* Files included
  1. Switch2.lua
  2. Switch3.lua
  3. Switch5.lua
  4. Script1.lua
  5. Mqtt-config.lua
  6. Fun.lua
  7. Config1.lua
  8. Config2.lua
  9. Init.lua @ MQTT switch - Copy (2)\newinit\test
  10. m1.lua @ MQTT switch - Copy (2)\newinit\test
* Wi-Fi access point configuration

During the execution of “init.lua” file, we execute “config1.lua” file which basically

create the ESP access point with SSID as “room1” and password as “12345678”. Soon

after this we set the gateway of this access point to “192.168.50.1” and access point

local IP to “192.168.50.1” with subnet mask set to “255.255.255.0”.

* Wi-Fi station configuration

As soon as ESP receive the Wi-Fi station configuration data from TCP/IP client it

activates the times starts connecting to that specific home router. Meanwhile every time on restart during the execution of “init.lua” file system will execute “config2.lua” file and it will try read that Wi-Fi station configuration and soon after this system will turn on the timer and remain on until ESP is connected to respective home Wi-Fi router.

* GPIO configuration

During the execution of “init.lua” file, we set GPIO 1, 6, 7 as interrupt pins and GPIO 0, 5, 8 as output pin. Initially we execute “switch2.lua”, “switch3.lua”, “switch4.lua” files, which basically set the switches to previous state right before resetting. After this we set the GPIOs to interrupt trigger mode. Whenever any GPIO is triggered then their respective function is called, inside that function we take previous and GPIO and online client value and latest value as well and feeds that into algorithm function which basically set the switch value after applying formula. Current state of output GPIO get written into the respective switch file.

* TCP/IP client

During the execution of “init.lua” file system executes “script1.lua”. As soon as scrip1 is executed and system creates a TCP client on port 325. This TCP client can be accessed in two way either by connecting to ESP access point or using the IP “192.168.50.2” or In case if ESP is connected to home Wi-Fi router, you can connect to this TCP client using the port 325 and IP assigned by home Wi-Fi router to ESP8266. TCP client is responsible for configuring new access point setting and new Wi-Fi station setting. While is also handles new MQTT client as well. All these actions takes place on the basis of type of message receive on TCP client. Each TCP client message comes with first 4 character identifier.

* MQTT client

As soon as message is received on TCP client containing the mosquito broker IP, broker username and password, MQTT is executed and it gets connected to broker.

* 1. on connect
     + First we execute “fun.lua” file which basically read output switches level after reading switches files and then publish the messages on topic designated for switches in order to update switches status on mobile app.
     + After that we subscribe to the update status topic and topics designated to switches.
  2. on message
     + On message receive check the topic and type of message received and update the switches on basis of topic and payload.
  3. last will
     + Subscribe the last will on topic “/lwt” and with message set to mac address of the ESP8266.