Aim: To setup ESP8266 as Server and send the data to the Mobile web browser

ESP8266 Wi-Fi module has 3 modes of operation:

ST (Client) – Station mode in which ESP acts as a device & connects to an existing Access point.

AP (Server) – Access Point mode where the ESP itself acts as AP & other devices like Mobile can connect to it.

Both – ST & AP both mode is allowed in ESP. The mode of operation is set by the AT command

AT+CWMODE = 1 for ST mode, 2 for AP mode & 3 for both.

Procedure:

Go to "Device Manager" and see COM number of "Serial port connection. That is where the Wi-Fi module is connected.

- Use Real Term Tool -> Select Port Number,
- Select LF, CR and type commands, click on "ASCII Send"
- Select Scroll bar, send twice to repeat

To set up server and send data over the web browser

AT (tests the module)

AT+RST (restarts the module. Wait for "ready")

AT+CWMODE? (finds out the mode of the module. 1-Station mode. 2-AP mode. 3-both modes simultaneously)

AT+CWMODE=3

AT+CWLAP? (displays name of connected AP Wi-Fi)

Setup Mobile Phone as Client (ST): Create Hotspot, give username and password

AT+CWLAP (displays list of available Wi-Fi networks the module can connect to. The number before the name of the Wi-Fi network indicates its protection strength, 4 being the highest, 0 being the lowest, i.e., open network)

AT+CWJAP="AP_name","AP_password" (to join a Wi-Fi network)

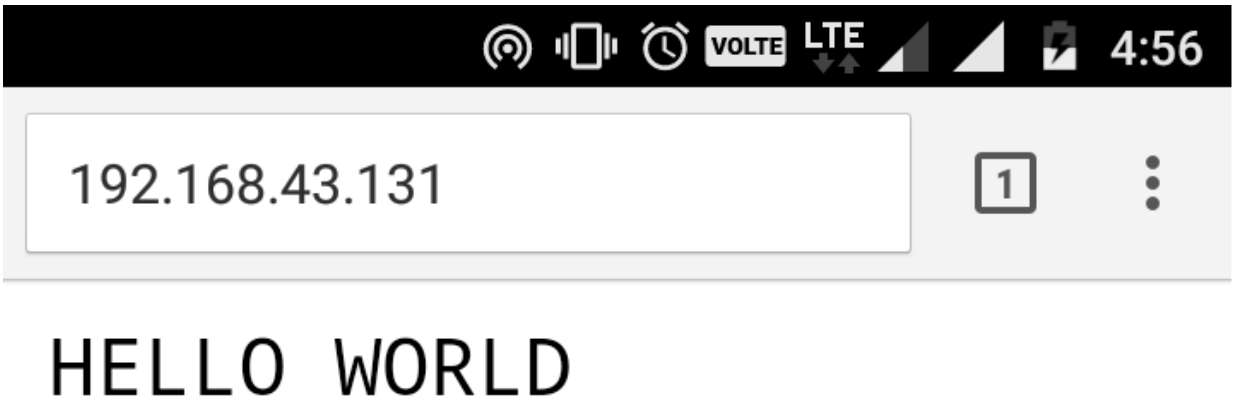
AT+CIPMUX=1 (to facilitate multiple connections to the server module)

AT+CIPSERVER=1,80 (to set up server at port number 80. "1" is for starting the server)

AT+CIFSR (displays details of the module. Note station IP address, STAIP. e.g. 192.168.131)

Now in your mobile web browser, write STAIP: port_no. In this case, 192.168.131:80 and press enter. As soon as you search, a message is received on the PC terminal. Note the number in after "+IPD:". This is our channel number. e.g. 0

AT+CIPSEND=channel_number (0 here),number_of_characters (that you want to display on the web browser)



It will be displayed over the web browser automatically now, but it will take time. Therefore, we manually close the channel

AT+CIPCLOSE=channel_number

AT+CIPSERVER=0 ("0" is for closing the server)

AT+RST