AT COMMANDS

The general syntax of AT commands for performing different functions is :

- **AT+parameter=?**

When a command in this type is sent through the serial monitor,the ESP returns all the values that **parameter** can take.

- **AT+parameter=val**

When a command in this type is sent through the serial monitor,the ESP sets the value of **parameter** to **val**.

- **AT+parameter?**

When a command in this type is sent through the serial monitor,the ESP returns the current value of **parameter**.

Some AT commands may take only one of the above types while some may take all 3.

An example of a command that is possible in all the above 3 types is CWMODE,which is used to set the wifi mode.

- **AT**

Used as a test command.

Response: **OK** should be returned.

- **AT+RST**

Used to restart the module.

Response:ESP returns a load of garbage.However look for **Ready** or **ready**.

- **AT+GMR**

Used to determine the firmware version of the module.

Response:Firmware version should be returned.

https://github.com/Subhan95/instructables/tree/master/beginners_guide_to_esp8266

- **AT+CWMODE=?**

Response:All the values that the ESP CWMODE can take(1-3) are returned specifically **+CWMODE(1-3)**.Where

1=Static

2=AP

3=Both static and AP

- **AT+CWMODE=1**

Response:**OK** should be returned if there is a change in the CWMODE from it's previous value and it is set to static, else **no change** should be returned if there is no change in CWMODE value.

IMPORTANT:Unless CWMODE is set to 1,the commands in the later steps will not work.

- **AT+CWMODE?**

Response:The present value of CWMODE should be returned,specically if you followed the above step **+CWMODE:1** should be returned.

- **AT+CWLAP**

Used to list out all the networks in the area.

Response:A list of all the available access points or wifi networks should be returned.

- **AT+CWJAP="SSID","password"**

(including the double quotes).

Used to join a wifi network.

Response:**OK** should be returned if the module has been connected to the network.

- **AT+CWJAP?**

Used to determine the network to which the ESP is currently connected.

<u>Response</u>:The network to which the ESP is connected will be returned.Specifically **+CWJAP:"SSID"**

- **AT+CWQAP**

Used to disconnect from the network to which the ESP is currently connected.

<u>Response</u>:The ESP quits the network to which it is connected and **OK**is returned.

- **AT+CIFSR**

Used to determine the IP address of the ESP.

<u>Response</u>:The IP address of the ESP is returned.

- **AT+CIPMODE=0**

Used to set the transfer mode

<u>Response</u>:**OK** is returned.

0=normal mode

1=UART-WiFi passthrough mode

- **AT+CIPMUX=1**

Used to set single or multiple connections

<u>Response</u>: **OK** is returned.

0=single connection

1=multiple connection

- **AT+CIPSTART=link ID,type,remote IP,remote port**

Used to establish a TCP connection

Response:**Linked** is returned if the connection has been established.

where

link ID=ID of network connection (0~4), used for multi-connection.

type=string, "TCP" or "UDP".

remote IP=string, remote IP address(address of the website).

remote port=string, remote port number(usually selected to be 80).

- **AT+CIPSEND=link ID,length**

Used to send data

Response:**>** (greater than) is returned if the command is successful.

where

link ID=ID of the connection (0~4), for multi-connect.Since CIPMUX has been set to 1, is 1.

length=data length, MAX 2048 bytes.Generally choose a large number for the length.