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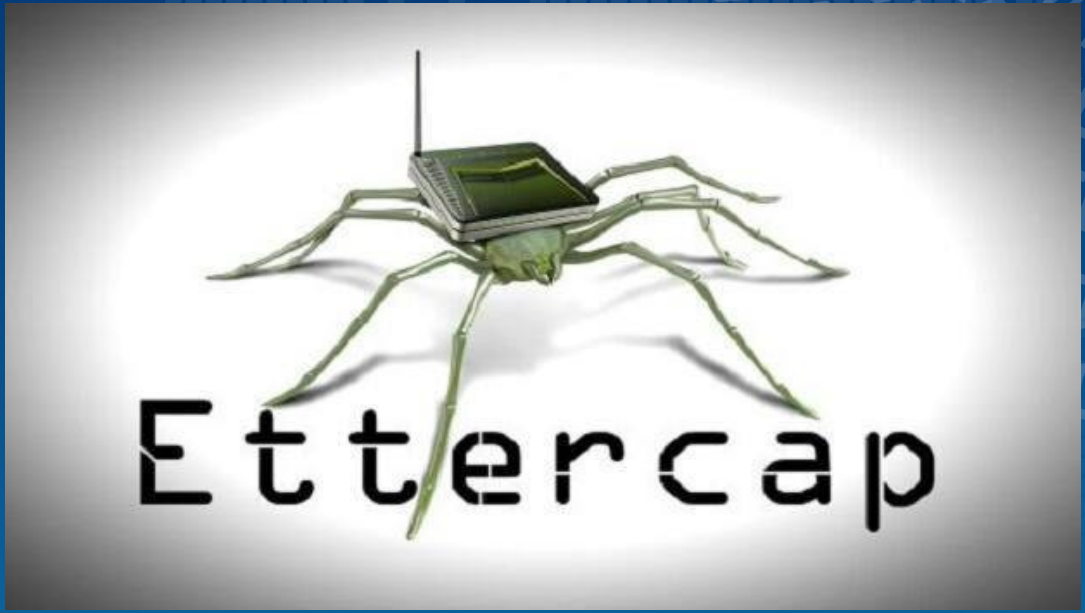

DNS Spoofing Demonstration

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The demonstration is carried on a LAN network composed of the following three elements:

- Default Gateway (IP address 192.168.224.2)

- Attacker computer (IP address 192.168.224.13)

- Target computer (IP address 192.168.224.211)

The application used to carry out the DNS Spoofing is *Ettercap*: a free and open source network security tool for man-in-the-middle attacks.

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Prepare for the attack by configuring the attack parameters:

- Step 1: Make a fake OWASP HTML web-page (phishing web-page). Set it up on an Apache Web Server hosted on the Attacker computer (the fake web-site will be accessed by typing the IP address of the Attacker computer onto a browser).

- Step 2: Go to the Ettercap directory and open the “etter.dns” using a text editor. At the bottom of the file, add the name to the website that we want to want to attack (in this case, “www.owasp.org”) and also add the IP that we want the Target

computer to be redirected to (in this case, the IP address of the Attacker computer, hosting the fake web-page). See the following screenshot for illustration.

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The attack parameters that were added manually are marked with the red square:

```
Activities   Terminal
File  Edit  View  Search  Terminal  Help
  GNU nano 2.9.3                                  /etc/ettercap/etter.dns

# resolutions. I.e. Windows/Samba file sharing.
#

LAB-PC*  WINS  127.0.0.1

##################################################
# Demonstration for OWASP Security Event

owasp.org        A        192.168.224.13
*.owasp.org      A        192.168.224.13
www.owasp.org    A        192.168.224.13

# vim:ts=8:noexpandtab
```

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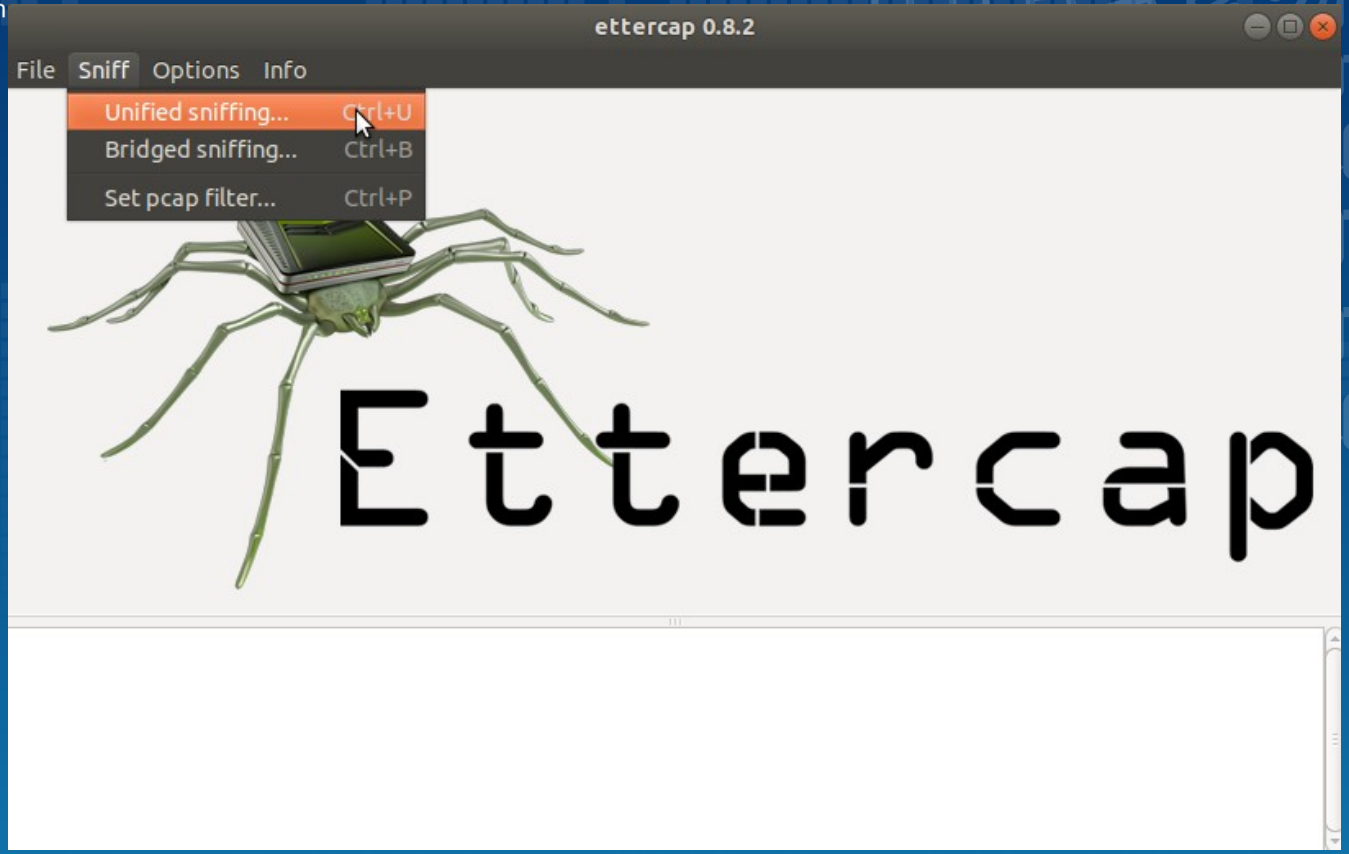
Step 3:
Open Ettercap in sudo mode and select Sniff>Unified Sniffing



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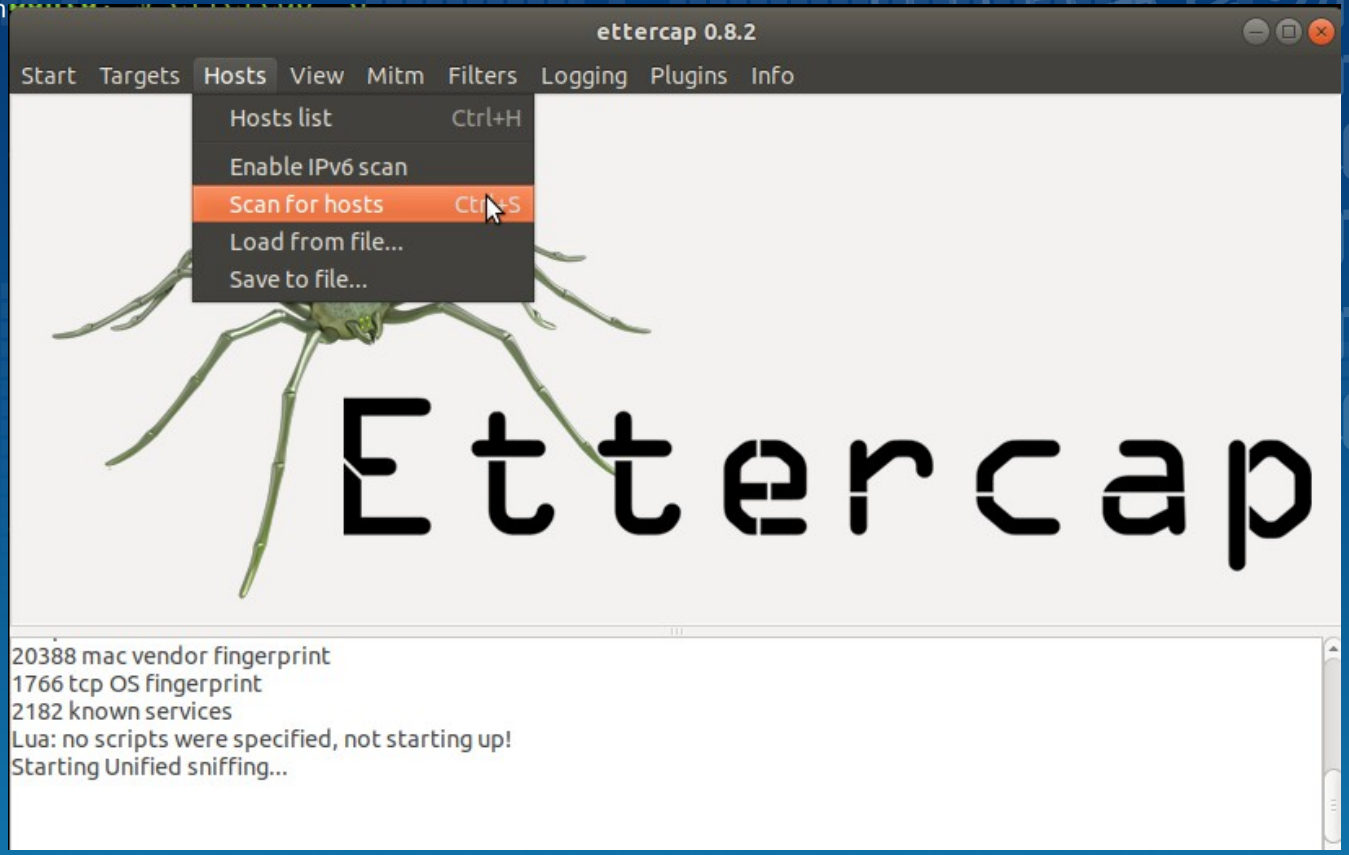
Step 4:
Go to Hosts>Scan for Hosts to find devices connected to the LAN



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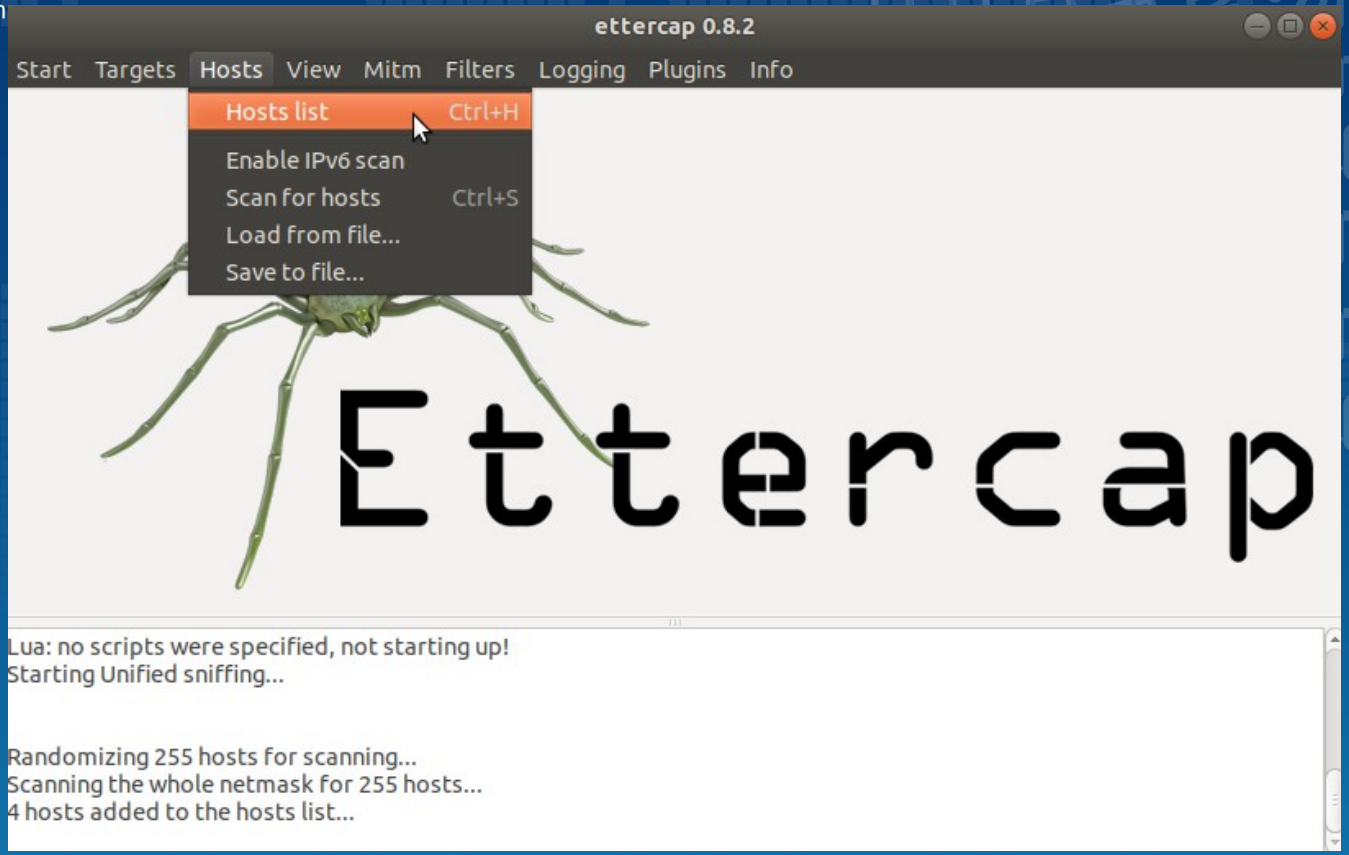
Step 5:
Go to Hosts>Hosts List to display the list of devices



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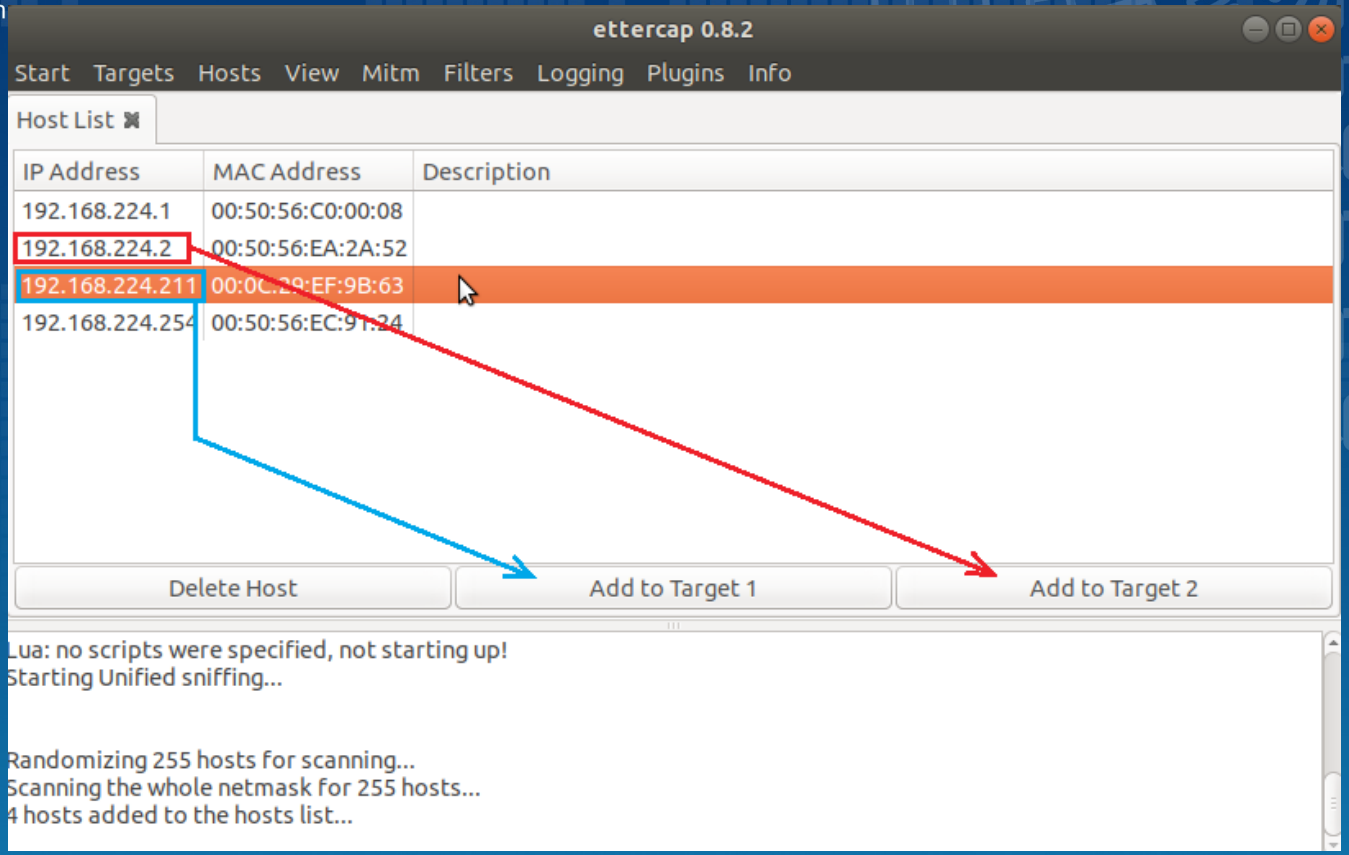
Step 6:
From the list, select the IP address of the Target computer and add it to Target 1 and also select the IP address of the default gateway and add it to Target 2



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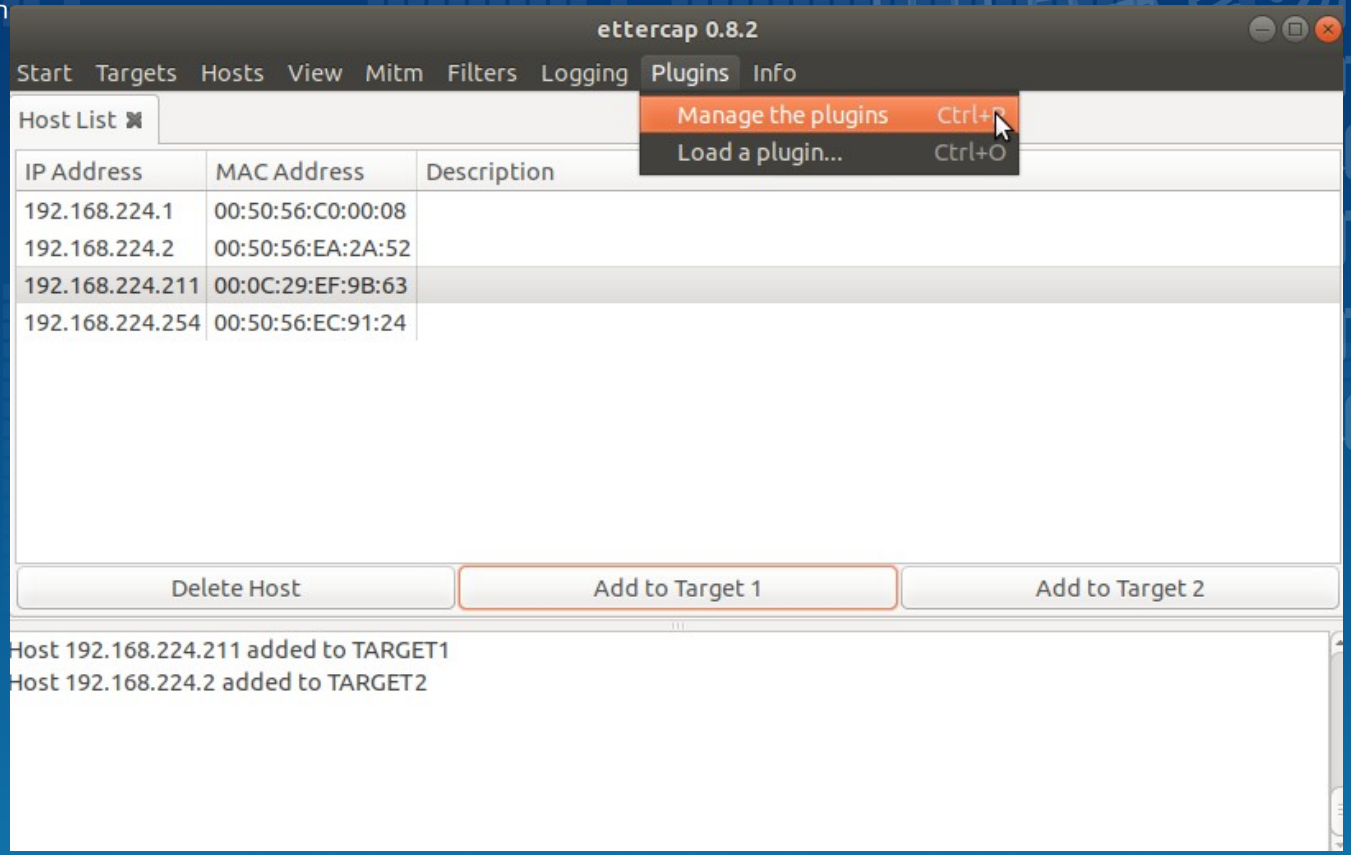
Step 7:
Go to Plugins>Manage the Plugins



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Step 8:
From the list of plugins select "dns_spoof"

ettercap 0.8.2

Start Targets Hosts View Mitm Filters Logging Plugins Info

Host List | Plugins

Name	Version	Info
arp_cop	1.1	Report suspicious ARP activity
autoadd	1.2	Automatically add new victims in the target range
chk_poison	1.1	Check if the poisoning had success
dns_spoof	1.2	Sends spoofed dns replies
dos_attack	1.0	Run a d.o.s. attack against an IP address
dummy	3.0	A plugin template (for developers)
find_conn	1.0	Search connections on a switched LAN
find_ettercap	2.0	Try to find ettercap activity
find_ip	1.0	Search an unused IP address in the subnet
finger	1.6	Fingerprint a remote host
finger_submit	1.0	Submit a fingerprint to ettercap's website

Host 192.168.224.211 added to TARGET1
Host 192.168.224.2 added to TARGET2

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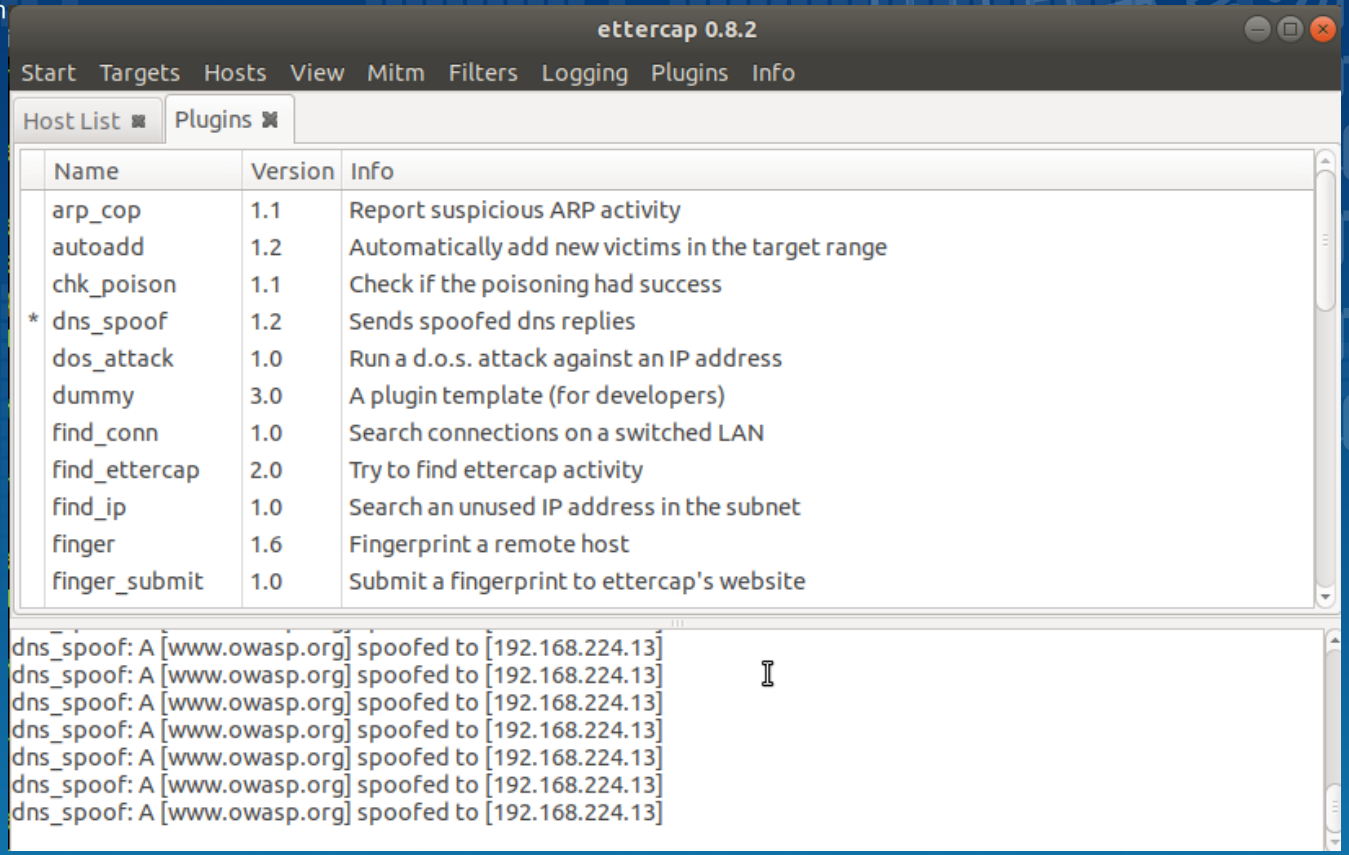
Step 9:
The plugin activates the process of bombarding the target machine with fake DNS responses that resolve owasp.org to IP address 192.168.224.13 (where the fake web-page is hosted by web server on the Attacker machine)



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(2) Firefox 00:20

As a result, instead of being directed to the real web-page...

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OWASP

http://www.owasp.org

133%

Port in IPTables

Welcome to OWASP's Official Web Page

We are sorry to inform you that we are currently undergoing a company-wide rebranding process, which also affects the design of our website. Please send any important information and correspondence to the following e-mail address

Sincerely yours, the OWASP Team

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(2) Firefox

00:22

...the Victim is directed to the fake web-page (**notice that the browser displays the same URL!**)

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Please Note:

- We have discussed DNS Cache Poisoning methodology used to compromise DNS Cache records stored on users' computers

- However, these principles also apply for tampering with the cached DNS records on DNS Resolver servers!

The following slide shows a topological illustration of the attack.