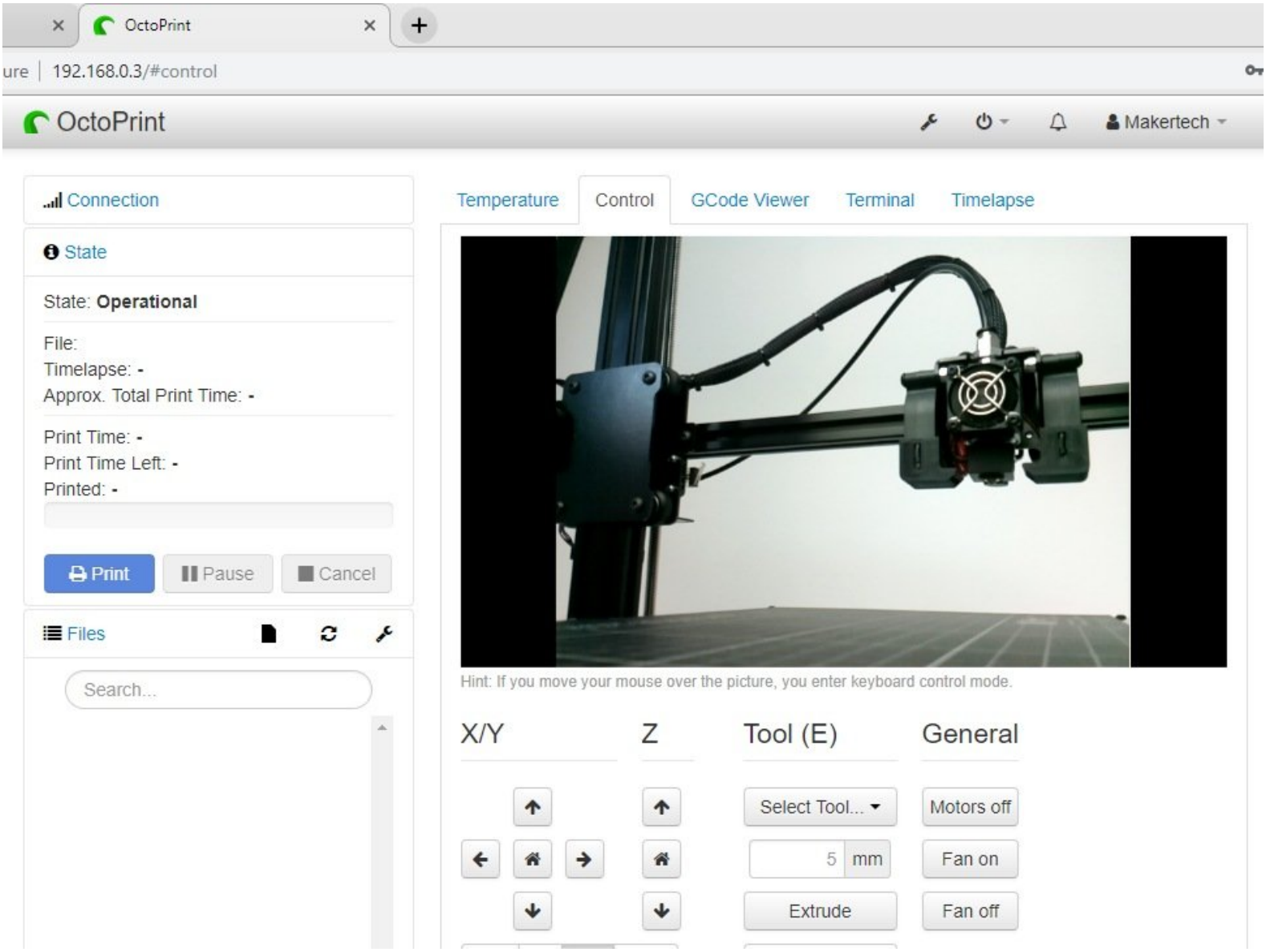
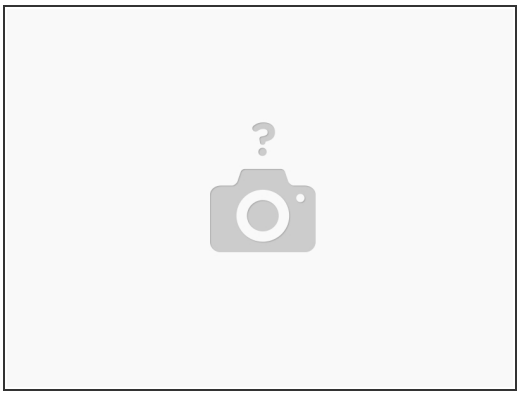
Makertech

Stage 02 - Software

Written By: Makertech



Step 1 — Downloads



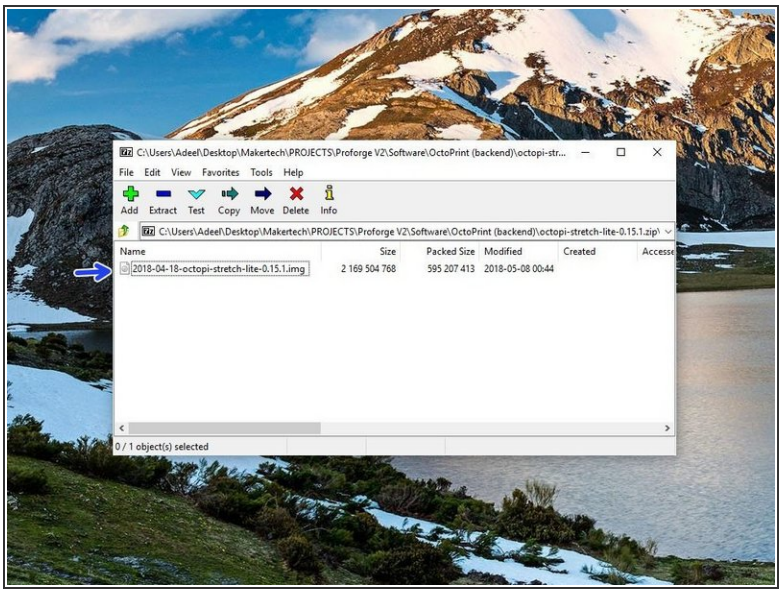
You will need to download the following:

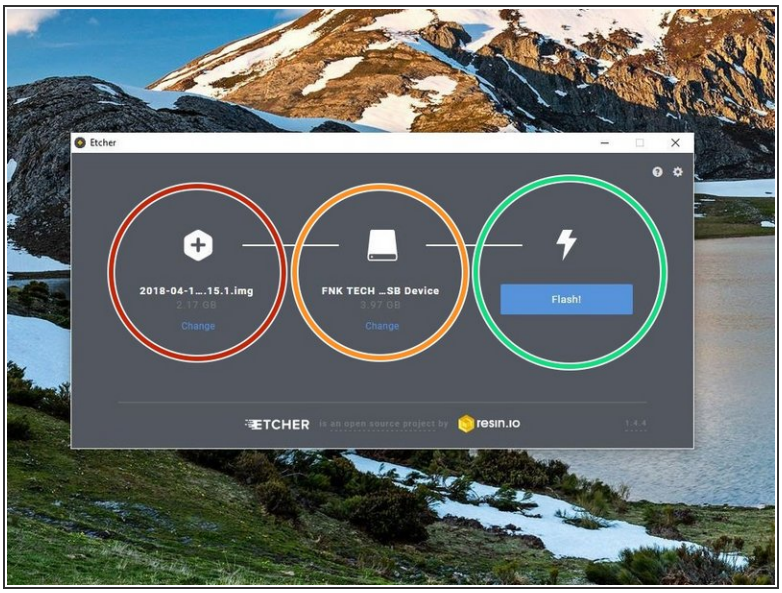
- OctoPi Image
- Etcher
- Notepad ++ (Atom is a good alternative for Mac)

On windows you will also need 7zip to unpack the OctoPi file.

Newer versions of of these files/software's may have been released since the publishing of this guide but the steps outlined here should still remain valid.

Step 2 — Flashing the Micro SD card





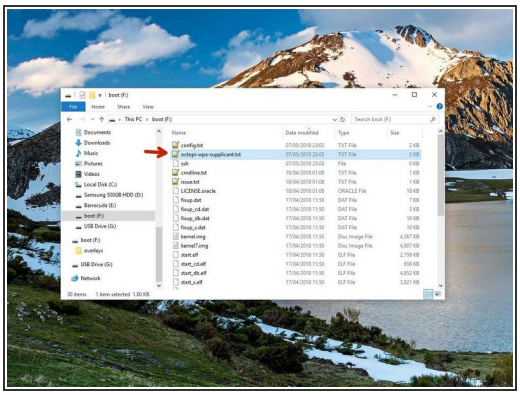
- Extract the OctoPi image using 7zip to convenient location on your computer.

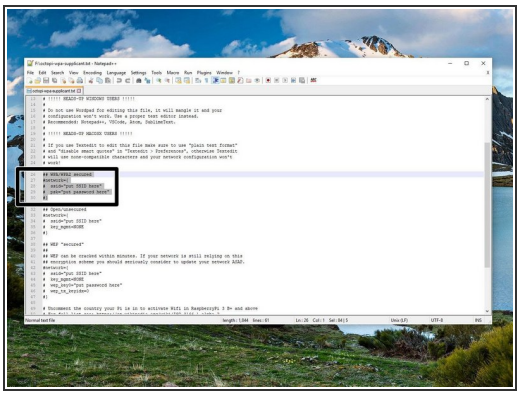
Run Etcher

- Point it to the .img file that you extracted.
- Insert the Micro SD card into your computer.
- Hit Flash! (Will take a while!)

On windows you may be asked to format the SD card after it's been flashed. **Do not** format the drive.

Step 3 — Wi-Fi Settings





```
# !!!!! HEADS-UP MACOSX USERS !!!!!
#
# If you use Textedit to edit this file make sure
# and "disable smart quotes" in "Textedit > Prefe
# will use none-compatible characters and your ne
# work!

## WPA/WPA2 secured
network={
  ssid="HomeWiFi"
  psk="password123"
}

## Open/unsecured
#network={
#  ssid="put SSID here"
#  key_mgmt=NONE
#}
```

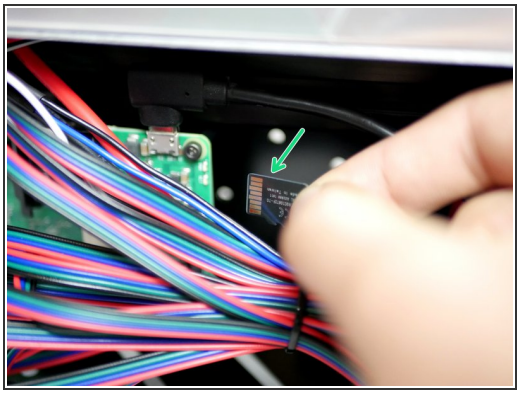
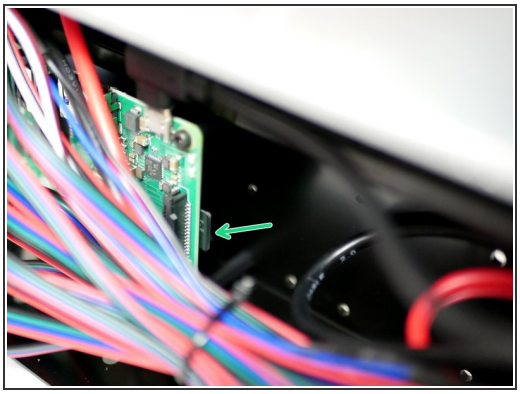
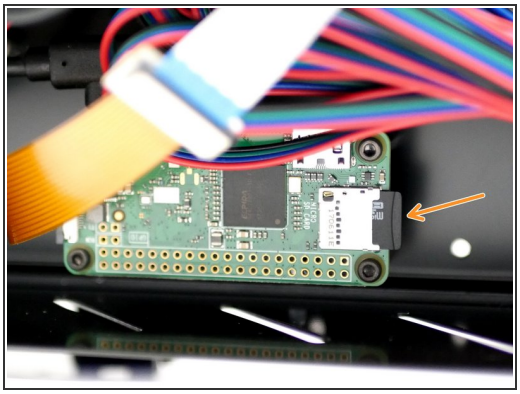
- Navigate to the flashed SD card (you may have to remove and reinsert it) and open the file named *octopi-wpa-supplicant.txt* with **Notepad++ or Atom.**

In the text editor read the instructions for the different WiFi configurations and choose the most appropriate for your network. For most this will be WPA/WPA2 security.

- Remove the single # from the beginning of each line of your chosen configuration.
- Type in your routers SSID as it's broadcast and its password. Save and close the file.

Do **not** remove the inverted commas (" ").

Step 4 — Powering up

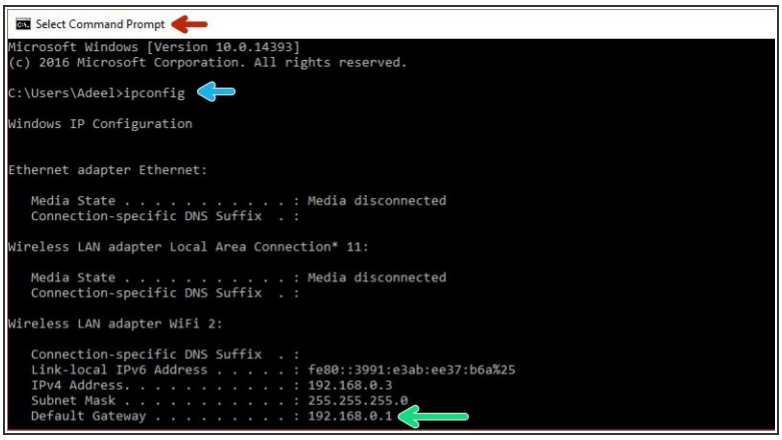




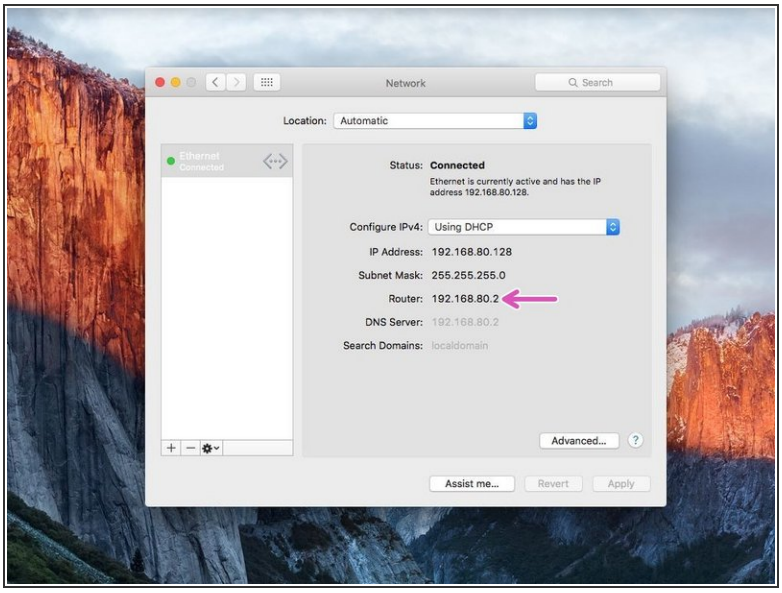
Insert the Micro SD card into the Raspberry Pi.

- On the Pi 3 B+ it is inserted into the back of the board with the golden contacts facing up. You may find it easier to unscrew the board from the mounts to gain better access.
- On the Pi Zero W it is inserted on the front.

Once the SD card is inserted power up the printer.

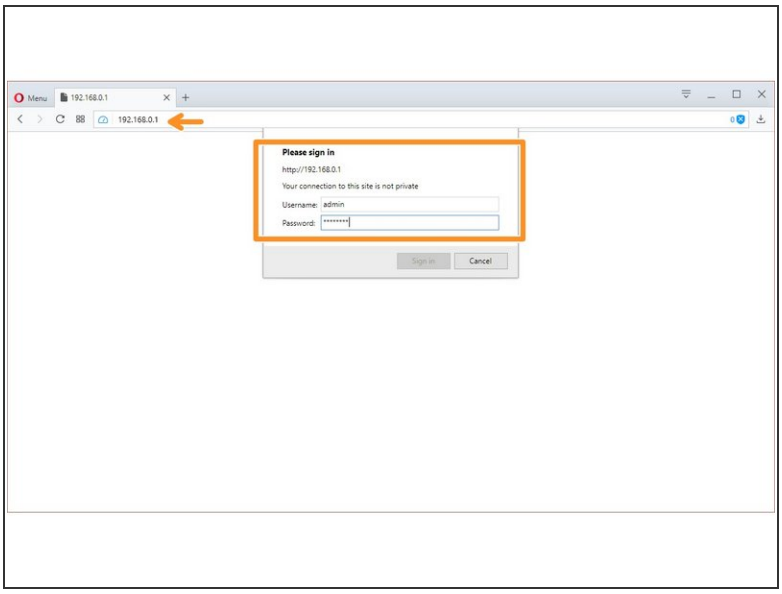
Step 5 — Router IP

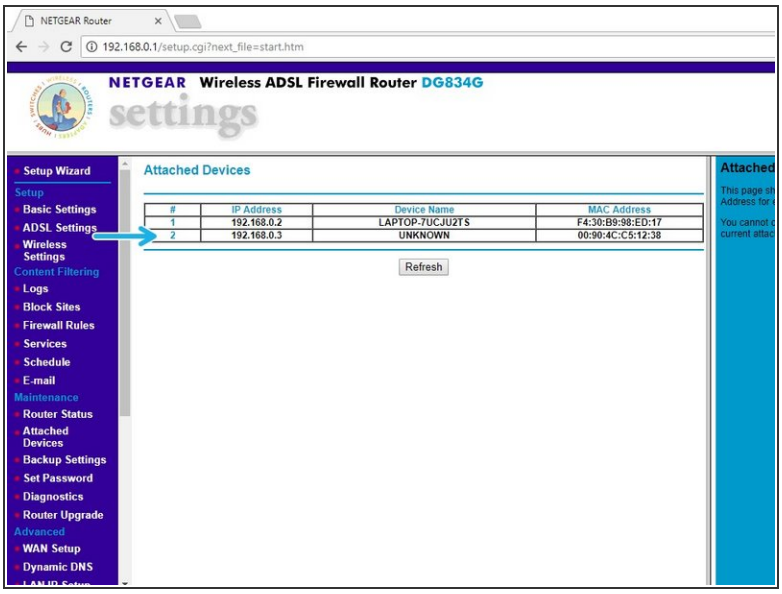




- On your PC open *command prompt*.
- Type *ipconfig* and hit return/enter.
- Type the Default Gateway ip address into your browser.
- On Mac you can find the Default Gateway ip in system preferences -> Network -> Router.

Step 6 — OctoPi IP Address



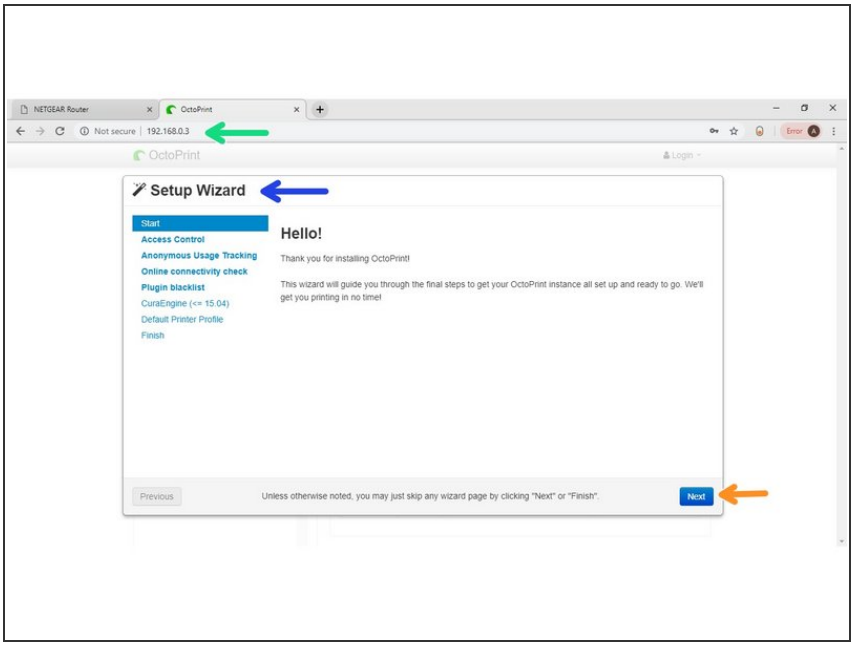


- After entering the Default Gateway ip into your browser you will be prompted for a user name and password.
- The username and password can be found on the back of your router.
- On the settings page (this will vary depending on your router) find the *connected devices* page and note the OctoPi's ip address.

Make sure you are connected to the same router that you connected the Raspberry Pi to.

If you find that your routers settings page isn't loading restart your router.

Step 7 — OctoPrint Setup



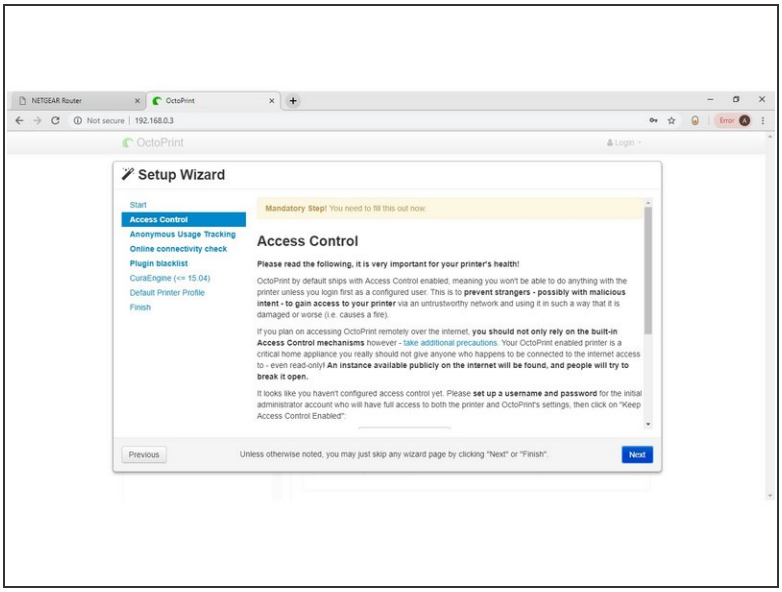
- Type the ip address into your browser to load the OctoPrint interface.

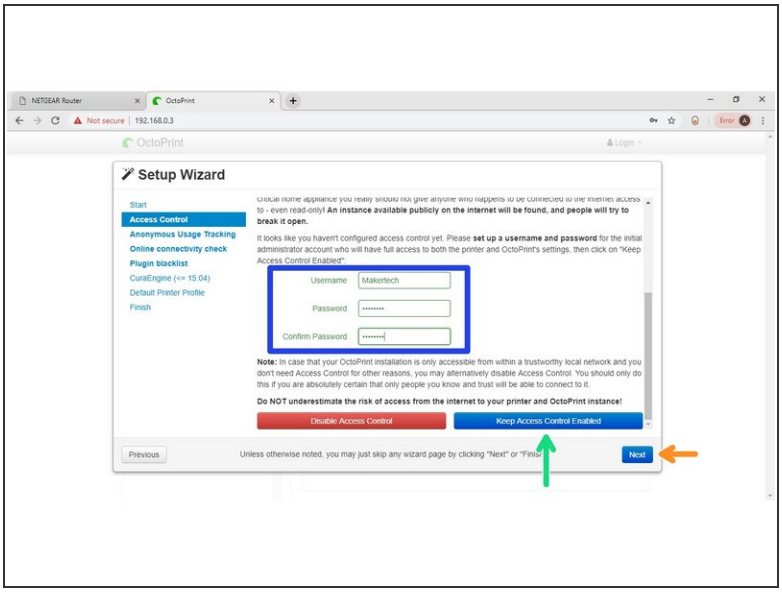
  ⓘ An easier way to access the interface is by typing "http://octopi.local" if your computer supports bonjour - if you have iTunes installed you probably also have bonjour.

- It may take a while for it to load from the first boot up, but once it does, you will be greeted with the setup wizard.

- Click *Next*

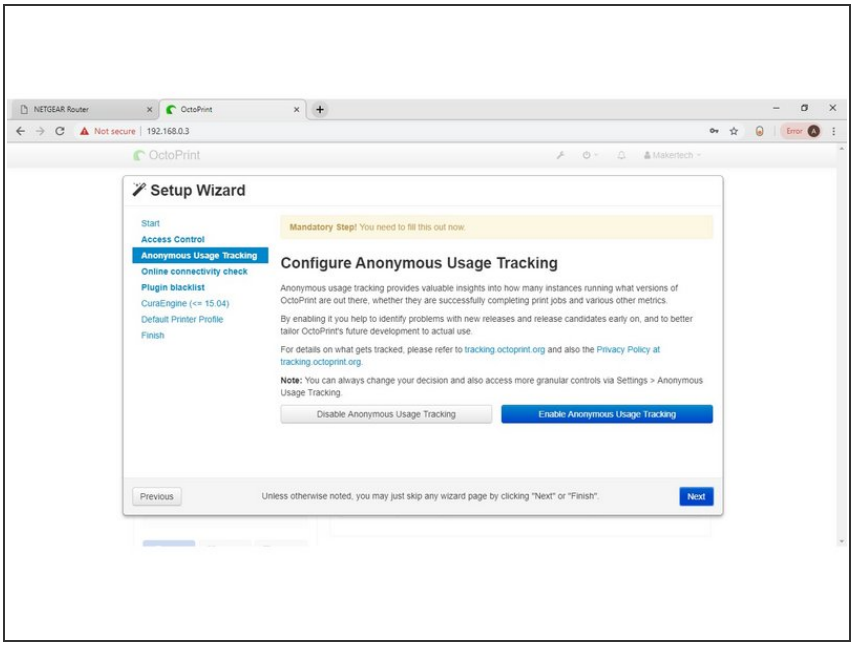
Step 8 — Access Control





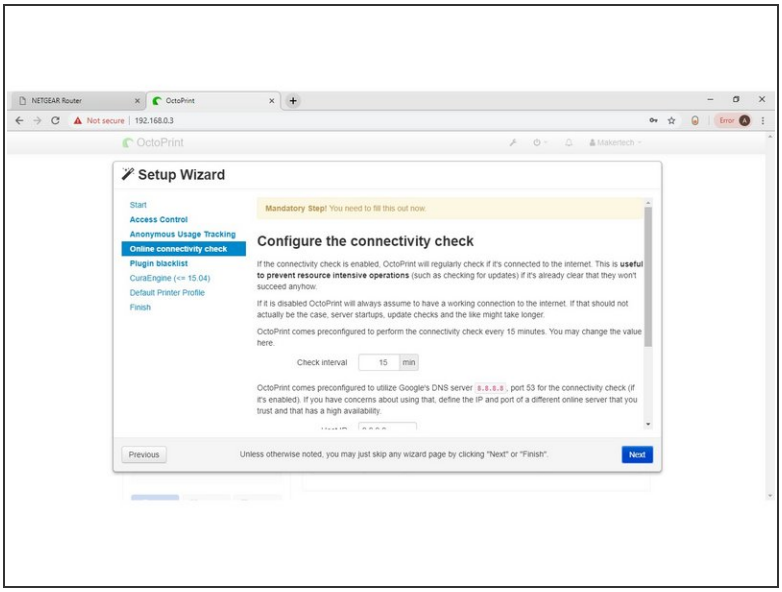
- Create a Username and Password.
- Click "Keep Access Control Enabled".
- Click Next.

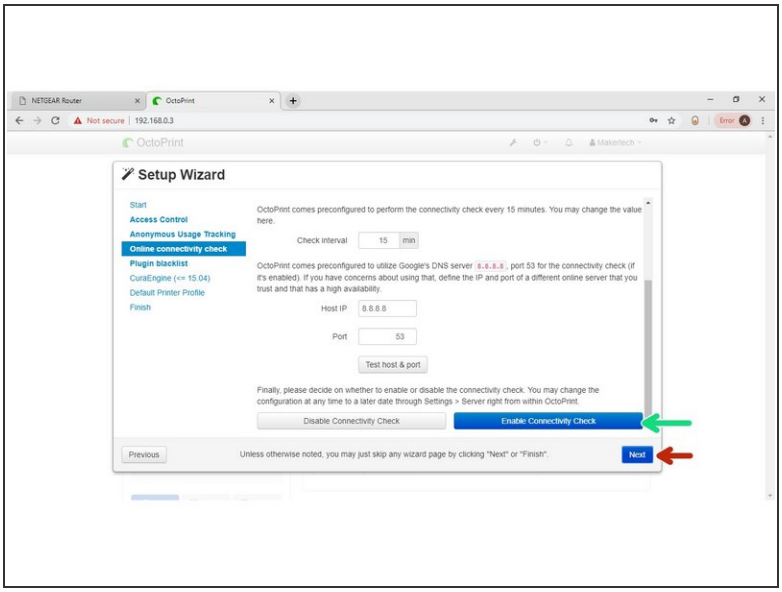
Step 9 — Anonymous Usage Tracking



Read through the privacy policy info and decide whether you would like to enable the tracking.

Step 10 — Online Connectivity Check

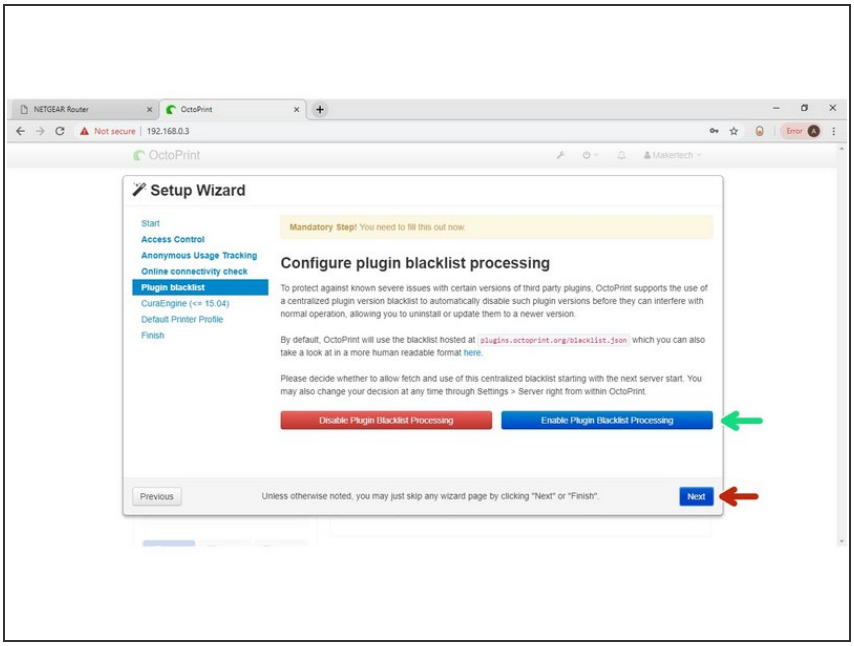




Leave the options here as default.

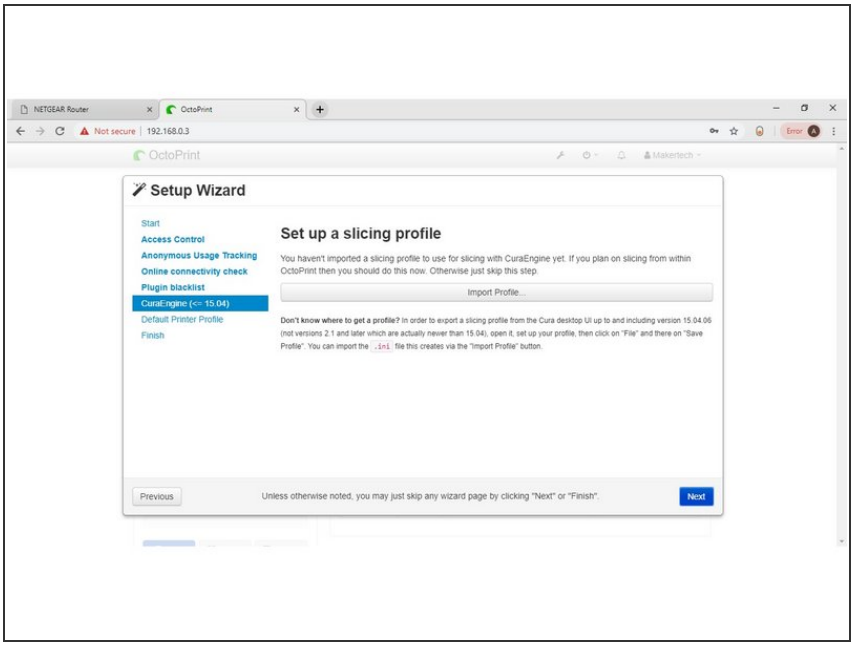
- Click "Enable Connectivity Check".
- Click Next.

Step 11 — Plug-in Blacklist



- We recommend Enabling the Plug-in Blacklist.
- Click Next.

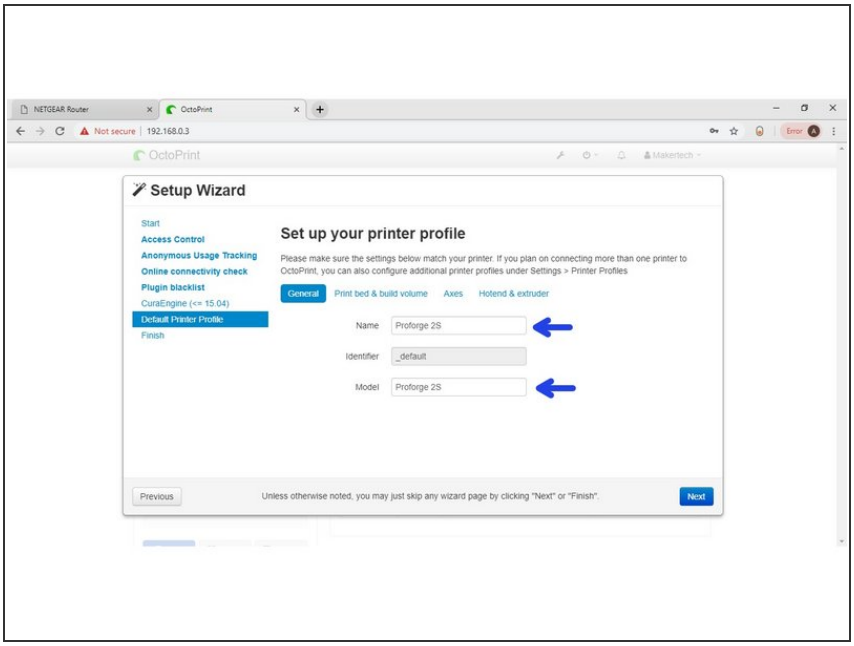
Step 12 — CuraEngine



We recommend slicing files with the Makertech CURA Software and then uploading the gcode to octoprint rather than slicing inside octoprint.

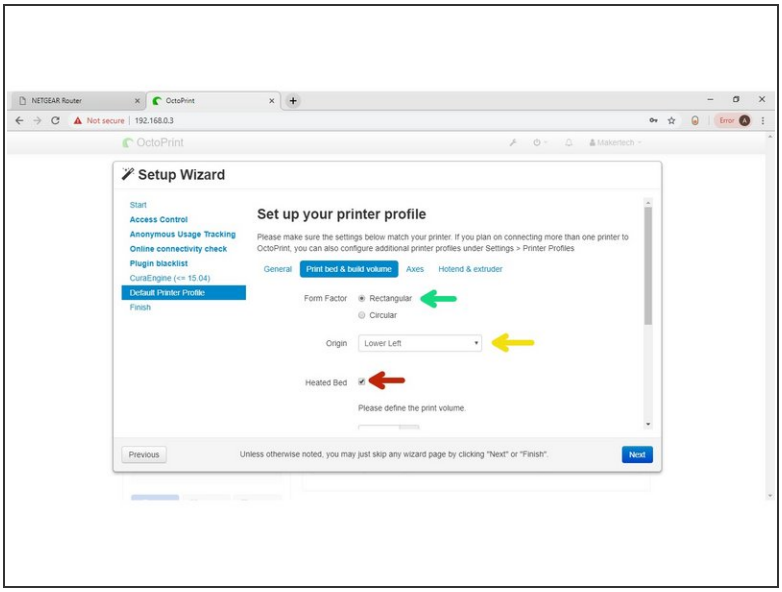
- Click Next.

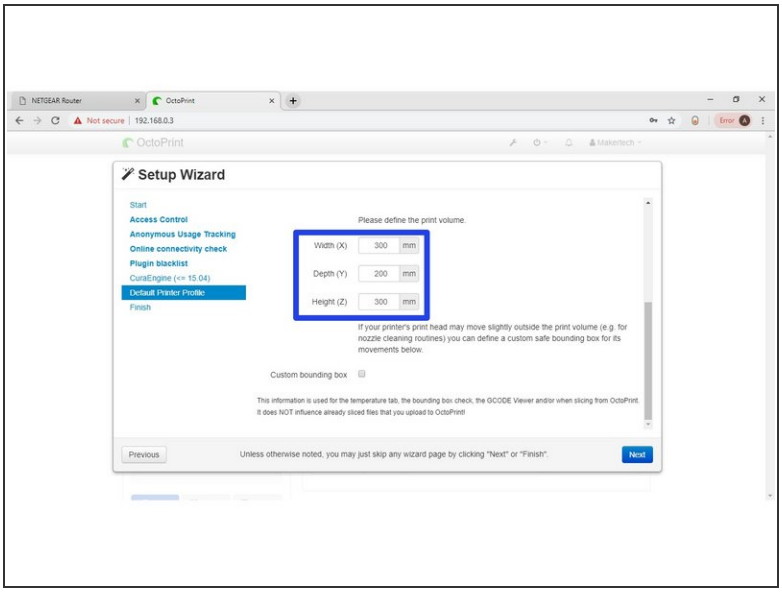
Step 13 — Printer Profile: General



- Appropriately name your Proforge:
  - Proforge 2
  - Proforge 2S
  - Proforge 2 Dual
  - Proofrge 2S Dual

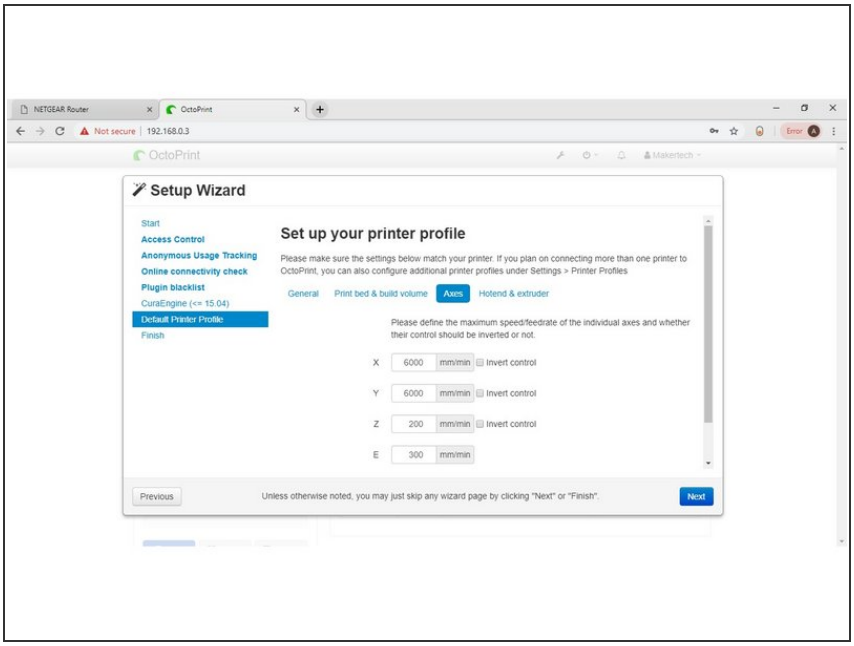
Step 14 — Printer Profile: Print Bed & Volume





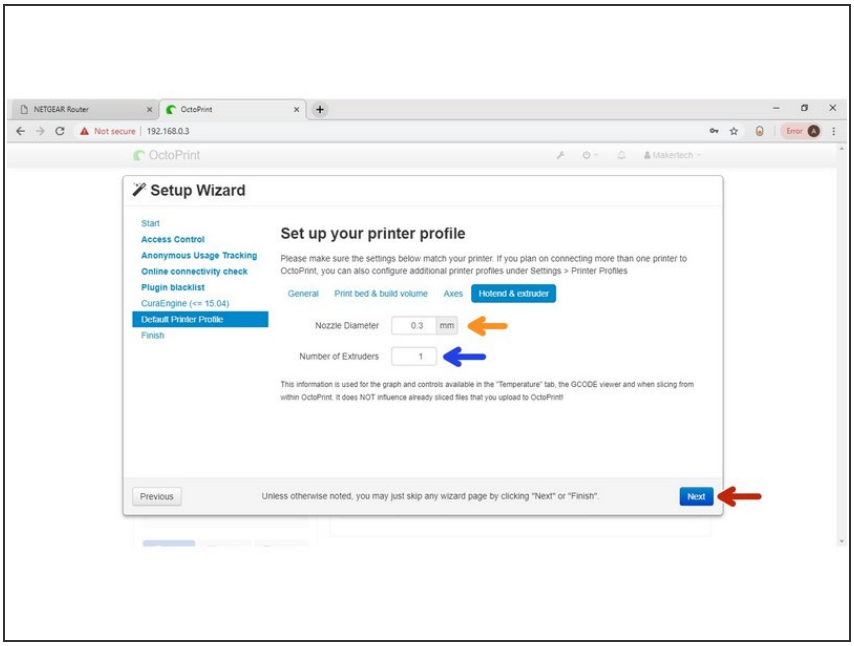
- Form Factor: Rectangular
- Origin: Lower Left
- Heated Bed (Proforge 2S)
- Width (X): 300
- Depth (Y): 200
- Height (Z): 300

Step 15 — Printer Profile: Axes



Leave as default.

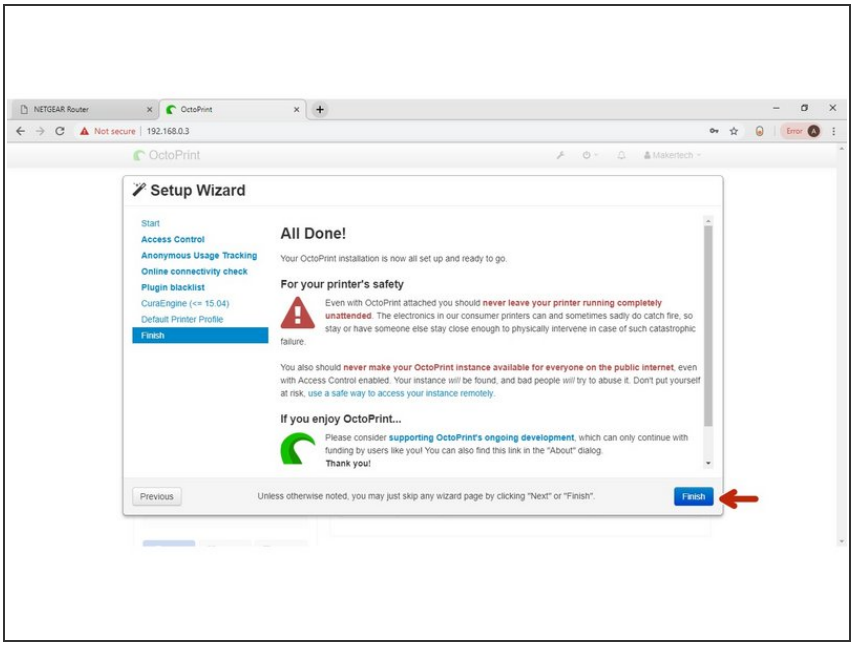
Step 16 — Printer Profile: Hotend & Extruder



- Nozzle Diameter: 0.3mm (default)
- Number of Extruders: 1
- Number of Extruders: 2 (For Dual Setup)

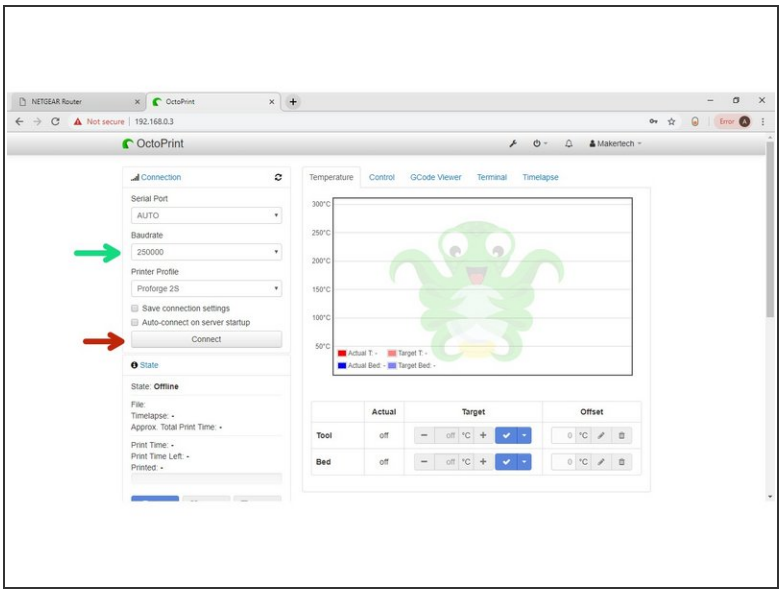
  Leave offsets at 0.
- Click Next.

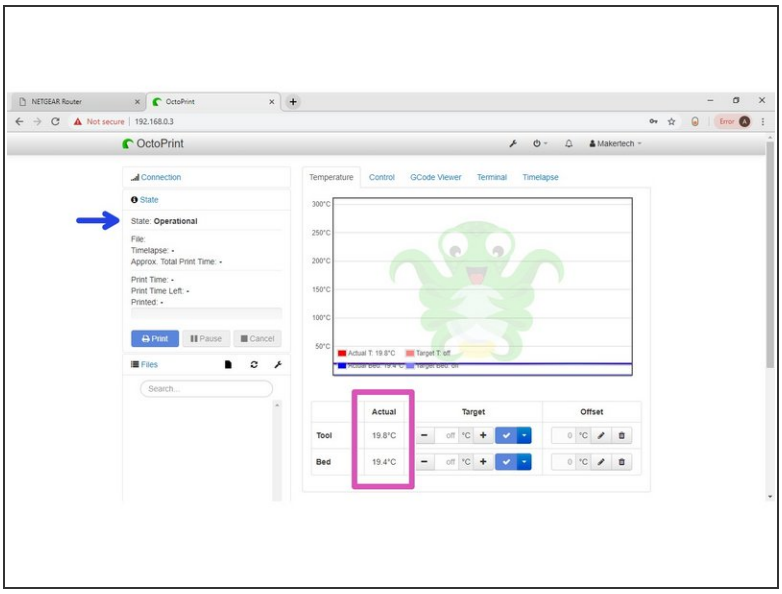
Step 17 — Finish Setup



- Read the notice and click Finish.

Step 18 — Connecting to the Proforge 2S



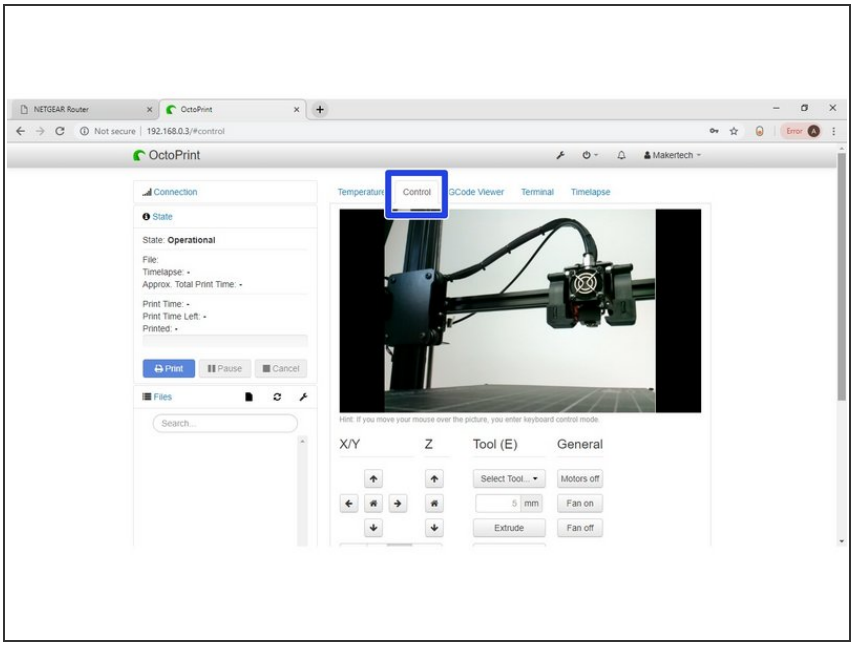


- Set the Baudrate to 250000.
- Click Connect

ⓘ A successful connection should read:

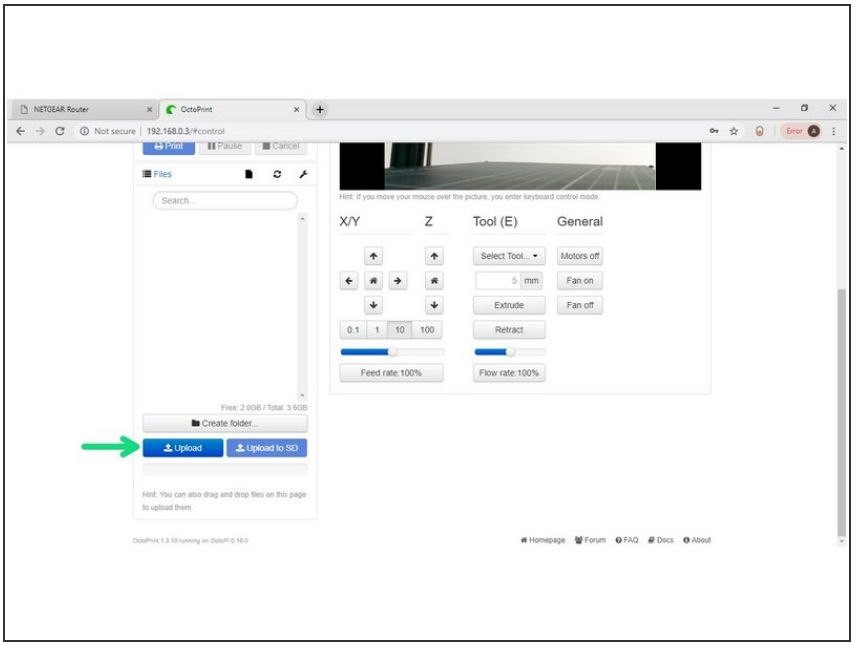
- State: Operational
- Room Temperatures

Step 19 — Checking Pi-Cam



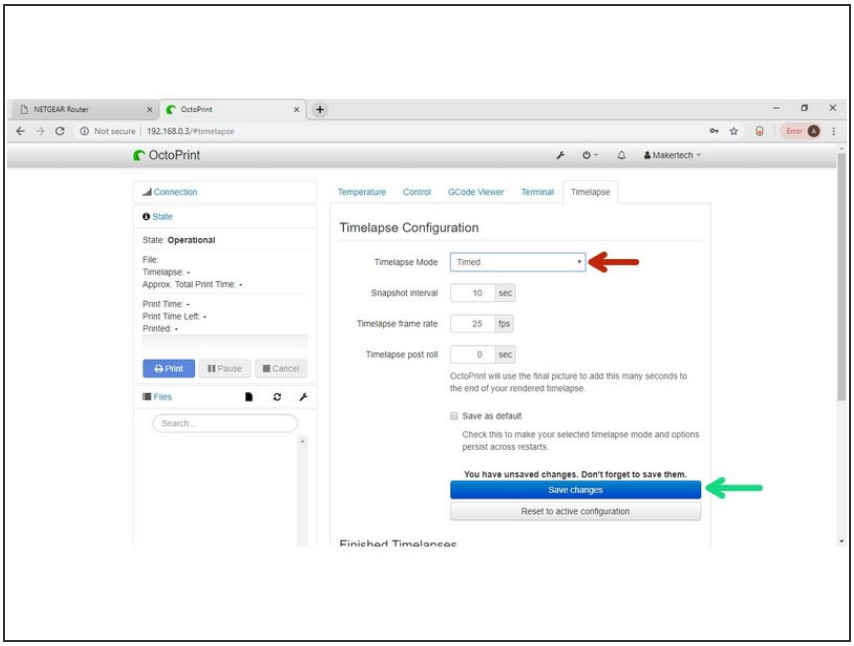
- Under the Control Tab you should see a live feed from the Webcam.
  - If you don't get an image reboot the Proforge and reconnect to octoprint.

Step 20 — Uploading Gcode



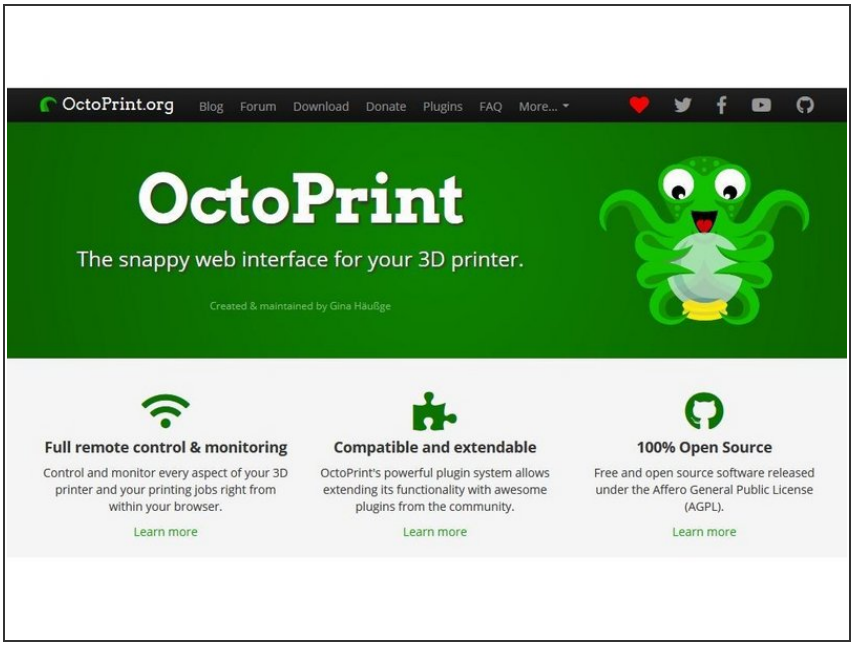
- Use Makertech CURA Software to slice your models.
- Click upload (or drag and drop) to send Gcode to OctoPrint for printing.

Step 21 — Creating Timelapses



- Before starting a print, set the time-lapse mode to either take a photo at a timed interval or at every Z-layer move.
- Click save.

Step 22 — More on OctoPrint



- More information on the OctoPrint interface can be found at http://octoprint.org