

## Run a Python code at Raspberry Pi startup with SYSTEMD

The Systemd can control which programs should start when the Raspberry Pi boots up. [1]

### Step 1– Create A Unit File

Open a unit file called “sensors” using the command as shown below:

```
sudo nano /lib/systemd/system/sensors.service
```

Add the following command inside the Unit file:

```
[Unit]  
Description=My Sensors Service  
After=multi-user.target  
  
[Service]  
Type=idle  
User=pi  
ExecStart=/usr/bin/python /Your/python/scriptPath.py  
  
[Install]  
WantedBy=multi-user.target
```

You should save and exit the nano editor. Please note that you should replace username that you have installed your Python libraries before ExecStart line (here, we assumed that that you installed Python libraries with inside user “pi”).

Your Unit file defines a new service called “sensors Service” and we are requesting that it should be launched when the multi-user environment running. The “ExecStart” parameter is used to declare the command that we want to run at boot up. The “Type” is set to “idle” to ensure that the ExecStart command will run only when everything else has loaded during boot up. Note that the paths are absolute and you should declare the complete location of Python and your script.

You can change the ExecStart line as follows to store script’s output in a log file:

```
ExecStart=/usr/bin/python /home/maghsoud/sensor_reader.py > /var/log/sensors.log 2>&1
```

The you need to change the permission of your Unit file so that it can be executable:

```
sudo chmod 644 /lib/systemd/system/sensors.service
```

### Step 2 – Finally, Configure systemd

Finally, you can reload the daemon and configure system to start your service during boot up:

```
sudo systemctl daemon-reload  
sudo systemctl enable sensors.service  
sudo reboot
```

## References

- [1] MATT, "How To Autorun A Python Script On Boot Using systemd," 12 October 2015. [Online]. Available: <https://www.raspberrypi-spy.co.uk/2015/10/how-to-autorun-a-python-script-on-boot-using-systemd/>. [Accessed 22 Novemebr 2018].