

# GPIO library installation

## GPIO library installation

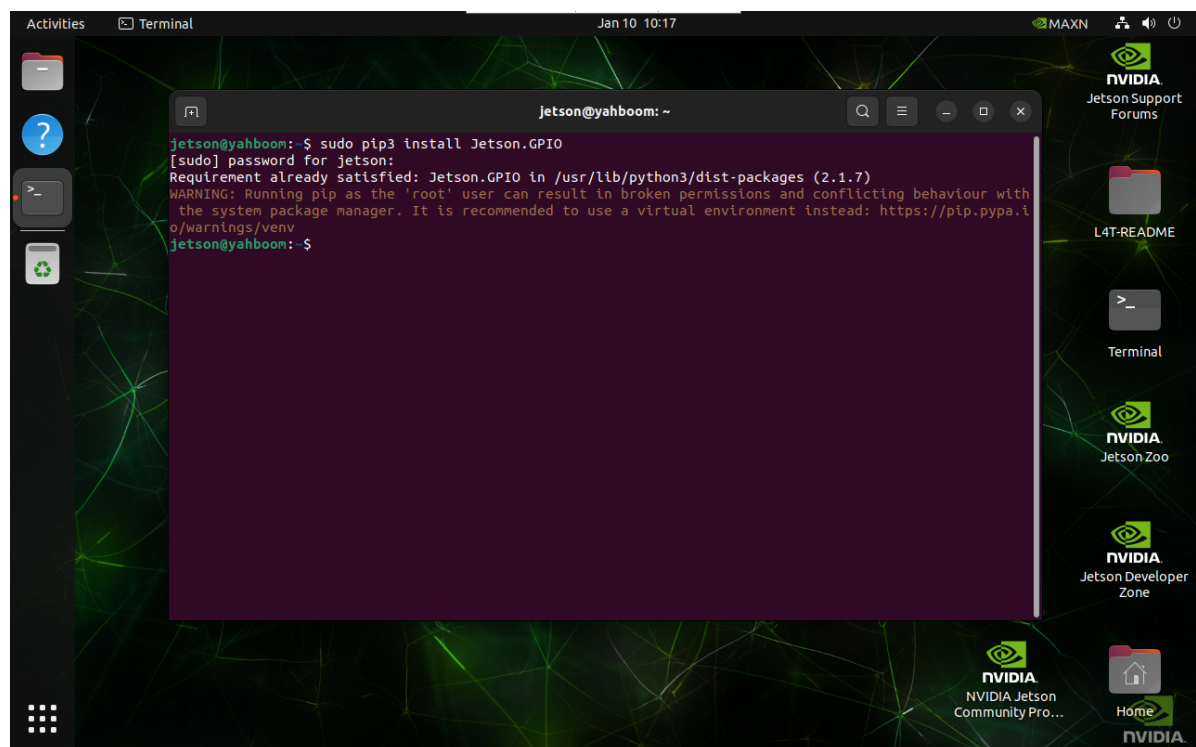
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## 1. Install Jetson.GPIO library

The system installs Jetson.GPIO library by default, so you can skip this step.

### 1.1. Automatic installation

```
sudo pip3 install Jetson.GPIO
```



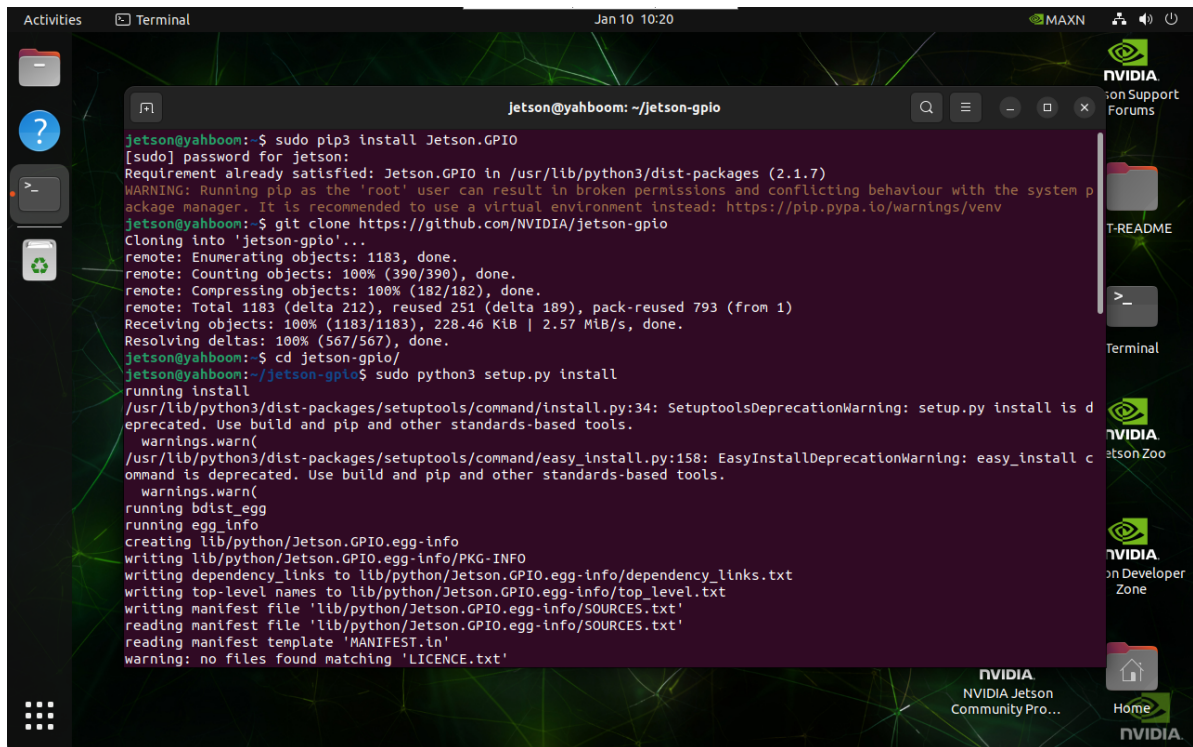
### 1.2. Manual installation

It is recommended to use the automatic installation method. Manual installation may not be the latest version.

```
git clone https://github.com/NVIDIA/jetson-gpio
```

```
cd ~/jetson-gpio/
```

```
sudo python3 setup.py install
```

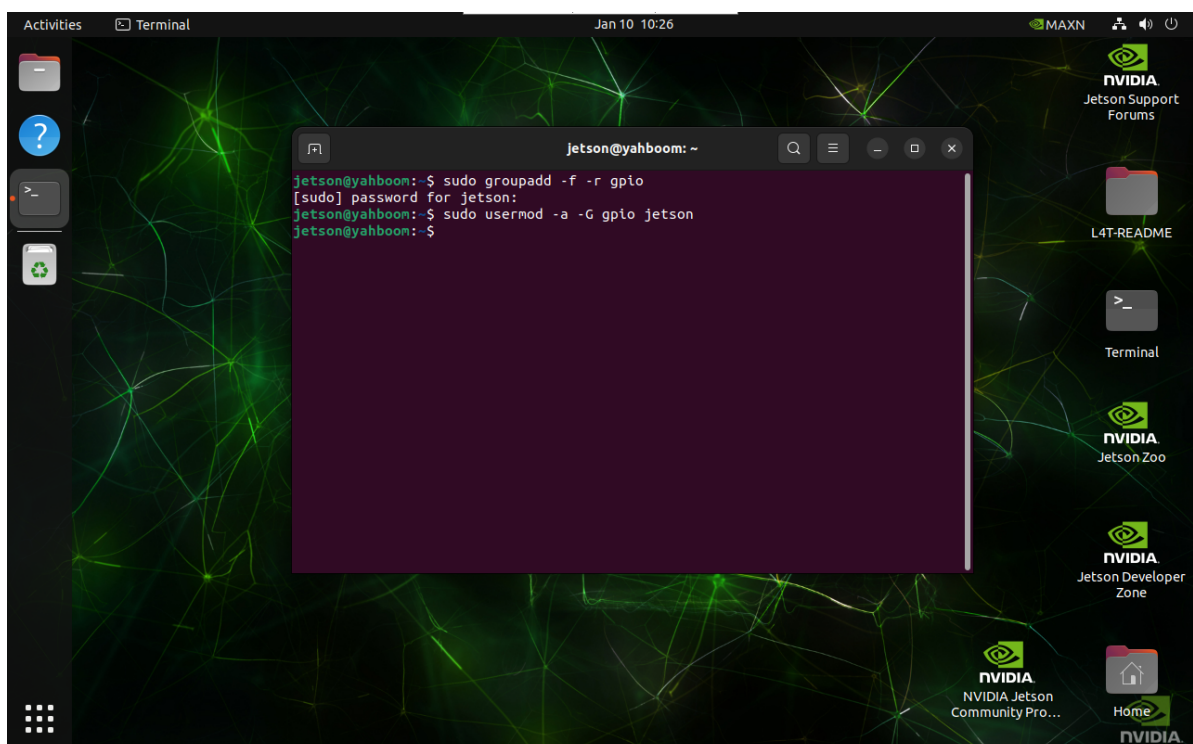


```
jetson@yahboom: ~/jetson-gpio
jetson@yahboom:~$ sudo pip3 install Jetson.GPIO
[sudo] password for jetson:
Requirement already satisfied: Jetson.GPIO in /usr/lib/python3/dist-packages (2.1.7)
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
jetson@yahboom:~$ git clone https://github.com/NVIDIA/jetson-gpio
Cloning into 'jetson-gpio'...
remote: Enumerating objects: 1183, done.
remote: Counting objects: 100% (390/390), done.
remote: Compressing objects: 100% (182/182), done.
remote: Total 1183 (delta 212), reused 251 (delta 189), pack-reused 793 (from 1)
Receiving objects: 100% (1183/1183), 228.46 KiB | 2.57 MiB/s, done.
Resolving deltas: 100% (567/567), done.
jetson@yahboom:~$ cd jetson-gpio/
jetson@yahboom:~/jetson-gpio$ sudo python3 setup.py install
running install
/usr/lib/python3/dist-packages/setuptools/command/install.py:34: SetuptoolsDeprecationWarning: setup.py install is deprecated. Use build and pip and other standards-based tools.
  warnings.warn(
/usr/lib/python3/dist-packages/setuptools/command/easy_install.py:158: EasyInstallDeprecationWarning: easy_install command is deprecated. Use build and pip and other standards-based tools.
  warnings.warn(
running bdist_egg
running egg_info
creating lib/python/Jetson.GPIO.egg-info
writing lib/python/Jetson.GPIO.egg-info/PKG-INFO
writing dependency_links to lib/python/Jetson.GPIO.egg-info/dependency_links.txt
writing top-level names to lib/python/Jetson.GPIO.egg-info/top_level.txt
writing manifest file 'lib/python/Jetson.GPIO.egg-info/SOURCES.txt'
reading manifest file 'lib/python/Jetson.GPIO.egg-info/SOURCES.txt'
reading manifest template 'MANIFEST.in'
warning: no files found matching 'LICENCE.txt'
```

## 2. Set user permissions

Allow the current system user to access and use the Jetson.GPIO library: where `jetson` is the system user name

```
sudo groupadd -f -r gpio
sudo usermod -a -G gpio jetson
```



```
jetson@yahboom: ~
jetson@yahboom:~$ sudo groupadd -f -r gpio
[sudo] password for jetson:
jetson@yahboom:~$ sudo usermod -a -G gpio jetson
jetson@yahboom:~$
```

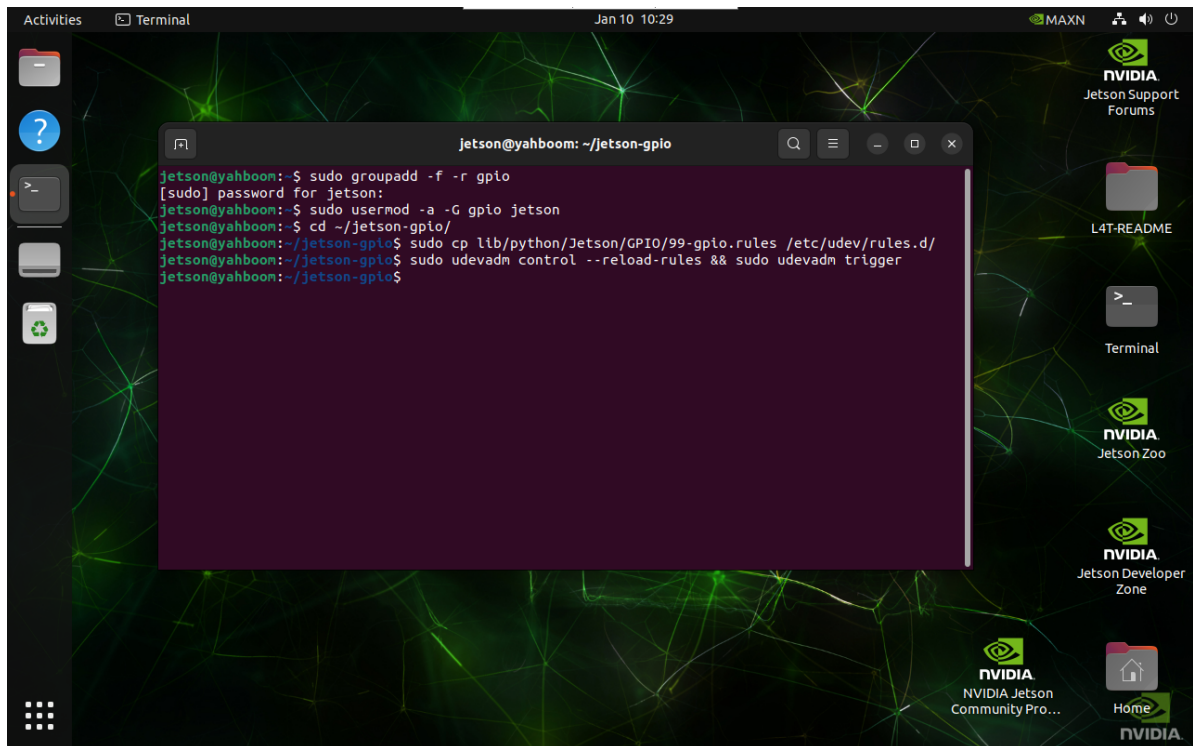
## 3. Custom rule file

### 3.1. Copy the rule file

```
cd ~/jetson-gpio/  
sudo cp lib/python/Jetson/GPIO/99-gpio.rules /etc/udev/rules.d/
```

### 3.2. Reload udev rules

```
sudo udevadm control --reload-rules && sudo udevadm trigger
```



## 4. Set the motherboard model

Currently, Jetpack6.1 does not set the motherboard model in advance. You need to set the motherboard model in the terminal before controlling GPIO each time:

```
export JETSON_MODEL_NAME=JETSON_ORIN_NANO
```

## 5. References

<https://github.com/NVIDIA/jetson-gpio>