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LAB MANUAL

Python

Installing Python and setting up the environment

Objective:

To execute Python code, you need to have a Python interpreter installed on your system.

- Install a supported version of Python compatible with Local Machine .
- Install an editor.
- Install the Cloud Client Libraries for Python
- Check which version of Python, if any, is installed on your machine
- Use Python on the Web with online interpreters

Equipment Required:

1. Install VS Code - <https://code.visualstudio.com/download>
2. Download Python Installer File - <https://www.python.org/downloads/>

Prerequisites:

1. Basic Computer Skills - Anyone starting to learn computer programming needs basic computer skills. Python is a cross-platform language, so it makes no difference whether you use a macOS, Windows, or even Linux.

Duration: 2

Problem Statement:

To successfully install Python and set up the necessary environment to perform python simple program and, ensuring that all required libraries and tools are available and functioning correctly.

Procedure:

Setting up the Environment:

1. Download Python Installer File
2. Run the Installer
3. Install Python
4. Verify your installation
5. Install VS Code Editor
6. Run your python first program

1. Download Python Installer File:

Go to the official Python website (<https://www.python.org/downloads/>) and download the latest version:

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Active Python Releases

For more information visit the [Python Developer's Guide](#).

Python version	Maintenance status	First released	End of support	Release schedule
3.13	pre-release	2024-10-01 (planned)	2029-10	PEP 719
3.12	bugfix	2023-10-02	2028-10	PEP 699

The Python.org website automatically detects your operating system and gives you the right installer.

python.org/downloads/

Recent download history

- python-3.12.3-amd64.exe
- Screenshot_20990831_074415.jpg

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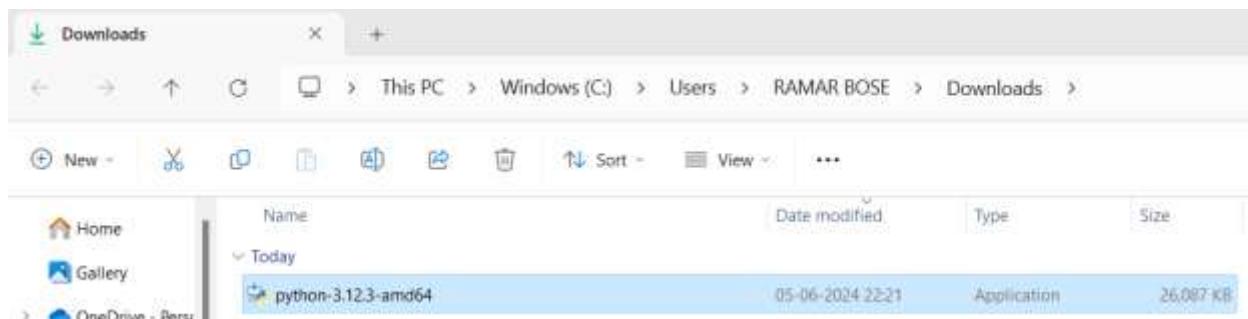
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Downloaded.

2. Run the Installer

Now, go to your download folder and run the installer you just downloaded.



Click that file to install.

3. Install Python

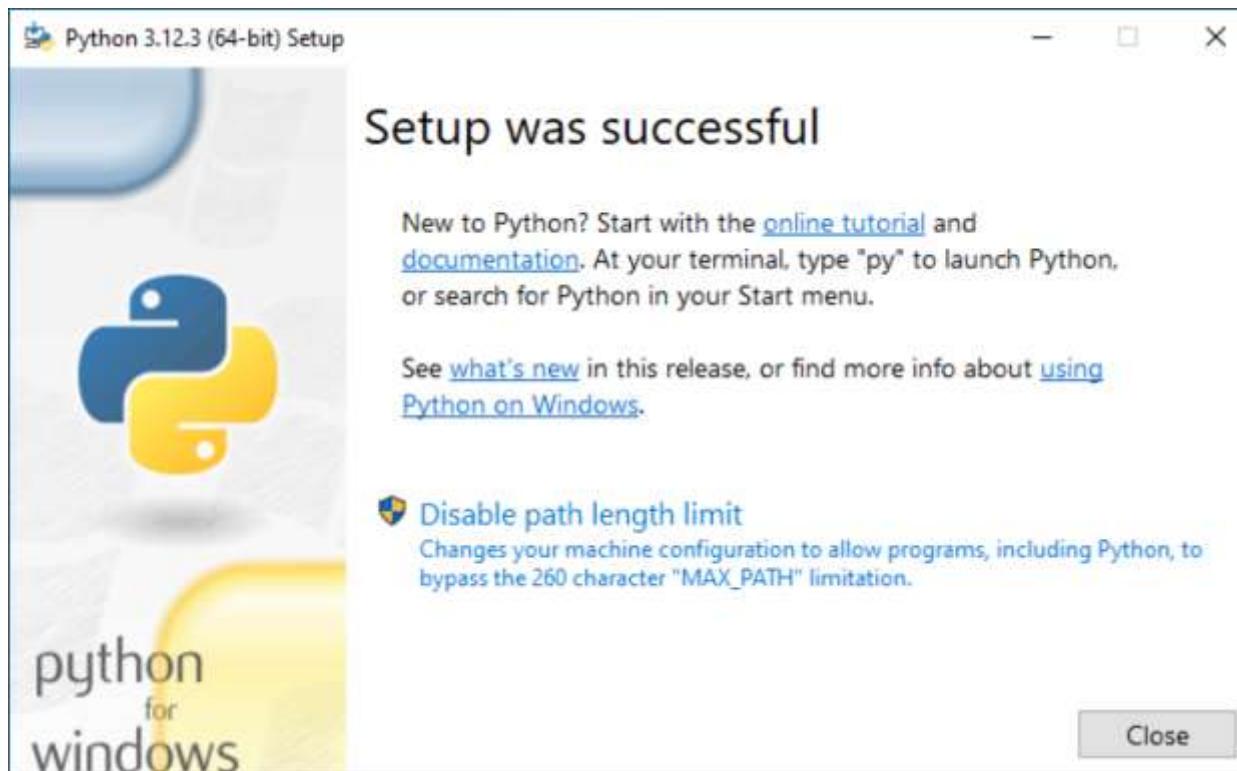
Once you have run the installer,



On the screen, you will see two options: Install Now and Customize Installation. We suggest you skip all customization steps and simply click Install Now.

- Check on Add python.exe to PATH as it ensures Python is added to our system's PATH variable.(Recommended)
- Click Install Now, as it will include all the necessary files needed later.

Note: This makes it easier to run a Python Program from the command prompt (cmd) directly without specifying the full path of the Python executable.

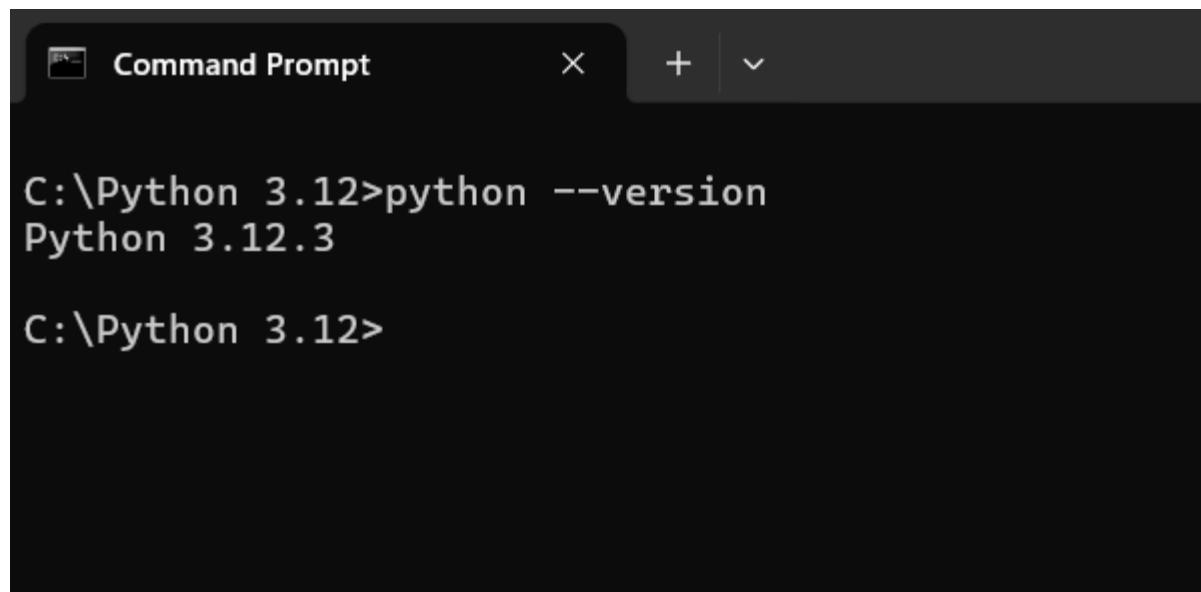


After using this option, Python will be successfully installed in your device.

4. Verify your installation

After the installation is complete, you can verify whether Python is installed by using the following command in the command prompt.

python --version



A screenshot of a Windows Command Prompt window titled "Command Prompt". The window shows the command "python --version" being run, which outputs "Python 3.12.3". Below the command prompt, there is a blank line where another command could be entered.

Now, you are all set to run Python programs on your device.

5. Install VS Code Editor

Go to the VS Code Official website and download the Windows installer. Once the download is complete, run the installer and follow the installation process.

1. Download

The screenshot shows the official Visual Studio Code download page at code.visualstudio.com/download. The top navigation bar includes links for Visual Studio Code, Docs, Updates, Blog, API, Extensions, FAQ, Learn, a search bar, and a 'Download' button. A banner at the top states, "Version 1.60 is now available! Read about the new features and fixes from April." Below the banner, the main heading is "Download Visual Studio Code" with the subtext "Free and built on open source. Integrated Git, debugging and extensions." The page displays download links for three operating systems: Windows, Linux, and Mac. The Windows section is highlighted with a red box around its icon and download link. The Linux section includes icons for Tux (Ubuntu) and the Apple logo (Mac). The Mac section includes icons for the Intel chip and Apple silicon.

Windows

Windows 10, 11

User Installer: [x64](#) [Arm64](#)
System Installer: [x64](#) [Arm64](#)
zip: [x64](#) [Arm64](#)
CLI: [x64](#) [Arm64](#)

.deb: [x64](#) [Arm32](#) [Arm64](#)
.rpm: [x64](#) [Arm32](#) [Arm64](#)
tar.gz: [x64](#) [Arm32](#) [Arm64](#)
Snap: [Snap Store](#)
CLI: [x64](#) [Arm32](#) [Arm64](#)

.zip: [Intel chip](#) [Apple silicon](#) [Universal](#)
CLI: [Intel chip](#) [Apple silicon](#)

2. Install

Setup - Microsoft Visual Studio Code (User)

License Agreement

Please read the following important information before continuing.



Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.

This license applies to the Visual Studio Code product. Source Code for Visual Studio Code is available at <https://github.com/Microsoft/vscode> under the MIT license agreement at <https://github.com/microsoft/vscode/blob/main/LICENSE.txt>. Additional license information can be found in our FAQ at <https://code.visualstudio.com/docs/supporting/faq>.

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I accept the agreement
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Next > **Cancel**

Setup - Microsoft Visual Studio Code (User)



Select Additional Tasks

Which additional tasks should be performed?

Select the additional tasks you would like Setup to perform while installing Visual Studio Code, then click Next.

Additional icons:

- Create a desktop icon

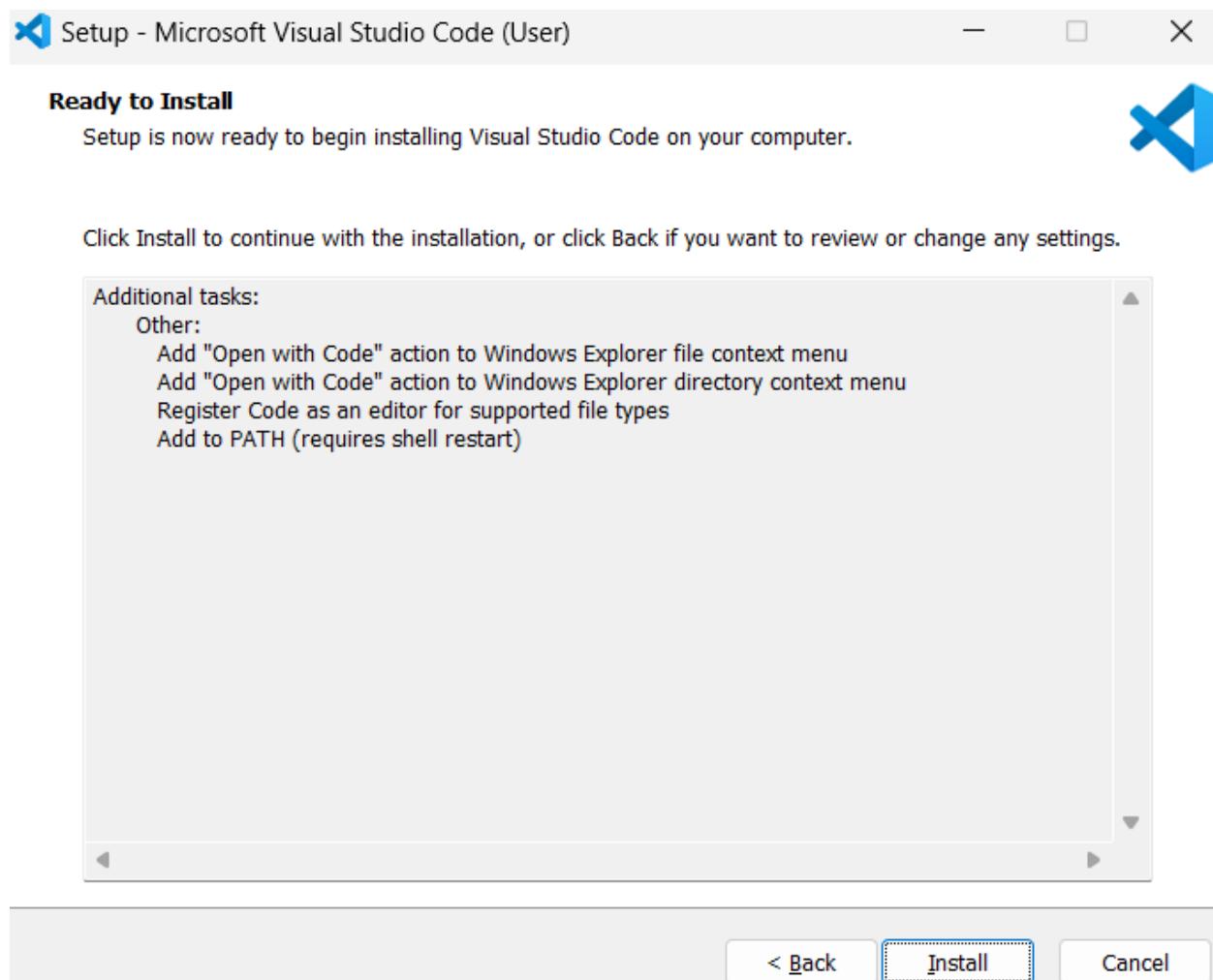
Other:

- Add "Open with Code" action to Windows Explorer file context menu
- Add "Open with Code" action to Windows Explorer directory context menu
- Register Code as an editor for supported file types
- Add to PATH (requires shell restart)

< Back

Next >

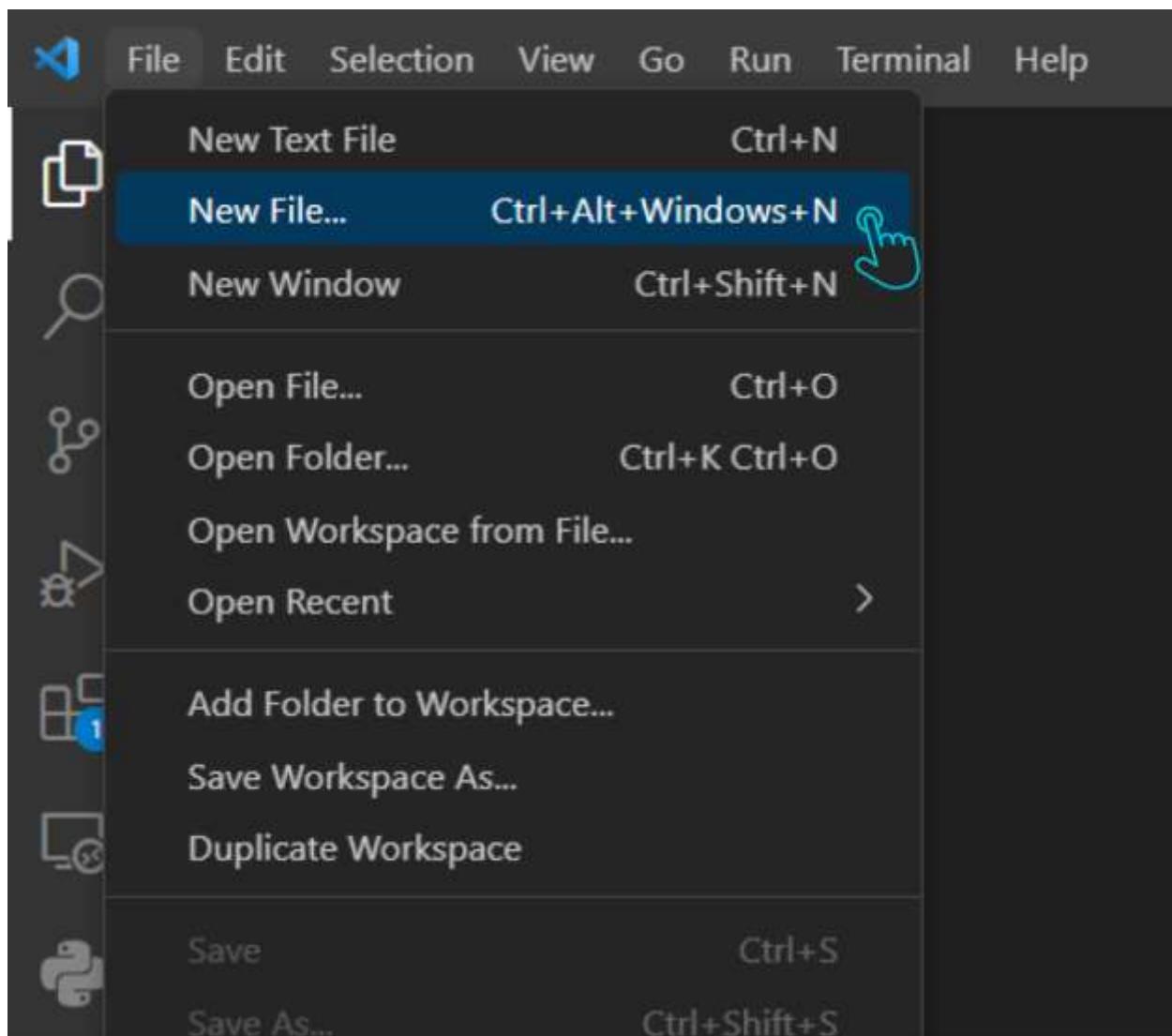
Cancel



Click Finish to complete the installation process

6. Run your python first program

First open VS Code, click on the File in the top menu and then select New File.



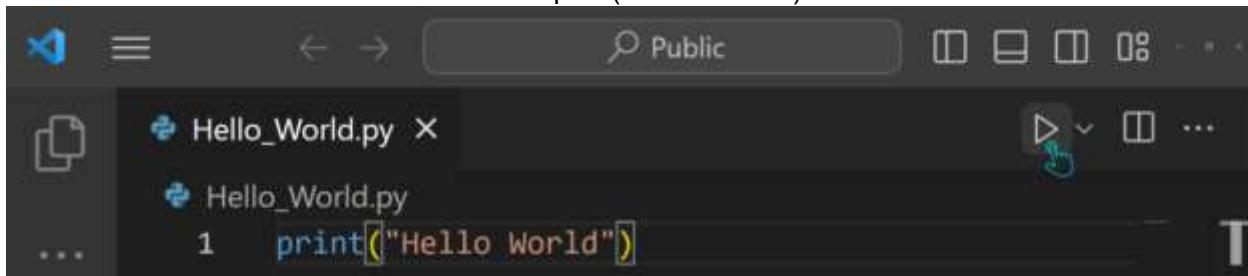
Then, save this file with a .py extension by clicking on File again, then Save As, and type your filename ending in .py. (Here, we are saving it as Hello_World.py)

Note: Before you start coding, make sure the Python extension is installed in VS Code. Open VS Code and click on Extensions on the left sidebar. Then, search for the Python extension by Microsoft and click on install.



Now, write the following code into your file:

```
print("Hello World")
```



Then click on the run button on the top right side of your screen.

Output:

You should see Hello World printed to the command prompt.

