

Lecture 1.1 : Python Installation and Basics

- In this lecture, we will learn how to run the 1st hello world program in python.
- System Recommendation
 1. Windows Laptop
 2. Minimum 8 GB Ram recommended
- We will follow 3 step approach to achieve this
 1. Installing Anaconda
 2. Creating Virtual environment
 3. Hello world program
- Let's go through each of the steps one by one.

1. Installing Anaconda

- What is Anaconda ? Anaconda is a free and open-source Python distribution primarily used for data science, machine learning, and artificial intelligence.
- The first step is to download anaconda. Go to the website
- <https://www.anaconda.com/>

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- Click free download in top right as shown in pic above.

<https://www.anaconda.com/download>

Distribution

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- ✓ Deploy across hardware and software platforms
- ✓ Distribution installation on Windows, MacOS, or Linux

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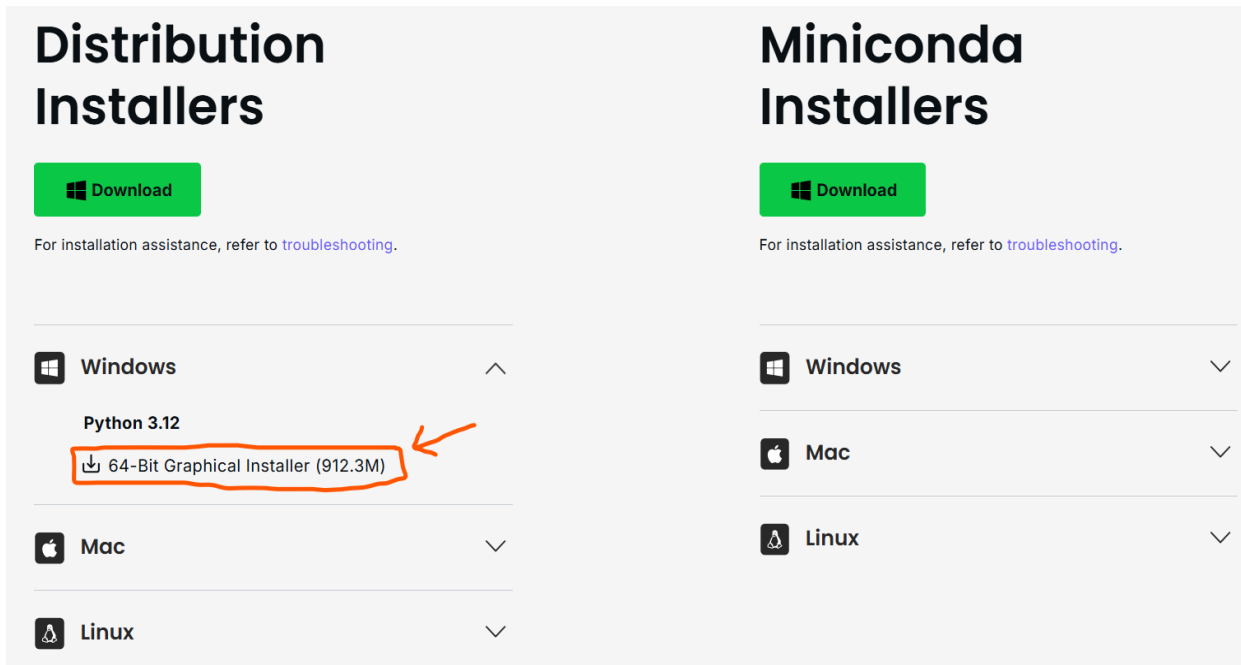
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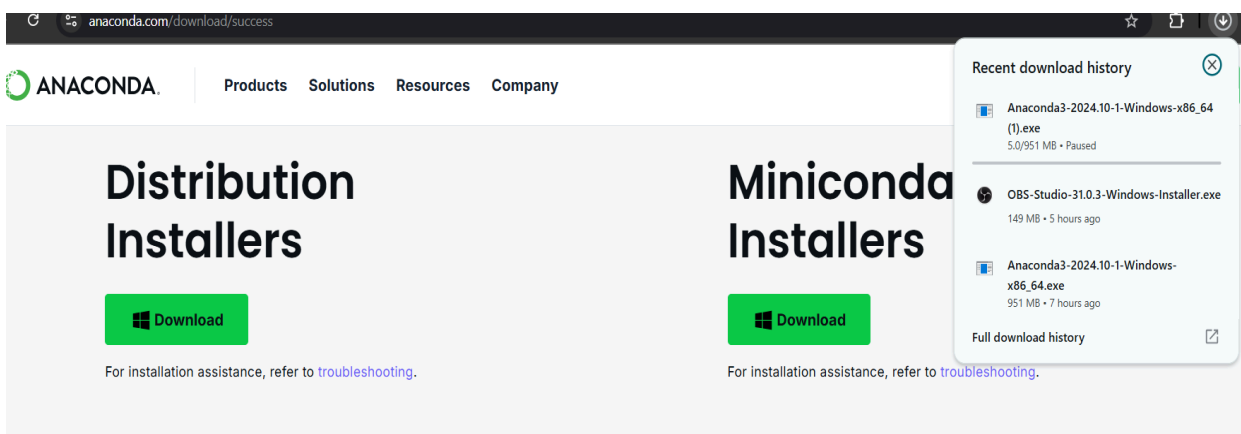
[Submit >](#)[Skip registration](#)

- Click skip registration as shown above.

<https://www.anaconda.com/download/success>



- click on the arrow as shown in above screenshot. This will start your download
exe will be downloaded in your machine. This may take some time.



- once downloaded, right click the executable and run as administrator. The
Installation will start and need user inputs at multiple points. Let's see in detail.



Welcome to Anaconda3 2024.10-1 (64-bit) Setup

Setup will guide you through the installation of Anaconda3 2024.10-1 (64-bit).

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.



Next >

Cancel



License Agreement

Please review the license terms before installing Anaconda3 2024.10-1 (64-bit).

Press Page Down to see the rest of the agreement.

to the Anaconda Public Repository.
2. "Anaconda Navigator" means a graphical interface for launching common Python programs without having to use command lines, to install packages and manage environments. It also allows the user to launch applications and easily manage conda packages, environments, and channels without using command-line commands.
3. "Anaconda Public Repository", means the Anaconda packages repository of 8000 open-source data science and machine learning packages at repo.anaconda.com.

Version 4.0 | Last Modified: March 31, 2024 | ANACONDA TOS

If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Anaconda3 2024.10-1 (64-bit).

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I Agree

Cancel



Select Installation Type

Please select the type of installation you would like to perform for Anaconda3 2024.10-1 (64-bit).

Install for:

☒ Just Me (recommended)

☐ All Users (requires admin privileges)

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Next >

Cancel

Anaconda3 2024.10-1 (64-bit) Setup



Choose Install Location

Choose the folder in which to install Anaconda3 2024.10-1 (64-bit).

Setup will install Anaconda3 2024.10-1 (64-bit) in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

Destination Folder

C:\Users\pc\anaconda3

Browse...

Space required: 5.2 GB

Space available: 110.3 GB

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Next >

Cancel

Anaconda3 2024.10-1 (64-bit) Setup



Advanced Installation Options

Customize how Anaconda3 integrates with Windows

☒ Create shortcuts (supported packages only).

☐ Add Anaconda3 to my PATH environment variable

NOT recommended. This can lead to conflicts with other applications. Instead, use the Command Prompt and Powershell menus added to the Windows Start Menu.

☒ Register Anaconda3 as my default Python 3.12

Recommended. Allows other programs, such as VSCode, PyCharm, etc. to automatically detect Anaconda3 as the primary Python 3.12 on the system.

☐ Clear the package cache upon completion

Recommended. Recovers some disk space without harming functionality.

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Install

Cancel

- After this you should be able to successfully install anaconda.
- You should then open the command prompt, enter the command - "conda" and

it should show some info. Else you need to set your environment variables. (use Chatgpt to enable anaconda path in env variables).

- If you face any error during installation, you should try the below steps
 1. Turn off the Windows security
 2. Turn of any anti-virus running on your laptop

2. Creating Virtual environment

- what is a virtual env ? Creating a virtual environment in Python means setting up an isolated environment where you can install packages and dependencies specific to a project, without affecting other projects or the system Python.

- Advantage

1. Work on multiple projects (with different dependencies)
2. Does not interfere with system Python
3. good engineering practice

- Steps to create a virtual environment and activate it for the hello world program.

1. Create an env with specific python version

```
conda create --name <env_name> python=3.10
```
2. Activate the environment

```
conda activate myenv
```
3. Install additional packages

```
conda install numpy pandas matplotlib
```
4. List all environment

```
conda env list
```
5. Deactivate environment

```
conda deactivate
```

- So above steps will help in creating, installing and activate the new Virtual environment.

2. Hello world program

- Install Jupyter if not installed using cmd

```
conda install jupyter
```

- Launch Jupyter notebook using cmd

```
jupyter notebook
```

- Create a New Notebook

- In the browser interface, click on **"New"** > **"Python 3"** (or your environment kernel) to open a new notebook. A new tab will open with an empty code cell.

- Write and Run "Hello World"

- In the first cell, type: `print("Hello, World!")` and then press **Shift + Enter**

Hands On Time !!