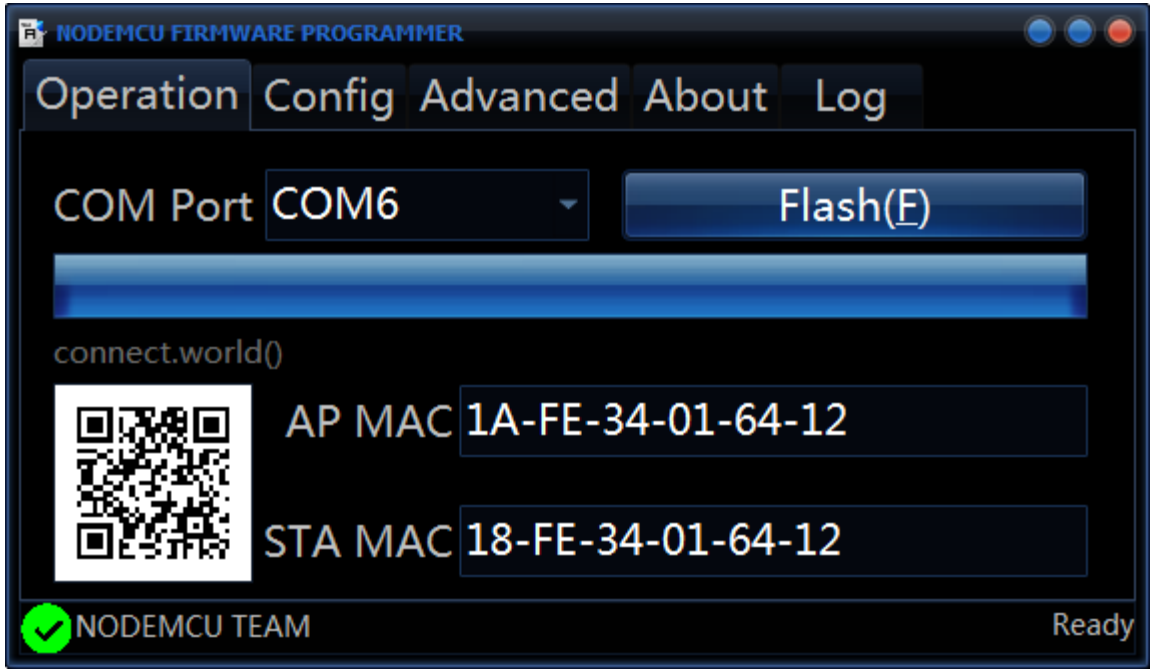
Tutorial for programming ESP8266 on windows, using the NodeMCU devkit

Get the nodemcu flasher from here:

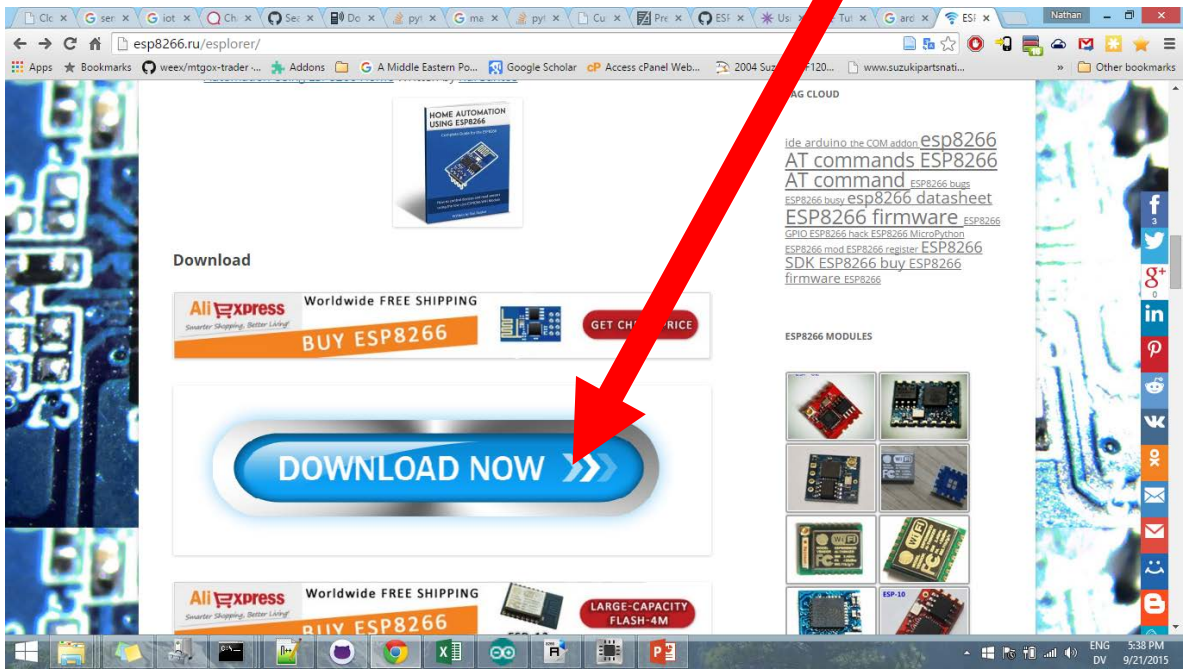
https://github.com/nodemcu/nodemcu-flasher

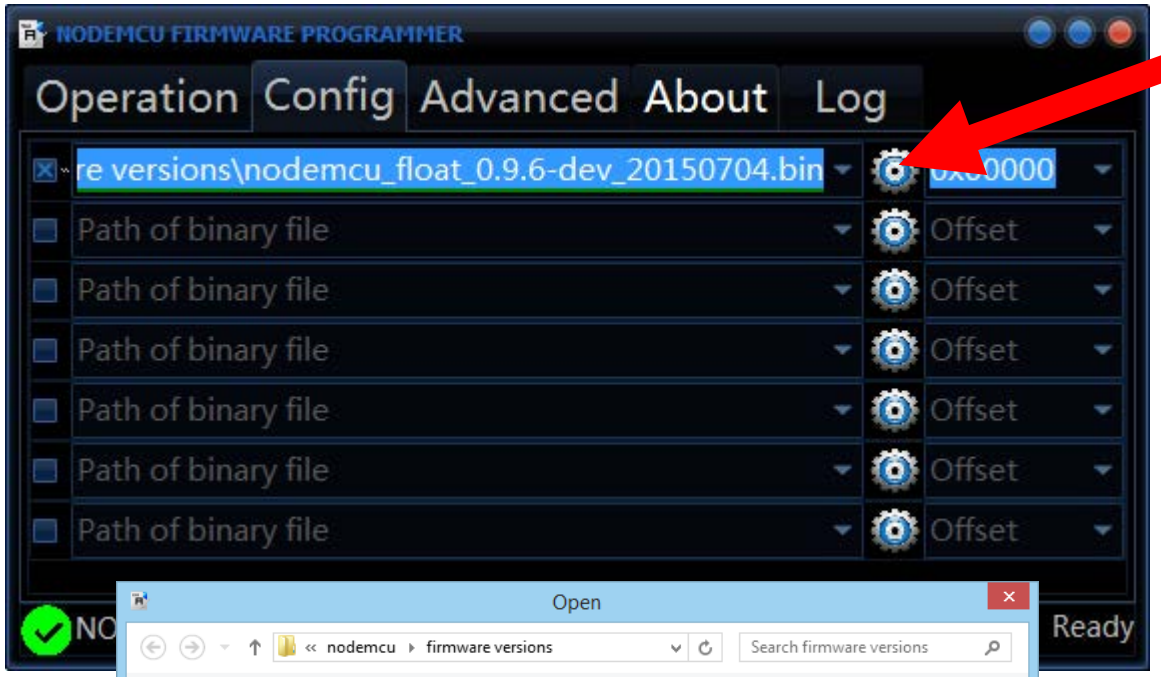


Get ESPlorer from here:

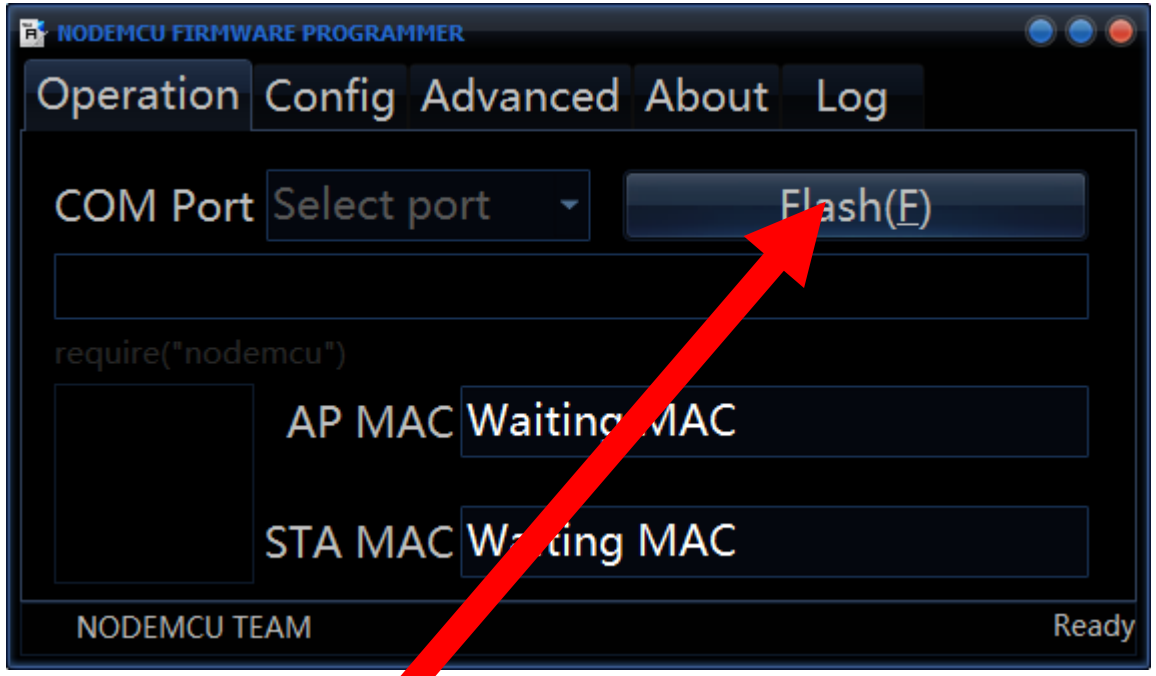
http://esp8266.ru/esplorer/

Or from the github page, though I've always used the Russian Link.

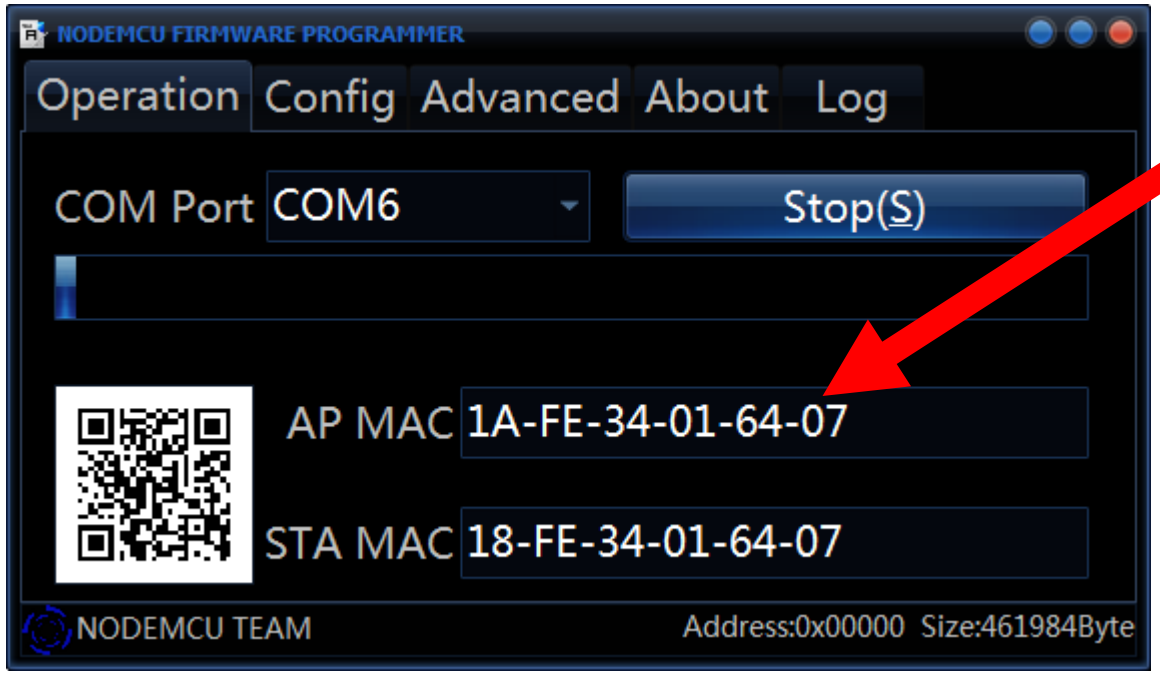




First, click on the gear under config, and choose your firmware file. Use the latest from https://github.com/nodemcu/nodemcu-firmware/releases, which you can find by googling 'nodemcu releases'

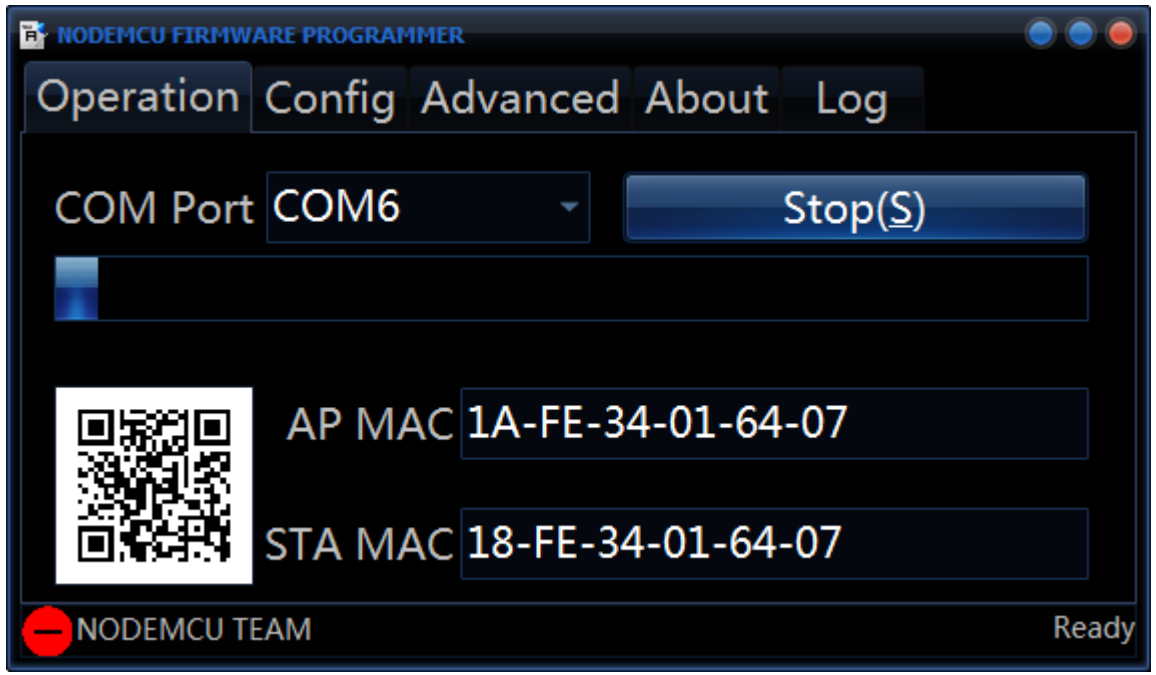


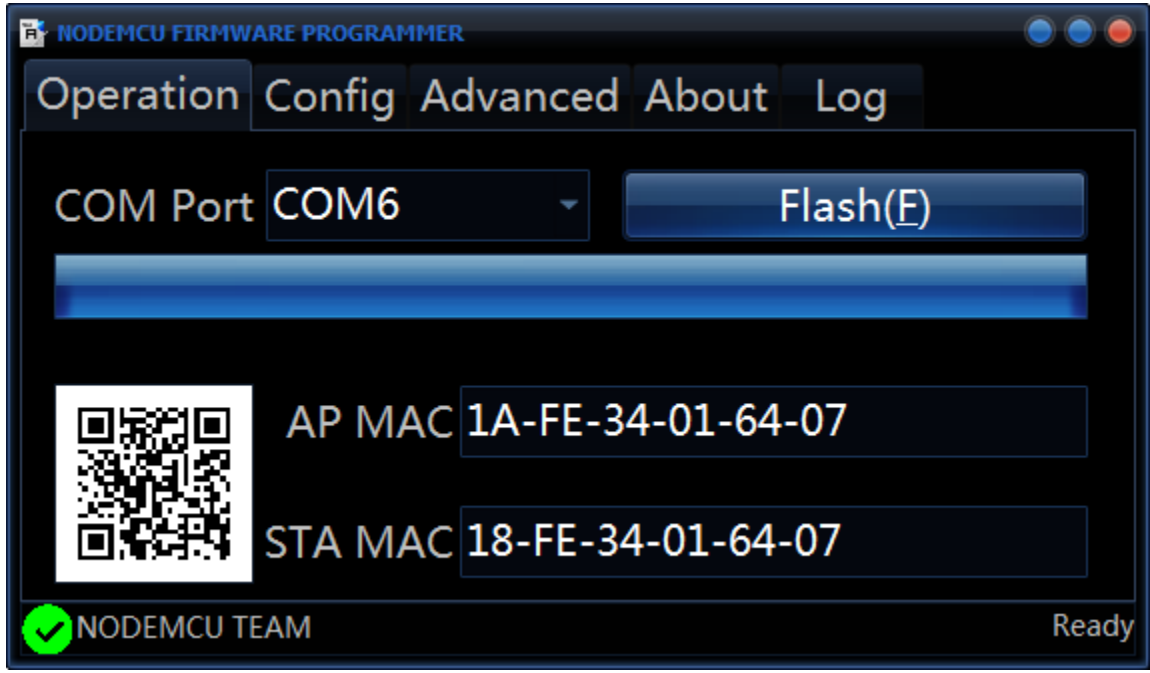
Next, click 'flash'



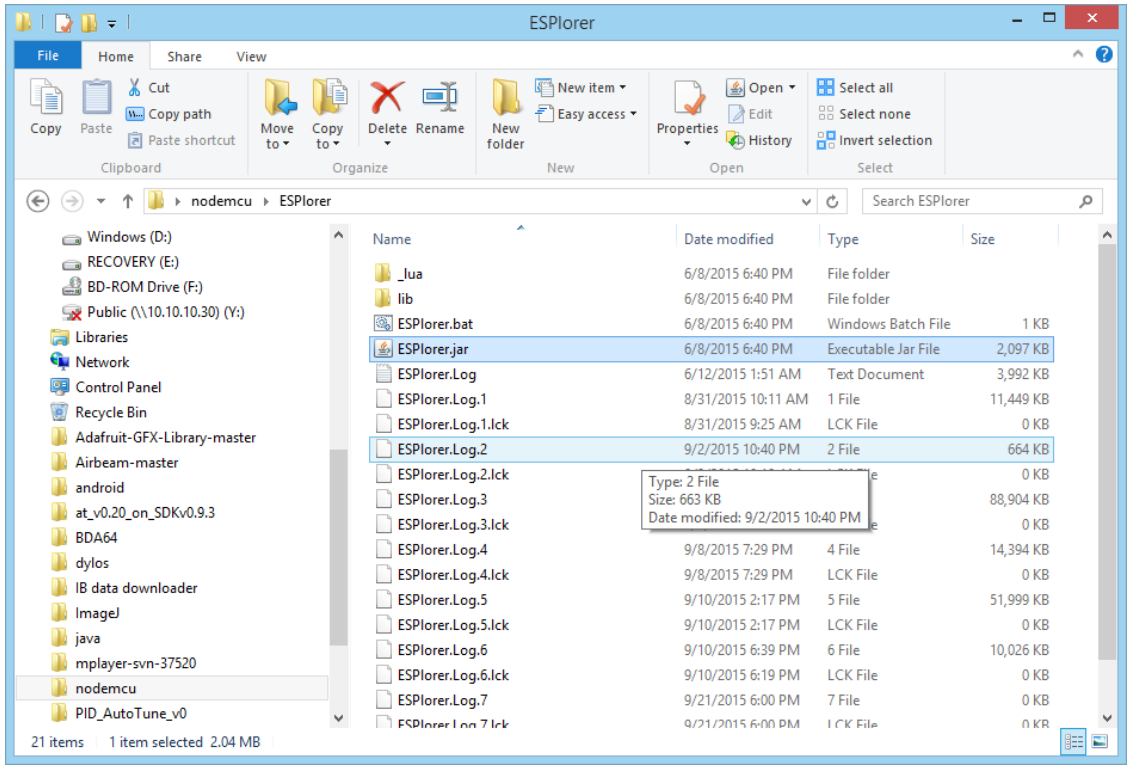
The MACs will be filled in along with the QR code. If something goes wrong, the red circle will appear in the bottom left, otherwise, once the status bar gets to full, and everything went alright, the status circle will change to green.

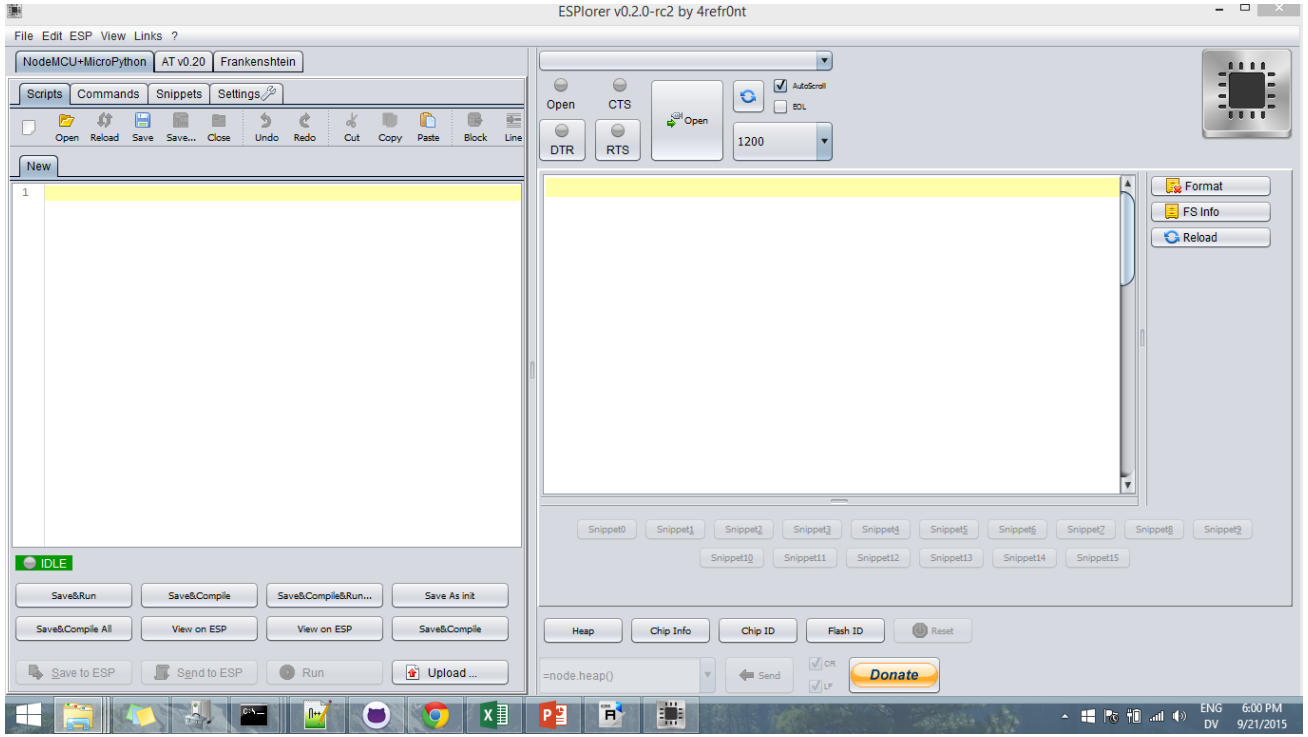
You should now reset the module.



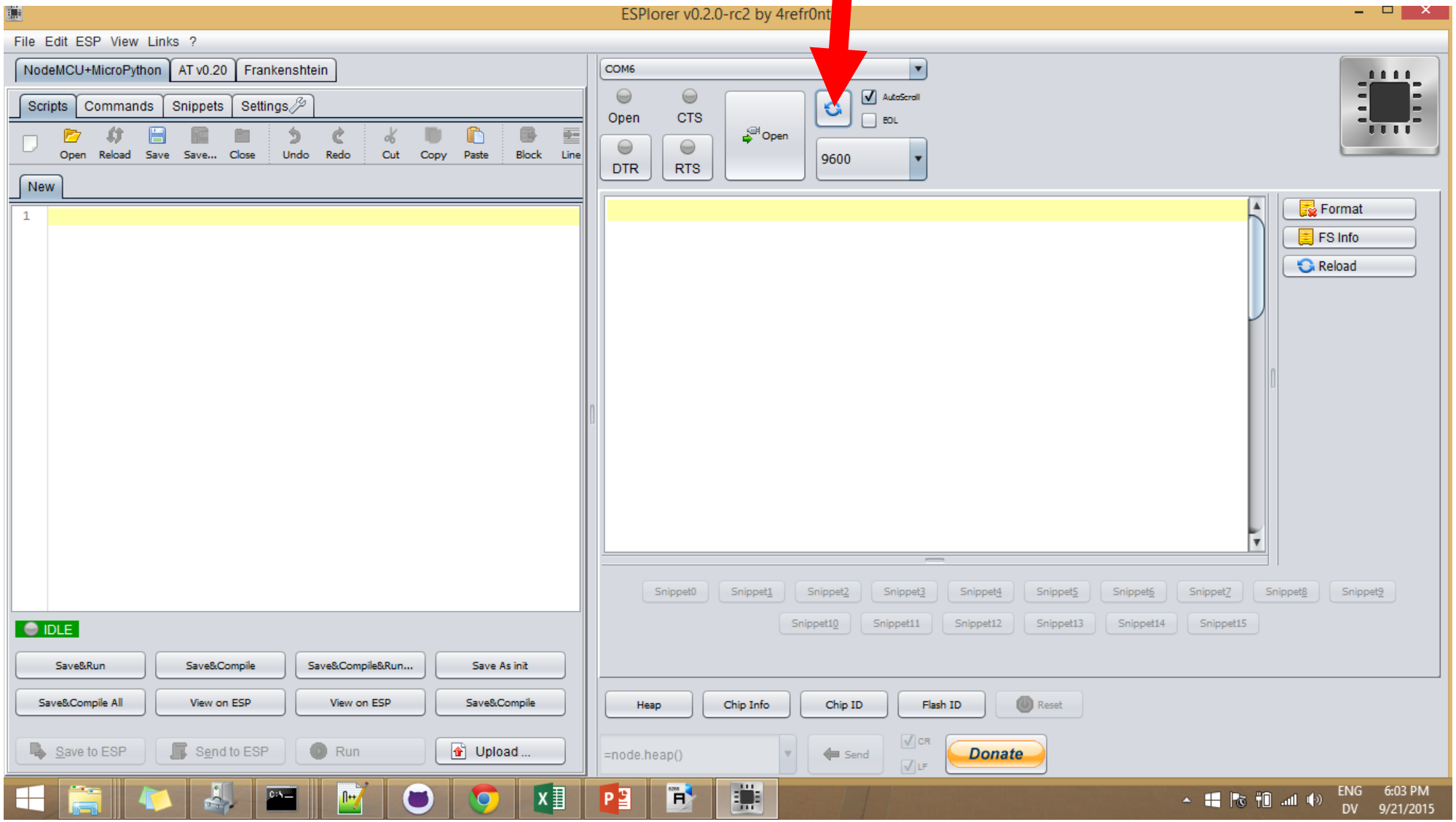


Open ESPlorer.jar

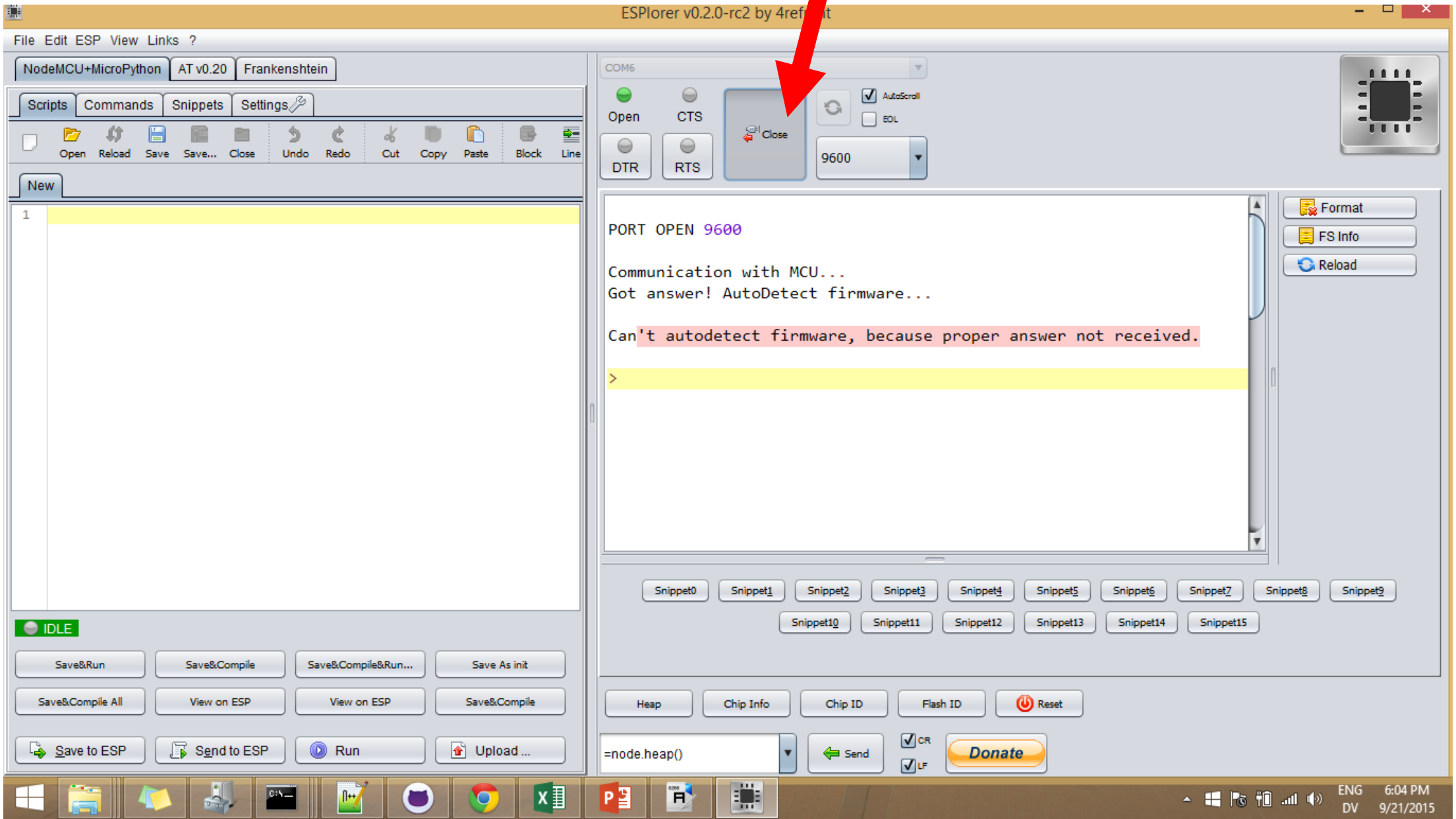




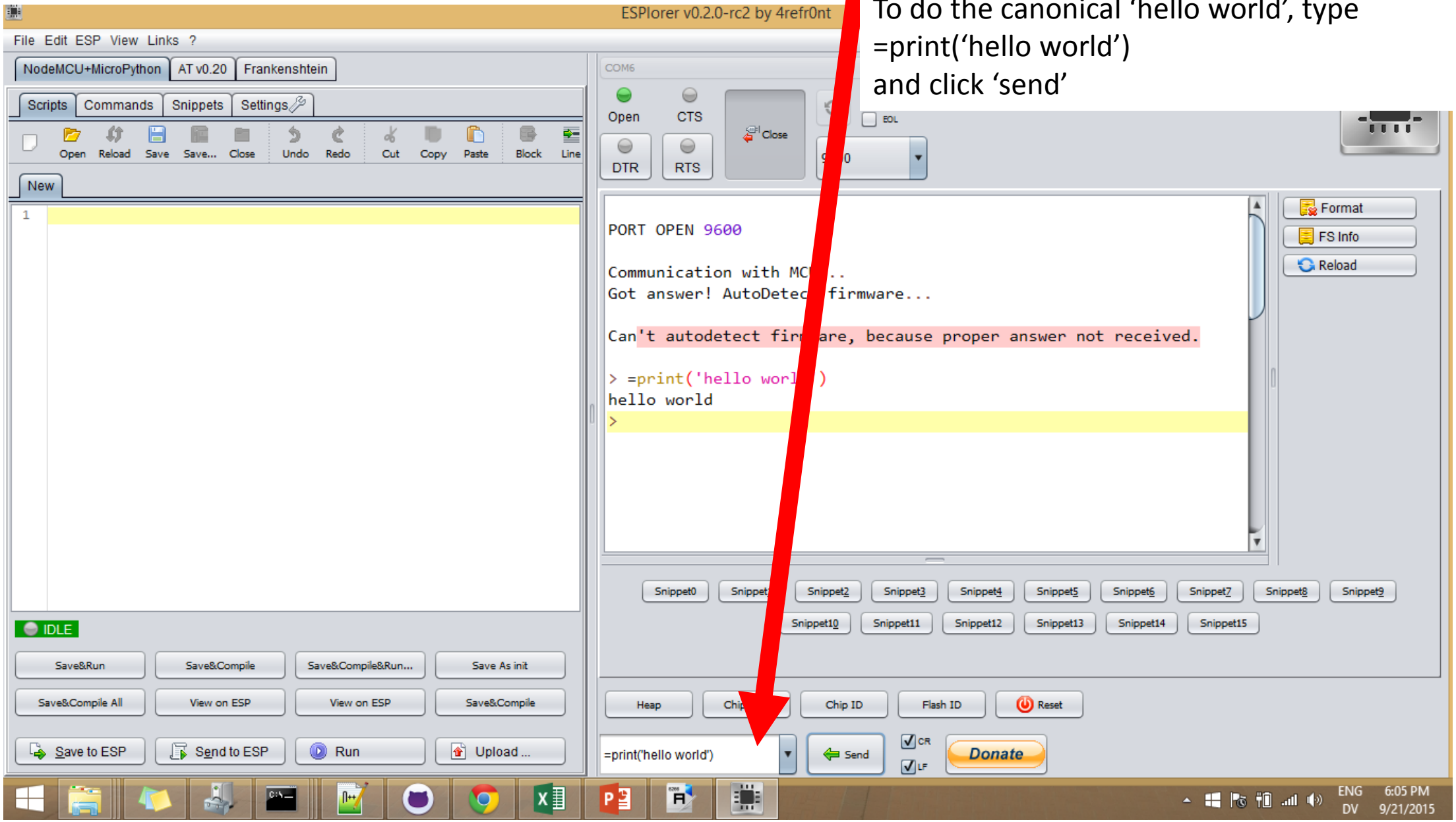
Click the refresh button, and it should detect your Esp8266 if it was flashed correctly and is plugged in. You may need to choose the COM port from the dropdown.



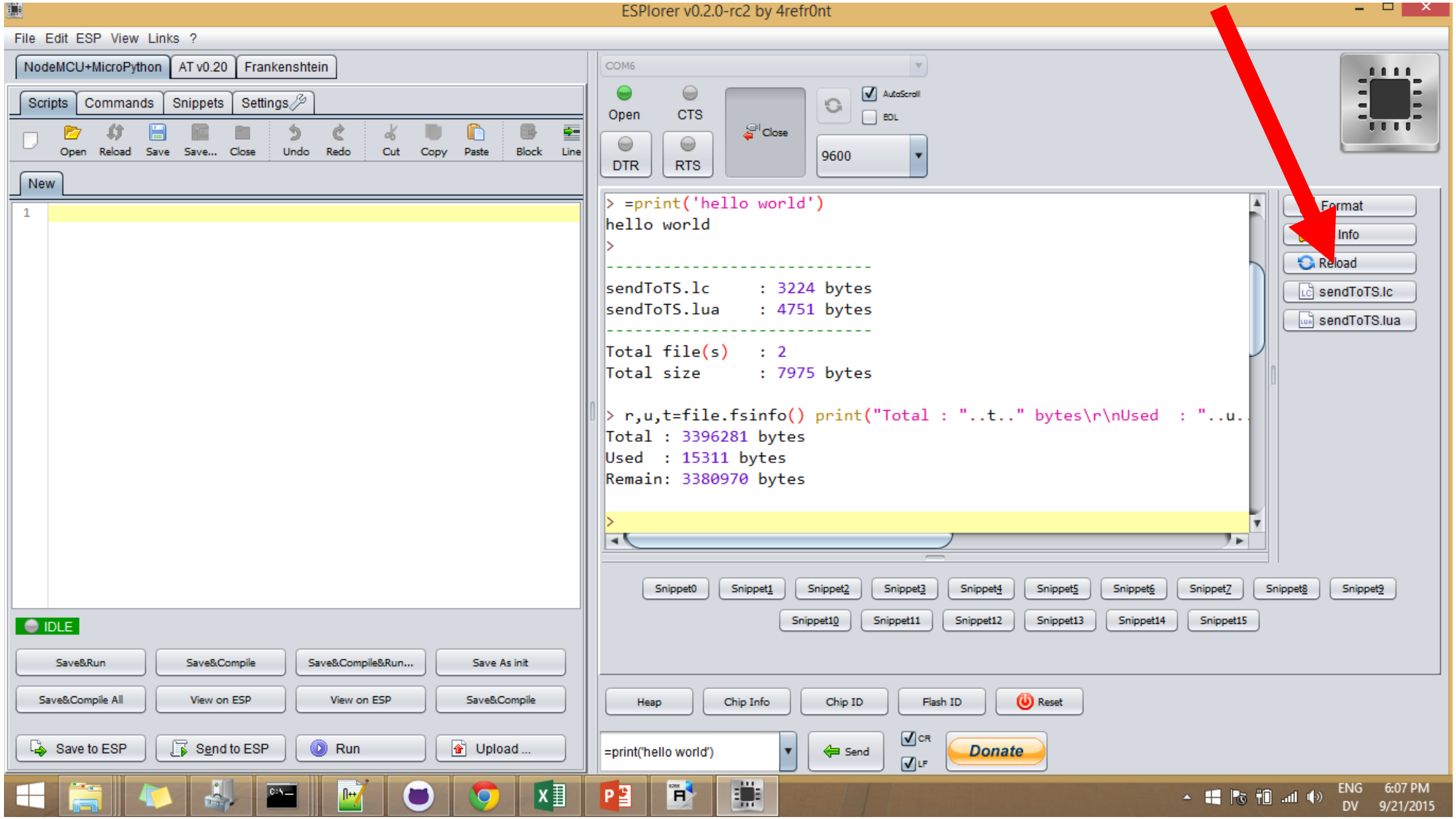
Click ‘open’, the response should look something like this.



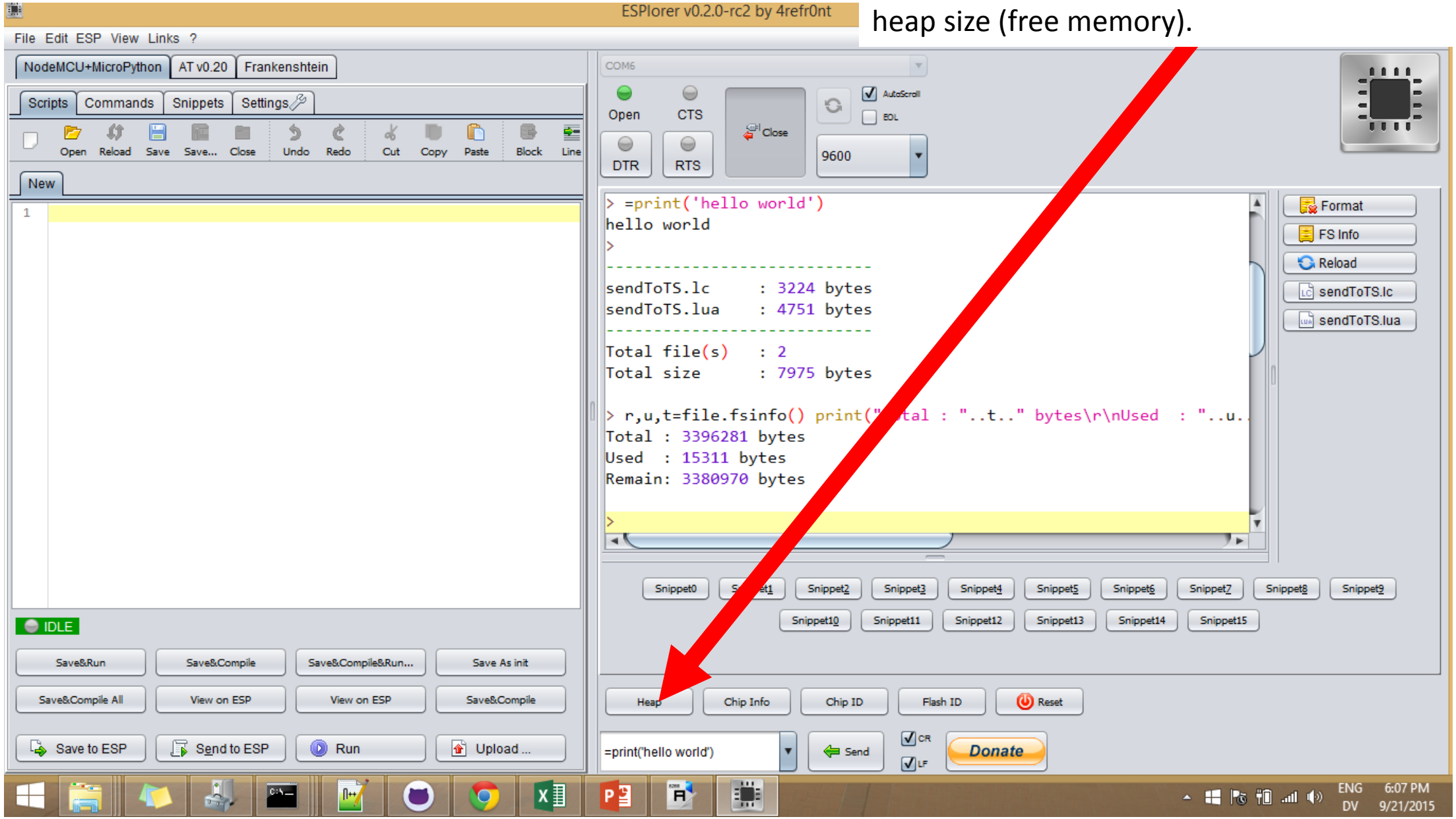
You can enter commands down here, then click ‘send’.
To do the canonical ‘hello world’, type
=print(‘hello world’)
and click ‘send’



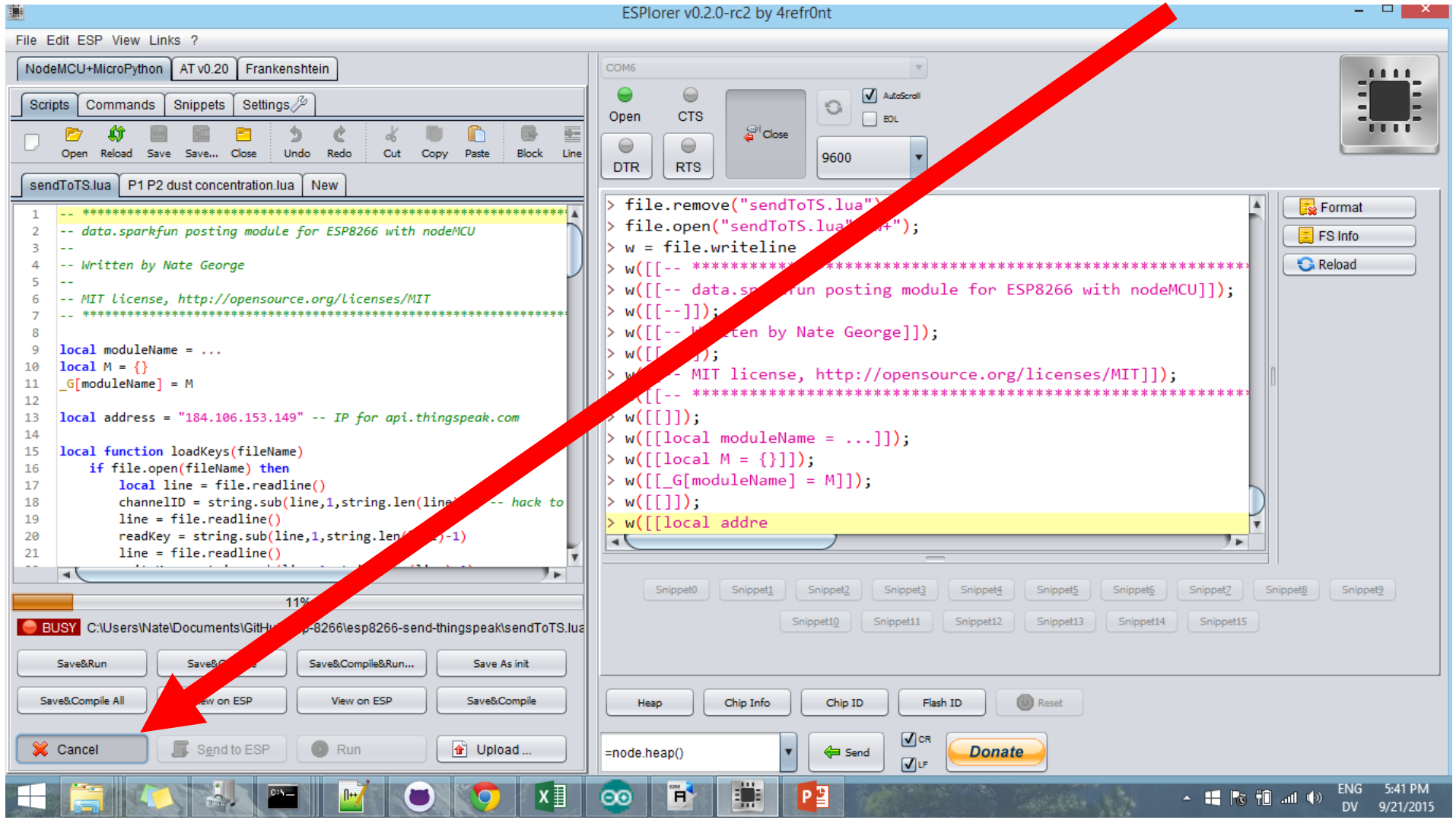
Click ‘reload’ to list the files on the device

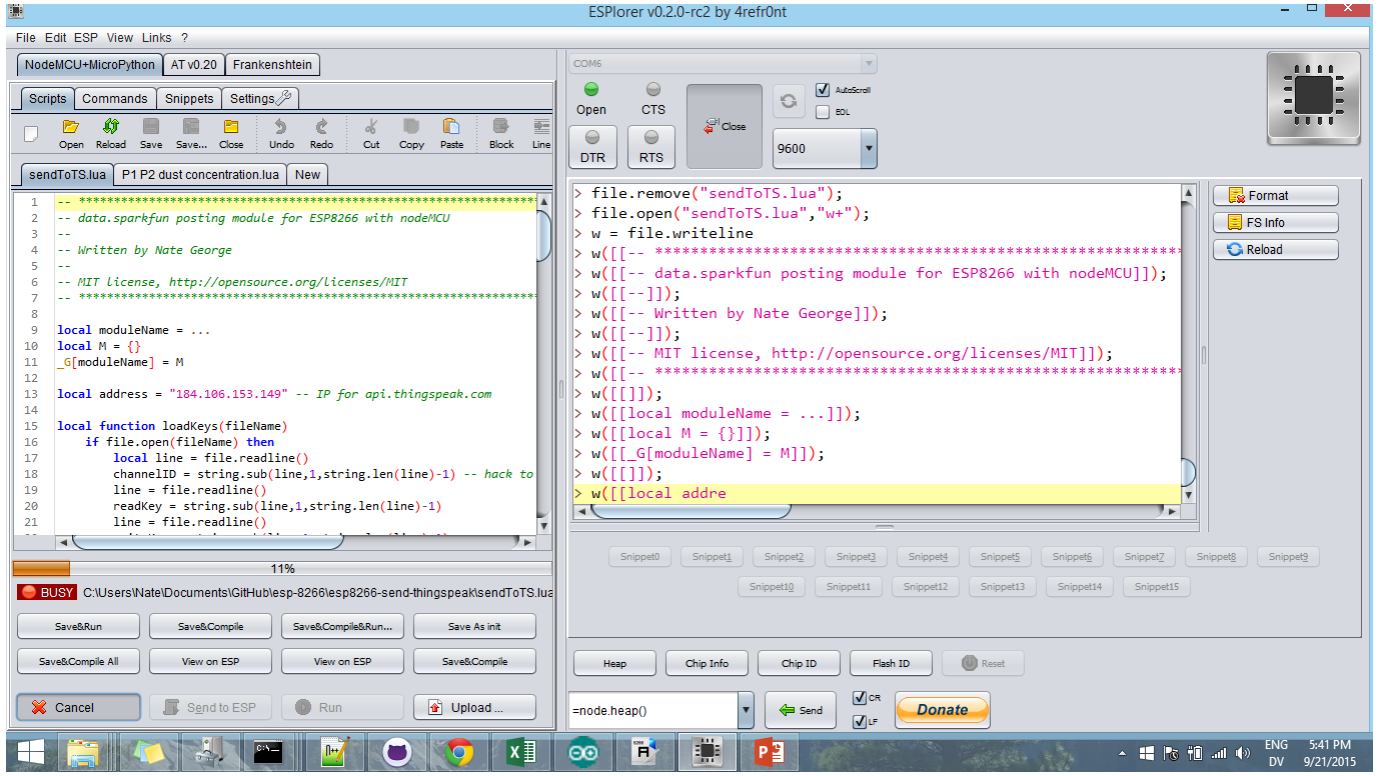


Click ‘heap’ or send ‘=node.heap()’ to get the heap size (free memory).



Click ‘save to ESP’ to write your file to the device. Clicking ‘SaveAndCompile’ will compile it, and save a lot of memory at runtime.





The programming is done in the Lua language, which is C-like. I made a few chunks of code for using NodeMCU:

Wifi network chooser:
https://github.com/wordsforthewise/ESP-8266_network-connect
Makes a server at 192.168.4.1 and asks for wifi credentials, then logs into the network.

Send data to sparkfun:
https://github.com/wordsforthewise/esp8266-send-to-sparkfun

Send data to thingspeak:
https://github.com/wordsforthewise/esp8266-send-thingspeak