

How to install python using anaconda for a windows PC.

Probably python can be installed in a similar way.

What is python?

- Python is a computer language.
- Python is the most popular computer language for studies of atmosphere and ocean.
 - Python is also widely used in machine learning (AI) field.
- Python is free.
 - This is a big difference from Matlab, which was probably the most popular computer language before the era of python. Matlab was not free.
- Python packages are developed by a large number of users (including projects and individuals).
 - This is related to that the python is free. For the Matlab, the core packages were developed by the company and were sold.
 - This allows very rapid developments of python.

How to install python

- There are several ways to install python in each operating system (windows, Mac-OS, linux).
- I use python with anaconda for windows PC and thus explain how to install python in this way in the following slides.
- First please go anaconda.com and follow slides by clicking “click” mark of the slides.

Anaconda | The World's Most Po x +
https://www.anaconda.com


ANACONDA. Products ▾ Pricing Solutions ▾ Resources ▾ Partners ▾ Blog Company ▾ Contact Sales

Data science technology for a better world.




Anaconda offers the easiest way to perform Python/R data science and machine learning on a single machine. Start working with thousands of source packages and libraries today.

click

If install does not start automatically, then click the downloaded file. Please go through installing.

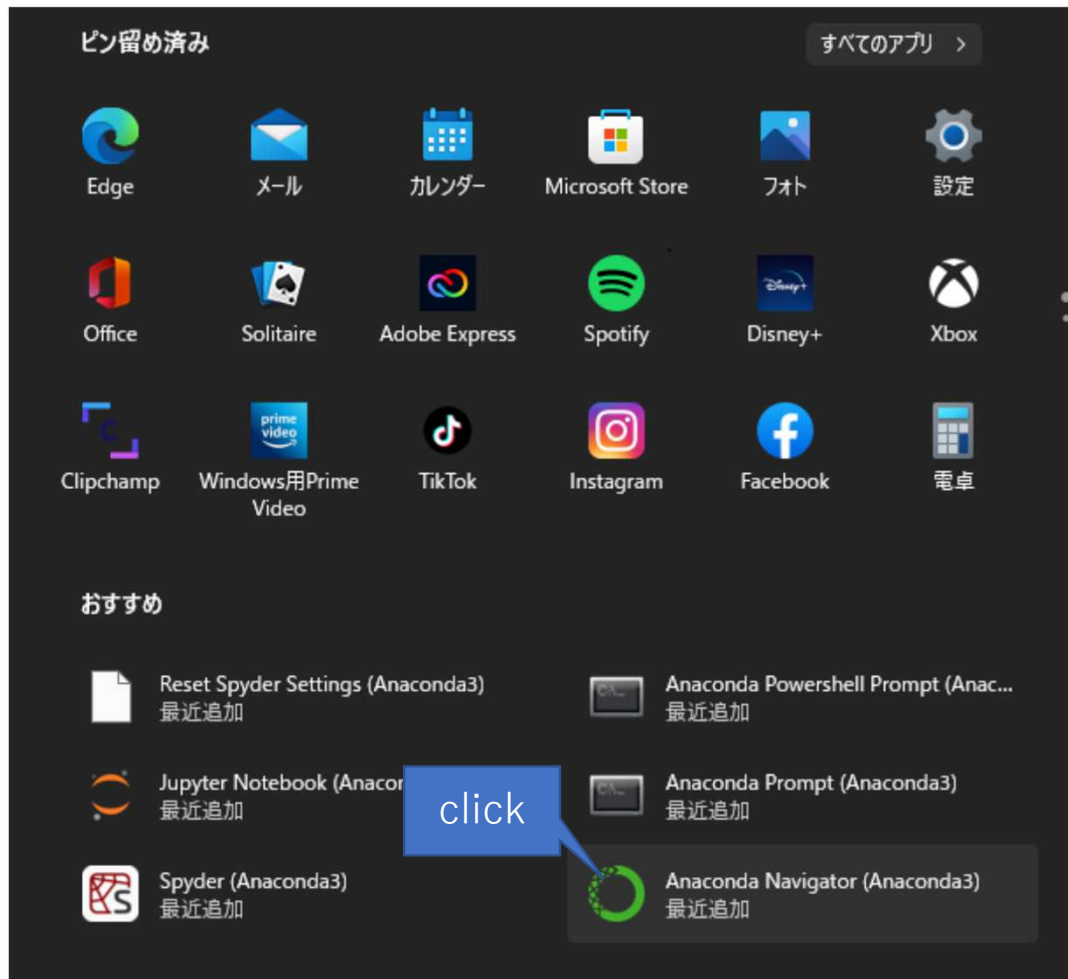
Download 

For Windows
Python 3.9 • 64-Bit Graphical Installer • 594 MB
Get Additional Installers

Have you registered for our upcoming webinar? 🐼

This website uses cookies to ensure you get the best experience on our website. [Privacy Policy](#) Accept



After installation of Anaconda navigator, start anaconda navigator.

Home



















Environments

Learning

Comm

click

Applications on base (root) Channels Refresh

 CMD.exe Prompt 0.1.1 Run a cmd.exe terminal with your current environment from Navigator activated. Launch	 Datalore Online Data Analysis Tool with smart coding assistance by JetBrains. Edit and run your Python notebooks in the cloud and share them with your team. Launch	 IBM Watson Studio Cloud IBM Watson Studio Cloud provides you the tools to analyze and visualize data, to cleanse and shape data, to create and train machine learning models. Prepare data and build models, using open source data science tools or visual modeling. Launch	 JupyterLab 3.0.14 An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture. Launch	 Jupyter Notebook 6.3.0 Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis. Launch	 Powershell Prompt 0.0.1 Run a Powershell terminal with your current environment from Navigator activated. Launch
 Qt Console 5.0.3 PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more. Launch	 Spyder 4.2.5 Scientific PYTHON Development Environment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features. Launch	 VS Code 1.50.1 Streamlined code editor with support for development operations like debugging, task running and version control. Launch	 anypytools 1.4.7 Install	 dioptas 0.4.1 Install	 fsleyes 1.0.11 Install
 Glueviz 1.0.0 Multidimensional data visualization across files. Explore relationships within and among related datasets. Launch	 gnuradio 3.9.2.0 Launch	 gnuradio-build-deps 3.9.2.0 Launch	 gnuradio-core 3.9.2.0 Launch	 gnuradio-grc 3.9.2.0 Launch	 gnuradio-qtgui 3.9.2.0 Launch

This is the home window of anaconda navigator. I would like to suggest to create a new environment. To do so, click environments.

Discover premium data science content

Documentation

Anaconda Blog



Home

Environments

Learning

Community



Discover premium data science content

Documentation

Anaconda Blog



Search Environments

base (root)

Installed Channels Update index... Search Packages

Name	Description	Version
✓ _ipyw_jlab_nb_ex...		0.1.0
✓ alabaster		0.7.12
✓ anaconda		2021.05
✓ anaconda-client		1.7.2
✓ anaconda-project		0.9.1
✓ anyio		2.2.0
✓ appdirs		1.4.4
✓ argh		0.26.2
✓ argon2-cffi		20.1.0
✓ asn1crypto		1.4.0
✓ astroid		2.5
✓ astropy		4.2.1
✓ async-generator		1.10
✓ async_generator		1.10
✓ atomicwrites		1.4.0
✓ attrs		20.3.0
✓ autopep8		1.5.6
✓ babel		2.9.0
✓ backcall		0.2.0
✓ backports		1.0

362 packages available

click

Create Clone Import Remove

- Home
- Environments
- Learning
- Community

Host, run, and code Python in the Cloud

Start for Free

A Full Python IDE directly from the

Documentation

Anaconda Blog

- Twitter
- YouTube
- GitHub

Search Environments

base (root)

Create Clone Import Backup Remove

Installed Channels Update index...

Name	Description	Version
✓ _ipyw_lab_nb_ex...	A configuration metapackage for enab	0.1.0
✓ aiohttp	Async http client/server framework (a	3.8.1
✓ aiosignal	Aiosignal: a list of registered asynchron	1.2.0
✓ alabaster	Configurable, python 2+3 compatible s	0.7.12
✓ anaconda	Sim	2022.05
✓ anaconda-client	Ana	1.9.0
✓ anaconda-project	Tool	0.10.2
✓ anyio	High	3.5.0
✓ appdirs	As	1.4.4
✓ argon2-cffi	Th	21.3.0
✓ argon2-cffi-bindings	Low-level python cffi bindings for argonz	21.2.0
✓ arrow	Better dates & times for python	1.2.2
✓ astroid	A abstract syntax tree for python with inference support	2.6.6
✓ astropy	Community-developed python library for astronomy	5.0.4
✓ asttokens	The asttokens module annotates python abstract syntax trees (asts) with the positions of tokens and text in the source code that generated them.	2.0.5
✓ async-timeout	Timeout context manager for asyncio programs	4.0.1
✓ atomicwrites	Atomic file writes	1.4.0
✓ 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).	21.4.0
✓ automat	Self-service finite-state machines for the programmer on the go	20.2.0
✓ autopep8	A tool that automatically formats python code to conform to the pep 8 style guide	1.6.0

430 packages available

Set an appropriate name for this new environment. You can use "py39".

Create new environment

Name:

Location: C:\ProgramData\Anaconda3\envs\py39

Packages: Python 3.9.12 R 3.6.1

Cancel Create

Choose python 3.9

Click.

It can take several minutes to create a new environment for me.

pythonanywhere
by ANACONDA
Host, run,
and code Python
in the Cloud
[Start for Free](#)

A Full Python IDE
directly from the

[Documentation](#)

[Anaconda Blog](#)



Search Environments

- base (root)
- py39

Choose not installed

Type package name you want to install.

Not installed Channels Update index...

xarray

Name	Description	Version
<input type="checkbox"/> intake-xarray	Xarray plugins for intake	0.5.0
<input checked="" type="checkbox"/> xarray	N-d labeled arrays and datasets in python.	0.20.1

Choose exact package you want to install.

After the environment is created, you will install packages you will use. This screen shot is to install xarray package.

Please install the following packages: numpy, matplotlib, os, scipy, xarray, cartopy, netcdf4.

Create Clone Import Backup Remove

2 packages available matching "xarray" 1 package selected

Click [Apply](#) [Clear](#)

Summary of packages

- numpy: basic numerical package.
- scipy: science calculation package, used for statistical test in this lecture.
- netcdf4: a low-level package to handle netcdf file.
- xarray: a high-level package to handle netcdf file.
- dask: a parallel calculation package, used by xarray.
- matplotlib: basic figure drawing package.
- cartopy: a package to handle map projection figure.

Ways to run python codes

- Install “CMD.exe Prompt” in the home window of py38, and Launch it.
 - Then type “ipython” or go to a working directory in which there are python scripts and “ipython -i script_file_name”.
- I mainly use python on windows machine in this way, because this is similar to the use of workstation version of python.
- I use Visual Studio Code (VS Code) for editing python scripts.
- Some people may prefer to use “spyder”, which is an Integrated Development Environment (IDE).

Home

Environments

Learning

Community



Discover premium data science content

Documentation

Anaconda Blog



Applications on

Channels


Refresh



CMD.exe Prompt
0.1.1

Run a cmd.exe terminal with your current environment from Navigator activated

Launch



Datalore

Online Data Analysis Tool with smart coding assistance by JetBrains. Edit and run your Python notebooks in the cloud and share them with your team.

Launch



IBM Watson Studio Cloud

IBM Watson Studio Cloud provides you the tools to analyze and visualize data, to cleanse and shape data, to create and train machine learning models. Prepare data and build models, using open source data science tools or visual modeling.

Launch




Qt Console
5.1.0

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



Spyder
5.0.4

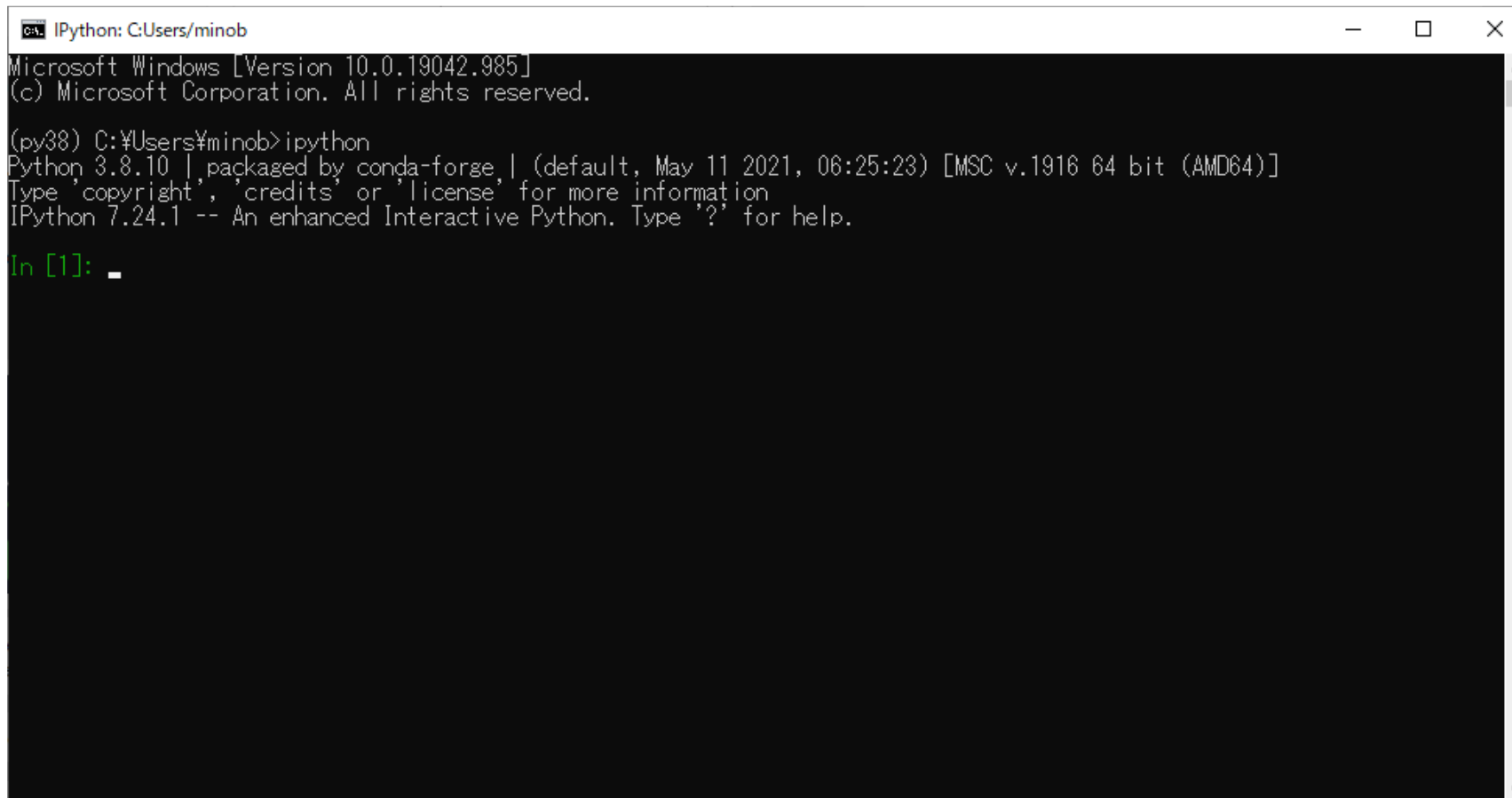
Scientific PYTHON Development Environment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features



VS Code
1.50.1

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

How to run python on “CMD.exe Prompt” 1/2



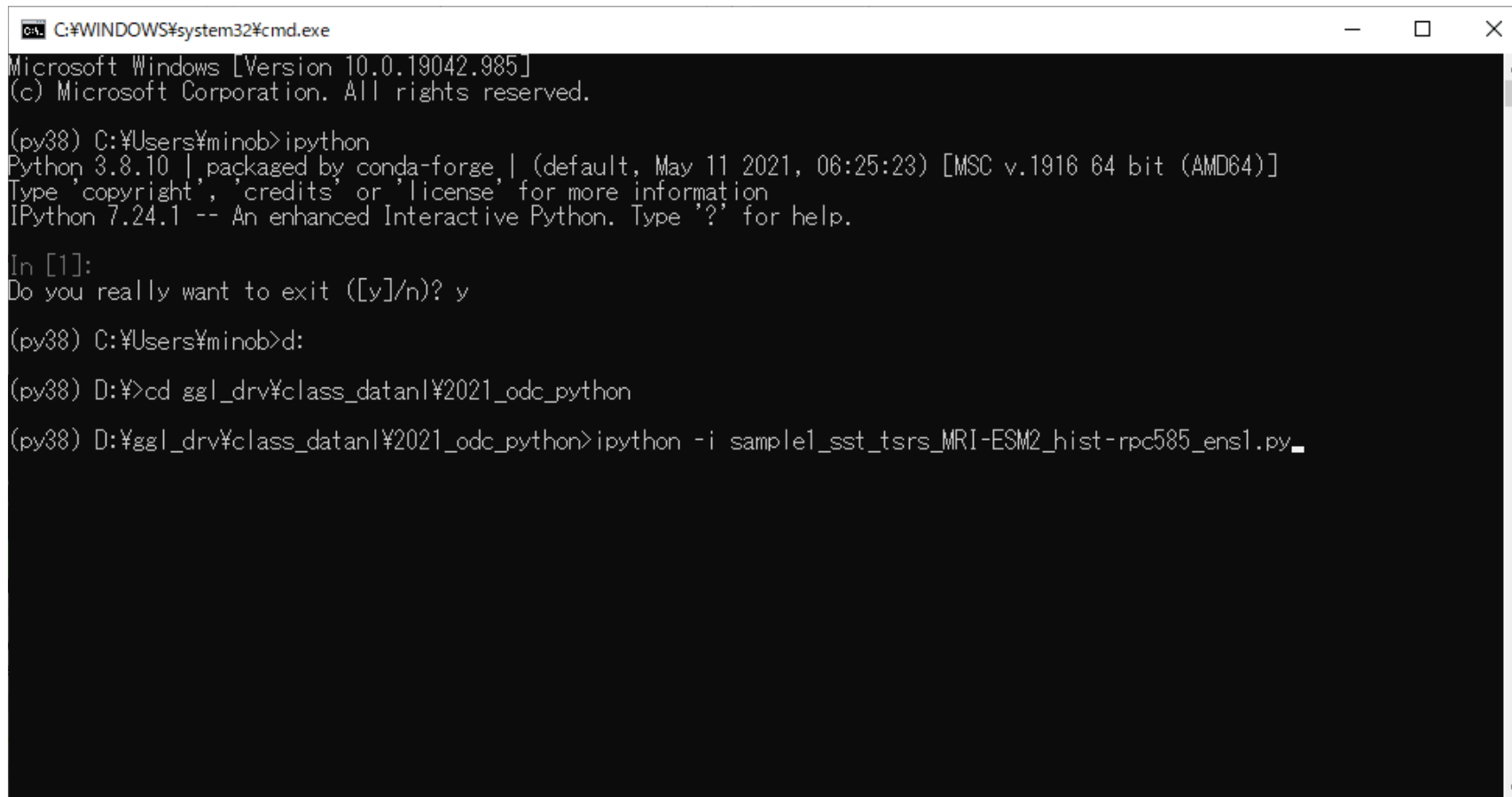
```
IPython: C:\Users\minob
Microsoft Windows [Version 10.0.19042.985]
(c) Microsoft Corporation. All rights reserved.

(py38) C:\Users\minob>ipython
Python 3.8.10 | packaged by conda-forge | (default, May 11 2021, 06:25:23) [MSC v.1916 64 bit (AMD64)]
Type 'copyright', 'credits' or 'license' for more information
IPython 7.24.1 -- An enhanced Interactive Python. Type '?' for help.

In [1]: _
```

After lunch of CMD.exe Prompt, type ipython. Then, an ipython session starts. Ipython is “interactive python”, which is more familiar to users than simple python.

How to run python on “CMD.exe Prompt” 2/2



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.19042.985]
(c) Microsoft Corporation. All rights reserved.

(py38) C:\Users\minob>ipython
Python 3.8.10 | packaged by conda-forge | (default, May 11 2021, 06:25:23) [MSC v.1916 64 bit (AMD64)]
Type 'copyright', 'credits' or 'license' for more information
IPython 7.24.1 -- An enhanced Interactive Python. Type '?' for help.

In [1]:
Do you really want to exit ([y]/n)? y

(py38) C:\Users\minob>d:

(py38) D:\>cd ggl_drv\class_data\2021_odc_python

(py38) D:\ggl_drv\class_data\2021_odc_python>ipython -i sample1_sst_tsrs_MRI-ESM2_hist-rpc585_ens1.py_
```

Usually, you will make a script file and run it on python. To do this effectively, you can go to a directory where script file is stored, and type in the console as “ipython -i script_file_name” as shown in this example.

When you run python code, usually you get errors.

- So, you need to correct errors by doing debug.
- In python, you can check object (variable or array) just by typing the its name.
- Also, for array calculation, it is useful to check the shape of the array.

Good luck!