

Setting up a Local Amazon IOT Button Notification Service

1) Configure AWS IOT Button for a Wireless Network

Hold down button for 6 second until blue light is flashing.

Look for a WIFI connection:

Button Configure-Me - XXn

Connect to this wifi using the last 8-digits of the DSN number (found on the back of the button) as the passphrase.

Open a web browser and go to 192.168.0.1/index.html

Select the SSID of your network and enter your network's passphrase if needed. Put a check in the AWS IoT Button Terms and Conditions box then click configure.

The MAC address of the button can be easily found if you have apple Mac laptop.

Hold down the Option key and then click on the WiFi menu icon found on the Mac. BSSID is the MAC address of the button.

Disconnect from the Button's SSID and reconnect to your network's SSID.

(Steps 2-4 are for Windows users)

2) Install Python

<https://www.python.org/ftp/python/3.7.3/python-3.7.3.exe>

Default install should work.

Directory for demonstration: c:\Python37-32

3) Install nmap

<https://nmap.org/npcap/dist/npcap-0.993.exe>

Default install should work.

4) Install scapy (network packet sniffing)

<https://codeload.github.com/secdev/scapy/zip/master>

Expand the archive into a directory path of your choosing.

Directory for demonstration: c:\Python37-32\scapy-master

Open a command window (hold Windows key and press R)

```
cd c:\Python37-32\scapy-master
```

Run the following command to install scapy:

```
c:\Python37-32\python.exe setup.py install
```

5) Start Python

On Windows run the newly install program from start menu:

Python 3.7 (32-bit)

Helpful information for running Python on Windows/Mac/Linux

<https://aws.amazon.com/iotbutton/http://www.cs.bu.edu/courses/cs108/guides/runpython.html>

6) Find the Network Card's Index

At the Python prompt type: `IFACES.show()`
and press Enter

You should see something like:

INDEX	IFACE	IP	MAC
12	TAP-Windows Adapter V9	10.0.X.X	00:ff:62:33:7e:94
58	Npcap Loopback Adapter	127.0.0.1	00:00:00:00:00:00
8	Microsoft Wi-Fi Direct Virtual Adapter	169.XXX.0.X	ea:2a:33:86:ec:26
11	Realtek PCIe FE Family Controller	169.XXX.XX.XXX	88:83:89:02:5d:3c
5	Atheros QCA9377 Wireless Network Adapter	192.168.1.47	e8:22:e4:8:ec:23

You want your wireless adapter's Index, in this case we will pick Index 5 and replace the placeholder:

`INSERT_YOUR_INDEX_HERE` in the program below with the number 5

Do not worry about the placeholder: "`INSERT_BUTTON_MAC_HERE`" we will find the Button's MAC Address in the next step.

7) Locate your Button's MAC Address

Copy the following python program into the clipboard and then paste it into the Python window. *(Copy careful because in Python whitespace and indentations matter)*

```
mydev = IFACES.dev_from_index(INSERT_YOUR_INDEX_HERE)
from scapy.all import *

def arp_display(pkt):
    if pkt[ARP].op == 1: #who-has (request)
        if pkt[ARP].psrc == '0.0.0.0': # ARP Probe
            if pkt[ARP].hwsrc == 'INSERT_BUTTON_MAC_HERE': # My button's MAC address
                print ("I see my button pressed. I could now run my code here.")

            elif pkt[ARP].hwsrc == 'INSERT_BUTTON_2_MAC_HERE': # My 2nd button's MAC
address
                print ("I see my 2nd button pressed. I could now run my code here.")
            else:
                print ("ARP Probe from unknown device: " + pkt[ARP].hwsrc)

print (sniff(iface=mydev, prn=arp_display, filter="arp", store=0, count=0))
```

Press Enter to start the program

Press your button and watch for the prompt: "ARP Probe from unknown device: xx:xx:xx:xx:xx:xx"

Replace the placeholder INSERT_BUTTON_MAC_HERE in the above program with the MAC address you just discovered.

Press Control-C to interrupt the running Python program so you can paste in the new program that contains your button(s) MAC address.

8) Monitor for a Button Press

With your MAC address(es) installed in the program, paste the newly modified program into the Python window and press Enter to run the program.

Each time your button is pressed your “message/code” will be displayed/run.

ALTERNATE AWS BUTTON SETUP

The way it was meant to be used

Set up a Amazon Web Services (AWS) - Cloud Computing Services account:

aws.amazon.com/iot/button



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