

Hello and welcome to STELLA!

These instructions will guide you to install the CircuitPython system on a Adafruit Feather STM32F405 microcontroller. If you are using a SparkFun Thing Plus RP2040 microcontroller, stop here and switch to the instructions specific for that microcontroller.

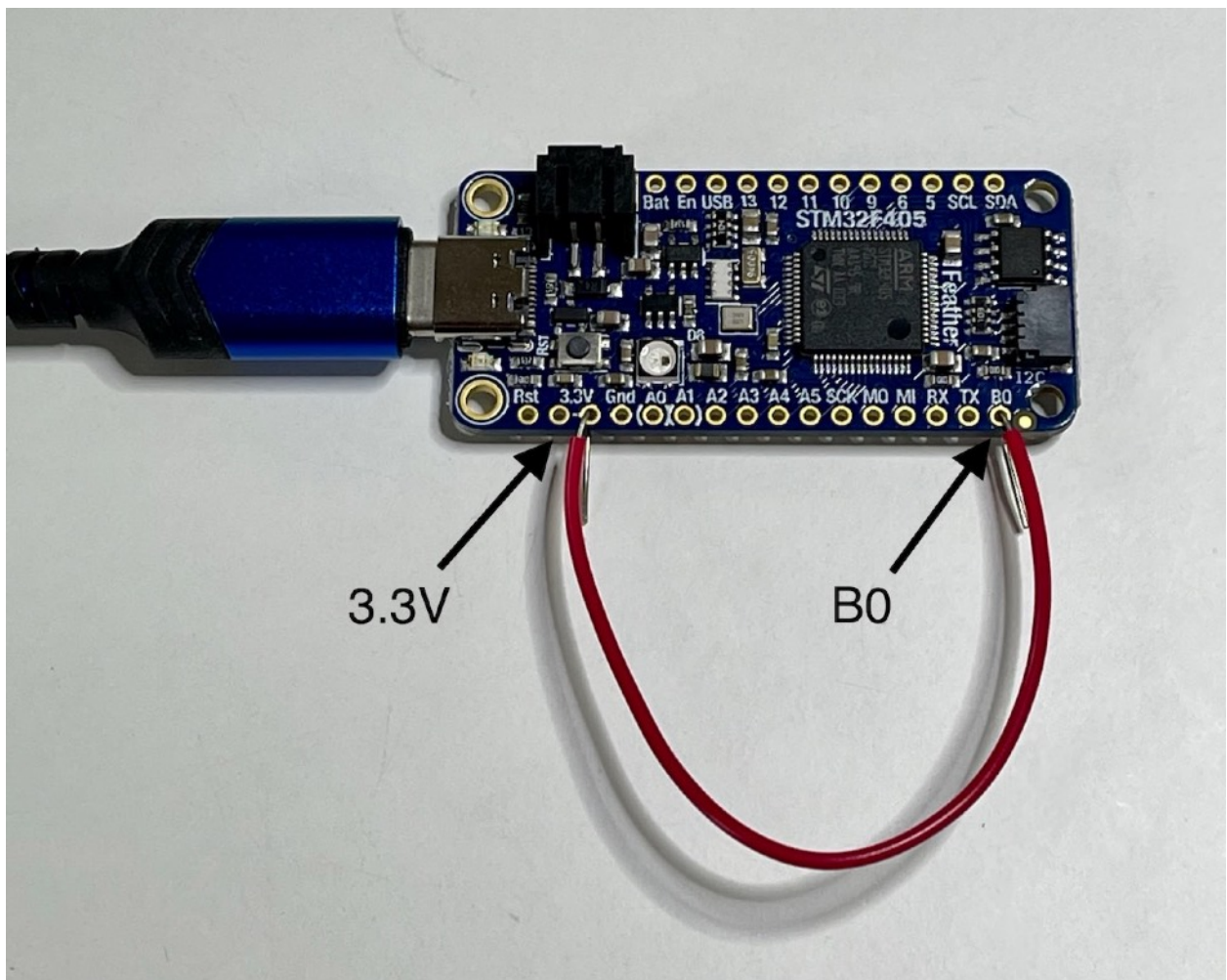
Loading CircuitPython onto this microcontroller requires some attention to detail.

## Loading CircuitPython using Microsoft Windows:

(If you are using a Macintosh computer running OSX, do not use these instructions. Follow the instructions in the STM32F405\_load\_CircuitPython\_Macintosh\_OSX file.)

We are following the instructions on this webpage: <https://learn.adafruit.com/adafruit-stm32f405-feather-express/dfu-bootloader-details>

With the microcontroller disconnected from the computer, use a piece of wire to temporarily connect the B0 via to the 3.3V via. When plugged in, the microcontroller powers up into bootloader mode.



## STM32F405\_load\_CircuitPython\_Microsoft\_Windows

Once it's powered up, check that the bootloader appears in the hardware device listing on the computer:

Open the Control Panel, select Hardware and Sound, then select Devices and Printers, and STM32 BOOTLOADER should show up in the Unspecified devices list.

Download the STM32CubeProgrammer from ST, the manufacturer of the microcontroller chip.  
<https://www.st.com/en/development-tools/stm32cubeprog.html>

Click "Get Software", and choose the operating system version you have, which is most likely to be Win64. Click "Get Latest"

At this point you have to register for an ST account. Submit your registration, and check your email to confirm. In your email, make very sure it's from [ST.com](https://www.st.com), and click "Download Now".

The download will be a 218MB.zip file. Open it and click "Extract All".

You'll need administrator privileges to install the software.

The guide for operating the STMCubeProgrammer is here:

<https://learn.adafruit.com/adafruit-stm32f405-feather-express/dfu-bootloader-details#step-3045684>

It's detailed and step by step, so we won't duplicate it here.

After following the STMCubeProgrammer instructions, remove the wire between B0 and 3.3V, and unplug the microcontroller. Plug it back in, and you should see a CIRCUITPY drive on the hierarchy on the left in Windows.

You have completed installing CircuitPython on the STM32F405 microcontroller.