Started

1. Prerequisite Item List

Require Tool:

- RaspPi Power Adaptor/USB-C power cable

- MicroSD card USB reader

- Micro HDMI cable

- Mouse and Keyboard

Require Software Install In Window OS:

- Install Raspberry Pi Image (https://www.raspberrypi.com/software/)
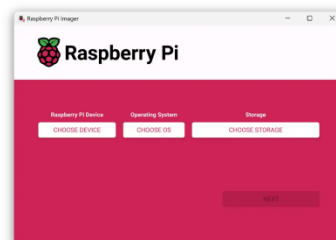
- Install RealVNC Viewer (https://www.realvnc.com/en/connect/download/viewer/?lai_vid=X1y8VO3xrhJe&lai_sr=5-9&lai_sl=l)
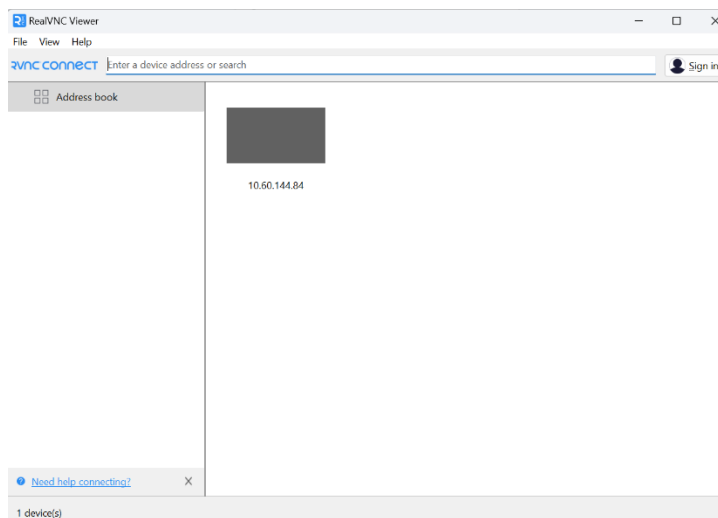
Require OS:

- Install Raspberry Pi OS (https://www.raspberrypi.com/software/operating-systems/)

Raspberry Pi OS (Legacy) Full

A port of Debian Bookworm with security updates, desktop environment and recommended applications

Release date	1 Oct 2025
System	64-bit
Kernel version	6.12
Debian version	12 (bookworm)
Size	3,145 MB

▶ SHA256 file integrity hash

Download
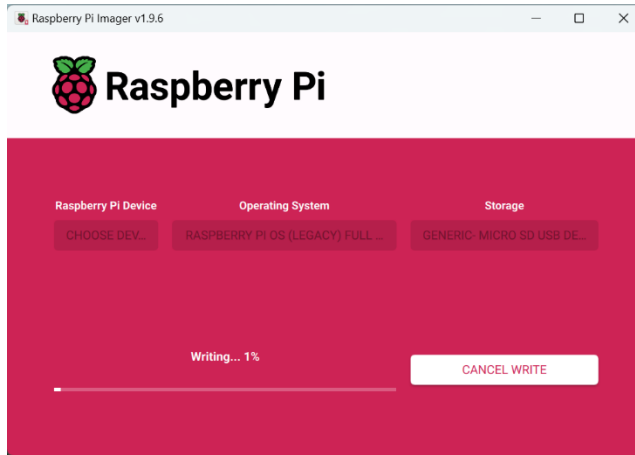
Download torrent

View archive
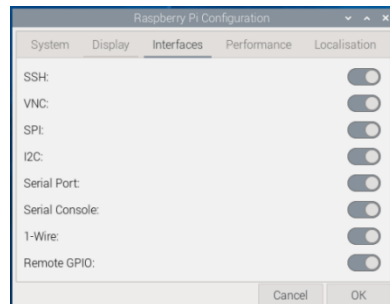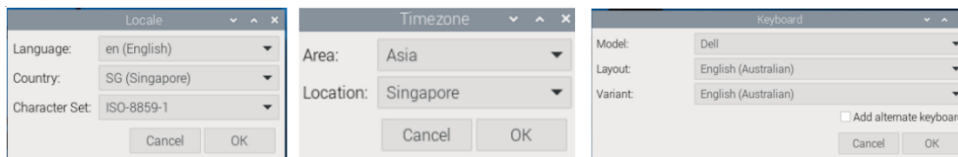
View release notes

2. Initiate Setup

- Install the image into SD card from Windows OS PC

- Go To "Preferences" >> "Raspberry Pi Configuration"

  - "Interfaces" >> Turn On All Interfaces.

  - "Localisation" >> Locale, Timezone, Wireless LAN Country. (SG,Singapore)

- For General Update Require: (MUST)

  sudo apt install apache2 -y

  sudo apt-get upgrade

  sudo apt update

  sudo apt full-upgrade

  sudo reboot

- Install Development IDE

  sudo apt install code

  sudo apt update

- Python Environment Setup: (OPTIONAL)

  sudo apt install python3 idle3

  sudo apt install python3-pip

  sudo apt-get install python3-spidev

  sudo apt-get install python3-gpiozero

  sudo apt install python3-flask

- For GPIO Lib Setup: (MUST)

  sudo apt install libgpiod-dev

- For DQGHATS Setup: (MUST)

  sudo apt install git -y

  cd ~

  git clone https://github.com/mccdaq/daqhats.git

  cd ~/daqhats

  sudo ./install.sh

(For Python environment)

cd /

sudo python3 -m venv "pyvenv"

sudo chmod 777 "pyvenv"

sudo /pyvenv/bin/pip install daqhats

sudo /pyvenv/bin/pip install dash

cd ~/daqhats
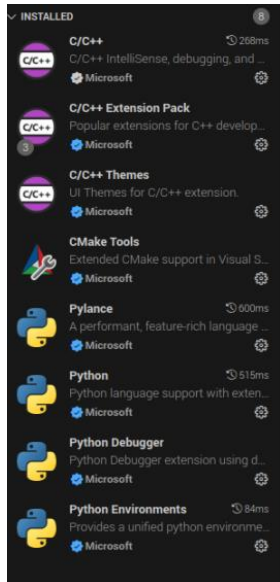
sudo /pyvenv/bin/python setup.py install

sh -c '/pyvenv/bin/python ~/daqhats/examples/python/mcc118/web_server/web_server.py'
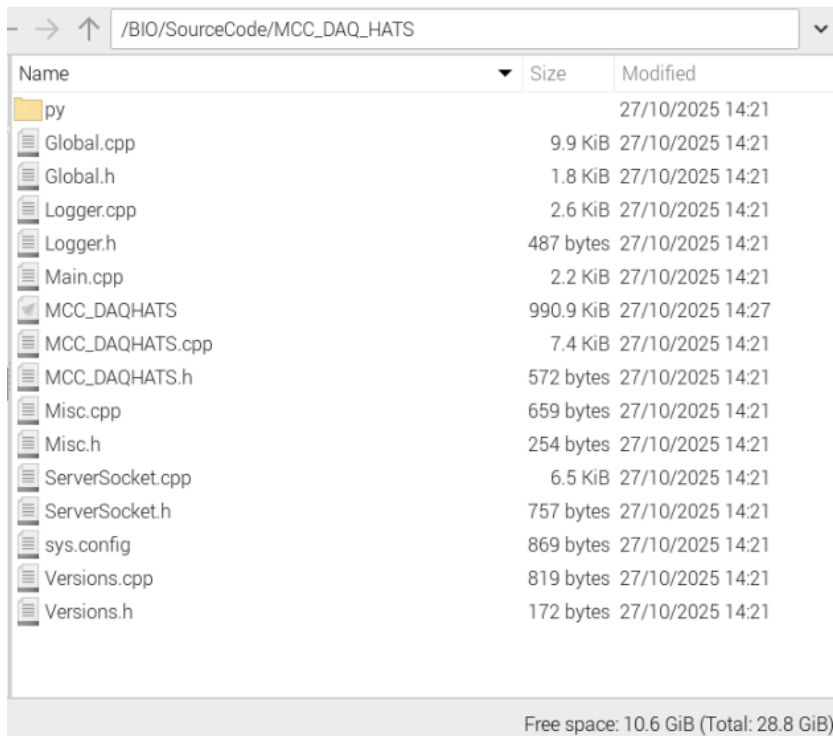
http://localhost:8080/

3. VSCODE

VSCODE Extension Require:

Source Code:

/BIO/SourceCode/MCC_DAQ_HATS

Release:

/BIO/Program/MCC_DAQ_HATS

/BIO/Program/MCC_DAQ_HATS		
Name	Size	Modified
log		27/10/2025 14:44
MCC_DAQHATS	990.9 KiB	27/10/2025 14:27
sys.config	869 bytes	27/10/2025 14:21

Logs:

/BIO/Program/MCC_DAQ_HATS/log

/BIO/Program/MCC_DAQ_HATS/log		
Name	Size	Modified
log_20251027_00.txt	125.1 KiB	27/10/2025 15:02

4. Service List

The List as below:

- rc-local.service

- pyweb.service

- nmbd.service

- smbd.service

```
pi@raspberrypi:/ $ systemctl list-units --type=service --state=running
  UNIT                          LOAD   ACTIVE SUB     DESCRIPTION
  accounts-daemon.service       loaded active running Accounts Service
  apache2.service               loaded active running The Apache HTTP Server
  avahi-daemon.service          loaded active running Avahi mDNS/DNS-SD Stack
  bluetooth.service             loaded active running Bluetooth service
  cron.service                  loaded active running Regular background program processing daemon
  cups-browsed.service          loaded active running Make remote CUPS printers available locally
  cups.service                  loaded active running CUPS Scheduler
  dbus.service                  loaded active running D-Bus System Message Bus
  getty@tty1.service            loaded active running Getty on tty1
  lightdm.service               loaded active running Light Display Manager
  ModemManager.service          loaded active running Modem Manager
  NetworkManager.service        loaded active running Network Manager
  nmbd.service                  loaded active running Samba NMB Daemon
  polkit.service                loaded active running Authorization Manager
  pyweb.service                 loaded active running my server
  rc-local.service              loaded active running /etc/rc.local Compatibility
  rtkit-daemon.service          loaded active running RealtimeKit Scheduling Policy Service
  serial-getty@ttyAMA10.service loaded active running Serial Getty on ttyAMA10
  smbd.service                  loaded active running Samba SMB Daemon
  ssh.service                   loaded active running OpenBSD Secure Shell server
  systemd-journald.service      loaded active running Journal Service
  systemd-logind.service        loaded active running User Login Management
  systemd-timesyncd.service     loaded active running Network Time Synchronization
  systemd-udevd.service         loaded active running Rule-based Manager for Device Events and Files
  triggerhappy.service          loaded active running triggerhappy global hotkey daemon
  udisks2.service               loaded active running Disk Manager
  user@1000.service             loaded active running User Manager for UID 1000
  wayvnc-control.service        loaded active running VNC Control Service
  wayvnc.service                loaded active running VNC Server
  wpa_supplicant.service        loaded active running WPA supplicant

LOAD   = Reflects whether the unit definition was properly loaded.
ACTIVE = The high-level unit activation state, i.e. generalization of SUB.
SUB    = The low-level unit activation state, values depend on unit type.
30 loaded units listed.
```