Getting Started.

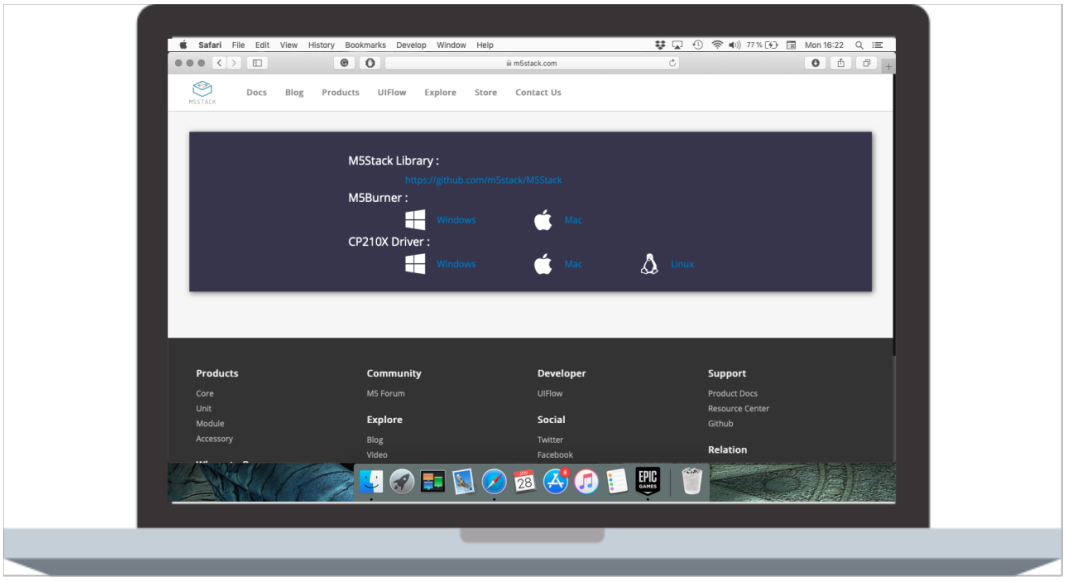
The M5Stack can be programmed in a variety of environments. While I only cover UIFlow, the same setup procedure needs to be followed

Downloading the communication port driver.

Before we can connect the M5Stack to a computer we need to download the communication port driver. This drivers allows our computer to communicate over the U.S.B port.

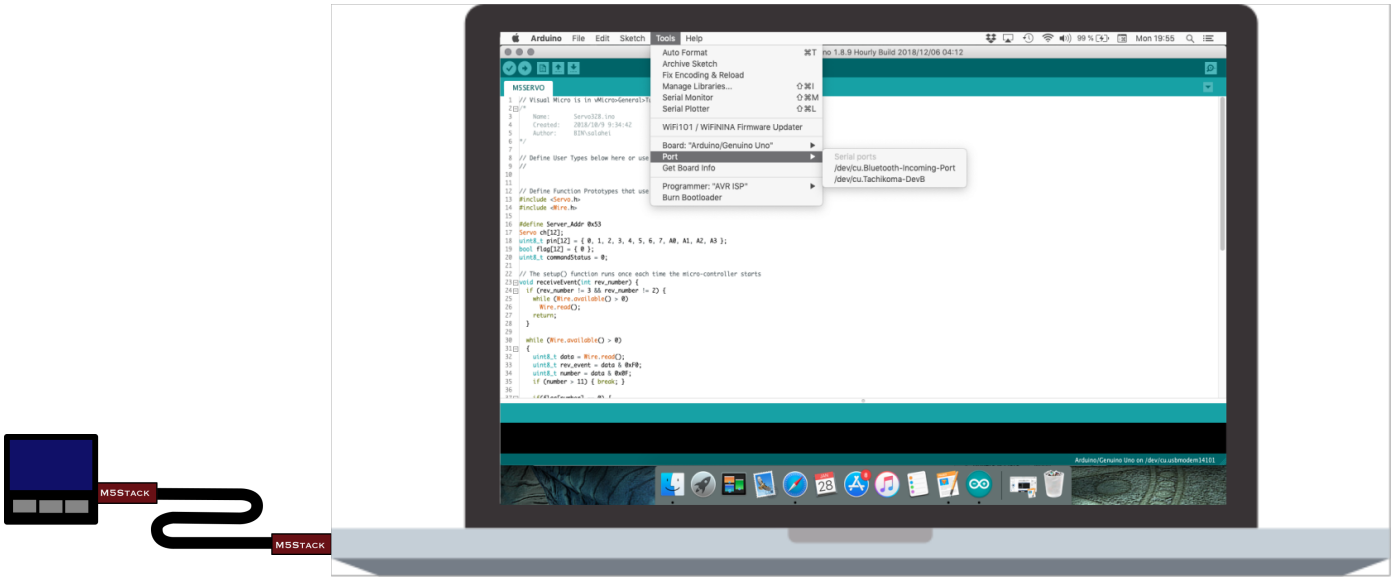
First go to http://www.m5stack.com.

Move the mouse pointer to the word "Explore" and a drop down box will appear. Click on the "Download" option to get the following screen.



Which ever environment you use, you first need to click on the CP210X driver for your operating system.

If the driver has installed correctly we need to find where the operating system has installed it. The easiest none technical way to find this out is to use the Arduino IDE.



Once the Arduino IDE has loaded up we need to plug in the M5Stack and go to Tools>Port, and see what turns up.

In Mac OSX we should see /dev/cu.SLAB_USBtoUART

In Windows we should see COMX (where X in a number which on my Windows machine is COM9 or com10)

In the various Linux distributions we should see /dev/ttyUSBX or (as on some Raspberry Pi's,) /dev/ttyAMAX (where X is replaced but the port number assigned at connection.)

In various version of linux there is a command that we can use to find the port instead of loading the Arduino IDE, if we open the command prompt we can type

ls /dev/tty

and this will list any active devices that have created a com port.

In some circumstances the port doesn't show up, most of the time is is down to a faulty USB C lead (not all leads are made the same). My recommendation is to keep trying different leads until you find one that works. My lead of choice is the Anker Powerline+ USB 3.0 lead as its quite heavy duty. Another reason the driver may not work is because the operating system may have blocked to instal due to an administrative privileges lock.

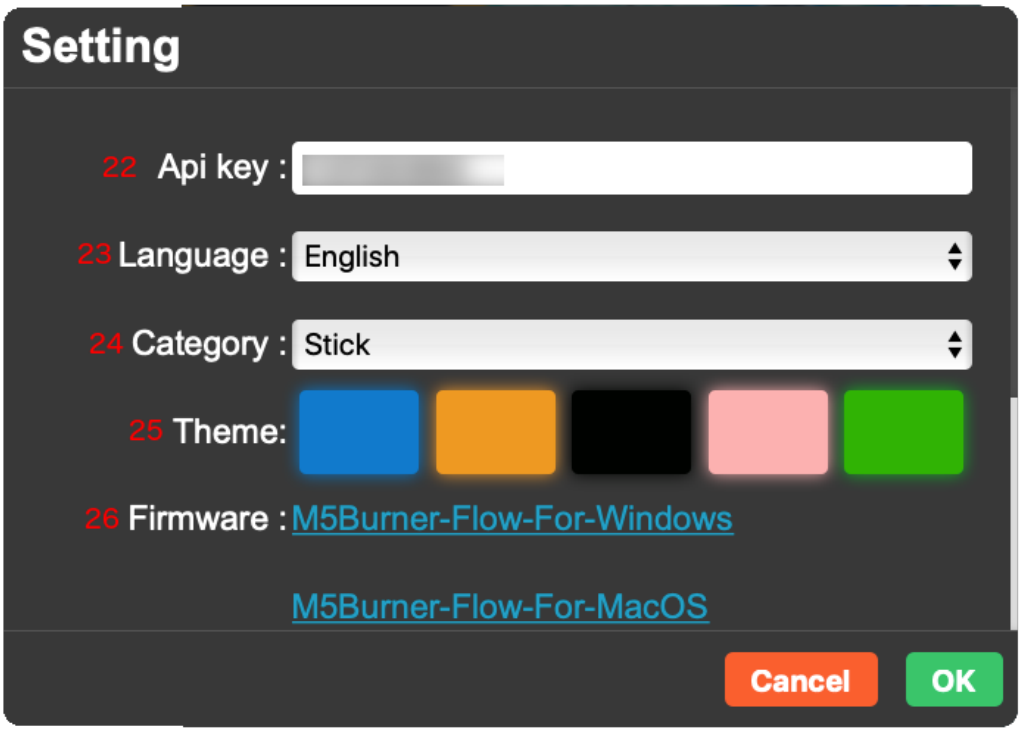
Sometimes everything we try fails and we just can't communicate with the M5Stacks U.S.B chip. In this case all is not lost, we can use an external U.S.B to UART adapter to bypass the chip. Thankfully, M5Stack also have two available adapters on their web site for this.

If everything worked and a port shows up in Arduino, we can move on to installing the UIFlow firmware.

Installing the UIFlow firmware on the M5Stack or Stick.

The M5Go sometimes comes with the UIFlow firmware pre-installed but, not always, and if it does, it may need updating.

Go to http://flow.m5stack.com to load up the UIFlow environment then click the button on the far top right that looks like three horizontal lines. this will cause the setting menu to drop down. Click on the "Settings" and this will open up the Settings window.

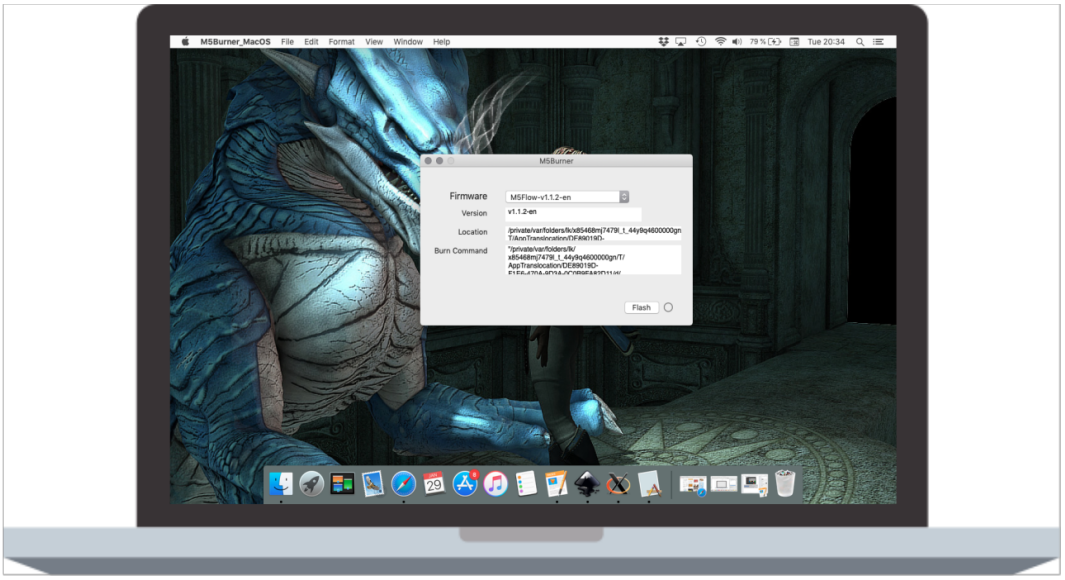


Click on the M5Burner for your operating system to download to you computer. Once it has finished downloading, we can run it.

In OSX there is a security issue that causes M5 burner to pop up a message saying it is corrupt. To get around this you need to open the command prompt and type
`sudo spctl --master-disable`
Download and run M5Burner (don't do anything else), Once finished you need to type
`sudo spctl --master-enable`
in the command line to reset security settings. I'm not sure what is causing the corrupt message but, disabling and re-enabling **spctl** just for this app has not caused me any problems.

The new versions of M5Burner from 1.1.1 onwards have taken great steps to simplify programming.

If the M5Stack is plugged in, all we need to do is select the latest firmware for our device which at the time of writing was **M5Flow-1.1.2-en** for the M5Stack and **M5Flow-1.1.2-stick** for the



M5Stick. Once we are sure everything is correct, all we need to do is hit **Flash** and wait for the circle to fill like a clock. I always give ten seconds after the circle has filled just to make sure its all finished before closing down M5Burner and restarting the M5Stack.

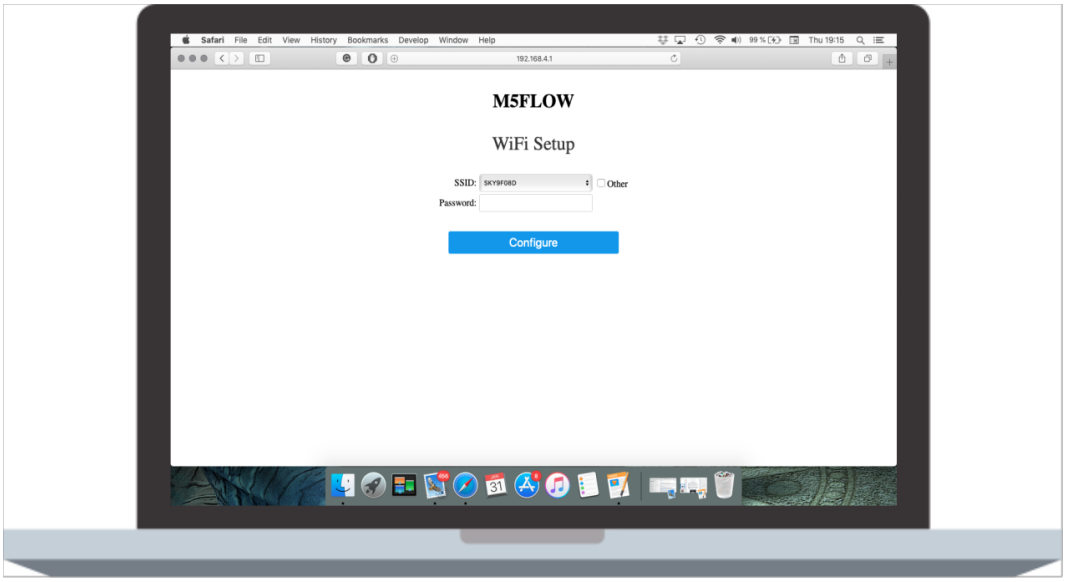
Connecting the M5Stack to UIFlow.

Now that we have everything installed, it is time to connect the M5Stack to UIFlow and get programming.

Press the red button on the side of the M5Stack to switch it on (assuming its charged but switched off.) the start screen will load up asking you to connect to the web address shown on the screen.

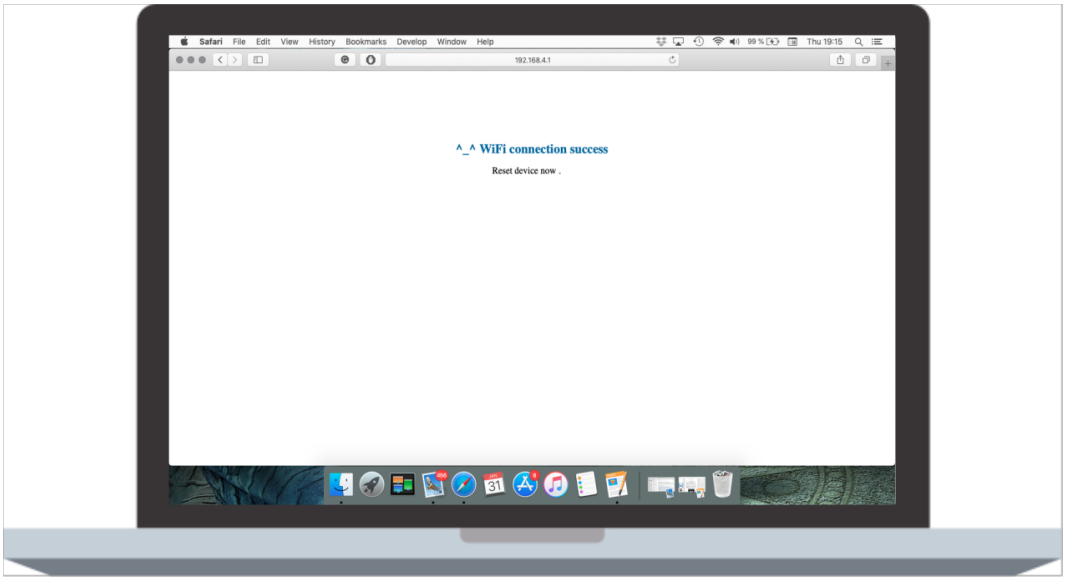
On your computer you need to go to the wifi connection, click on it to bring up the list of available wifi devices and click on the name that matches the screen of the M5Stack.

Once connected, you need to go to 192.168.4.1 which will bring you to the M5Stack wifi setup page.



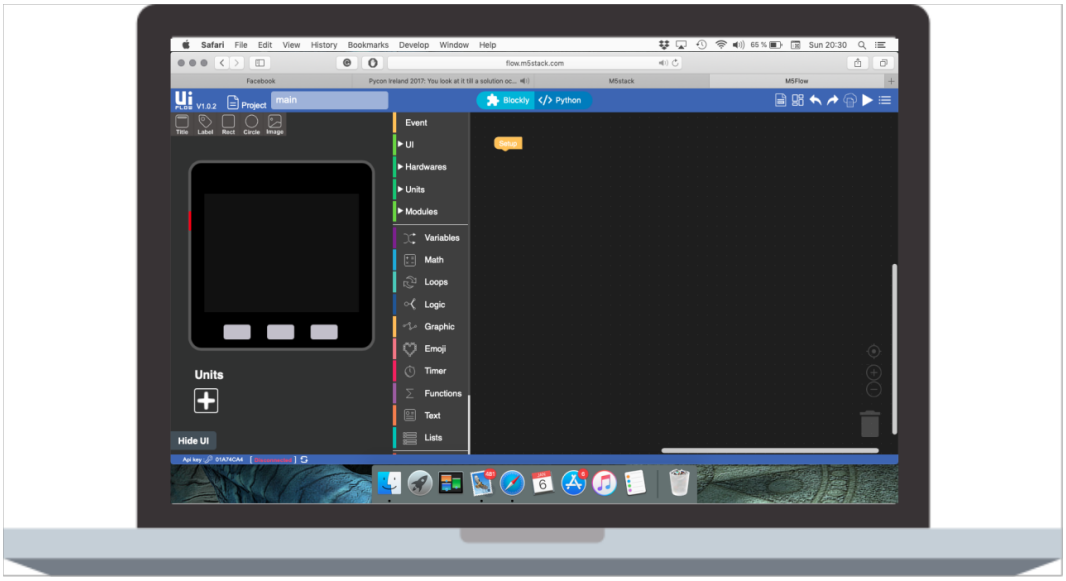
Select your wifi network that your computer normally connects to, type in the password and wait for it to connect.

If it works, the webpage will say connection successful

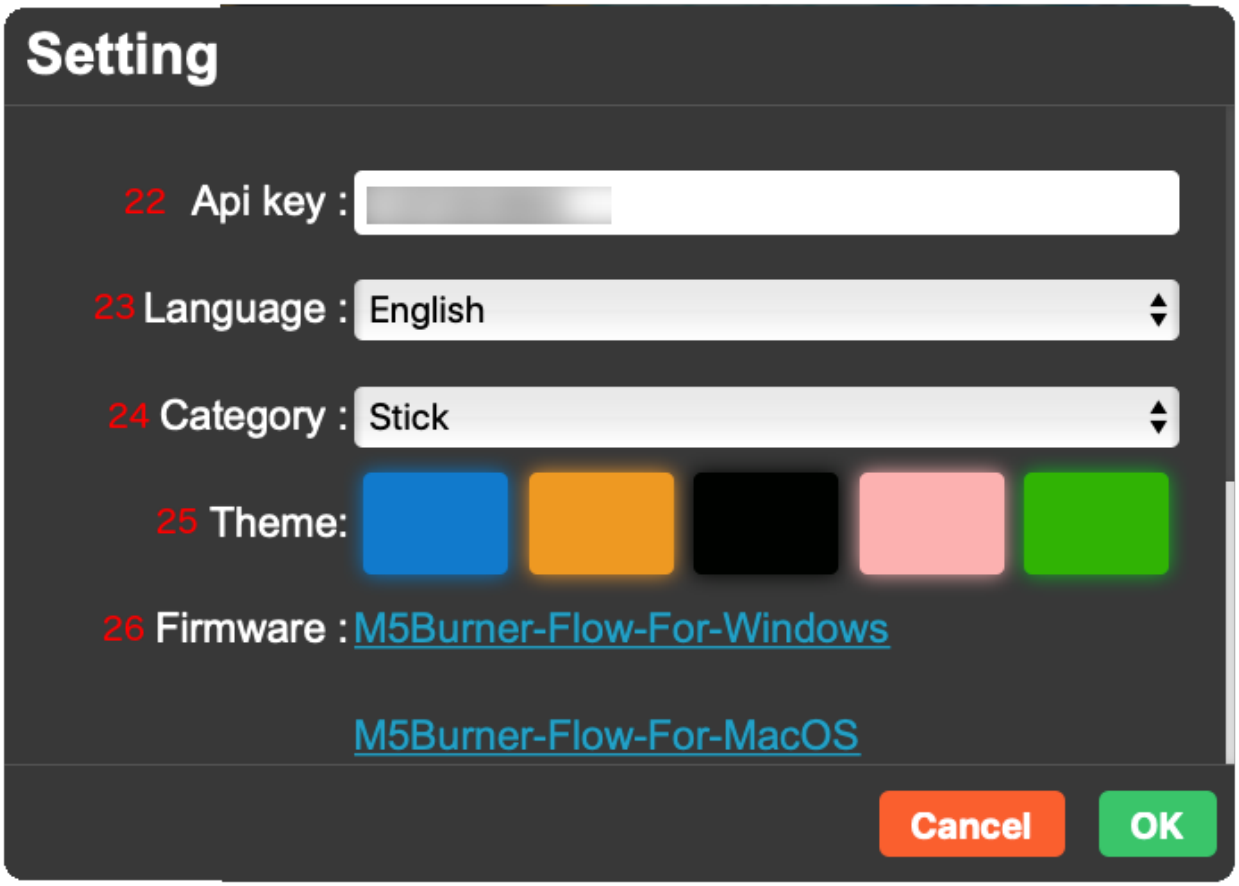


The computer will disconnected from the M5Stack and reconnected to your normal wifi network. The M5Stack will now restart and bring up the UIflow page for a few seconds and then attempt to connect to the wifi connection and UIFlow. the screen will change to show a code and a QR code. This is your API key and will be needed in the next step.

Go to flow.m5stack.com

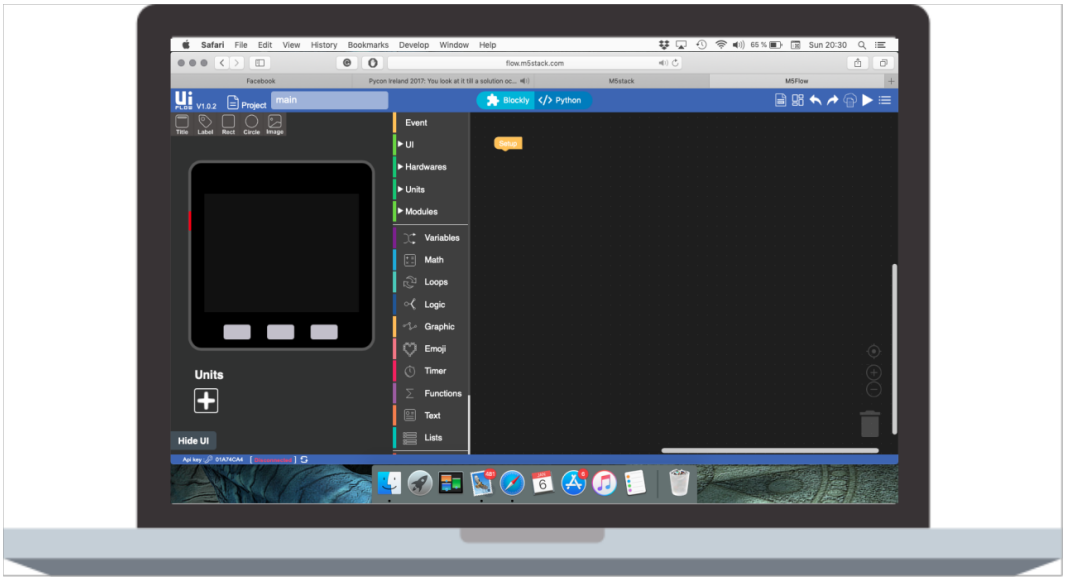


Go back into the setting window and click on the API key box. (22),



Type in the code shown on the M5Stacks screen and then hit OK.

When you return to UIFlows main menu, look to the bottom right corner.
it will show your API key and should have Connect in green.



My screen says DISCONNECTED and not Connected!

Don't Panic, look at your M5Stack and there should be a little green circle in the top right corner of the screen to show if it is connected or not, if its red it means it didn't connect to the internet, Restart the M5Stack and hit the right hand button to go into the WIFI menu, if it doesn't connect here, check your wifi settings and try again. Sometime another device on the network will stop it connecting, If the settings are correct, retry and it should connect.

I**mportant note: Once in a while my own M5Stack refuses to connect if there are too many devices active on the network..**