

PRACTICAL-3 MCWN

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Subject: MCWN

Case Study On Wi-Fi Tools

- Wifi tools are used for various purposes like providing wifi connection, testing a wifi connection and much more....

1) Wifi Analyzer:-

- A Wi-Fi analyzer tool helps you track and analyze your wireless network's performance with ease. With WiFi Analyzer's network admins can collect information from different wireless components such as WLCs and access points to determine the availability and performance of your wireless network.
- The main purpose of a Wi-Fi analyzer is to analyze the connection, collect the data, and identify the problems responsible for a weak Wi-Fi signal. Wi-

Fi analyzers collect information from different access points and channels within your network and provide a clear overview with visual reports and dashboards.

- With the help of a Wi-Fi analyzer, network administrators can detect problems and perform root cause analysis to find troublesome nodes, endpoints, and more. Admins can troubleshoot the problem by considering the potential solutions like switching to another channel to reduce congestion.

2) **Wifi Card:-**

- A wireless card, a wireless network card, or a Wi-Fi card is a hardware component that enables a device, such as a computer or a smartphone, to connect to a wireless network. It allows the device to communicate and exchange data with other devices or access points over radio frequency signals without physical cables.



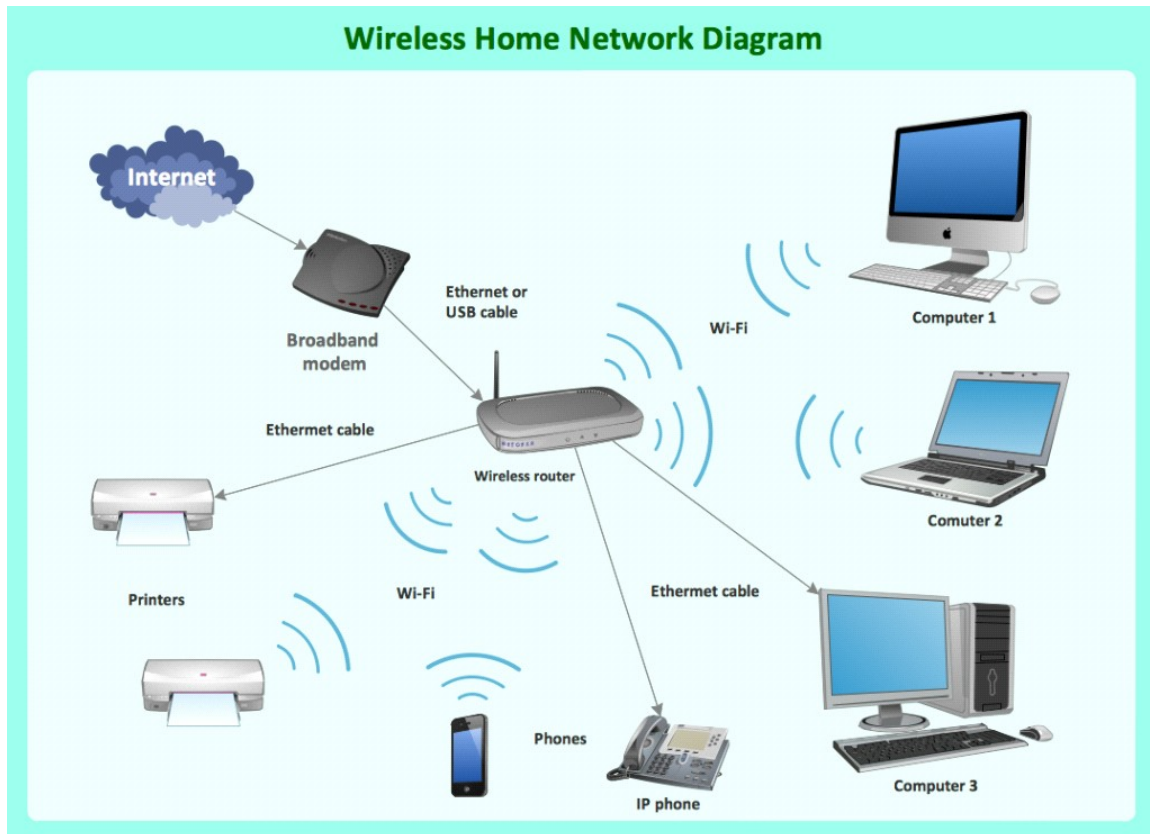
Advantages of Wi-Fi card:

- **Wide reach:** Wireless cards have a wider reach when compared to wired networks. Hence, these cards can be quickly used at locations having restricted wireless cables. With wider reach, Wi-Fi cards can handle a large number of users also.
- **Improved data communication:** Wireless cards are highly efficient devices offering quick information transfer. Further, all the upgrades and configurations can be quickly implemented to enhance the system's connectivity.

3) Router:-

- A router is a device that connects two or more packet-switched networks or subnetworks. It serves two primary functions: managing traffic between these networks by forwarding data packets to their intended IP addresses, and allowing multiple

devices to use the same Internet connection.



Functions of Router:-

- 1) Packet Forwarding**
- 2) Routing**
- 3) Network Address Translation**
- 4) Packet Filtering and Firewalling**

4) **NetSpot:-**

- NetSpot is a professional multiplatform app for Wi-Fi network planning, wireless site surveys, Wi-Fi analysis, and troubleshooting.

Pros And Cons:

- It is free to use for basic WiFi analysis
- Easy to download, install, and use, both for beginners and advanced users
- It is not mandatory to provide personal data to use the product for free
- It provides all the data you need to understand what is going on with the WiFi in your area
- It includes many visual tools and charts, for improved visualization of the wireless spectrum
- Its pricing is more affordable than that of other similar products

5) **inSSIDer:-**

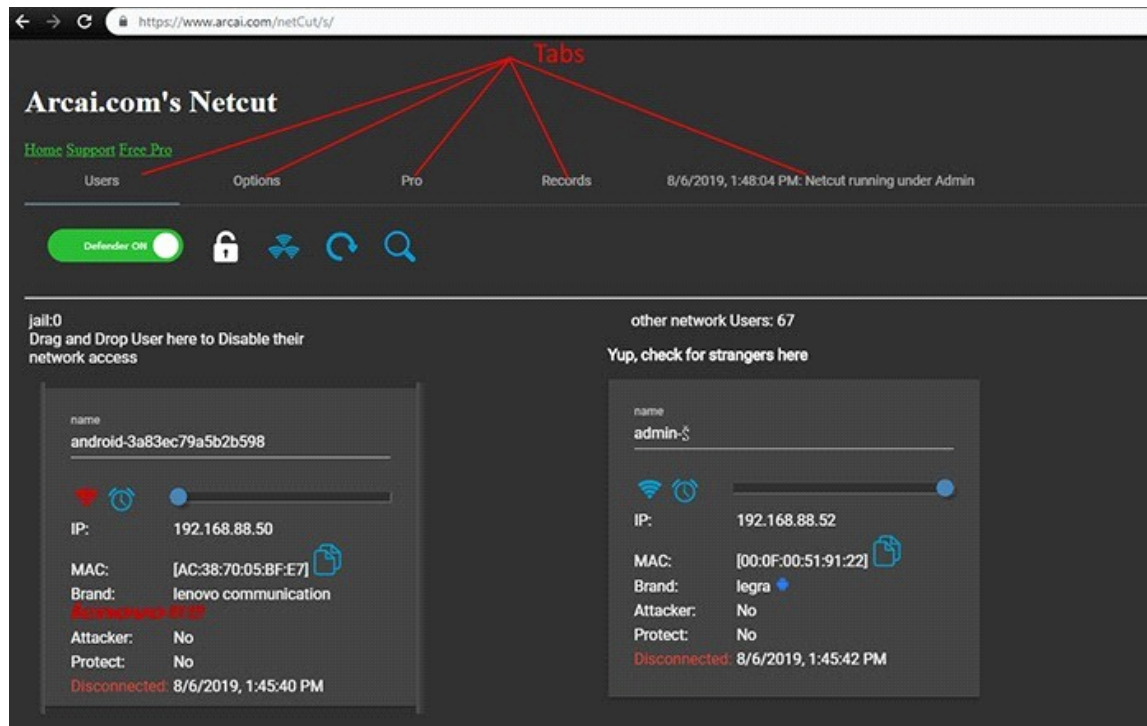
- inSSIDer is a Wi-Fi network scanner application for Microsoft Windows and OS X developed by MetaGeek, LLC. It has received awards such as a 2008 Infoworld Bossie Award for "Best of Open Source Software in Networking".

Features:-

- New in Version 5.0: channel utilization break down to show device (AP and client) airtime utilization; see connected client devices and info about client such as utilization and signal strength.
- Gathers information from wireless card and software.
- Helps choose the best wireless channel available.

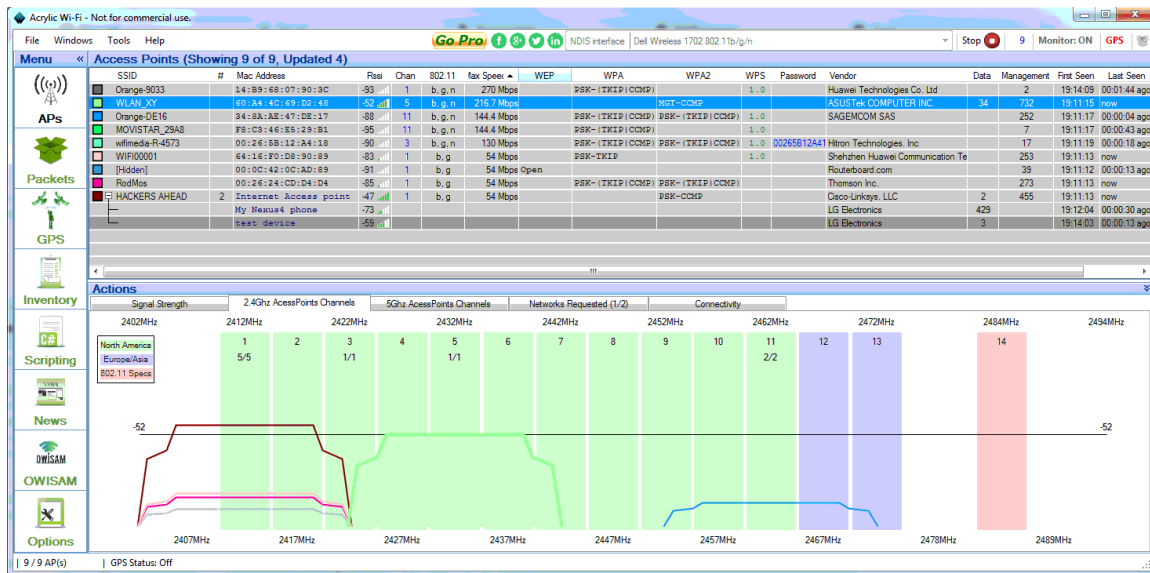
6) **NetCut:-**

- NetCut is a solution that is helping you to admin your network based only on ARP protocol . It can execute several tasks as list IP-MAC table in seconds, turn off & on network on any computer on your LAN including any device like router or switcher. Also, NetCut can protected users from ARP SPOOF attacks.



7) Acrylic Wireless:-

- Acrylic's Wi-Fi scanner can help you resolve network issues by identifying interference points, optimizing Wi-Fi signals, and resolving connectivity issues. You can also use its troubleshooting tool to identify and resolve connectivity issues.



8) Wireshark:-

- Wireshark is a free open source tool that analyzes network traffic in real-time for Windows, Mac, Unix, and Linux systems. It captures data packets passing through a network interface (such as Ethernet, LAN, or SDRs) and translates that data into valuable information for IT professionals and cybersecurity teams.

Features:-

- Packet capture (PCAP)
- Real-time analysis.
- Filtering capabilities
- Graphical user interface (GUI)

No.	Time	Source	Destination	Protocol	Length	Info
3168	1284.1008854	192.168.0.103	212.71.234.61	HTTP	612	GET /install-lighttpd-with-mysql5-and-php5-php...
3168	1284.1048841	204.79.197.200	192.168.0.103	HTTP	2644	HTTP/1.1 200 OK [Malformed Packet]
3169	1284.1513108	204.79.197.200	192.168.0.103	HTTP	1356	HTTP/1.1 200 OK [Malformed Packet]
3169	1284.2250623	212.71.234.61	192.168.0.103	HTTP	1098	HTTP/1.1 200 OK (text/html)
3169	1284.2414309	52.205.233.206	192.168.0.103	HTTP/X...	707	HTTP/1.1 200 OK
3170	1284.2997814	192.168.0.103	212.71.234.61	HTTP	457	GET /css?family=Roboto%20Slab:700,700 HTTP/1.1
3170	1284.3508938	192.168.0.103	212.71.234.61	HTTP	807	POST /wp-admin/admin-ajax.php HTTP/1.1 (applic...
3170	1284.3686847	212.71.234.61	192.168.0.103	HTTP	1356	HTTP/1.1 200 OK (text/html)
3170	1284.4227117	216.58.199.138	192.168.0.103	HTTP	1071	HTTP/1.1 200 OK (text/css)
3171	1284.4616078	166.62.112.193	192.168.0.103	HTTP	513	HTTP/1.1 200 OK (text/html)
3171	1284.6045427	212.71.234.61	192.168.0.103	HTTP	469	HTTP/1.1 200 OK (text/html)[Malformed Packet]
3172	1284.6394895	216.58.212.228	192.168.0.103	HTTP	1296	HTTP/1.1 403 Forbidden (text/html)
3172	1284.7191851	192.168.0.103	212.71.234.61	HTTP	537	GET /s/robotoslab/v6/dazS1PrQuCxC3i0AJFEJY1IZu...
3172	1284.7224065	216.58.199.131	192.168.0.103	HTTP	2764	HTTP/1.1 200 OK (font/woff2)

Frame 23645: 1496 bytes on wire (11968 bits), 1496 bytes captured (11968 bits) on interface 0

Linux cooked capture

Internet Protocol Version 4, Src: 192.168.0.103, Dst: 212.71.234.61

Transmission Control Protocol, Src Port: 48650 (48650), Dst Port: 80 (80), Seq: 1429, Ack: 1, Len: 1428

[2 Reassembled TCP Segments (2856 bytes): #23644(1428), #23645(1428)]

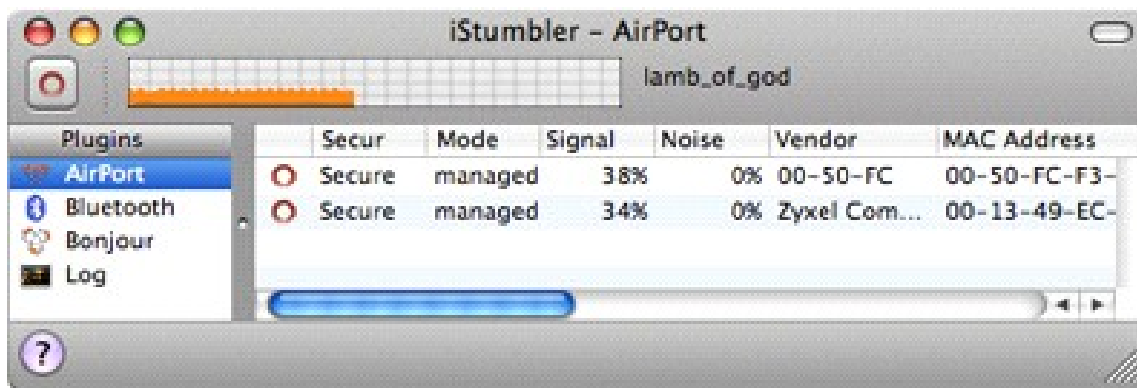
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0000 00 04 00 01 00 06 28 d2 44 eb bd 98 54 62 08 00 .....(D...Tb..
0010 45 00 05 c8 c9 ef 40 00 40 06 eb ab c0 a8 00 67 E.....@.0....g
0020 d4 47 ea 3d be 0a 00 50 d8 96 0b b9 fc 98 8c 7d .G.=...P .....}
0030 80 10 00 e5 b8 f3 00 00 01 01 08 0a 00 17 cf c9 .....
0040 35 af fa 17 66 38 38 78 79 6a 71 57 4c 39 32 75 S...f88x yjqWl92u

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9) iStumbler:-

- iStumbler is a utility for finding wireless networks and devices with AirPort or Bluetooth-enabled Macintosh computers.
- iStumbler offers a variety of options that will enable you to configure it fast to fit your needs. It does not offer packet injection options like KisMAC so if you're looking for a tool to test the security of your network you'll have to look elsewhere, iStumbler is a discovery tool.



10) Kismet:-

- Kismet is a console (ncurses)-based 802.11 layer-2 wireless network detector, sniffer, and intrusion detection system. It identifies networks by passively sniffing and can detect hidden (non-beaconing) networks if they are in use.
- Kismet differs from other wireless network detectors in working passively. Namely, without sending any loggable packets, it is able to detect the presence of both wireless access points and wireless clients, and to associate them with each other. It is also the most widely used and up to date open source wireless monitoring tool.
- Kismet features the ability to log all sniffed packets and save them in a tcpdump/Wireshark or Airodump compatible file format. Kismet can also capture "Per-Packet Information" headers.

