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# PYTHON INSTALLATION

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*Complete Guide For Installation*




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# Installation of Python

## 1 Download Python

- Go to the **official Python website**:  
 <https://www.python.org/downloads/>
- Click **Download Python 3.x.x** (latest stable version — e.g., 3.13.x right now).
- Save the installer.

## 2 Install Python (Correct Settings)

When you run the installer:

- ☒ **Check “Add Python to PATH”** (important for using python in Command Prompt).
- ☒ Click **Customize installation** (optional but recommended):
  - Leave all default features checked.
  - **Advanced Options**:
    - Check **Install for all users** (avoids permission issues).
    - Check **Precompile standard library** (faster first run).
    - Optionally set **installation location** to something simple like:
      - C:\Python313

This **prevents long path problems** later.

## 3 Fix “Path Length” Issues

Windows has a **260-character path length limit** by default, which can cause:

- `OSError: [WinError 206] File name too long`
- Problems installing packages with long dependency names.

**Fix:**

- Press **Windows key + R**, type `gpedit.msc` → Enter.  
(If you don't have Group Policy Editor, skip to registry method below.)

- Go to:  
Local Computer Policy → Computer Configuration → Administrative Templates → System → Filesystem
- Double-click **Enable Win32 long paths** → Set to **Enabled** → OK.
- Restart your PC.

#### Registry method (if no gpedit):

- Press **Windows key + R**, type regedit → Enter.
- Navigate to:  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Control\FileSystem
- Find LongPathsEnabled → Double-click → Set value to **1**.
- Restart your PC.

## 4 Verify Installation

After restart Use Terminal):

- `python --version`

or

- `python3 --version`

You should see something like:

Python 3.13.0

## 5 Install pip (if missing)

pip is usually included, but if not (Use Terminal):

- `python -m ensurepip --upgrade`

Terminal-Test:

- `pip --version`

## 6 Common Problems & Fixes

Problem	Fix
python not recognized	Reinstall Python and check <b>Add to PATH</b> .
pip not recognized	<code>python -m pip install --upgrade pip</code>
“Permission denied” on package install	Use <code>pip install --user package_name</code> or run as Administrator.
SSL errors in pip	Upgrade pip: <code>python -m pip install --upgrade pip</code>
“File name too long”	Enable long paths as shown above.