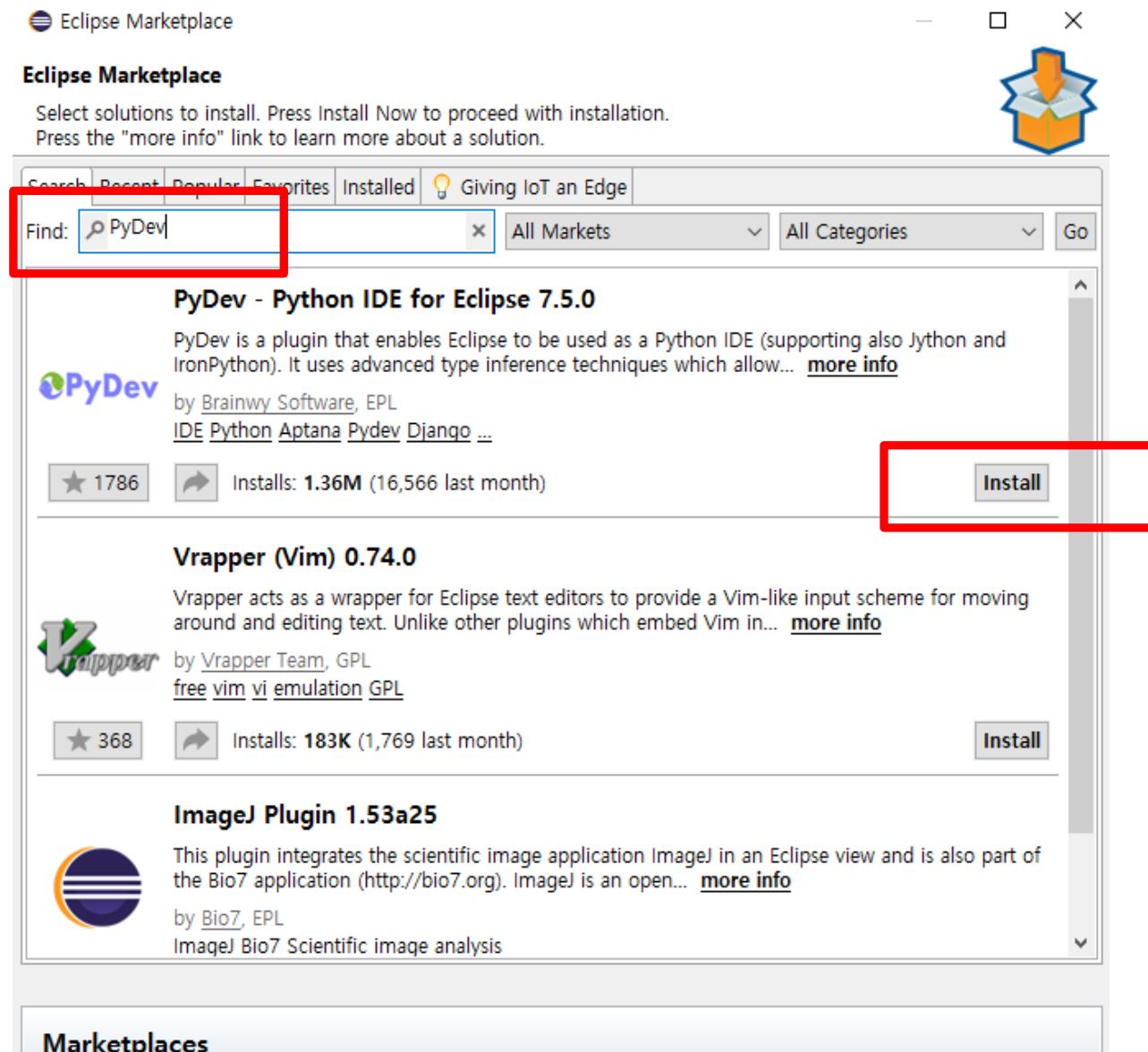
10. Click to **Help** > **Eclipse Marketplace...**



# Eclipse & PyDev in Windows (Cont.)

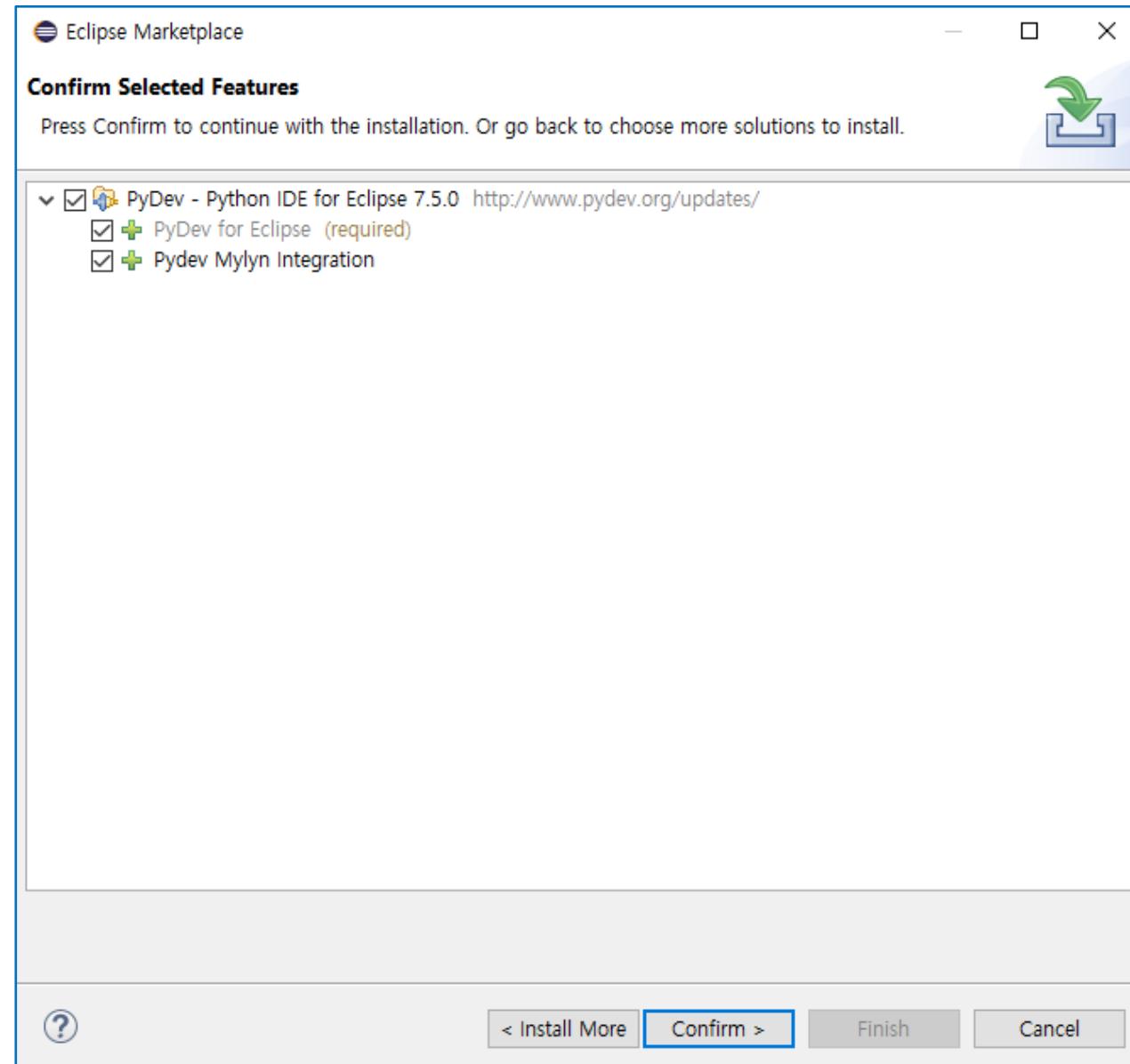
11. Search for **PyDev**

12. Click **Install**



# Eclipse & PyDev in Windows (Cont.)

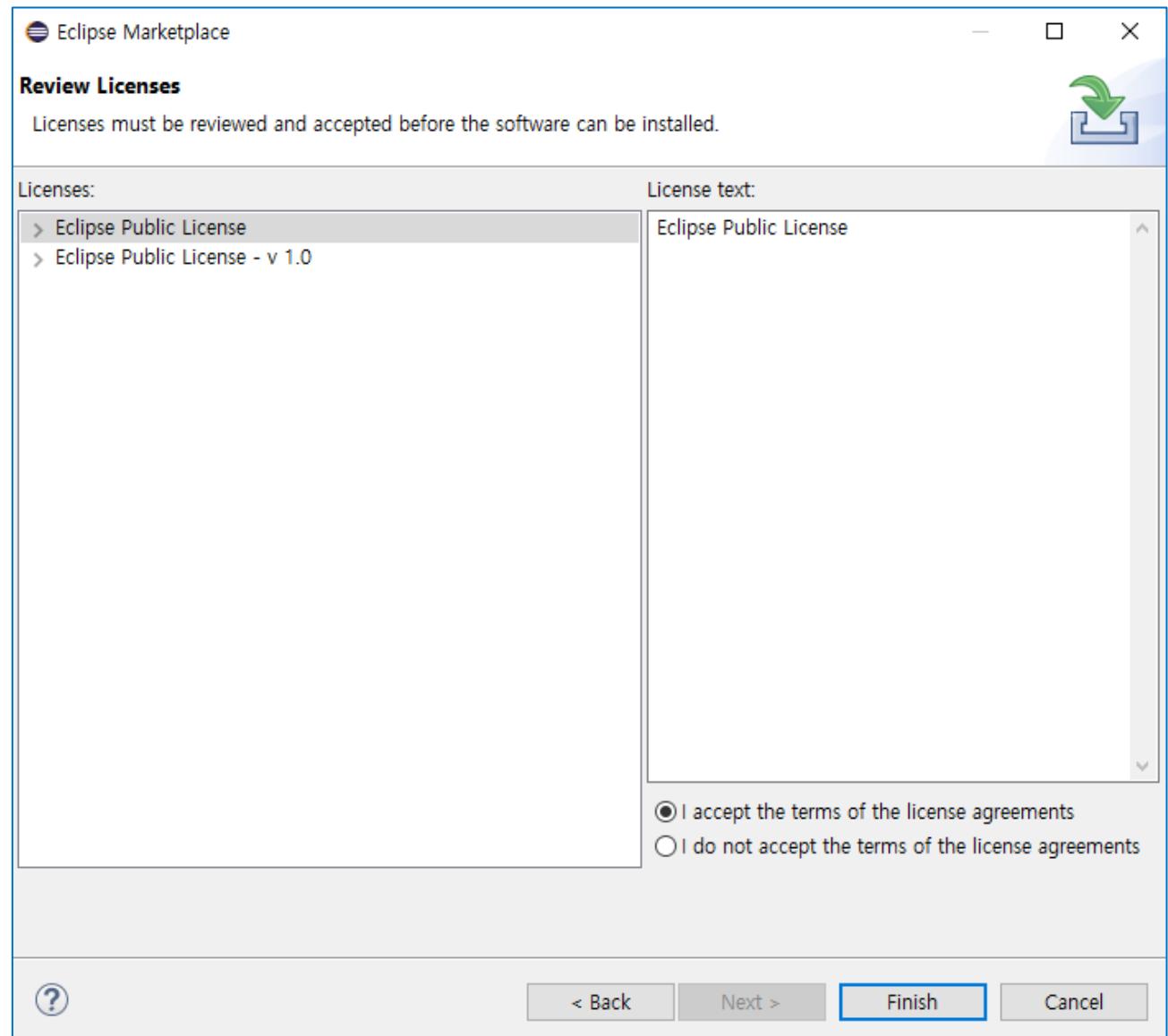
## 13. Click Confirm



# Eclipse & PyDev in Windows (Cont.)

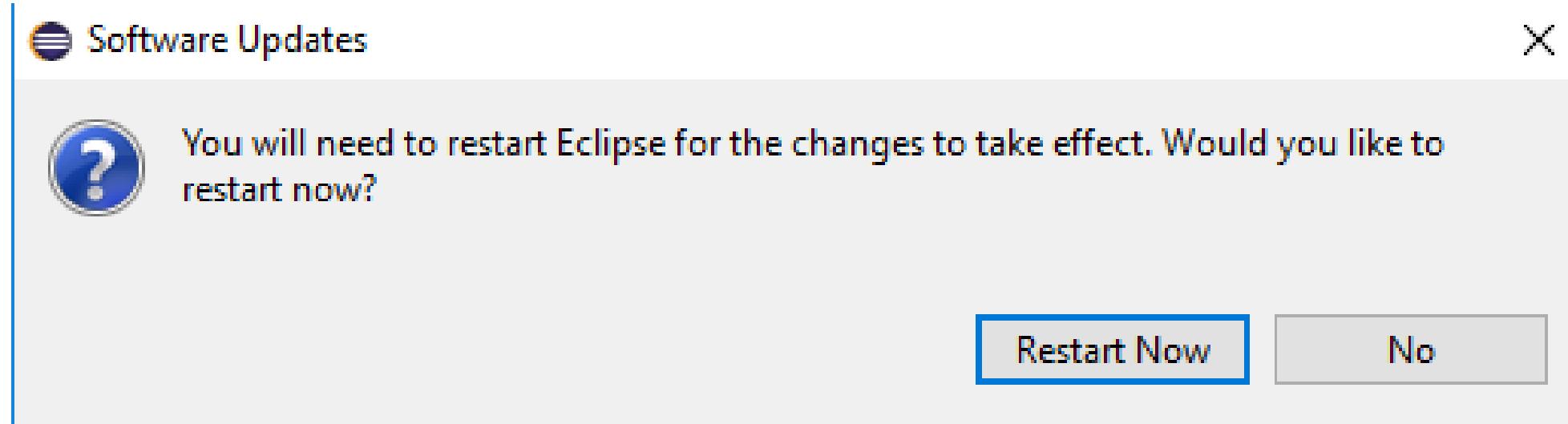
14. Select **I accept..**

15. Click **Finish**



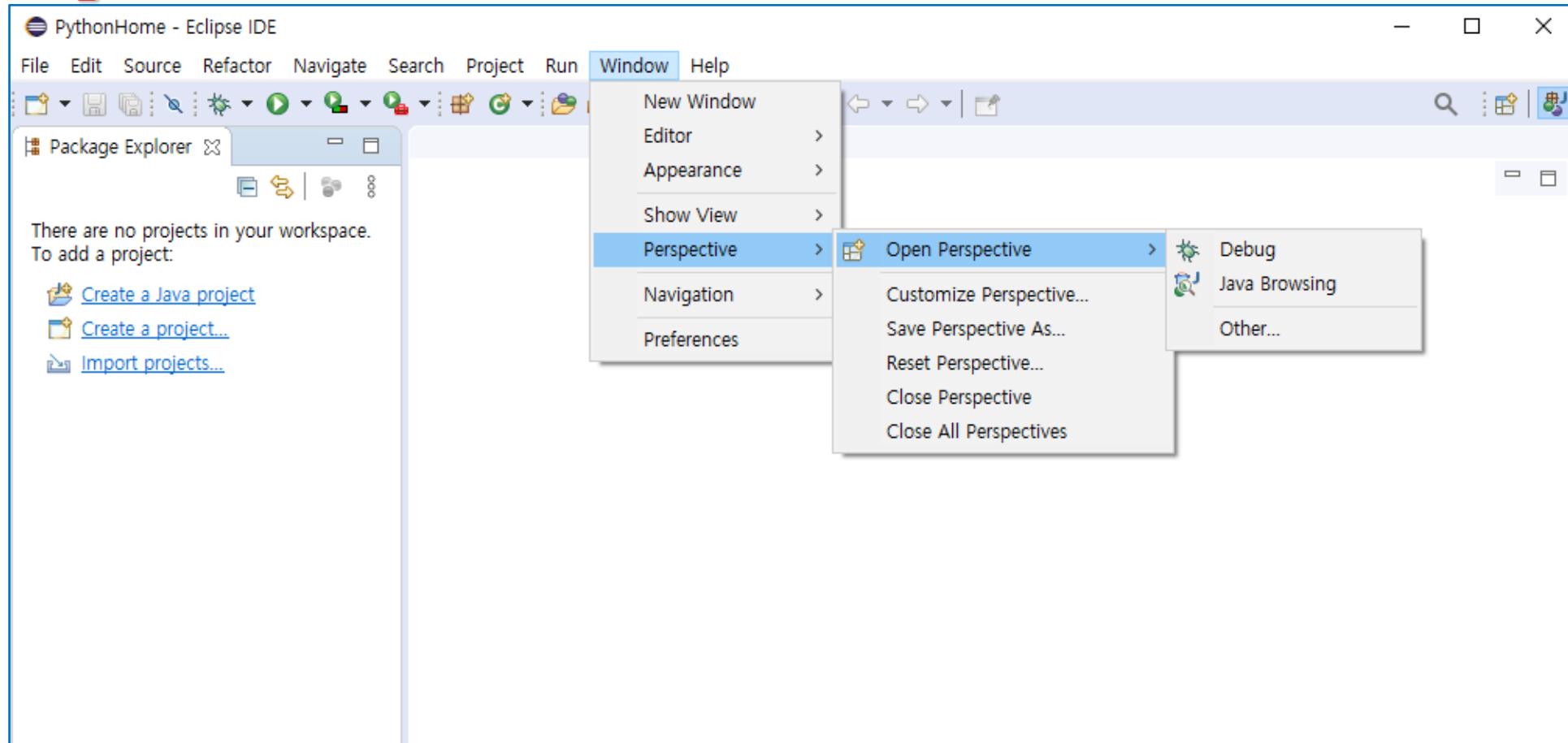
# Eclipse & PyDev in Windows (Cont.)

## 16. Click **Restart Now**



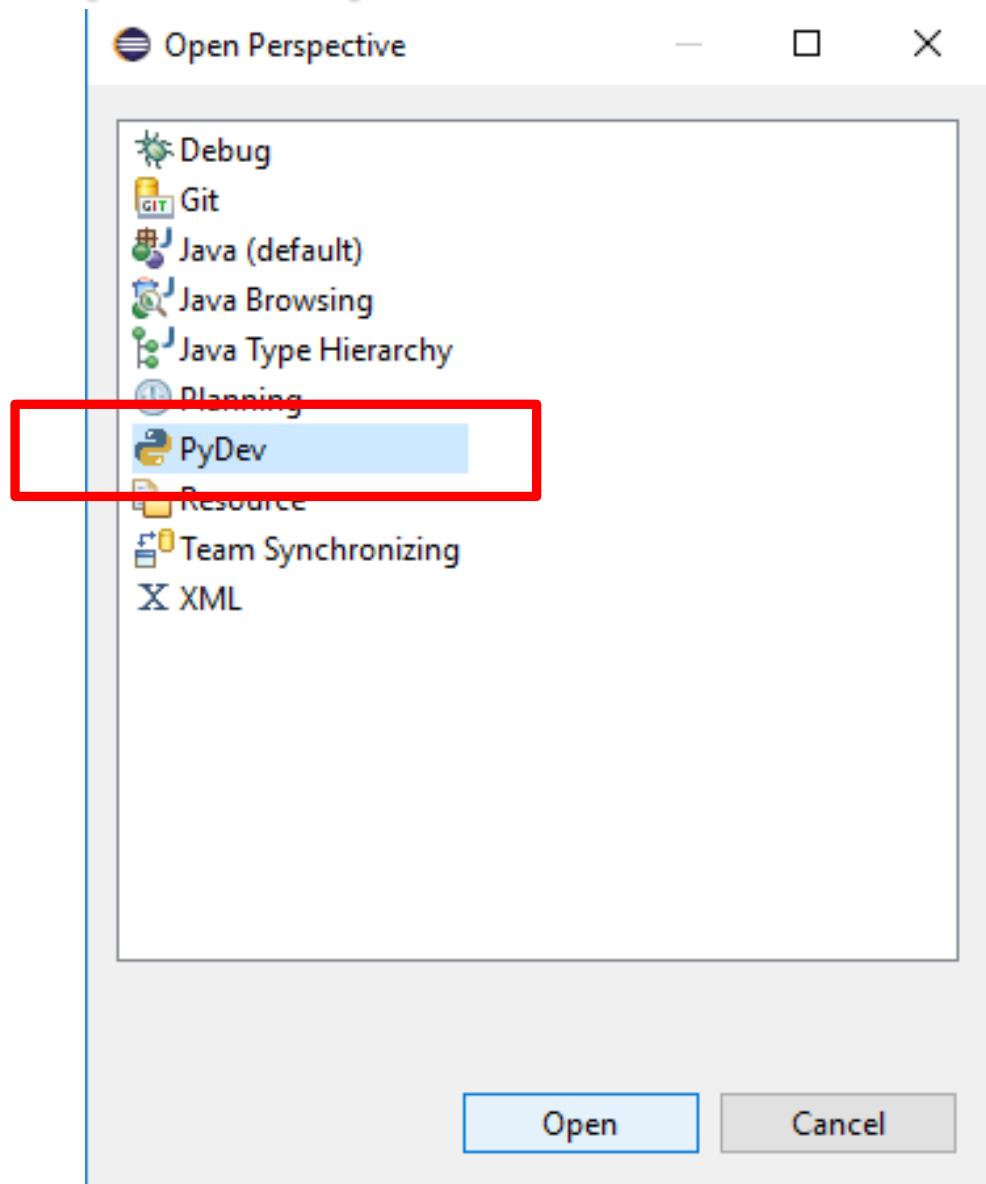
# Eclipse & PyDev in Windows (Cont.)

17. Click **Window > Perspective > Open Perspective > Other...**

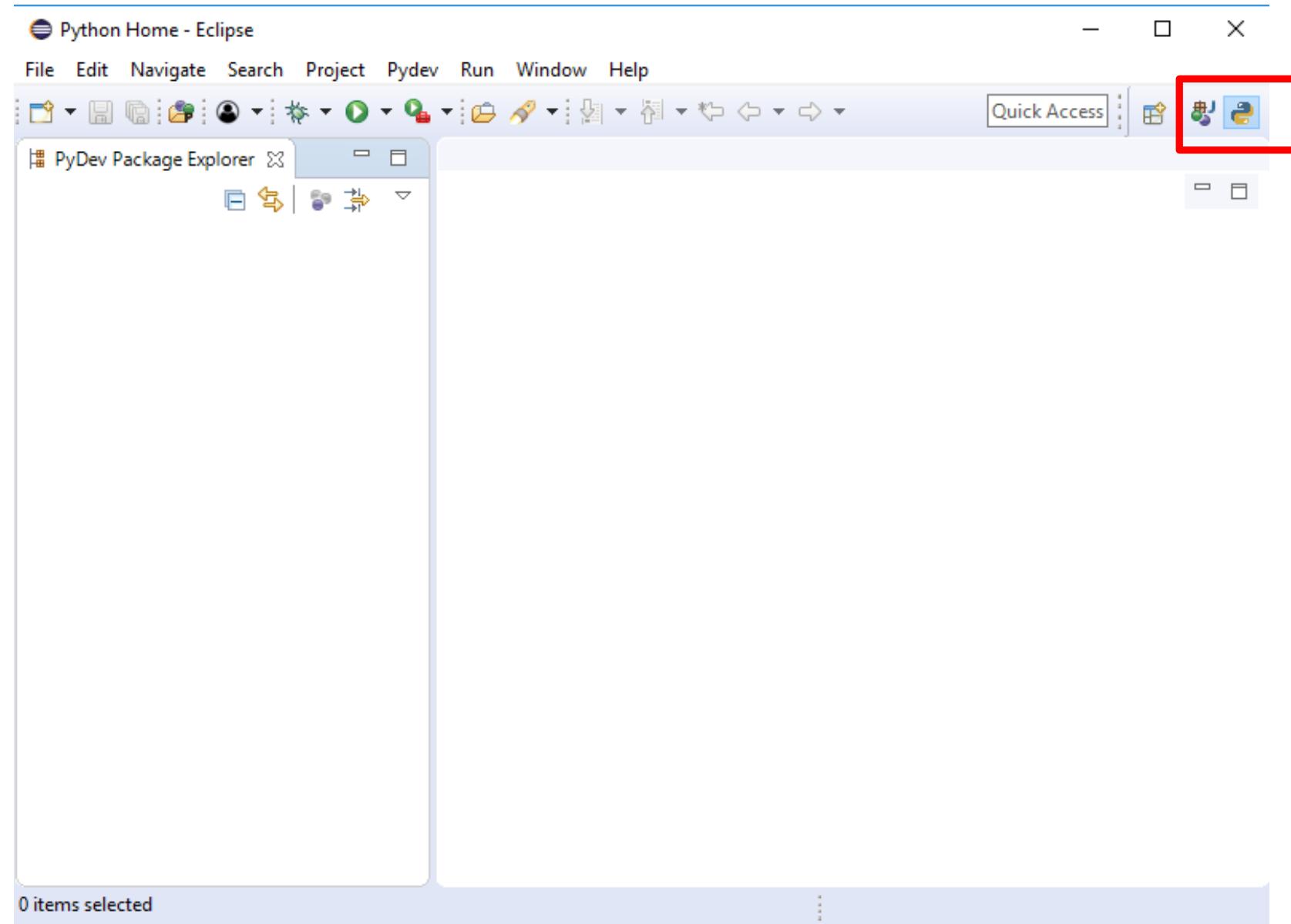


# Eclipse & PyDev in Windows (Cont.)

18. Select **PyDev** and Click **Open** button.

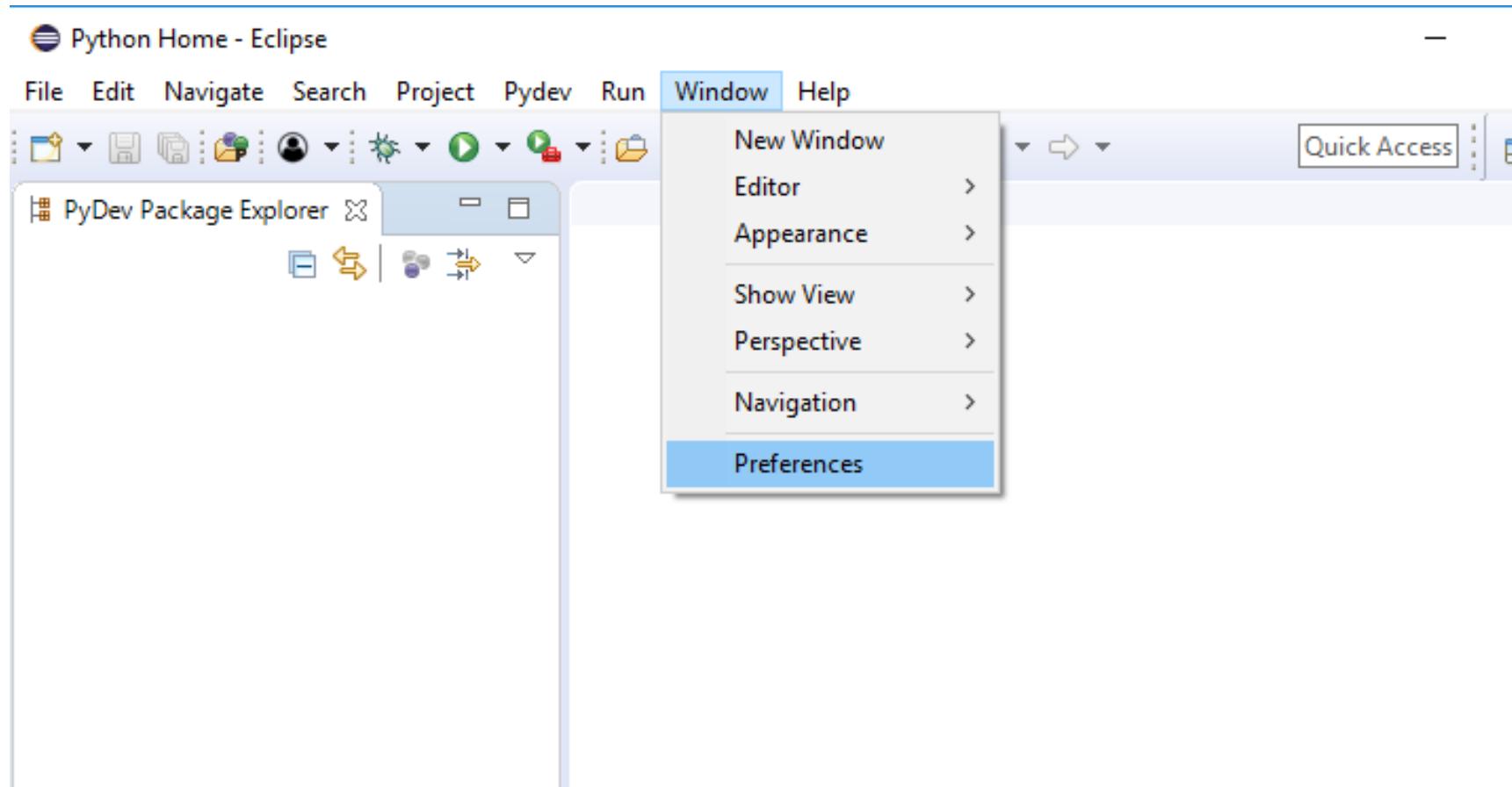


# Eclipse & PyDev in Windows (Cont.)



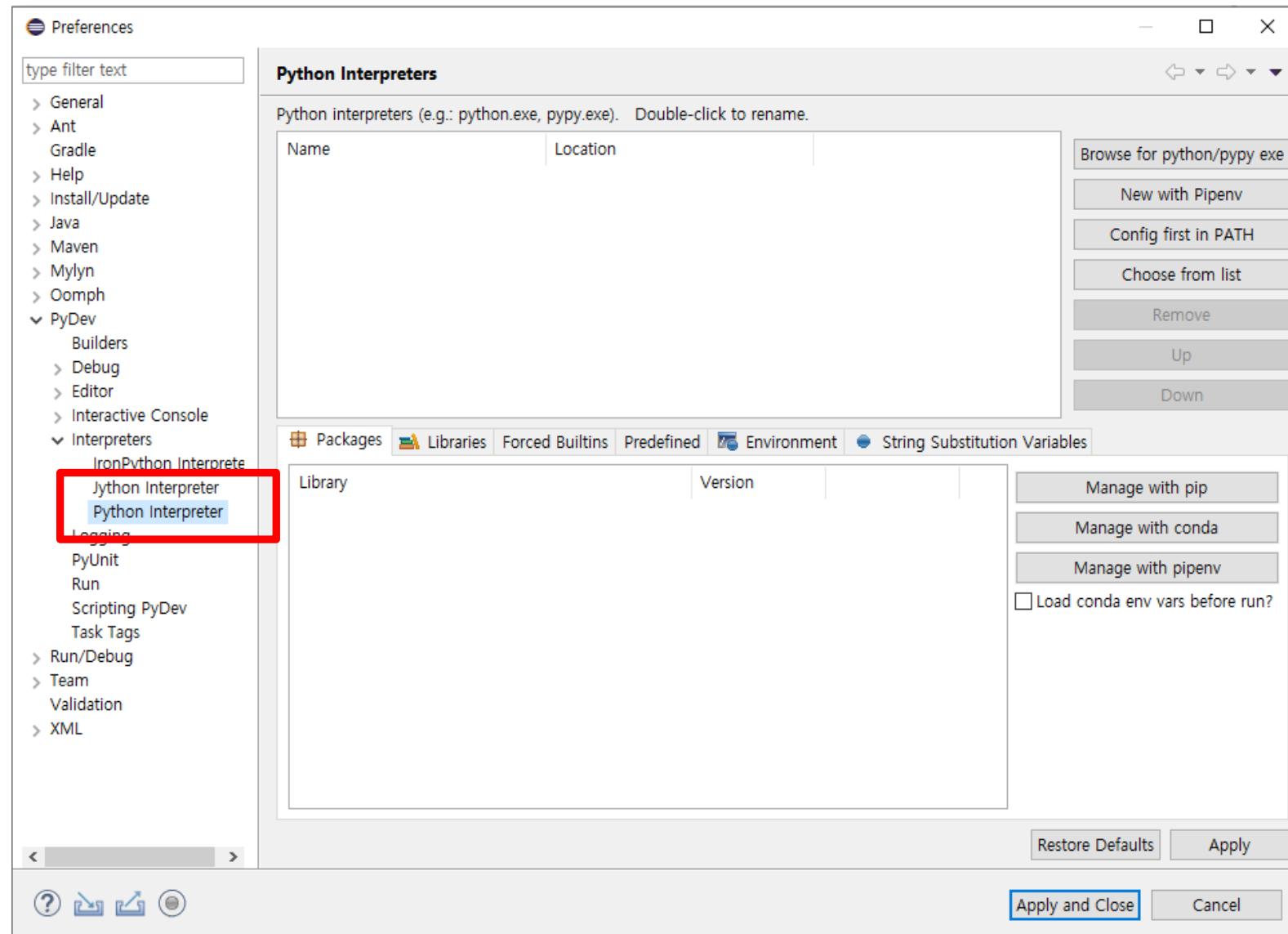
# Eclipse & PyDev in Windows (Cont.)

19. Click **Window > Preferences**



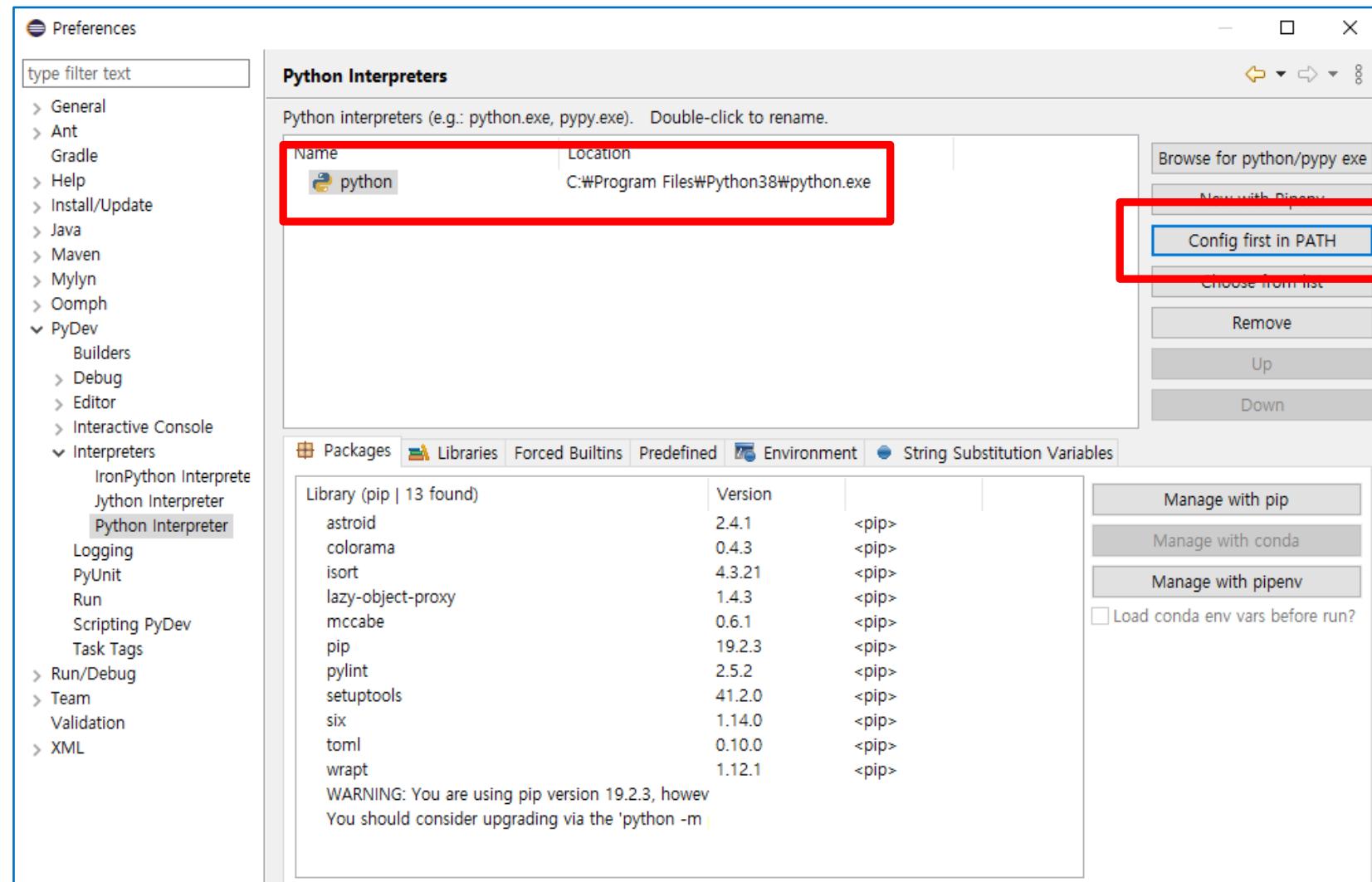
# Eclipse & PyDev in Windows (Cont.)

20. Click **PyDev** >  
**Interpreters** >  
**Python**  
**Interpreter**



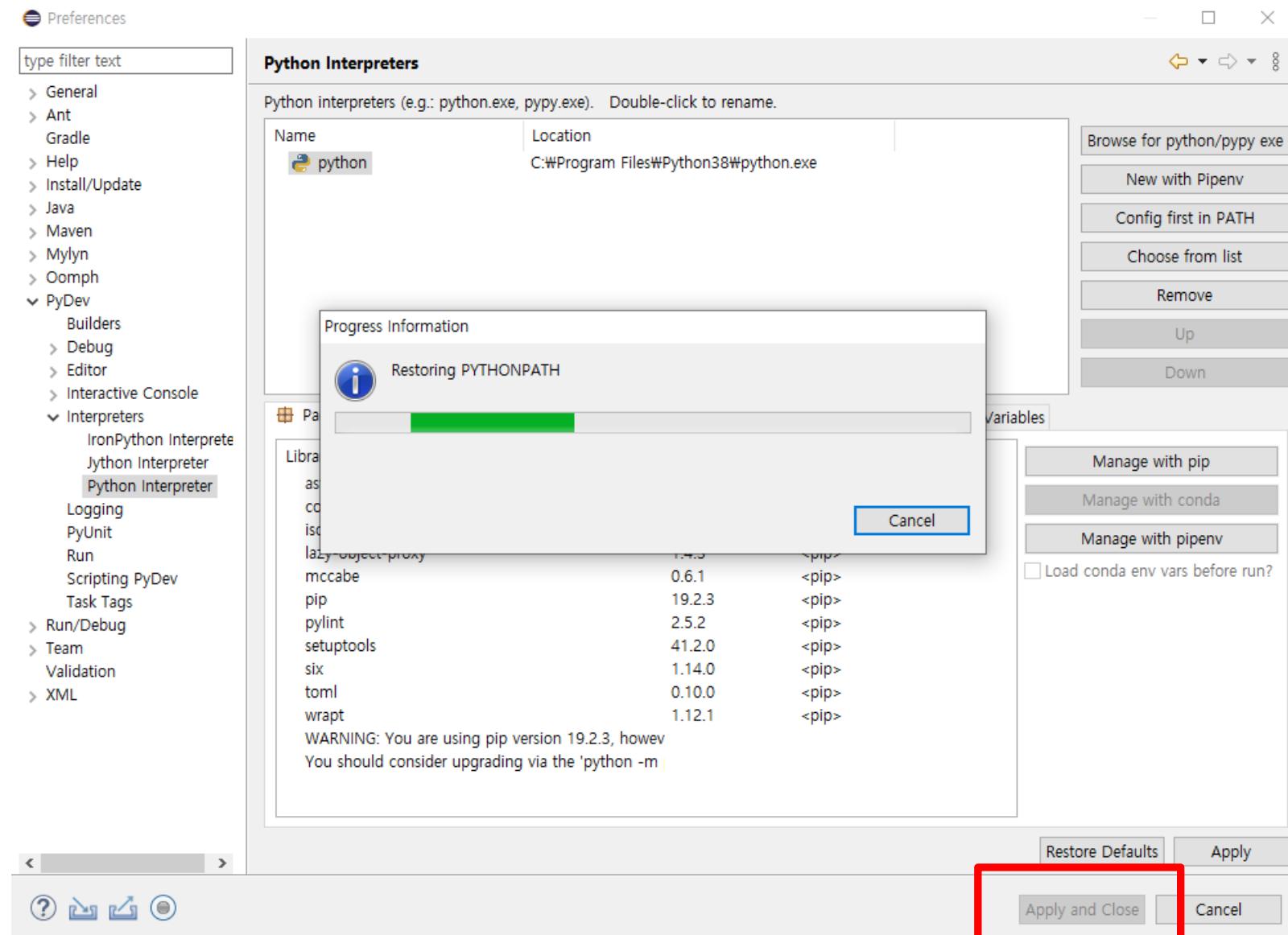
# Eclipse & PyDev in Windows (Cont.)

21. Click Config first in PATH button.



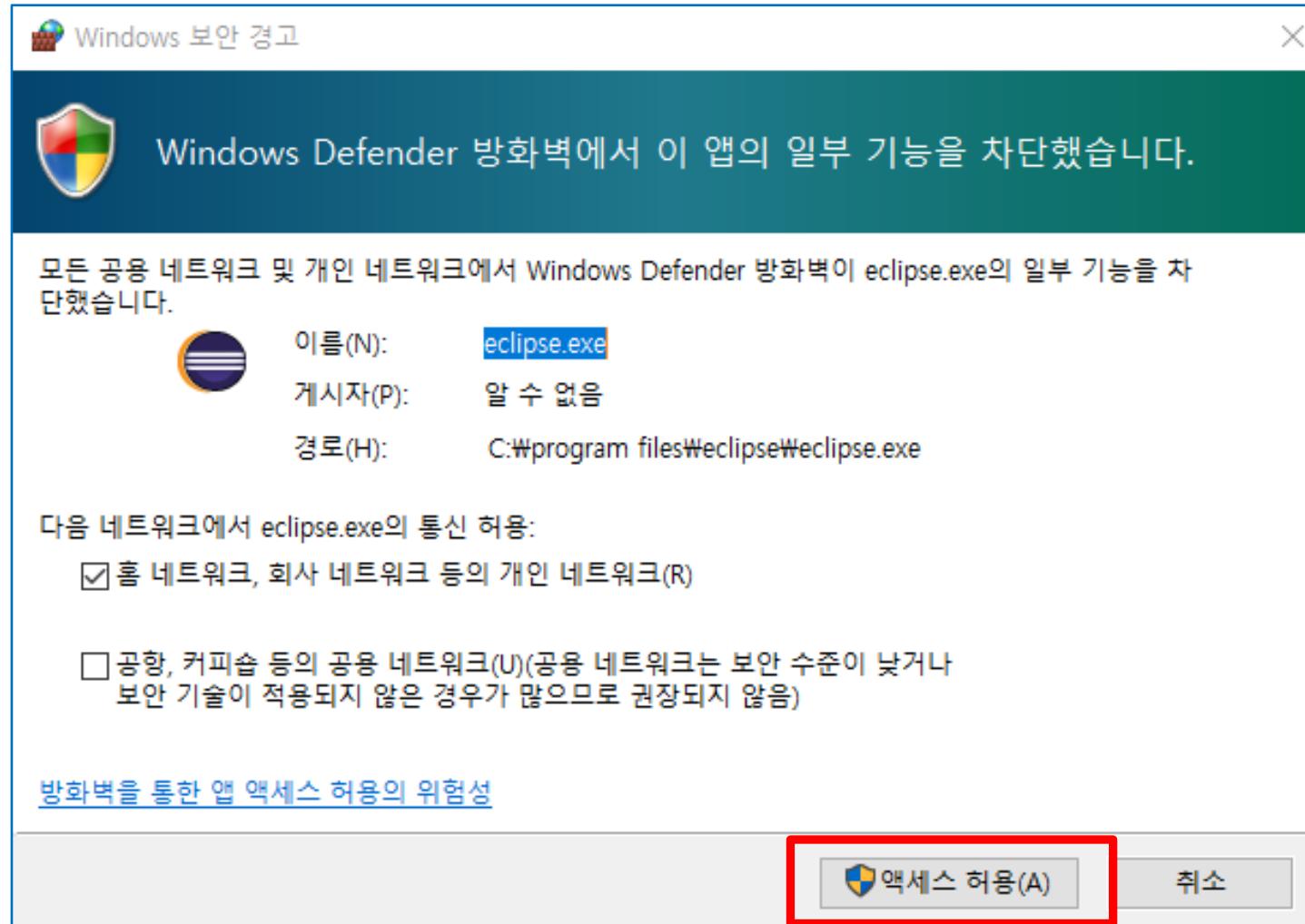
# Eclipse & PyDev in Windows (Cont.)

22. Click **Apply** and **Close** button.



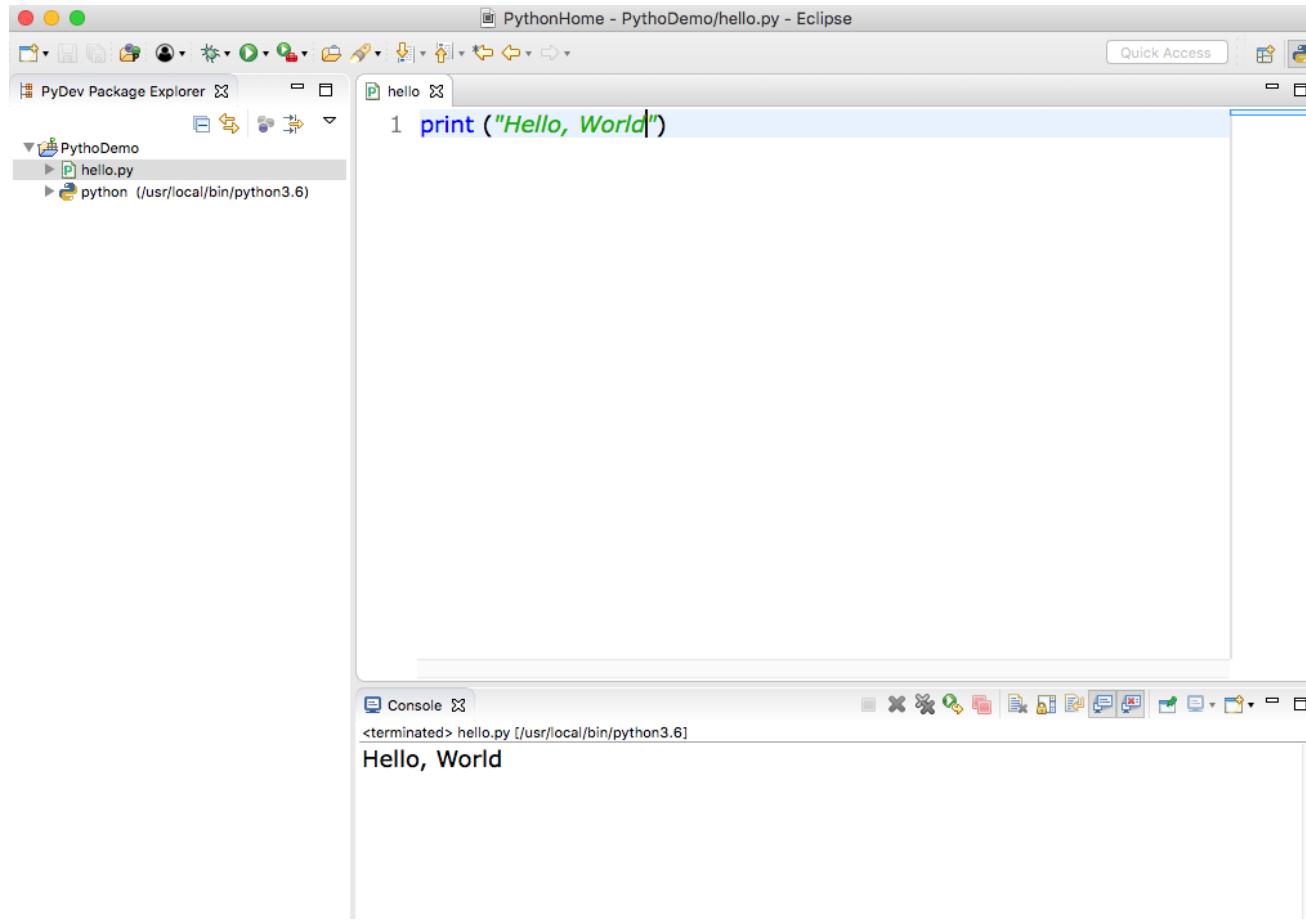
# Eclipse & PyDev in Windows (Cont.)

23. Click **Allow access** button.



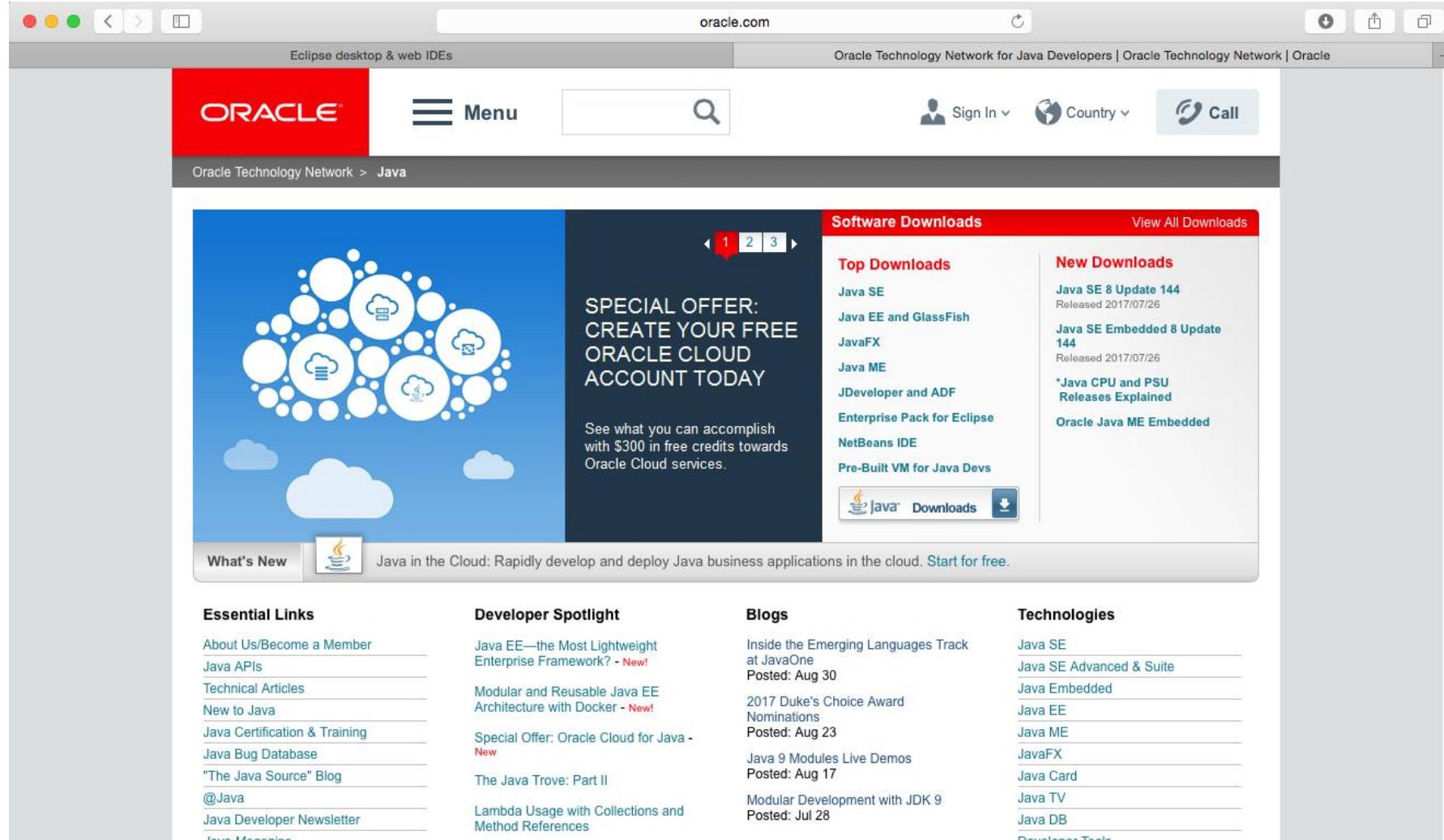
# Eclipse & PyDev in Max OS X

- Eclipse (<http://www.eclipse.org/>) – Freeware



# Eclipse & PyDev in Max OS X (Cont.)

1. Visit Website to <http://java.sun.com>



# Eclipse & PyDev in Max OS X (Cont.)

## 2. Click to Java Download Button



# Eclipse & PyDev in Max OS X (Cont.)

## 3. Click to Mac OS X

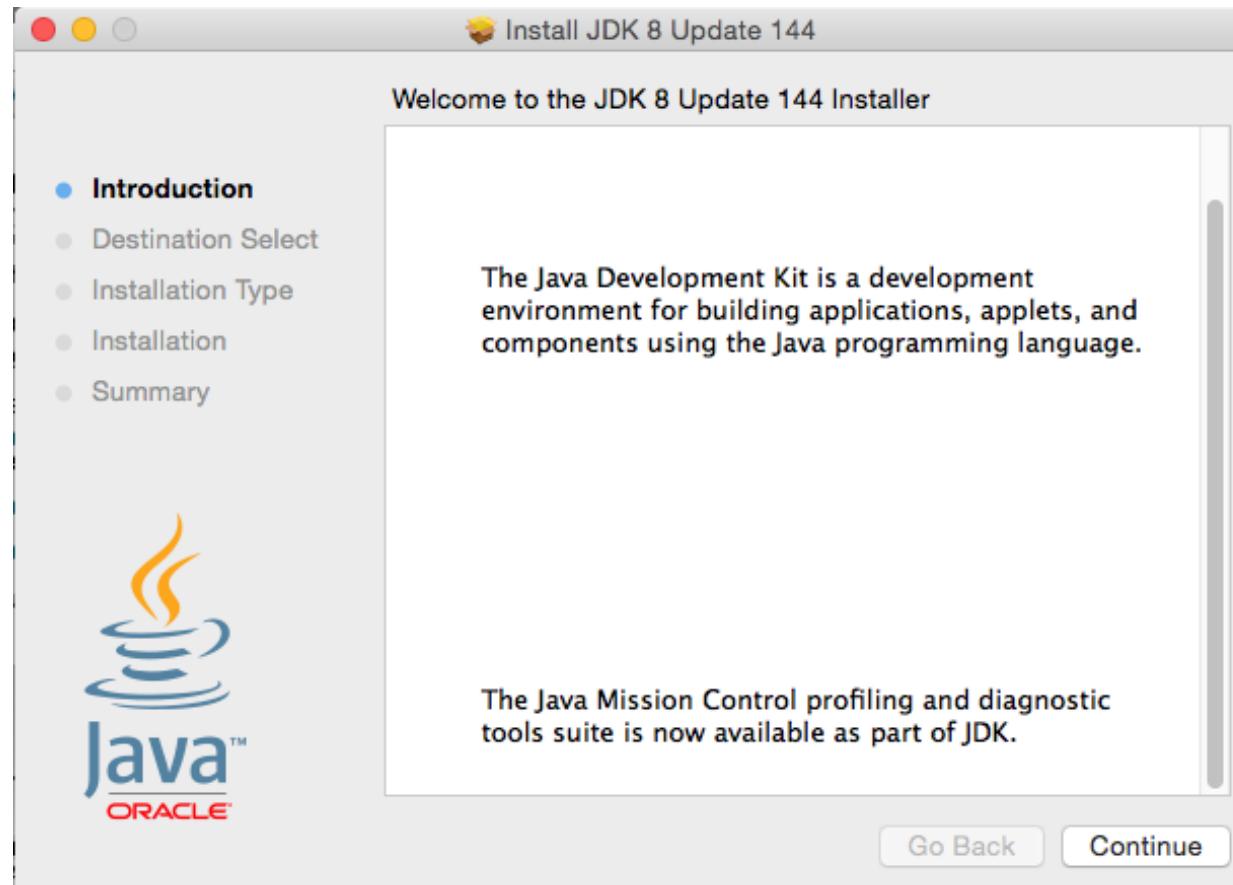
Java SE Development Kit 8u144		
You must accept the Oracle Binary Code License Agreement for Java SE to download this software.		
Thank you for accepting the Oracle Binary Code License Agreement for Java SE; you may now download this software.		
Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	77.89 MB	<a href="#">jdk-8u144-linux-arm32-vfp-hflt.tar.gz</a>
Linux ARM 64 Hard Float ABI	74.83 MB	<a href="#">jdk-8u144-linux-arm64-vfp-hflt.tar.gz</a>
Linux x86	164.65 MB	<a href="#">jdk-8u144-linux-i586.rpm</a>
Linux x86	179.44 MB	<a href="#">jdk-8u144-linux-i586.tar.gz</a>
Linux x64	162.1 MB	<a href="#">jdk-8u144-linux-x64.rpm</a>
Linux x64	176.92 MB	<a href="#">jdk-8u144-linux-x64.tar.gz</a>
Mac OS X	226.6 MB	<a href="#">jdk-8u144-macosx-x64.dmg</a>
Solaris SPARC 64-bit	139.87 MB	<a href="#">jdk-8u144-solaris-sparcv9.tar.Z</a>
Solaris SPARC 64-bit	99.18 MB	<a href="#">jdk-8u144-solaris-sparcv9.tar.gz</a>
Solaris x64	140.51 MB	<a href="#">jdk-8u144-solaris-x64.tar.Z</a>
Solaris x64	96.99 MB	<a href="#">jdk-8u144-solaris-x64.tar.gz</a>
Windows x86	190.94 MB	<a href="#">jdk-8u144-windows-i586.exe</a>
Windows x64	197.78 MB	<a href="#">jdk-8u144-windows-x64.exe</a>

# Eclipse & PyDev in Max OS X (Cont.)

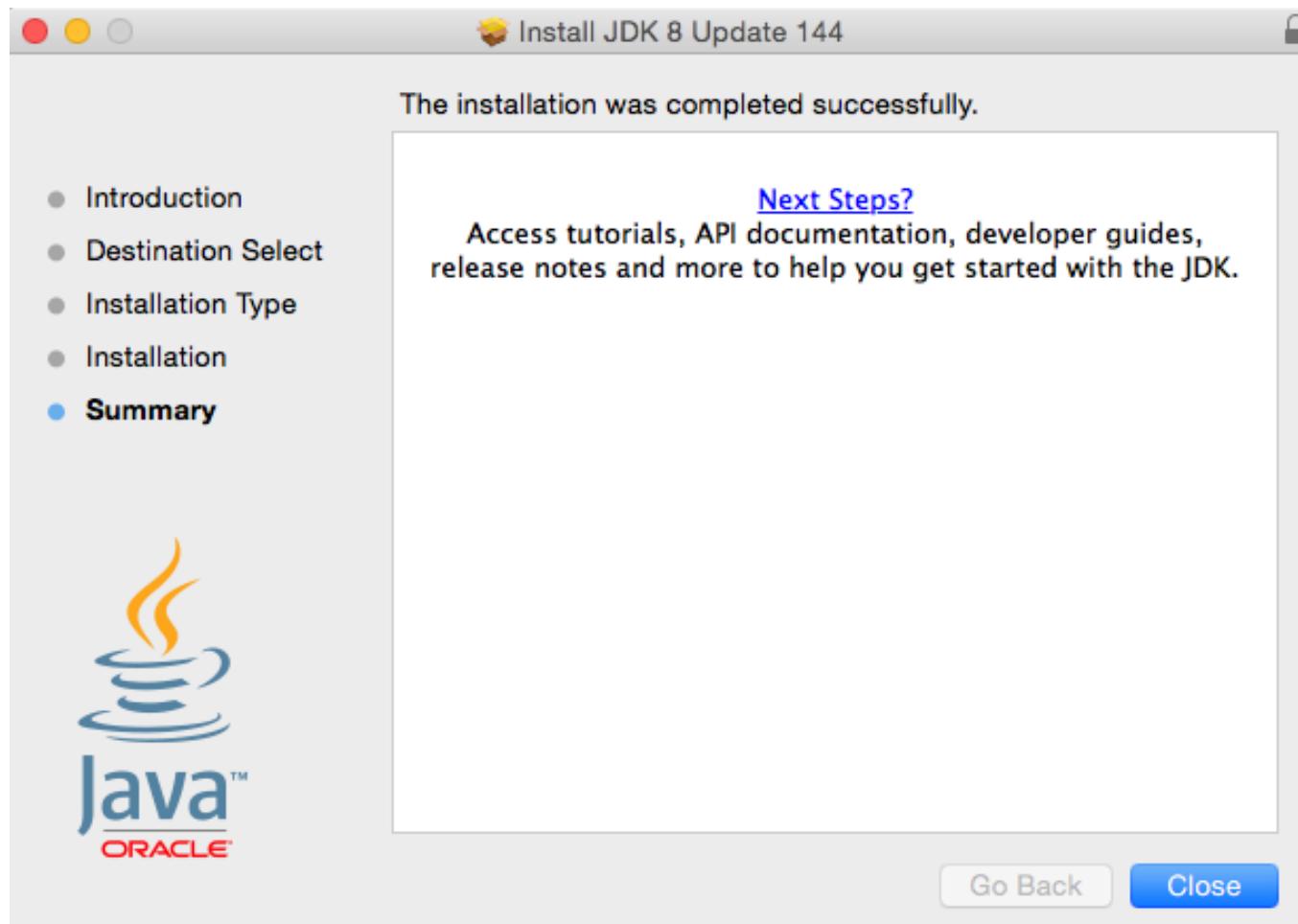
## 4. Double-click **JDK 8 Update 144.pkg**



# Eclipse & PyDev in Max OS X (Cont.)



# Eclipse & PyDev in Max OS X (Cont.)



# Eclipse & PyDev in Max OS X (Cont.)

## 5. Check JDK Installation Directory

```
[Peters-Mac:bin instructor$ pwd  
/Library/Java/JavaVirtualMachines/jdk1.8.0_144.jdk/Contents/Home/bin  
[Peters-Mac:bin instructor$ ls  
appletviewer      javah          jjs           jvisualvm       schemagen  
extcheck          javap          jmap          keytool         serialver  
idlj              javapackager   jmc           native2ascii    servertool  
jar               jcmd           jps            orbd           tnameserv  
jarsigner         jconsole       jrunscript     pack200        unpack200  
java              jdb            jsadebugd    policytool     wsgen  
javac             jdeps          jstack        rmic           wsimport  
javadoc           jhat           jstat         rmid          xjc  
javafxpackager   jinfo          jstated      rmiregistry  
Peters-Mac:bin instructor$ ]
```

# Eclipse & PyDev in Max OS X (Cont.)

## 6. Configure Java Home

```
Peters-Mac:~ instructor$
```

```
Peters-Mac:~ instructor$ vi ~/.bash_profile
```



A screenshot of a terminal window titled "instructor — vi ~/.bash\_profile — 82x24". The window shows the following code:

```
export JAVA_HOME=/Library/Java/JavaVirtualMachines/jdk1.8.0_144.jdk/Contents/Home  
export PATH=$PATH:$JAVA_HOME/bin
```

```
Peters-Mac:~ instructor$ source ~/.bash_profile
```

```
Peters-Mac:~ instructor$ echo $JAVA_HOME
```

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_144.jdk/Contents/Home
```

```
Peters-Mac:~ instructor$ echo $PATH
```

```
/usr/local/bin:/usr/local/bin:/usr/bin:/bin:/usr/sbin:/sbin:/Library/Java/JavaVirtualMachines/jdk1.8.0_144.jdk/Contents/Home/bin
```

```
Peters-Mac:~ instructor$
```

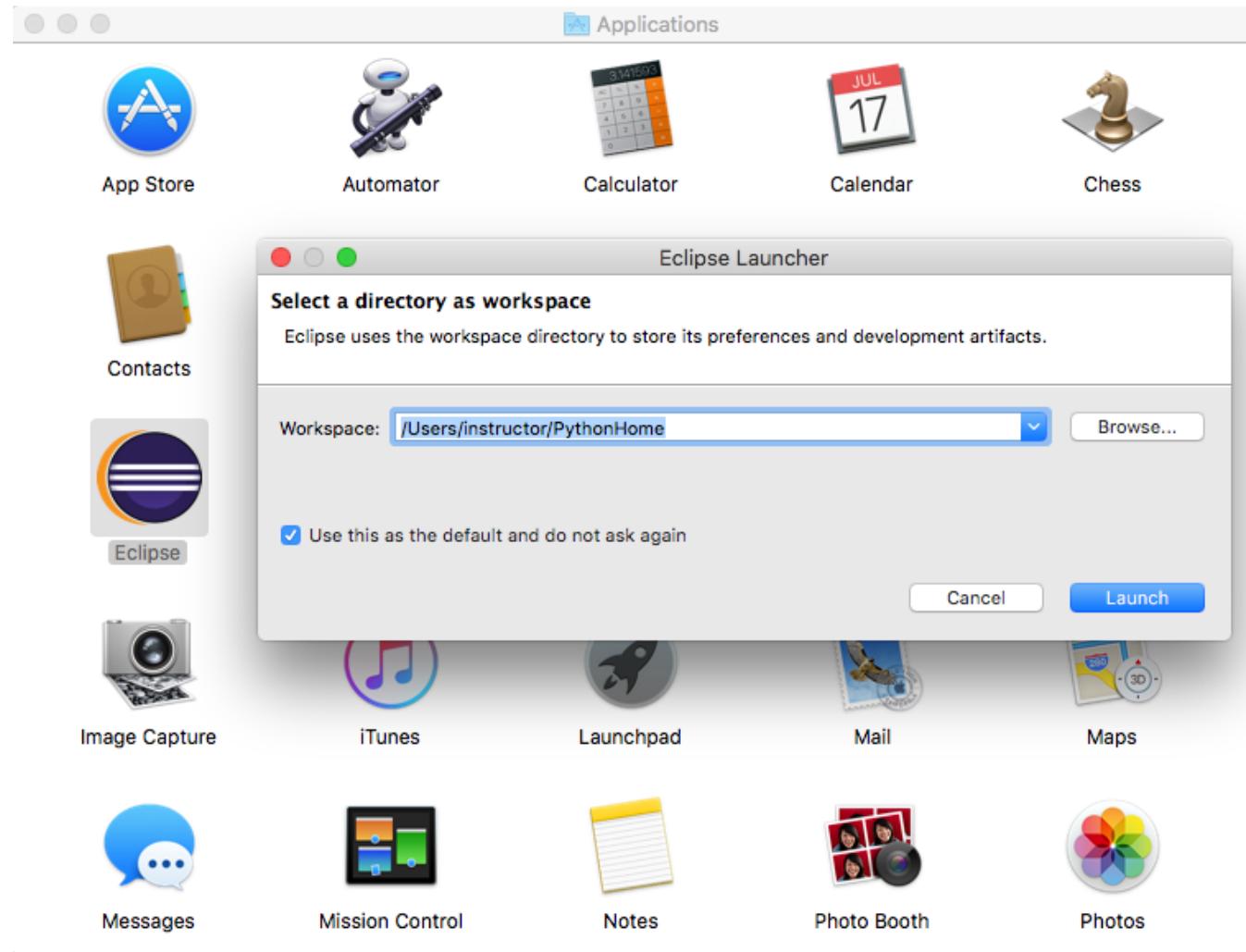
# Eclipse & PyDev in Max OS X (Cont.)

## 7. Verify Java Version

```
[Peters-Mac:~ instructor$ java -version  
java version "1.8.0_144"  
Java(TM) SE Runtime Environment (build 1.8.0_144-b01)  
Java HotSpot(TM) 64-Bit Server VM (build 25.144-b01, mixed mode)  
[Peters-Mac:~ instructor$ javac -version  
javac 1.8.0_144  
Peters-Mac:~ instructor$ ]
```

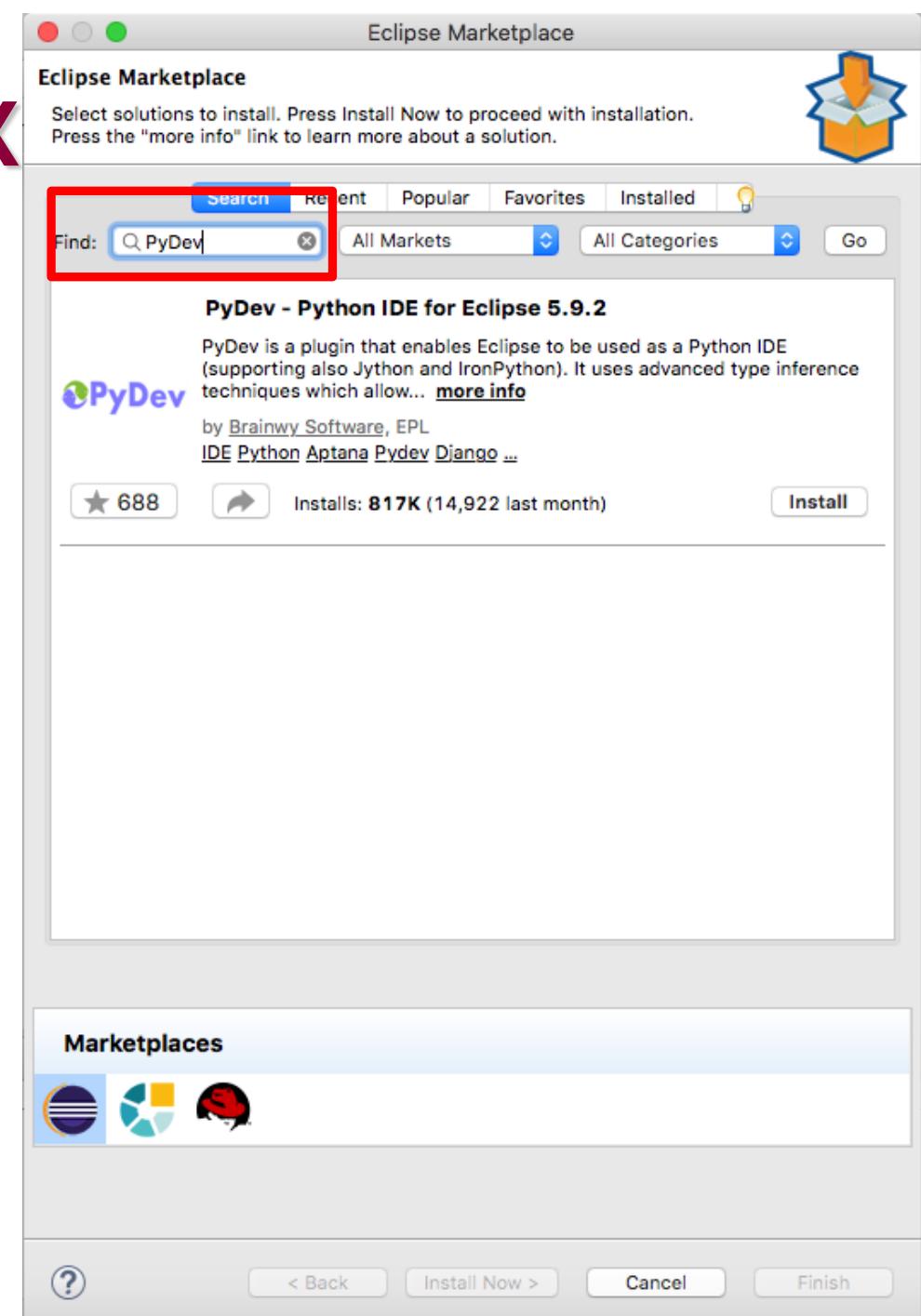
# Eclipse & PyDev in Max OS X (Cont.)

## 8. Execute **eclipse**



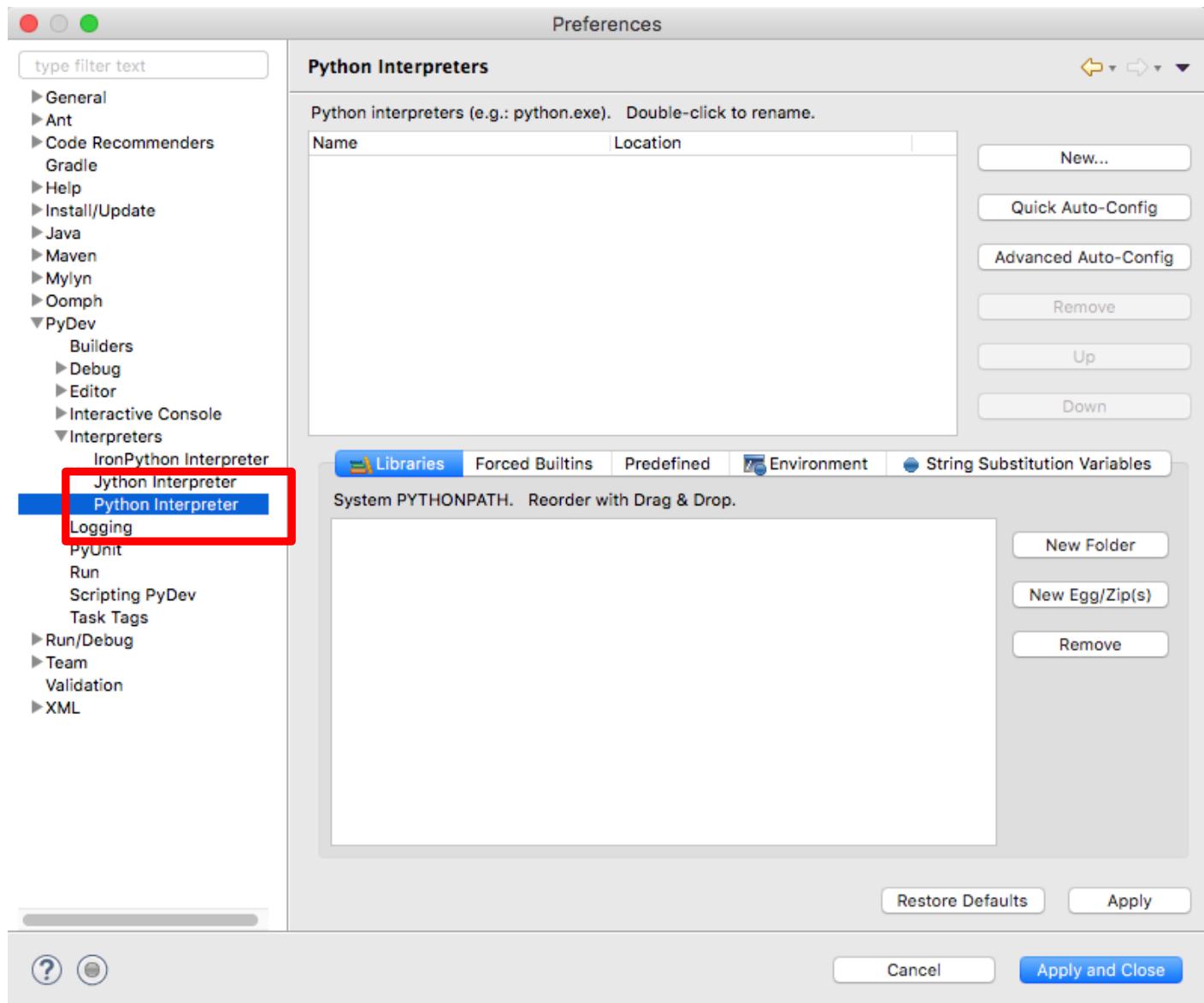
# Eclipse & PyDev in Max OS X

## 9. Search for **PyDev**



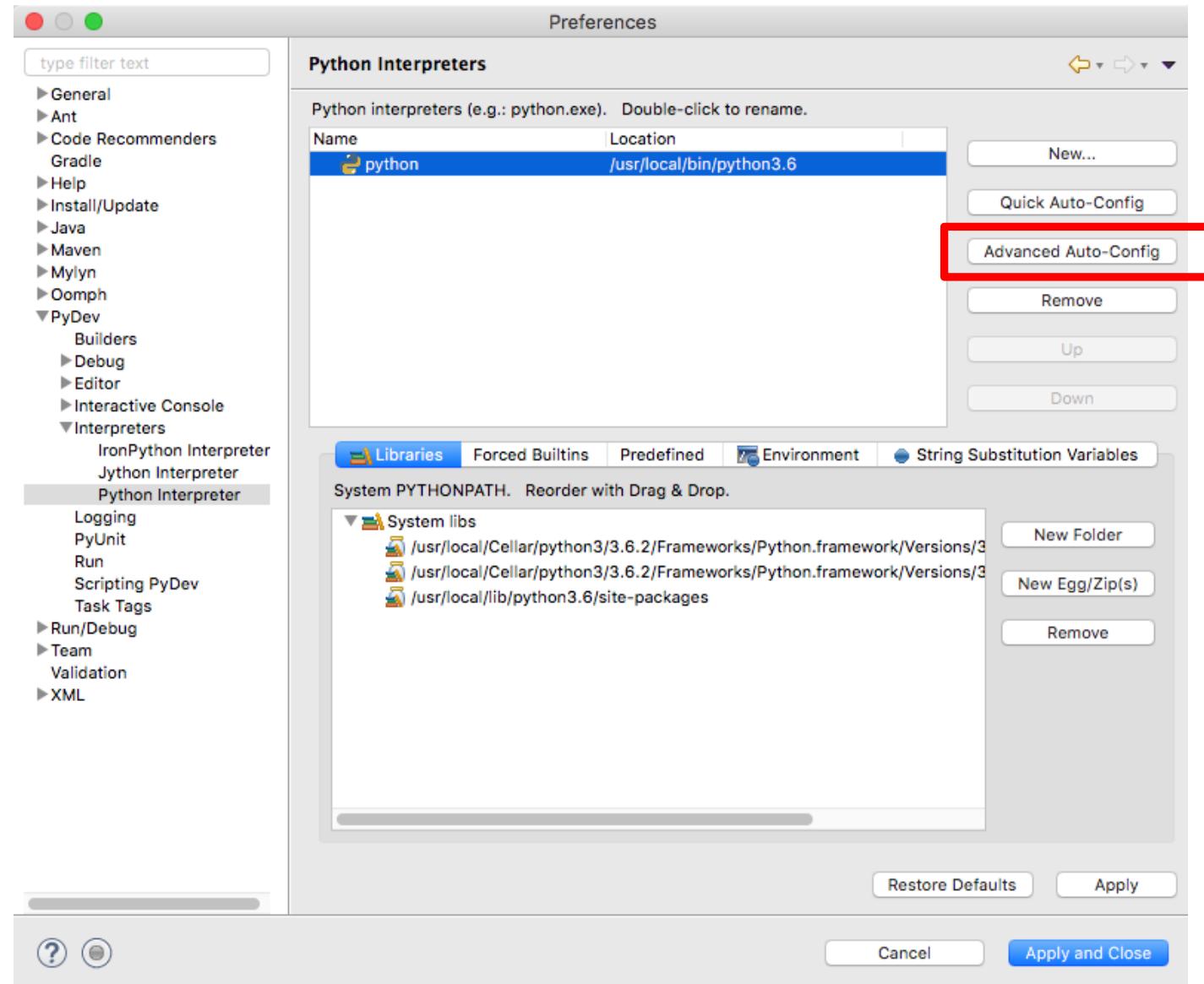
# Eclipse & PyDev in Max OS X (Cont.)

10. Click **PyDev** >  
**Interpreters** >  
**Python**  
**Interpreter**



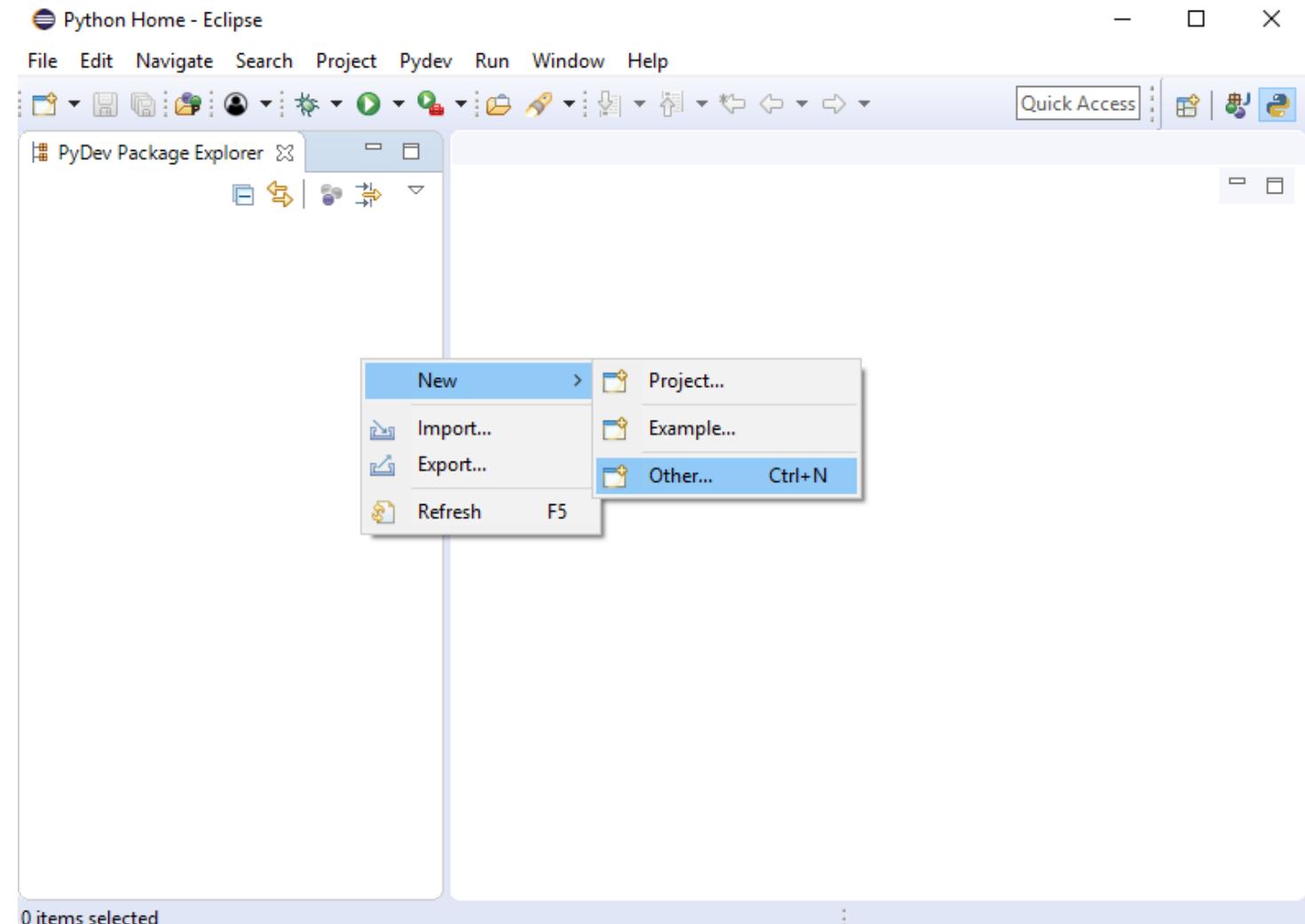
# Eclipse & PyDev in Max OS X (Cont.)

11. Click **Advanced Auto-Config** button.



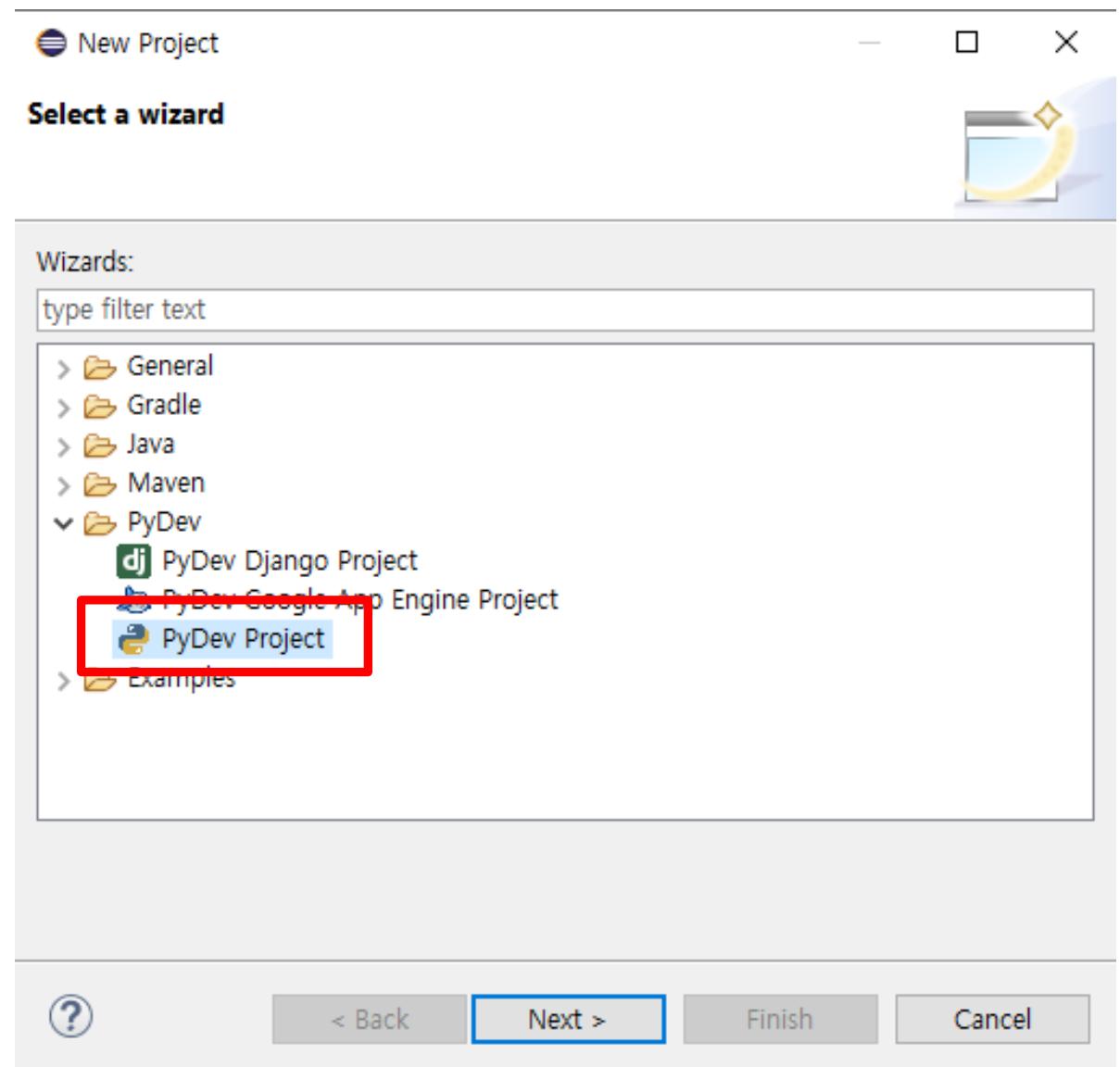
# Eclipse Hello World Project

1. In PyDev Package Explorer > right-click >  
New > Other...



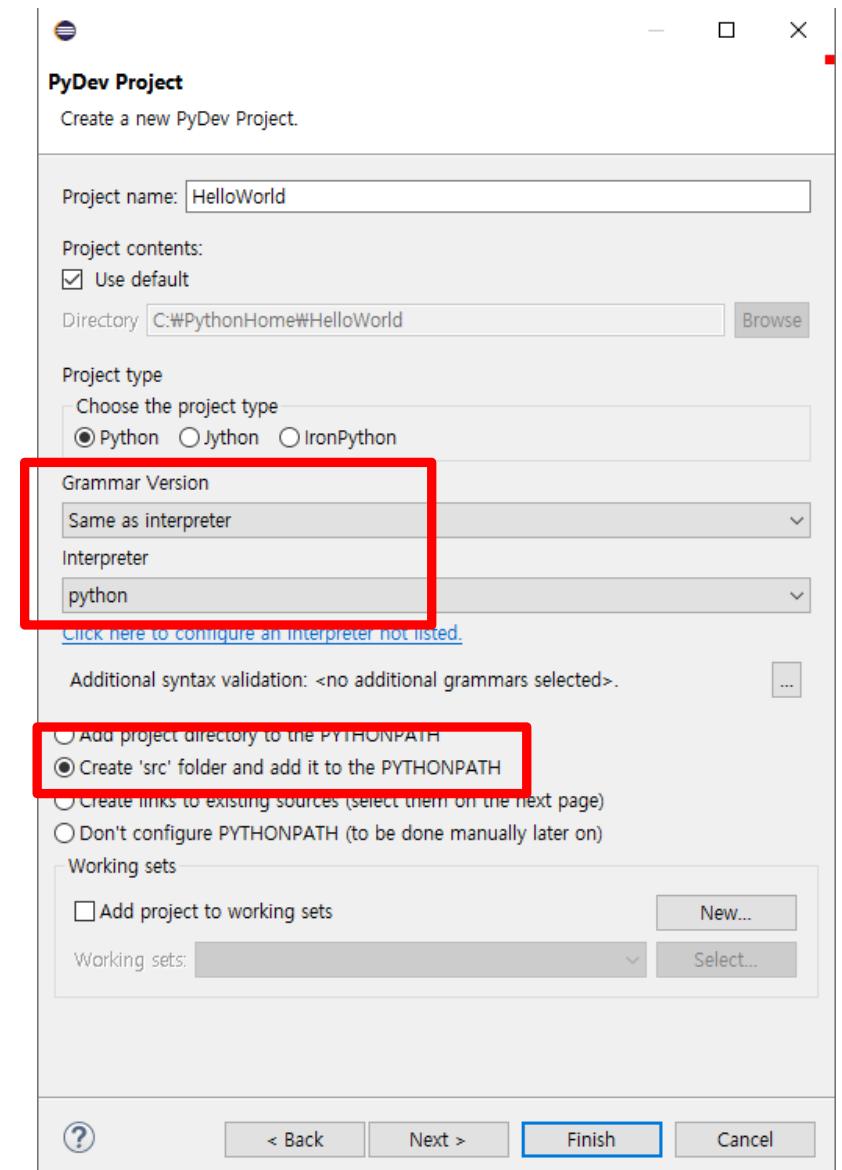
# Eclipse Hello World Project (Cont.)

2. Click **PyDev > PyDev Project**
3. Click **Next** button.



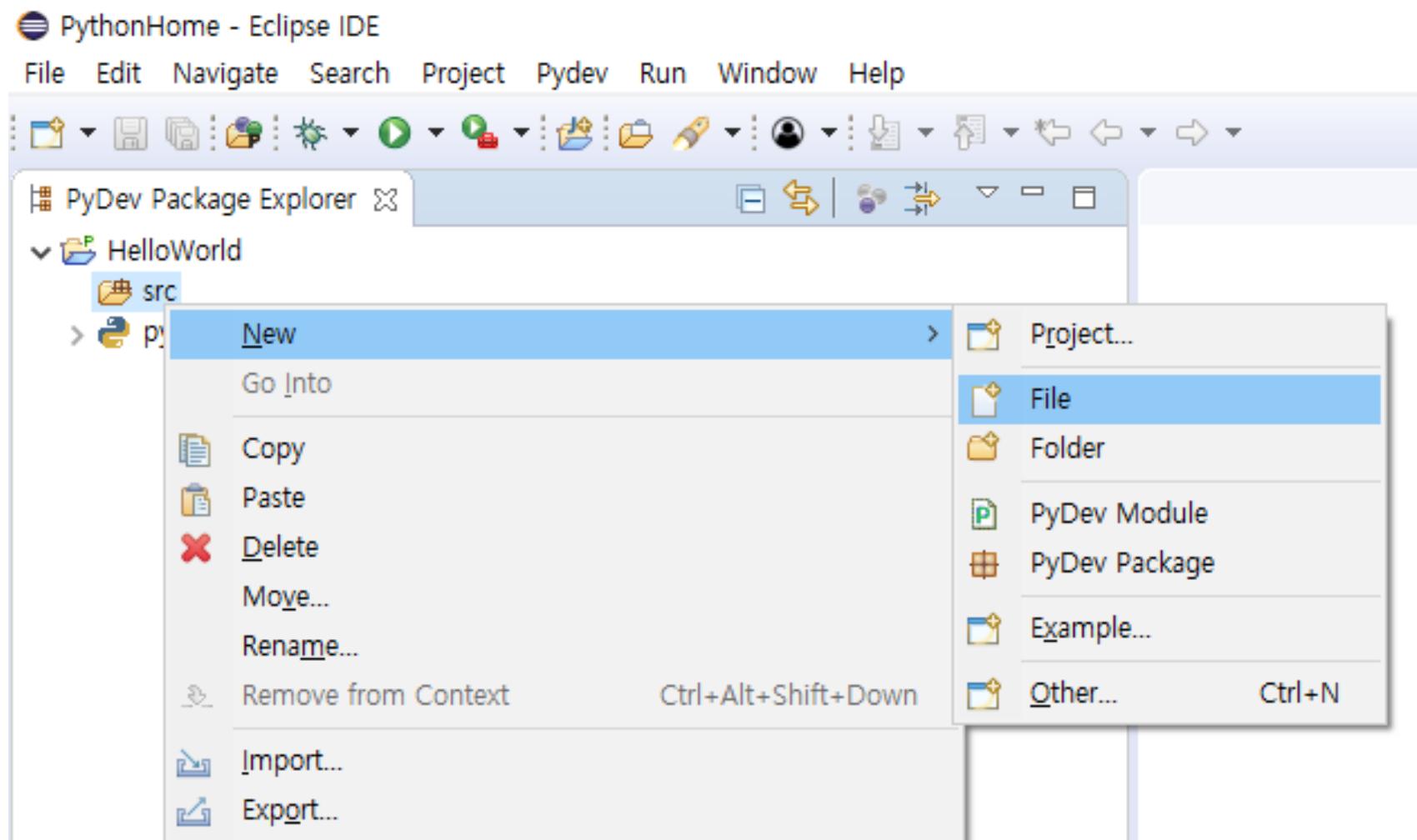
# Eclipse Hello World Project (Cont.)

4. Project name :
5. Grammar Version : **Same as Interpreter**
6. Interpreter : **python**
7. Select **Create 'src'** ...
8. Click **Finish** button.



# Eclipse Hello World Project (Cont.)

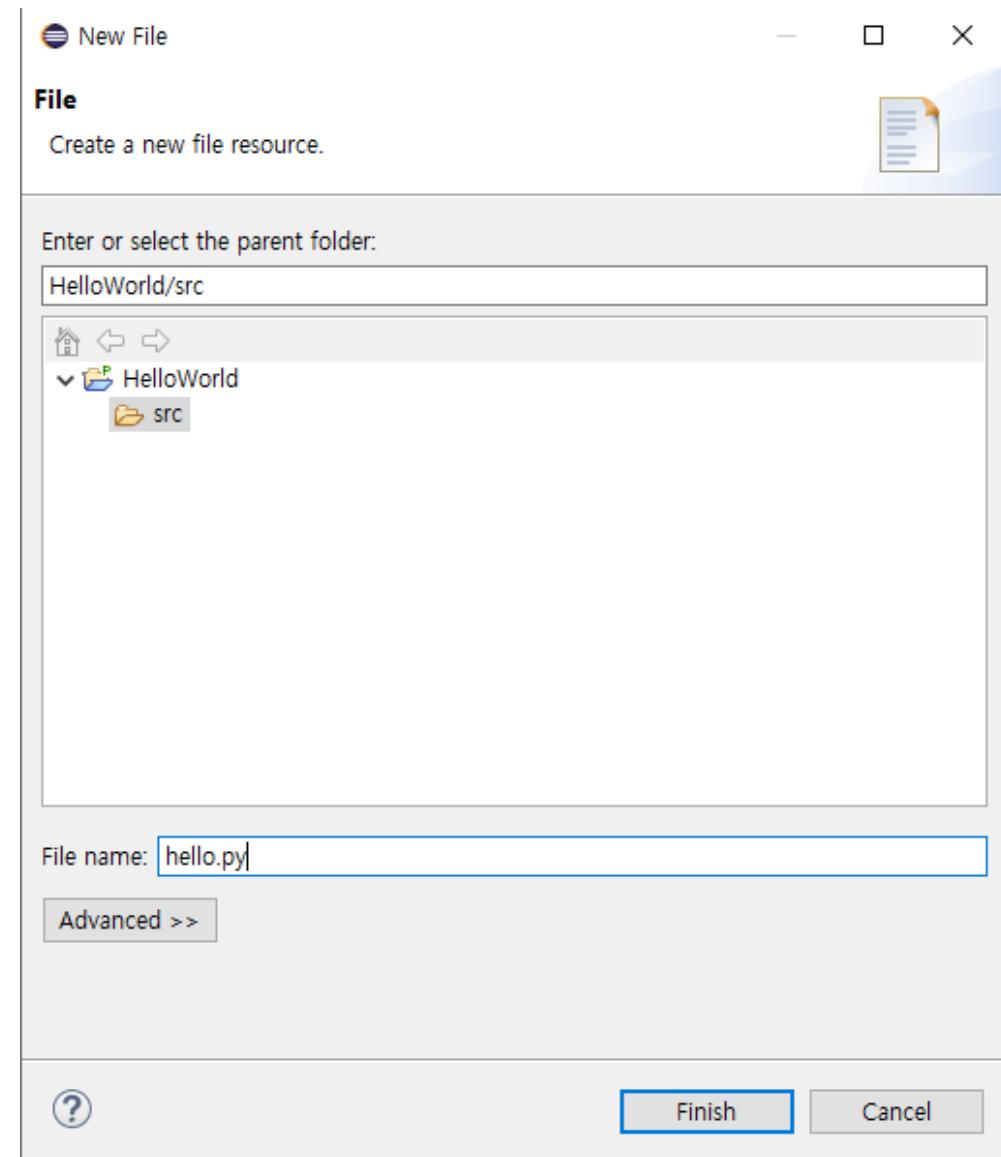
9. In **src** folder > **right-click** > **New** > **File**



# Eclipse Hello World Project (Cont.)

10. File name :

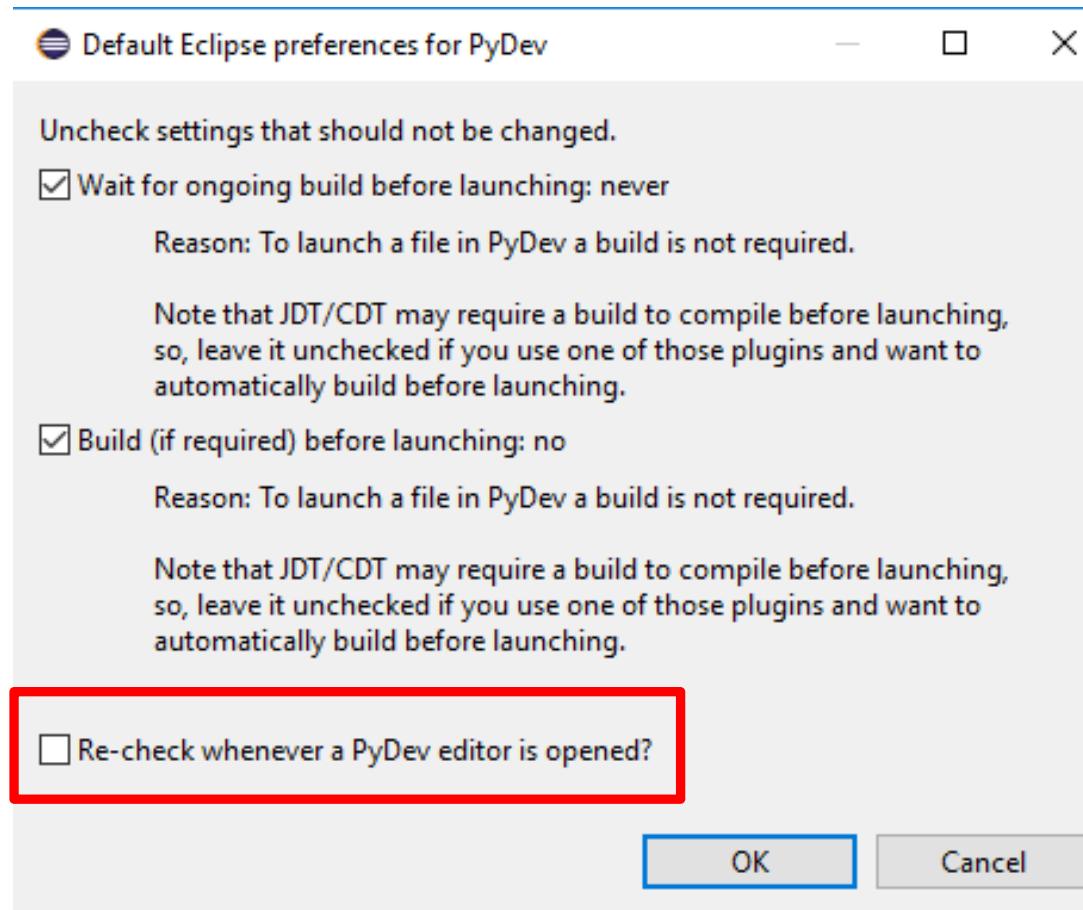
11. Click **Finish** button.



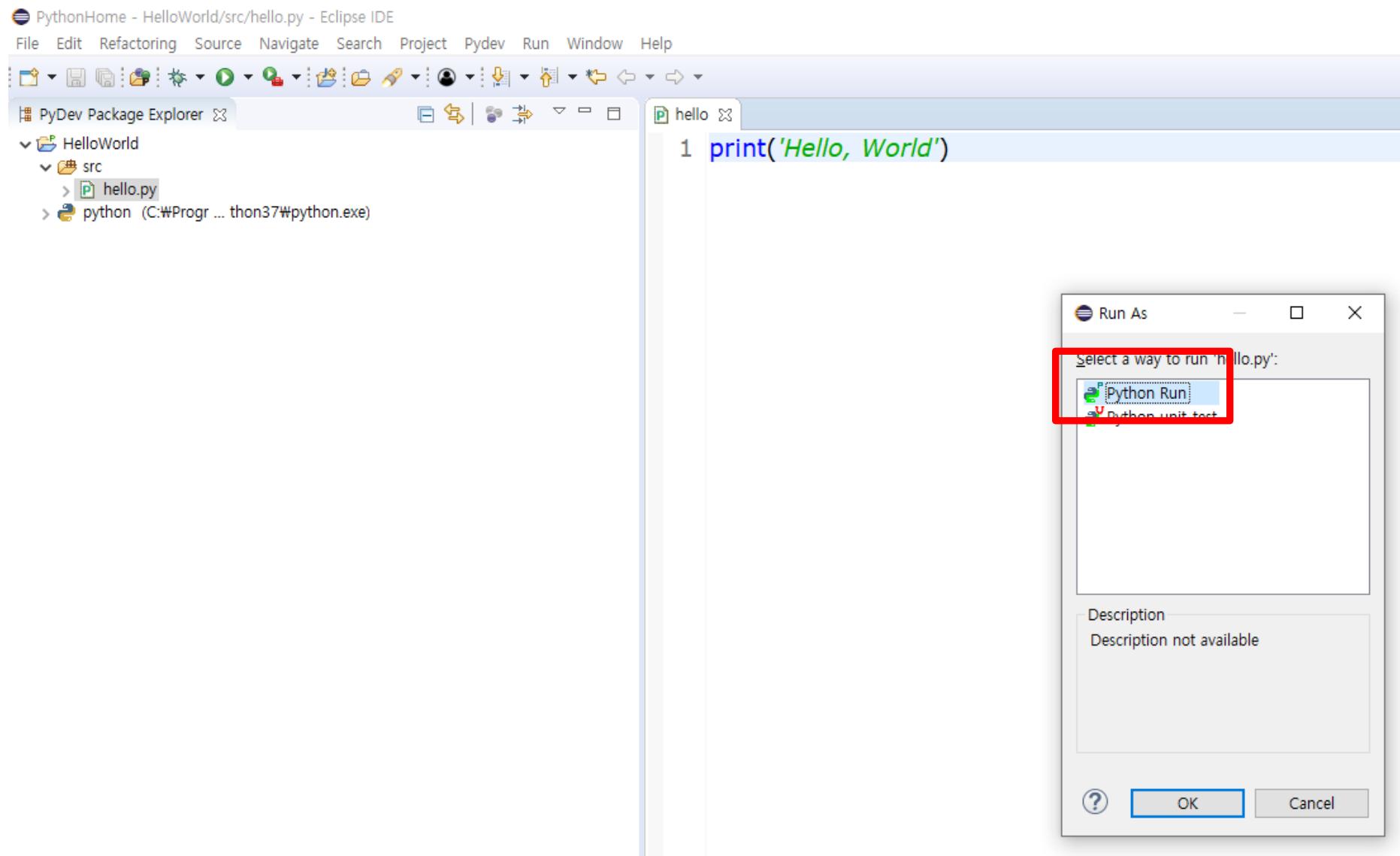
# Eclipse Hello World Project (Cont.)

12. Uncheck **Re-check whenever...**

13. Click **OK** button.



# Eclipse Hello World Project (Cont.)



# Eclipse Hello World Project (Cont.)

The screenshot shows the Eclipse IDE interface with a Python project named "hello". The code editor window displays the following Python script:

```
1 import sys
2 print(sys.version);
3
4 print('Hello, World')
5
6 print(sys.version_info)
7 |
```

The "Console" tab at the bottom shows the output of running the script:

```
<terminated> hello.py [C:\Program Files\Python38\python.exe]
3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD64)]
Hello, World
sys.version_info(major=3, minor=8, micro=2, releaselevel='final', serial=0)
```

# Eclipse Hello World Project (Cont.)

```
C:\PythonHome\HelloWorld\src>dir
C 드라이브의 볼륨에는 이름이 없습니다.
볼륨 일련 번호: 2652-C581

C:\PythonHome\HelloWorld\src 디렉터리

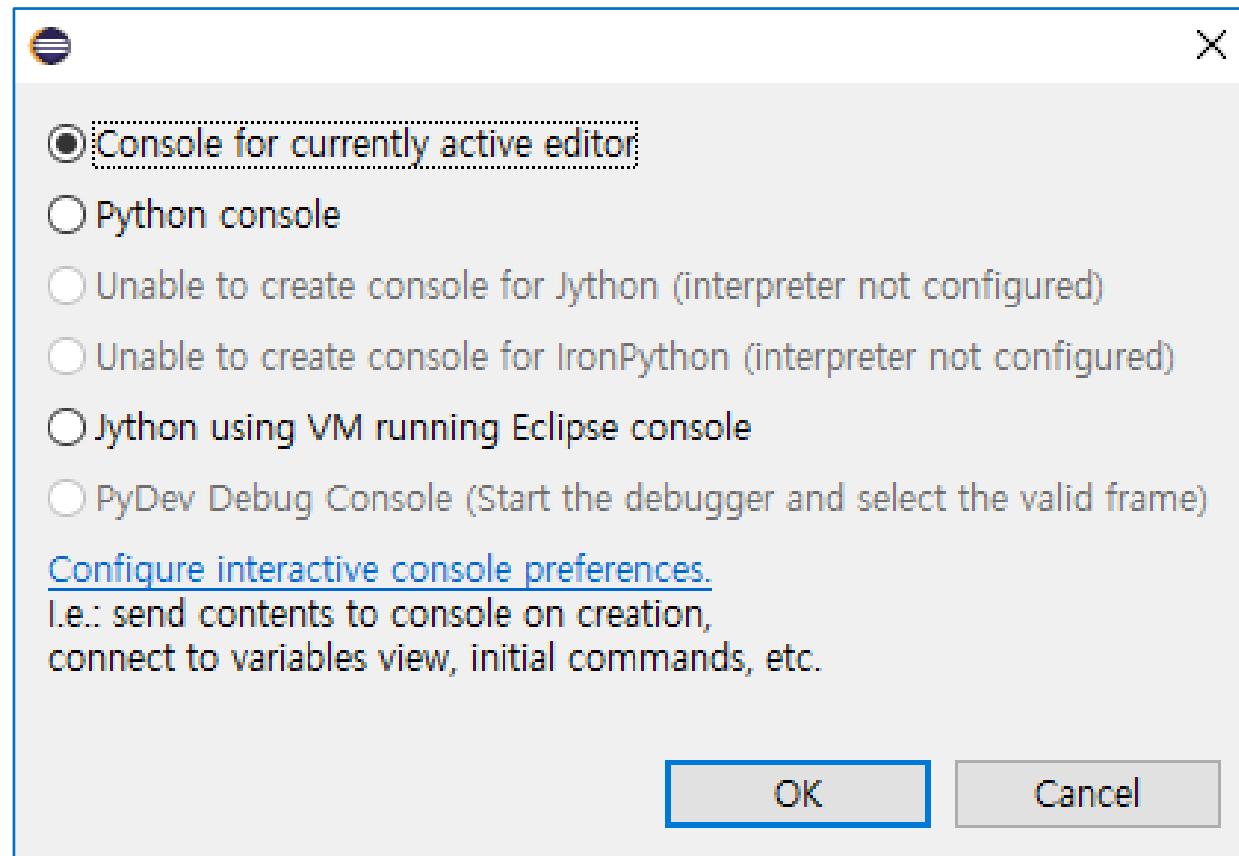
2020-05-11 오후 10:29    <DIR> .
2020-05-11 오후 10:29    <DIR> ..
2020-05-11 오후 10:32           83 hello.py
                           83 바이트
                           1개 파일
                           2개 디렉터리   81,200,058,368 바이트 남음

C:\PythonHome\HelloWorld\src>python hello.py
3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD64)]
Hello, World
sys.version_info(major=3, minor=8, micro=2, releaselevel='final', serial=0)
```

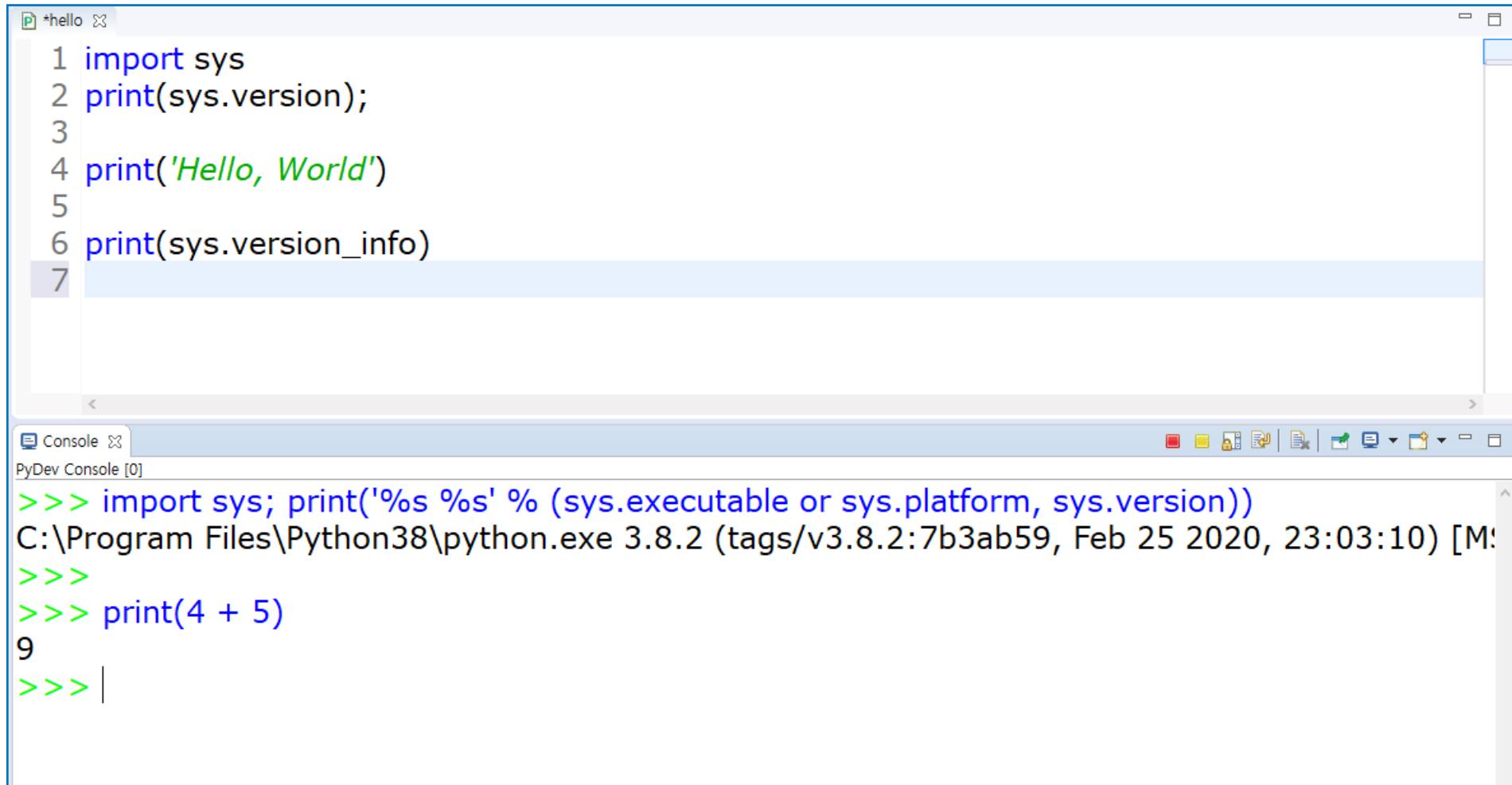
# PyDev Interactive Console

1. Type **F2**.

2. Select **Console for currently active editor**



# PyDev Interactive Console (Cont.)



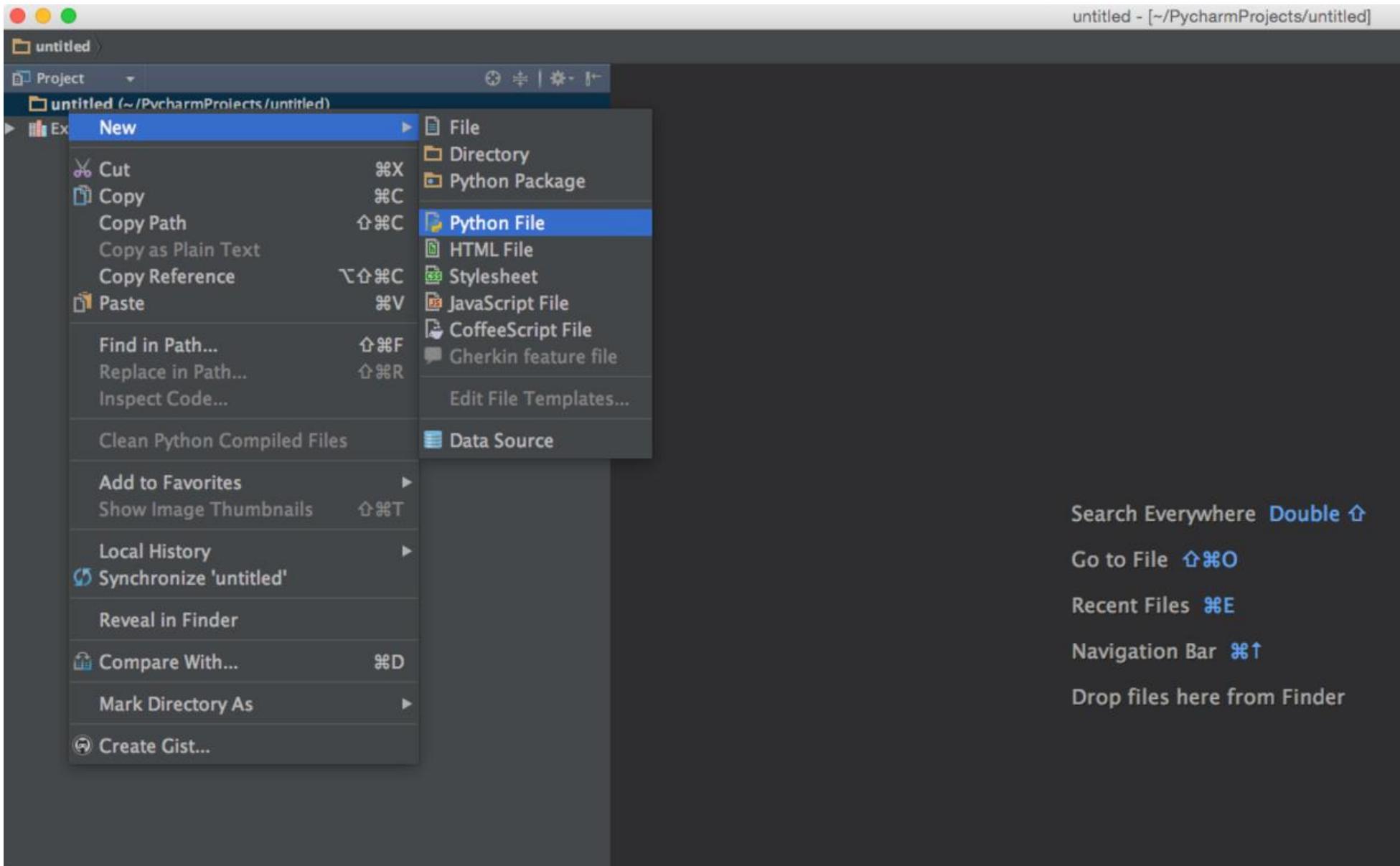
The screenshot shows the PyDev IDE interface. At the top, there is a code editor window titled "hello" containing the following Python script:

```
1 import sys
2 print(sys.version);
3
4 print('Hello, World')
5
6 print(sys.version_info)
7
```

Below the code editor is a "Console" tab titled "PyDev Console [0]". It displays the output of running the script:

```
>>> import sys; print('%s %s' % (sys.executable or sys.platform, sys.version))
C:\Program Files\Python38\python.exe 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD64)]
>>>
>>> print(4 + 5)
9
>>> |
```

# PyCharm – Shareware



# Python Coding using Web

## ■ Codepad(<http://codepad.org>)

The image shows two side-by-side screenshots of the Codepad web application interface.

**Left Screenshot:** The main page of codepad.org. It features a title bar with the site's logo and a toolbar above the content area. The content area includes a brief introduction, a language selection dropdown (set to Python), and a code editor containing the Python code `print ('Hello, World')`. Below the code editor are buttons for "Private" (unchecked), "Run code" (checked), and "Submit". To the right of the code editor is a sidebar with links to "Recent Pastes", "Get a Project Page", "Hello World Examples", "FizzBuzz", "Vim Plugin", and "Emacs Integration". A note about the creator, Steven Hazel, is also present.

**Right Screenshot:** A screenshot of the same page after the code has been run. The URL in the address bar is now [codepad.org/h8HBfQal](http://codepad.org/h8HBfQal). The "Run code" button is checked. The "Output" section shows the result of the code execution: "Hello, World". The "New paste" section at the bottom contains the same Python code: `print ('Hello, World')`, with a dropdown menu set to "Python".

# Python Coding using Web

## ■ Paiza.io(<https://paiza.io>)

Just write and run code online !

paiza.IO is web-based coding environment.  
Java, Ruby, Python, PHP, Perl,... More than 20 languages are supported.  
You can use for learn programming, scrape web sites, write batch, etc...

**Start coding ( Free )**

Featured codes

```
<!DOCTYPE html>
<html>
```

Leave a message

Enter a title here

main.swift

```
1 // Here your code !
2
3 print("Hello, World!")
4
```

Success

Run (Ctrl-Enter)

Output: Hello, World

Input: Comments (0)

Leave a message

# Python Coding using Web

- runnable(<http://code.runnable.com>)

