

Setting Up a Virtual Environment on Windows

1. Python installation

- Install **Python**: <https://www.python.org/downloads/windows/>. If you have a python version already installed, just make sure it is 3.7+. When you launch the installer, ensure that the box related to 'add python 3.7 to path' is checked. Proceed with the standard installation (not the custom one). Once installed, open command prompt by typing 'cmd' within the Windows research bar and run: `python --version` to check that it is installed correctly.

2. Virtual Environment setup

- Open command prompt (do not close it during the whole procedure) in the folder where you want to create the virtual environment (also called *venv*). To do this, just go to the desired location and open the command prompt.
- Run `python -m pip install virtualenv`. This allows you to install the virtualenv package that allows you to create the venv within which you will run your application. A warning might come out telling you to update pip to the latest version.
In this case, run: `python -m pip install --upgrade pip`.
- Then run: `python -m virtualenv name_of_your_venv`, where *name_of_your_venv* will be the name of the folder and the virtual environment being created (eg: *pyqt_venv*). Check that the desired folder has been created.
- Run: `name_of_your_venv\Scripts\activate`. Check that the venv is active: there must be the words '(name_of_your_venv)' next to the command line of the command prompt.
- Install the required libraries for GUI development: `python -m pip install pyqt5 pyqtgraph pyserial`.
- At this point the setup is finished and you can close the command prompt.

Setting Up a Virtual Environment on macOS

1. Install Python (<https://www.python.org/downloads/macos/>).

2. Open the terminal:

- Navigate to the desired directory using `cd /path/to/folder`.

3. Check **Python** and **pip**:

- Verify Python3 version: `python3 --version`.
- Verify pip: `python3 -m pip --version` (install pip if missing: `python3 -m ensurepip --upgrade`).

4. Install **virtualenv**:

- Run: `python3 -m pip install --upgrade virtualenv`.

5. Create the virtual environment:

- Run: `python3 -m virtualenv name_venv` (replace *name_venv* with your desired name).

6. Activate the virtual environment:

- Run: `source name_venv/bin/activate`.
- Check it's active: you will see (*name_venv*) next to the command prompt.

7. Install the required libraries:

- Run: `python3 -m pip install pyqt5 pyqtgraph pyserial`.

8. Deactivate the virtual environment:

- Run: `deactivate`.

Link your virtual environment with Visual Studio Code

- Download **Visual Studio Code**: <https://code.visualstudio.com/download>.
- Inside VS Code install the Python extension), that you can use as an IDE to code in any desired programming language. Follow these steps to link the venv:
https://code.visualstudio.com/docs/python/environments#_select-and-activate-an-environment

You need to follow these steps just once, during the installation/setup phase. Once you link the venv with VS Code, you don't have to repeat the configuration unless you change the working folder.