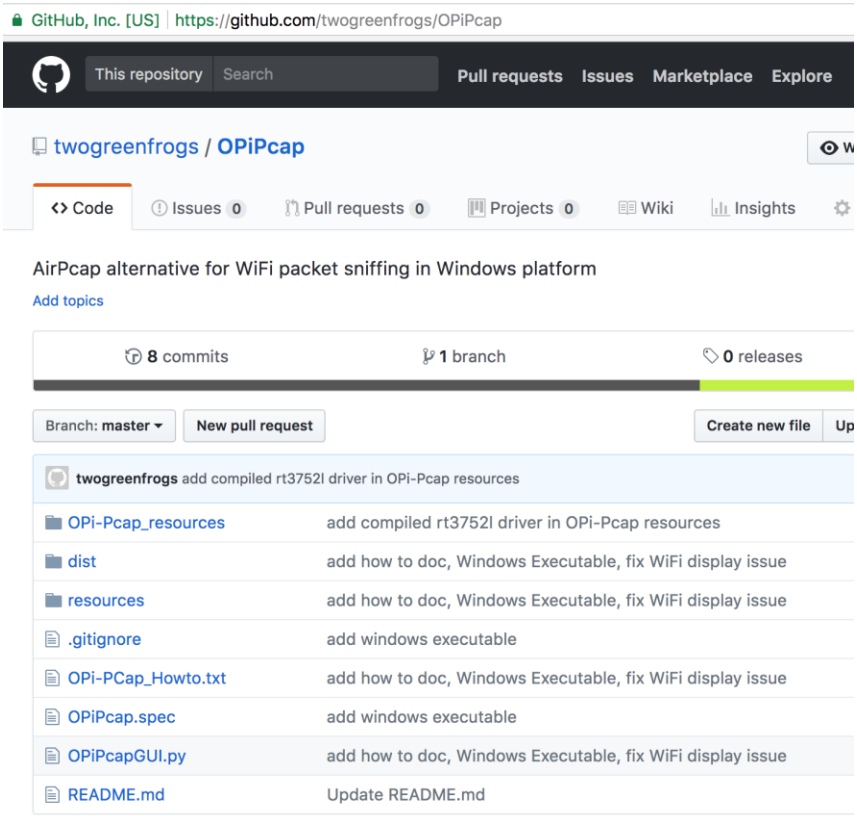
How to use OPI-PCap

This manual shows how to assemble OPI-PCap and run to capture WiFi packets. Please note that all shipped materials are new but opened for installation and testing purpose before shipping.

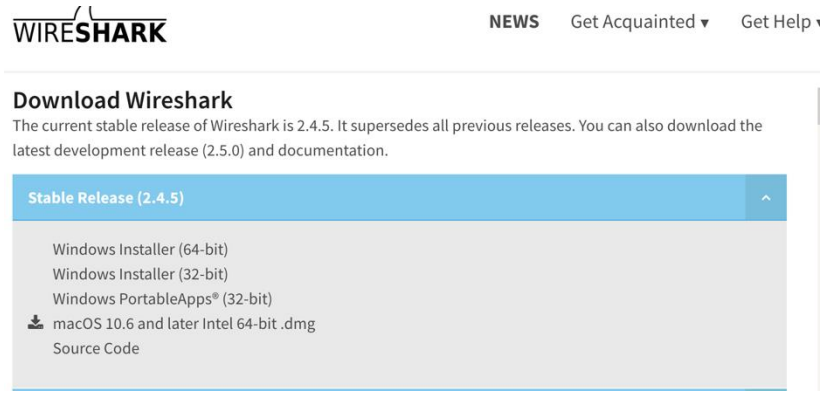
1. Download source code and 64bit Windows application(OPI-PCap control panel).

OPI-PCap Windows application is developed with Python/Tkinter and source code is hosted in github.(https://github.com/twogreenfrogs/OPiPcap)
Windows 64bit executable, OPiPcap.exe, is inside dist folder. OPiPcap.exe is program running in Windows PC/laptop and interacting with OPi-PCap to capture WiFi packets.
You won't need source code but need to download OPiPcap.exe Windows 64bit program in your PC/laptop. OPiPcap is standalone executable containing everything that it needs to run alone so it can be placed anywhere in PC/laptop.



2. Download and install Wireshark
   OPi-PCap Windows executable works with wireshark for WiFi packet sniffing like AirPcap control panel works with wireshark. Please go to below link and download/install Wireshark program.

https://www.wireshark.org/download.html



3. Assemble OPI-PCap Hartware tool.

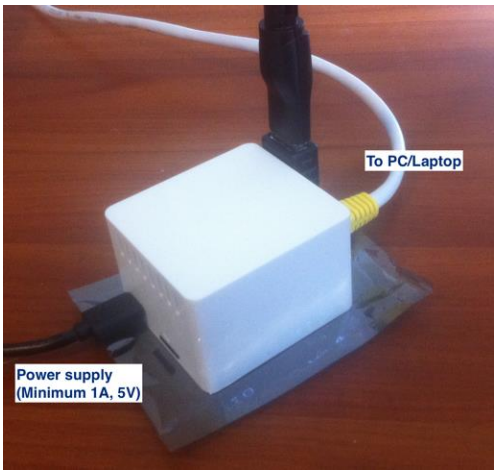
OPI-PCap tool consists of Windows program, Orange Pi zero, its protective case, 2.4G WiFi USB adapter, 90 Degree male-Femail USB adapter, and 4G SD card with custom Armbian.
First assemble Orange Pi Zero with its protective case as shown below.

Then insert WiFi USB adapter to 90 degree male to female USB adapter.

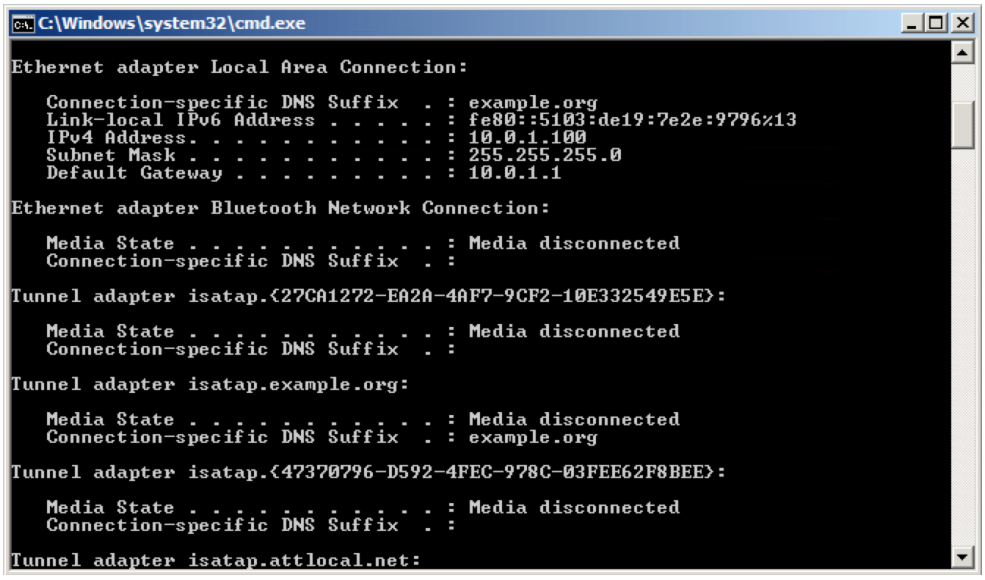
Now insert Micro SD card in OPi-PCap SD card slot, and WiFi adapter to USB port. Completely assembled OPI-PCap looks like below.

4. Power up OPI-PCap and run OPI-PCap Windows executable.

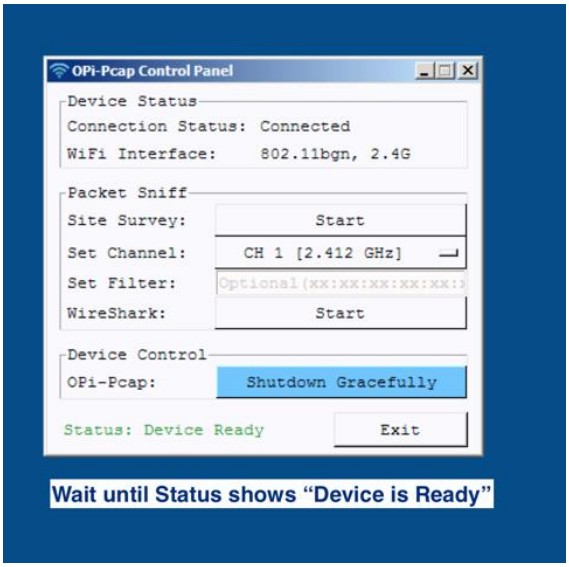
Now connect Ethernet cable(Not included in this sell) between OPi-PCap and Windows PC/laptop. And then apply power(Not included in this sell. Use minimum 1A, 5V Micro USB power supply like the one for Raspberry Pi) to OPi-PCap as shown in below picture.



Now in PC/laptop, check if LAN port received IP address. (OPi-PCap is DHCP server so that OPI-PCap gives IP address to PC/laptop LAN port. If you use Static IP address, please change it to DHCP). Below picture shows PC/Laptop LAN port received IP address of 10.0.1.100 from OPI-PCap(10.0.1.1)



Now double-click OPi-PCap Windows executable which you downloaded in step 1 from github.(Windows executable is in dist folder) It brings up below OPI-PCap control panel.



When OPI-PCap control panel comes up, it will automatically detect OPi-PCap hardware, check attached WiFi USB adapter and get itself ready. Please wait until you see "Device Ready" in Status on the bottom.

5. Capturing WiFi packets with OPI-PCap.

Please watch below short youtube video showing how to capture WiFi packets using OPi-PCap.
https://www.youtube.com/watch?v=Kj-JWRSqXno&t=28s

6. A few points to note
   - Please use minimum 1A(1000 mA), 5V power supply like the one for Raspberry Pi. Do not use normal micro usb 500 mA, 5V cell phone charger.
   - Please shutdown OPi-PCap gracefully with button in OPI-PCap control panel or you're risking corrupting micro SD card which might cause booting issue.
   - If you need 5G WiFi adapter for capturing 5G band, driver for RT3572L is installed in custom Armbian micro SD card. I've tested with below adapter and can confirm it works. https://www.aliexpress.com/item/RALINK-RT3572L-Dual-Band-600Mbps-Wireless-WiFi-USB-Adapter-With-SMA-5dBi-External-WiFi-Antenna-For/32660068032.html?spm=a2g0s.9042311.0.0.ZkdTAO
   - Should you encounter problem, you can turn on debug message by just creating "debug.txt" file in the same folder where OPI-PCap is running. This will save all debug messages in opi_pcap.log file.
   - If you want to know more, you can ssh in OPi-PCap with username/password orangepi/orangepi. Root password is orangepi. Check out source code as well.
   - This sell includes technical support so that you can send me a message in ebay for any matter.