

SCHOOL OF INFORMATION TECHNOLOGY AND ENGINEERING
DIGITAL ASSIGNMENT 5 - WINTER SEMESTER 2022-23

Course : Information Security Management

Course Code : CSE3502

Slot : L29+30

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1. Perform the various types of DNS enumeration by referring the video link given below on any website other than the given in the video which is also not a popular website.

<https://www.youtube.com/watch?v=rQ-dc5kwRtU>

Snapshot of host,nslookup and dig commands (3 marks)

host vit.ac.in

The screenshot shows a Kali Linux desktop environment with several open windows:

- Terminal Window 1:** Shows the root shell of a Kali Linux host. The user runs the command `host vit.ac.in`, which outputs information about the domain vit.ac.in, including its IP address (136.233.9.13) and various mail servers it uses (1 aspmx.l.google.com, 5 alt1.aspmx.l.google.com, 5 alt2.aspmx.l.google.com, 10 alt3.aspmx.l.google.com, 10 alt4.aspmx.l.google.com).
- Terminal Window 2:** Shows a root shell on a target system. The user runs the command `20BIT0238`.
- File Manager:** A standard Kali Linux file manager window is visible in the background.

The desktop interface includes a top bar with icons for Player, File Explorer, and a browser, along with a taskbar at the bottom displaying various application icons.

host -t ns vit.ac.in

Player | || - 1 2 3 4 | 🔍 8:49

File Actions Edit View Help
root@kali:~
[root@kali] ~ # host vit.ac.in
vit.ac.in has address 136.233.9.13
vit.ac.in mail is handled by 1 aspmx.l.google.com.
vit.ac.in mail is handled by 5 alt1.aspmx.l.google.com.
vit.ac.in mail is handled by 5 alt2.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt3.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt4.aspmx.l.google.com.

[root@kali] ~ #
[root@kali] ~ # host -t ns vit.ac.in
vit.ac.in name server ns-865.awsdns-44.net.
vit.ac.in name server ns-389.awsdns-48.com.
vit.ac.in name server ns-1067.awsdns-05.org.
vit.ac.in name server ns-1772.awsdns-29.co.uk.

[root@kali] ~ #

kali@kali:~
File Actions Edit View Help
[kali@kali] ~ # 20BIT0238

35°C Partly sunny Search ENG IN 6:19 PM 3/31/2023

host -t mx vit.ac.in

```
Player | || | 1 2 3 4 | 🔍
File Actions Edit View Help
[root@kali] ~
# host vit.ac.in
vit.ac.in has address 136.233.9.13
vit.ac.in mail is handled by 1 aspmx.l.google.com.
vit.ac.in mail is handled by 5 alt1.aspmx.l.google.com.
vit.ac.in mail is handled by 5 alt2.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt3.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt4.aspmx.l.google.com.

[root@kali] ~
#
[root@kali] ~
# host -t ns vit.ac.in
vit.ac.in name server ns-865.awsdns-44.net.
vit.ac.in name server ns-389.awsdns-48.com.
vit.ac.in name server ns-1067.awsdns-05.org.
vit.ac.in name server ns-1772.awsdns-29.co.uk.

[root@kali] ~
#
[root@kali] ~
# host -t mx vit.ac.in
vit.ac.in mail is handled by 5 alt1.aspmx.l.google.com.
vit.ac.in mail is handled by 5 alt2.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt3.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt4.aspmx.l.google.com.
vit.ac.in mail is handled by 1 aspmx.l.google.com.

[root@kali] ~
#
root@kali: ~
File Actions Edit View Help
(kali㉿kali)-[~]
$ 20BIT0238
```

host 136.233.9.13

nslookup vit.ac.in

Player | ||| 1 2 3 4 | ↻

root@kali:~

File Actions Edit View Help

[#] nslookup vit.ac.in

Command 'nslookup' not found, did you mean:
command 'nslookup' from deb bind9-dnsutils 4.aspmx.l.google.com.

Try: apt install <deb name>

[#] nslookup vit.ac.in

Server: 192.168.42.2
Address: 192.168.42.2#53

Non-authoritative answer:

Name: vit.ac.in
Name: vit.ac.in server ns-389.awsdns-48.com.
Address: 136.233.9.13
Vit.ac.in name server ns-1007.awsdns-05.org
vit.ac.in name server ns-1772.awsdns-29.co.uk.

[#] dig vit.ac.in mx

vit.ac.in mail is handled by 5 alt1.aspmx.l.google.com.
vit.ac.in mail is handled by 5 alt2.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt3.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt4.aspmx.l.google.com.
vit.ac.in mail is handled by 1 aspmx.l.google.com.

[#] dig 136.233.9.13 ns

13.9.233.136.in-addr.arpa domain name pointer 136.233.9.13.static.jio.com.

[#]

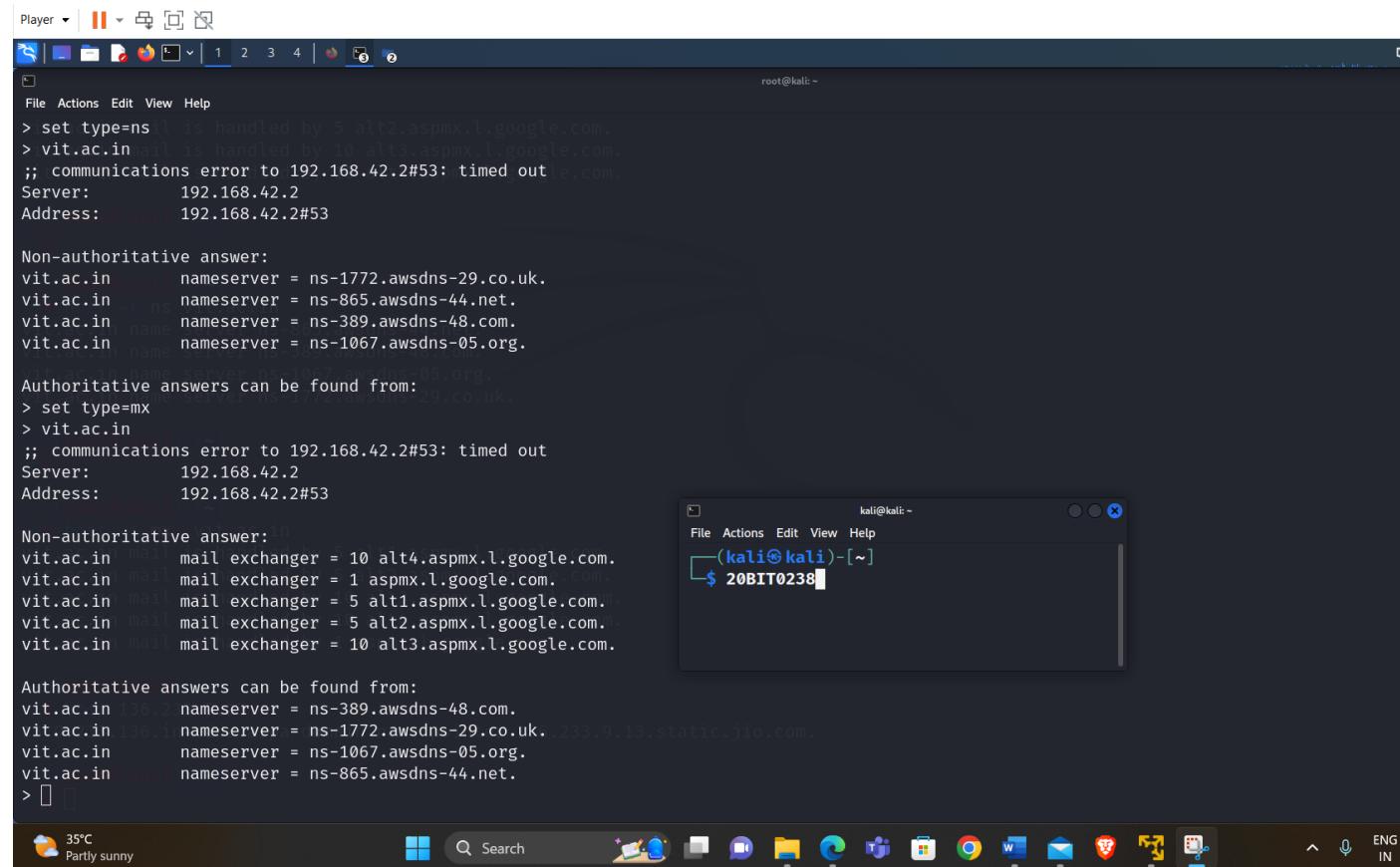
35°C Partly sunny

```
set type=ns
```

```
> vit.ac.in
```

```
set type=mx
```

```
> vit.ac.in
```



The screenshot shows a Kali Linux desktop environment. In the top right corner, there is a terminal window titled 'root@kali: ~' containing the following DNS query results:

```
Player | ||| 1 2 3 4 | 0
File Actions Edit View Help
> set type=ns
vit.ac.in mail is handled by 5 alt2.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt3.aspmx.l.google.com.
;; communications error to 192.168.42.2#53: timed out
Server: 192.168.42.2
Address: 192.168.42.2#53

Non-authoritative answer:
vit.ac.in nameserver = ns-1772.awsdns-29.co.uk.
vit.ac.in nameserver = ns-865.awsdns-44.net.
vit.ac.in nameserver = ns-389.awsdns-48.com.
vit.ac.in nameserver = ns-1067.awsdns-05.org.

Authoritative answers can be found from:
> set type=mx
> vit.ac.in
;; communications error to 192.168.42.2#53: timed out
Server: 192.168.42.2
Address: 192.168.42.2#53

Non-authoritative answer:
vit.ac.in mail exchanger = 10 alt4.aspmx.l.google.com.
vit.ac.in mail exchanger = 1 aspmx.l.google.com.
vit.ac.in mail exchanger = 5 alt1.aspmx.l.google.com.
vit.ac.in mail exchanger = 5 alt2.aspmx.l.google.com.
vit.ac.in mail exchanger = 10 alt3.aspmx.l.google.com.

Authoritative answers can be found from:
vit.ac.in nameserver = ns-389.awsdns-48.com.
vit.ac.in nameserver = ns-1772.awsdns-29.co.uk.
vit.ac.in nameserver = ns-1067.awsdns-05.org.
vit.ac.in nameserver = ns-865.awsdns-44.net.
> [ ]
```

In the bottom left corner, there is a file manager window titled '(kali㉿kali)-[~]' showing a directory structure. The current directory is '/'. The desktop bar at the bottom includes icons for weather (35°C, Partly sunny), search, file manager, terminal, browser, and other system utilities.

dig vit.ac.in

```
dig vit.ac.in -t mx
```

```
Player | ||| 启动器 | 1 2 3 4 | 书签 | 9
File Actions Edit View Help
root@kali: ~
;; MSG SIZE rcvd: 54 handled by 5 alt2.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt3.aspmx.l.google.com.
vit.ac.in mail is handled by 10 alt4.aspmx.l.google.com.
[root@kali] ~]
# dig vit.ac.in -t mx

; <>> DiG 9.18.8-1-Debian <>> vit.ac.in -t mx
;; global options: +cmd
;; Got answer:
;; ->>HEADER<- opcode: QUERY, status: NOERROR, id: 33556
;; flags: qr rd ra; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL:
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; MBZ: 0x0005, udp: 4096
;; QUESTION SECTION:
;vit.ac.in.           IN      MX

;; ANSWER SECTION:
vit.ac.in.          5       IN      MX      10 alt4.aspmx.l.google.com.
vit.ac.in.          5       IN      MX      1 aspmx.l.google.com.
vit.ac.in. mail is handled by 10 alt3.aspmx.l.google.com.
vit.ac.in. mail is handled by 10 alt2.aspmx.l.google.com.
vit.ac.in. mail is handled by 10 alt4.aspmx.l.google.com.
vit.ac.in. mail is handled by 10 alt1.aspmx.l.google.com.
vit.ac.in.          5       IN      MX      10 alt3.aspmx.l.google.com.
vit.ac.in. mail is handled by 10 alt4.aspmx.l.google.com.

;; Query time: 36 msec handled by 1 aspmx.l.google.com.
;; SERVER: 192.168.42.2#53(192.168.42.2) (UDP)
;; WHEN: Fri Mar 31 09:03:00 EDT 2023
;; MSG SIZE rcvd: 156
136.233.9.13.static.jio.com.

[root@kali] ~]
#
```

dig vit.ac.in CNAME

```
dig vit.ac.in -t NS +short
```

```
Player | || □ ☰ 🔍
File Actions Edit View Help
vit.ac.in mail is handled by 5 alt2.aspmx.l.google.com.
└─[root@kali)-[~] handled by 10 alt3.aspmx.l.google.com.
└─# dig vit.ac.in -t NS +short 10 alt4.aspmx.l.google.com
ns-389.awsdns-48.com.
ns-865.awsdns-44.net.
ns-1772.awsdns-29.co.uk.
ns-1067.awsdns-05.org.

└─(root@kali)-[~]
└─# dig vit.ac.in CNAME +short
vit.ac.in name server ns-389.awsdns-44.net.
vit.ac.in name server ns-1067.awsdns-05.org.
└─(root@kali)-[~]
└─# host -t mx vit.ac.in
vit.ac.in mail is handled by 5 alt1.aspmx.l.google.com.

└─(root@kali)-[~]
└─# host -t mx vit.ac.in
vit.ac.in mail is handled by 5 alt2.aspmx.l.google.com.
└─[root@kali)-[~] handled by 10 alt3.aspmx.l.google.com.
└─# dig vit.ac.in -t NS +short 10 alt4.aspmx.l.google.com
ns-389.awsdns-48.com.
ns-865.awsdns-44.net.
ns-1772.awsdns-29.co.uk.
ns-1067.awsdns-05.org.

└─(root@kali)-[~]
└─# 20BIT0238
```

2. Perform a load balancing scan by referring the video link given below on any website other than the given in the video which is also not a popular website.

lbd www.iplt20.com

```
Player | || | 1 2 3 4 | root@kali: ~
File Actions Edit View Help
└─(root㉿kali)-[~]
# lbd www.iplt20.com

lbd - load balancing detector 0.4 - Checks if a given domain uses load-balancing.
Written by Stefan Behte (http://ge.mine.nu)
Proof-of-concept! Might give false positives.

File system
Checking for DNS-Loadbalancing: NOT FOUND
Checking for HTTP-Loadbalancing [Server]:
EdgePrism/5.0.8.0
NOT FOUND

Home
Checking for HTTP-Loadbalancing [Date]: 13:19:06, 13:19:06, 13:19:06, 13:19:06, 13:19:06, 13:19:06, 13:19:07, 13:19:07, 13:19:07, 13:19:07, 13:19:08, 13:19:09, 13:19:09, 13:19:09, 13:19:09, 13:19:09, 13:19:10, 13:19:11, 13:19:11, 13:19:11, 13:19:11, 13:19:13, 13:19:13, 13:19:13, 13:19:13, 13:19:13, 13:19:13, 13:19:14, 13:19:14, 13:19:14, 13:19:14, 13:19:14, 13:19:14, 13:19:14, 13:19:15, 13:19:15, 13:19:15, 13:19:15, 13:, 13:19:16, 13:19:16, 13:19:16, NOT FOUND

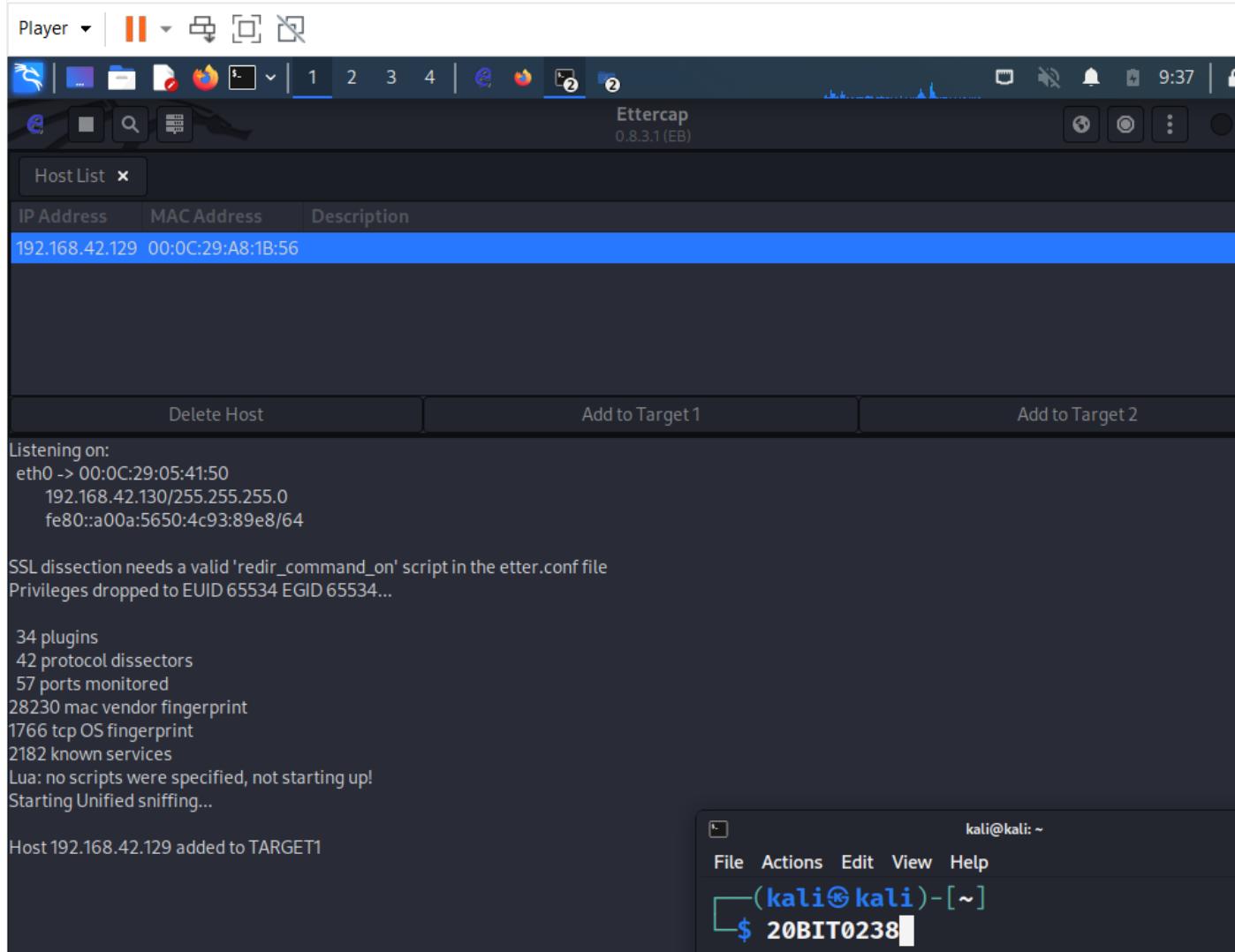
Checking for HTTP-Loadbalancing [Diff]: FOUND
< X-LLID: dc1cd80e1582407429ba90b78b0c42f5
> X-LLID: 8ad4163e4f084079f2a5fdbdb9882739d

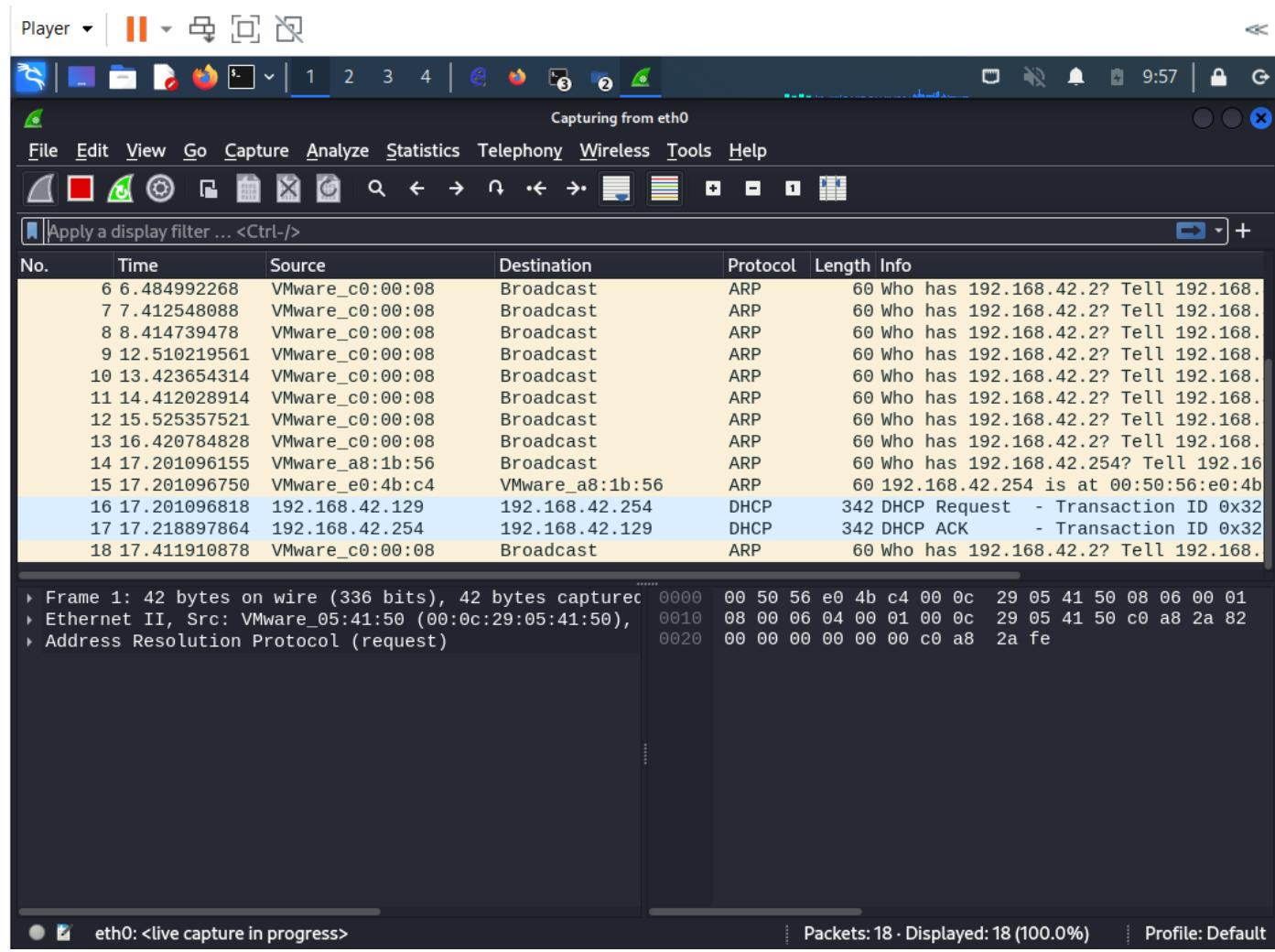
www.iplt20.com does Load-balancing. Found via Methods: HTTP[Diff]

File Actions Edit View Help
└─(root㉿kali)-[~]
# 
```

```
kali@kali: ~
File Actions Edit View Help
└─(kali㉿kali)-[~]
$ 20BIT0238
```

3. Perform an ARP poisoning using ettercap GUI in Kali targeting the mutilidae website of your Metasploitable VM to obtain username (Registration Number) and passwords (First Name) in the ettercap window pane. Provide all intermediate snapshots of setting up target ip etc and the final capturing of username and passwords (5 Marks)





The screenshot shows a Kali Linux desktop environment with several open windows:

- Host List**: A window showing a list of network hosts. The first host, 192.168.42.129 (MAC 00:0C:29:A8:1B:56), is selected and highlighted in blue.
- Terminal**: A terminal window titled "kali@kali: ~" with the prompt "(kali㉿kali)-[~]". The user has typed "\$ 20BIT0238" and is awaiting a response.
- Bottom Panel**: The Kali Linux desktop panel includes icons for Player, file browser, terminal, and system status.

Output from the terminal and Host List window:

```
4 hosts added to the hosts list...
HTTP : 192.168.42.129:80 -> USER: admin PASS: password INFO: http://192.168.42.129/mutillidae/index.php?page=login.php
CONTENT: username=admin&password=password&php-submit-button=Login

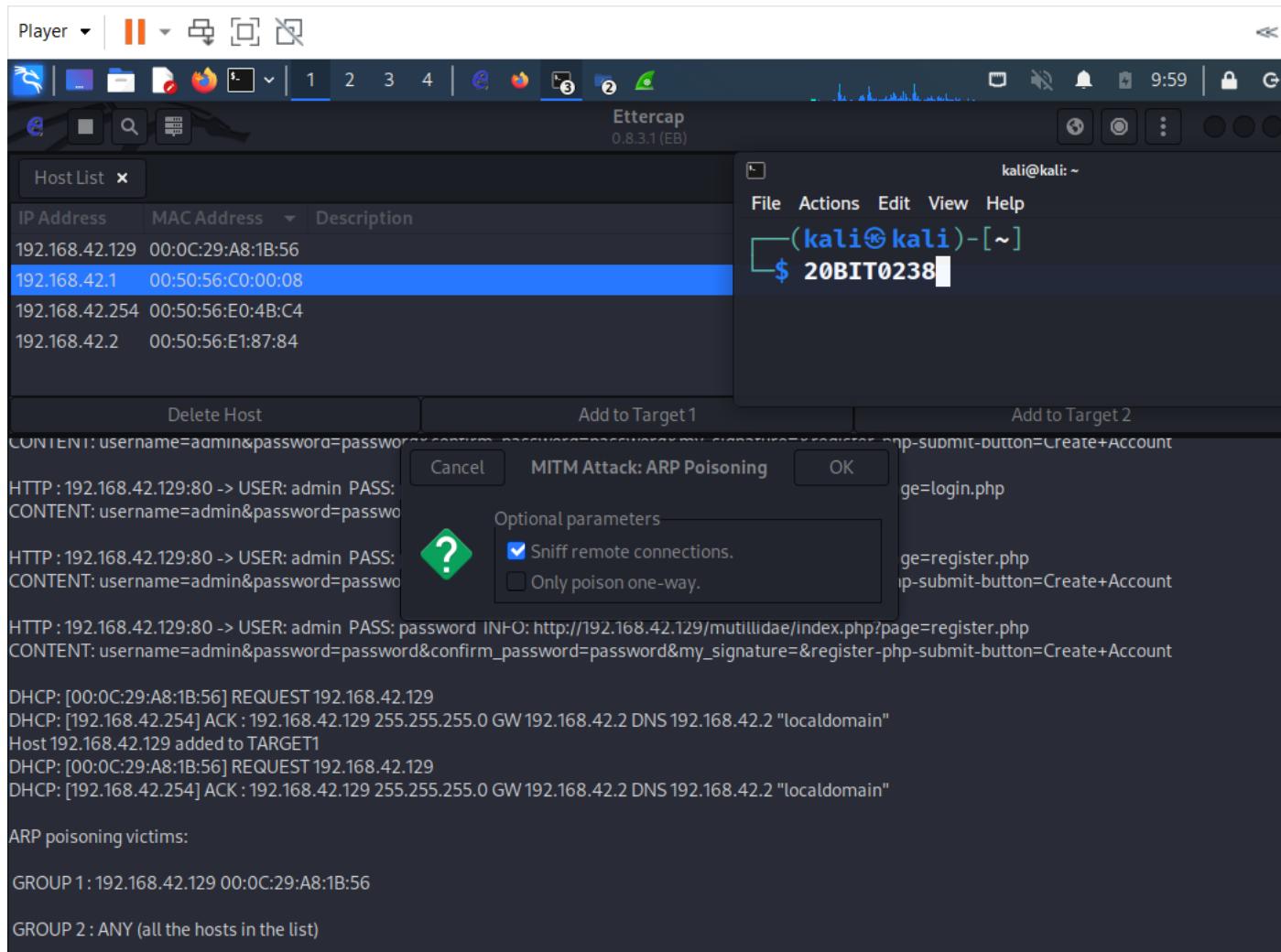
HTTP : 192.168.42.129:80 -> USER: admin PASS: password INFO: http://192.168.42.129/mutillidae/index.php?page=register.php
CONTENT: username=admin&password=password&confirm_password=password&my_signature=&register-php-submit-button/Create+Account

HTTP : 192.168.42.129:80 -> USER: admin PASS: password INFO: http://192.168.42.129/mutillidae/index.php?page=login.php
CONTENT: username=admin&password=password&php-submit-button=Login

HTTP : 192.168.42.129:80 -> USER: admin PASS: password INFO: http://192.168.42.129/mutillidae/index.php?page=register.php
CONTENT: username=admin&password=password&confirm_password=password&my_signature=&register-php-submit-button/Create+Account

HTTP : 192.168.42.129:80 -> USER: admin PASS: password INFO: http://192.168.42.129/mutillidae/index.php?page=register.php
CONTENT: username=admin&password=password&confirm_password=password&my_signature=&register-php-submit-button/Create+Account

DHCP: [00:0C:29:A8:1B:56] REQUEST 192.168.42.129
DHCP: [192.168.42.254] ACK : 192.168.42.129 255.255.255.0 GW 192.168.42.2 DNS 192.168.42.2 "localdomain"
Host 192.168.42.129 added to TARGET1
DHCP: [00:0C:29:A8:1B:56] REQUEST 192.168.42.129
DHCP: [192.168.42.254] ACK : 192.168.42.129 255.255.255.0 GW 192.168.42.2 DNS 192.168.42.2 "localdomain"
```



Player ▾ | || ▾ | Capturing from eth0

Capturing from eth0

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Apply a display filter ... <Ctrl-/>

| No. | Time | Source | Destination | Protocol | Length | Info |
|-----|---------------|-----------------|-----------------|----------|--------|---|
| 143 | 255.822718468 | VMware_05:41:50 | VMware_e0:4b:c4 | ARP | 42 | 192.168.42.129 is at 00:0c:29:05:41:50 |
| 144 | 255.833827873 | VMware_05:41:50 | VMware_a8:1b:56 | ARP | 42 | 192.168.42.2 is at 00:0c:29:05:41:50 |
| 145 | 255.833976985 | VMware_05:41:50 | VMware_e1:87:84 | ARP | 42 | 192.168.42.129 is at 00:0c:29:05:41:50 |
| 146 | 255.844529935 | VMware_05:41:50 | VMware_a8:1b:56 | ARP | 42 | 192.168.42.1 is at 00:0c:29:05:41:50 |
| 147 | 255.844609589 | VMware_05:41:50 | VMware_c0:00:08 | ARP | 42 | 192.168.42.129 is at 00:0c:29:05:41:50 |
| 148 | 256.419902751 | VMware_c0:00:08 | Broadcast | ARP | 60 | Who has 192.168.42.2? Tell 192.168.42.129 |
| 149 | 257.412443705 | VMware_c0:00:08 | Broadcast | ARP | 60 | Who has 192.168.42.2? Tell 192.168.42.129 |
| 150 | 265.855356871 | VMware_05:41:50 | VMware_a8:1b:56 | ARP | 42 | 192.168.42.254 is at 00:0c:29:05:41:50 |
| 151 | 265.855441401 | VMware_05:41:50 | VMware_e0:4b:c4 | ARP | 42 | 192.168.42.129 is at 00:0c:29:05:41:50 |
| 152 | 265.866213810 | VMware_05:41:50 | VMware_a8:1b:56 | ARP | 42 | 192.168.42.2 is at 00:0c:29:05:41:50 |
| 153 | 265.866345370 | VMware_05:41:50 | VMware_e1:87:84 | ARP | 42 | 192.168.42.129 is at 00:0c:29:05:41:50 |
| 154 | 265.876635434 | VMware_05:41:50 | VMware_a8:1b:56 | ARP | 42 | 192.168.42.1 is at 00:0c:29:05:41:50 |
| 155 | 265.876705322 | VMware_05:41:50 | VMware_c0:00:08 | ARP | 42 | 192.168.42.129 is at 00:0c:29:05:41:50 |

Frame 1: 42 bytes on wire (336 bits), 42 bytes captured
Ethernet II, Src: VMware_05:41:50 (00:0c:29:05:41:50),
Address Resolution Protocol (request)

0000 00 50 56 e0 4b c4 00 0c 29 05 41 50 08 06 00 01
0010 08 00 06 04 00 01 00 0c 29 05 41 50 c0 a8 2a fe
0020 00 00 00 00 00 00 c0 a8 2a fe

kali㉿kali: ~

File Actions Edit View Help

(kali㉿kali)-[~]

\$ 20BIT0238

eth0: <live capture in progress>

Packets: 155 - Displayed: 155 (100.0%) Profile: Default

Player | || | ☰ | ☱ | ☲ | ☳

192.168.42.129/mutillidae.x +

192.168.42.129/mutillidae/index.php?page=login.php

Kali Linux Kali Tools Kali Docs Kali Forums Kali NetHunter Exploit-DB Google Hacking DB OffSec

Mutillidae: Born to be Hacked

Version: 2.1.19 Security Level: 0 (Hosed) Hints: Disabled (0 - I try harder) Not Logged

Home Login/Register Toggle Hints Toggle Security Reset DB View Log View Captured Data

Core Controls OWASP Top 10 Others Documentation Resources


Site hacked...err...quality-tested with Samurai WTF, Backtrack, Firefox, Burp-Suite, Netcat, and these Mozilla Add-ons

Login

 Back

Please sign-in

Name: admin
Password: **Login**

Dont have an account? Please register here

(kali㉿kali)-[~]
\$ 20BIT0238

The screenshot shows a Kali Linux desktop environment with several open windows:

- Host List**: A window showing a list of hosts with IP Address, MAC Address, and Description. The host at IP 192.168.42.1 is selected.
- Terminal**: A terminal window titled "kali@kali: ~" showing the user's session. The prompt is "(kali㉿kali)-[~]" and the user has typed "\$ 20BIT0238".
- DHCP**: A window showing DHCP lease information for the interface eth0.
- ARP poisoning victims**: A list of hosts being poisoned, including GROUP 1 (IP 192.168.42.129) and GROUP 2 (ANY).
- HTTP Requests**: A list of captured HTTP requests from the browser. The last request is highlighted with a red underline and shows a login attempt with the URL `http://192.168.42.129/mutillidae/index.php?page=login.php` and CONTENT: `username=admin&password=password&login-php-submit-button=Login`.