

# 2. OctoPrint Initial Setup and Printer Configuration

## Part 1: Power On

Remember to use a decent power source for the Pi. A random iPhone or iPad charger will not have the ability to sustain the current required for the Pi. **Use at least a 5V 2.4A power brick.**

**Making the following modification to the USB cable is MANDATORY!!! Ignoring these instructions could fry the printer, or the PI.**

1. Plug the Raspberry Pi into the 3D printer using a USB-A to Micro-USB cable.
  1. Take a piece of electrical tape, and use tweezers to cover the 5V power pin as shown in the following image.



2. This prevents backfeeding power to the printer, and providing power to the printer even if the printer is unplugged.
2. Plug the Raspberry Pi into a network port.
  1. Using an Ethernet patch cord, plug the Raspberry Pi's network port into one on the wall. If there is a network switch (hub) in place, plug the Pi into that.
  2. 

**Only ports marked: "-M", "-L1", "-L2", and "-L3" will provide data to the Pi. **DO NOT USE "-V" Ports.****
3. Plug the Raspberry Pi into power.
  1. Remember to use a power source with enough capacity for the Pi. Check the top of the page for guidelines.
  2. Plug a camera into the Pi. (Optional)
    1. Plug a camera into the Pi using a USB cable or the Pi's ribbon cable interface.

**Done!** - At this point, wait 6 minutes until following the next steps.

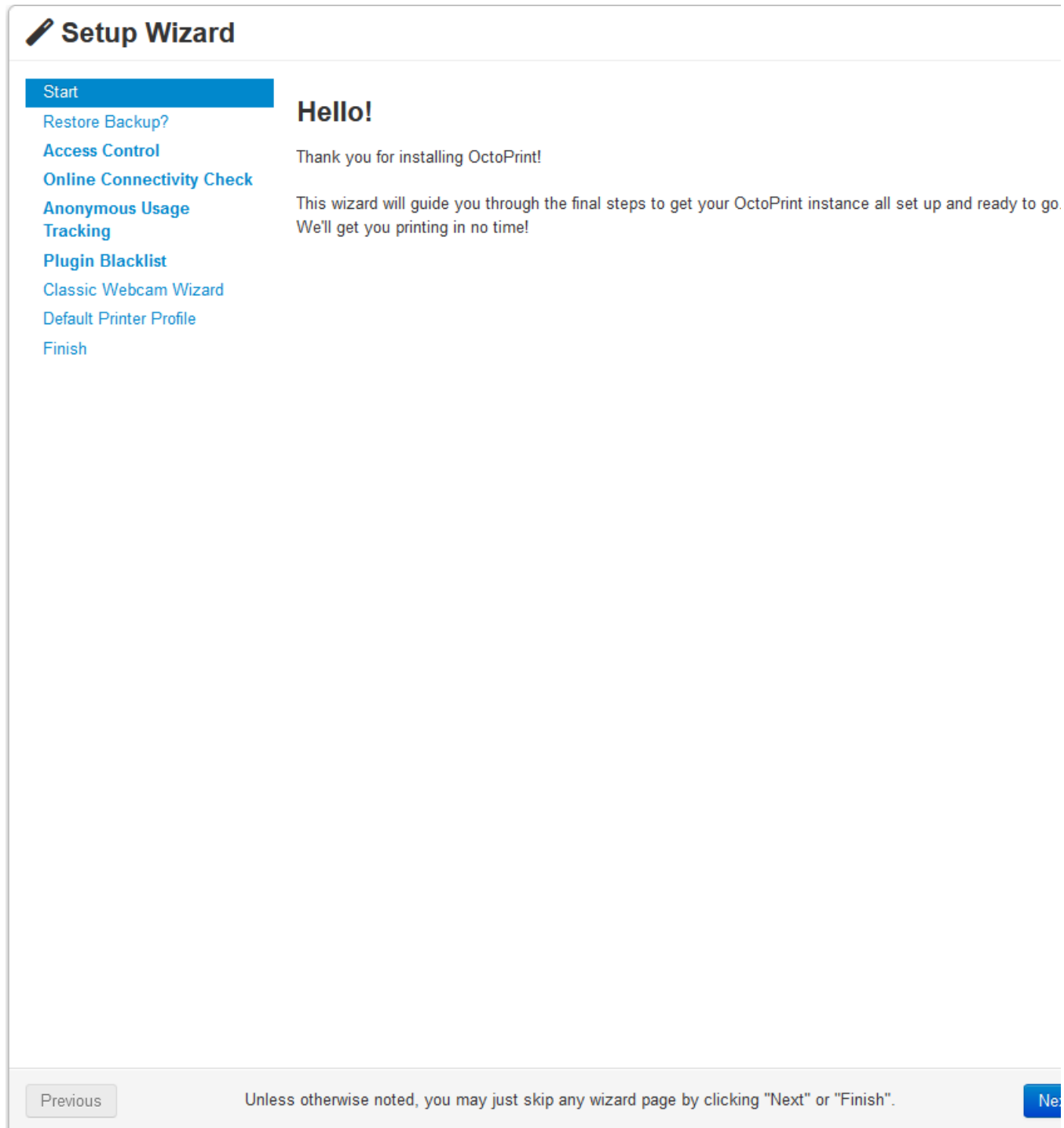
## Part 2: Logging In- Initial Setup

This next section is specifically focused on the Ender 3 V2 w/Mriscoc Professional Firmware Installed. Any other printer could be damaged.

1. On your web browser (Edge, Chrome, Firefox), enter the website: `http://STEM-E3V2-<PRINTERID>.local` **Remember to change the <PRINTERID> to the one you set while imaging.**

If the aforementioned address did not work, you can try: `https://STEM-E3V2-<PRINTERID>` **-Omitting the ".local"**

2. You should be met with this screen. **Skip through it and continue until you reach "Access Control".**



The screenshot shows the 'Setup Wizard' interface. On the left is a sidebar with a list of steps: 'Start' (highlighted in blue), 'Restore Backup?', 'Access Control', 'Online Connectivity Check', 'Anonymous Usage Tracking', 'Plugin Blacklist', 'Classic Webcam Wizard', 'Default Printer Profile', and 'Finish'. The main content area has a large 'Hello!' heading, followed by the text 'Thank you for installing OctoPrint!' and a paragraph: 'This wizard will guide you through the final steps to get your OctoPrint instance all set up and ready to go. We'll get you printing in no time!'. At the bottom, there is a 'Previous' button on the left, a line of text in the center stating 'Unless otherwise noted, you may just skip any wizard page by clicking "Next" or "Finish".', and a 'Next' button on the right.

3. Set the username and password to the same as you set in the Raspberry Pi Imager:

1. Username: **stem**
2. Password: **STEMROOM6041!!**

## Setup Wizard

Start

Restore Backup?

Access Control

Online Connectivity Check

Anonymous Usage

Tracking

Plugin Blacklist

Classic Webcam Wizard

Default Printer Profile

Finish

**Mandatory Step!** You need to fill this out now.

### Access Control

It looks like you haven't configured access control yet, which is now mandatory. Please **set up a user and password** for the initial administrator account who will have full access to both the printer and OctoPrint's settings:

Username

Password

Confirm Password

Create Account

Previous

Unless otherwise noted, you may just skip any wizard page by clicking "Next" or "Finish".

4. Select "Enable Connectivity Check" and move on. **Running tests is unnecessary.**

## Setup Wizard

[Start](#)[Restore Backup?](#)[Access Control](#)[Online Connectivity Check](#)[Anonymous Usage  
Tracking](#)[Plugin Blacklist](#)[Classic Webcam Wizard](#)[Default Printer Profile](#)[Finish](#)

**Mandatory Step!** You need to fill this out now.

### Configure the connectivity check

If the connectivity check is enabled, OctoPrint will regularly check if it's connected to the internet. This is **useful to prevent resource intensive operations** (such as checking for updates) if it's already clear that they won't succeed anyhow.

If it is disabled OctoPrint will always assume to have a working connection to the internet. If that should not actually be the case, server startups, update checks and the like might take longer.

OctoPrint comes preconfigured to perform the connectivity check every 15 minutes. You may change the value here.

Check interval  min

OctoPrint comes preconfigured to utilize Google's DNS server  , port 53 for the connectivity check (it's enabled). If you have concerns about using that, define the IP and port of a different online server that you trust and that has a high availability.

Host IP

Port

Test host & port

If you also want to check if name resolution works (strongly recommended), define a host name to check name resolution against. If you don't know what to set here, the default value (OctoPrint's domain) should work. If you don't want to perform regular resolution checks along side with the general connectivity check, leave the field empty.

Hostname

Test name resolution

Finally, please decide on whether to enable or disable the connectivity check. You may change the configuration at any time through Settings > Server right from within OctoPrint.

Disable Connectivity Check

Enable Connectivity Check

Connectivity check is **enabled**.

Previous

Unless otherwise noted, you may just skip any wizard page by clicking "Next" or "Finish".

Next

5. Select "Disable Anonymous Usage Tracking", and press "Next".

## Setup Wizard

[Start](#)

[Restore Backup?](#)

[Access Control](#)

[Online Connectivity Check](#)

**Anonymous Usage Tracking**

[Plugin Blacklist](#)

[Classic Webcam Wizard](#)

[Default Printer Profile](#)

[Finish](#)

**Mandatory Step!** You need to fill this out now.

### Configure Anonymous Usage Tracking

Anonymous usage tracking provides valuable insights into how many instances running what versions of OctoPrint are out there, whether they are successfully completing print jobs and various other metrics.

By enabling it you help to identify problems with new releases and release candidates early on, and to better tailor OctoPrint's future development to actual use.

For details on what gets tracked, please refer to [tracking.octoprint.org](https://tracking.octoprint.org) and also the [Privacy Policy](#) at [tracking.octoprint.org](https://tracking.octoprint.org).

**Note:** You can always change your decision and also access more granular controls via Settings > Anonymous Usage Tracking

Disable Anonymous Usage Tracking

Enable Anonymous Usage Tracking

Anonymous Usage Tracking is **disabled**.

Previous

Unless otherwise noted, you may just skip any wizard page by clicking "Next" or "Finish".

Next

6. Enable Plugin Blacklist Processing.

## Setup Wizard

[Start](#)[Restore Backup?](#)[Access Control](#)[Online Connectivity Check](#)[Anonymous Usage](#)[Tracking](#)**[Plugin Blacklist](#)**[Classic Webcam Wizard](#)[Default Printer Profile](#)[Finish](#)

**Mandatory Step!** You need to fill this out now.

### Configure plugin blacklist processing

To protect against known severe issues with certain versions of third party plugins, OctoPrint supports the use of a centralized plugin version blacklist to automatically disable such plugin versions before they can interfere with normal operation, allowing you to uninstall or update them to a newer version.

By default, OctoPrint will use the blacklist hosted at `plugins.octoprint.org/blacklist.json` which you can also take a look at in a more human readable format [here](#).

Please decide whether to allow fetch and use of this centralized blacklist starting with the next server start. You may also change your decision at any time through Settings > Server right from within OctoPrint.

Disable Plugin Blacklist Processing

Enable Plugin Blacklist Processing

Plugin blacklist processing is **enabled**.

Previous

Unless otherwise noted, you may just skip any wizard page by clicking "Next" or "Finish".

Next

#### 7. Leave all camera settings default.

## Setup Wizard

[Start](#)[Restore Backup?](#)[Access Control](#)[Online Connectivity Check](#)[Anonymous Usage](#)[Tracking](#)[Plugin Blacklist](#)[Classic Webcam Wizard](#)[Default Printer Profile](#)[Finish](#)

### Webcam & Timelapse Recordings

If you have a webcam, you may now configure it here.

#### Webcam

The **Stream URL** is the URL OctoPrint uses to embed the actual webcam stream (which should be an MJPG stream) into the web interface. This needs to be reachable **from your browser**.

It may be

- a fully qualified URL ( `http://host:port/path` ),
- a URL defaulting to the protocol used for accessing the web interface (e.g. `//host:port/path` ),
- an absolute path on the same host as OctoPrint (e.g. `/absolute/path` ) or
- a relative path on the same host as OctoPrint (e.g. `relative/path` )

The **Snapshot URL** is the URL OctoPrint uses to fetch single images from the webcam for creating timelapse recordings. This needs to be a fully qualified URL reachable **from the OctoPrint server**.

Stream URL

Needs to be reachable from the browser displaying the OctoPrint UI, used to embed the webcam stream into the page.

Snapshot URL

Fully qualified URL, needs to be reachable by OctoPrint's server

Unless otherwise noted, you may just skip any wizard page by clicking "Next" or "Finish".

## 8. Default Printer Profile: **VERY IMPORTANT!!!**

### 1. General:

1. Name: **STEM-E3V2-<PRINTERID>**
2. Model: **Ender 3 V2**



## Setup Wizard

[Start](#)[Restore Backup?](#)[Access Control](#)[Online Connectivity Check](#)[Anonymous Usage  
Tracking](#)[Plugin Blacklist](#)[Classic Webcam Wizard](#)[Default Printer Profile](#)[Finish](#)

### Set up your printer profile

Please make sure the settings below match your printer. If you plan on connecting more than one OctoPrint, you can also configure additional printer profiles under Settings > Printer Profiles

[General](#)[Print bed & build volume](#)[Axes](#)[Hotend & extruder](#)

Name

Identifier

Model

[Previous](#)

Unless otherwise noted, you may just skip any wizard page by clicking "Next" or "Finish".

#### 2. Print Bed and Build Volume:

1. Form Factor: **Rectangular**
2. Origin: **Lower Left**
3. Heated Bed: **Yes (Checked)**
4. Heated Chamber: **No (Unchecked)**
5. Width (X): **220 MM**
6. Depth (Y): **220 MM**
7. Height (Z): **250 MM**

General

Print bed & build volume

Axes

Hotend & extruder

Form Factor ☒ Rectangular

☐ Circular

Origin Lower Left



Heated Bed ☒

Heated Chamber ☐

Please define the print volume.

Width (X) 220 mm

Depth (Y) 220 mm

Height (Z) 250 mm

If your printer's print head may move slightly outside the print volume (e.g. for nozzle cleaning routines) you can define a custom safe bounding box for its movement below.

Custom bounding box ☐

This information is used for the temperature tab, the bounding box check, the GCODE Viewer and the OctoPrint API when slicing from OctoPrint.

3. Axes: **No Changes**

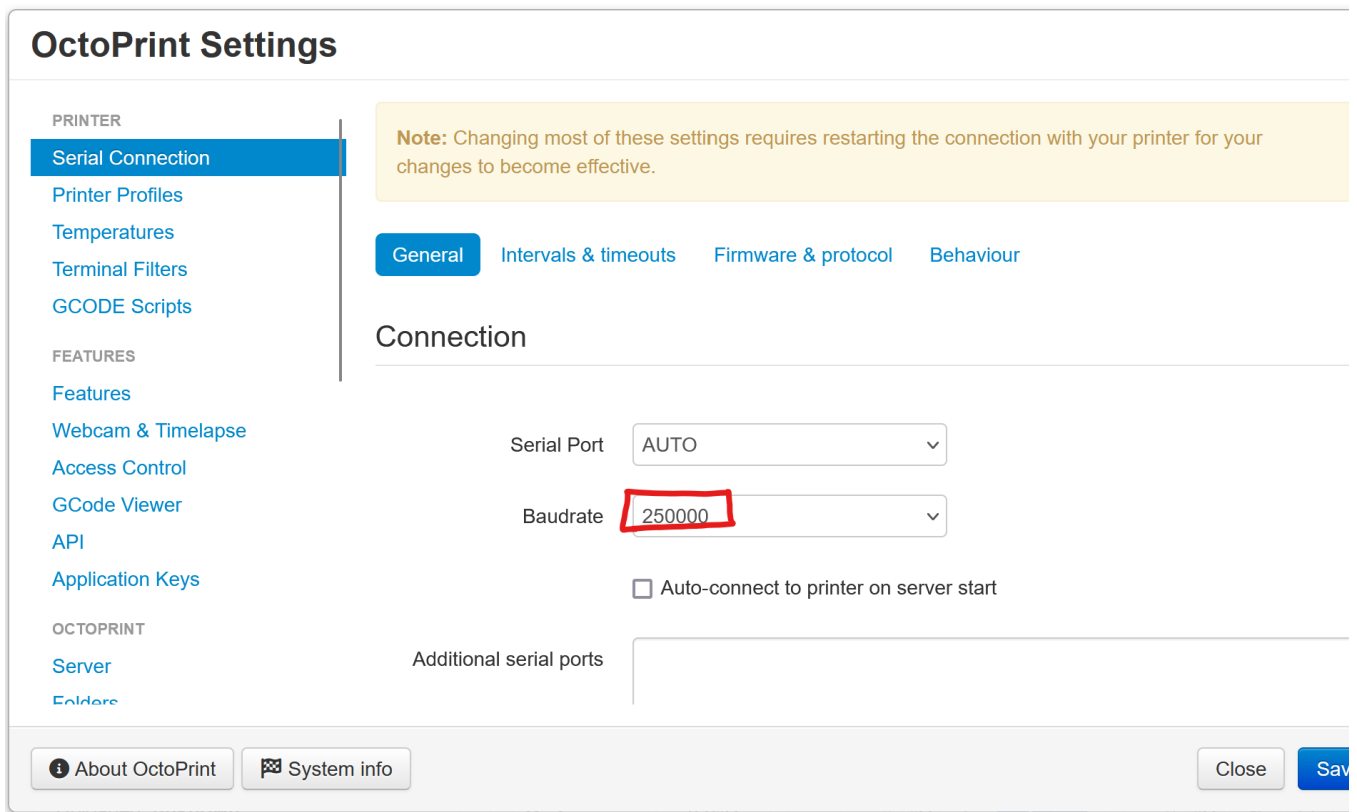
4. Hotend & Extruder: **No Changes**

**9. Select Finish**

This installation is still not ready to print. Many more changes are made in the next Part.

## Part 3: The Nitty-Gritty Again...

1. Open the settings menu, and **change the Baudrate to 250000**.



### 2. Save.

3. Open the settings menu on the device, and navigate to **GCODE Scripts**. Copy and paste these GCODE snippets in the corresponding boxes.

#### 1. Before Print Job Starts:

```
M75 {{ event.name }}
```

#### 2. After Print Job Completes:

```
M77 ; End print screen
;disable motors
M84
;disable all heaters
{% snippet 'disable_hotends' %}
{% snippet 'disable_bed' %}
;disable fan
M106 S0
```

3. **After Print Job is Canceled:**

```
M77 ; Stop print timer  
M117 Cancelling  
G27 ; Goto park position  
M84 ; disable motors  
  
;disable all heaters  
{% snippet 'disable_hotends' %}  
{% snippet 'disable_bed' %}  
  
M106 S0 ; disable fan  
M117 Print was cancelled
```

4. **After Print Job is Paused:**

```
M76 ; Pause print screen  
M117 Print was paused
```

5. **Before Print Job is Resumed:**

```
M75 {{ event.name }}  
M117 Print was resumed
```

6. **Before Tool Change: Leave Empty**

7. **After Tool Change: Leave Empty**

8. **After Serial Connection to Printer is Established:**

```
M117 Octoprint is connected
```

9. **Before Serial Connection to Printer is Closed:**

```
M117 Octoprint was disconnected
```

10. **Save.**

11. Go back to settings. Firmware and Protocol, and scroll down to Protocol Fine Tuning.  
**Change SD Cancel Command to M524.**

# OctoPrint Settings

PRINTER

Serial Connection

Printer Profiles

Temperatures

Terminal Filters

GCODE Scripts

FEATURES

Features

Webcam & Timelapse

Access Control

GCode Viewer

API

Application Keys

OCTOPRINT

Server

Folders

Appearance

Logging

Plugin Manager

Software Update

Announcements

Event Manager

Backup & Restore

Anonymous Usage Tracking

Error Tracking

Pi Support

PLUGINS

Classic Webcam

Firmware Check

Printer Dialogs

Printer Notifications

Virtual Printer

Note: Changing most of these settings requires restarting the connection with your printer for your changes to become effective.

General

Intervals & timeouts

Firmware & protocol

Behaviour

## Firmware specific settings

☒ Enable automatic firmware detection

If enabled, OctoPrint will try to figure out your printer's firmware automatically and adjust some communication parameters based on that. If that doesn't work out, or you want more granular control, uncheck this and the parameters question will become visible for you to adjust.

► Advanced options

## Protocol fine tuning

☐ Wait for `start` on connect

Try checking this if you run into connection timeouts due to your printer taking too long to respond to OctoPrint's handshake attempts on connect.

☒ Wait to load the SD card file list until the firmware capability report is provided

Try unchecking this if the SD card file list never gets loaded after connecting the printer, due to your firmware not providing a capability report.

Blocked commands

M0, M1

Use this to specify commands that should never be sent to the printer. Just the G or M code, comma separated. Defaults to `M0` and `M1` since most firmwares block until a button on the controller has been pressed if it receives either of the two commands.

Ignored commands

Use this to specify commands that should be silently ignored and never be sent to the printer. Just the G or M code, comma separated. Unlike blocked commands above, there will be no warning popup when these commands are encountered.

Pausing commands

M0, M1, M25

Use this to specify commands on which OctoPrint should pause the print job when receiving the G or M code, comma separated. Defaults to `M0`, `M1` and `M25`.

SD Cancel Command

M524

The command to send to printer when cancelling a SD card print. Defaults to `M25`.

About OctoPrint

System info

Close

12. **Save.**

13. Go back to settings. Behaviour, and select "Ignore Warning". Then check: **"Send M112 on disconnect due to error."**

## Error handling

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What to do on a firmware  
error (`Error:` or `!!`)

- ☐ Disconnect from the printer
- ☐ Cancel any ongoing prints but stay connected to the printer  
Please note that if you choose this, OctoPrint will still disconnect from the printer in case of *fatal* errors reported by your firmware (e.g. `kill() called`, `fatal:`).
- ☒ Ignore **Warning**  
Only choose this if your firmware sends error messages that are not actual errors. Might mask printer issues (even fatal errors!), be careful!

☐ Send `M112` on disconnect due to error

If this is checked, OctoPrint will try to send an `M112` prior to a disconnect due to a (fatal) error in order to disable heaters and motors.

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