Installing Klipper on Artillery Sidewinder X2

Website : https://papy-3d-factory.xyz

Tiktok : https://www.tiktok.com/@papy_3d_factory

Github : https://github.com/Papy-3D-Factory?tab=repositories/

The objective of this tutorial is to allow you to install Klipper on an Artillery Sidewinder X2 printer.

!! Warning !! Please read this before performing any manipulation.

This procedure has been tested and approved, it is functional ONLY for the Artillery Sidewinder X2 associated with a Bigtreetech Pi (Btt Pi v1.2).

(this procedure is NOT valid for a Raspberry pi, Orange Pi or any other Pad!!!)

I would also like to remind you that there is always a potential risk of blocking your motherboard in the event of a power cut or handling error.

I cannot be held responsible for any damage caused, although generally there are rarely any problems.

You are responsible for the manipulations made on your devices.

The objective of this tutorial is not to create a Pad klipper. The administration of Klipper will therefore be done from your computer (or tablet, telephone).

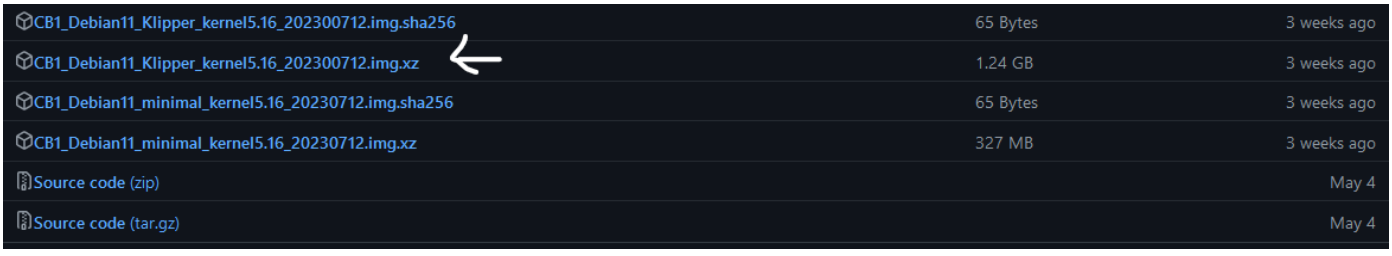
The primary goal is to provide a solution, as economical as possible, in order to be able to control your 3D printer with Klipper.

Without screen, the Btt Pi v1.2 will cost you less than 40 euro...

However, if you later want to add a screen to the Btt Pi, this is quite possible and will therefore transform your Btt Pi into a Pad.

To successfully install Klipper on your Artillery Sidewinder X2 you will need the following items:

- An Artillery Sidewinder X2 printer
- A motherboard **Btt Pi v1.2** https://biqu.equipment/products/bigtreetech-btt-pi-v1-2
- The software **Raspberry Pi Imager** https://www.raspberrypi.com/software/
- The **image OS** provided by Bigtreetech https://github.com/bigtreetech/CB1/releases



- A good quality **microSD card** (example SanDisk) with a capacity of at least 16GB
- The software **Pronterface** https://www.pronterface.com/
- The software **MobaXterm** https://mobaxterm.mobatek.net/download-home-edition.html

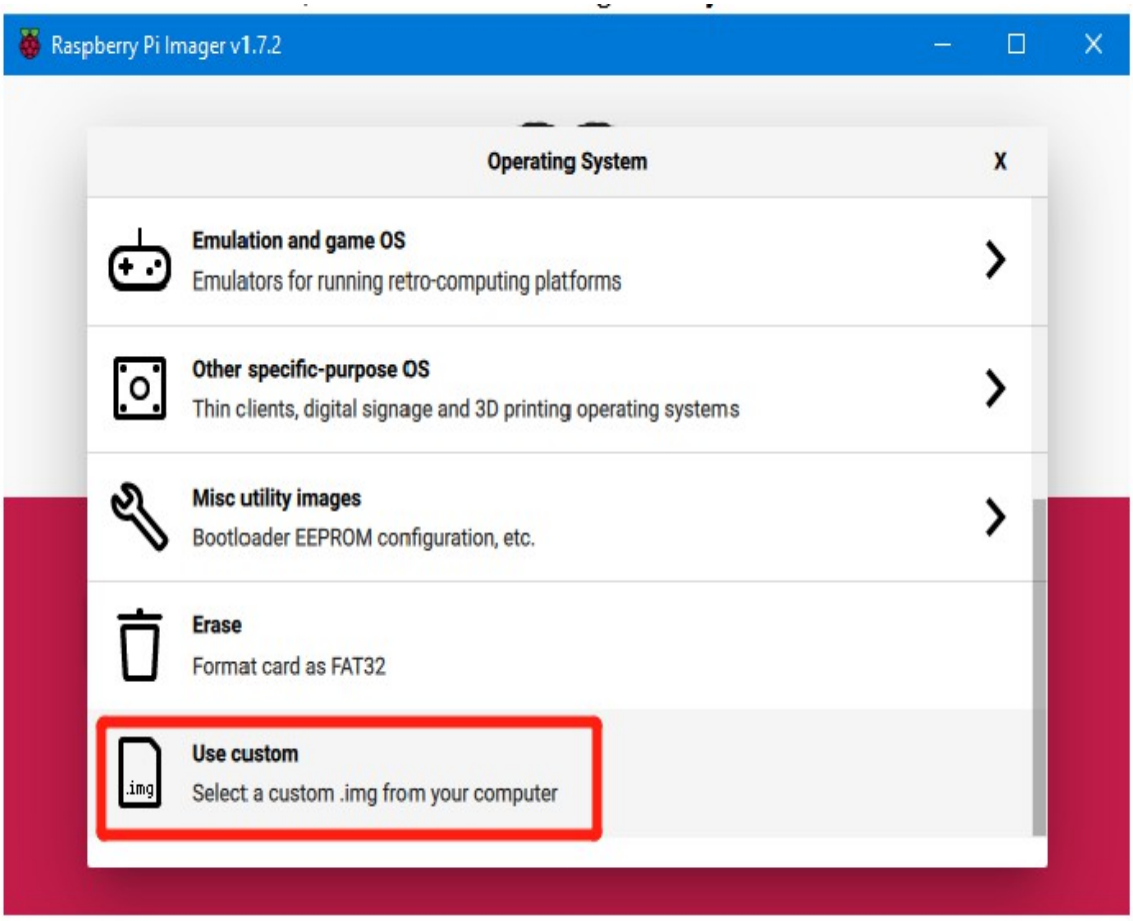
Step No 1: Installing the OS image on the microSD card

Launch Raspberry Pi Imager

Insert the microSD card into your computer

Click on "CHOOSE OS"

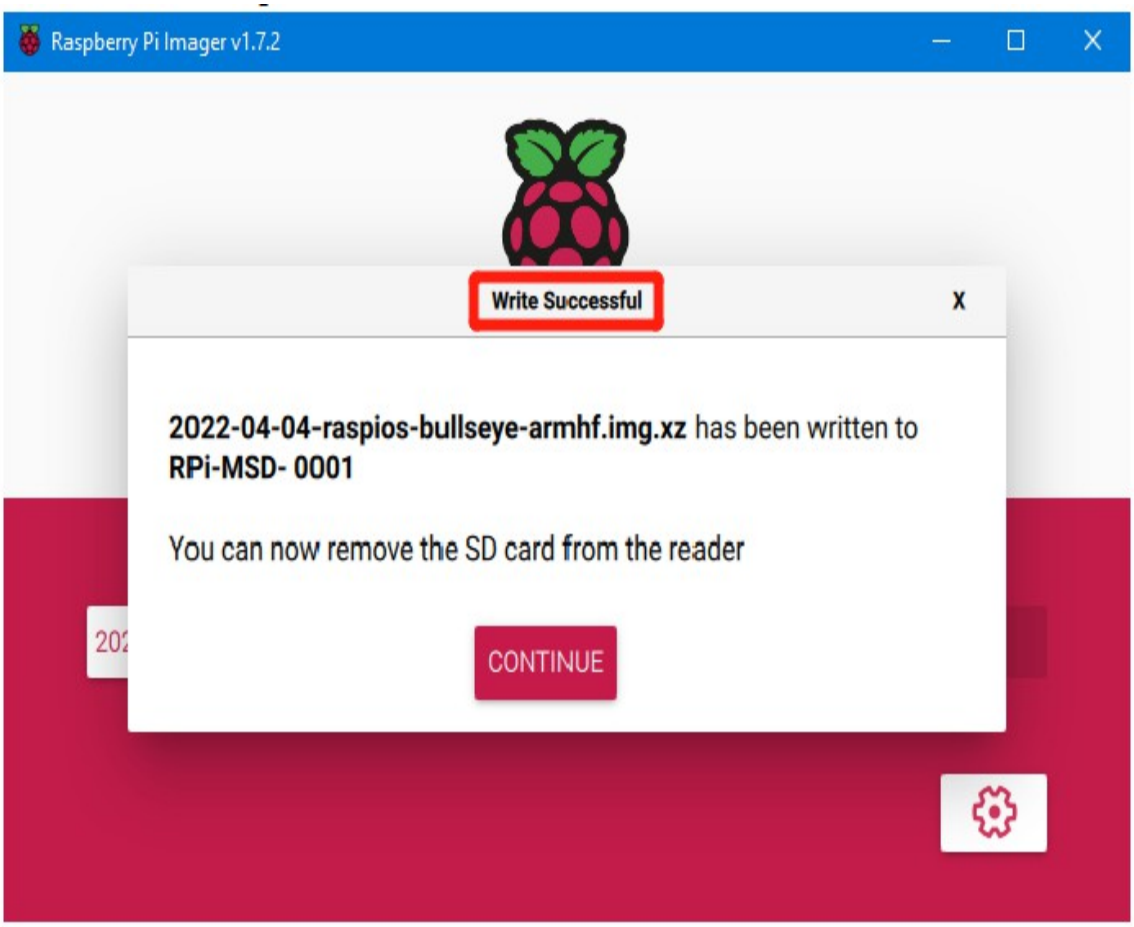
Select "USE CUSTOM" then choose the OS image you downloaded.



Select the microSD card then click on "WRITE".

Be careful not to touch the additional options, this will have the effect of blocking the OS at startup.

Wait for the end of the writing of the OS on the microSD card

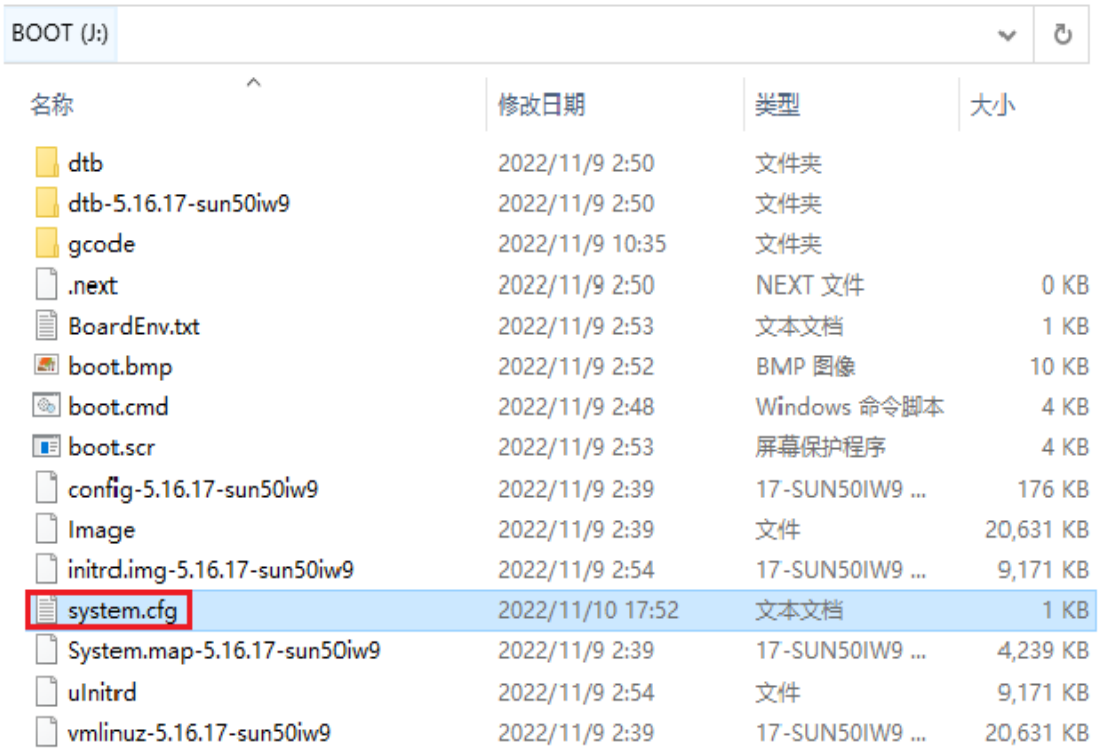


Step 2: Configuring network settings

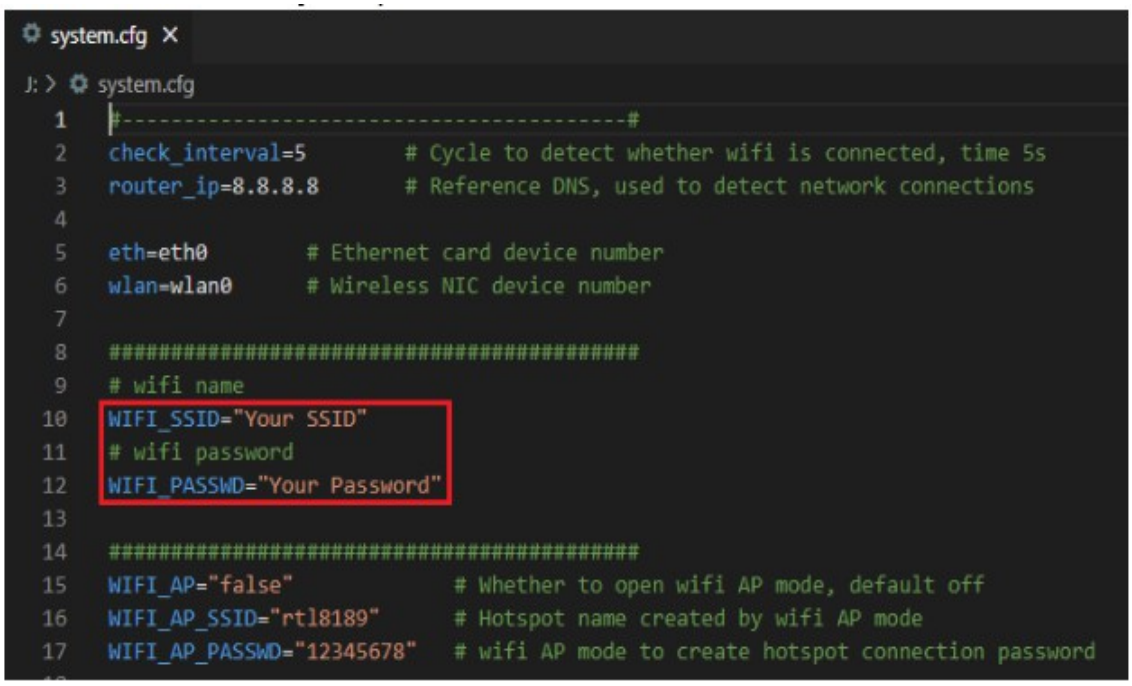
Wi-Fi settings :

Once the writing of the OS to the microSD card is complete, you will find a FAT32 partition recognized by your computer as a "BOOT" disk.

Open the drive (BOOT) then search for the "system.cfg" file



Open the "system.cfg" file with NOTEPAD and replace the WIFI-SSID with the name of your WIFI network, the PASSWORD with your WIFI password, then save the file.



You can now remove the microSD card from your computer to insert it into the Btt Pi.

Start the Btt pi.

Wait 1-2 minutes for the system to load.

The Btt Pi will automatically be assigned an IP address.

To know the ip address assigned to the Btt Pi you can either consult the data of your router or follow the following tutorial:

https://www.malekal.com/comment-faire-un-scan-ip-reseau-local-lan/

Your Btt pi will be identified as **BTT-CB1**

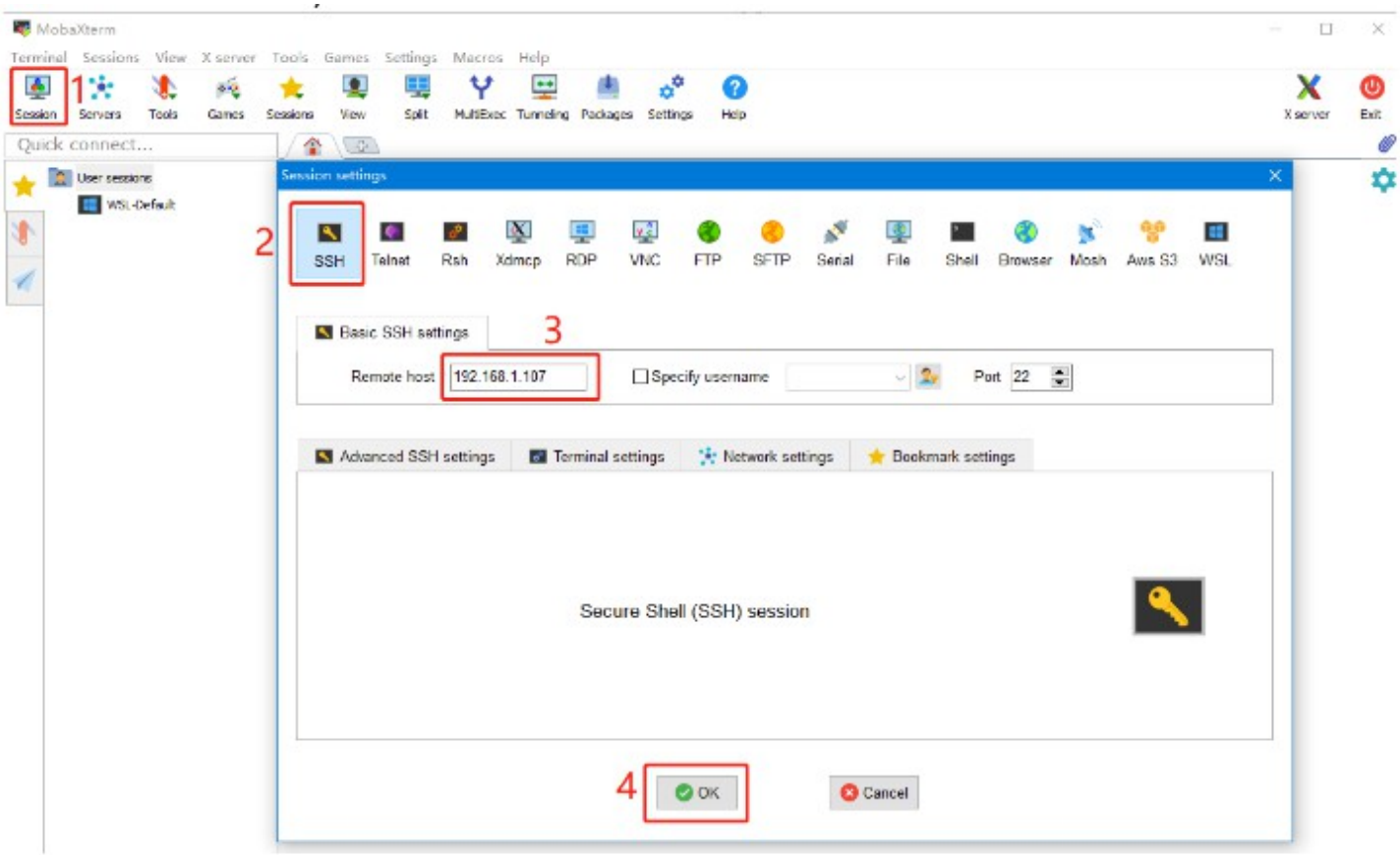
Step No 3: Configuring the Btt Pi

Install the Mobaxterm software and launch it

Click on “Session” then on “SSH”

Enter the IP address of the Btt Pi in the “Remote host” box

Click on “OK”

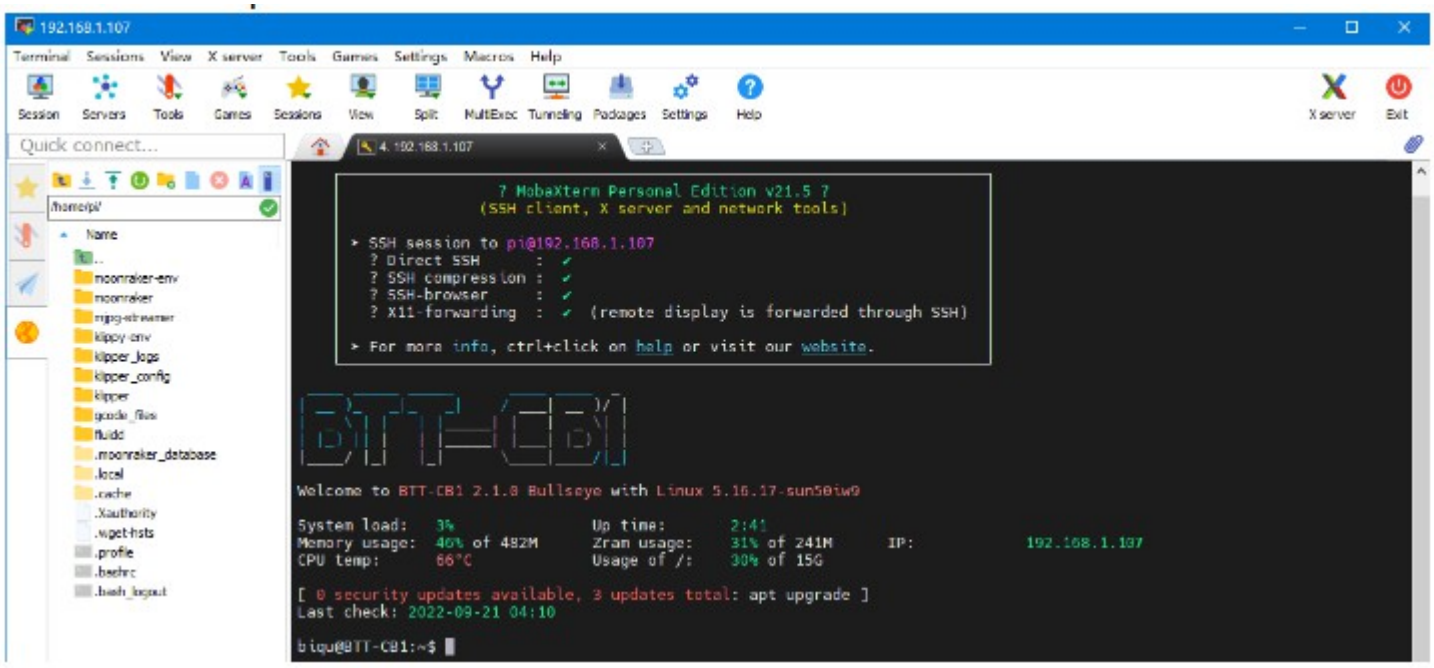


Note: your computer and your Btt Pi must be on the SAME local network.

Once the connection has been established with your Btt Pi, enter the identifiers to log in:

Login : biqu

Password : biqu



Compiling firmware :

Once logged in, type in the terminal :

cd klipper

make menuconfig

The following configuration window will be displayed, with the keyboard movement keys reproduce the configuration as shown below :

[*] Enable extra low-level configuration options

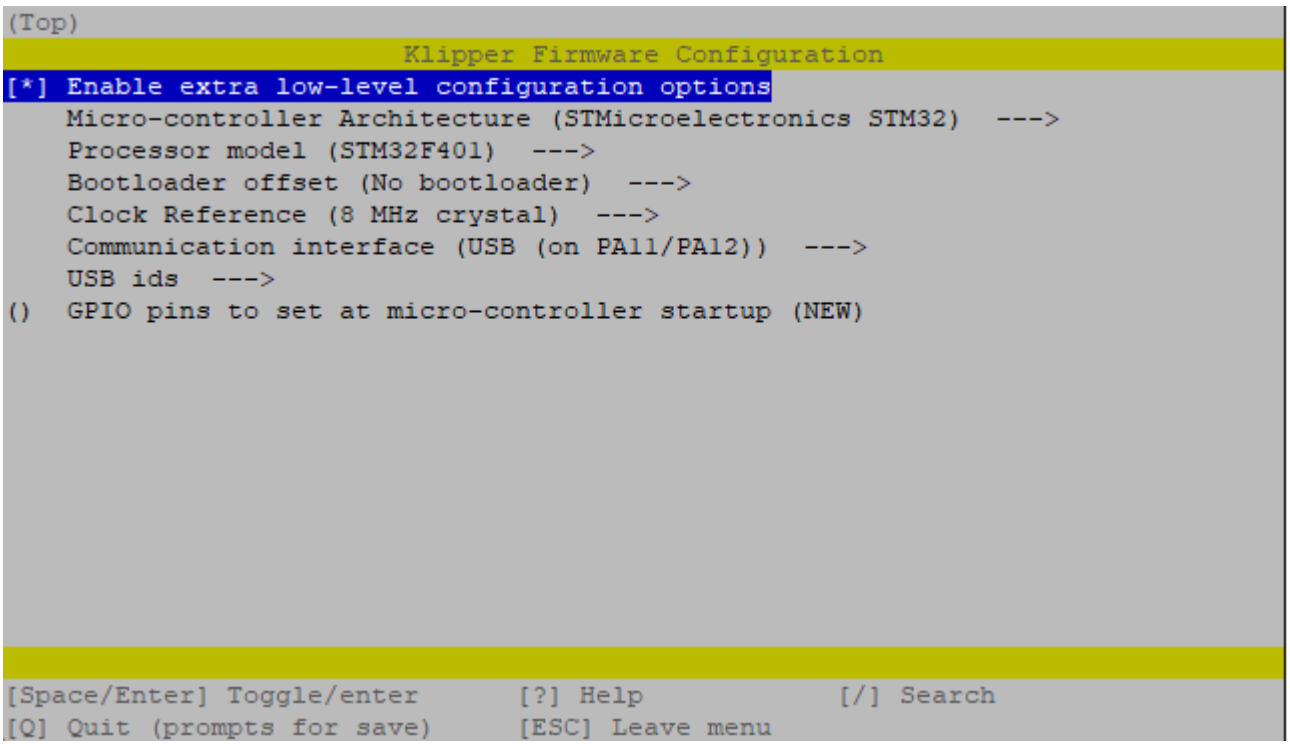
Micro-controller Architecture (STMicroelectronics STM32) --->

Processor model (STM32F401) --->

Bootloader offset (No bootloader) --->

Clock Reference (8 MHz crystal) --->

Communication interface (USB (on PA11/PA12)) --->



Press 'q' and 'Y' to save the configuration.

type MAKE to compile the firmware.

The “klipper.bin” file will be generated and saved on your Btt Pi.

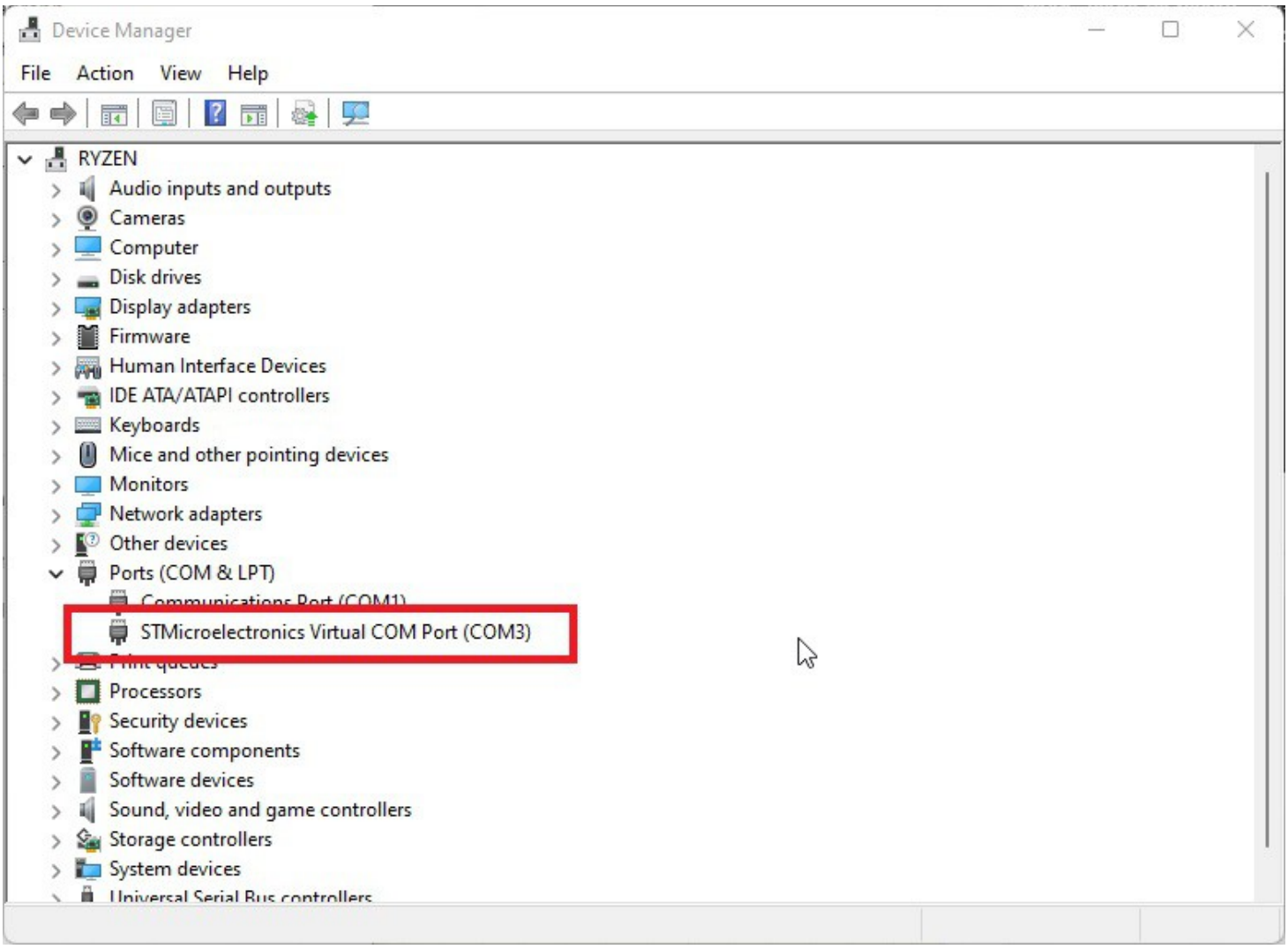
Step No 4: Printer flash

Switch the printer to DFU mode :

The Ruby 1.2 card used by Artillery printers must be put into DFU mode in order to flash the firmware.

This is done using the M997 command from a terminal window.

Connect your printer to the computer via a USB cable and check the COM port in Device Manager. In my case it is COM3



Open Pronterface and connect to printer using COM port and baud rate of 115200.

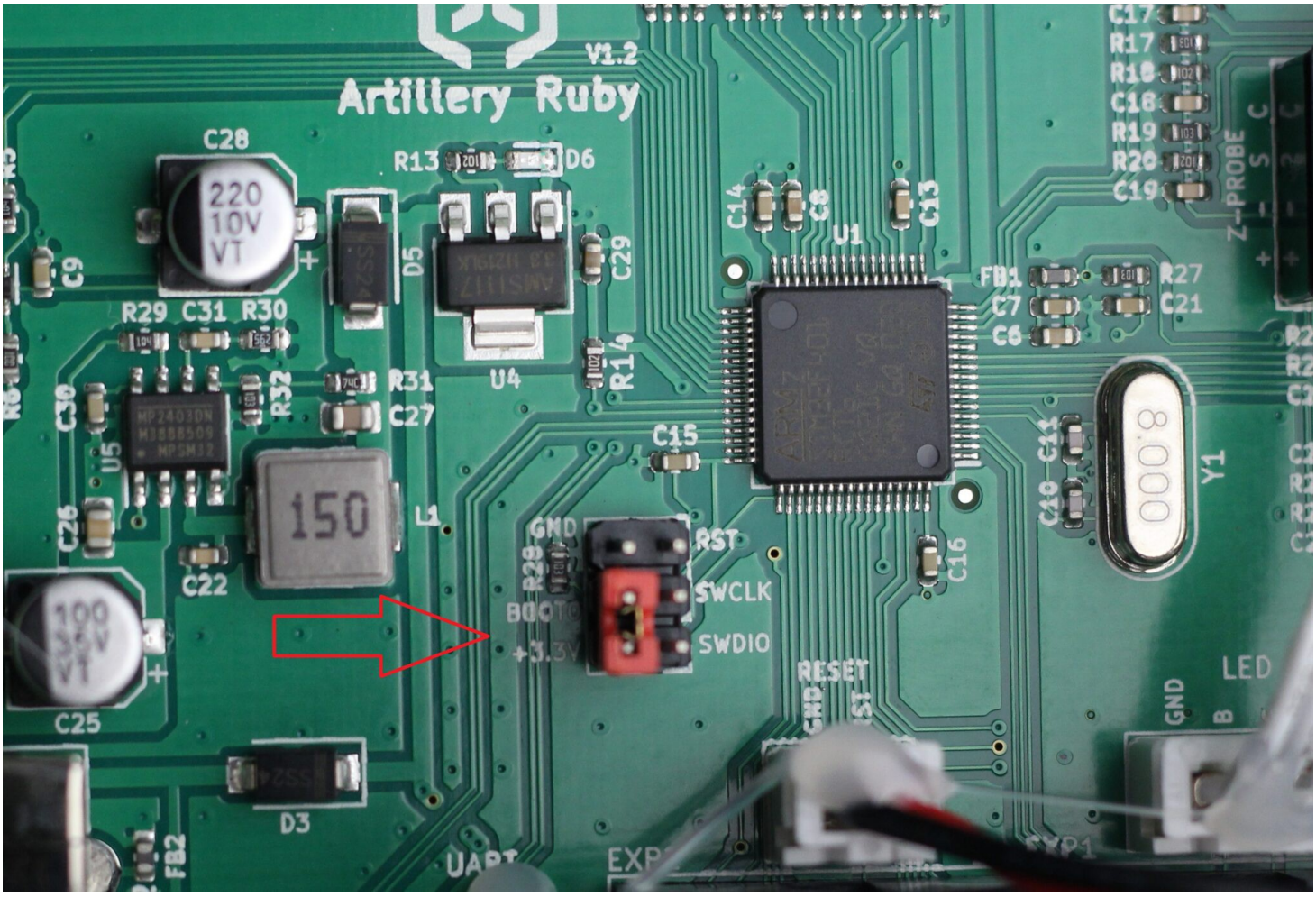
Execute the M997 command then go to the Flashing step.

If this command fails, you must put the machine into DFU mode using the jumper pin on the board.

To do this, you must remove the bottom cover of the printer in order to physically access the Artillery Ruby card.

Then you need to install a jumper to connect the BOOT and the +3.3V pin.

This connection will put the Ruby card into DFU mode and will flash the printer.



When the flashing process is complete, the jumper can be removed.

Flash the firmware into the printer:

Return to the Mobaxterm terminal window and connect the USB cable from your printer to the Btt Pi,

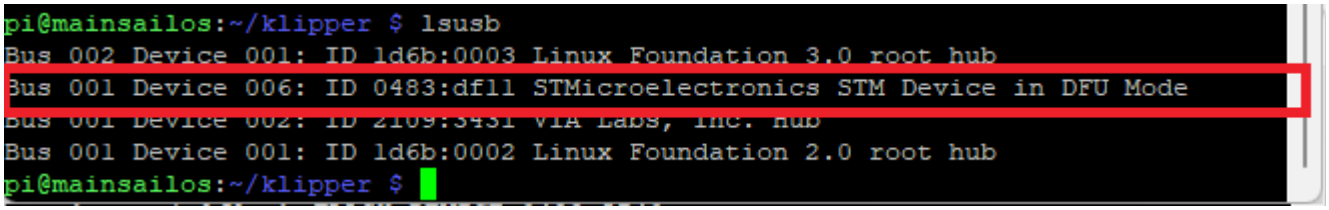
Enter the following command to list all USB devices:

lsusb

A list of USB devices will be returned.

Our printer will be listed under STMicroelectronics STM Device in DFU Mode.

We need to know the USB device ID.

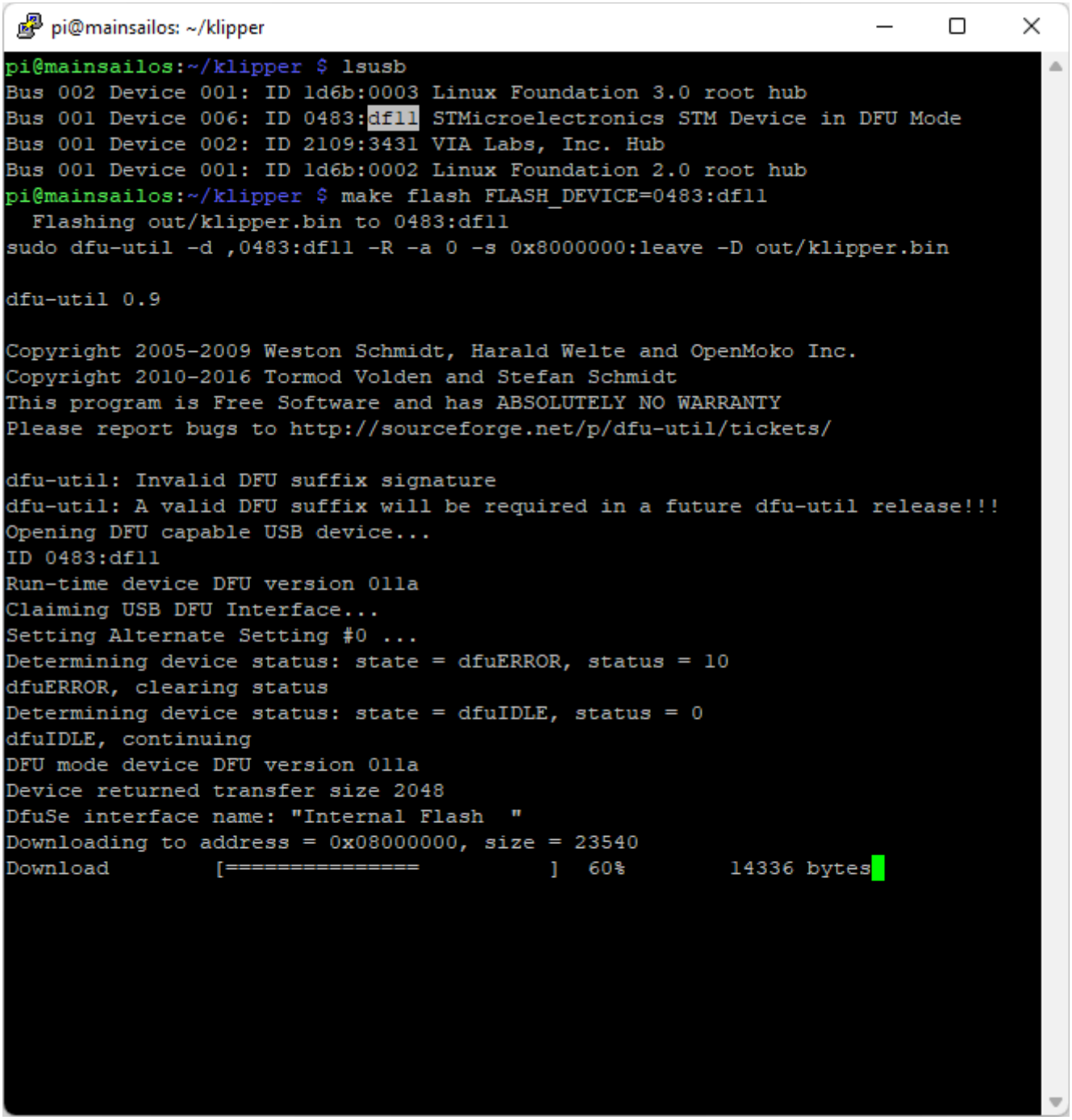


Start the flashing process with the following command:

make flash FLASH_DEVICE=0483:df11

(FLASH_DEVICE=XXXX:XXXX ou XXXX:XXXX is the id value found with the command lsusb)

The flashing process begins and lasts a few seconds.

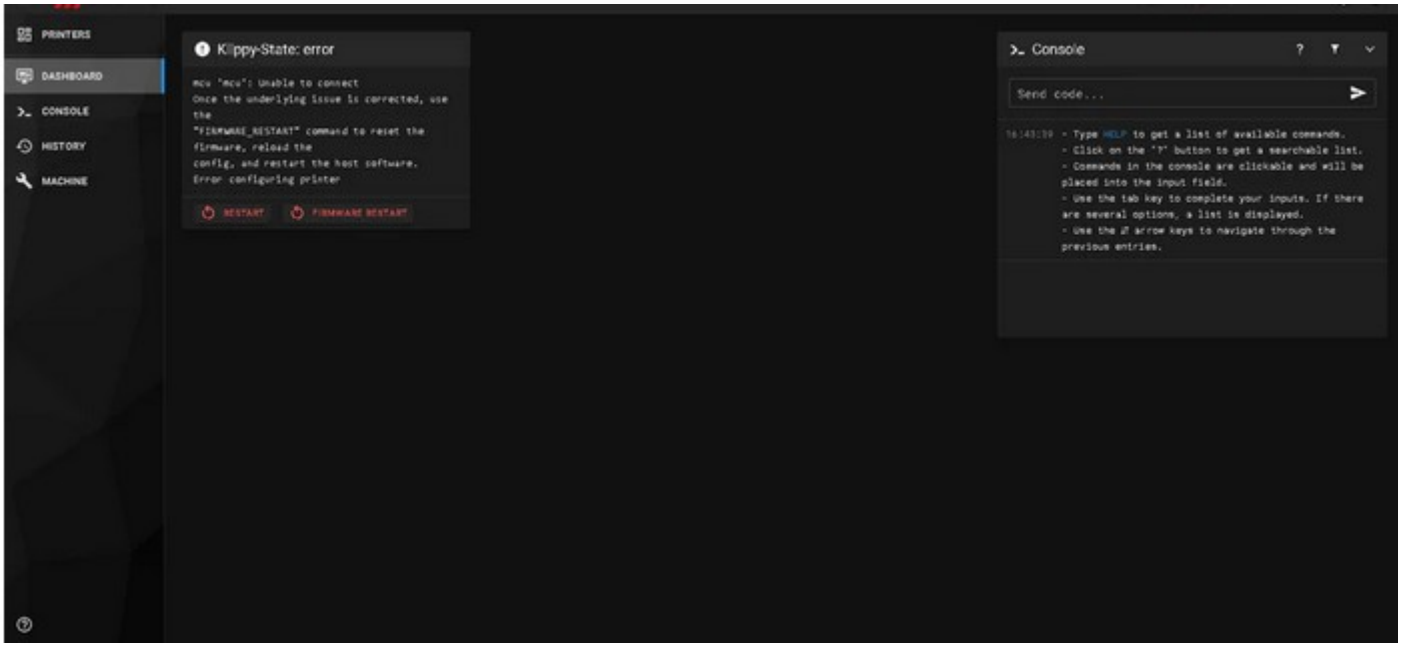


Step 5: Configuring Klipper

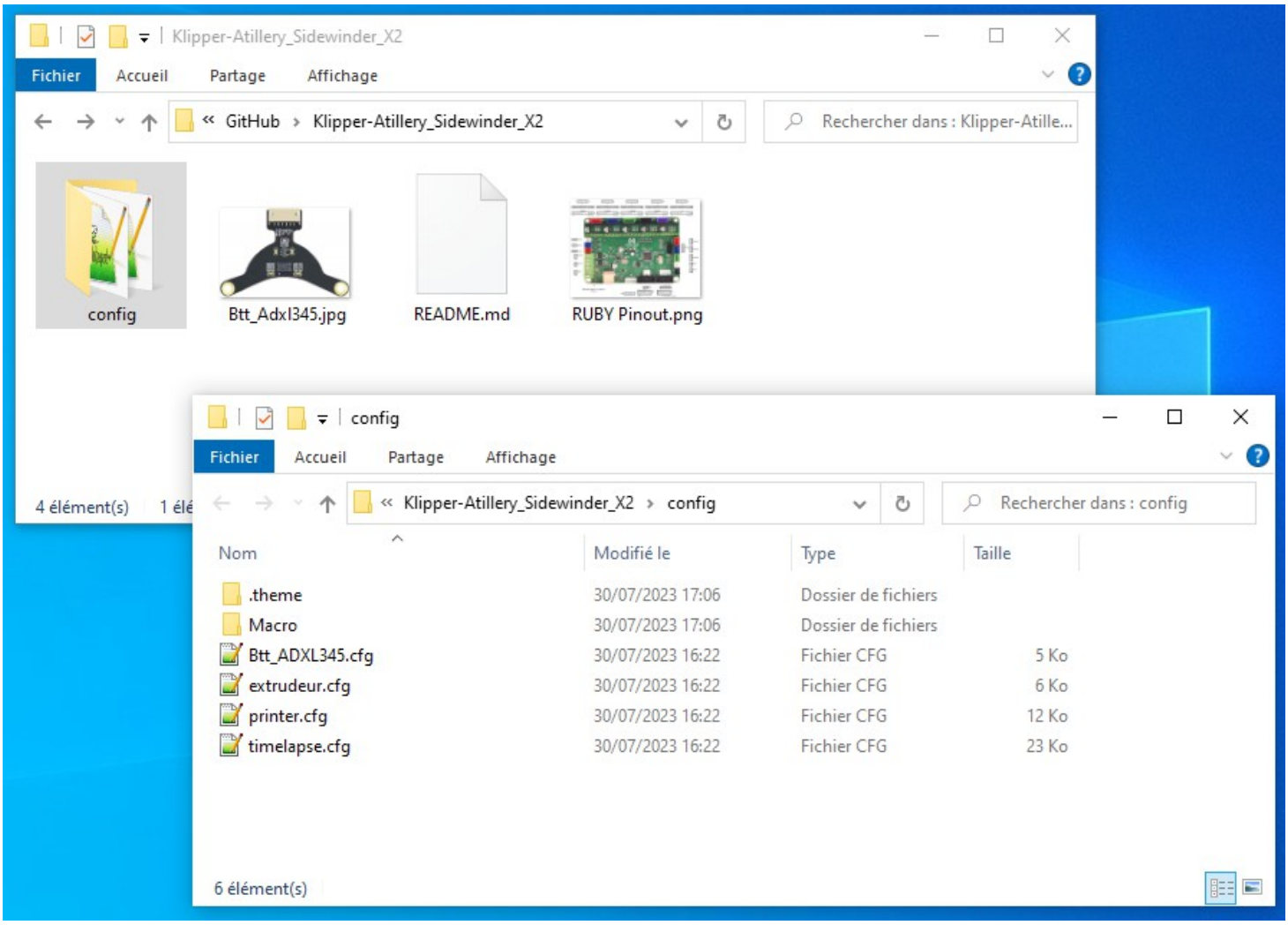
You can now connect to your interface from a web browser with the http://IP address of the BTT Pi

If everything went well you should arrive on this page with an error message.

It's normal don't panic, we are now going to configure Klipper so that it can recognize and communicate with your newly flashed printer.



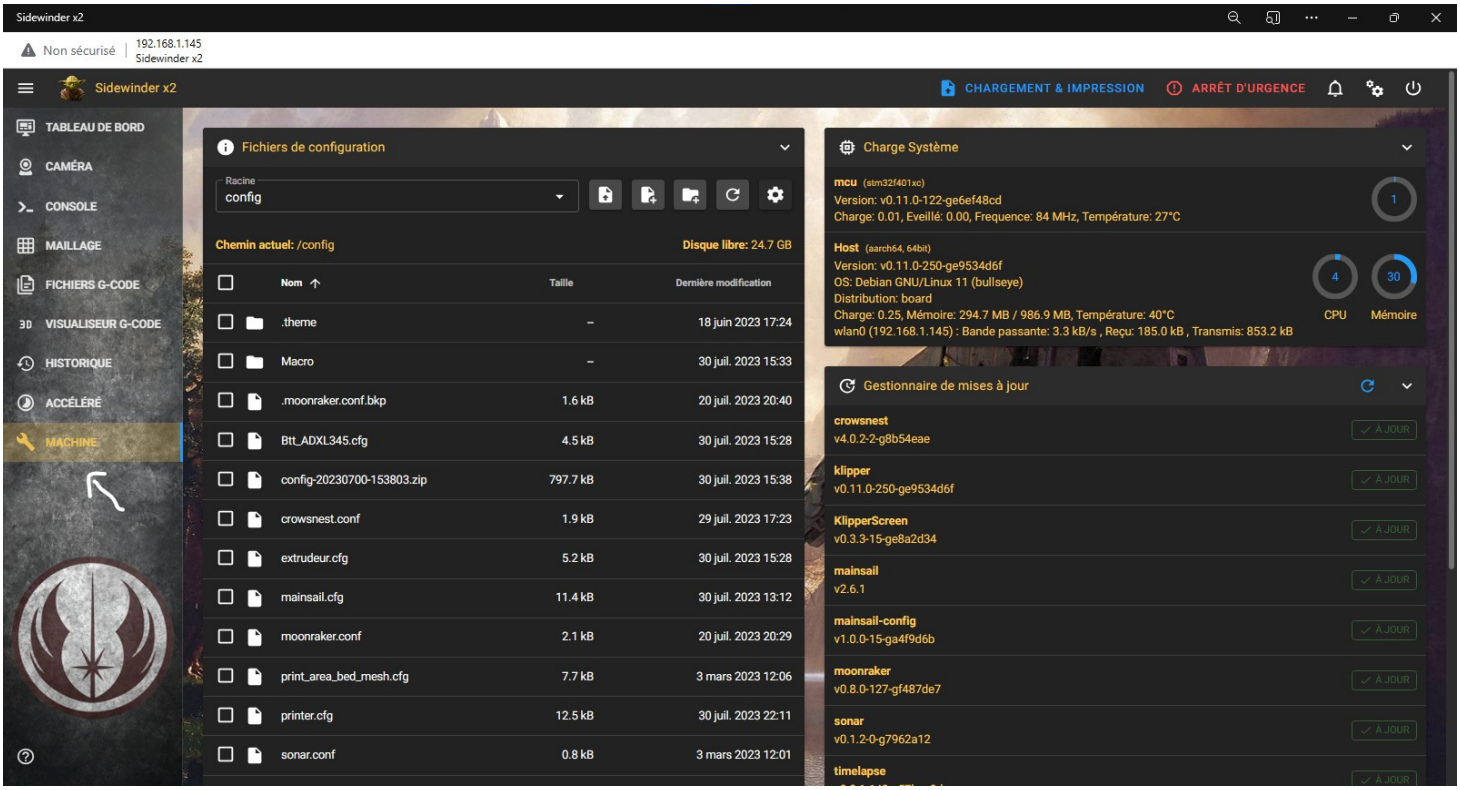
We will now load the configuration files provided with this tutorial (also available in my github).



We are going to use all the files that are in the config directory.

Attention the files present in the zip can be different from the photo if above according to the evolution and the development of these files. It will be necessary to use ALL the files present in the config directory.

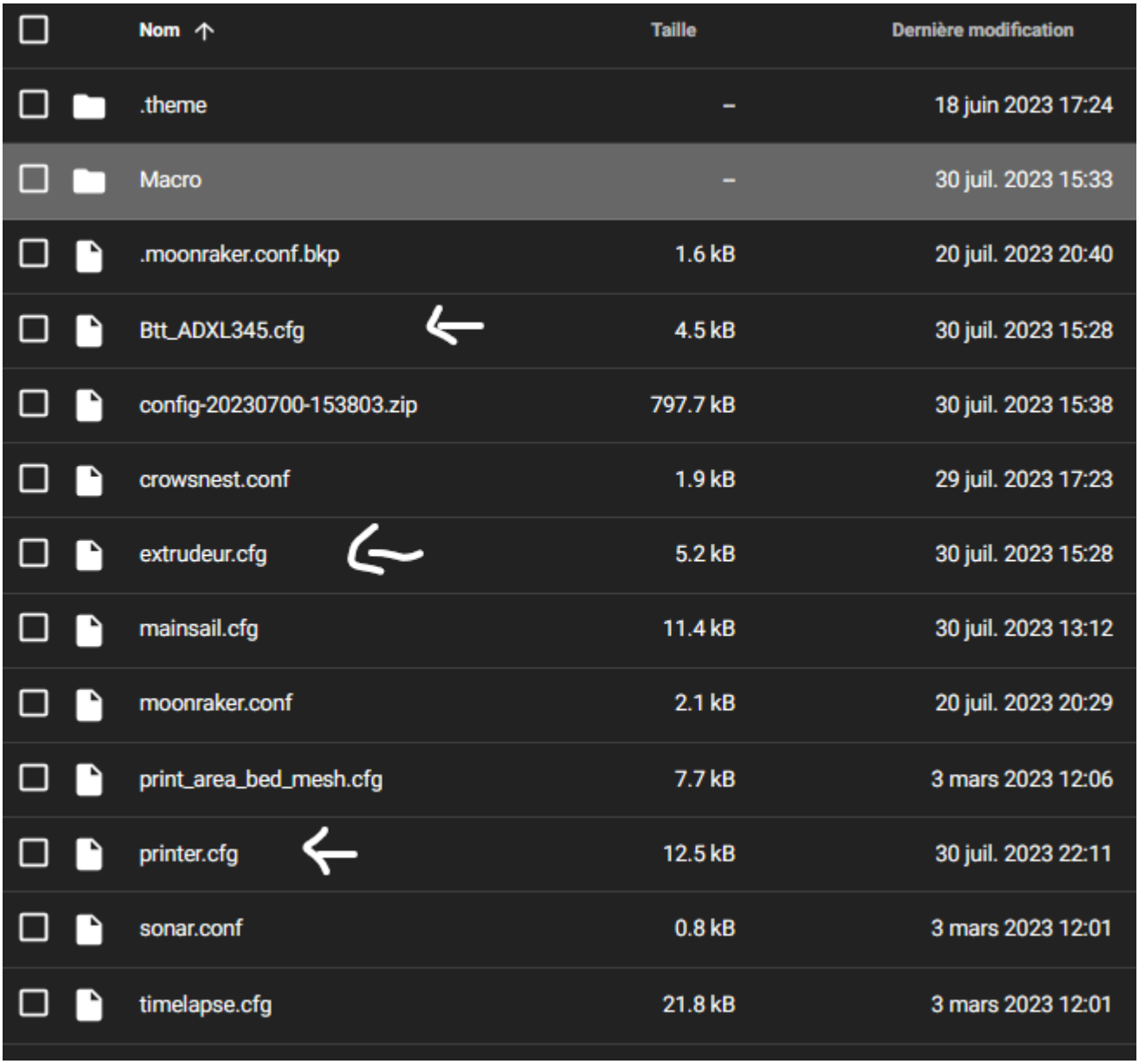
From the web interface, click on Machine in the left menu.

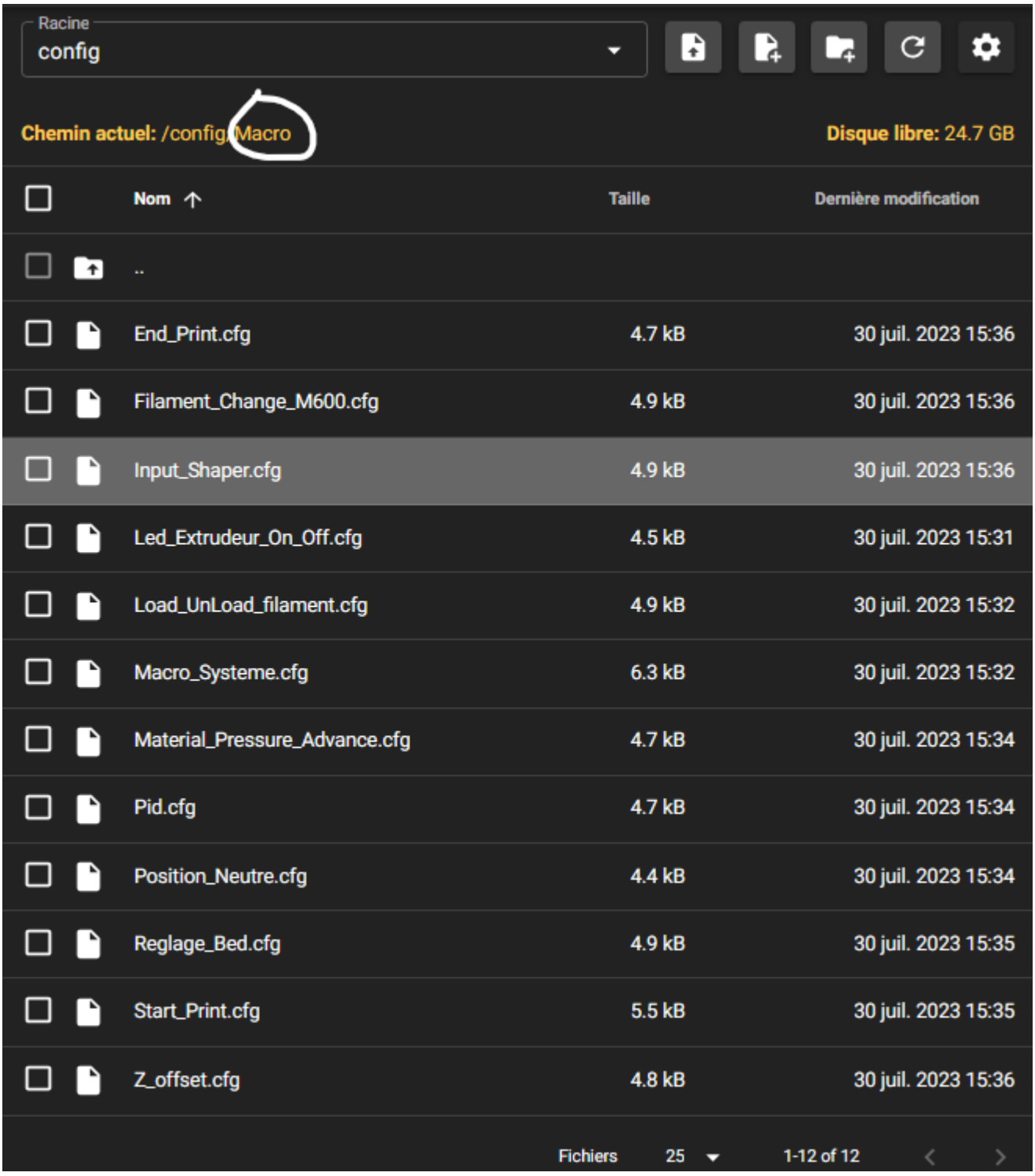


Click on the Folder icon and create the .theme and Macro folders

Then click on the Upload icon

Select all the configuration files and load them keeping their original directory.




Racine
config
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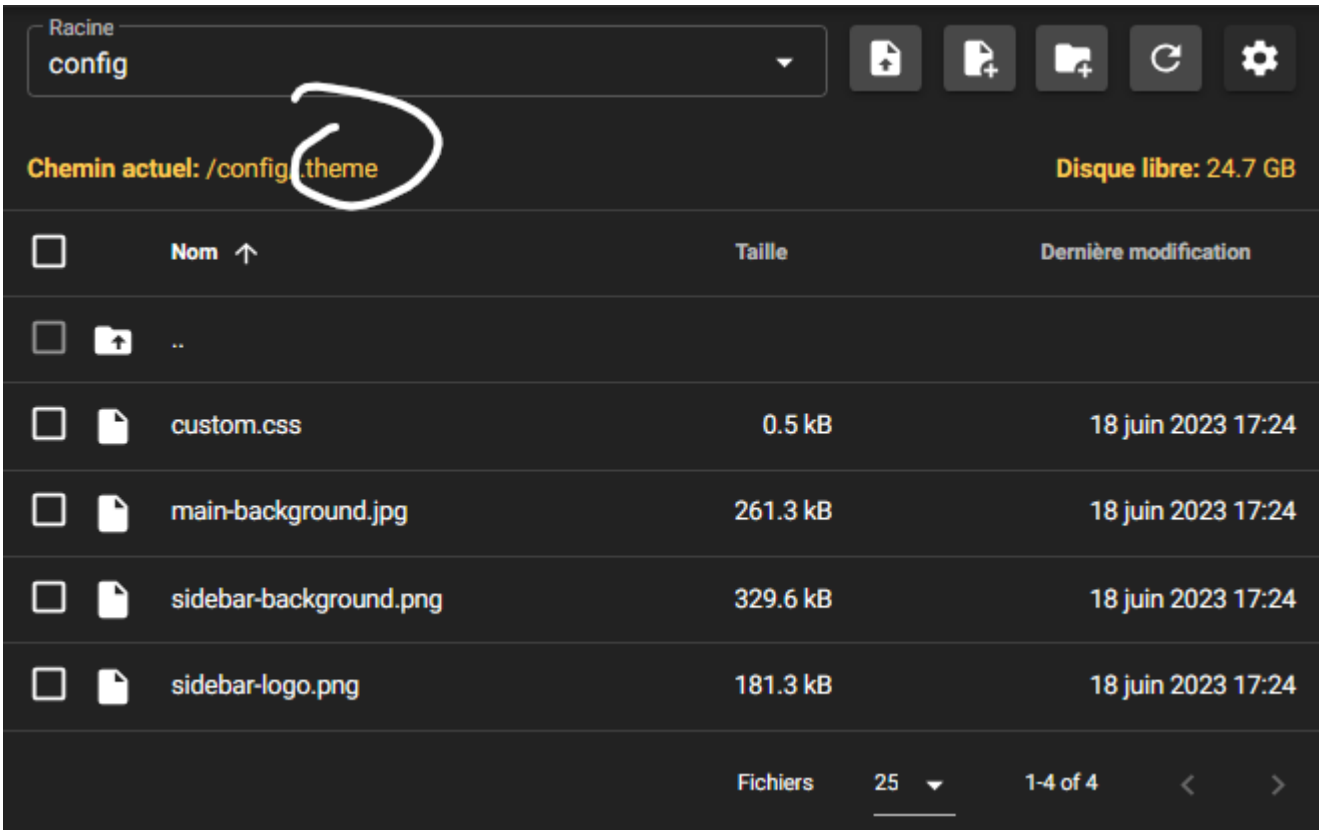
Disque libre: 24.7 GB
Nom
Taille
Dernière modification
..
End_Print.cfg 4.7 kB 30 juil. 2023 15:36
Filament_Change_M600.cfg 4.9 kB 30 juil. 2023 15:36
Input_Shaper.cfg 4.9 kB 30 juil. 2023 15:36
Led_Extrudeur_On_Off.cfg 4.5 kB 30 juil. 2023 15:31
Load_UnLoad_filament.cfg 4.9 kB 30 juil. 2023 15:32
Macro_Systeme.cfg 6.3 kB 30 juil. 2023 15:32
Material_Pressure_Advance.cfg 4.7 kB 30 juil. 2023 15:34
Pid.cfg 4.7 kB 30 juil. 2023 15:34
Position_Neutre.cfg 4.4 kB 30 juil. 2023 15:34
Reglage_Bed.cfg 4.9 kB 30 juil. 2023 15:35
Start_Print.cfg 5.5 kB 30 juil. 2023 15:35
Z_offset.cfg 4.8 kB 30 juil. 2023 15:36
Fichiers 25 1-12 of 12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..
custom.css
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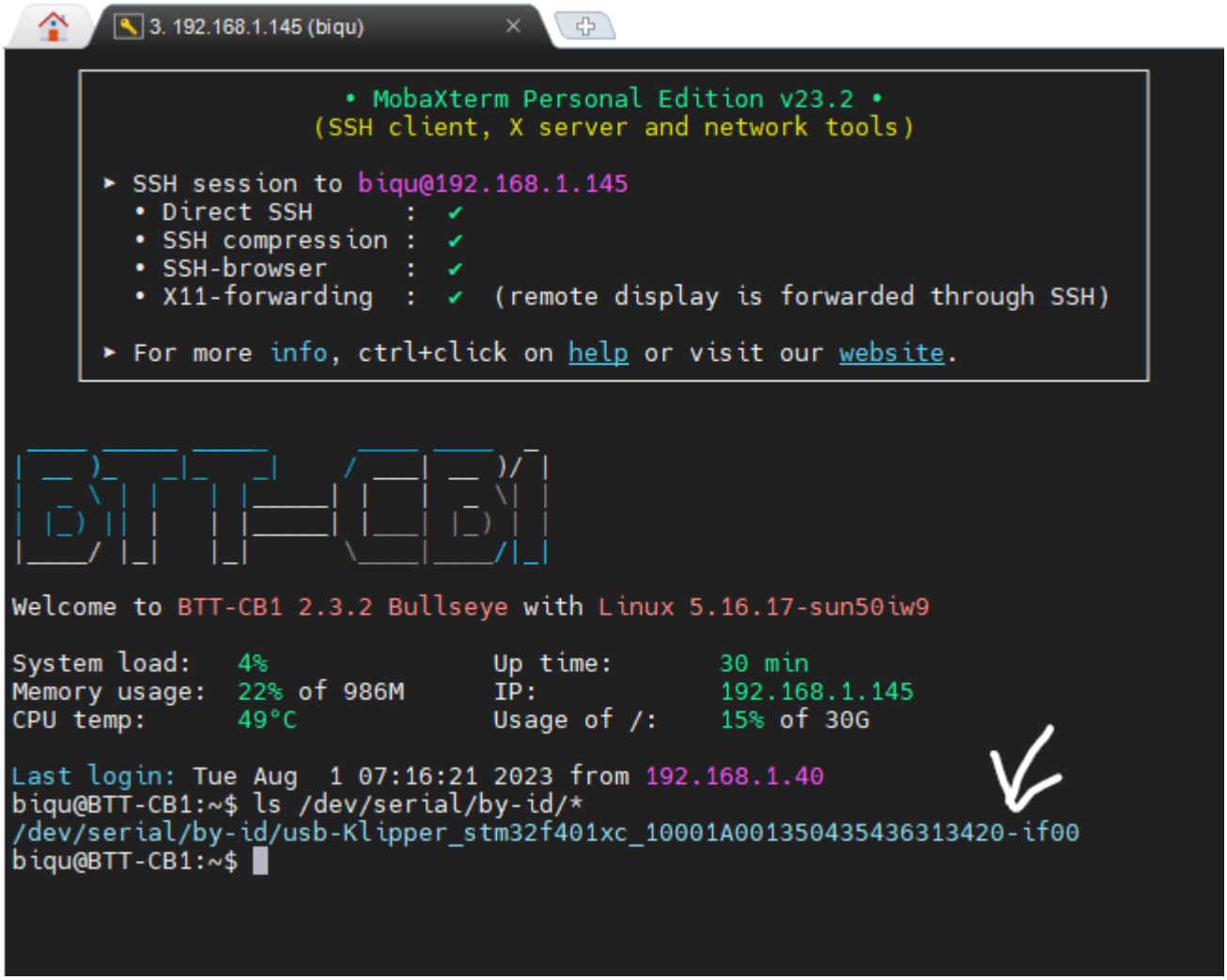
main-background.jpg
261.3 kB
18 juin 2023 17:24
sidebar-background.png
329.6 kB
18 juin 2023 17:24
sidebar-logo.png
181.3 kB
18 juin 2023 17:24
Fichiers
25
1-4 of 4

Connect the printer to your Btt Pi with a USB cable.

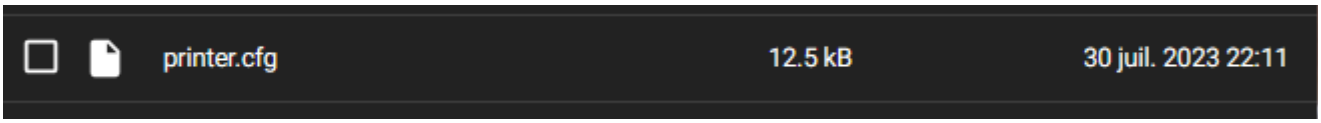
In Mobaxterm type the following command:

ls /dev/serial/by-id/*



Note the result

In the Klipper web interface, open the printer.cfg file

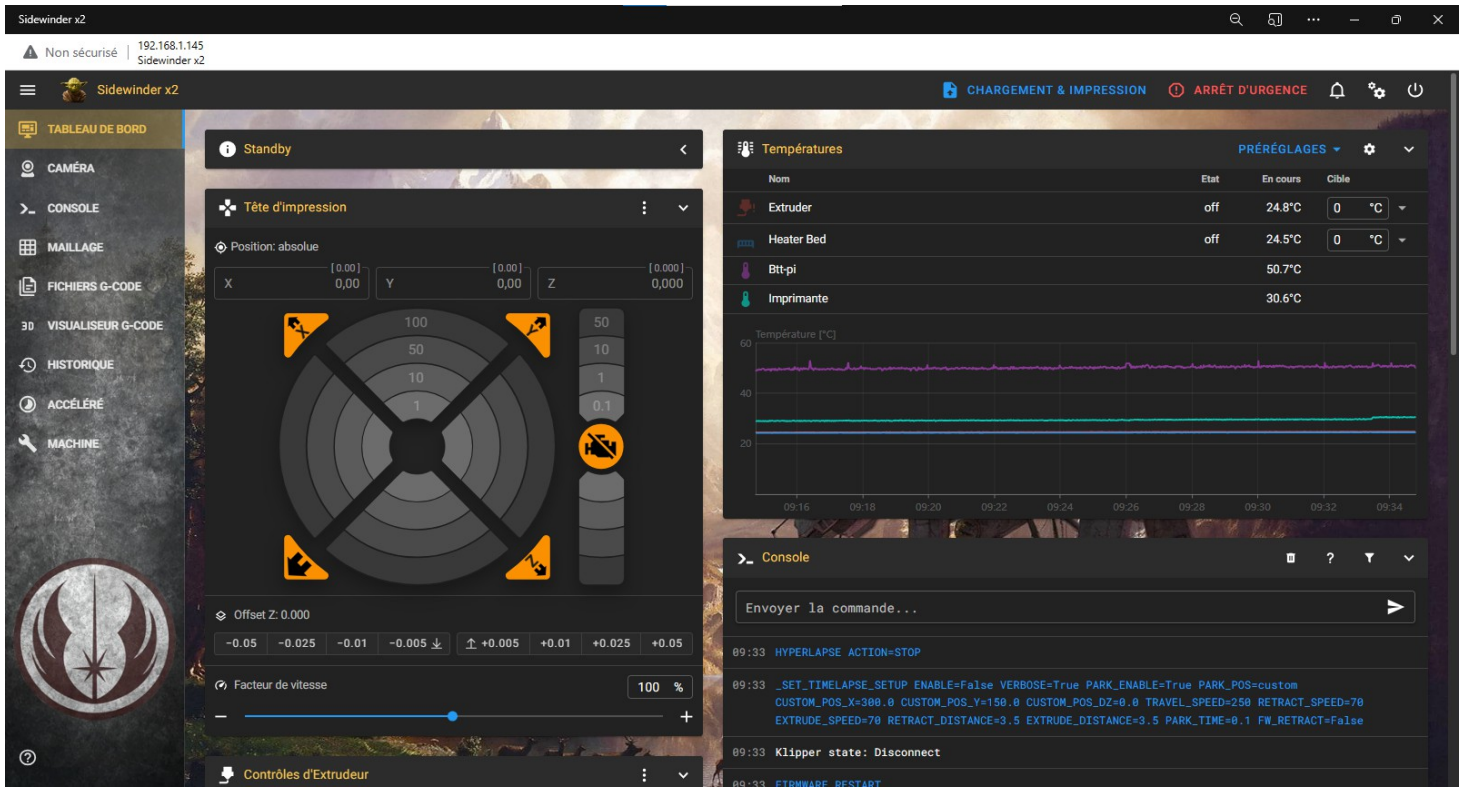


Find and modify the serial line with the serial number obtained previously

```
41
42  ######################################################################
43  # Définition du port COM                                             #
44  ######################################################################
45
46  [mcu]
47  serial: /dev/serial/by-id/usb-Klipper_stm32f401xc_10001A0013504354363134 20-if00
48  restart_method: command
49
```

Click on 'Save and restart'

If all went well you should have this screen:



Congratulation!!!

Your Artillery Sidewinder X2 printer is now connected to Klipper.

You will be able to move on to the second tutorial which will explain how to adjust your printer settings with Klipper and how to adjust your slicer for Klipper.

Hoping that this tutorial will have helped you and allowed you to switch to Klipper without too much difficulty.

In case of difficulties or problems, you can contact me on my social networks, I will do my best to try to answer you within the limits of my knowledge of course.

Website : https://papy-3d-factory.xyz

Tiktok : https://www.tiktok.com/@papy_3d_factory

Github : https://github.com/Papy-3D-Factory?tab=repositories/