PRACTICAL-3 MCWN

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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.

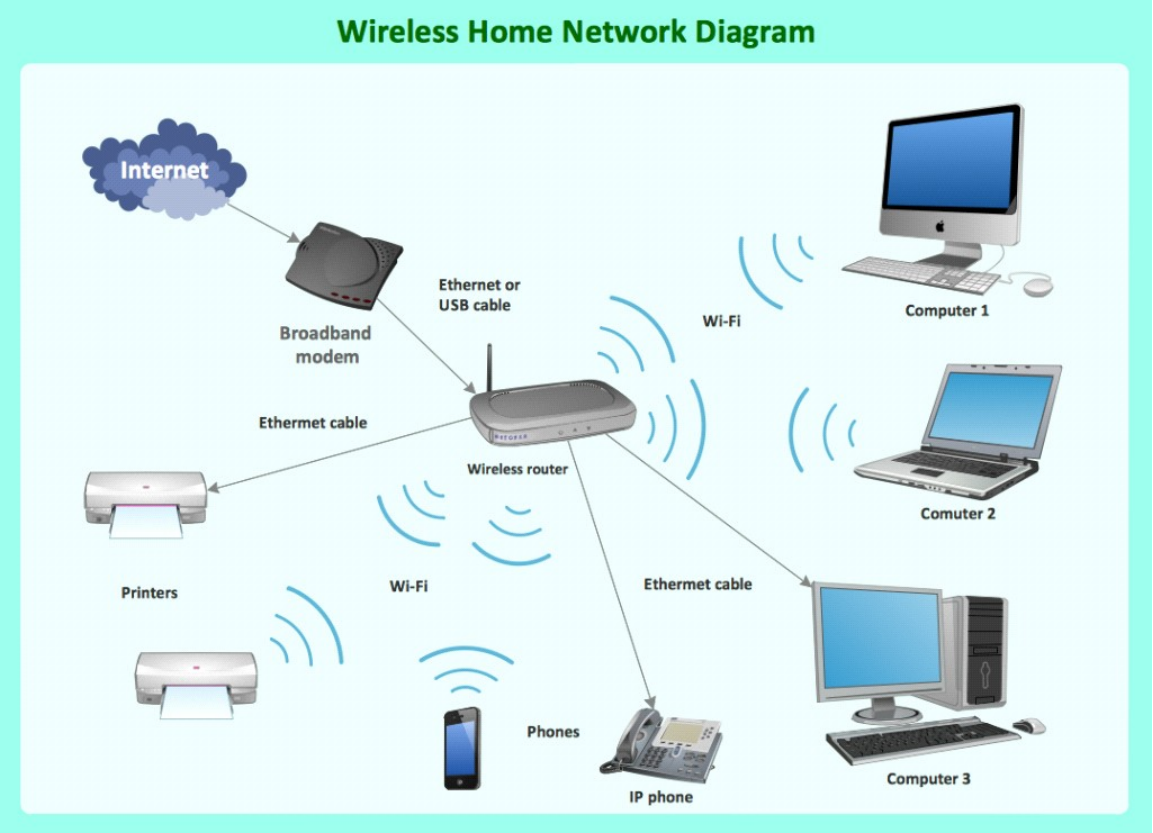
Advantages of Wi-Fi card:

- **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:-

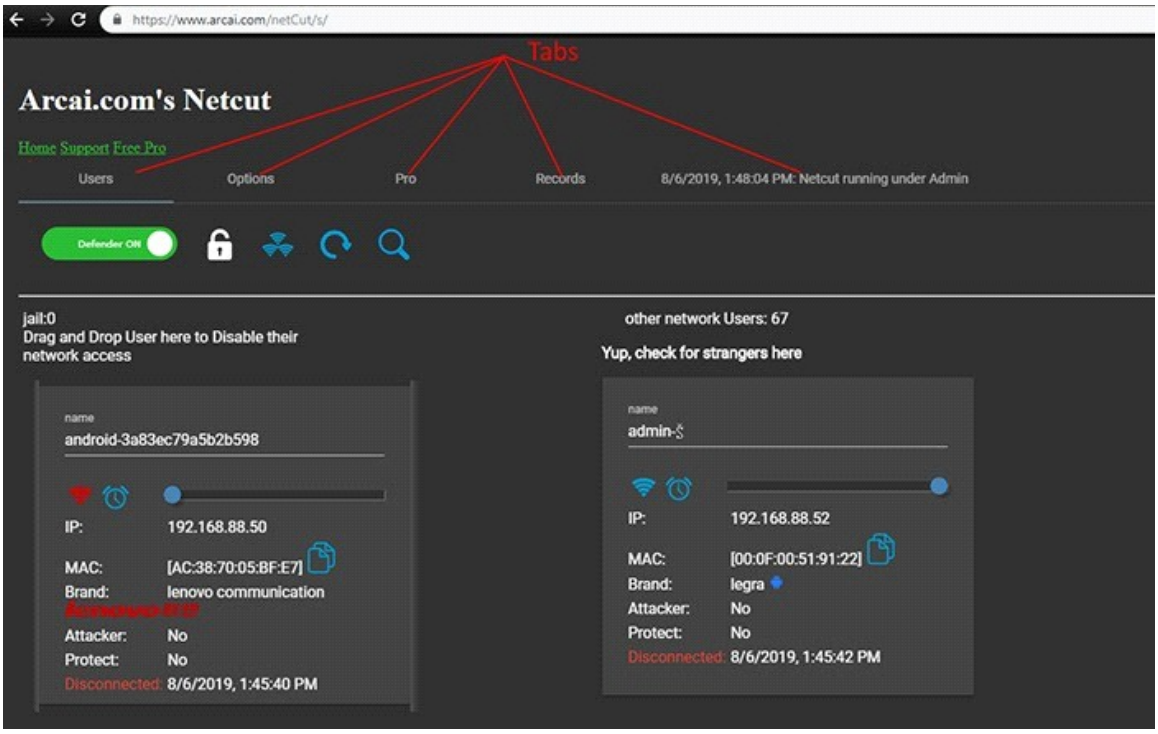
- inSSIDer is a Wi-Fi network scanner application for Microsoft Windows and OS X developed by MetaGeek, LLC. It has received awards such as a 2008 Infoworld Bossie Award for "Best of Open Source Software in Networking".

Features:-

- New in VersioNew 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.

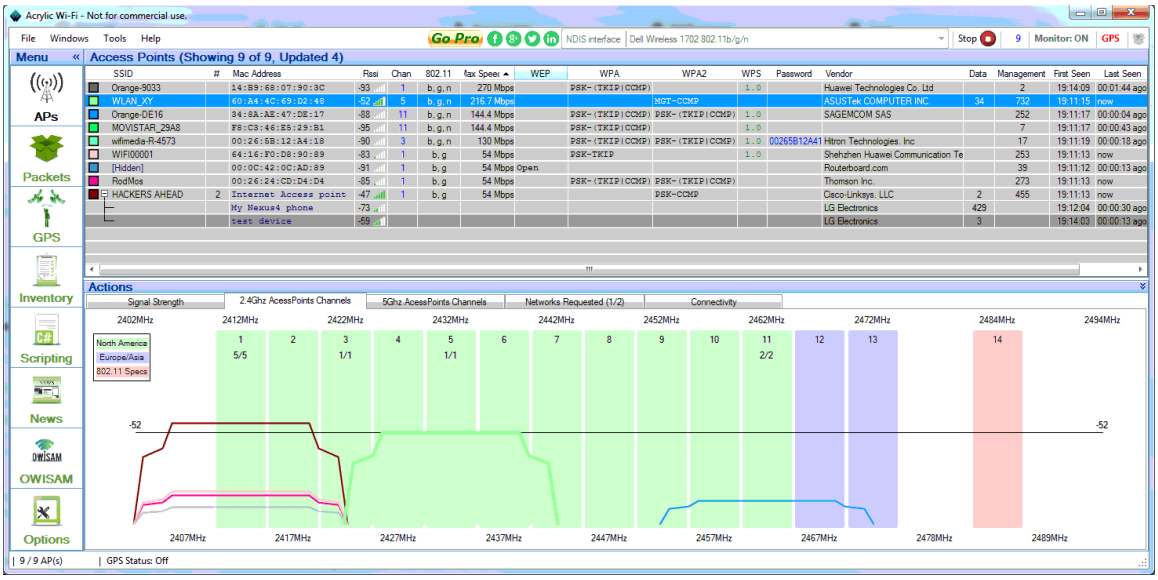
6) NetCut:-

- 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) <u>Acrylic Wireless:-</u>

- 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.

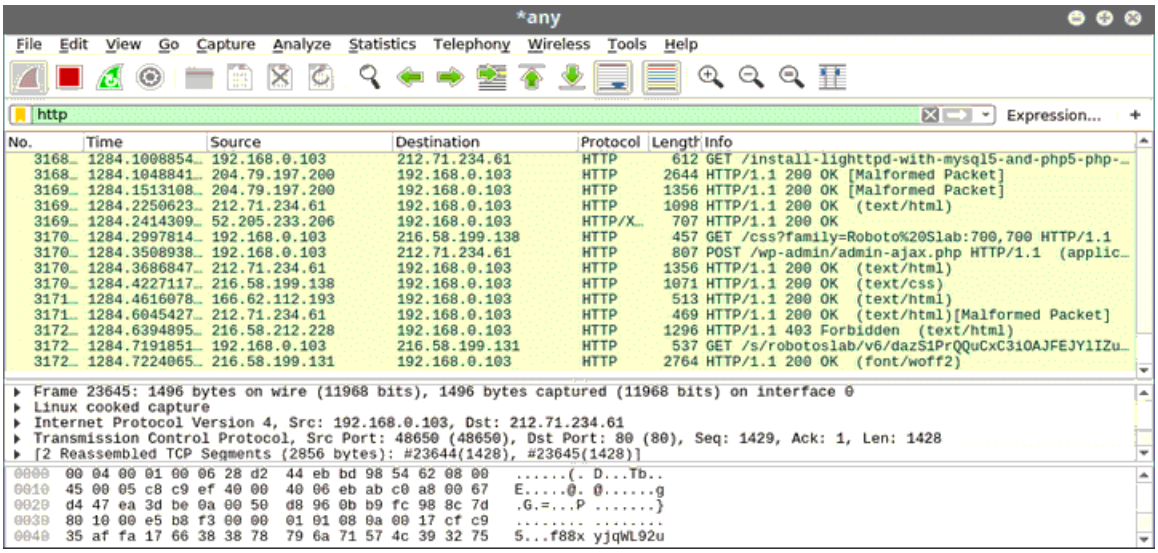


8) Wireshark:-

- 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.

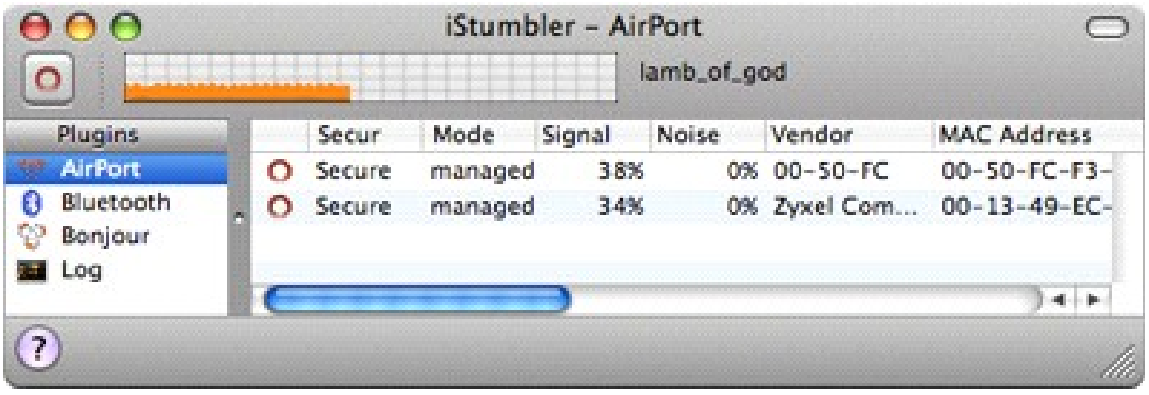
Features:-

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



9) iStumbler:-

- iStumbler is a utility for finding wireless networks and devices with AirPort or Bluetooth-enabled Macintosh computers.
- iStumber 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. Q1 layer-2 wireless network detector, sniffer, and intrusion detection system. It identifies networks by passively sniffing and can decloak 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 Airsnort compatible file format. Kismet can also capture "Per-Packet Information" headers.