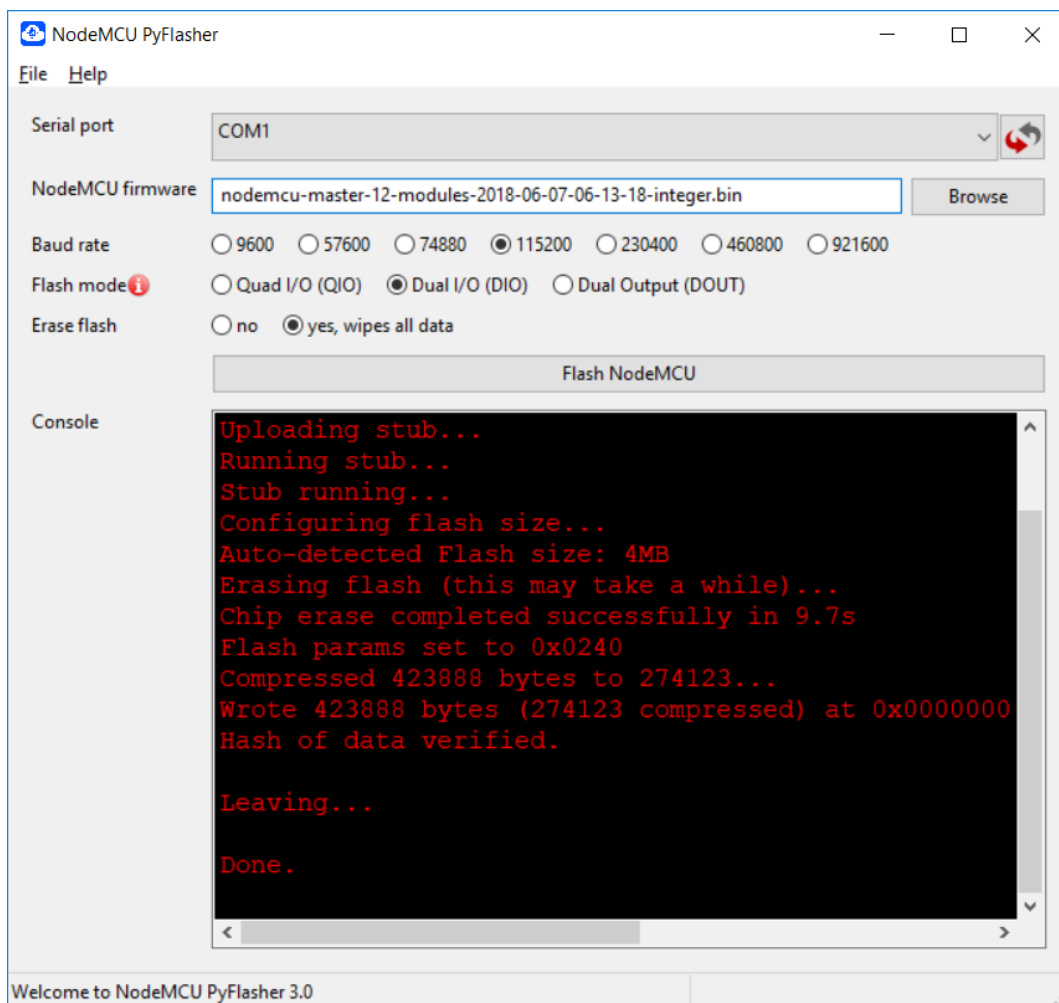# Procedure to program USB Dongle (ESP8266 NodeMCU)

The USB dongle is used as an auxiliary product for the Professor Einstein Robotics. The USB dongle is for sending users programming commands for voice interaction, facial and body motion control via WIFI.

1. Download and install NodeMCU-PyFlasher for Windows
   https://github.com/marcelstoer/nodemcu-pyflasher/releases/download/v3.0/NodeMCU-PyFlasher-3.0-x64.exe
   or
   https://github.com/marcelstoer/nodemcu-pyflasher/releases/download/v3.0/NodeMCU-PyFlasher-3.0-x86.exe

2. Open the NodeMCU PyFlasher

i) Select the serial port
ii) Select the nodemcu firmware binary file "nodemcu-master-12-modules-2018-06-07-06-13-18-integer.bin"
iii) Select Baudrate as 115200
iv) Flash mode as "Dual I/O (DIO)"
v) Erase flash as "yes, wipes all data"
vi) Now insert the USB dongle and make sure the serial port is same as one appeared on "serial port"
vii) Quickly press the flash button "Flash NodeMCU". If successful, "Hash of data verified" appears.
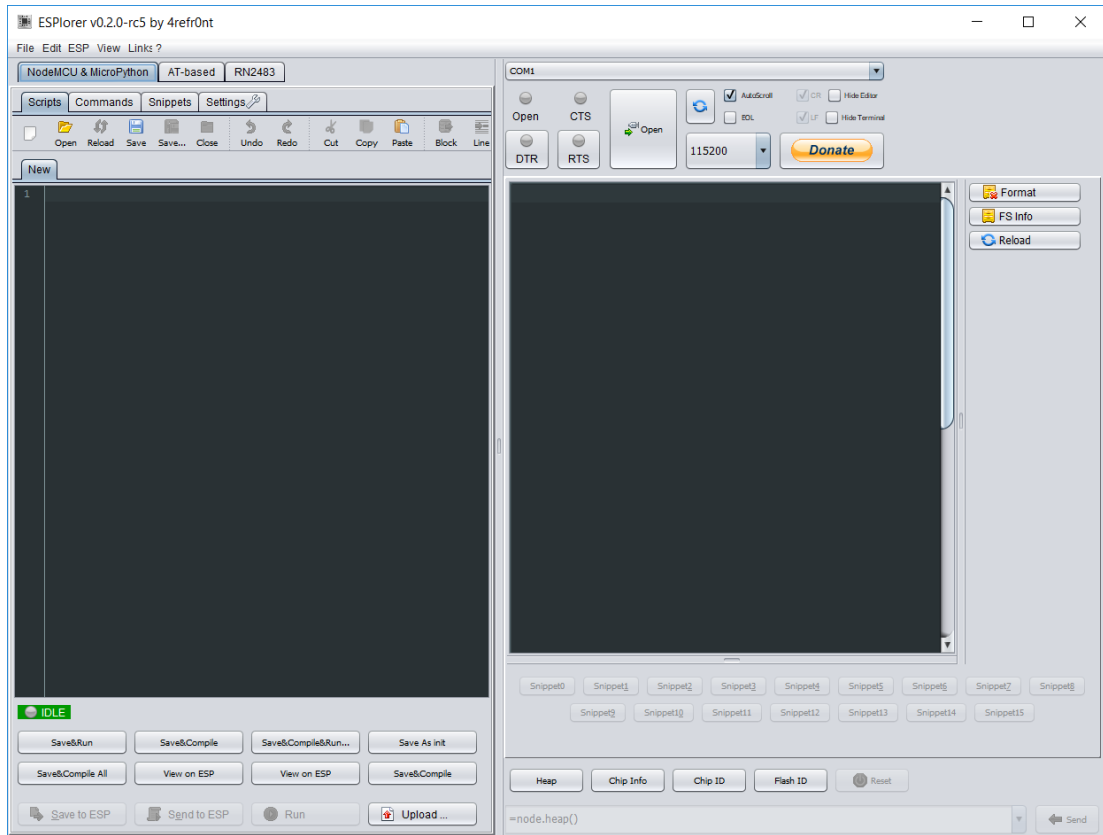
3. Download and Install Java SE Runtime from Oracle

http://www.oracle.com/technetwork/java/javase/downloads/index.html

Look for jre-8u171-windows-x64.exe

4. Download and install ESPlorer

http://esp8266.ru/esplorer-latest/?f=ESPlorer.zip
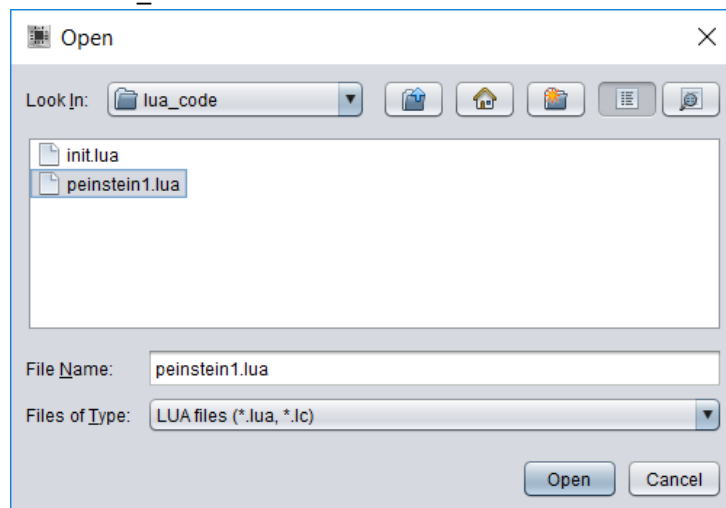
5. Run the ESPlorer

    i)   On left side of window, click "Open" and select the first script "peinstein1.lua" under folder "lua_code"
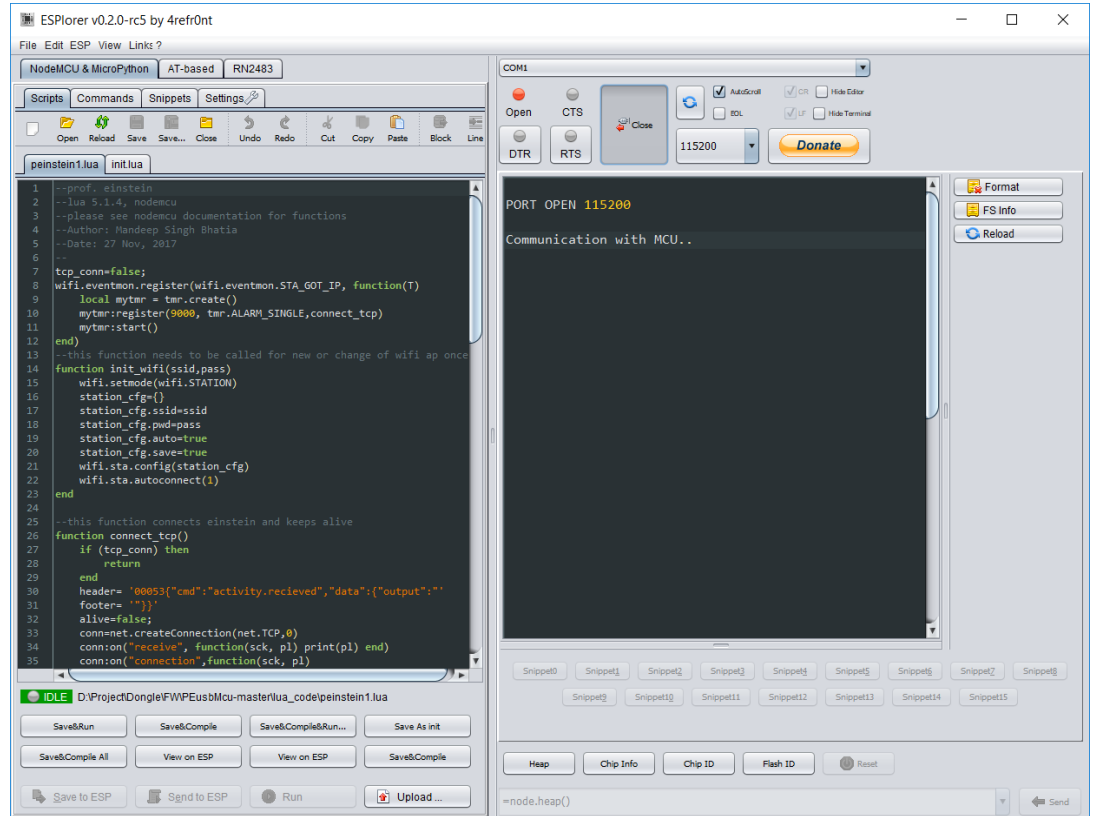

    ii)   Then click "Open" again and select the second script "init.lua" under same folder "lua_code"

iii)   On the right side of window, make sure the followings are selected

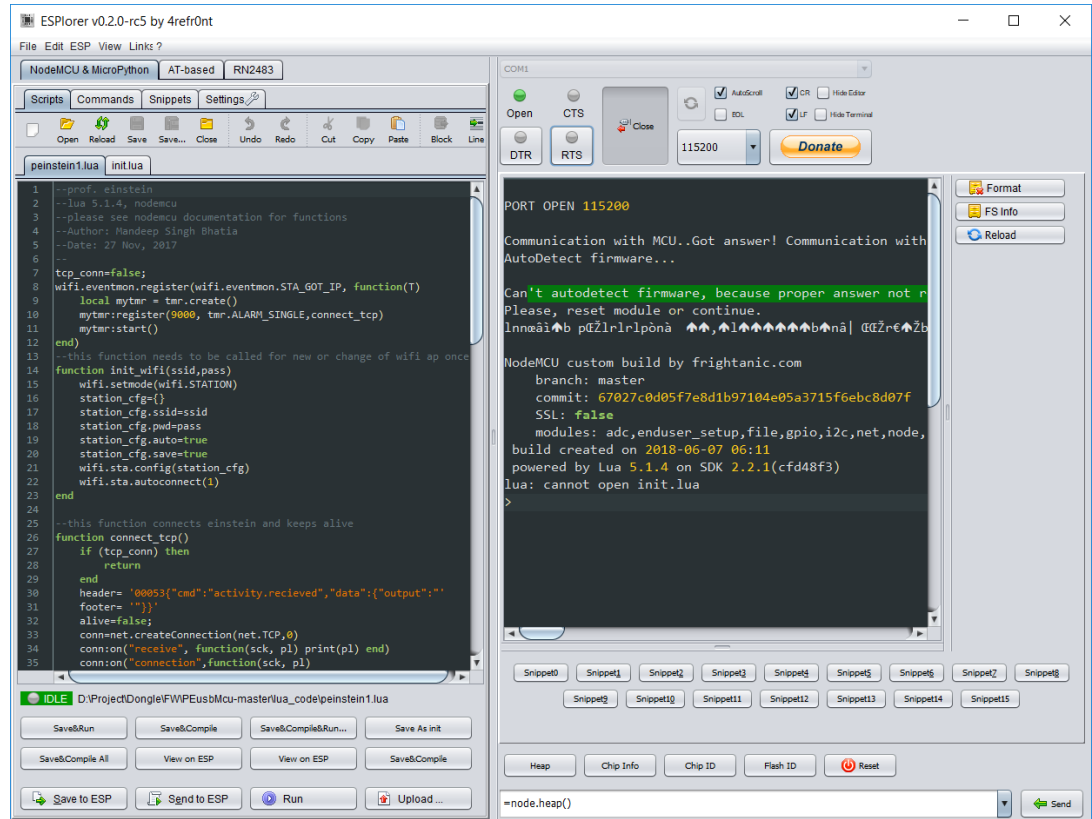-   Correct COM port is set
-     Baudrate 115200

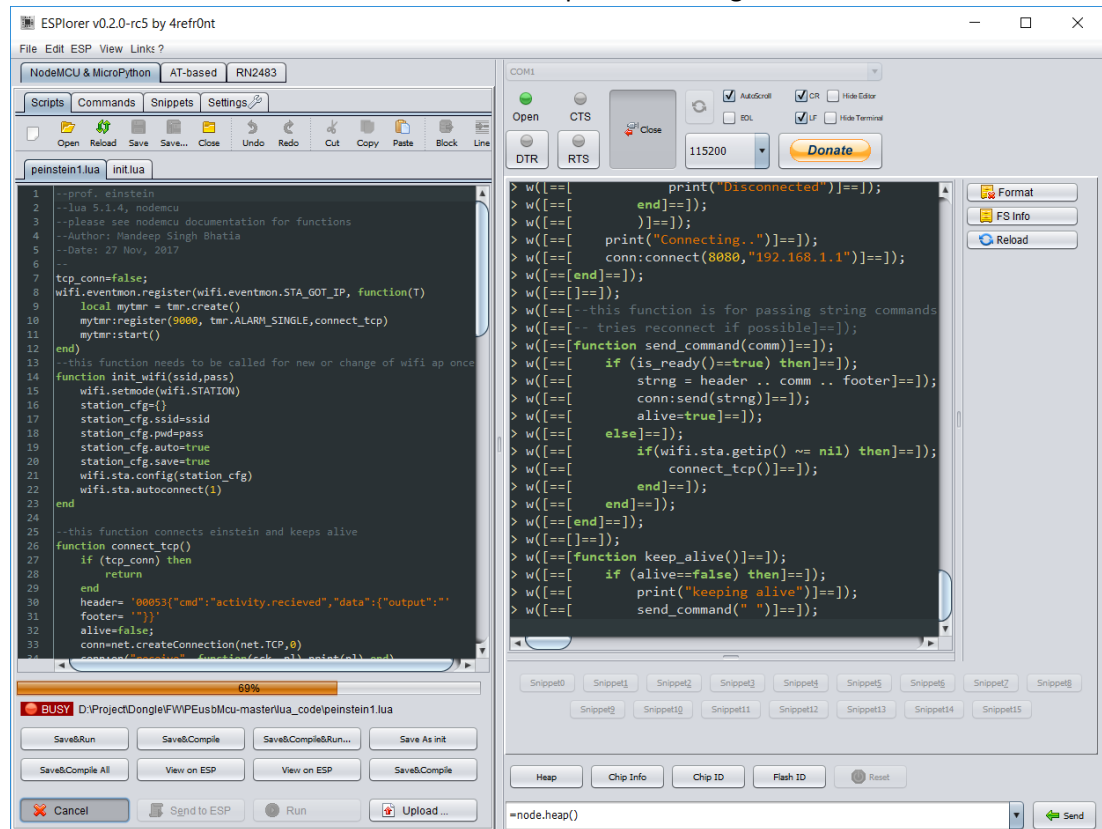iv)   There is a RTS window button and a Open button.
-     Now insert the USB dongle
-     Press Open

v)   Then press the RTS window button to turn it GREEN. Quickly press again this RTS window button to turn it back GREY.

vi)   Back to left window, make sure the first script is the current tab. Then click below the
       "Save to ESP" button to download the first script to USB dongle.

vii)   Then select the second script as current tab, press again the "Save to ESP" button. The
       Dongle programming is finished.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Reorient or relocate the receiving antenna.**
- **Increase the separation between the equipment and receiver.**
- **Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- **Consult the dealer or an experienced radio/TV technician for help.**

Specific Absorption Rate (SAR) information

The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. This model (FCC ID: 2AQ7I-D01) has also been tested against this SAR limited. The highest SAR value reported under this standard during product certification for use at the body is 0.208 W/kg.

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Made in China