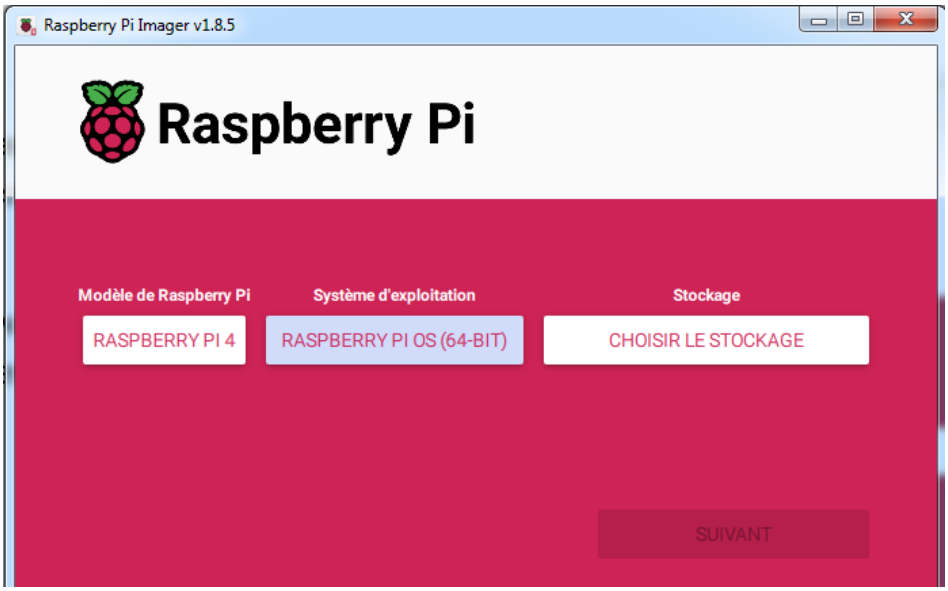
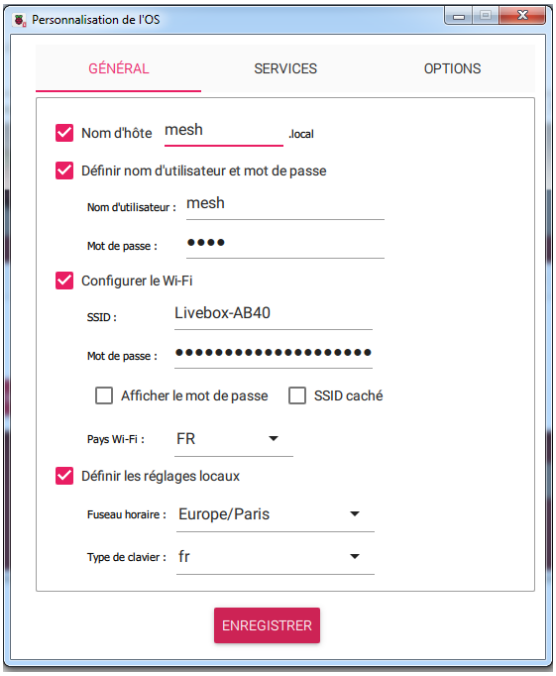
Compiler un firmware Meshtastic sur Raspberry ou linux PC

Utiliser **Raspberry Pi Imager** https://www.raspberrypi.com/software/





Il est préférable d'utiliser une liaison Ethernet plutôt que wifi.

J'ai utilisé un Raspberry PI 4 la 1ere compilation dure 15 minutes

Les commandes tapées dans la console sont en gras

```
login as: mesh
mesh@192.168.1.26's password: mesh
Linux mesh 6.12.47+rpt-rpi-v8 #1 SMP PREEMPT Debian 1:6.12.47-1+rpt1
(2025-09-16) aarch64

The programs included with the Debian GNU/Linux system are free
software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
mesh@mesh:~ $ sudo apt update
Hit:1 http://deb.debian.org/debian trixie InRelease
Get:2 http://deb.debian.org/debian trixie-updates InRelease [47.3
kB]
Get:3 http://deb.debian.org/debian-security trixie-security
InRelease [43.4 kB]
Get:4 http://archive.raspberrypi.com/debian trixie InRelease [54.7
kB]
Get:5 http://deb.debian.org/debian-security trixie-security/main
arm64 Packages [58.4 kB]
Get:6 http://archive.raspberrypi.com/debian trixie/main arm64
Packages [351 kB]
Get:7 http://deb.debian.org/debian-security trixie-security/main
armhf Packages [55.7 kB]
Get:8 http://deb.debian.org/debian-security trixie-security/main
Translation-en [36.9 kB]
Get:9 http://archive.raspberrypi.com/debian trixie/main armhf
Packages [351 kB]
Fetched 908 kB in 0s (1,940 kB/s)
96 packages can be upgraded. Run 'apt list --upgradable' to see
them.
mesh@mesh:~ $ sudo apt install python3 python3-pip python3-venv
python3 is already the newest version (3.13.5-1).
python3 set to manually installed.
python3-pip is already the newest version (25.1.1+dfsg-1).
python3-pip set to manually installed.
python3-venv is already the newest version (3.13.5-1).
Summary:
  Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 96
mesh@mesh:~ $
```

La suite est décrite également dans la documentation de Philippe F4JRE

https://github.com/PhilippeSimier/Esp32/blob/master/00_install_EDI/install%20platformIO.pdf

https://docs.platformio.org/en/latest/core/installation/methods/installer-script.html

```
mesh@mesh:~ $ wget -O get-platformio.py
https://raw.githubusercontent.com/platformio/platformio-core-
installer/master/get-platformio.py
--2025-10-22 08:56:17--
https://raw.githubusercontent.com/platformio/platformio-core-
installer/master/get-platformio.py
Resolving raw.githubusercontent.com (raw.githubusercontent.com)...
2606:50c0:8002::154, 2606:50c0:8003::154, 2606:50c0:8000::154, ...
Connecting to raw.githubusercontent.com
(raw.githubusercontent.com)|2606:50c0:8002::154|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 935208 (913K) [text/plain]
Saving to: 'get-platformio.py'

get-platformio.py   100%[===================>] 913.29K  --.-KB/s
in 0.1s

2025-10-22 08:56:18 (9.13 MB/s) - 'get-platformio.py' saved
[935208/935208]

mesh@mesh:~ $ sudo PLATFORMIO_CORE_DIR=/opt/platformio python3 get-
platformio.py
Installer version: 1.2.2
Platform: Linux-6.12.47+rpt-rpi-v8-aarch64-with-glibc2.41
Python version: 3.13.5 (main, Jun 25 2025, 18:55:22) [GCC 14.2.0]
Python path: /usr/bin/python3
Creating a virtual environment at /opt/platformio/penv
Updating Python package manager (PIP) in the virtual environment
Requirement already satisfied: pip in
/opt/platformio/penv/lib/python3.13/site-p
ackages (25.1.1)
Collecting pip
  Downloading pip-25.2-py3-none-any.whl.metadata (4.7 kB)
Downloading pip-25.2-py3-none-any.whl (1.8 MB)
   ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
━━ 1.8/1.8 MB 8.2 MB/s eta 0:00:00
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 25.1.1
    Uninstalling pip-25.1.1:
      Successfully uninstalled pip-25.1.1
Successfully installed pip-25.2
PIP has been successfully updated!
Virtual environment has been successfully created!
Installing PlatformIO Core
Collecting platformio
  Downloading platformio-6.1.18-py3-none-any.whl.metadata (7.1 kB)
Collecting bottle==0.13.* (from platformio)
  Downloading bottle-0.13.4-py2.py3-none-any.whl.metadata (1.6 kB)
Collecting click<8.1.8,>=8.0.4 (from platformio)
```

```
  Downloading click-8.1.7-py3-none-any.whl.metadata (3.0 kB)
Collecting colorama (from platformio)
  Downloading colorama-0.4.6-py2.py3-none-any.whl.metadata (17 kB)
Collecting marshmallow==3.* (from platformio)
  Downloading marshmallow-3.26.1-py3-none-any.whl.metadata (7.3 kB)
Collecting pyelftools<1,>=0.27 (from platformio)
  Downloading pyelftools-0.32-py3-none-any.whl.metadata (372 bytes)
Collecting pyserial==3.5.* (from platformio)
  Downloading pyserial-3.5-py2.py3-none-any.whl.metadata (1.6 kB)
Collecting requests==2.* (from platformio)
  Downloading requests-2.32.5-py3-none-any.whl.metadata (4.9 kB)
Collecting semantic_version==2.10.* (from platformio)
  Downloading semantic_version-2.10.0-py2.py3-none-any.whl.metadata
(9.7 kB)
Collecting tabulate==0.* (from platformio)
  Downloading tabulate-0.9.0-py3-none-any.whl.metadata (34 kB)
Collecting ajsonrpc==1.2.* (from platformio)
  Downloading ajsonrpc-1.2.0-py3-none-any.whl.metadata (6.9 kB)
Collecting starlette<0.47,>=0.19 (from platformio)
  Downloading starlette-0.46.2-py3-none-any.whl.metadata (6.2 kB)
Collecting uvicorn<0.35,>=0.16 (from platformio)
  Downloading uvicorn-0.34.3-py3-none-any.whl.metadata (6.5 kB)
Collecting wsproto==1.* (from platformio)
  Downloading wsproto-1.2.0-py3-none-any.whl.metadata (5.6 kB)
Collecting packaging>=17.0 (from marshmallow==3.*->platformio)
  Downloading packaging-25.0-py3-none-any.whl.metadata (3.3 kB)
Collecting charset_normalizer<4,>=2 (from requests==2.*->platformio)
  Downloading charset_normalizer-3.4.4-cp313-cp313-
manylinux2014_aarch64.manylin
ux_2_17_aarch64.manylinux_2_28_aarch64.whl.metadata (37 kB)
Collecting idna<4,>=2.5 (from requests==2.*->platformio)
  Downloading idna-3.11-py3-none-any.whl.metadata (8.4 kB)
Collecting urllib3<3,>=1.21.1 (from requests==2.*->platformio)
  Downloading urllib3-2.5.0-py3-none-any.whl.metadata (6.5 kB)
Collecting certifi>=2017.4.17 (from requests==2.*->platformio)
  Downloading certifi-2025.10.5-py3-none-any.whl.metadata (2.5 kB)
Collecting anyio<5,>=3.6.2 (from starlette<0.47,>=0.19->platformio)
  Downloading anyio-4.11.0-py3-none-any.whl.metadata (4.1 kB)
Collecting sniffio>=1.1 (from anyio<5,>=3.6.2-
>starlette<0.47,>=0.19->platformio                        )
  Downloading sniffio-1.3.1-py3-none-any.whl.metadata (3.9 kB)
Collecting h11>=0.8 (from uvicorn<0.35,>=0.16->platformio)
  Downloading h11-0.16.0-py3-none-any.whl.metadata (8.3 kB)
Downloading platformio-6.1.18-py3-none-any.whl (420 kB)
Downloading ajsonrpc-1.2.0-py3-none-any.whl (22 kB)
Downloading bottle-0.13.4-py2.py3-none-any.whl (103 kB)
Downloading click-8.1.7-py3-none-any.whl (97 kB)
Downloading marshmallow-3.26.1-py3-none-any.whl (50 kB)
Downloading pyelftools-0.32-py3-none-any.whl (188 kB)
Downloading pyserial-3.5-py2.py3-none-any.whl (90 kB)
Downloading requests-2.32.5-py3-none-any.whl (64 kB)
```

```
Downloading charset_normalizer-3.4.4-cp313-cp313-
manylinux2014_aarch64.manylinux
_2_17_aarch64.manylinux_2_28_aarch64.whl (147 kB)
Downloading idna-3.11-py3-none-any.whl (71 kB)
Downloading semantic_version-2.10.0-py2.py3-none-any.whl (15 kB)
Downloading starlette-0.46.2-py3-none-any.whl (72 kB)
Downloading anyio-4.11.0-py3-none-any.whl (109 kB)
Downloading tabulate-0.9.0-py3-none-any.whl (35 kB)
Downloading urllib3-2.5.0-py3-none-any.whl (129 kB)
Downloading uvicorn-0.34.3-py3-none-any.whl (62 kB)
Downloading wsproto-1.2.0-py3-none-any.whl (24 kB)
Downloading h11-0.16.0-py3-none-any.whl (37 kB)
Downloading certifi-2025.10.5-py3-none-any.whl (163 kB)
Downloading packaging-25.0-py3-none-any.whl (66 kB)
Downloading sniffio-1.3.1-py3-none-any.whl (10 kB)
Downloading colorama-0.4.6-py2.py3-none-any.whl (25 kB)
Installing collected packages: pyserial, pyelftools, bottle,
urllib3, tabulate,                          sniffio, semantic_version,
packaging, idna, h11, colorama, click, charset_normal
izer, certifi, ajsonrpc, wsproto, uvicorn, requests, marshmallow,
anyio, starlet                           te, platformio
Successfully installed ajsonrpc-1.2.0 anyio-4.11.0 bottle-0.13.4
certifi-2025.10                           .5 charset_normalizer-3.4.4
click-8.1.7 colorama-0.4.6 h11-0.16.0 idna-3.11 mars
hmallow-3.26.1 packaging-25.0 platformio-6.1.18 pyelftools-0.32
pyserial-3.5 req                          uests-2.32.5
semantic_version-2.10.0 sniffio-1.3.1 starlette-0.46.2 tabulate-0.9
.0 urllib3-2.5.0 uvicorn-0.34.3 wsproto-1.2.0

PlatformIO Core has been successfully installed into an isolated
environment `/o                          pt/platformio/penv`!

The full path to `platformio.exe` is
`/opt/platformio/penv/bin/platformio`

If you need an access to `platformio.exe` from other applications,
please instal                           l Shell Commands
(add PlatformIO Core binary directory `/opt/platformio/penv/bin` to
the system e                           nvironment PATH variable):

See https://docs.platformio.org/page/installation.html#install-
shell-commands


mesh@mesh:~ $ cd /usr/local/bin
mesh@mesh:/usr/local/bin $ sudo ln -s /opt/platformio/penv/bin/pio
/usr/local/bin/pio
mesh@mesh:/usr/local/bin $ sudo ln -s
/opt/platformio/penv/bin/platformio/usr/local/bin/platformio
mesh@mesh:/usr/local/bin $ sudo ln -s
/opt/platformio/penv/bin/piodebuggdb/usr/local/bin/piodebuggdb
mesh@mesh:/usr/local/bin $ cd ~
```

```
mesh@mesh:~ $ pio --version
PlatformIO Core, version 6.1.18
mesh@mesh:~ $ curl -fsSL
https://raw.githubusercontent.com/platformio/platformio-
core/develop/platformio/assets/system/99-platformio-udev.rules |sudo
tee /etc/udev/rules.d/99-platformio-udev.rules
# Copyright (c) 2014-present PlatformIO <contact@platformio.org>
#
# Licensed under the Apache License, Version 2.0 (the "License");
# you may not use this file except in compliance with the License.
# You may obtain a copy of the License at
#
#    http://www.apache.org/licenses/LICENSE-2.0
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# Unless required by applicable law or agreed to in writing,
software
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied.
# See the License for the specific language governing permissions
and
# limitations under the License.

########################################################################
#################
#
# INSTALLATION
#
# Please visit >
https://docs.platformio.org/en/latest/core/installation/udev-
rules.html
#
########################################################################
#################

#
# Boards
#

# CP210X USB UART
ATTRS{idVendor}=="10c4", ATTRS{idProduct}=="ea[67][013]",
MODE:="0666", ENV{ID_MM_DEVICE_IGNORE}="1",
ENV{ID_MM_PORT_IGNORE}="1"
ATTRS{idVendor}=="10c4", ATTRS{idProduct}=="80a9", MODE:="0666",
ENV{ID_MM_DEVICE_IGNORE}="1", ENV{ID_MM_PORT_IGNORE}="1"

# FT231XS USB UART
ATTRS{idVendor}=="0403", ATTRS{idProduct}=="6015", MODE:="0666",
ENV{ID_MM_DEVICE_IGNORE}="1", ENV{ID_MM_PORT_IGNORE}="1"

# Prolific Technology, Inc. PL2303 Serial Port
```

```
# STLink probes
ATTRS{idVendor}=="0483", MODE="0666", ENV{ID_MM_DEVICE_IGNORE}="1",
ENV{ID_MM_PORT_IGNORE}="1"

# Keil Software, Inc. ULink
ATTRS{idVendor}=="c251", ATTRS{idProduct}=="2710", MODE="0666",
ENV{ID_MM_DEVICE_IGNORE}="1", ENV{ID_MM_PORT_IGNORE}="1"

# CMSIS-DAP compatible adapters
ATTRS{product}=="*CMSIS-DAP*", MODE="0666",
ENV{ID_MM_DEVICE_IGNORE}="1", ENV{ID_MM_PORT_IGNORE}="1"

# Atmel AVR Dragon
ATTRS{idVendor}=="03eb", ATTRS{idProduct}=="2107", MODE="0666",
ENV{ID_MM_DEVICE_IGNORE}="1", ENV{ID_MM_PORT_IGNORE}="1"

# Espressif USB JTAG/serial debug unit
ATTRS{idVendor}=="303a", ATTRS{idProduct}=="1001", MODE="0666",
ENV{ID_MM_DEVICE_IGNORE}="1", ENV{ID_MM_PORT_IGNORE}="1"

# Zephyr framework USB CDC-ACM
ATTRS{idVendor}=="2fe3", ATTRS{idProduct}=="0100", MODE="0666",
ENV{ID_MM_DEVICE_IGNORE}="1", ENV{ID_MM_PORT_IGNORE}="1"
```

Maintenant il faut télécharger le firmware de meshtastic.

https://meshtastic.org/docs/development/firmware/build/

```
$mesh@mesh:~ $ git clone https://github.com/meshtastic/firmware.git
Cloning into 'firmware'...
remote: Enumerating objects: 73677, done.
remote: Counting objects: 100% (560/560), done.
remote: Compressing objects: 100% (296/296), done.
remote: Total 73677 (delta 453), reused 264 (delta 264), pack-reused
73117 (from 3)
Receiving objects: 100% (73677/73677), 113.97 MiB | 11.52 MiB/s,
done.
Resolving deltas: 100% (54273/54273), done.
mesh@mesh:~ $ cd firmware && git submodule update --init
Submodule 'meshtestic' (https://github.com/meshtastic/meshTestic)
registered for path 'meshtestic'
Submodule 'protobufs' (https://github.com/meshtastic/protobufs.git)
registered for path 'protobufs'
Cloning into '/home/mesh/firmware/meshtestic'...
Cloning into '/home/mesh/firmware/protobufs'...
Submodule path 'meshtestic': checked out
'dcac7e5673005f4d8a2b1f0f6e06877b689d7519'
Submodule path 'protobufs': checked out
'bf149bbdcce45ba7cd8643db7cb25e5c8815072b'
mesh@mesh:~/firmware $ git pull --recurse-submodules
Fetching submodule meshtestic
Fetching submodule protobufs
Already up to date.
```

Dans l'exemple qui suit on compile le raspberry pico

```
mesh@mesh:~/firmware $ pio run -e pico
```

Puis après 15 minutes....

```
Linking .pio/build/pico/firmware.elf
Generating UF2 image
picotool uf2 convert -t elf ".pio/build/pico/firmware.elf" ".pio/build/pico/firmware.uf2"
Retrieving maximum program size .pio/build/pico/firmware.elf
Flash size: 2.00MB
Sketch size: 1.50MB
Filesystem size: 0.50MB
PSRAM size: 0.00MB
Maximium Sketch size: 1568768 EEPROM start: 0x101ff000 Filesystem start: 0x1017f000 Filesystem
end: 0x101ff000
Checking size .pio/build/pico/firmware.elf
Advanced Memory Usage is available via "PlatformIO Home > Project Inspect"
RAM:   [===       ]  30.8% (used 80696 bytes from 262144 bytes)
Flash: [======    ]  55.6% (used 871912 bytes from 1568768 bytes)
Building .pio/build/pico/firmware.bin
Building .pio/build/pico/firmware.bin.signed
======================== [SUCCESS] Took 1012.46 seconds ========================

Environment    Status    Duration
-------------  --------  ------------
pico           SUCCESS   00:16:52.461
========================= 1 succeeded in 00:16:52.461 =========================
```

Après plusieurs minutes, le fichier tant attendu `firmware.uf2` se trouve dans le répertoire :

`.pio/build/pico/`

```
mesh@mesh:~/firmware $ ls .pio/build/pico/
firmware.bin                lib28b  lib66c  lib956  libe47
firmware.elf                lib2b7  lib6a4  lib97b  libe81
firmware.uf2                lib2eb  lib71b  liba08  libe9d
FrameworkArduino            lib33c  lib735  liba1c  libebe
FrameworkArduinoBootloader  lib357  lib75f  liba68  libef3
lib032                      lib379  lib77d  libaac  libf17
lib055                      lib3b7  lib78e  libb10  libf31
lib085                      lib4c6  lib7a6  libb5c  libf62
lib0c4                      lib502  lib7ed  libb5d  libf9b
lib0dc                      lib520  lib7f7  libc37  libfad
lib103                      lib5ab  lib7f8  libc6a  libfc3
lib12a                      lib5e6  lib892  libc7b
libFrameworkArduino.a
lib138                      lib5ee  lib8b6  libd38
memmap_default.ld
lib197                      lib604  lib8c2  libdf1  src
lib205                      lib640  lib944  libdfe
mesh@mesh:~/firmware $
```

Pour téléverser l'exécutable sur la carte :

```
pio run -e [nomdumodule] -t upload
```

pour le pico, cette commande est inutile, un simple glisser déposer suffit.

Je n'ai pas encore testé cette commande avec un esp32 avec un firmware meshtastic.

Liste des noms des modules utiliser pour compiler

```
seeed_xiao_nrf52840_e22_900m30s
buildroot
picow
hackerboxes-esp32-io
t-echo
nugget-s2-lora
pico2
rak2560
t-echo-inkhud
hackerboxes-esp32c3-oled
rak4631_nomadstar_meteor_pro_dbg
radiomaster_900_bandit_nano
native-sdl
thinknode_m1
elecrow-adv-35-tft
heltec_sensor_hub
seeed_xiao_nrf52840_e22_900m33s
bpi_picow_esp32_s3
nrf52_promicro_diy-inkhud
seeed_wio_tracker_L1_eink-inkhud
monteops_hw1
rak3312
picomputer-s3-tft
xiao_ble
t-echo-lite
makerpython_nrf52840_sx1280_oled
crowpanel-esp32s3-2-epaper
crowpanel-esp32s3-4-epaper
rak_wismesh_tap_v2-tft
tlora-v2-1-1_6-tcxo
meshtastic-diy-v1_1
seeed-xiao-nrf52840-wio-sx1262
hydra
nano-g2-ultra
t-energy-s3_e22
ESP32-S3-Pico
mesh-tab-3-5-IPS-resistive
meshlink
heltec-mesh-solar
heltec-wireless-tracker-V1-0
m5stack-cores3
pca10059_diy_eink
pico_slowclock
seeed-sensecap-indicator
m5stack-stamp-c3
9m2ibr_aprs_lora_tracker
t-deck
rak4631_eink_onrxtx
EBYTE_ESP32-S3
heltec-wireless-bridge
seeed_wio_tracker_L1_eink
mesh-tab-3-2-IPS-resistive
picomputer-s3
trackerd
heltec-mesh-pocket-10000-inkhud
native-tft-debug
meshtiny
mesh-tab-3-2-IPS-capacitive
chatter2
tlora-pager-tft
feather_rp2040_rfm95
heltec-vision-master-e290-inkhud
my-esp32s3-diy-oled
heltec-vision-master-t190
tlora-t3s3-v1
wio-t1000-s
tlora_v1_3
heltec-v1
heltec-mesh-node-t114-inkhud
 unphone-tft
 heltec-ht62-esp32c3-sx1262
 rak4631
 ME25LS01-4Y10TD_e-ink
 nibble-rp2040
 makerpython_nrf52840_sx1280_eink
 native-tft
 tracksenger-oled
 heltec_capsule_sensor_v3
 nrf52_promicro_diy_xtal
heltec-hru-3601
tbeam-s3-core
 wio-tracker-wm1110
 pico2w
 station-g1
 TWC_mesh_v4
WashTastic
 heltec-mesh-pocket-5000-inkhud
tlora-v1
heltec-vision-master-e290
 heltec-vision-master-e213-inkhud
 meshtastic-dr-dev
 nano-g1
 heltec-wireless-tracker
 rp2040-lora
my-esp32s3-diy-eink
 thinknode_m2
 crowpanel-esp32s3-5-epaper
 wiphone
 radiomaster_900_bandit_micro
 feather_diy
link32-s3-v1
 CDEBYTE_E77-MBL
 rak4631_eth_gw_dbg
 seeed_xiao_nrf52840_kit
 meshlink_eink
 heltec-v2_0
 rak4631_dbg
 tlora-t3s3-epaper
dreamcatcher
 thinknode_m1-inkhud
 tlora-pager
 wio-e5
radiomaster_900_bandit
 rak4631_eink
 CDEBYTE_EoRa-S3
 tlora-t3s3-epaper-inkhud
 betafpv_900_tx_nano
 station-g2
rak3172
heltec-vision-master-e213
 esp32c3_super_mini
 seeed-sensecap-indicator-tft
 ms24sf1
nugget-s3-lora
 rak11200
 tracker-t1000-e
 m5stack-core
 wio-sdk-wm1110
 rak_wismeshtap
 tracksenger-lcd
nano-g1-explorer
 tlora-v2
icarus
 betafpv_2400_tx_micro
 rak11310
 tlora-v2-1-1_6
 tracksenger
ME25LS01-4Y10TD
```

```
heltec-mesh-pocket-10000
heltec-mesh-node-t114
tlora-v3-3-0-tcxo
mesh-tab-3-5-TN-resistive
heltec-wireless-paper
tlora-c6
t-watch-s3
heltec-wireless-paper-v1_0
unphone
heltec-v2_1
t-eth-elite
mesh-tab-4-0-IPS-capacitive
ai-c3
elecrow-adv1-43-50-70-tft
coverage
seeed_wio_tracker_L1
seeed_solar_node
canaryone
seeed-xiao-s3
tbeam0_7
heltec-mesh-pocket-5000
elecrow-adv-24-28-tft
rak4631_eth_gw
meshtastic-diy-v1
thinknode_m5
dreamcatcher-2206
 heltec-wireless-paper-inkhud
pico
rak4631_nomadstar_meteor_pro
 catsniffer
 heltec-wsl-v2_1
gat562_mesh_trial_tracker
 m5stack-coreink
 senselora_rp2040
 t-deck-tft
native
 heltec-v3
mesh-tab-3-2-TN-resistive
 tbeam
tlora-v2-1-1_8
 t-deck-pro
 challenger_2040_lora
 mesh-tab-3-5-IPS-capacitive
 nrf52_promicro_diy_tcxo
nibble-esp32
 native-fb
 rak_wismeshtag
 heltec-wsl-v3
```

Pour mon exemple de compilation précédent avec le rpi pico, le fichier variant.h se trouve dans le répertoire

variants/rp2040/rpipico/.

Exemple de variant.h pour le PICO

```
#define ARDUINO_ARCH_AVR

#define SERIAL_MODULE
#define SERIAL_RX_PIN 9   // RX du module Meshtastic (reçoit depuis
Arduino TX)
#define SERIAL_TX_PIN 8   // TX du module Meshtastic (envoie vers
Arduino RX)
#define SERIAL_BAUD 9600
#define UART_PORT uart1  //pas sur

#define HAS_GPS 1
#define GPS_RX_PIN (1u)
#define GPS_TX_PIN (0u)


#define EXT_NOTIFY_OUT 6
#define BUTTON_PIN 7
#define BUTTON_NEED_PULLUP

#define LED_PIN 13

#define BATTERY_PIN 26
// ratio of voltage divider = 3.0 (R17=200k, R18=100k)
#define ADC_MULTIPLIER 3.1 // 3.0 + a bit for being optimistic
#define BATTERY_SENSE_RESOLUTION_BITS ADC_RESOLUTION

#define USE_RF95
//#define USE_SX1262

#undef LORA_SCK
#undef LORA_MISO
#undef LORA_MOSI
#undef LORA_CS

#define LORA_SCK 10
#define LORA_MISO 12
#define LORA_MOSI 11
#define LORA_CS 3

#define LORA_DIO0 14
#define LORA_RESET 15
#define LORA_DIO1 27
#define LORA_DIO2 RADIOLIB_NC
#define LORA_DIO3 RADIOLIB_NC

#define HAS_NEOPIXEL
#define NEOPIXEL_COUNT 1
#define NEOPIXEL_DATA 16
#define NEOPIXEL_TYPE (NEO_GRB + NEO_KHZ800)
```