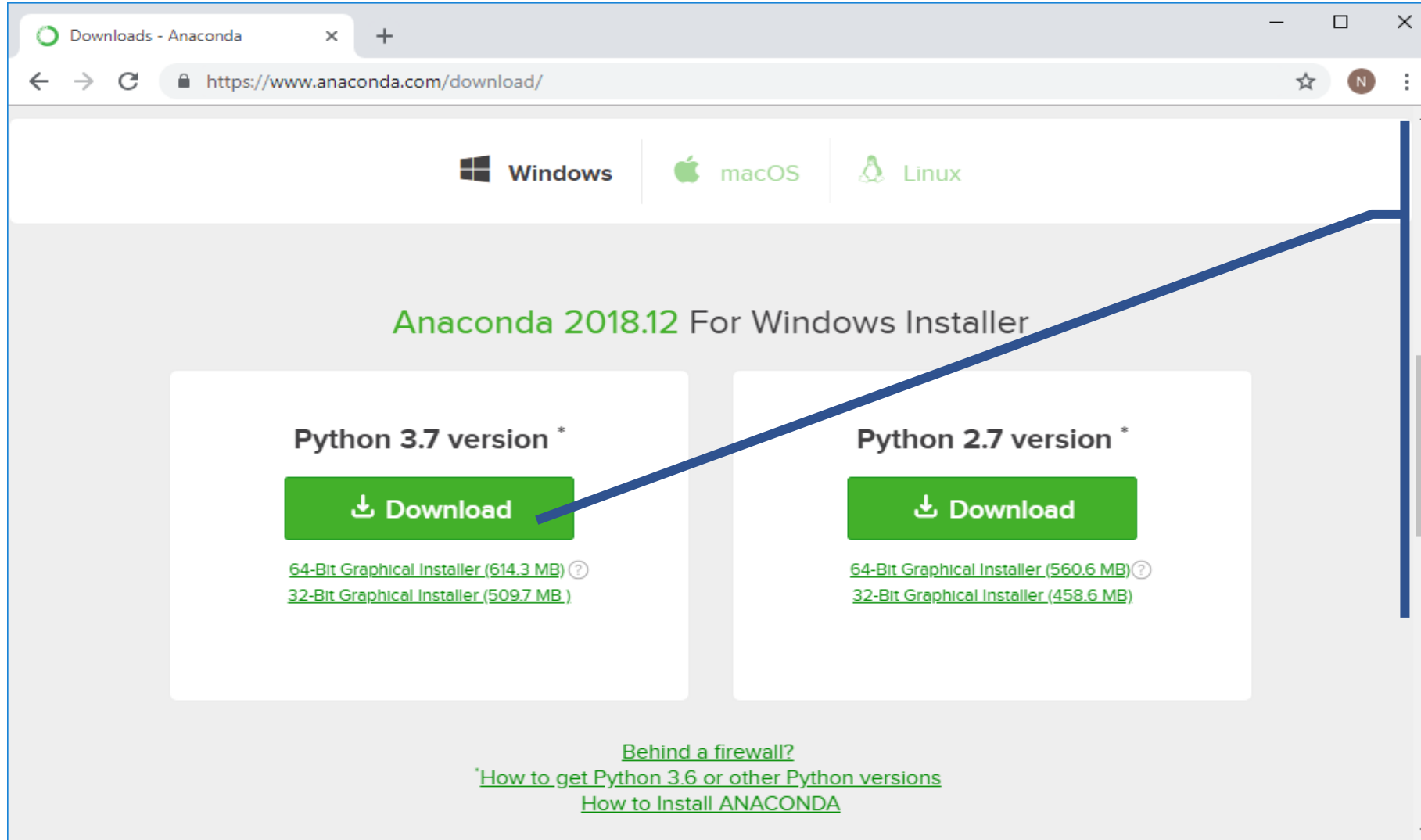


Installation

Python 3 – Anaconda

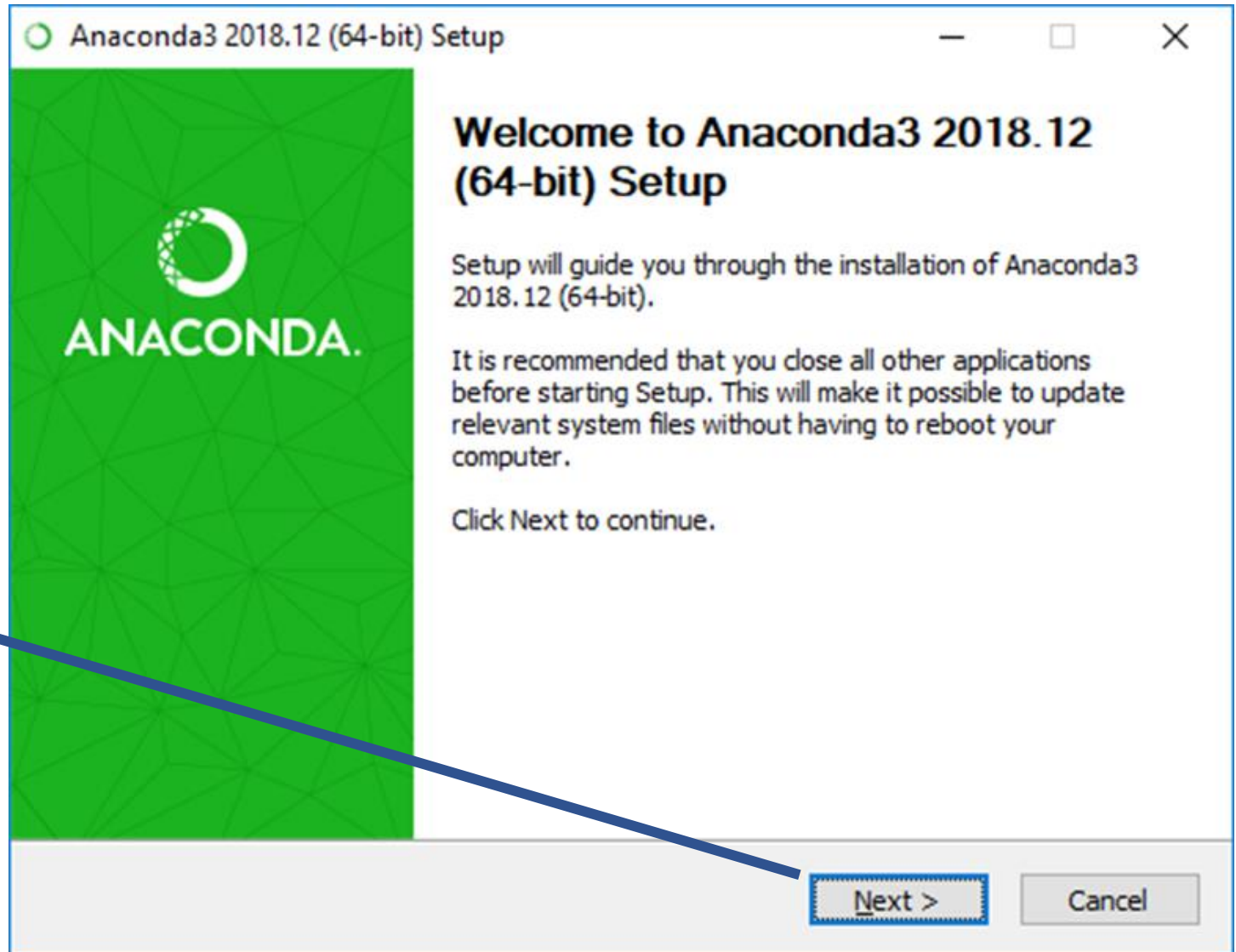
Installation – Install Python 3 with Anaconda

- In this course, we will use Anaconda python distribution
- Anaconda includes python and frequently used libraries by default. So we no need to install them separately
- And if we need to install new library, Anaconda provide interface (package management tool) to install new libraries which is user friendly
- And it's free
- If you wan to install python without Anaconda, instructions are provided end of this presentation (Appendix – Install Python without Anaconda)



First go to Anaconda download website
<https://www.anaconda.com/download/>

Download Python 3.7 version, choose 32 bit or 64 bit version based on your OS



Click Next

Anaconda3 2018.12 (64-bit) Setup



License Agreement

Please review the license terms before installing Anaconda3 2018.12 (64-bit).

Press Page Down to see the rest of the agreement.

=====

Anaconda End User License Agreement

=====

Copyright 2015, Anaconda, Inc.

All rights reserved under the 3-clause BSD License:

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Anaconda3 2018.12 (64-bit).

Anaconda, Inc.

< Back


I Agree

Cancel

Click "I Agree"

Choose All Users
And click Next

Anaconda3 2018.12 (64-bit) Setup

 **ANACONDA**


Select Installation Type
Please select the type of installation you would like to perform for Anaconda3 2018.12 (64-bit).

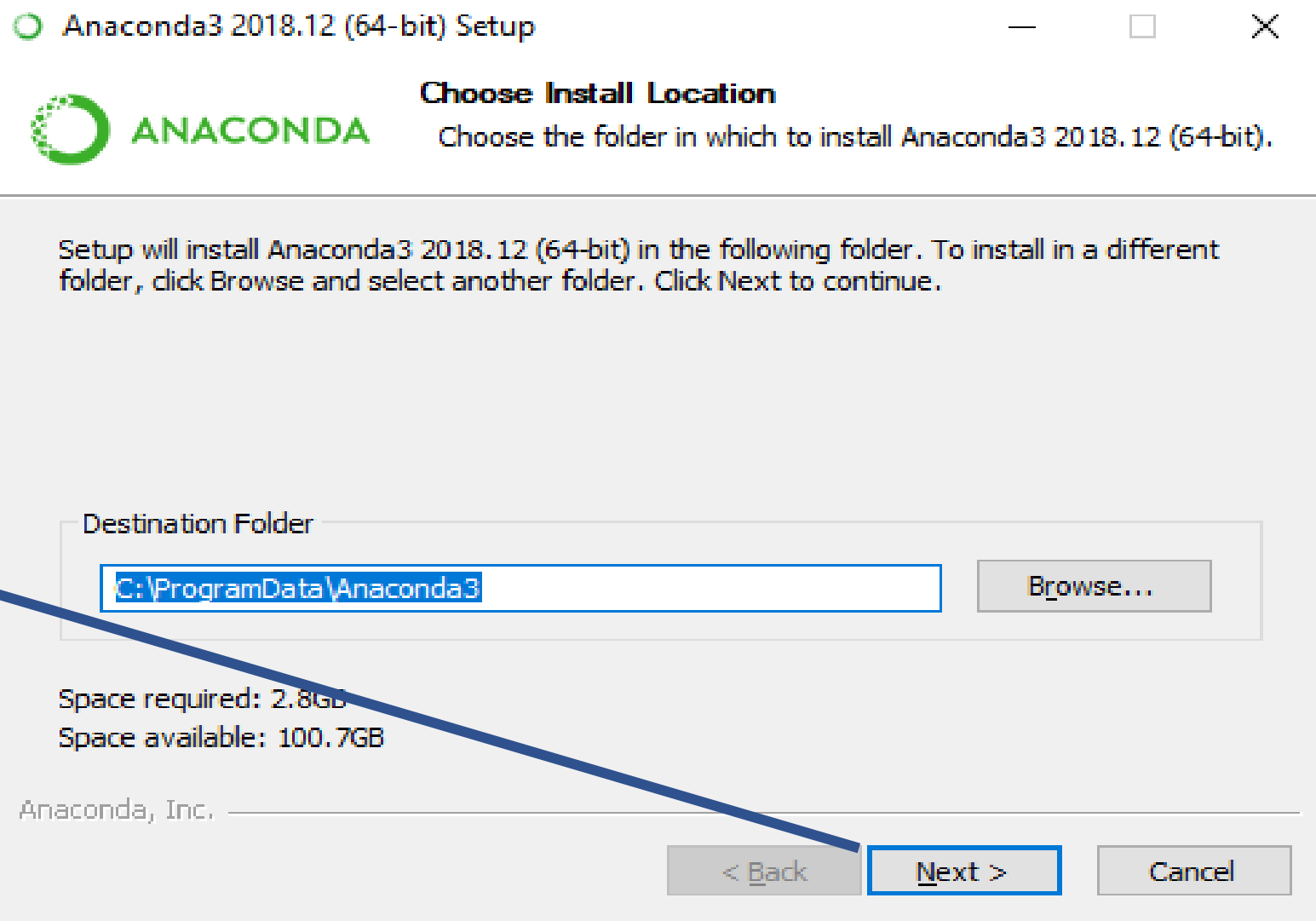
Install for:

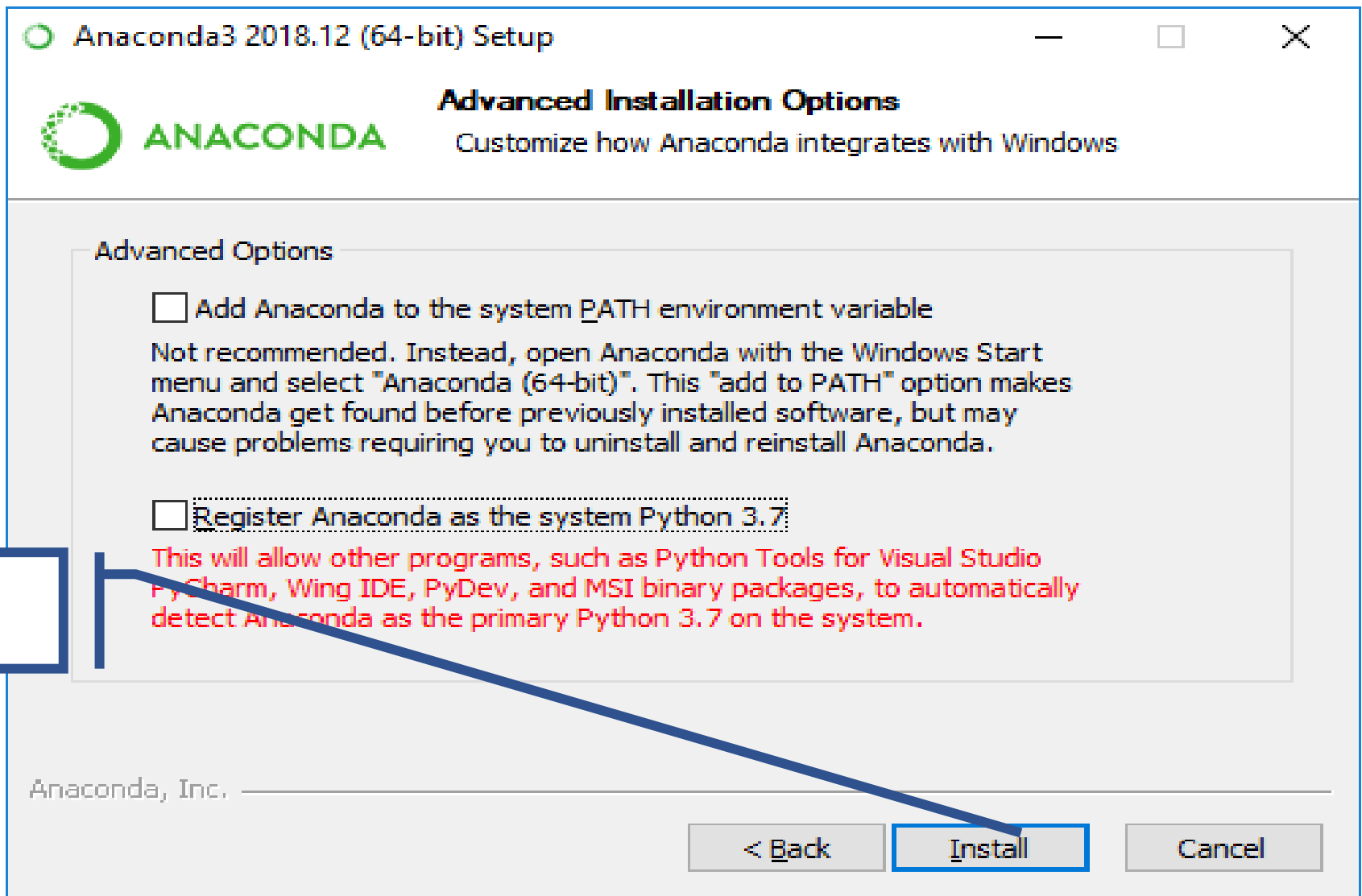
☐ Just Me (recommended)

☒ All Users (requires admin privileges)

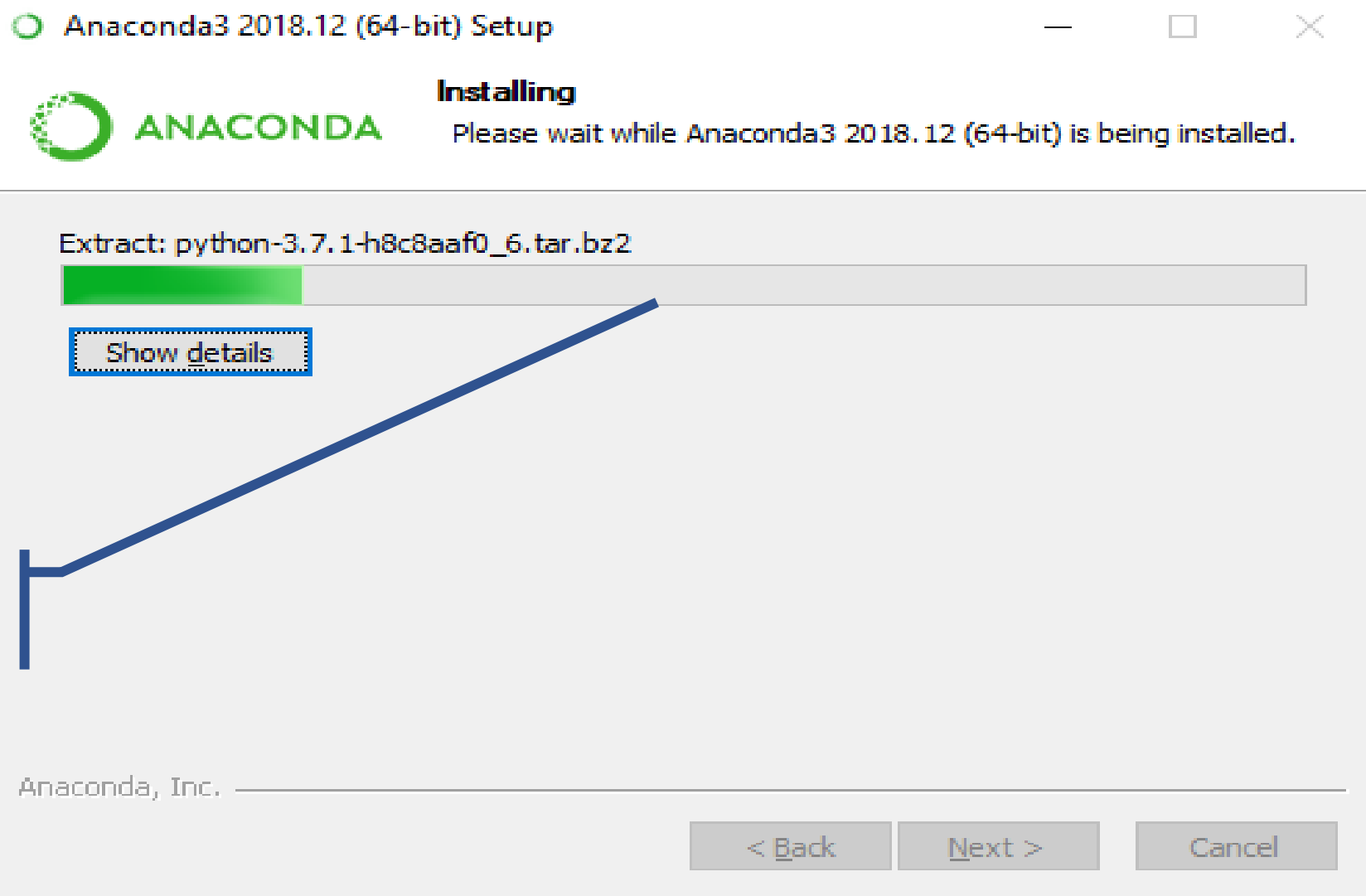
Anaconda, Inc.

< Back  Next > Cancel





Untick All
And Click Install



Wait until Finish

Anaconda3 2018.12 (64-bit) Setup



ANACONDA

Anaconda3 2018.12 (64-bit)

Microsoft Visual Studio Code Installation

Anaconda has partnered with Microsoft to bring you Visual Studio Code. Visual Studio Code is a free, open source, streamlined cross-platform code editor with excellent support for Python code editing, IntelliSense, debugging, linting, version control, and more.

To install Visual Studio Code, you will need Administrator Privileges and Internet connectivity.

Visual Studio Code License

Click Skip

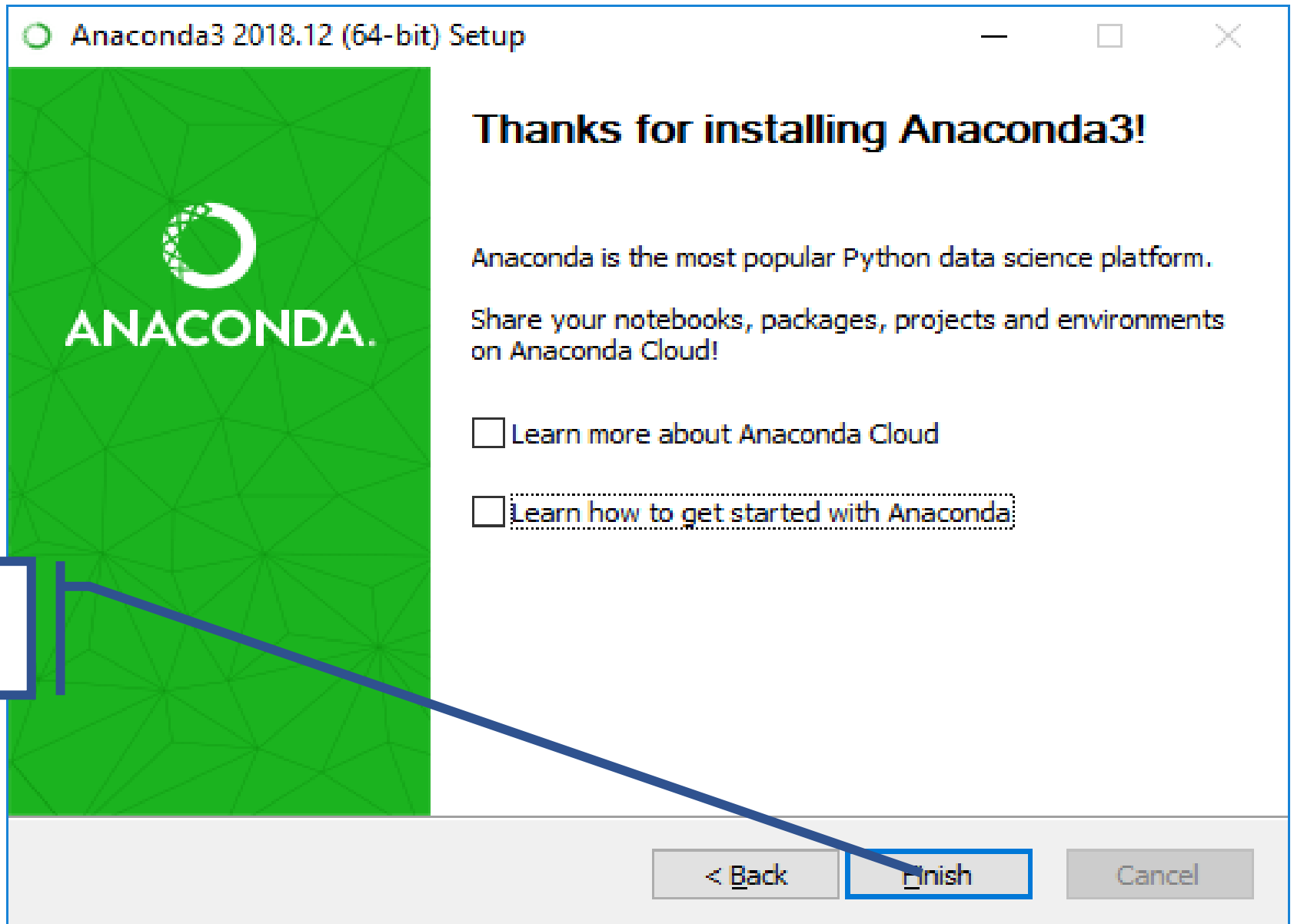
Install Microsoft VSCode

Anaconda, Inc.

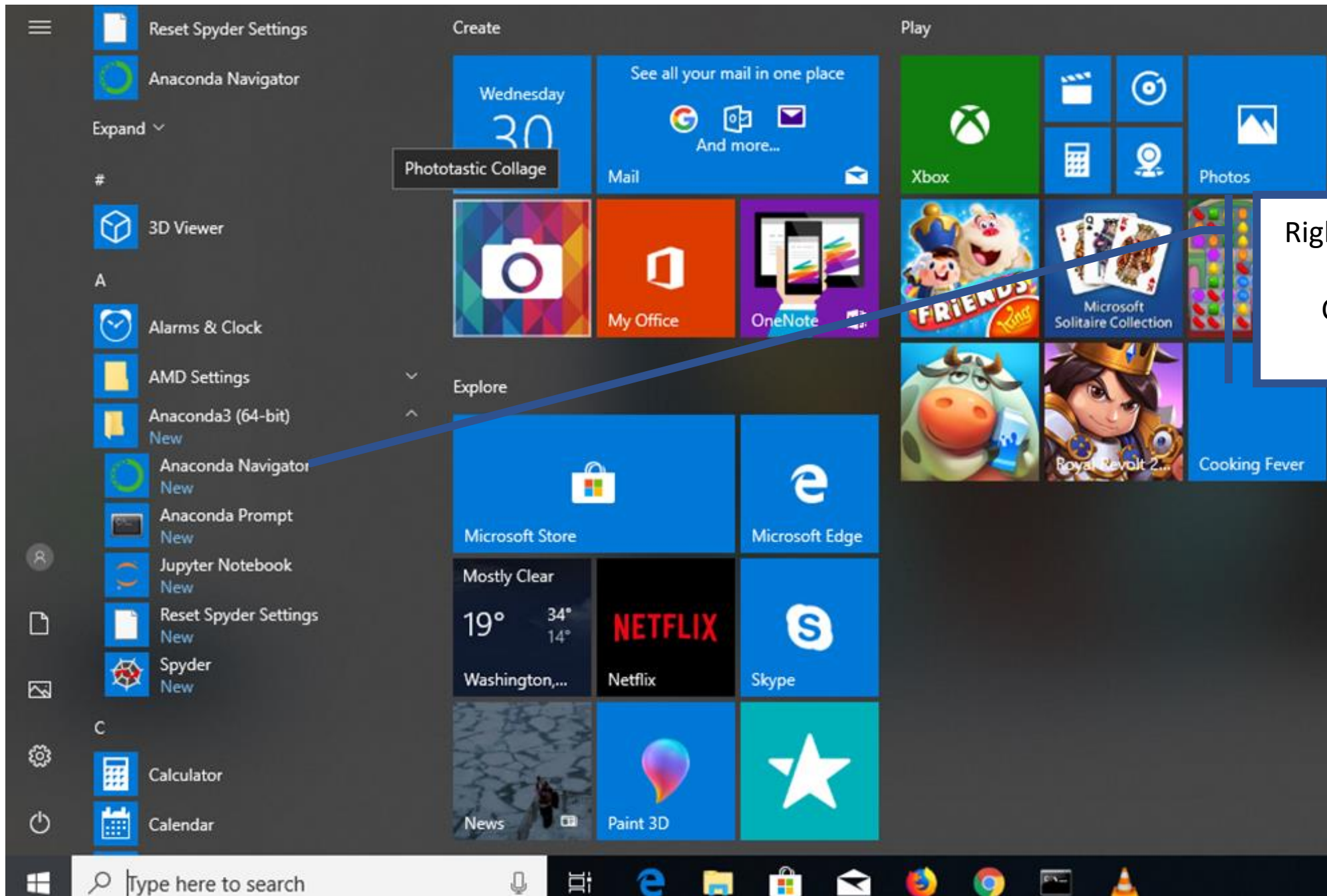
< Back

Skip

Cancel



Untick all
and Click Finish



Right Click "Anaconda Navigator" and Click on "Run as Administrator"

Home

Environments

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Developer Blog



Applications on

base (root)

Channels



JupyterLab

0.35.3

An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture.

Launch



Notebook

5.7.4

Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis.

Launch



IPython

4.4.3

Python GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more.

Launch

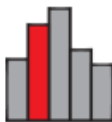


Spyder

3.3.2

Scientific PYTHON Development Environment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features

Launch



Glueviz

0.13.3

Multidimensional data visualization across files. Explore relationships within and among related datasets.



Orange 3

3.19.0

Component based data mining framework. Data visualization and data analysis for novice and expert. Interactive workflows



RStudio

1.1.456

A set of integrated tools designed to help you be more productive with R. Includes R essentials and notebooks.



VS Code

1.30.2

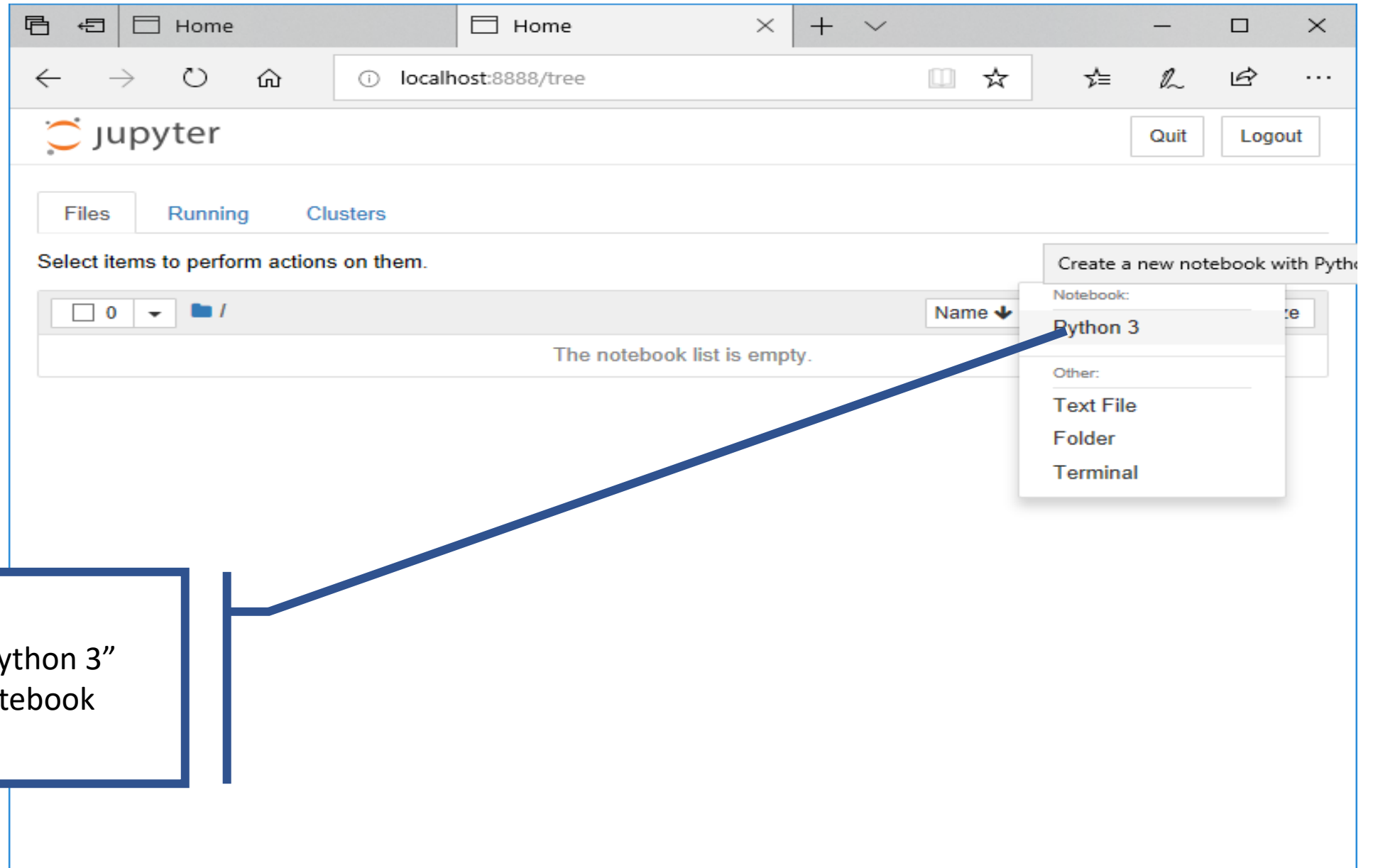
Streamlined code editor with support for development operations like debugging, task running and version control.

Launch "JuPyter" for coding

JuPyter notebook Interface
which will open in a web
browser

The screenshot shows a web browser window with the address bar displaying 'localhost:8889/tree'. The Jupyter logo is in the top left, and 'Quit' and 'Logout' buttons are in the top right. Below the logo are tabs for 'Files', 'Running', and 'Clusters'. The 'Files' tab is active, showing a file browser interface. At the top of the file browser, there is a text prompt 'Select items to perform actions on them.' followed by 'Upload', 'New', and a refresh button. Below this is a table of files and folders. The table has columns for 'Name', 'Last Modified', and 'File size'. The files listed are: 3D Objects, Contacts, Desktop, Documents, Downloads, Favorites, Links, Music, OneDrive, Pictures, Saved Games, and Searches. A blue diagonal line is drawn across the file list.

	Name	Last Modified	File size
<input type="checkbox"/>	0		
<input type="checkbox"/>	/		
<input type="checkbox"/>	3D Objects	11 days ago	
<input type="checkbox"/>	Contacts	11 days ago	
<input type="checkbox"/>	Desktop	a day ago	
<input type="checkbox"/>	Documents	11 days ago	
<input type="checkbox"/>	Downloads	31 minutes ago	
<input type="checkbox"/>	Favorites	11 days ago	
<input type="checkbox"/>	Links	11 days ago	
<input type="checkbox"/>	Music	11 days ago	
<input type="checkbox"/>	OneDrive	11 days ago	
<input type="checkbox"/>	Pictures	11 days ago	
<input type="checkbox"/>	Saved Games	11 days ago	
<input type="checkbox"/>	Searches	11 days ago	



Click "New" → "Python 3"
To open new Notebook

localhost:8888/notebooks/Untitled.ipynb?kernel_narr

jupyter Untitled (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

In [1]: `print('hello world')`

hello world

In []: |

Now you can write and run
Python codes interactively in your
web browser

Home

Environments

Learning

Community

Documentation

Developer Blog



Search Environments

base (root)

Installed

Channels

Update index...

Search Packages

Name



T

Description

Version



_ipyw_jlab_nb_ex...



A configuration metapackage for enabling anaconda-bundled jupyter extensions

0.1.0



alabaster



Configurable, python 2+3 compatible sphinx theme.

0.7.12



anaconda



Simplifies package management and deployment of anaconda

2018.12



anaconda-client



Anaconda.org command line client library

1.7.2



anaconda-project



Tool for encapsulating, running, and reproducing data science projects

0.8.2



asn1crypto



Python asn.1 library with a focus on performance and pythonic api.



astroid



A abstract syntax tree for python with inference support.



astropy



Community-developed python library for astronomy



atomicwrites



Atomic file writes.

1.2.1



attrs



Attrs is the python package that will bring back the joy of writing classes by relieving you from the drudgery of implementing object protocols (aka dunder methods).

18.2.0



babel



Utilities to internationalize and localize python applications

2.6.0



backcall



Specifications for callback functions passed in to an api

0.1.0



Create



Clone



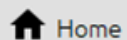
Import



Remove

257 packages available

Click on "Environment"
to see installed libraries



Home



Environments



Learning



Community

Search Environments



base (root)



Not installed



Channels

Update index...

gdal



Name



Description

Version



gdal



Gdal is a translator library for raster and vector geospatial data formats that is released under an x/mit style open source license by the open source geospatial foundation.

2.3.3



kealib



The kea format provides an implementation of the gdal specification within the the hdf5 file format.

1.4.7



libgdal



The geospatial data abstraction library (gdal)

2.3.3

To install new library
Select "not installed" option and
search by library name

After selecting library, just click
"Apply" to install

Create

Clone

Import

Remove

3 packages available matching "gdal" 1 package selected

Apply

Clear

Appendix – Install Python without Anaconda

Go to Python Download website
<https://www.python.org/downloads/windows/>

and Download suitable Python base
on your OS (32 bit or 64 bit)

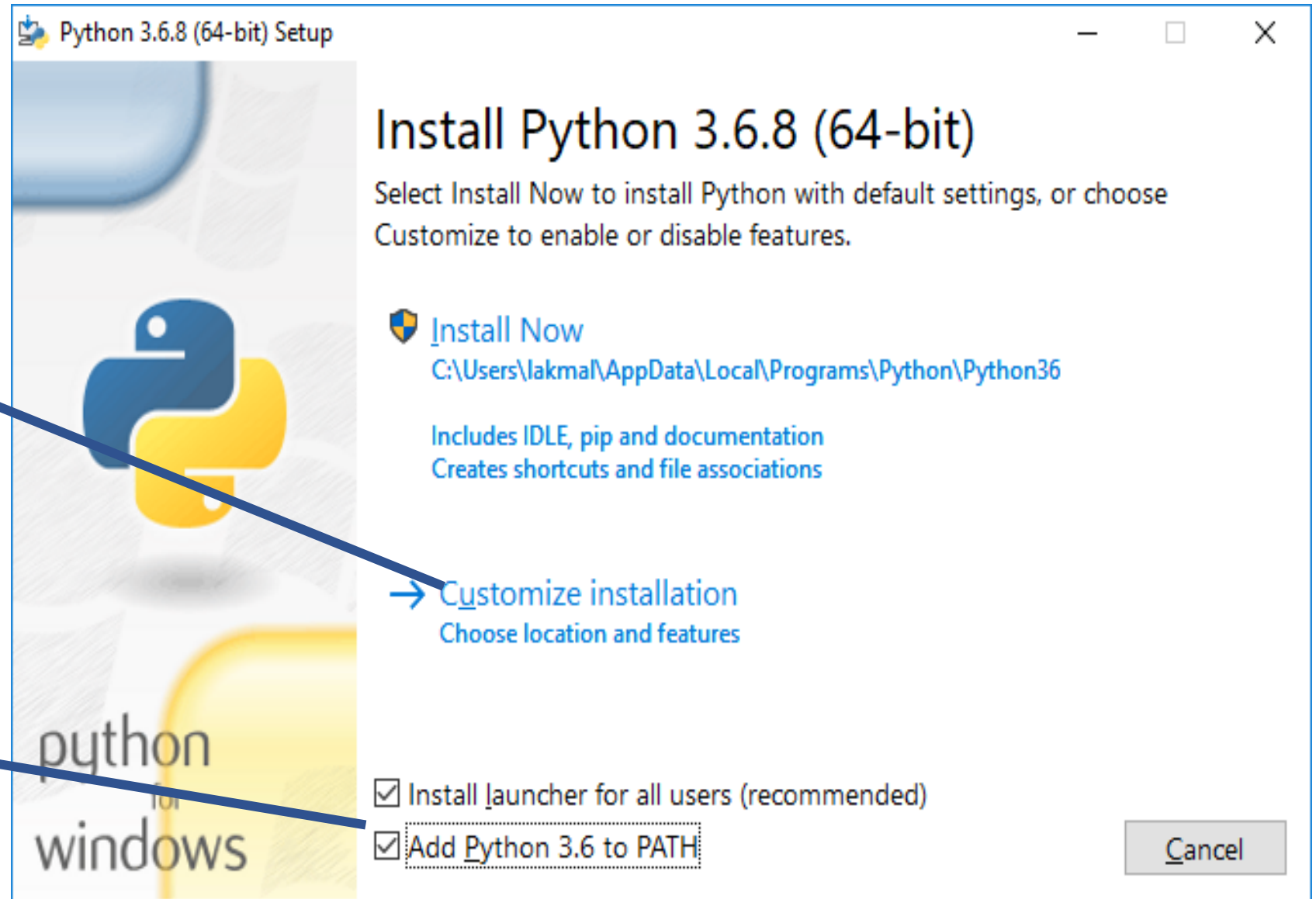
The screenshot shows a web browser window with the address bar displaying "Python Software Foundation [US] | https://www.python.org/downloads/windows/". The page content lists download links for two Python versions:

- Python 3.6.8 - 2018-12-24
 - Download [Windows help file](#)
 - Download [Windows x86 web-based installer](#)
 - Download [Windows x86 executable installer](#)
 - Download [Windows x86 embeddable zip file](#)
 - Download [Windows x86-64 web-based installer](#)
 - Download [Windows x86-64 executable installer](#)
 - Download [Windows x86-64 embeddable zip file](#)
 - Download [Windows help file](#)
- Python 3.7.2rc1 - 2018-12-11
 - Download [Windows x86 web-based installer](#)
 - Download [Windows x86 executable installer](#)
 - Download [Windows x86 embeddable zip file](#)
 - Download [Windows x86-64 web-based installer](#)
 - Download [Windows x86-64 executable installer](#)
 - Download [Windows x86-64 embeddable zip file](#)
 - Download [Windows help file](#)

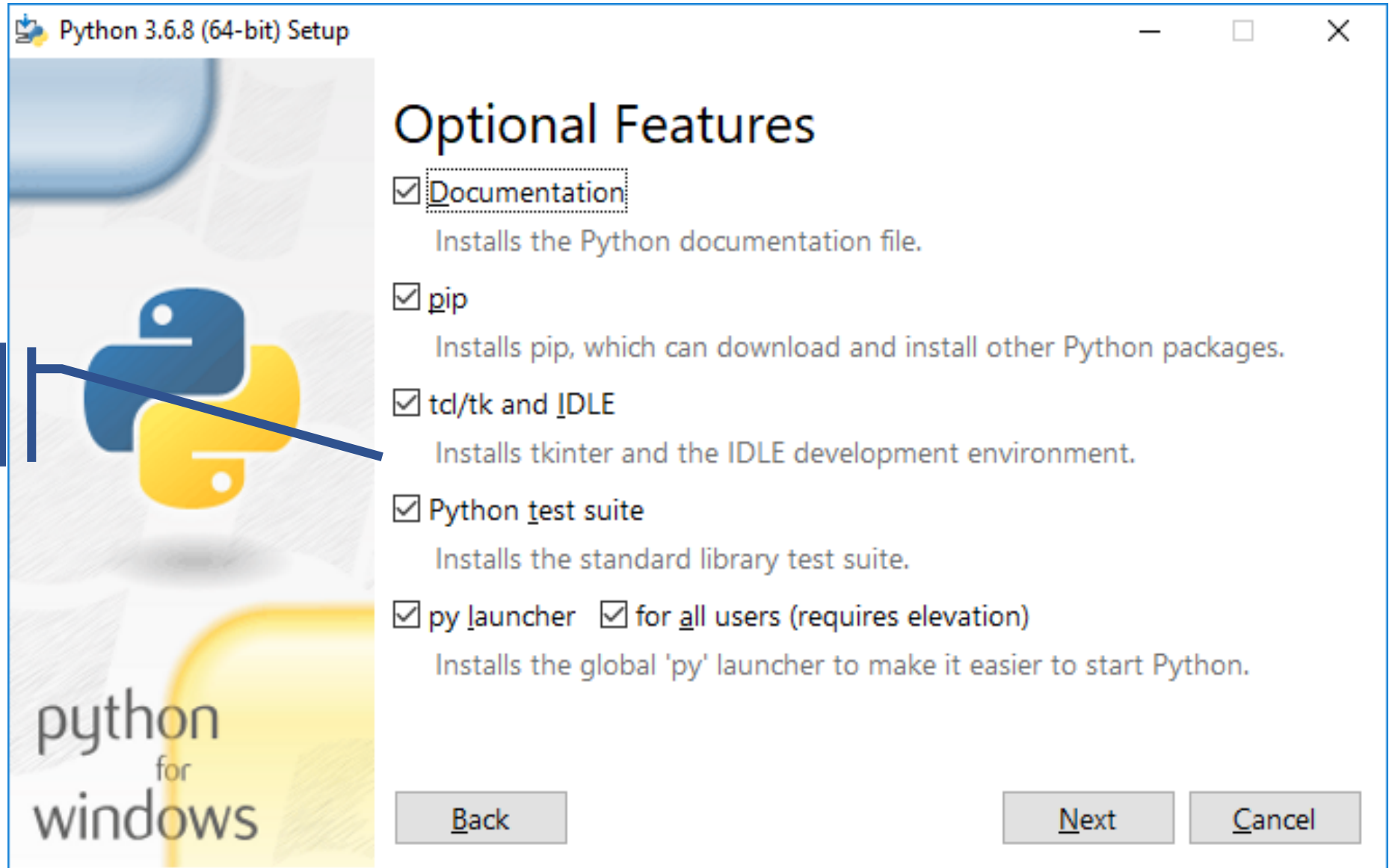
At the bottom of the browser window, a taskbar shows several download progress bars for files like "python-3.6.8-amd64.exe", "python-3.6.8.exe", "python-3.7.2.exe", and "python-3.7.2-amd64.exe". A "Show all" button is visible in the bottom right corner of the taskbar area.

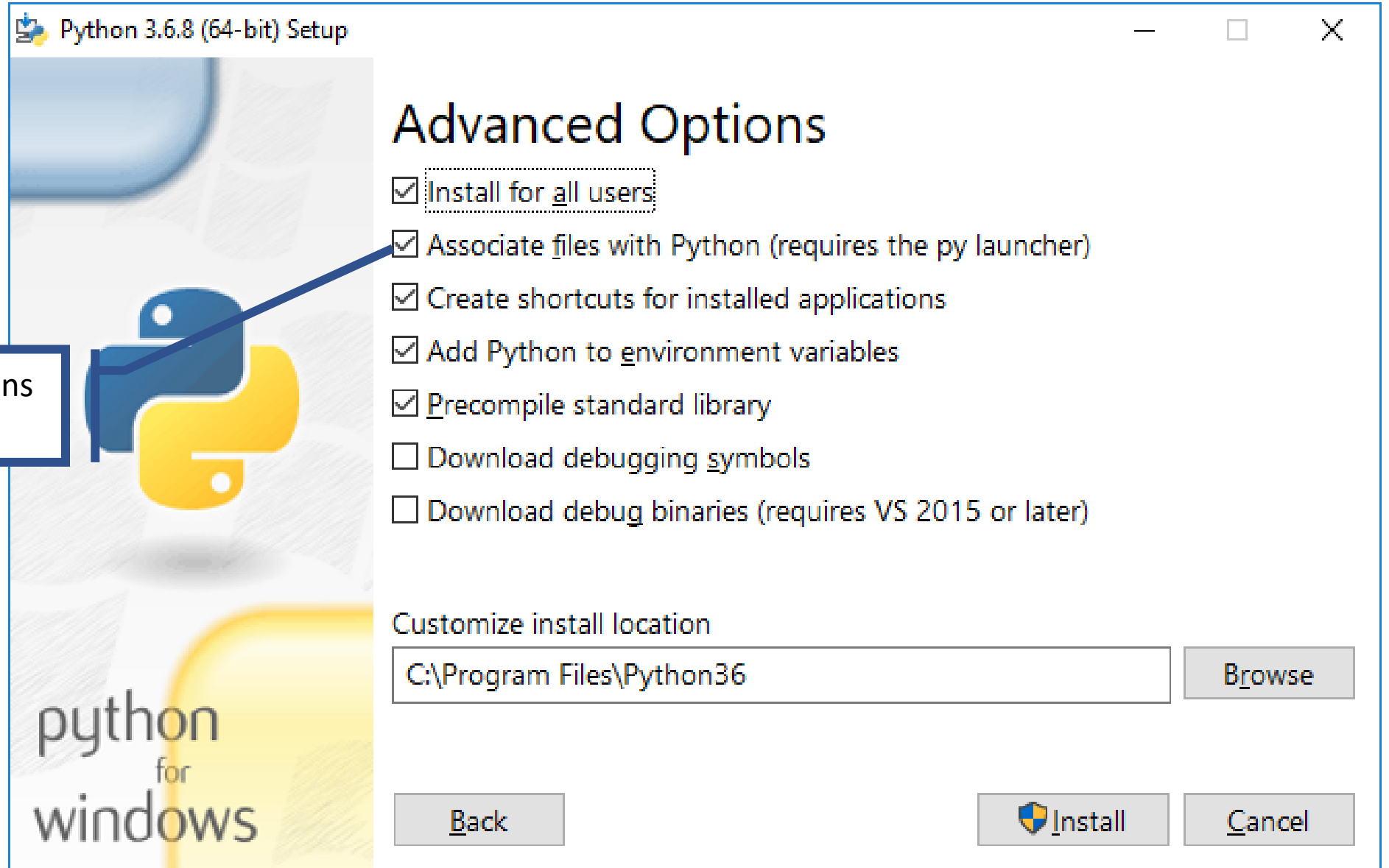
2. Click "Customize Installation"

1. Select All

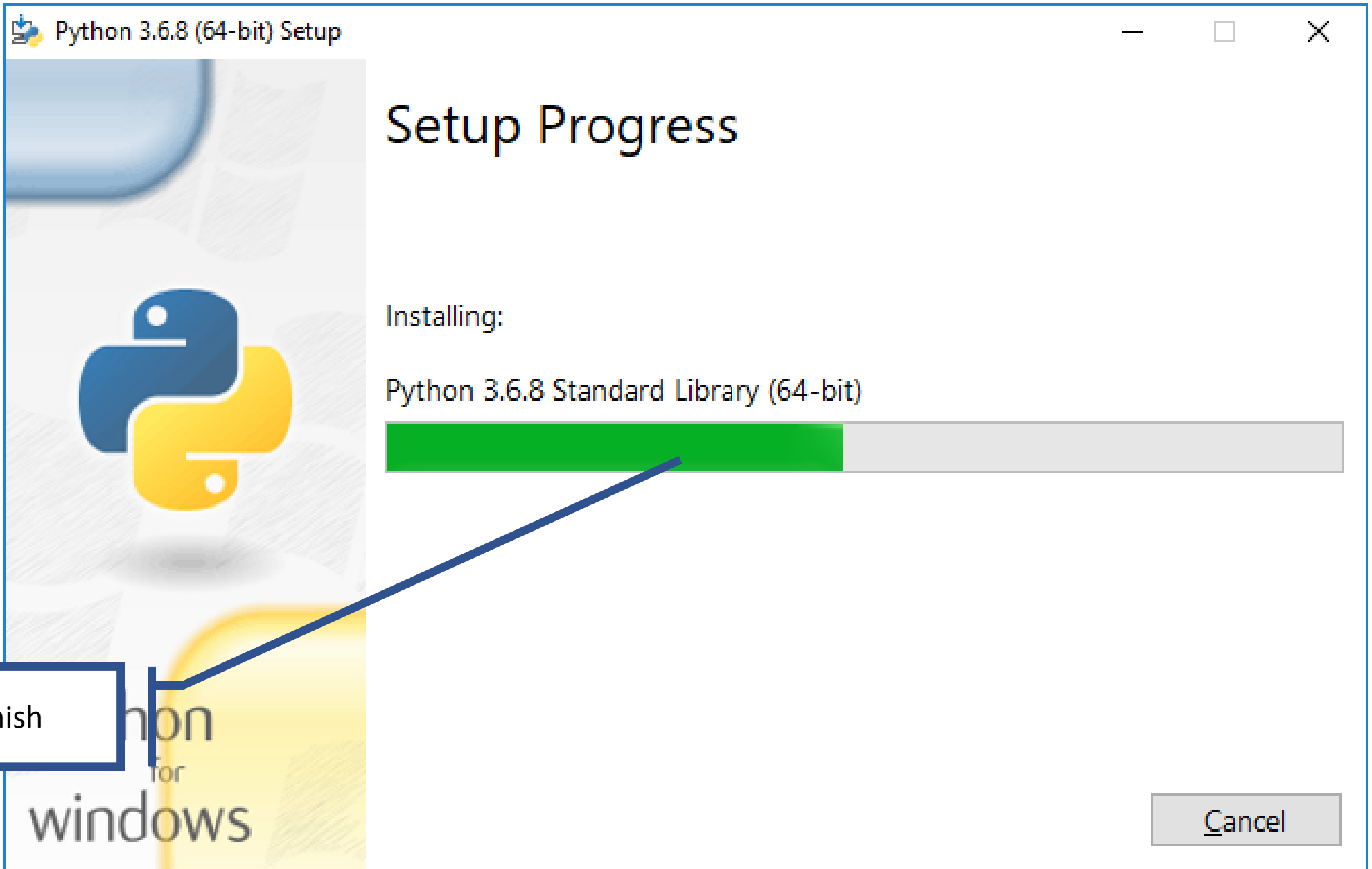


Select all and Click
Next





Select first 5 options
and Click Install



Python 3.6.8 (64-bit) Setup



Setup was successful

Special thanks to Mark Hammond, without whose years of freely shared Windows expertise, Python for Windows would still be Python for DOS.

New to Python? Start with the [online tutorial](#) and [documentation](#).

See [what's new](#) in this release.



Disable path length limit

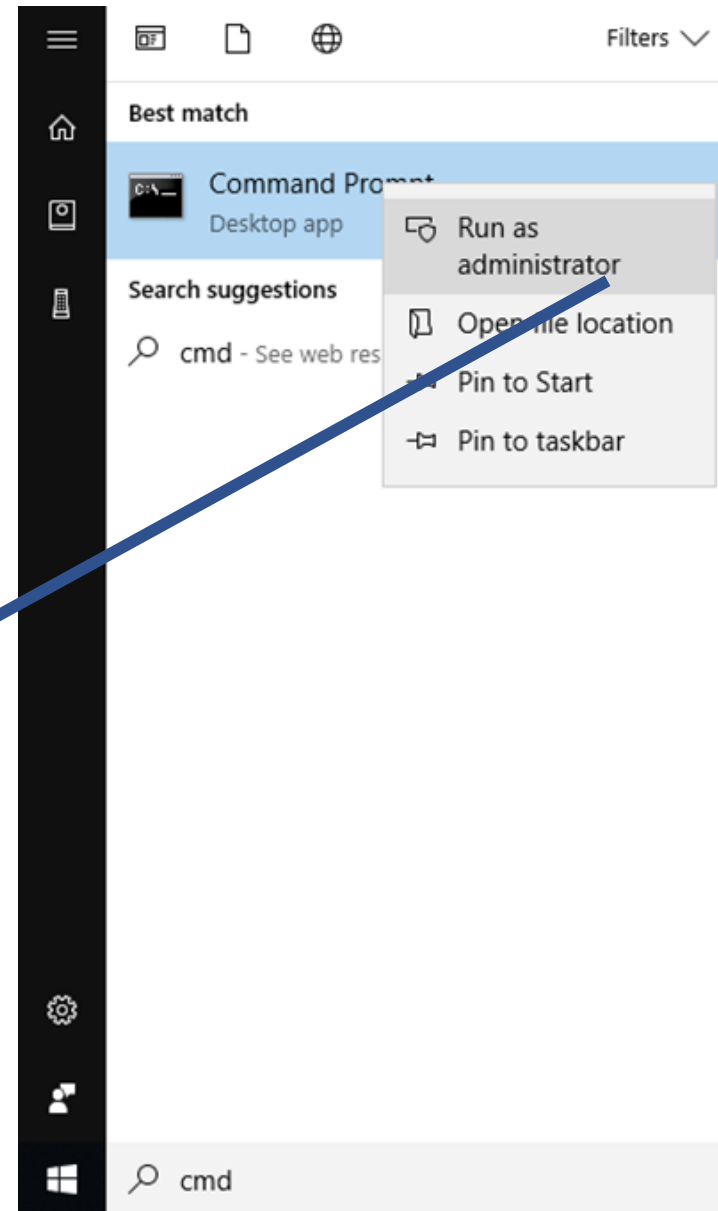
Changes your machine configuration to allow programs, including Python, to bypass the 260 character "MAX_PATH" limitation.

python
for
windows

Close

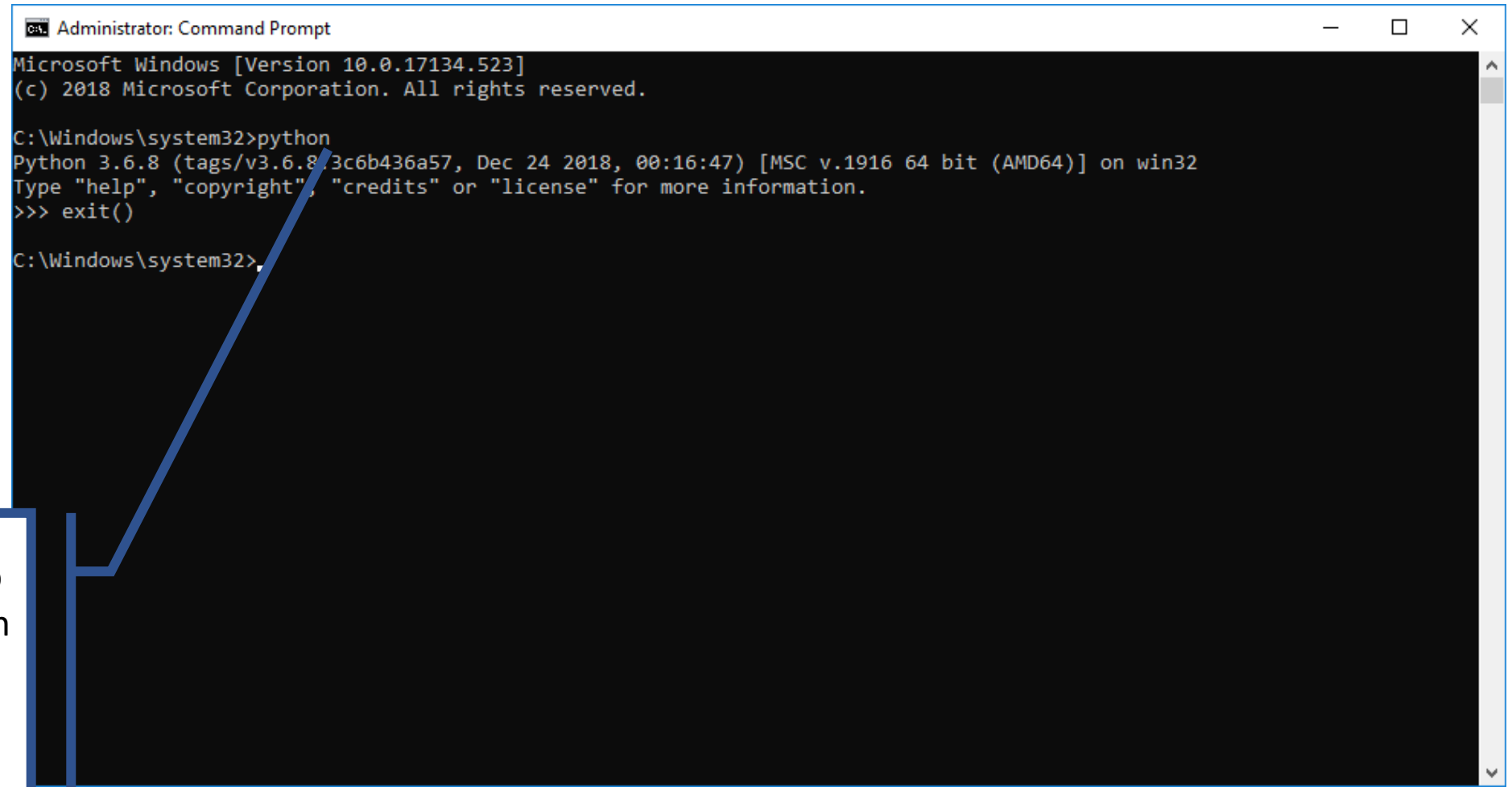
Click Close

Right Click “Command Prompt” and Click on “Run as Administrator”



Run "python" command to
see installed python version

And use "exit()" command
to exit



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.17134.523]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Windows\system32>python
Python 3.6.8 (tags/v3.6.8:3c6b436a57, Dec 24 2018, 00:16:47) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> exit()

C:\Windows\system32>
```

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.17134.523]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Windows\system32>python
Python 3.6.8 (tags/v3.6.8:3c6b436a57, Dec 24 2018, 00:16:47) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> exit()

C:\Windows\system32>pip3

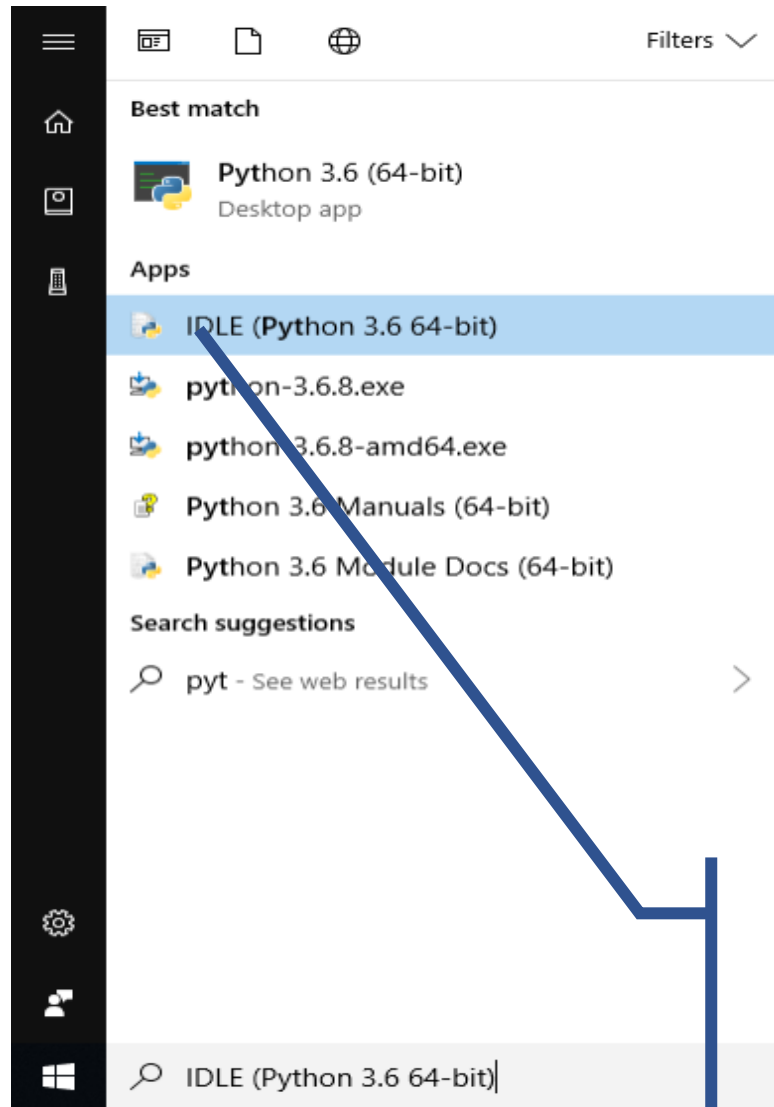
Usage:
  pip3 <command> [options]

Commands:
  install           Install packages.
  download          Download packages.
  uninstall         Uninstall packages.
  freeze            Output installed packages in requirements format.
  list              List installed packages.
  show              Show information about installed packages.
  check             Verify installed packages have compatible dependencies.
  config            Manage local and global configuration.
  search            Search PyPI for packages.
  wheel             Build wheels from your requirements.
  hash              Compute hashes of package archives.
  completion        A helper command used for command completion.
  help              Show help for commands.

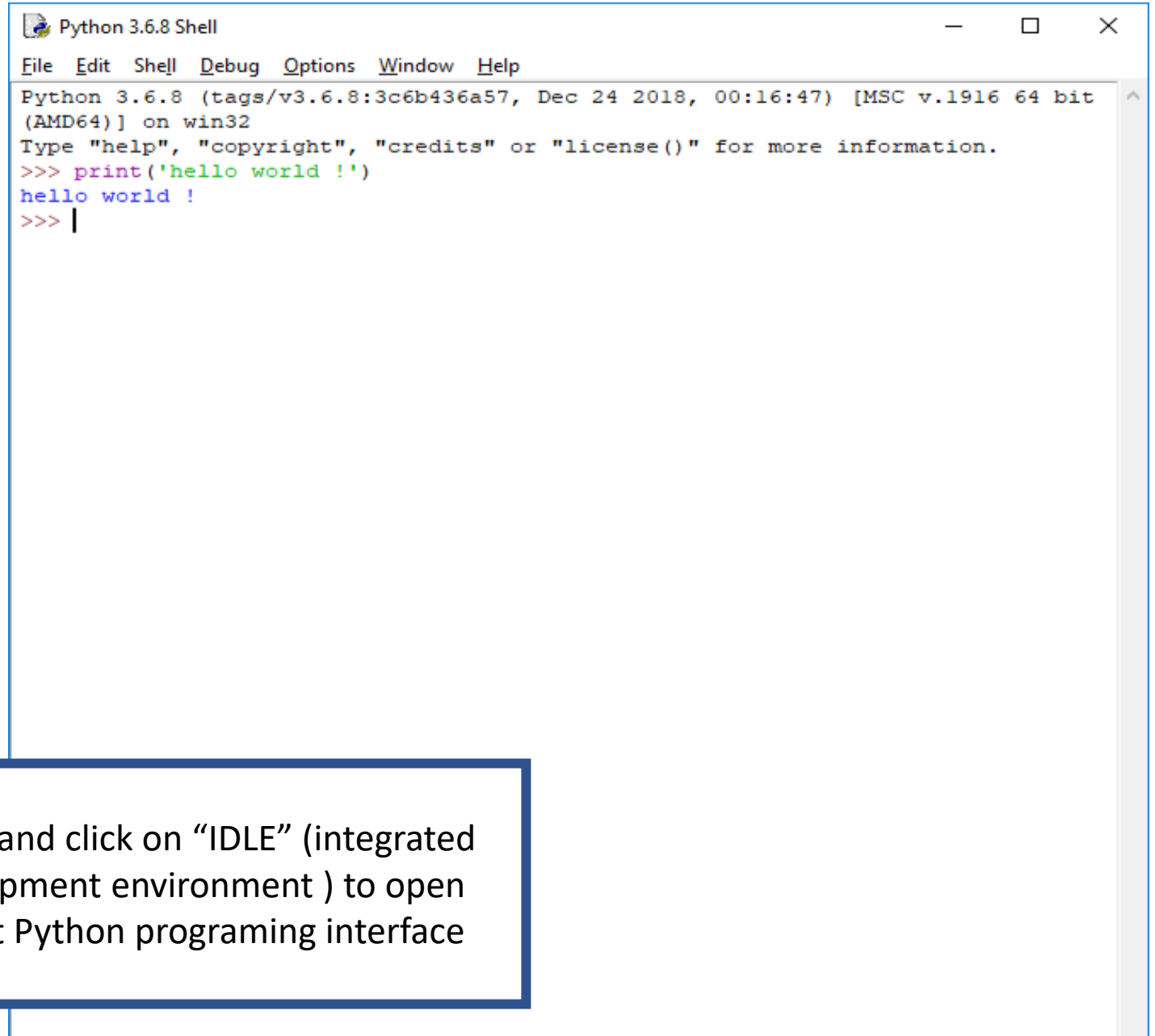
General Options:
  -h, --help        Show help.
```

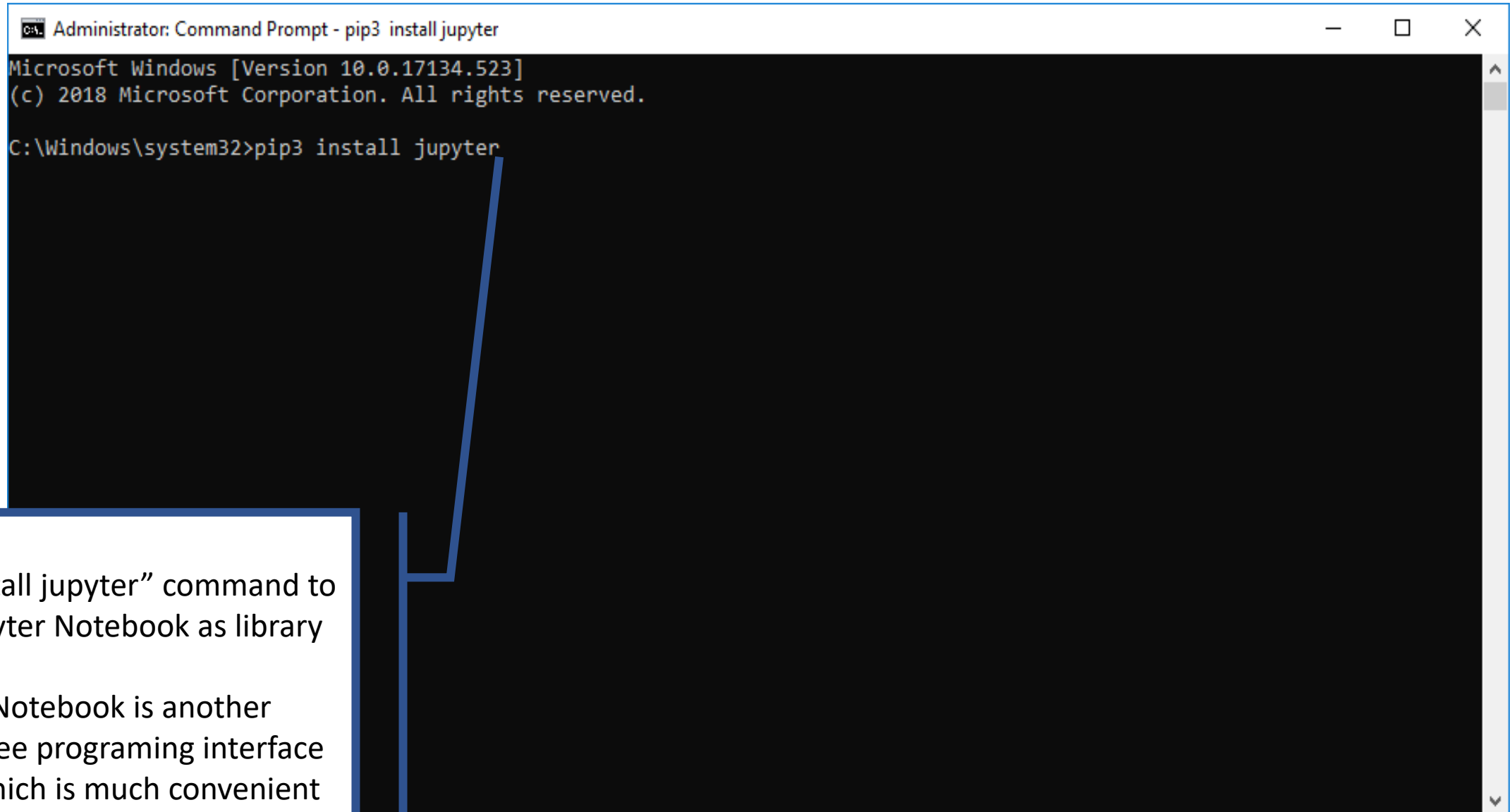
Run “pip3” command to see installed pip3

pip3 is a package management system used to install and manage software packages written in Python version 3 and when we are installing new python libraries we have to use pip3



Search and click on "IDLE" (integrated development environment) to open default Python programming interface



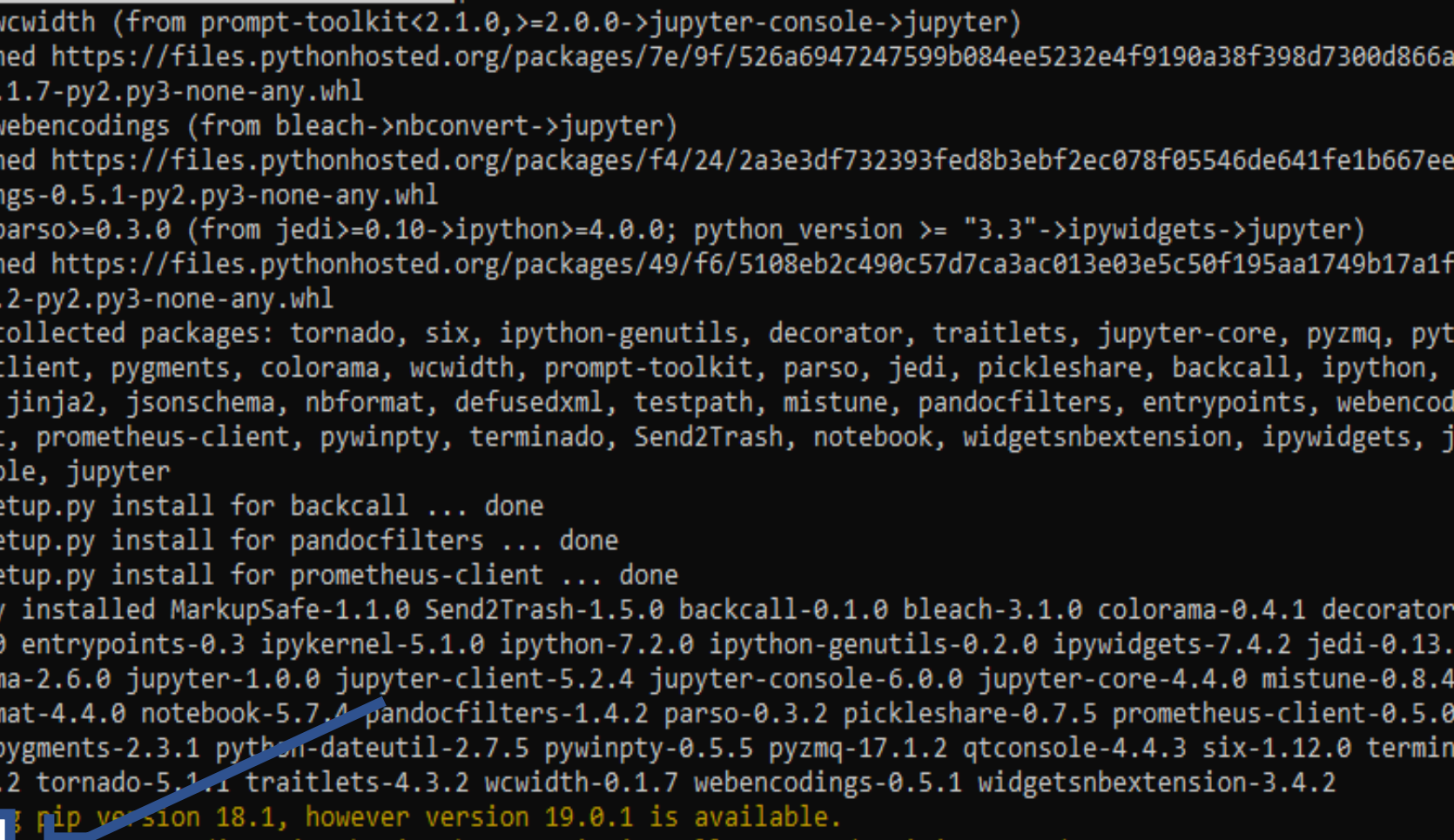


```
Administrator: Command Prompt - pip3 install jupyter
Microsoft Windows [Version 10.0.17134.523]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Windows\system32>pip3 install jupyter
```

Run “pip3 install jupyter” command to installed JuPyter Notebook as library

JuPyter Notebook is another interactive free proگرامing interface to Python which is much convenient



```
Administrator: Command Prompt

100% | 1.3MB 949kB/s
Collecting wcwidth (from prompt-toolkit<2.1.0,>=2.0.0->jupyter-console->jupyter)
  Using cached https://files.pythonhosted.org/packages/7e/9f/526a6947247599b084ee5232e4f9190a38f398d7300d866af3ab571a5bf
e/wcwidth-0.1.7-py2.py3-none-any.whl
Collecting webencodings (from bleach->nbconvert->jupyter)
  Using cached https://files.pythonhosted.org/packages/f4/24/2a3e3df732393fed8b3ebf2ec078f05546de641fe1b667ee316ec1dcf3b
7/webencodings-0.5.1-py2.py3-none-any.whl
Collecting parso>=0.3.0 (from jedi>=0.10->ipython>=4.0.0; python_version >= "3.3"->ipywidgets->jupyter)
  Using cached https://files.pythonhosted.org/packages/49/f6/5108eb2c490c57d7ca3ac013e03e5c50f195aa1749b17a1fe553d63a37c
2/parso-0.3.2-py2.py3-none-any.whl
Installing collected packages: tornado, six, ipython-genutils, decorator, traitlets, jupyter-core, pyzmq, python-dateuti
l, jupyter-client, pygments, colorama, wcwidth, prompt-toolkit, parso, jedi, pickleshare, backcall, ipython, ipykernel,
MarkupSafe, jinja2, jsonschema, nbformat, defusedxml, testpath, mistune, pandocfilters, entrypoints, webencodings, bleac
h, nbconvert, prometheus-client, pywinpty, terminado, Send2Trash, notebook, widgetsnbextension, ipywidgets, jupyter-cons
ole, qtconsole, jupyter
  Running setup.py install for backcall ... done
  Running setup.py install for pandocfilters ... done
  Running setup.py install for prometheus-client ... done
Successfully installed MarkupSafe-1.1.0 Send2Trash-1.5.0 backcall-0.1.0 bleach-3.1.0 colorama-0.4.1 decorator-4.3.2 defu
sedxml-0.5.0 entrypoints-0.3 ipykernel-5.1.0 ipython-7.2.0 ipython-genutils-0.2.0 ipywidgets-7.4.2 jedi-0.13.2 jinja2-2.
10 jsonschema-2.6.0 jupyter-1.0.0 jupyter-client-5.2.4 jupyter-console-6.0.0 jupyter-core-4.4.0 mistune-0.8.4 nbconvert-
5.4.0 nbformat-4.4.0 notebook-5.7.4 pandocfilters-1.4.2 parso-0.3.2 pickleshare-0.7.5 prometheus-client-0.5.0 prompt-too
lkit-2.0.8 pygments-2.3.1 python-dateutil-2.7.5 pywinpty-0.5.5 pyzmq-17.1.2 qtconsole-4.4.3 six-1.12.0 terminado-0.8.1 t
estpath-0.4.2 tornado-5.1.1 traitlets-4.3.2 wcwidth-0.1.7 webencodings-0.5.1 widgetsnbextension-3.4.2
; pip version 18.1, however version 19.0.1 is available.
Consider upgrading via the 'python -m pip install --upgrade pip' command.

system32>
```

```
Administrator: Command Prompt - jupyter notebook
Microsoft Windows [Version 10.0.17134.523]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Windows\system32>E:

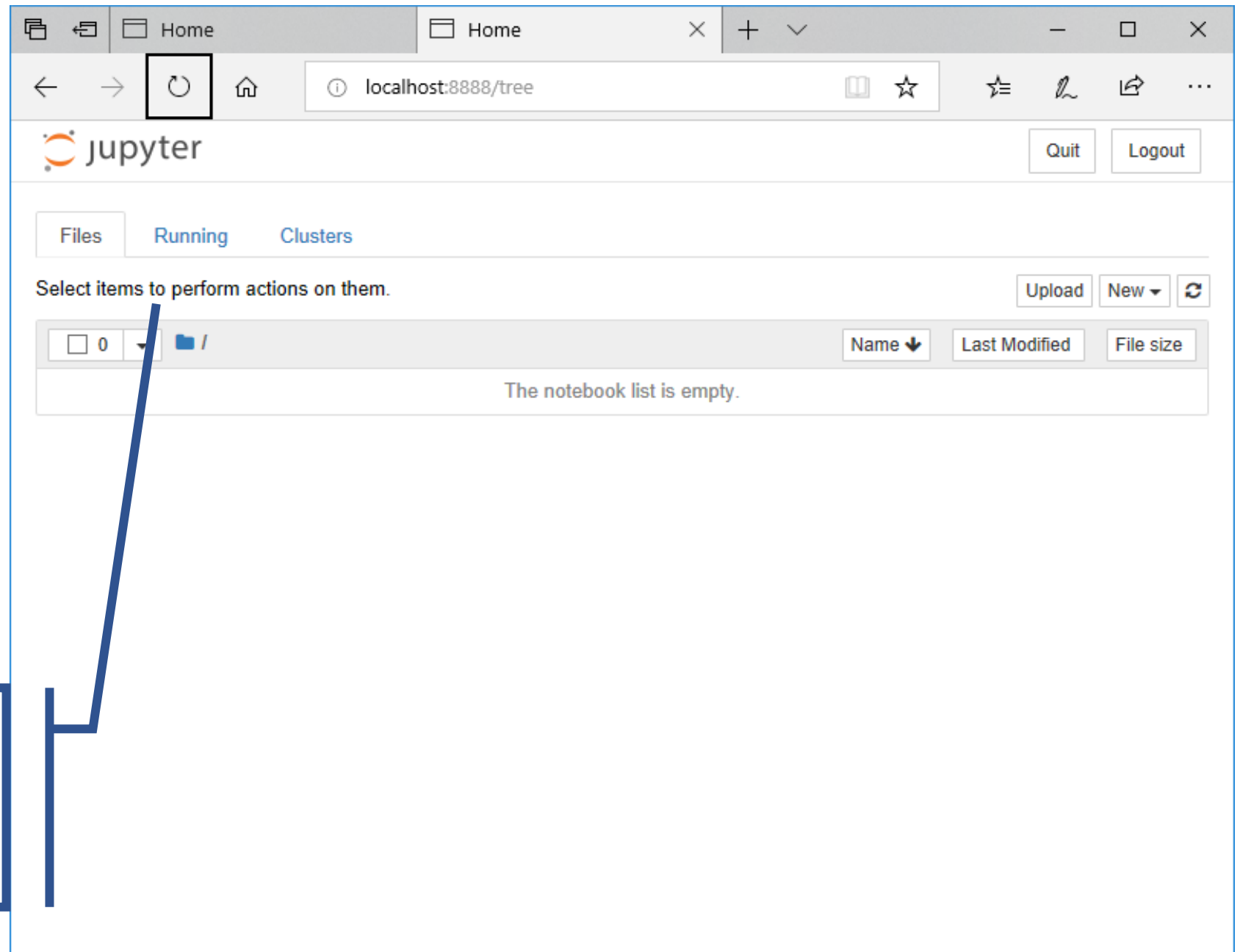
E:\>cd PythonTraining

E:\PythonTraining>jupyter notebook
[I 19:46:00.810 NotebookApp] Serving notebooks from local directory: E:\PythonTraining
[I 19:46:00.810 NotebookApp] The Jupyter Notebook is running at:
[I 19:46:00.811 NotebookApp] http://localhost:8888/?token=0c3815a81f6a7ff1880f06cb1ac41c6b76e35b7488f63fc7
[I 19:46:00.811 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[C 19:46:00.932 NotebookApp]

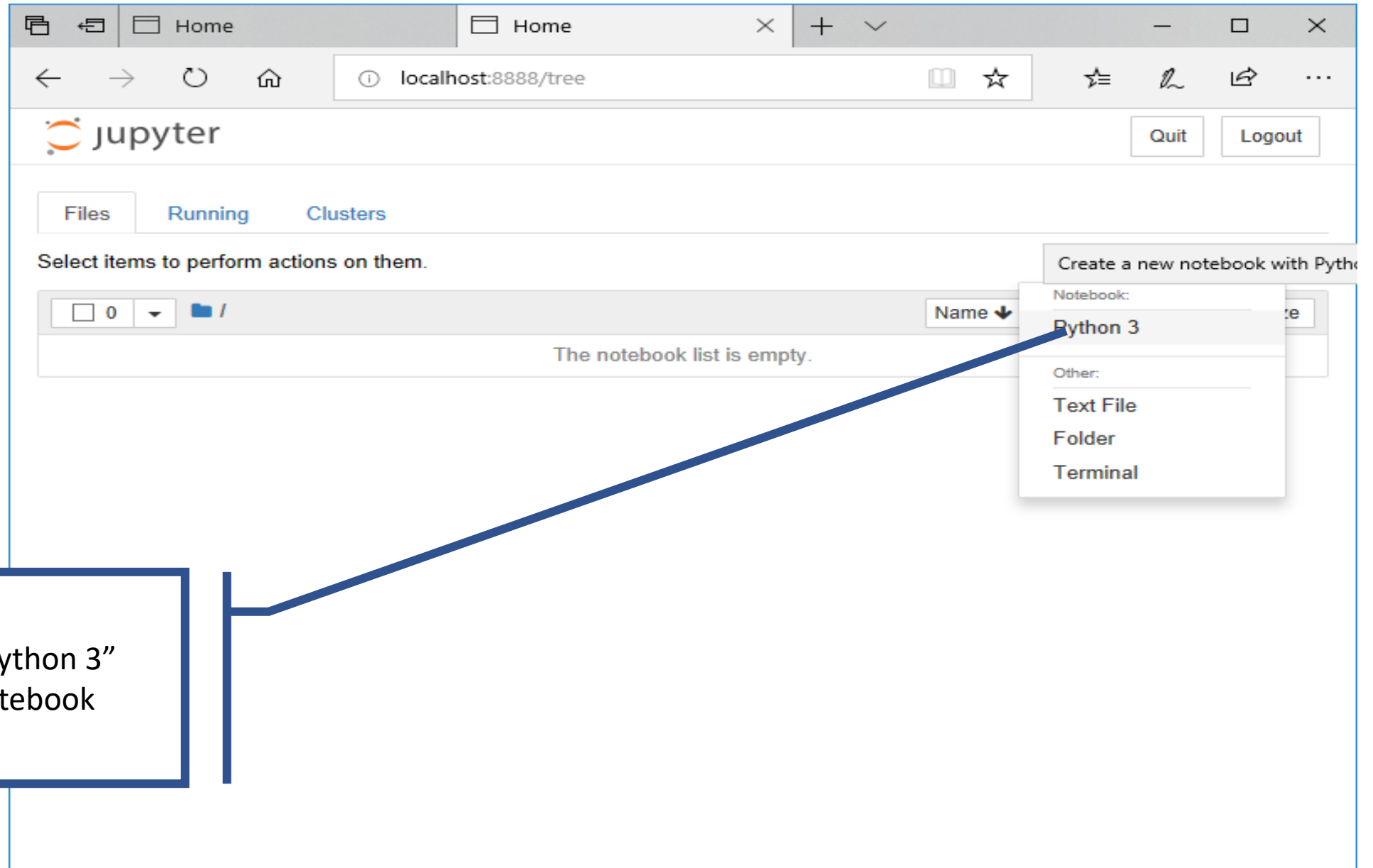
To access the notebook, open this file in a browser:
    file:///C:/Users/lakma/AppData/Roaming/jupyter/runtime/nbserver-10620-open.html
Or copy and paste one of these URLs:
    http://localhost:8888/?token=0c3815a81f6a7ff1880f06cb1ac41c6b76e35b7488f63fc7
```

Run JuPyter Notebook by running
this command

“jupyter notebook”



Then JuPyter Notebook will open
in a web browser



Click "New" → "Python 3"
To open new Notebook

localhost:8888/notebooks/Untitled.ipynb?kernel_narr

jupyter Untitled (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

In [1]: `print('hello world')`

hello world

In []: |

Now you can write and run
Python codes interactively in your
web browser

End