How do I install Pandas on Windows?

Authored by

stats writer

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To install Pandas on Windows, follow these steps:

1. Download and install Python on your computer, if it is not already installed.
2. Open the command prompt by typing "cmd" in the search bar and pressing Enter.
3. In the command prompt, type "pip install pandas" and press Enter.
4. This will start the installation process and automatically download and install Pandas on your system.
5. Once the installation is complete, you can import Pandas in your Python scripts and start using it for data analysis.

It is important to note that if you are using a virtual environment, make sure it is activated before running the command "pip install pandas". This will ensure that Pandas is installed within the virtual environment and not on the system level.

You can install the Python pandas latest version or a specific version on windows either using `pip` command that comes with Python binary or `conda` if you are using Anaconda distribution. Before using either of these commands, you need to install Python or Anaconda distribution. If you already have either one installed, you can skip the document's first section and directly jump to installing pandas. If not let's see how to install pandas using these two approaches. You can use either one.

Advertisements

Install pandas Using pip or conda on Linux & Mac OS

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1. Install Python Pandas On Windows

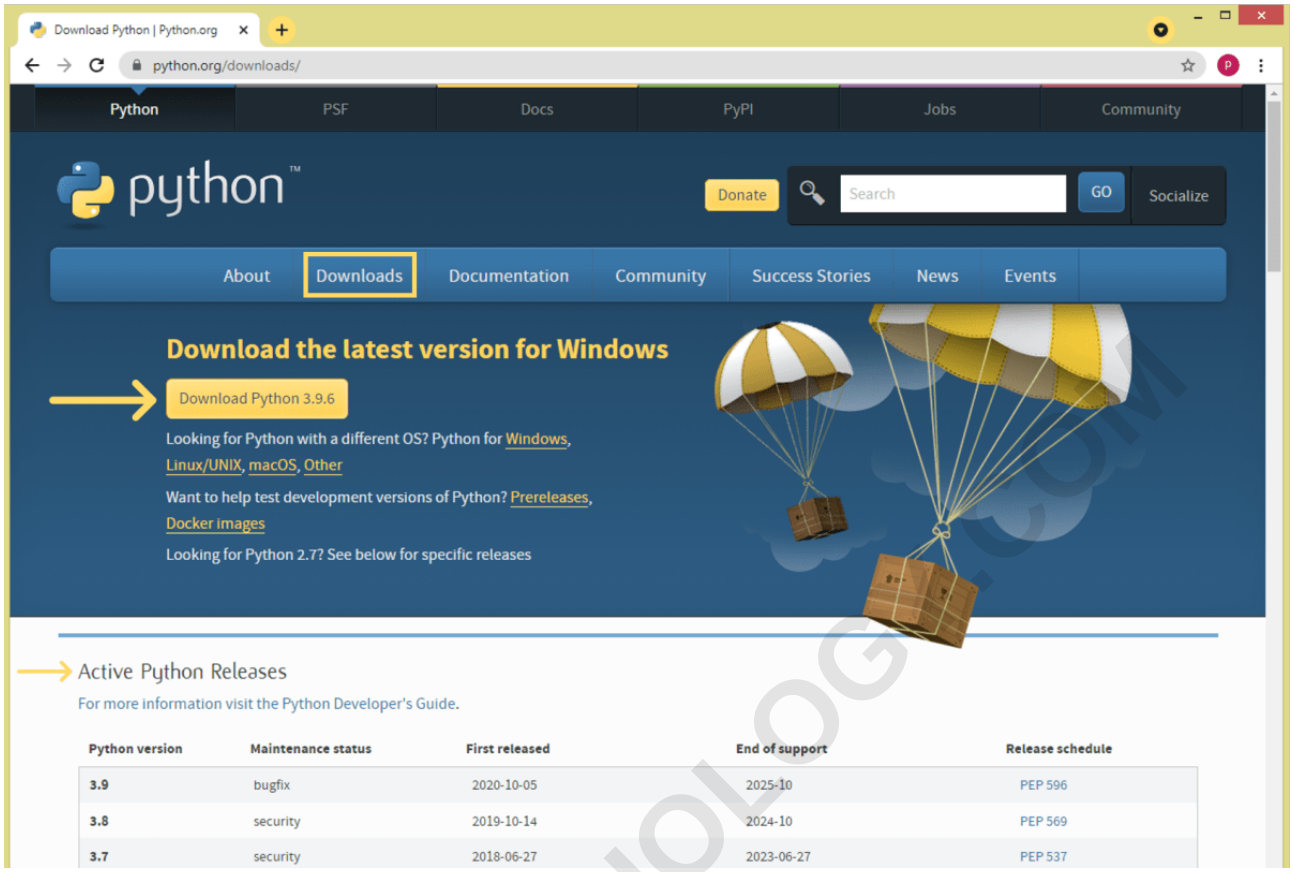
As I said above if you already have python installed and have set the path to run `python` and `pip` from the command prompt, you can skip this section and directly jump to Install pandas using-pip-command-on-windows.

1.1 Download & Install Python

Let's see step-by-step how to install python and set environment variables.

1.1.1 Download Python

Go to https://www.python.org/downloads/ and download the latest version for windows. If you want a specific version then use **Active Python Releases** section or scroll down to select the specific version to download.



Python Download

This downloads the .exe file to your downloads folder.

1.1.2 Install Python to Custom Location

Now double click on the download to install it on windows. This will give you an installer screen similar to below.

From the below screen, you can select **"Install Now"** option if you wanted to install to the default location or select ustomize installation" to change the location where to install Python. In my case, I use the second option and installed at `c:appsoptpython` folder.

Note: Select the check box bottom of the screen that reads **"Add Python 3.9 to PATH"**. This adds the python location to the PATH environment variable so that you can run pip and python from the command line. In case if you do not select, don't worry I will show you how to add python installation location to PATH post-installation.

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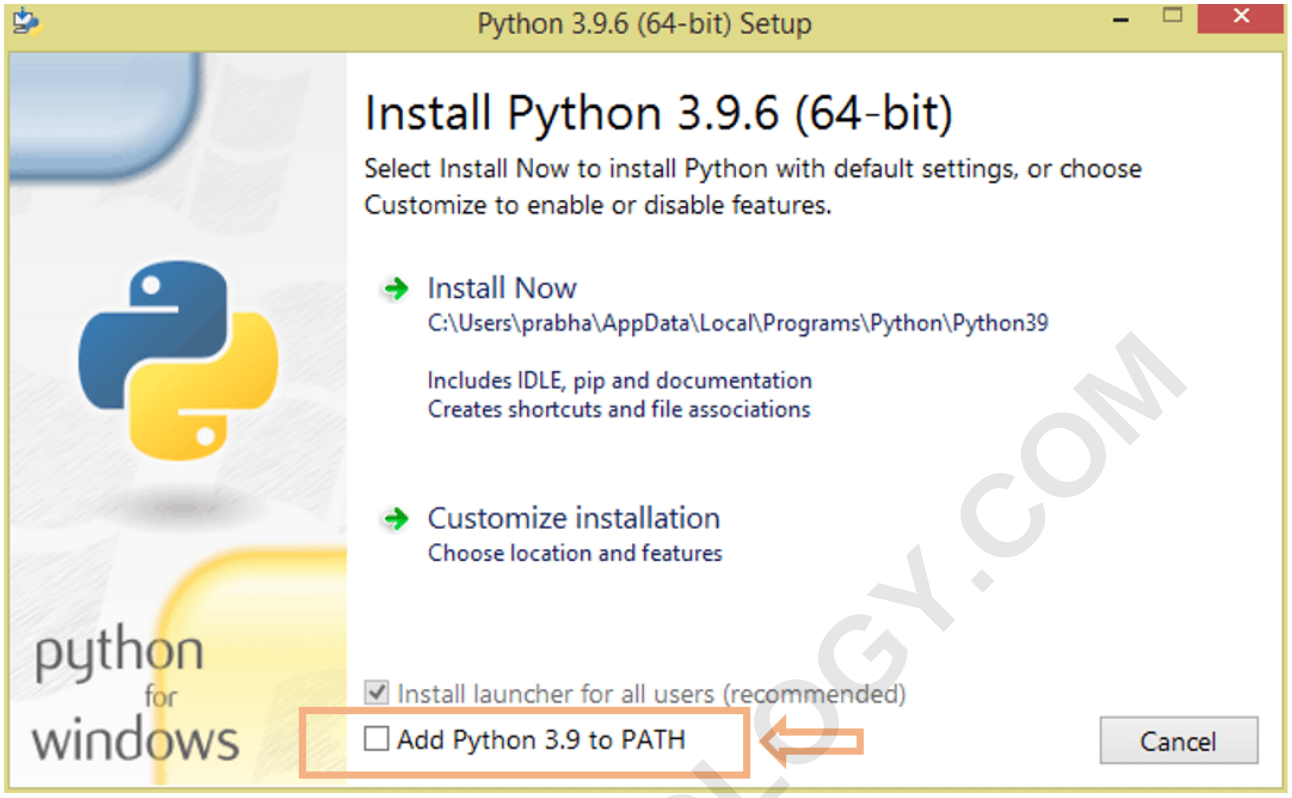

1.1.3 Set Python Installed Location to PATH Environment

Now set the Python installed location and scripts locations (C:appsoptPythonPython39;C:appsoptPythonPython39Scripts) to PATH environment variables by following the below images in order.

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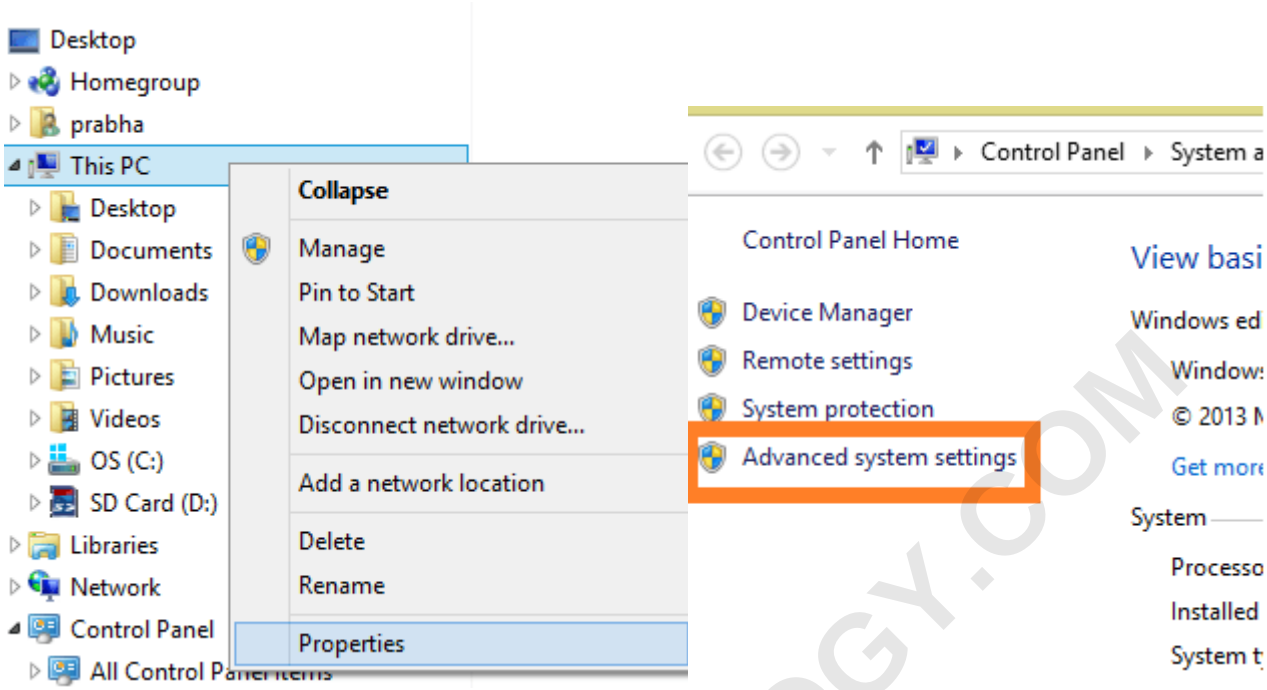

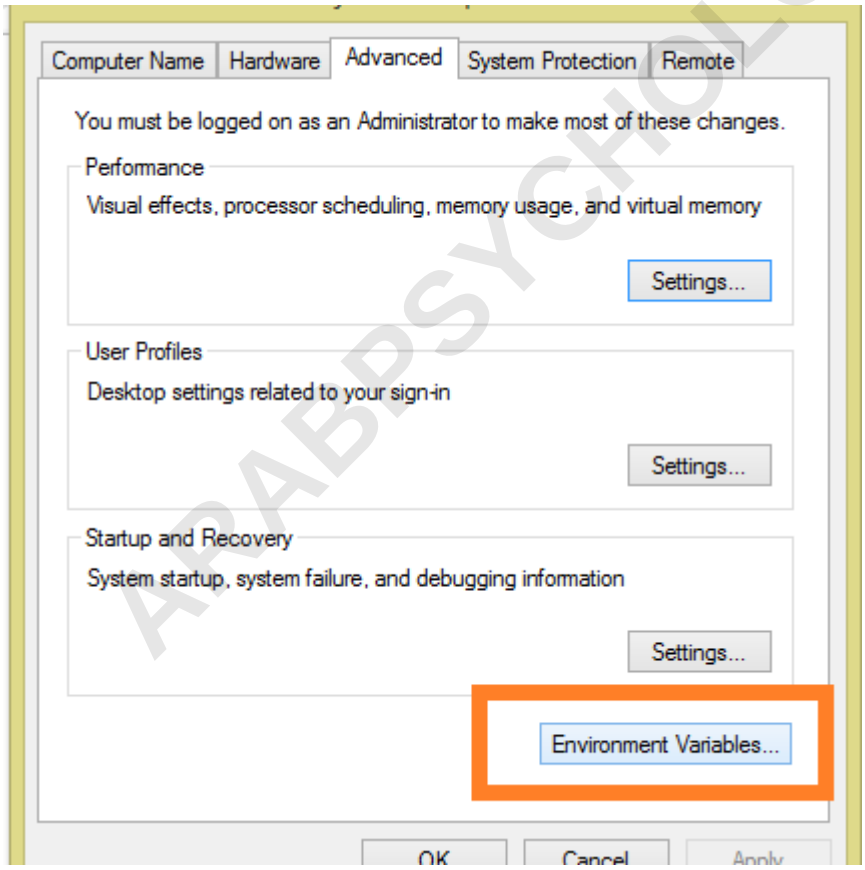

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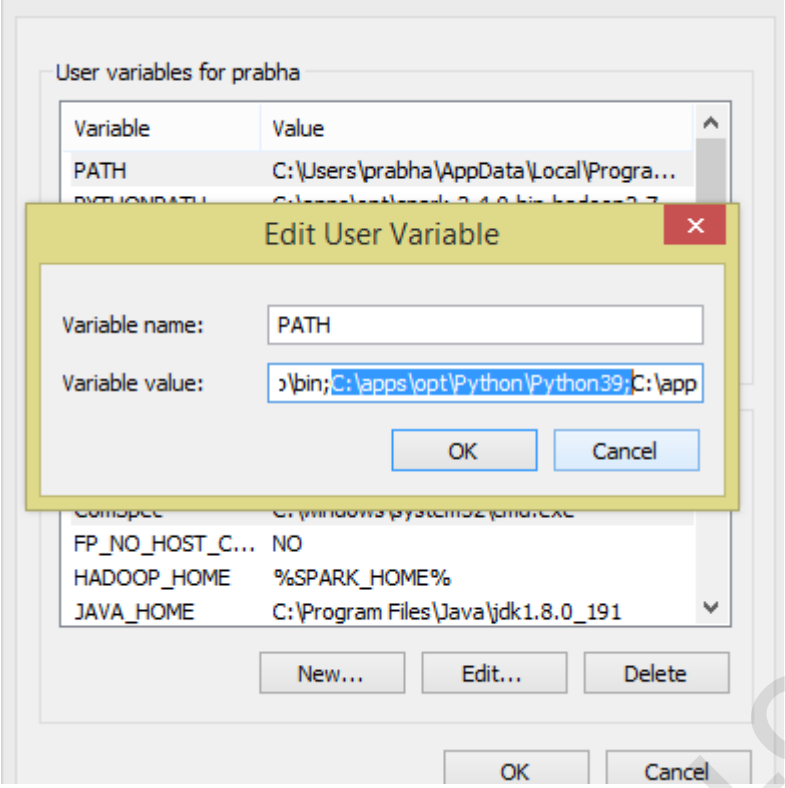
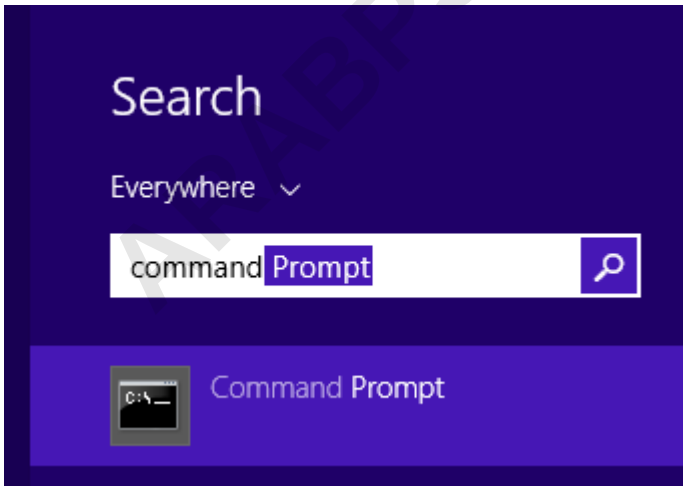


1.1.4 Run Python shell from Command Prompt

Now open the windows command prompt by entering `cmd` from windows run (Press windows icon + R) or from the search command



This opens the command prompt. Now type python and press enter, this should give you a python prompt.

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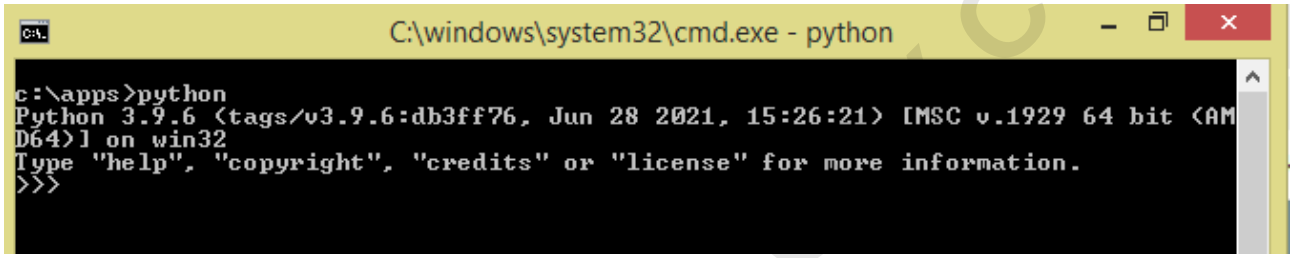
In case if you get an error like `"'python' is not recognized as an internal or external command"` then something wrong with your PATH environment variable from the above step. Correct it and re-open the command line and try python again. If you still get an error then try setting PATH from the command prompt by running the below command. Change paths according to your installation.

```
set PATH=%PATH%;C:appsoptPythonPython39;C:appsoptPythonPython39Scripts;
```

Now type again python and confirm you are seeing the below message.



1.2 Install Pandas Using pip Command on Windows

Python that I have installed comes with `pip` and `pip3` commands (You can find these in the python installed folder @ `C:appsoptPythonPython39Scripts`.

pip (Python package manager) is used to install third-party packages from PyPI. Using pip you can install/uninstall/upgrade/downgrade any python library that is part of Python Package Index.

Since the pandas package is available in PyPI, we should use this to install pandas latest version on windows.

```
# Install pandas using pip
pip install pandas
(or)
pip3 install pandas
```

This should give you output as below. If your pip is not up to date, then upgrade pip to the latest version.

```
c:\apps>pip install pandas
Collecting pandas
  Downloading pandas-1.3.2-cp39-cp39-win_amd64.whl (10.2 MB)
     |████████████████████████████████| 10.2 MB 6.4 MB/s
Collecting pytz>=2017.3
  Downloading pytz-2021.1-py2.py3-none-any.whl (510 kB)
     |████████████████████████████████| 510 kB 6.8 MB/s
Collecting python-dateutil>=2.7.3
  Downloading python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
     |████████████████████████████████| 247 kB 6.4 MB/s
Collecting numpy>=1.17.3
  Downloading numpy-1.21.2-cp39-cp39-win_amd64.whl (14.0 MB)
     |████████████████████████████████| 14.0 MB 6.4 MB/s
Collecting six>=1.5
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: six, pytz, python-dateutil, numpy, pandas
Successfully installed numpy-1.21.2 pandas-1.3.2 python-dateutil-2.8.2 pytz-2021
.1 six-1.16.0
WARNING: You are using pip version 21.1.3; however, version 21.2.4 is available.

You should consider upgrading via the 'c:\apps\opt\python\python39\python.exe -m
 pip install --upgrade pip' command.

c:\apps>
```

To check what version of pandas installed use `pip list` or `pip3 list` commands.

```
c:\apps>pip list
Package         Version
--------------- -------
numpy           1.21.2
pandas          1.3.2
pip             21.1.3
python-dateutil 2.8.2
pytz            2021.1
setuptools      56.0.0
six             1.16.0
```

If you want to install a specific version of pandas, use the below command

```
# Installing pandas to specific version
pip install pandas==1.3.1
```

In case if you wanted to upgrade pandas to the latest or specific version

```
# Using pip3 to upgrade pandas
pip3 install --upgrade pandas
```

Alternatively you can also try
python -m pip install --upgrade pandas

This completes the installation of pandas to the latest or specific version on windows. If you have trouble installing or any steps are incorrect here, please comment. Your comment would help others !!

2. Install Pandas From Anaconda Distribution

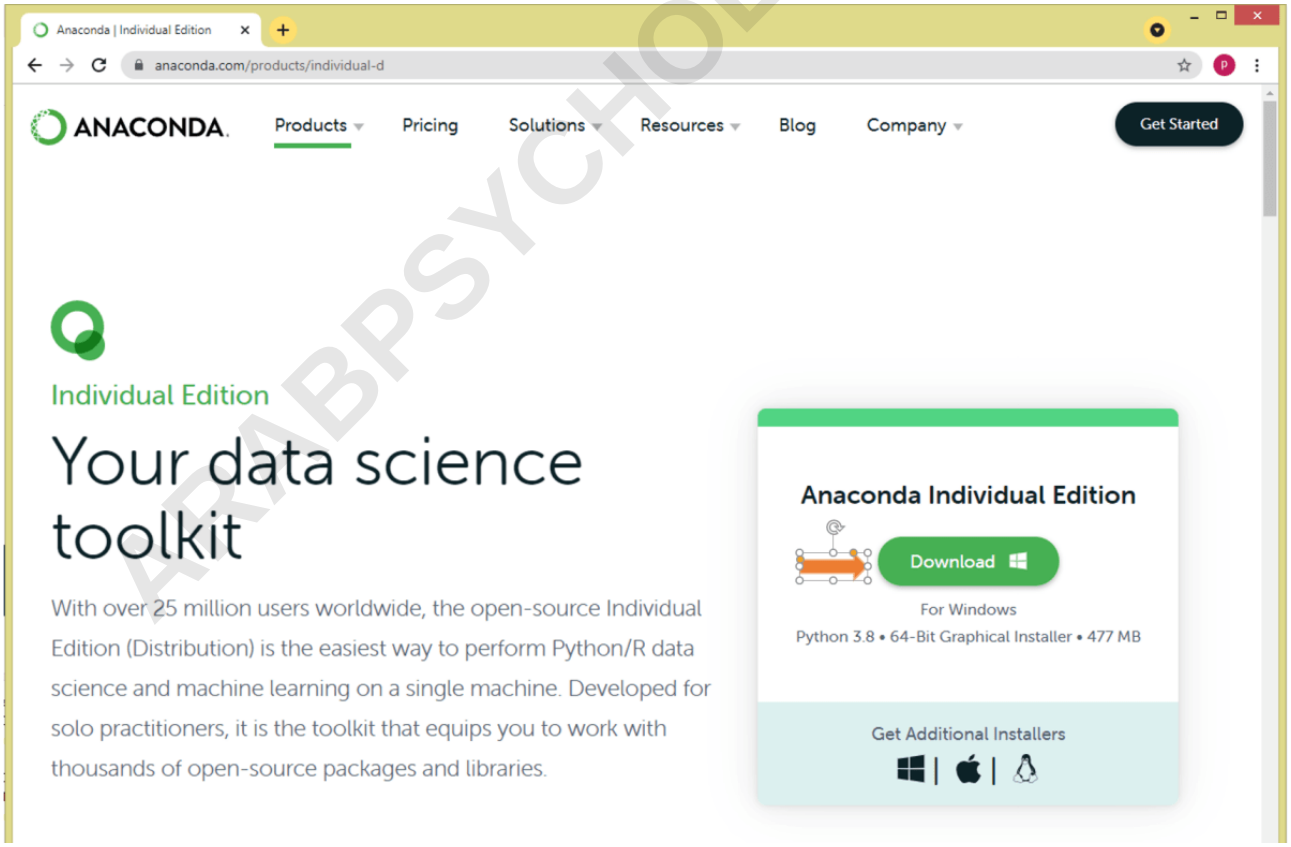
If you already have Anaconda install then jump to Install pandas using conda command on Windows

2.1 Download & Install Anaconda distribution

Follow the below step-by-step instructions to install Anaconda on windows.

2.1.1 Download Anaconda .exe File

Go to https://anaconda.com/ and select **Anaconda Individual Edition** to download the latest version of Anaconda. This downloads the `.exe` file to the windows default downloads folder.



2.1.2 Install Anaconda on Windows

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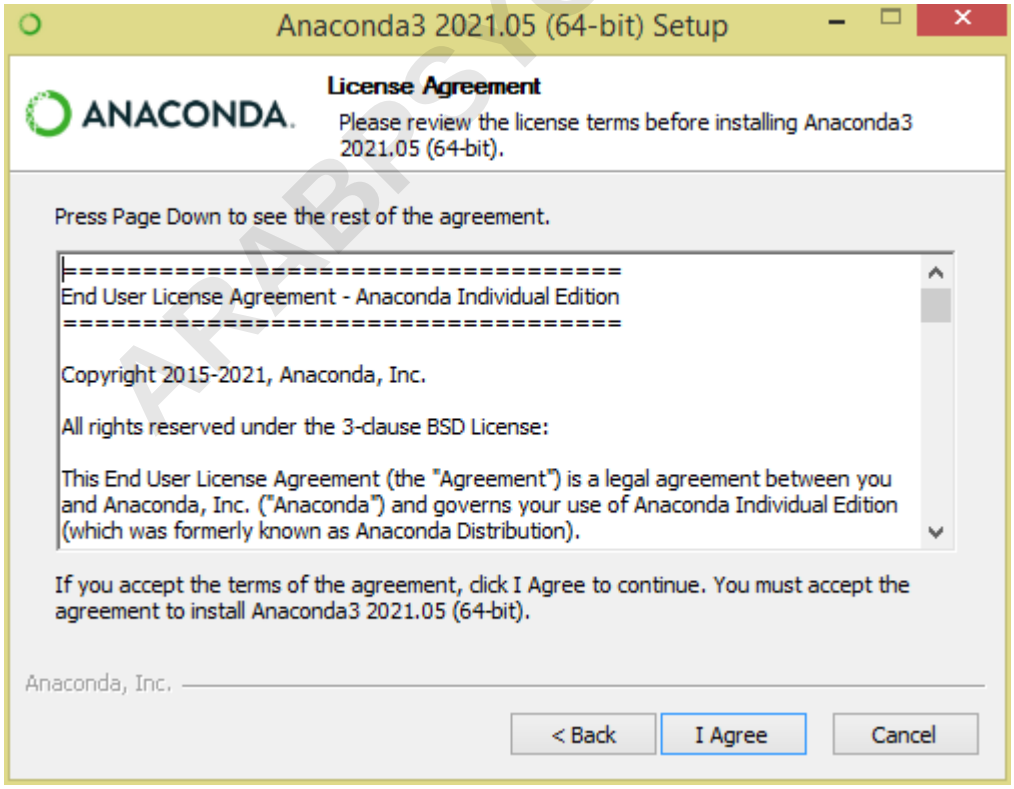
By double-clicking the .exe file starts the Anaconda installation. Follow the below screen shot's and complete the installation



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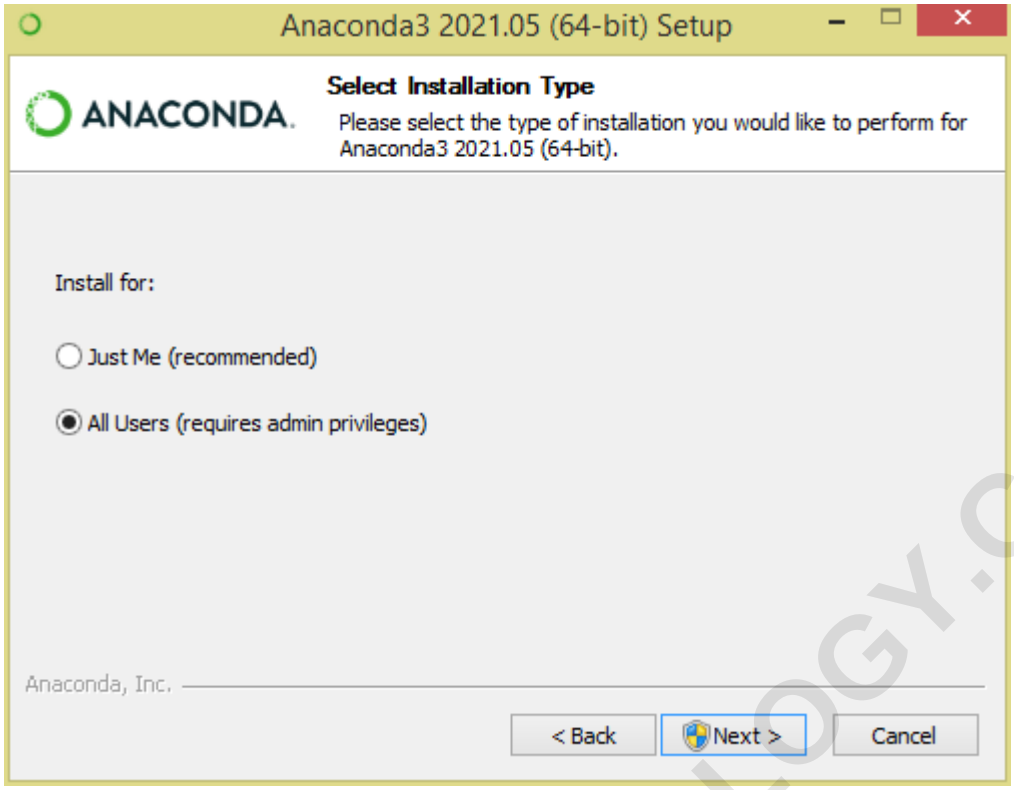

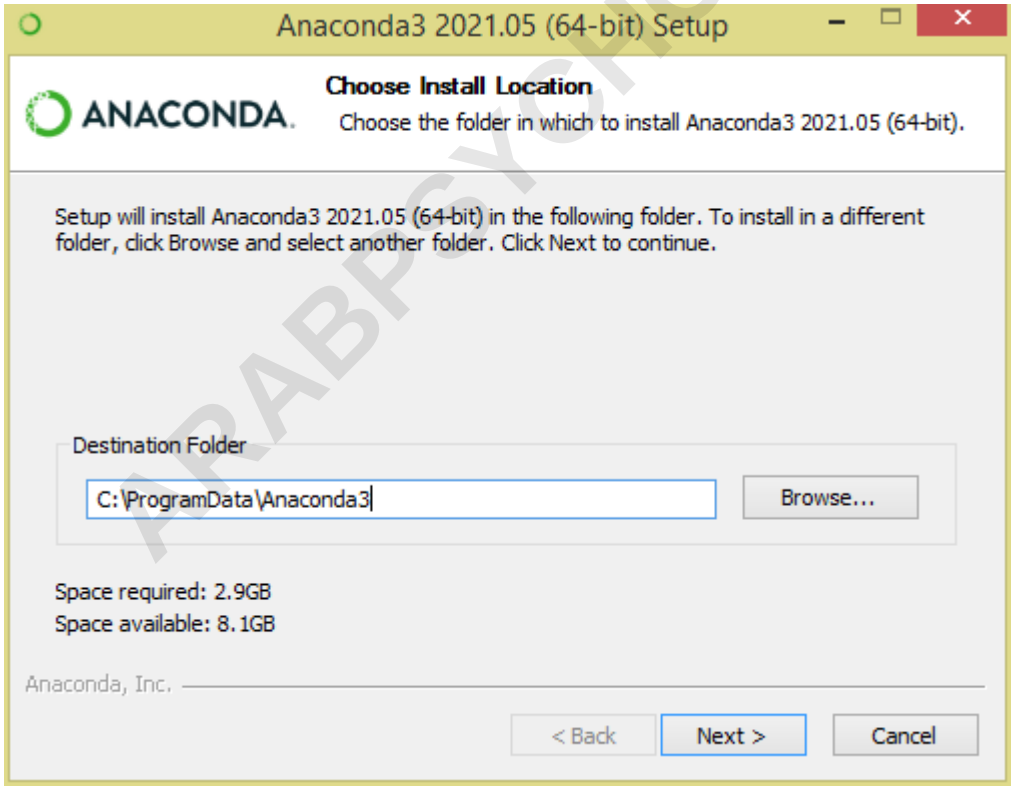

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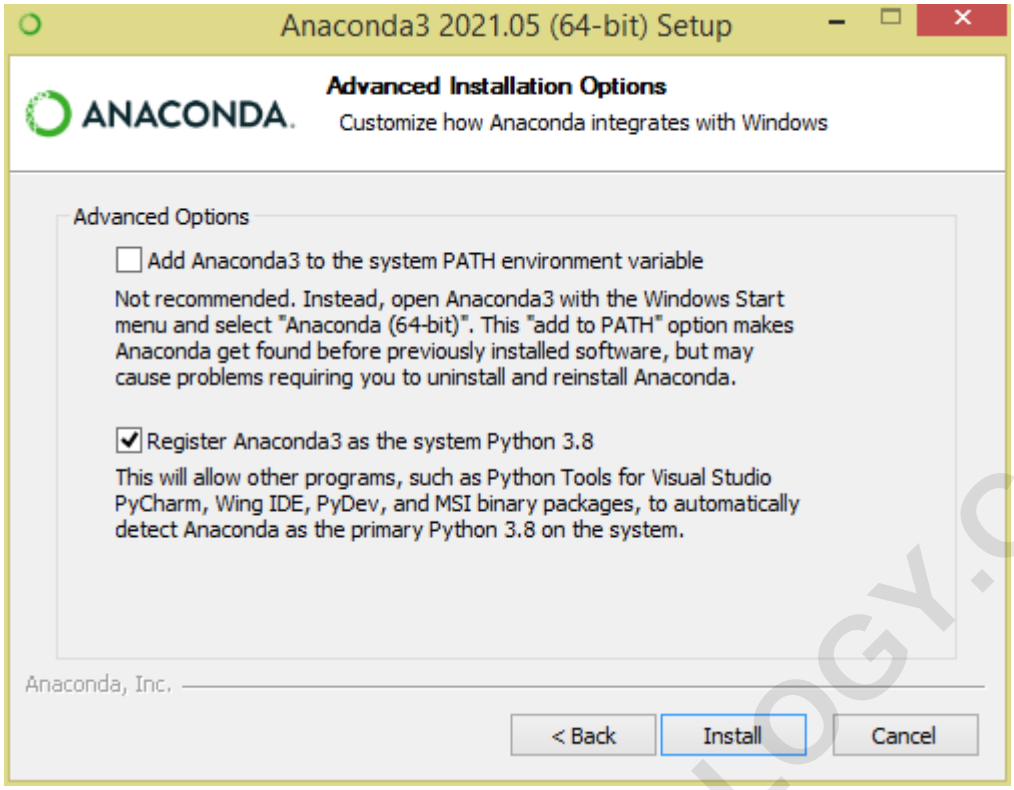

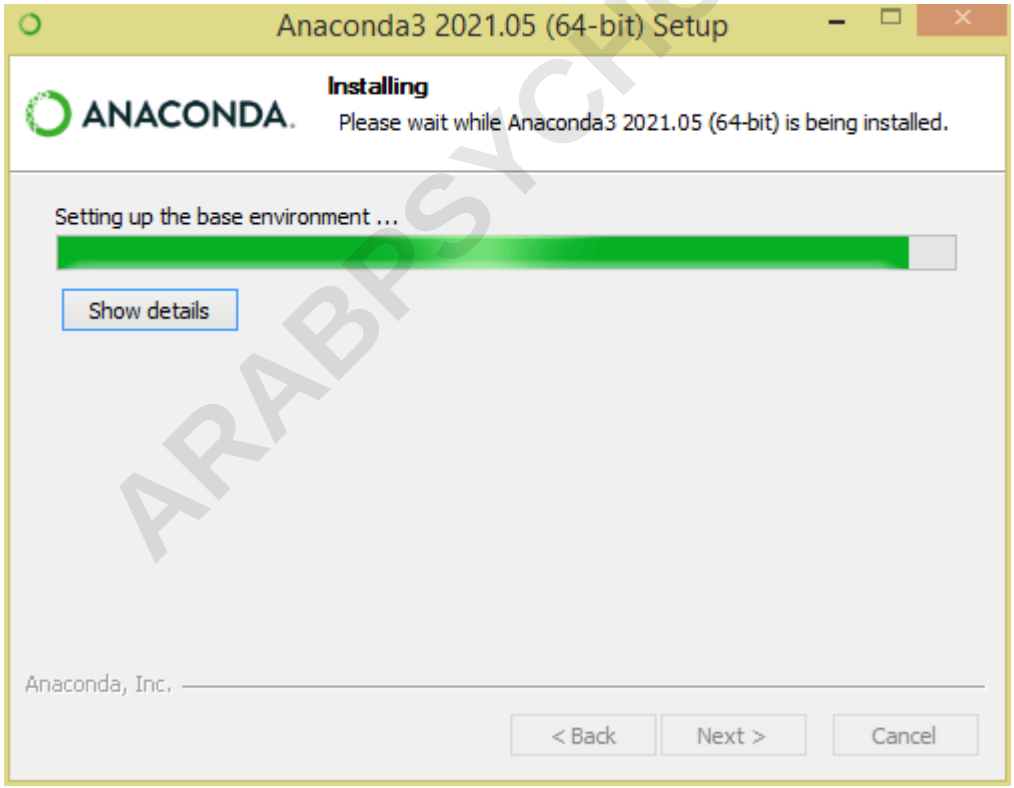

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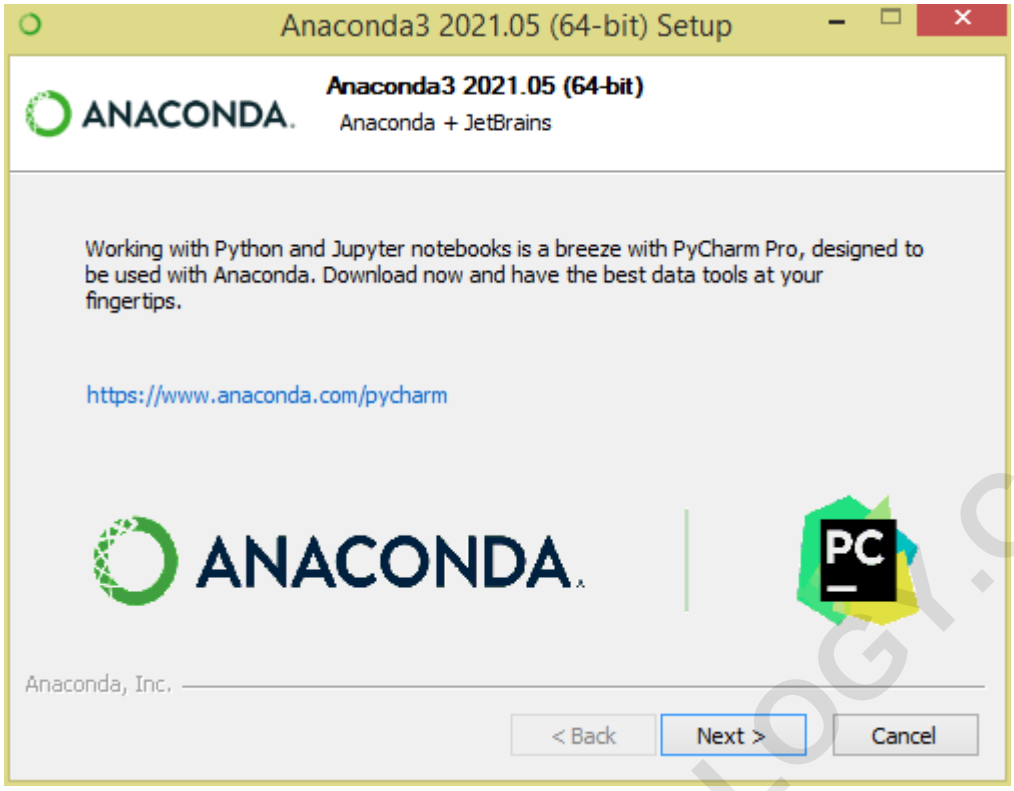

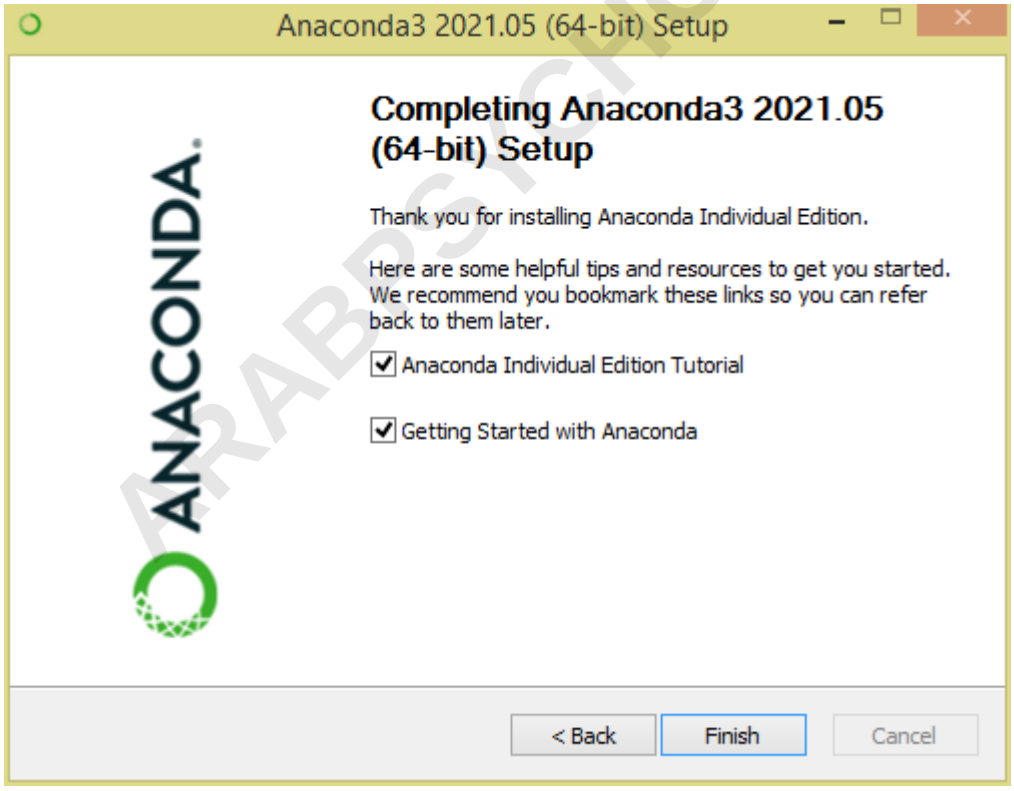

This finishes the installation of the Anaconda distribution. Now let's see how to install pandas.

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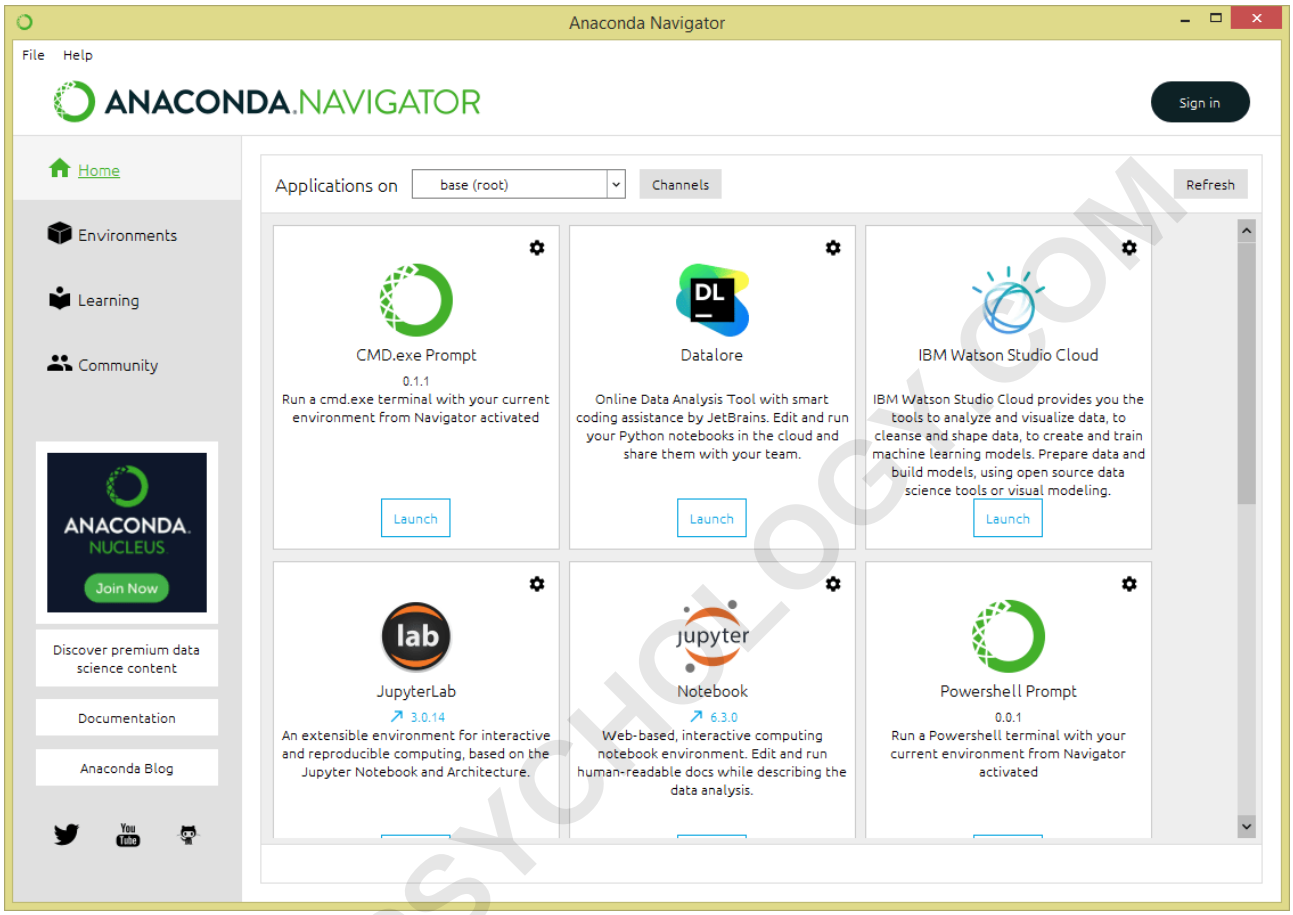
2.2 Install Pandas using conda command on Windows

2.2.1 Open Anaconda Navigator from the windows start or search box.



2.2.2 Create Anaconda Environment

This is optional but recommended to create an environment before you proceed. This gives complete segregation of different package installs for different projects you would be working on. If you already have an environment, you can use it too.

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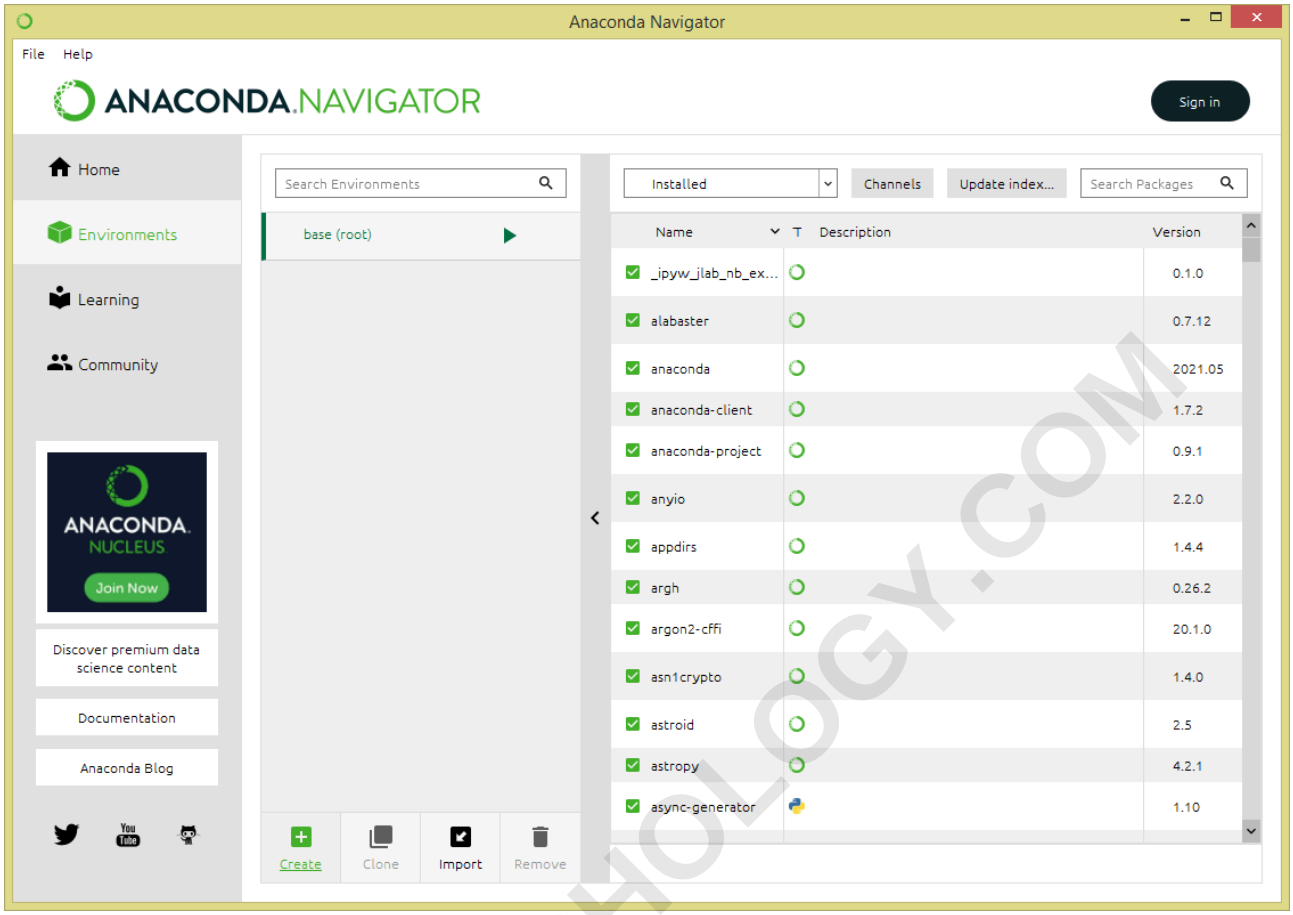

Select + Create option -> select the Python version you would like to use and enter your environment name. I am using the environment as **pandas-tutorial**.

2.2.3 Open Anaconda Terminal

You open the Anaconda terminal from `Anaconda Navigator` or open it from the windows start menu/search.

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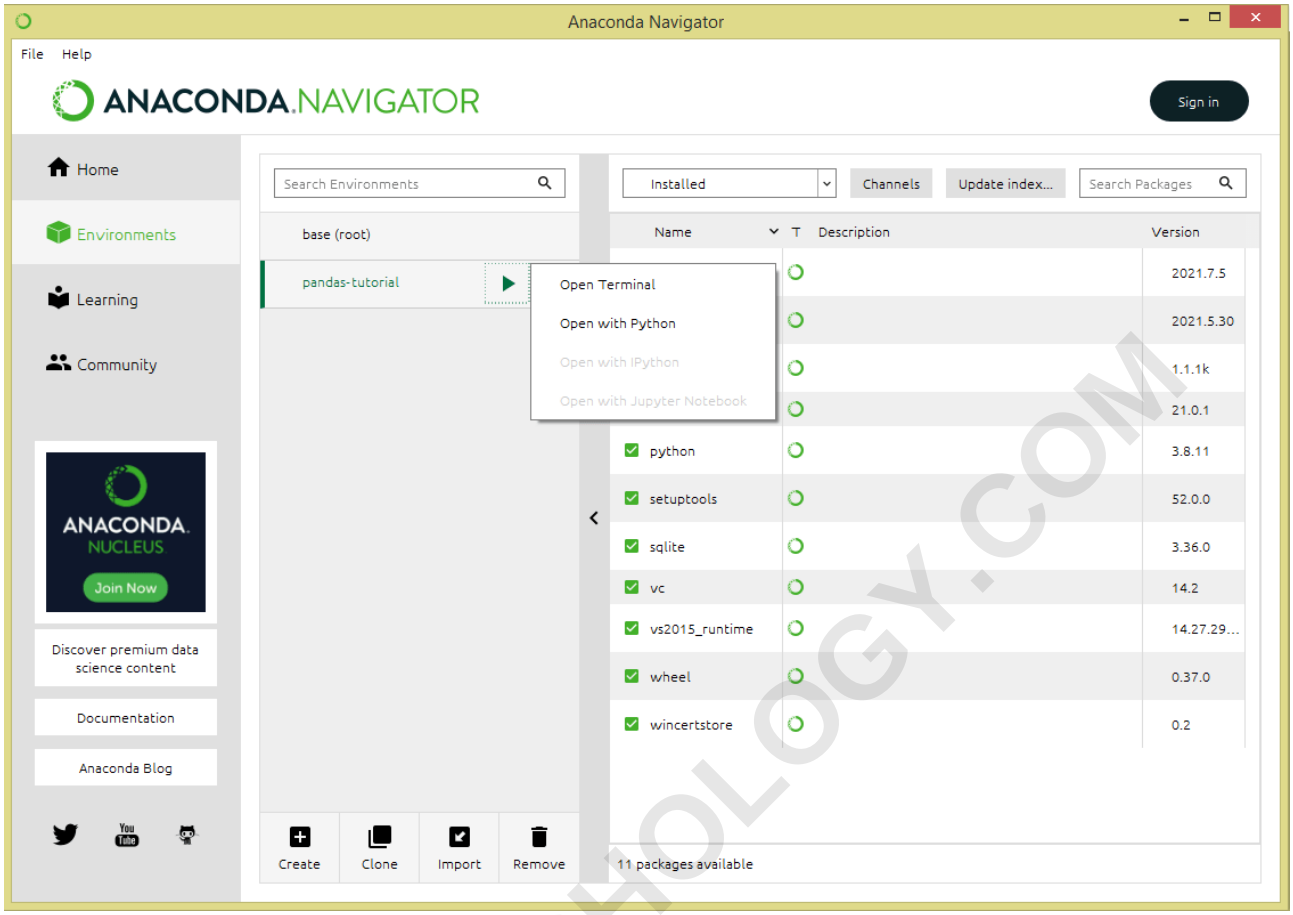

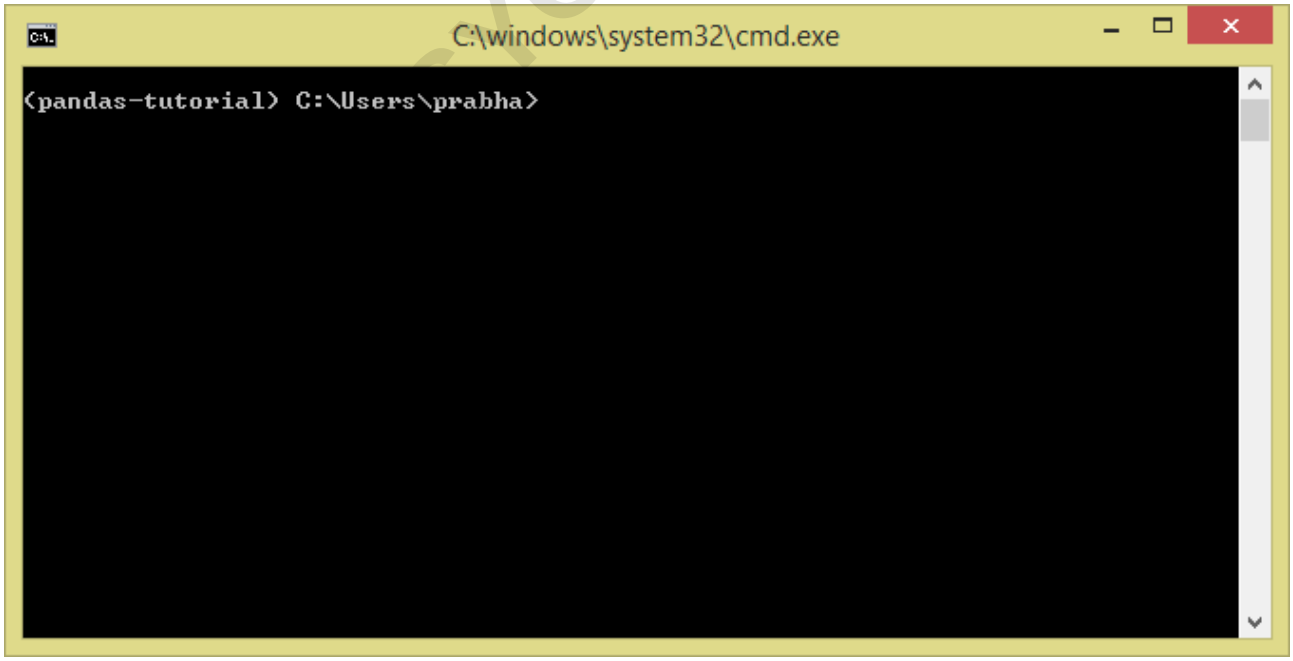

2.2.4 Install Pandas using conda

Now enter `conda install pandas` to install pandas in your environment. Note that along with pandas it also installs several other packages including the most used `numpy`.

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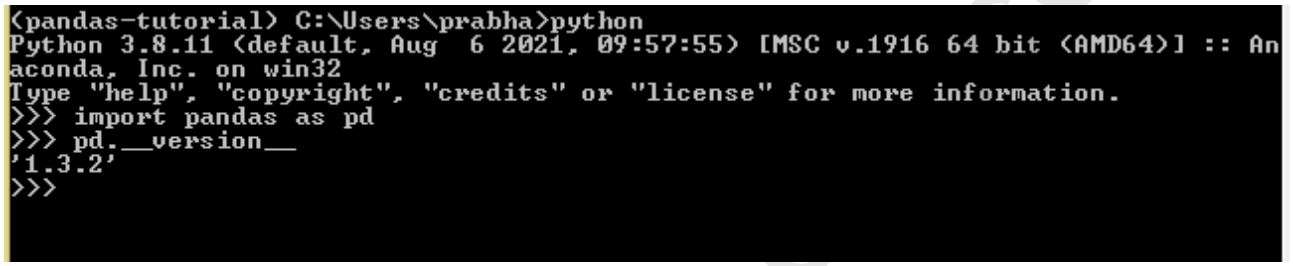
C:\windows\system32\cmd.exe
(pandas-tutorial) C:\Users\prabha>conda install pandas
Collecting package metadata (current_repodata.json): done
Solving environment: done
==> WARNING: A newer version of conda exists. <==
current version: 4.10.1
latest version: 4.10.3
Please update conda by running
$ conda update -n base -c defaults conda
Package Plan
environment location: C:\Users\prabha\.conda\envs\pandas-tutorial
added / updated specs:
- pandas
The following packages will be downloaded:
package | build
intel-openmp-2021.3.0 | haa95532_3372 2.0 MB
mkl-2021.3.0 | haa95532_524 113.7 MB
mkl-service-2.4.0 | py38h2bbff1b_0 51 KB
mkl_random-1.2.2 | py38hf11a4ad_0 225 KB
numpy-1.20.3 | py38ha4e8547_0 23 KB
numpy-base-1.20.3 | py38hc2deb75_0 4.2 MB
pandas-1.3.2 | py38h6214cd6_0 8.6 MB
Total: 128.9 MB
The following NEW packages will be INSTALLED:
blas pkgs/main/win-64::blas-1.0-mkl
bottleneck pkgs/main/win-64::bottleneck-1.3.2-py38h2a96729_1
intel-openmp pkgs/main/win-64::intel-openmp-2021.3.0-haa95532_3372
mkl pkgs/main/win-64::mkl-2021.3.0-haa95532_524
mkl-service pkgs/main/win-64::mkl-service-2.4.0-py38h2bbff1b_0
mkl_fft pkgs/main/win-64::mkl_fft-1.3.0-py38h277e83a_2
mkl_random pkgs/main/win-64::mkl_random-1.2.2-py38hf11a4ad_0
numexpr pkgs/main/win-64::numexpr-2.7.3-py38hb80d3ca_1
numpy pkgs/main/win-64::numpy-1.20.3-py38ha4e8547_0
numpy-base pkgs/main/win-64::numpy-base-1.20.3-py38hc2deb75_0
pandas pkgs/main/win-64::pandas-1.3.2-py38h6214cd6_0
pytz pkgs/main/noarch::pytz-2021.1-pyhd3eb1b0_0
Proceed ([y]/n)? y
Downloading and Extracting Packages
intel-openmp-2021.3. | 2.0 MB | ########## | 100%
mkl-service-2.4.0 | 51 KB | ########## | 100%
mkl-2021.3.0 | 113.7 MB | ########## | 100%
mkl_random-1.2.2 | 225 KB | ########## | 100%
pandas-1.3.2 | 8.6 MB | ########## | 100%
numpy-base-1.20.3 | 4.2 MB | ########## | 100%
numpy-1.20.3 | 23 KB | ########## | 100%
Preparing transaction: done
Verifying transaction: done
Executing transaction: done

2.2.5 Test Pandas From Command Line or Using Jupyter Notebook

now open Python terminal by entering `python` on the command line and then run the following command at prompt >>>.

```
>>> import pandas as pd
>>> pd.__version__
'1.3.2'
>>>
```



Writing pandas commands from the terminal is not practical in real-time, so let's see how to run panda programs from `Jupyter Notebook`.

Go to **Anaconda Navigator** -> **Environments** -> **your environment** (mine pandas-tutorial) -> select **Open With Jupyter Notebook**

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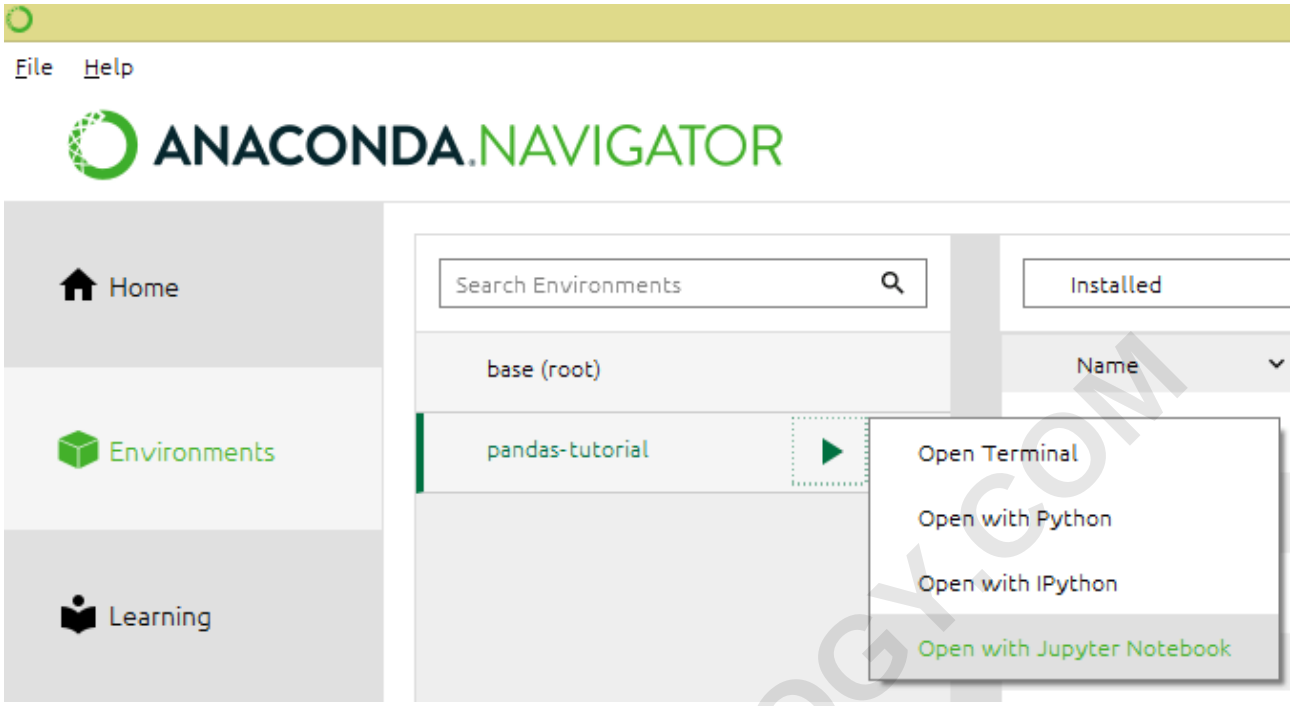

This opens up Jupyter Notebook in the default browser.

Now select New -> PythonX and enter the below lines and select Run.

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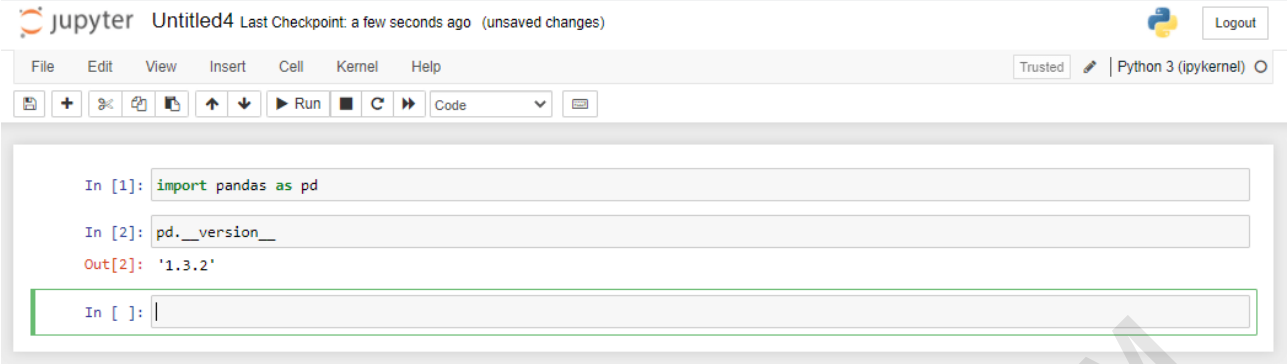

This completes installing pandas on Anaconda and running sample pandas statements on the command line and Jupyter Notebook.

I have tried my best to cover each step, if you notice I missed any step or If you have trouble installing, please comment. Your comment would help others !!

Happy Learning !!

Frequently Asked Questions on Install Pandas on Windows Step-by-Step

How do I install Pandas on Windows?

Installing Pandas on Windows is straightforward. You can use the following steps:
Open a command prompt or Anaconda prompt.
Run the command: `pip install pandas`

What are the prerequisites for installing Pandas on Windows?

Before installing Pandas, ensure that you have Python installed on your Windows machine. You can download and install Python from the official Python website (https://www.python.org/).

Can I install Pandas using a virtual environment on Windows?

It's recommended to use a virtual environment to manage dependencies. You can create a virtual environment, activate it, and then install Pandas using the provided steps.

Are there alternative methods to install Pandas on Windows?

If you are using Anaconda, you can install Pandas through the Anaconda Navigator or Anaconda prompt. Additionally, you can use other package managers like conda for installation.

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What do I do if I encounter installation errors on Windows?

If you encounter any installation errors, check that your Python environment is correctly set up, and ensure that you have the necessary permissions to install packages. You may also consider using a virtual environment to isolate your project dependencies.

Can I install specific versions of Pandas on Windows?

You can install a specific version of Pandas by specifying the version number in the installation command. For example, `pip install pandas==1.3.3` installs Pandas version 1.3.3.

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