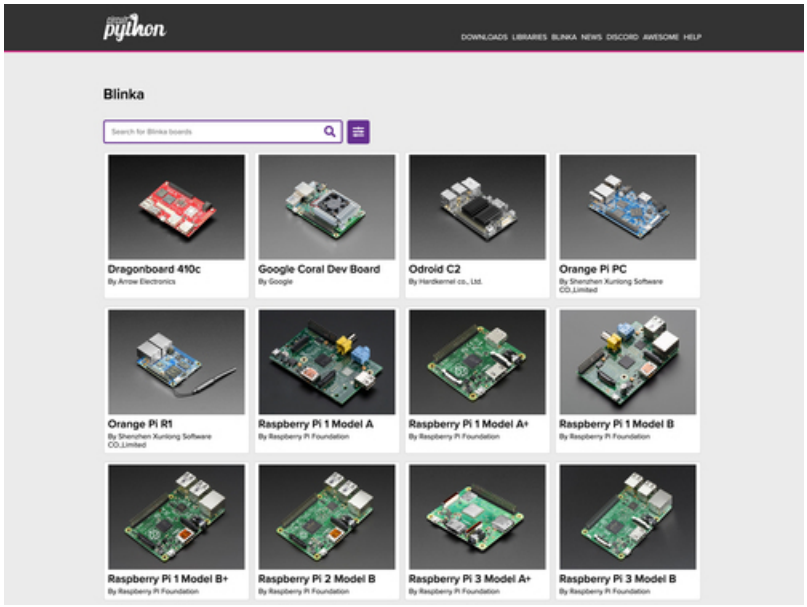
adafruit learning system

How to add a New Board to the circuitpython.org website

Created by Melissa LeBlanc-Williams



Last updated on 2019-09-16 08:23:10 PM UTC

Overview

So you've designed a microcontroller board that runs CircuitPython and you would like to show it off to the world by adding it to the **circuitpython.org (https://adafru.it/EFq)** website? We can show you how.

Or perhaps you now have Blinka running on your Linux-based Single Board Computer (SBC) and want to share that to everyone? We can show you how to do that too.

There are two sections where you can add boards. The first is the downloads page for microcontrollers running CircuitPython and that will not only show off the details of your board, but provide links to download the latest stable and development releases of CircuitPython.

The other section is the Blinka page which house all of the boards that support Blinka, which is our CircuitPython library compatibility layer for SBCs and Python 3. This page allows your to display all of the stats for your board as well as point to a guide for setting up Blinka on your board.

The Process

Either way, the process is about the same. Adding a board to the circuitpython.org website is easy and only requires three images and one Markdown or MD file per board.

Getting setup is very easy. The first thing you'll need to do is head over to Github and create a fork. If you would like more information, be sure to check out our Contribute to CircuitPython with Git and GitHub (https://adafru.it/Dkh) guide.

The repository to create a fork of is https://github.com/adafruit/circuitpython-org (https://adafru.it/Fno). Once you create a fork, you will need to clone it with git and you will have access to all of the source files for the website.

Let's continue with preparing our images!

Preparing the Images

To add a board to CircuitPython.org, you will need three sizes of the same image for each board.

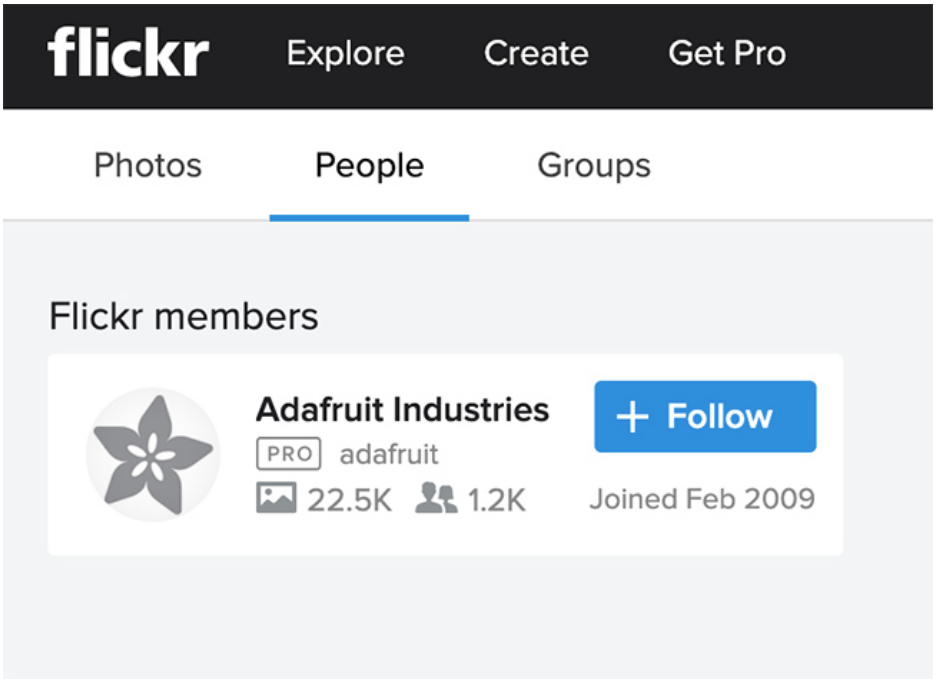
1. Small Size Minimum Width of 292 pixels. (Most photos are 293x225)
2. Large Size Minimum Width of 590 pixels. (Most photos are 780x600)
3. Original Size Photo in a Large Size

A good aspect ratio that looks nice for the Original Photo size is 13:10. This is the ratio used for most of Adafruit's product photos. We will start with finding an image, if you don't already have it, resizing it to the appropriate size, and optimizing it for the website.

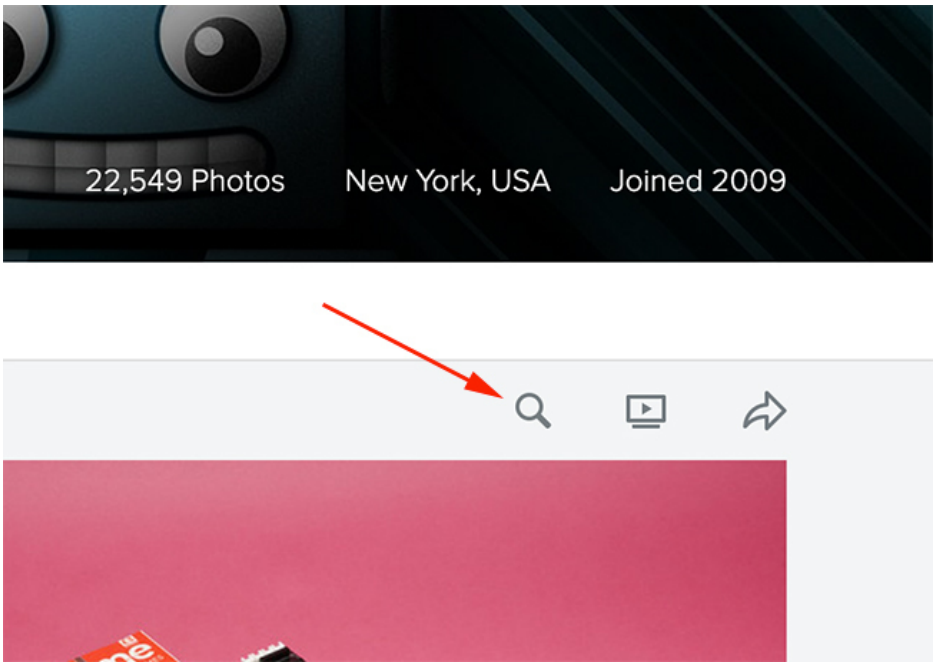
Finding Images on Flickr

Adafruit has many products available on Flickr in high resolution. Most of the photos are in the 13:10 aspect ratio.

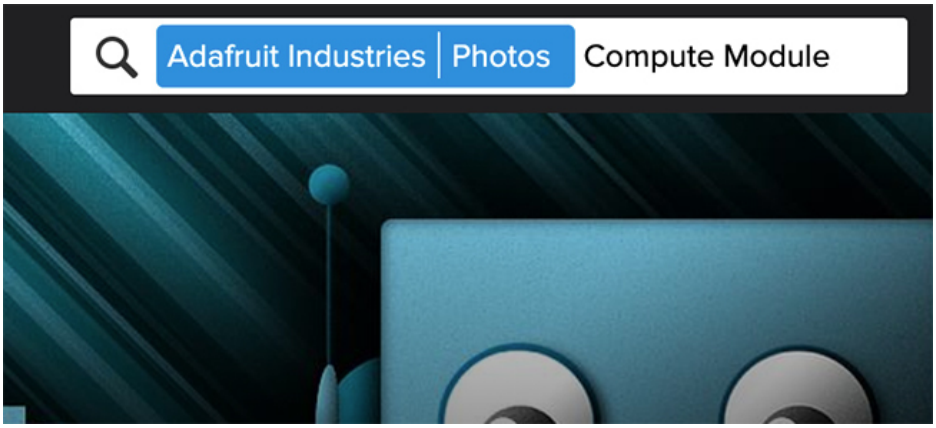
1. Go to https://www.flickr.com (https://adafru.it/Fnj)
2. Type "Adafruit Industries" into the search box and click "Search people"
3. Click on Adafruit Industries



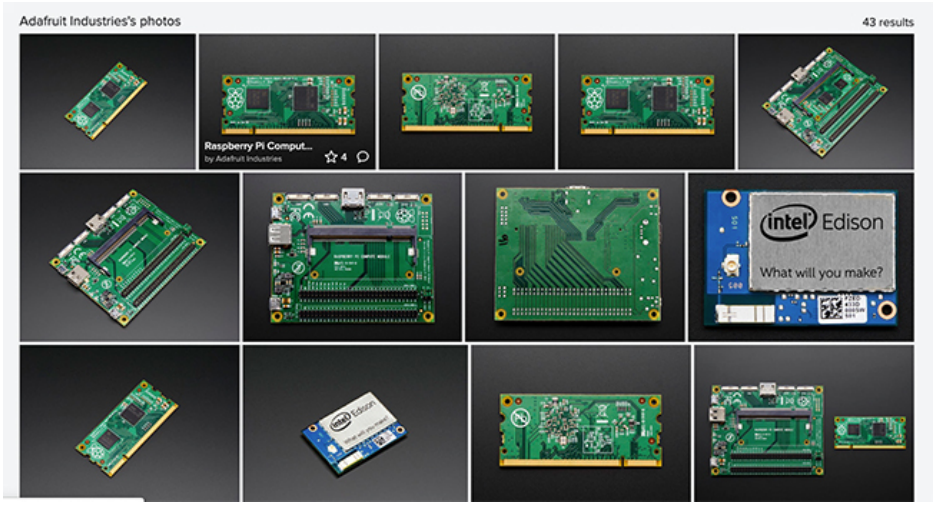
Click the Magnifying Glass icon on the right



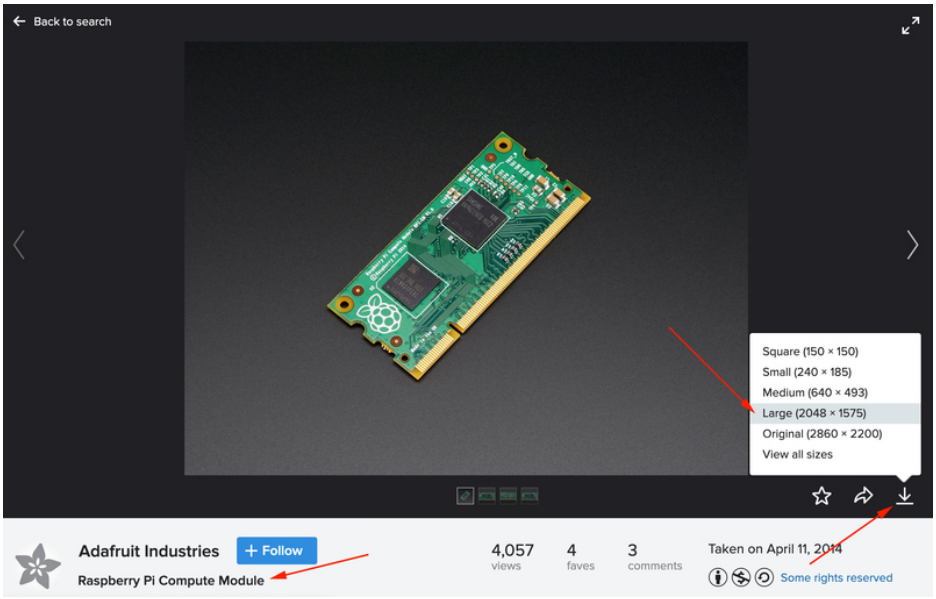
At the top, type in your Search Term and press enter



Click on a Photo in the Search Results



Verify the Description matches the item that you're looking for



Click the Arrow on the right side and select a size that will be your Original Sized photo

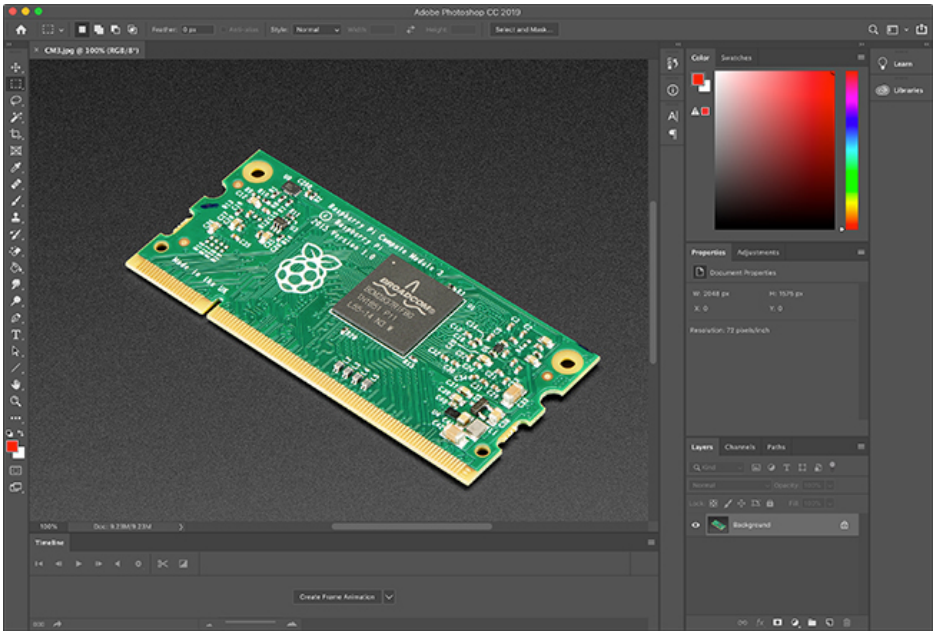
Resizing Photos

Photos can be resized in your favorite photo editor such as PhotoShop or GIMP or via websites such as ezgif.com

All three images should have the exact same filename.

PhotoShop

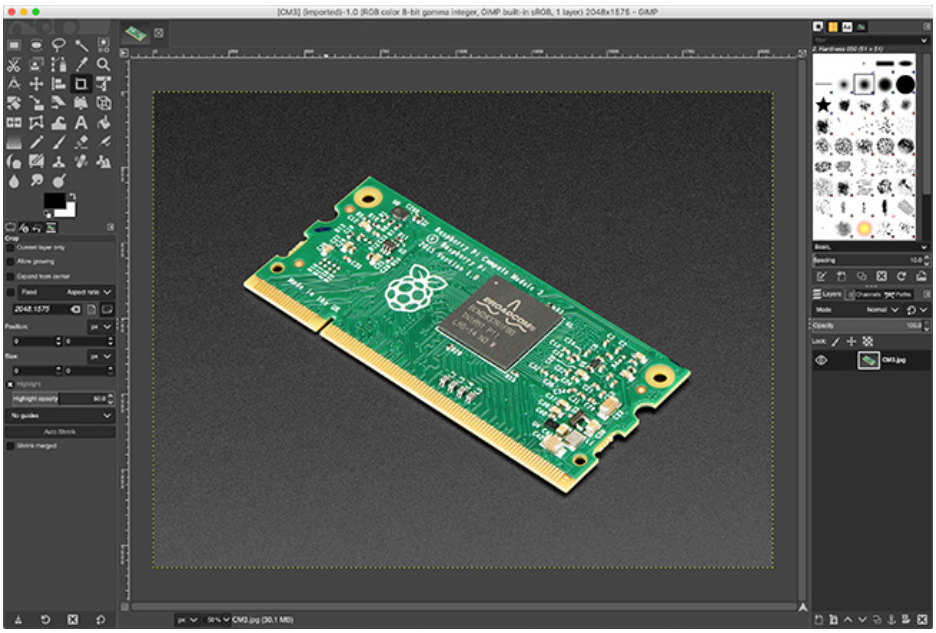
PhotoShop is one of the most popular pieces of Photo Editing software by Adobe, however it is not free. Here are the steps to resize the image in PhotoShop.



1. Open the Original Sized Photo
2. Go to **Image→Image Size...**
3. Type a width like **780**. The height should automatically adjust.
4. Press **OK**
5. Go to **File→Export→Export As...**
6. Select **JPG** for your Format and you can leave the quality as **100%**
7. Click **Export All...** and save the file into a folder where you'll remember it. Choose a filename appropriate to your board.
8. Click **Edit→Undo** until you undo the resizing of the image
9. Repeat at **step 2** for the small sized image, except choose something like **293** for the width

GIMP

GIMP, which stands for Gnu Image Manipulation Program is another very popular, but free piece of software. Here are the steps to resize an image in GIMP.



1. Open the Original Sized Photo
2. If it asks about Converting to RGB Working Space, click **Convert**
3. Go to **Image→Scale Image...**
4. Type a width like **780**. The height should automatically adjust
5. Press **Scale**
6. Go to **File→Export As...**
7. Select **JPG** for your Format and you can leave the quality as **100%**.
8. Click **Export** to save the file into a folder where you'll remember it. Choose a filename appropriate to your board.
9. Click **Edit→Undo** until you undo the resizing of the image
10. Repeat at **step 2** for the small sized image, except choose something like **293** for the width

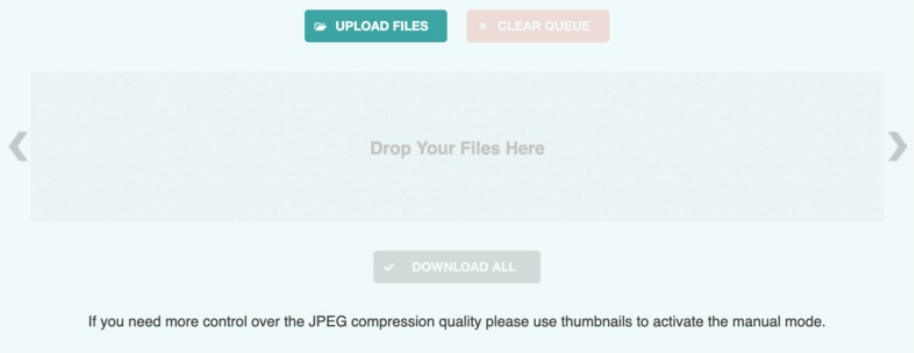
ezgif.com

ezgif.com is a website that provides all kinds of free image manipulation tools. This is a great option if you don't want to install any software on your computer. Here are the steps to resize the image in ezgif.com.

1. Navigate to https://ezgif.com/resize (https://adafru.it/Fnk) in your browser
2. Click **Choose File** and select your image
3. Click **Upload!**
4. Type a width like **780** into the width box. Leave the height empty so it should automatically adjust
5. Under **If the aspect ratio does not match** leave it as **Center and crop to fit**.
6. Click **Resize image!**
7. Scroll down and under the resized image, click **save**
8. It will download as **ezgif.com-resize.jpg** into your downloads folder
9. Find it in your downloads and rename it to something more appropriate
10. Repeat for the small sized image, except choose something like **293** for the width

Optimizing Images

Use your favorite image optimization website such as **compressjpeg.com** which we will cover.



1. Navigate to https://compressjpeg.com/ (https://adafru.it/Fnl) in your browser
2. Drag and drop all of your images into the area labeled **Drop Your Files Here**
3. Once they are done automatically compressing, click the **Download All** button
4. Unzip the file that downloads
5. If you had several similar filenames for the same board, you can look at the file size to determine the appropriate file.
6. Rename the files to the final name you would like to use.

Your images should now be ready for adding a board.

Adding to Downloads

The Downloads section is for microcontroller boards which incorporate CircuitPython compatibility. If you have a Single Board Linux computer, see the Adding to Blinka page.

Image Location

Once you have your images prepared, you will want to place them into the three folders inside **assets/images/boards** as follows:

1. The Original Sized image should be placed into the **original** folder.
2. The Larger of the two resized images should be placed into the **large** folder.
3. The Smaller of the two resized images should be placed into the **small** folder.

All three images should have the same filename.

Markdown File

The markdown file contains all of the information used for the board. To create a Markdown file for your board, go into the **_boards** folder and make a duplicate of the **unknown.md** file.

You will want to rename the duplicate to something like **board_name.md** to match your image files. For instance, if your images were named **feather_m4_express.jpg**, you would want to use **feather_m4_express.md**.

Open up the new markdown file in your favorite text editor. This should be a text editor like Windows notepad and not a word processor such as Microsoft Word because word processors add extra data that will not work well with the Markdown file format.

We'll start with the header section and go line by line to make sure you have the correct information added. The header section always starts with three hyphen characters and ends with three hyphen characters. You can always look at the other Markdown files for examples too. We're going to take a look at the Feather M4 Express file.

```
---
layout: download
board_id: "feather_m4_express"
title: "Feather M4 Express Download"
name: "Feather M4 Express"
manufacturer: "Adafruit"
board_url: "https://www.adafruit.com"
board_image: "feather_m4_express.jpg"
features:
  - Feather-compatible
  - Battery Charging
---

This feather is powered by the ATSAMD51J19 -  with its 120MHz Cortex M4 with floating point support and 5

And best of all, it's a Feather - so you know it will work with all our FeatherWings! What a great way to

The most exciting part of the Feather M4 is that while you can use it with the Arduino IDE - and it's bon

The Feather M4 Express uses the extra space left over to add a Mini NeoPixel, 2 MB SPI Flash storage and

Easy reprogramming: the Feather M4 comes pre-loaded with the UF2 bootloader, which looks like a USB stora

Comes fully assembled and tested, with the UF2 USB bootloader. We also toss in some headers so you can so

## Purchase
* [Adafruit](https://www.adafruit.com/product/3857)
* [Digi-Key](https://www.digikey.com/short/p87f17)

## Contribute

Have some info to add for this board? Edit the source for this page [here](https://github.com/adafruit/ci
```

Header

layout

Leave this set to **download** since we're on the downloads page

board_id

This should be the name of the board for example **"feather_m4_express"**.

title

This is the page title and should be more descriptive and end with the word **Download**. For example **"Feather M4 Express Download"**.

name

This is the name of the board and should be the same as Title but without the word **Download**. For example **"Feather M4 Express"**.

manufacturer

The name of the board manufacturer. For example **"Adafruit"**.

board_url

This is a full URL that the use to view the product information for the board. For example **"https://www.adafruit.com/product/3857"**.

board_image

This is the filename only for the image you created. The path for the appropriate sized will automatically be generated. For instance **"feather_m4_express.jpg"**.

downloads_display

This can optionally be included in order to hide your board by setting it to false. Omitting this value or setting it to true will display your board.

features

This is a list with features that the board has such as Battery Charging, Bluetooth, WiFi, etc. Items in this list are preceded by a space, a hyphen character, and another space.

Body

The body is more free form and should include at least one paragraph for a description of the board. This is often copied from a product page.

Purchase Section

If a board is available for purchase, it should include a Purchase section with one or more links.

Learn More Section

This section is more commonly found on pages where the board is not yet available for purchase. This should include informational links about the board.

Contribute Section

This should is a standard section that should be left intact as it is. It allows an easy way for people to make modifications to board information.

Submit a Pull Request

Now that you have your changes made, go ahead and commit your code to Github and submit a Pull Request. It will be reviewed and if it looks good, it will be merged in.

Adding to Blinka

For Linux-based Single Board Computers, you will want to add the new board to the Blinka section of the website.

Image Location

Once you have your images prepared, you will want to place them into the three folders inside **assets/images/boards** as follows:

1. The Original Sized image should be placed into the **original** folder.
2. The Larger of the two resized images should be placed into the **large** folder.
3. The Smaller of the two resized images should be placed into the **small** folder.

All three images should have the same filename.

Markdown File

The markdown file contains all of the information used for the board. To create a Markdown file for the board, go into the **_blinka** folder and make a duplicate of one of the other files.

You will want to rename the duplicate to something like **board_name.md** to match your image files. For instance, if we're going to add the Raspberry Compute Module 3, we'll make a copy of **raspberry_pi_3b.md** because the board is the most similar to the board we're adding. We'll name it **raspberry_pi_cm3.md** and we'll makes sure all of the images are named **raspberry_pi_cm3.jpg.**

Open up the new markdown file in your favorite text editor. This should be a text editor like notepad and not a word processor such as Microsoft Word because word processors add extra data that will not work well with the Markdown file format.

We'll start with the header section and go line by line to make sure you have the correct information added. The header section always starts with three hyphen characters and ends with three hyphen characters. You can always look at the other Markdown files for examples too.

Here's the file that we're starting with.

```
---
layout: download
board_id: "raspberry_pi_3bplus"
title: "Raspberry Pi 3 Model B Download"
name: "Raspberry Pi 3 Model B"
manufacturer: "Raspberry Pi Foundation"
board_url: "https://www.raspberrypi.org/products/raspberry-pi-3-model-b/"
board_image: "raspberry_pi_3b.jpg"
download_instructions: "https://learn.adafruit.com/circuitpython-on-raspberrypi-linux/installing-circuitp
downloads_display: true
blinka: true
features:
  - Wi-Fi
  - Bluetooth/BLE
  - Ethernet
  - HDMI
  - 40-pin GPIO
---

Did you really think the Raspberry Pi would stop getting better? At this point, we sound like a broken re

- Quad Core 1.2GHz Broadcom BCM2837 64bit CPU
- 1GB RAM
- BCM43438 wireless LAN and Bluetooth Low Energy (BLE) on board
- 100 Base Ethernet
- 40-pin extended GPIO
- 4 USB 2 ports
- 4 Pole stereo output and composite video port
- Full size HDMI
- CSI camera port for connecting a Raspberry Pi camera
- DSI display port for connecting a Raspberry Pi touchscreen display
- Micro SD port for loading your operating system and storing data
- Upgraded switched Micro USB power source up to 2.5A

## Purchase
* [Adafruit](https://www.adafruit.com/product/3055)

## Contribute

Have some info to add for this board? Edit the source for this page [here](https://github.com/adafruit/ci
```

Header

Let's take a look at the Header Options. You may notice that there's a few more here than the downloads page has.

layout

Leave this set to **download**. Even though this is the Blinka page, the layout should be the same as the download page.

board_id

This should be the name of the board for example **"raspberry_pi_cm3"**.

title

This is the page title and should be more descriptive and end with the word **Download**. For example **"Raspberry Pi**

Compute Module 3 Download".

name

This is the name of the board and should be the same as Title but without the word **Download**. For example **"Raspberry Pi Compute Module 3"**.

manufacturer

The name of the board manufacturer. For example **"Raspberry Pi Foundation"**.

board_url

This is a full URL that the use to view the product information for the board. For example **"https://www.raspberrypi.org/products/compute-module-3/"**.

board_image

This is the filename only for the image you created. The path for the appropriate sized will automatically be generated. For instance **"raspberry_pi_cm3.jpg"**.

download_instructions

This should be the full URL that points to the appropriate setup guide. For example **"https://learn.adafruit.com/circuitpython-on-raspberrypi-linux/installing-circuitpython-on-raspberry-pi"**.

downloads_display

This can optionally be included in order to hide your board by setting it to false. Omitting this value or setting it to true will display your board.

blinka

This value should always be set to **true**. This tells the downloads layout to look for the additional Blinka page header options.

features

This is a list with features that the board has such as Battery Charging, Bluetooth, WiFi, etc. Items in this list are preceded by a space, a hyphen character, and another space.

Body

The body is more free form and should include at least one paragraph for a description of the board. This is often copied from a product page. If this is available on the vendor website, this would be the preferred text. If not, we usually make it concise, but informational.

Purchase Section

If a board is available for purchase, it should include a Purchase section with one or more links.

Learn More Section

This section is more commonly found on pages where the board is not yet available for purchase. This should include informational links about the board.

Contribute Section

This should is a standard section that should be left intact as it is. It allows an easy way for people to make modifications to board information.

Final File

After editing the duplicated file, this is what it looks like. In this case, it was not available on adafruit.com, but was available through the Raspberry Pi Foundation website.

```
---
layout: download
board_id: "raspberry_pi_cm3"
title: "Raspberry Pi Compute Module 3 Download"
name: "Raspberry Pi Compute Module 3"
manufacturer: "Raspberry Pi Foundation"
board_url: "https://www.raspberrypi.org/products/compute-module-3/"
board_image: "raspberry_pi_cm3.jpg"
download_instructions: "https://learn.adafruit.com/circuitpython-on-raspberrypi-linux/installing-circuitp
downloads_display: true
blinka: true
features:
  - HDMI
  - eMMC Flash
  - SD Card Interface
  - Modular
  - 46 GPIO Pins
---

The Compute Module 3 contains the guts of a Raspberry Pi 3 (the BCM2837 processor and 1GB RAM) as well as

The Compute Module is available for purchase in single units, or in batches of hundreds or thousands. To

## Purchase
* [Raspberry Pi Foundation](https://www.raspberrypi.org/products/compute-module-io-board-v3/)

## Contribute

Have some info to add for this board? Edit the source for this page [here](https://github.com/adafruit/ci
```

Submit a Pull Request

Now that you have your changes made, go ahead and commit your code to Github and submit a Pull Request. It will be reviewed and if it looks good, it will be merged in.

Troubleshooting

My PR has been approved and merged, but my changes aren't showing up

It usually takes a few minutes for the pages to update.

I've waited more than a few minutes and they still aren't showing up

Very rarely, but on occasion, Github Pages runs into a problem and doesn't upload the changes. You can check this by going to https://github.com/adafruit/circuitpython-org, going to the Settings tab, if you have access, and scrolling down to the Github Pages section to check for an error.

Submitting a new PR will cause it to repair itself. If you want to submit an empty Pull Request (no changes), you can first create an empty commit with the following command:

```
git commit --allow-empty -m "Trigger GHPages Rebuild"
```

You can change the message to be whatever is appropriate. After that, submit a new Pull Request.

My changes were merged, but the image is wrong or missing

You will want to check that the image specified in your markdown file matches the image name and does not include a path.

Some of the images are right, but not all of them

First try refreshing the page in case the data is cached in your browser. If that doesn't work, make sure all of the image filenames match.

There are some Unknown boards showing up in addition to the board I added

If the new board you added is showing up and there is also an existing ID for your board, make sure to use that first. To find the ID, Right-click on the Unknown board and choose Inspect. Look for the data-id tag to get the board ID.

There is an Unknown board and the board I added isn't showing up

Check the formatting of the Markdown file you just added. Extra or too few of spaces can cause it to not be parsed correctly.