Spike 05 outcomes

Name: Blink LED through web server connected to the ESP8266

Goals:
To be able to connect to the ESP8226 through a web server and control the GPIO pins

Personnel:
Primary – Edwin   secondary - Adam

Technologies, Tools, and Resources used:
- https://github.com/nodemcu/nodemcu-firmware/blob/master/lua_examples/webap_toggle_pin.lua
- http://esp8266.ru/esplorer/
- ESP8266-12 Full evaluation board
- FTDI Basic Breakout 5V/3.3V - Micro USB
- Micro USB to USB cable
- 4 x Male to Female Dupont wire

Tasks undertaken:
1. Set up own access point on ESP8266 with broadcasted password protected SSID
2. Host a HTTP webserver that can be access after connected to the ESP8266 that can toggle LED
3. Using ESPlorer, uploaded the webap_toggle_pin.lua to ESP8266
   a. Open (folder icon) → select script
   b. Send to ESP
   c. Output - dofile("webap_toggle_pin.lua");
      i. The ESP8266 should now broadcast a SSID named "test" and can be connected via phone with password "12345678"
      ii. After connected successfully, opened a browser on the connected device in this case the phone and type ip address of "192.168.4.1" on the url
      iii. The page should load the HTML webserver of ESP8266 and show "Hello, NodeMcu" with option to turn "PIN1" ON or OFF
      iv. The LED on the ESP8266 should be able to toggle on or off from the webserver

What we found out:

- The ESP8266 can set and broadcast its own SSID
- A webserver can be hosted through the ESP8266
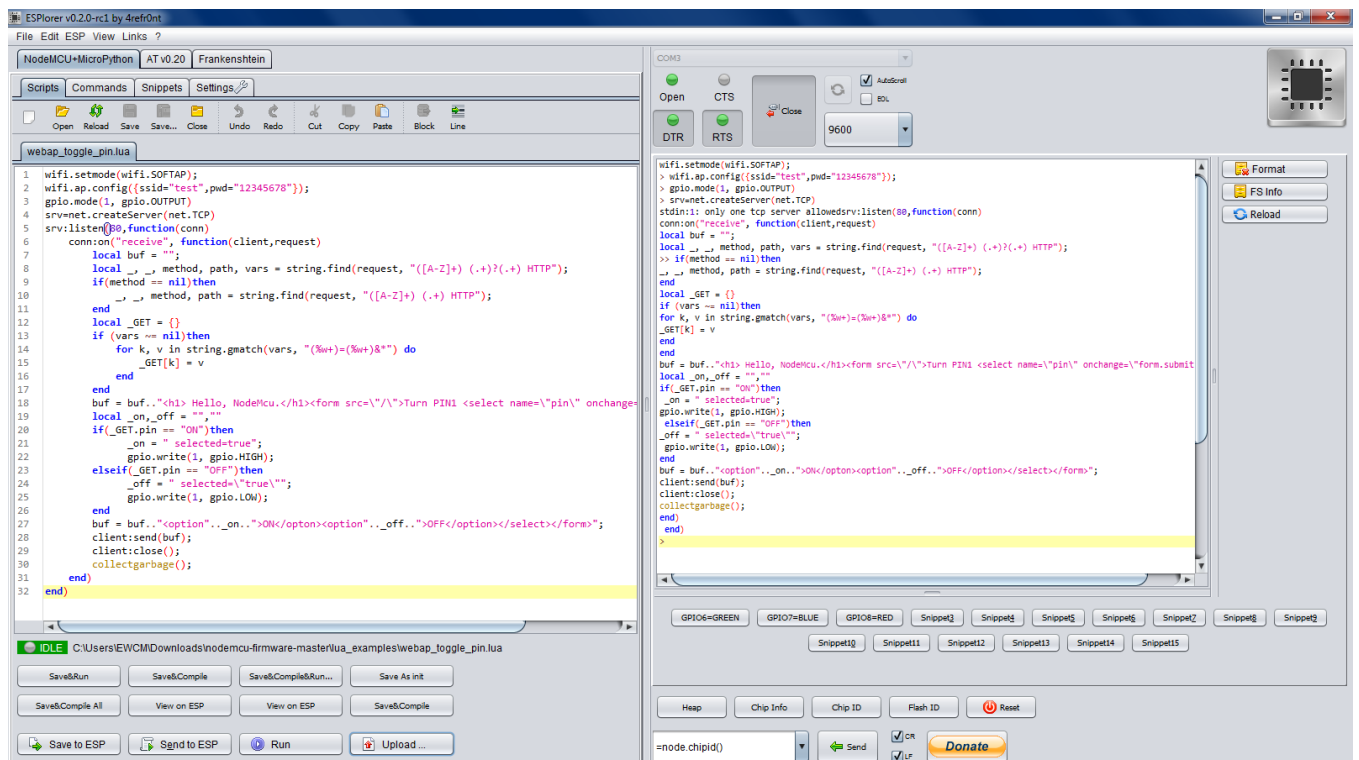- The GPIO pins can be control through the webserver

Figure 1 shows the expected output when sending the script to the ESP8266 using ESPlorer.
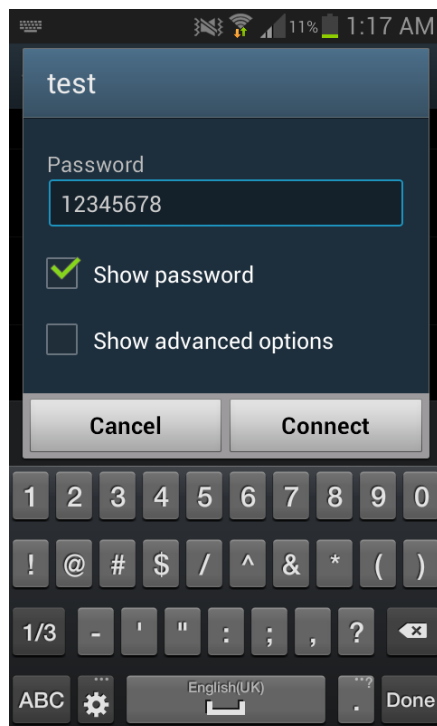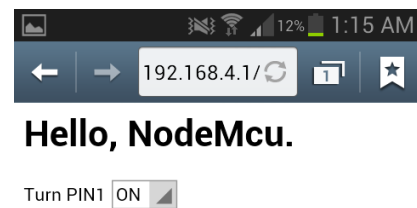

Figure 2 shows the broadcasted SSID

Figure 3 shows the webserver hosted on the ESP8266