

## What is Python?

- Python is a **high-level, interpreted programming language** known for its **readability** and **simplicity**.
- It's a **popular choice** for **web development, data analysis, artificial intelligence**, scientific computing, and **automation**.
- Python's simple syntax makes it an excellent language for beginners to learn programming.

## How to Get Started with Python?

Here's a step-by-step guide to setting up Python on your system:

### 1. Checking if Python is already installed:

- Open command prompt on Windows and type below and press Enter.

Python

```
> python --version
```

- If Python is installed, you'll see the version number like below. If not, you'll get an error message.

```
PS C:\Users\santhosh\local_repo> python --version
Python 3.11.3
```

- If you got an error and python is not installed, proceed with step 2.
- If you got the version number, it means python is already installed , proceed with step 4.

## 2. Downloading Python from the official website:

- Go to the official Python website:  
<https://www.python.org/downloads/windows/> in a browser
- Look for the Python 3.11.3 "Windows installer (64-bit)"(assuming user windows is x64 version).

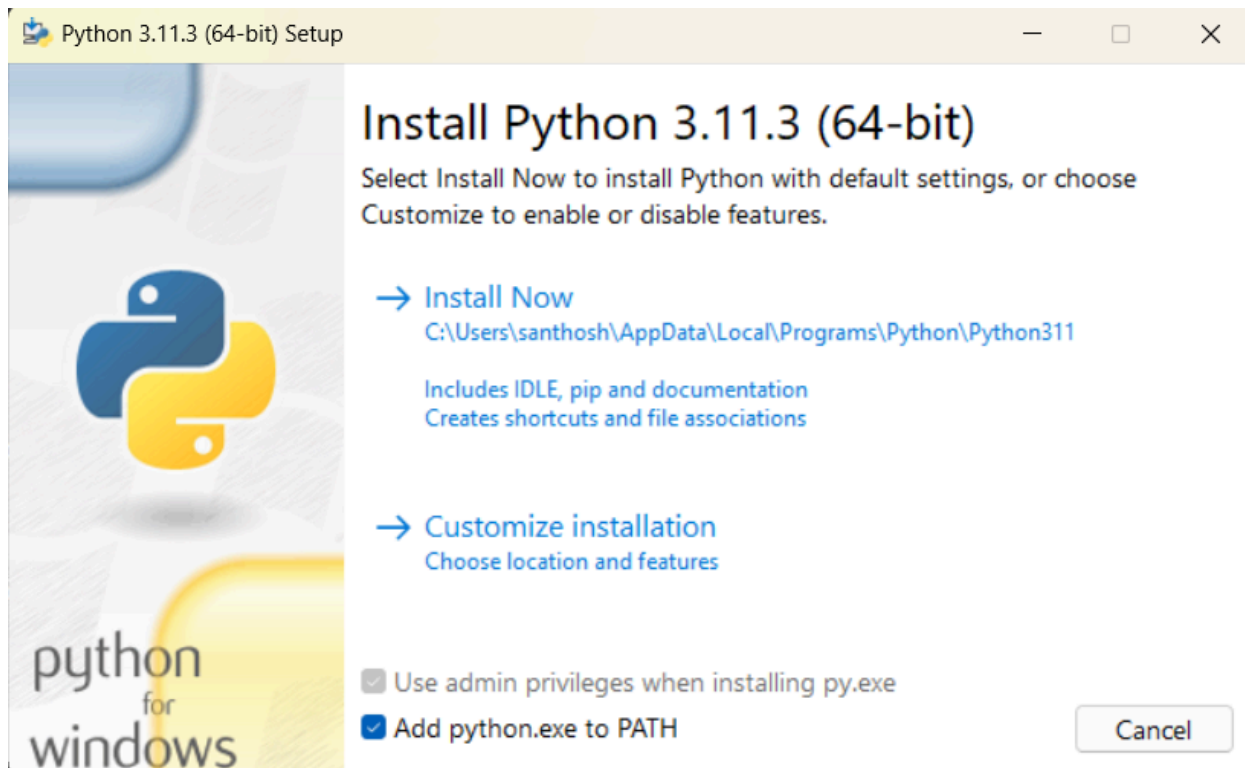
**Note that Python 3.11.3 *cannot* be used on Windows 7 or earlier.**

- Download [Windows installer \(64-bit\)](#)
- Download [Windows installer \(32-bit\)](#)

- Note ▲: How to check your Windows version:
  - \* Press the "Windows key + R" to open the Run dialog.
  - \* Type "msinfo32" and press Enter.
  - \* In the "System Information" window, look for the "System Type" entry. It will say either "x64-based PC" (for 64-bit) or "x86
- Click on the appropriate ".exe" installer file to download it.

## 3. installing Python:

- Once the download is complete, locate the downloaded ".exe" file in your Downloads folder (or wherever your browser saves downloads).
- Double-click the ".exe" file to run the Python installer. "Install Python" window will appear.
  - Note ▲: During installation, check "Add Python to PATH".



- After installation repeat step 1 for verification.

#### 4. Introduction to PIP:

- **What is PIP?**
  - PIP stands for "Pip Installs Packages" or "Preferred Installer Program".
  - It's a package manager for Python, used to install and manage third-party libraries and packages.
- **Why use PIP?**
  - **Managing Dependencies.**
  - **Simplifying Installation.**
- **How to use PIP?**
  - To check if PIP is installed, open your terminal and type or `pip3 --version` and press Enter.

Python

```
> pip --version
```

```
PS C:\Users\santhosh\local_repo> pip --version
pip 22.3.1 from C:\Users\santhosh\AppData\Local\Programs\Python\Python311\Lib\site-packages\pip (python 3.11)
```

- To install a package using PIP, use the command `pip install <package_name>`

Python

```
> pip install requests
```

## Basic `pip` Commands

The following table summarizes essential `pip` commands for package management in Python:

Task	Command	Example
Install a package	<code>`pip install &lt;package&gt;`</code>	<code>`pip install requests`</code>
Install a specific version	<code>`pip install &lt;package&gt;==&lt;version&gt;`</code>	<code>`pip install pandas==1.3.5`</code>
Upgrade a package	<code>`pip install --upgrade &lt;package&gt;`</code>	<code>`pip install --upgrade numpy`</code>
Uninstall a package	<code>`pip uninstall &lt;package&gt;`</code>	<code>`pip uninstall flask`</code>
List installed packages	<code>`pip list`</code>	—
Show package details	<code>`pip show &lt;package&gt;`</code>	<code>`pip show requests`</code>