

# Getting Started with Python

In this guide, we will be taking you through the steps to get to grips with using Python to program Marty the Robot. This will require you to install the *MartyPy* library so that your device can communicate with Marty.

**Please note that this guide will require a laptop/PC.**

1. Ensure that Python is already installed on your computer. Using the **command line** on your computer (*Command Prompt* for Windows, *Terminal* for Mac or *CROSH* for Chromebook), type in and run the following command,

```
python --version
```

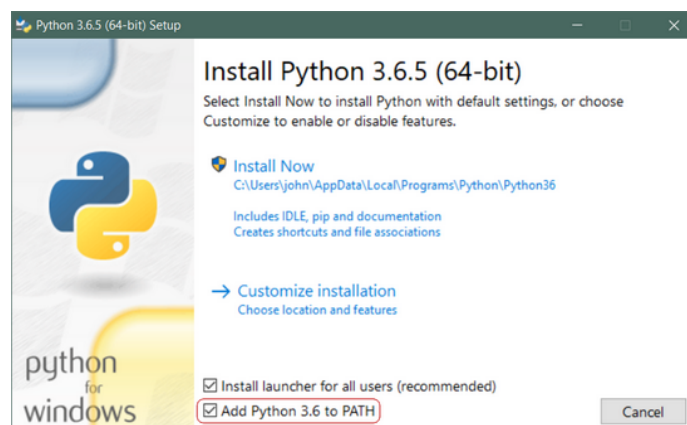
*Multiple versions of Python installed and want to check for Python 3 specifically,*

```
python3 --version
```

If you don't have Python installed, please follow these instructions:

<https://www.python.org/downloads/>

**Note:** Remember to check the option *Add Python 3.6 to PATH*



2. We're going to install the Marty library using *pip* – a package installer for Python. To check that you have this installed, run the following command in your command line tool,

```
pip --version
```

If you don't have Pip installed, please follow these instructions:

<https://pip.pypa.io/en/stable/installing/>

3. Now it's time to install *MartyPy*, the library that has been created for programming Marty the Robot using Python. Run the following command in your command line tool,

*If using Python 2*

```
pip install martypy
```

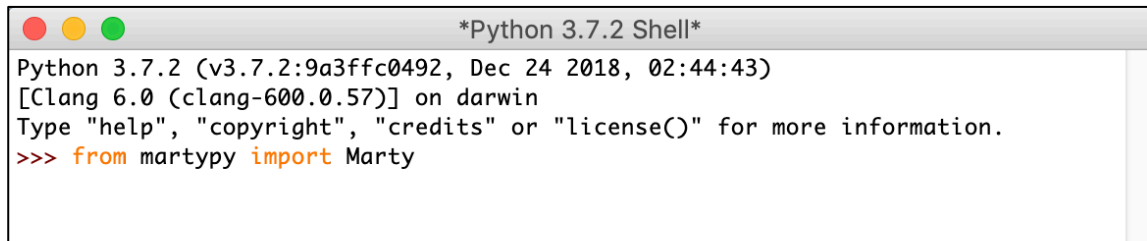
*If using Python 3 (Recommended)*

```
pip3 install martypy
```

4. Let's check that has installed correctly. Launch IDLE (*usually installed along with Python*) – this is an application that can be used for programming using Python.

Make sure you are connected to the same network as your Marty (*for schools using our command hubs you will need to be connected to RoboticalHubPlus-2G*).

The first window that opens should be a *Python Shell* – this gives us an interface to directly execute short commands, perfect for testing a few commands.

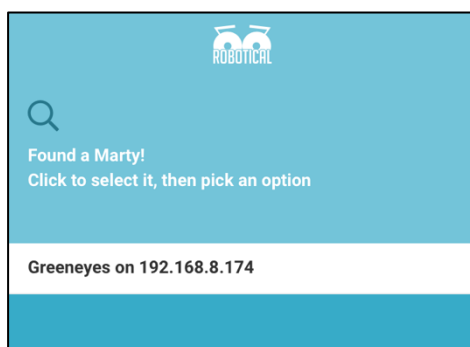


```
*Python 3.7.2 Shell*
Python 3.7.2 (v3.7.2:9a3ffc0492, Dec 24 2018, 02:44:43)
[Clang 6.0 (clang-600.0.57)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.
>>> from martypy import Marty
```

After typing in the *import* command and hitting enter, if we get no error messages then we have successfully imported the *MartyPy* library.

5. Now that we have imported the *MartyPy* library, the next step is to connect to a Marty. Since Marty works by connecting over a WiFi network, we need to know the IP address for the Marty we want to program.

The easiest way to find this out is using our app, *Marty the Robot*, available on [iOS](#) and [Android](#). Make sure your phone is connected to the same network as your Marty (If you're a school and using our command hubs, you'll need to be connected to *RoboticalHubPlus-2G*).



Open up the app and select *Scan for Marty*. You should then get a list of the available Marty's that you can connect to. For example, on the left we can see that we could connect to *Greeneyes* using the IP address *192.168.8.174*

Go back to the Python shell in IDLE and type in the following command, making sure to change the IP address for the one you have found using the app by changing the last 3 digits that are marked out as *x* below,

```
marty = Marty('socket://192.168.8.xxx')
```

After hitting enter, it might take a few minutes for it to complete connecting to Marty. If Marty moves at all after running that command and we get no error messages then we have connected without any problems – lets double check by running the following,

```
marty.hello()
```

Your Marty should come to life by wiggling the eyebrows and resetting all joints so that Marty is standing nice and tall!

6. The shell is great for testing different commands but does mean you have to run each individual command separately. So, let's make our first Python script.
  - a. Select *File -> New File*
  - b. You will have a new window pop up – this is where you will write your program into
  - c. Add the following lines of code to that window to make up our program (*don't forget to change the IP address!*)

```
1. #helloworld.py
2.
3. from martypy import Marty
4.
5. marty = Marty('socket://192.168.8.x') #Change IP address to connect to your Marty
6. marty.hello()
```

- d. Save the file by selecting *File -> Save*, call the file *helloworld.py* and save it somewhere sensible (you may want to make a folder specifically for Marty Python scripts!)
  - e. Run your program by selecting *Run -> Run Module* or by pressing *F5*

You have just run your first Python script to program Marty – now try experimenting with all the different things you can do by checking out the [MartyPy Documentation](#) and our online [Learning Materials!](#)