

Setting up the Raspberry Pi Zero 2 W to use SSH

Hostname: rpiw2,

Username: Pi,

Password: ?????

ssh pi@rpiw2

SSID ???

SSID Password ???

Set up a simple web browser to download samples:-

<http://rpiw2/>

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The manual seems to suggest it is possible to get it to stream selected readings at a regular time interval. It should be possible to set up the Raspberry Pi Zero to capture these and log to a file.

This file can be downloaded to a PC , using SCP or a simple web server.

TUF-2000M User Manual

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M51	Window to setup the time of scheduled output function (data logger, or Thermo-printer). This includes start time, time interval and how many times of output. When a number great than 8000 entered for the times of output, It means the output will be keeping always. The minimum time interval is 1 second and the maximum is 24 hours.
M52	Data logging direction control. (1) If 'Send to RS485' is selected, all the data produced by the data logger will be transmitted out through the RS-232/RS485 interface (2) If 'To the internal serial BUS is selected, the data will be transmitted to the internal serial bus which allows a thermal printer, or a 4-20mA analog output module, to be connected to it.

Pragmatic logging commands

Once set up these commands can possibly be used:

`sudo shutdown`

`##= the RS485 device could be /dev/ttyACM0 or /dev/ttyUSB0`

`cat /dev/ttyACM0`

`mkdir www`

`date >> ~/www/capture.csv`

`cat /dev/ttyACM0 >> ~/www/capture.csv`

Use STTY to check device:

stty -help

stty -F /dev/ttyACM0 -a

stty -F /dev/ttyACM0 speed 9600

use this command to capture

```
nohup cat /dev/ttyACM0 >> ~/www/capture.csv &
```

```
tail -f ~/www/capture.csv
```

```
sudo busybox httpd -p 0.0.0.0:80 -h /home/pi/www
```

```
http://rpiw2/capture.csv
```

in Windows command Prompt get the file using scp.

```
scp pi@rpiw2:~/www/capture.csv
```

```
#for the XY-MD01 MODBUS , send AUTO to get it to stream
```

```
echo 'AUTO' > /dev/ttyACM0
```

```
sleep 1
```

```
cat /dev/ttyACM0
```

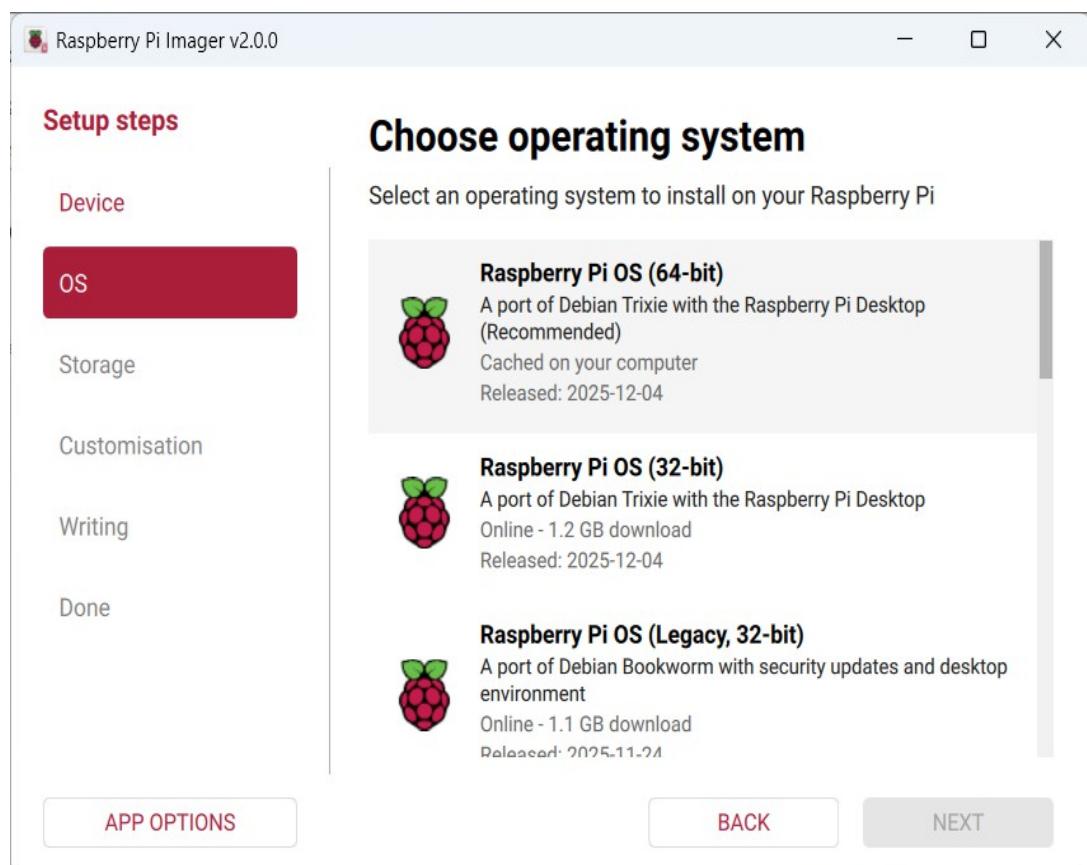
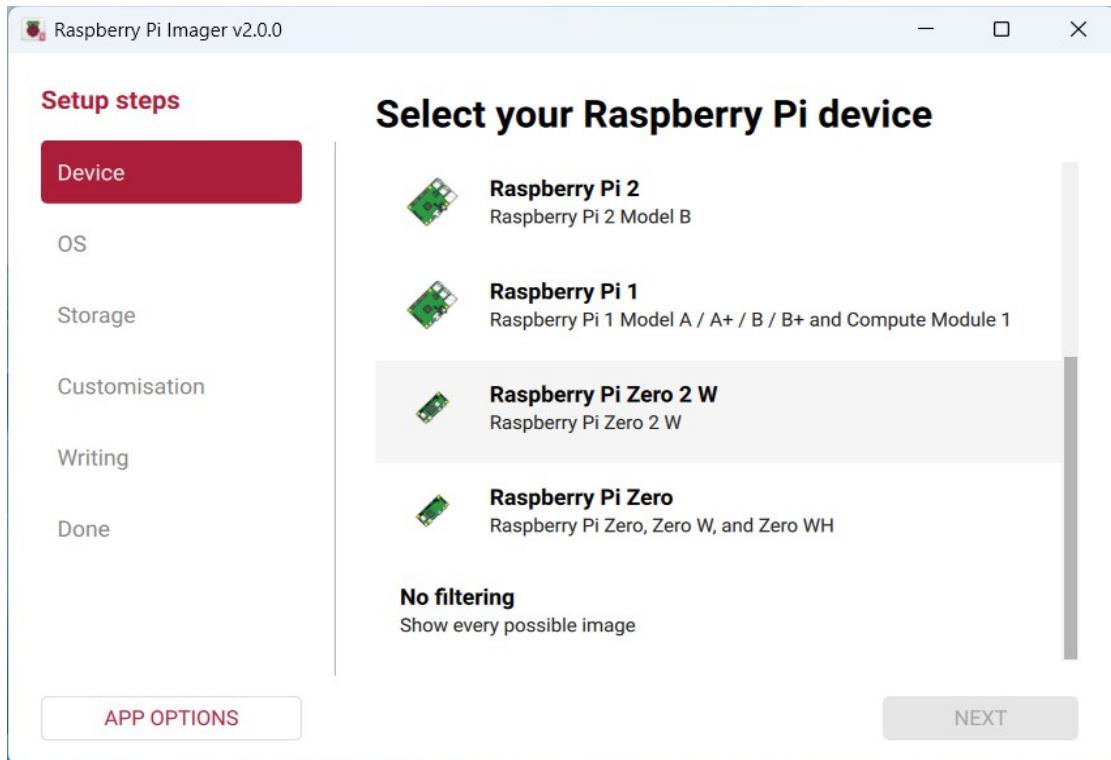
```
echo 'STOP' > /dev/ttyACM0
```

```
cat /dev/ttyACM0
```

Setting up the Raspberry Pi Zero 2 W

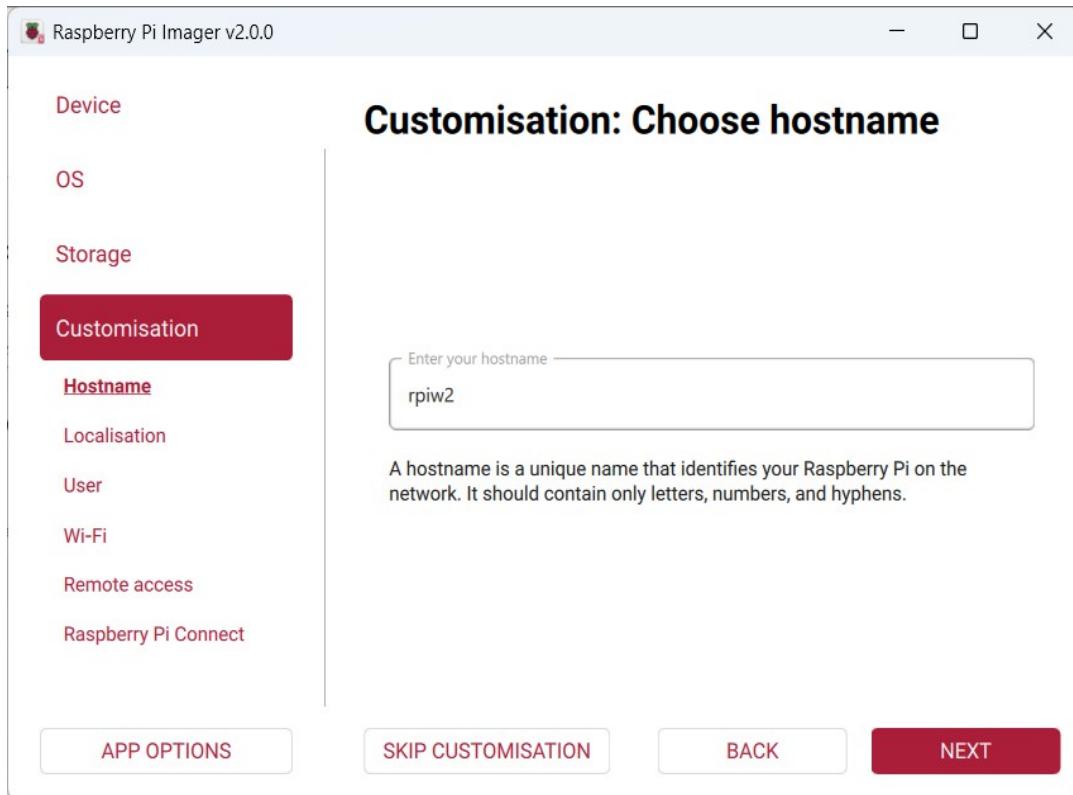
Download the imager from <https://www.raspberrypi.com/software/>

and open it. Select Raspberry Pi Zero 2W , check the Pi Zero to see what you have.

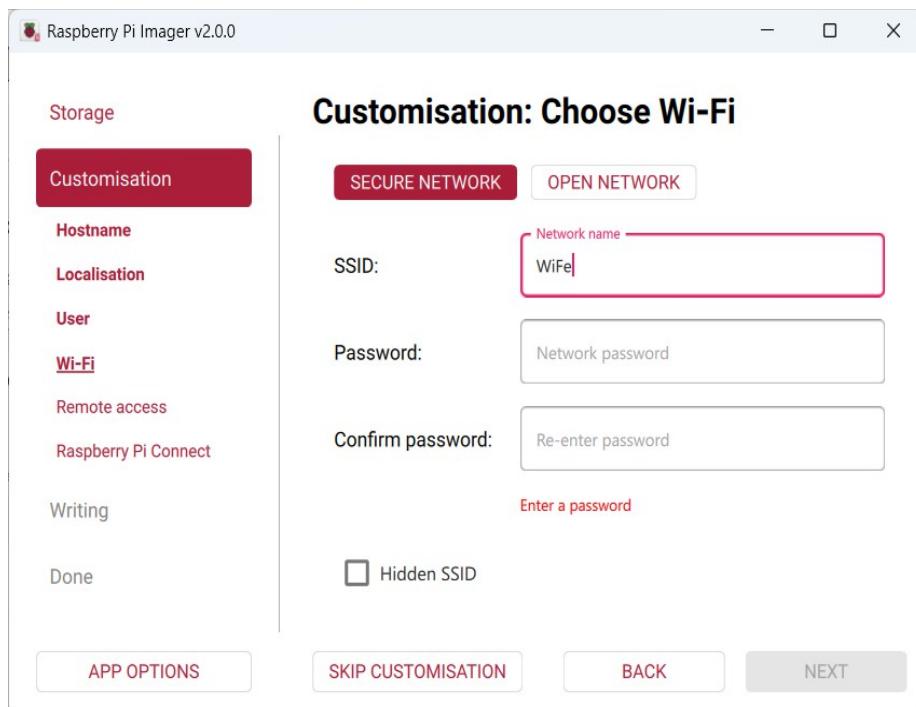


Might as well install the recommended version.

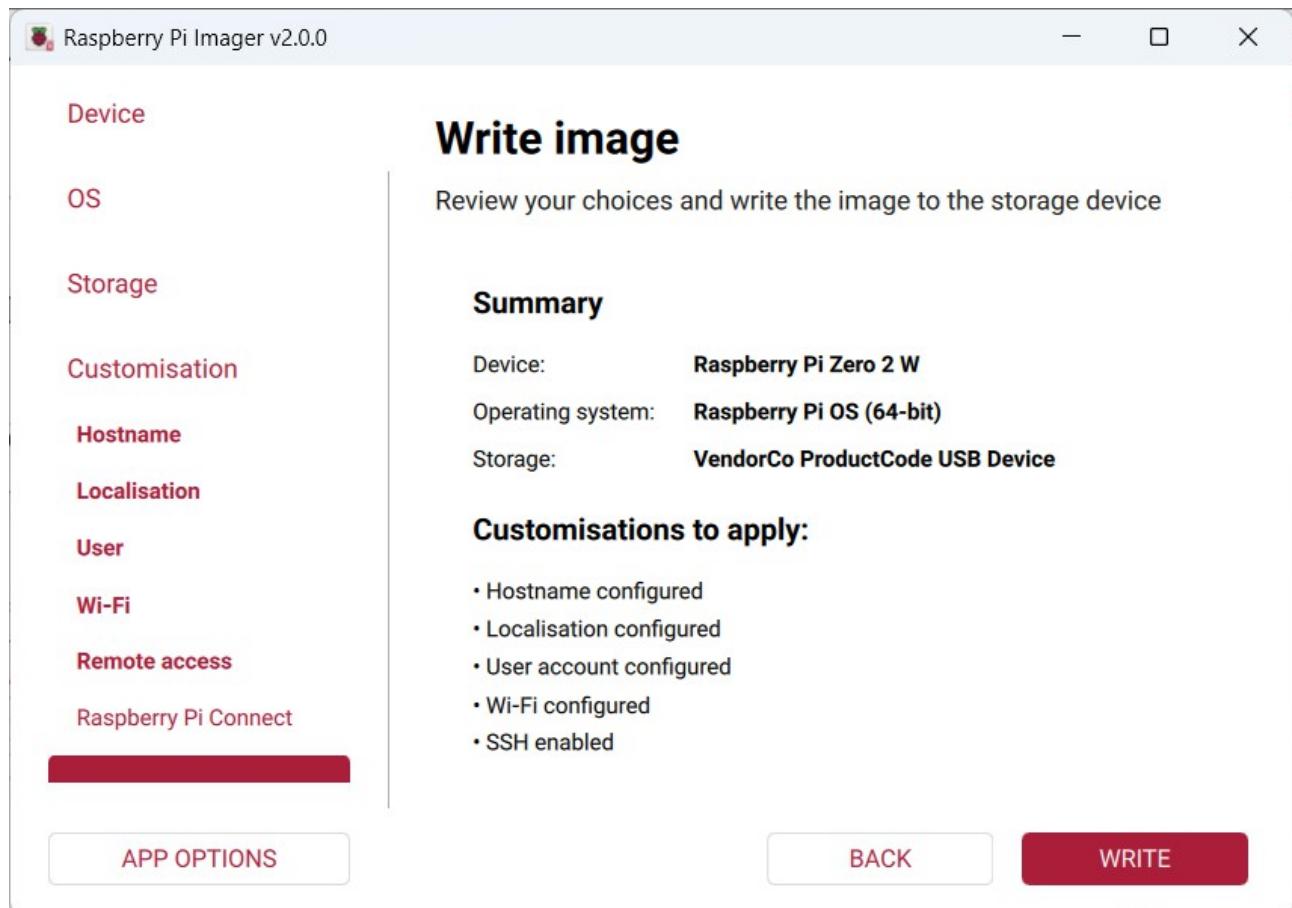
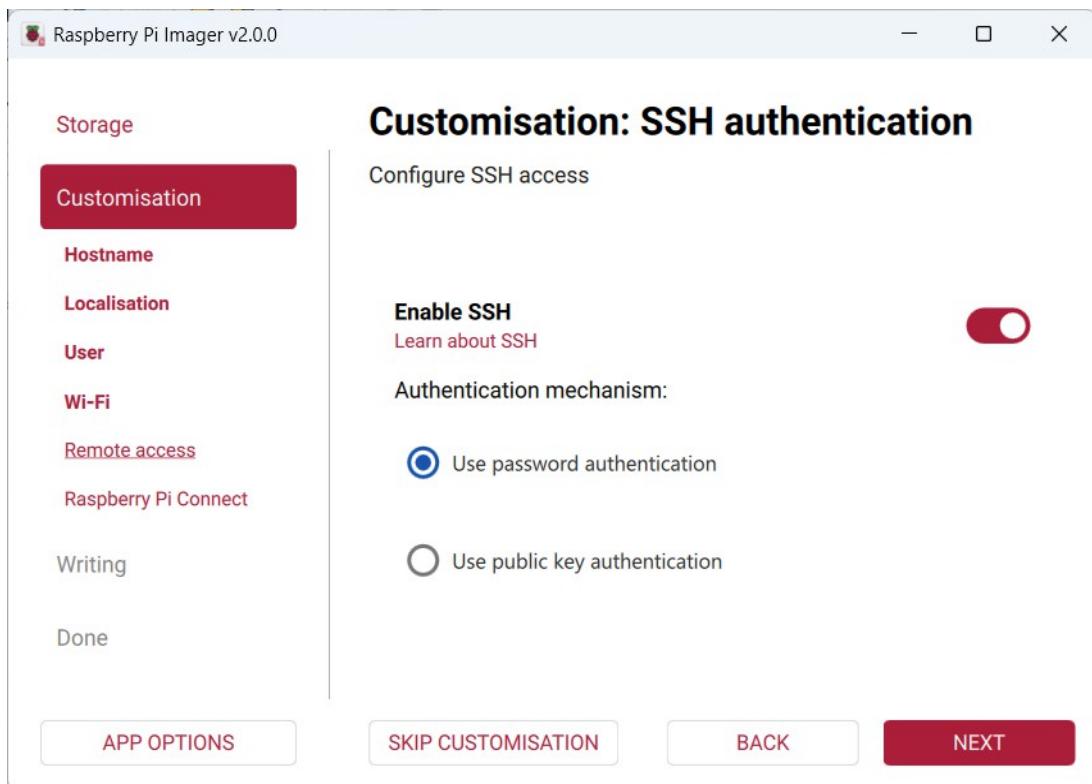
Plug in MicroSD card to be used. The imager should list one device to write to.



Set up the WiFi SSID and password - IMPORTANT

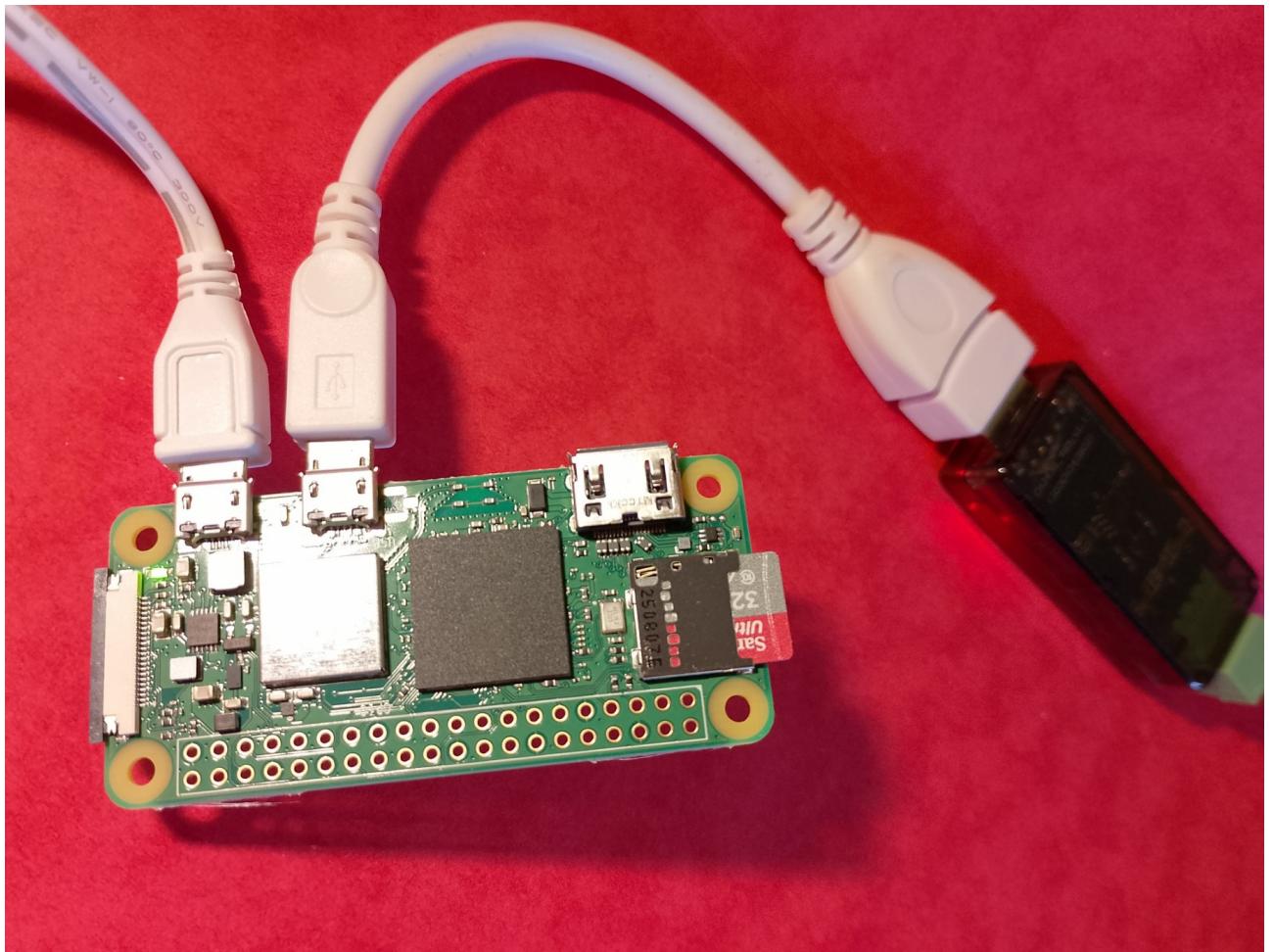


Important: Enable SSH

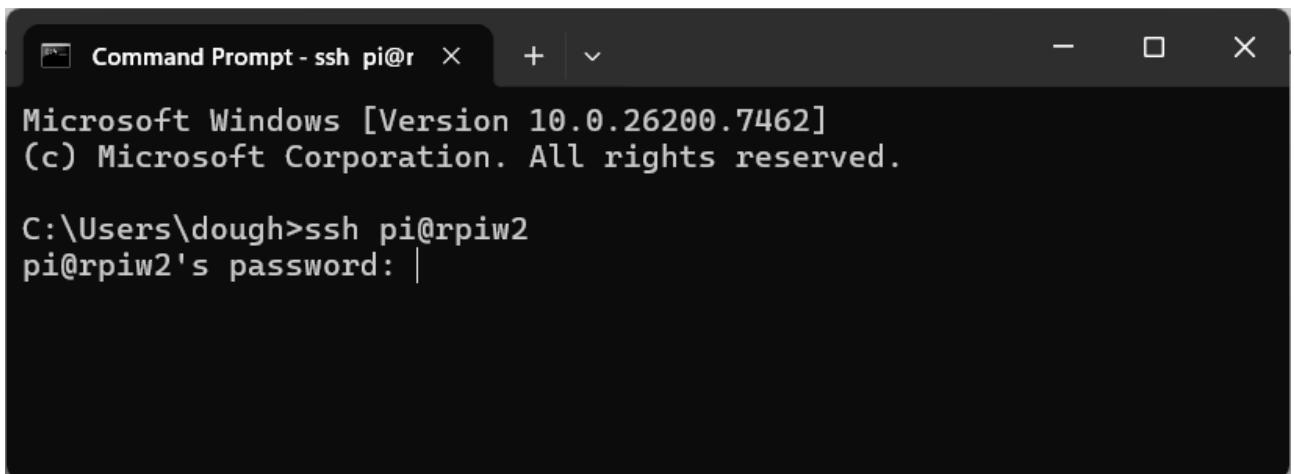


Using the new MicroSD in the Raspberry Pi Zero 2 W

Once the MicroSD card has been written and verified, remove it and put it into the Raspberry Pi Zero 2 W



Connect the Power supply, and wait for the LED to settle down. Now use Command Prompt



```
Microsoft Windows [Version 10.0.26200.7462]
(c) Microsoft Corporation. All rights reserved.

C:\Users\dough>ssh pi@rpiw2
pi@rpiw2's password: |
```

We should get to the command prompt.

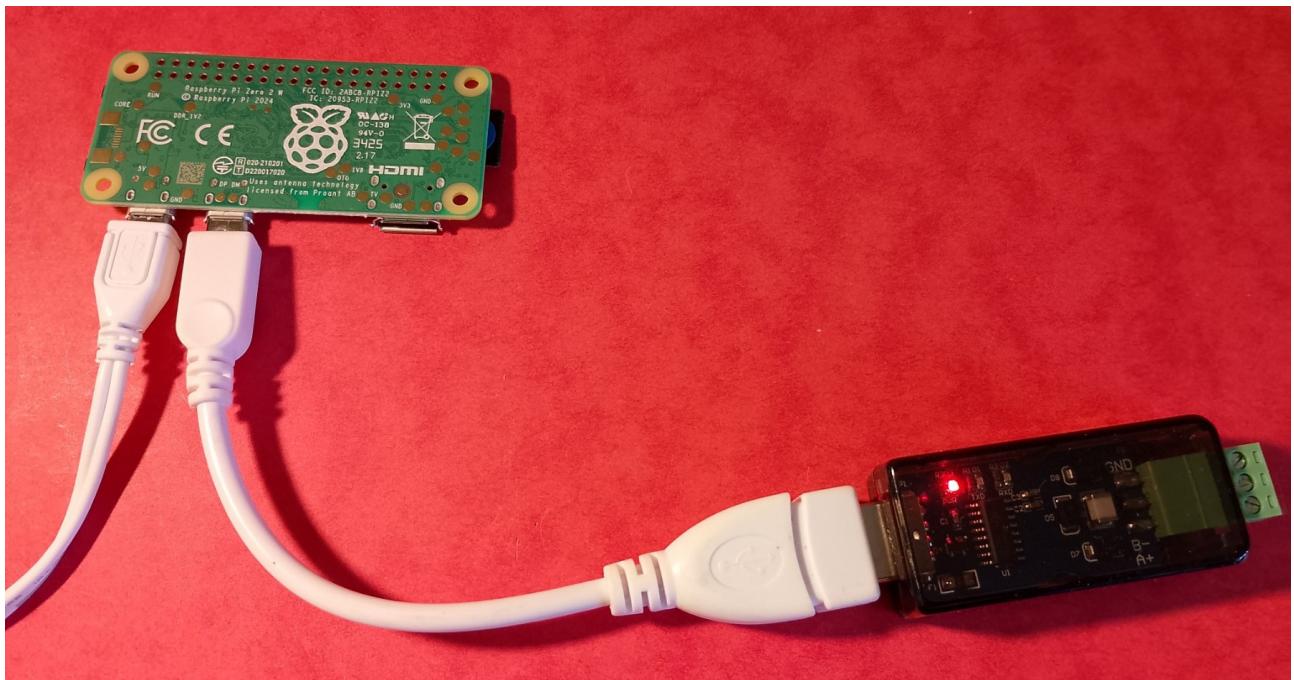
```
pi@rpiw2: ~      X  +  v      -  □  X
C:\Users\dough>ssh pi@rpiw2
pi@rpiw2's password:
Linux rpiw2 6.12.47+rpt-rpi-v8 #1 SMP PREEMPT Debian 1:6.12.47-1+rpt1 (2025-09-16) aarch64

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.
Last login: Wed Dec 24 08:43:26 2025 from 192.168.1.187
pi@rpiw2:~ $
```

We are at the command prompt:

Connect RS485 dongle and later the TUF-2000M and use menu 50, 51,52 to get it to log to the RS-485 dongle



The RS-485 dongle is likely to be device /dev/ttyACM0 or /dev/ttyUSB0 check using

```
ls /dev/*
```

use :-

```
ls -l /dev/tty* command
```



A terminal window titled 'pi@rpiw2: ~' showing the output of the 'ls -l /dev/tty*' command. The output lists various TTY devices with their permissions, owners, and creation times. The window has a standard Linux terminal interface with tabs and a title bar.

```
pi@rpiw2: ~ ls -l /dev/tty*
crw----- 1 root  tty      4,  54 Dec 24 08:32 /dev/tty54
crw----- 1 root  tty      4,  55 Dec 24 08:32 /dev/tty55
crw----- 1 root  tty      4,  56 Dec 24 08:32 /dev/tty56
crw----- 1 root  tty      4,  57 Dec 24 08:32 /dev/tty57
crw----- 1 root  tty      4,  58 Dec 24 08:32 /dev/tty58
crw----- 1 root  tty      4,  59 Dec 24 08:32 /dev/tty59
crw----- 1 root  tty      4,   6 Dec 24 08:32 /dev/tty6
crw----- 1 root  tty      4,  60 Dec 24 08:32 /dev/tty60
crw----- 1 root  tty      4,  61 Dec 24 08:32 /dev/tty61
crw----- 1 root  tty      4,  62 Dec 24 08:32 /dev/tty62
crw----- 1 root  tty      4,  63 Dec 24 08:32 /dev/tty63
crw----- 1 pi    tty      4,   7 Dec 24 08:32 /dev/tty7
crw----- 1 root  tty      4,   8 Dec 24 08:32 /dev/tty8
crw----- 1 root  tty      4,   9 Dec 24 08:32 /dev/tty9
crw-rw---- 1 root  dialout 166,  0 Dec 24 10:13 /dev/ttyACM0
crw----- 1 root  root      5,   3 Dec 24 08:32 /dev/ttyprintk
crw-rw---- 1 root  dialout  4,  64 Dec 24 08:32 /dev/ttyS0
pi@rpiw2: ~ $ ls -l /dev/tty*
```

it lists /dev/ttyACM0.

See if data is being received

```
cat /dev/ttyACM0
```

Check port configuration using:-

```
stty -F /dev/ttyACM0
```

I have an Arduino programed to write to the Serial port /dev/USB0 every few seconds.

Connect the RS485 dongle to the TUF-2000M RS485 module and configure menu

```
## the RS485 device could be /dev/ttyACM0 or /dev/ttyUSB0
```

```
cat /dev/ttyACM0
```

Set up a folder to

```
mkdir www
```

```
nohup cat /dev/ttyUSB0 > ~/www/capture.csv &
```

```
nohup cat /dev/ttyACM0 > ~/www/capture.csv &  
tail -f ~/www/capture.csv
```

Add date and some CSV values to capture.csv

```
date >> ~/www/capture.csv  
echo "==== Comment" >> ~/www/capture.csv
```

Set up a simple web server and index page to help get data off the Raspberry Pi Zero

```
sudo busybox httpd -p 0.0.0.0:80 -h /home/pi/www  
http://rpiw2/capture.csv
```

in Windows command Prompt get the file using scp.

```
scp pi@rpiw2:~/www/captive
```

On the Raspberry Pi Zero 2W:

```
cd ~/www
```

Use Nano to edit this webpage:

```
nano index.html
```

```
<!doctype html>  
<html>  
<body>  
<P>Hello </P>  
<P><a href=/capture.csv> CSV samples </a></P>  
</body>  
</html>
```

Using a web browser, open

<http://rpiw2/>

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