LAPORAN PRAKTIKUM KEAMANAN INFORMASI 1
FOOTPRINTING & RECONNAISSANCE

DI SUSUN OLEH

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SEKOLAH VOKASI
UNIVERSITAS GADJAH MADA

2023

Praktikum Keamanan Informasi 1
Footprinting & Reconnaissance

I. Tujuan

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II. Latar Belakang

III. Alat & Bahan

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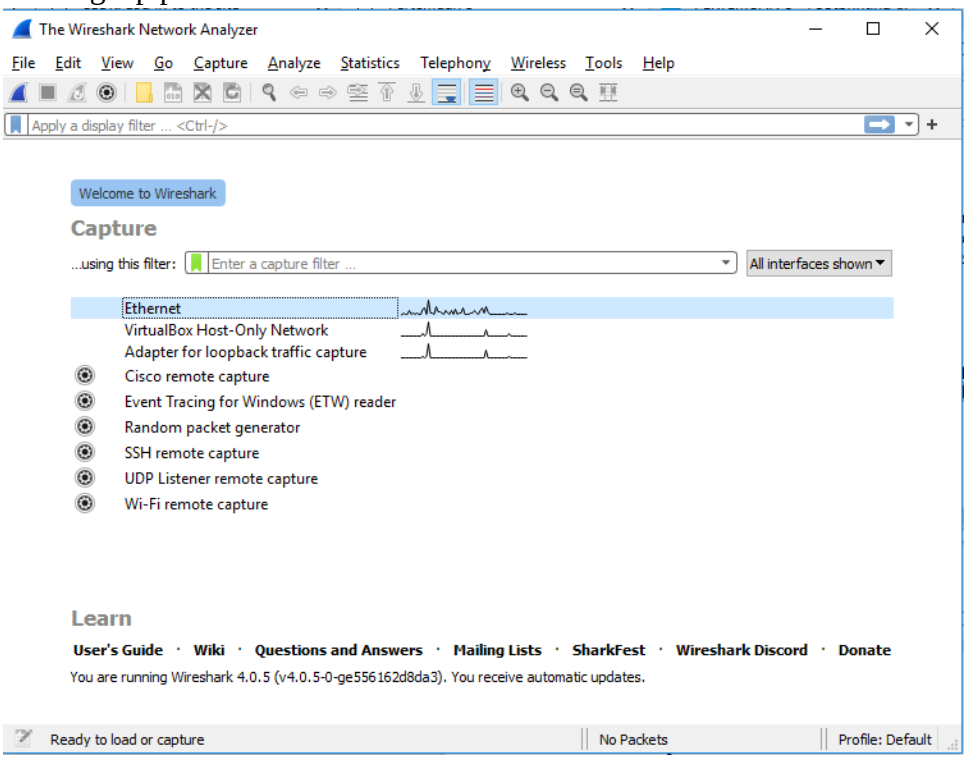
IV. Instruksi Kerja

TEKNIK CRAFTING

1. Buka server windows Start --> All Apps dan klil Wireshark untuk memulai aplikasi
2. Jendela utama Wireshark muncul. Klik dua kali pada Ethernet untuk mulai menangkap paket.



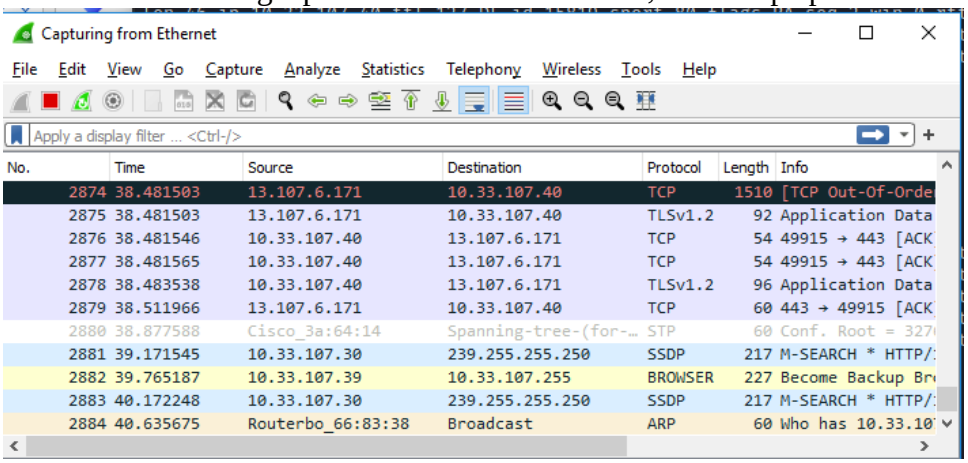
3. Wireshark mulai menangkap lalu lintas pada antarmuka Ethernet.
4. Masuk ke VM kalilinux
5. Cek IP PC Windows

```
Ethernet adapter Ethernet:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::1cf5:161a:795e:c9af%4
   IPv4 Address. . . . . . . . . . . : 10.33.107.40
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 10.33.107.254
```

6. Buka terminal dan ketik *hping3 -c 3 10.33.107.40* dan tekan Enter.

```
┌──(root💀kali)-[/home/kali]
└─# hping3 -c 3 10.33.107.40
HPING 10.33.107.40 (eth0 10.33.107.40): NO FLAGS are set, 40 headers + 0 data bytes
len=46 ip=10.33.107.40 ttl=127 DF id=1574 sport=0 flags=RA seq=0 win=0 rtt=7.8 ms
len=46 ip=10.33.107.40 ttl=127 DF id=1593 sport=0 flags=RA seq=1 win=0 rtt=15.8 ms
len=46 ip=10.33.107.40 ttl=127 DF id=1608 sport=0 flags=RA seq=2 win=0 rtt=11.6 ms

--- 10.33.107.40 hping statistic ---
3 packets transmitted, 3 packets received, 0% packet loss
round-trip min/avg/max = 7.8/11.8/15.8 ms
```

7. Untuk IP, cek PC windows pada cmd ketik ipconfig ganti IP pada command no 5
8. Perhatikan hasil tangkapan wireshark di Windows, ada berapa paket terkirim?



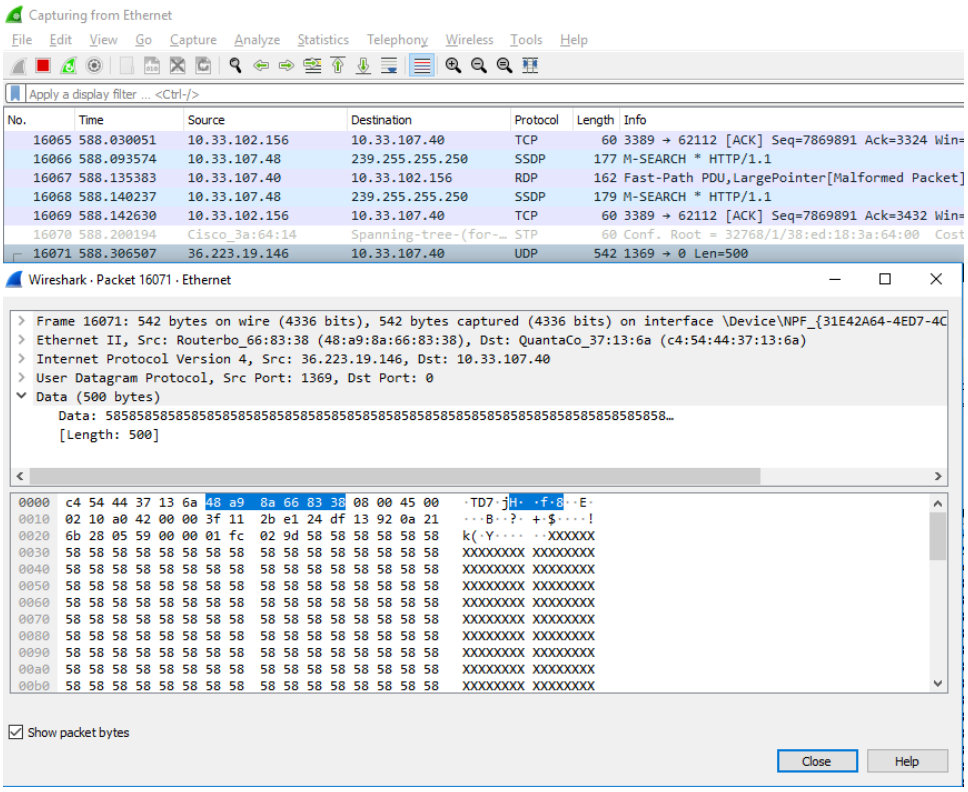
9. Ketik hping3 --scan 1-3000 -S x.x.x.x (IP PC windows) dan ketik Enter.

```
┌──(root💀kali)-[/home/kali]
└─# hping3 --scan 1-3000 -S 10.33.107.40
Scanning 10.33.107.40 (10.33.107.40), port 1-3000
3000 ports to scan, use -V to see all the replies
+----+------------+---------+---+-----+-----+-----+
|port| serv name  |  flags  |ttl| id  | win | len |
+----+------------+---------+---+-----+-----+-----+
  135 epmap      : .S..A... 127 58119 65392    46
  139 netbios-ssn: .S..A... 127 58375  8192    46
 1521            : .S..A... 127 18952 65392    46
 2030            : .S..A... 127 32008 65392    46
  445 microsoft-d: .S..A... 127 57864 65392    46
All replies received. Done.
Not responding ports: (680 ) (681 ) (682 ) (683 ) (684 ) (685 ) (686 ) (687 ) (688 ) (690 ) (771
 (796 ) (797 ) (798 ) (799 ) (800 ) (807 ) (808 ) (809 ) (810 ) (811 ) (812 ) (813 ) (814 ) (815
(1031 ) (1032 ) (1033 ) (1034 ) (1035 ) (1036 ) (1037 ) (1038 ) (1039 ) (1040 ) (1041 ) (1042 ) (
 ) (1056 ) (1057 ) (1058 ) (1059 ) (1060 ) (1061 ) (1062 ) (1063 ) (1064 ) (1065 ) (1066 ) (1067
130 ) (1131 ) (1132 ) (1133 ) (1134 ) (1135 ) (1136 ) (1137 ) (1138 ) (1139 ) (1140 ) (1141 ) (11
 (1155 ) (1156 ) (1157 ) (1158 ) (1159 ) (1160 ) (1161 ) (1312 ) (1313 xtel) (1314 xtelw) (1415 )
28 ) (1429 ) (1430 ) (1431 ) (1432 ) (1433 ms-sql-s) (1434 ms-sql-m) (1435 ) (1436 ) (1437 ) (143
(1451 ) (1452 ) (1453 ) (1454 ) (1455 ) (1456 ) (1457 ) (1458 ) (1461 ) (1560 ) (1562 ) (1563 ) (
 ) (1577 ) (1578 ) (1579 ) (1580 ) (1581 ) (1582 ) (1583 ) (1584 ) (1586 ) (1627 ) (1628 ) (1629
751 ) (1752 ) (1753 ) (1754 ) (1755 ) (1756 ) (1757 ) (1758 ) (1759 ) (1760 ) (1761 ) (1762 ) (17
 (1776 ) (1777 ) (1778 ) (1779 ) (1780 ) (1781 ) (1782 ) (1783 ) (1784 ) (1785 ) (1786 ) (1787 )
0 ) (1851 ) (1852 ) (1853 ) (1854 ) (1855 ) (1856 ) (1857 ) (1858 ) (1859 ) (2061 ) (2062 ) (2063
2126 ) (2127 ) (2128 ) (2129 ) (2130 ) (2131 ) (2132 ) (2133 ) (2134 ) (2135 gris) (2136 ) (2137
185 ) (2201 ) (2202 ) (2203 ) (2204 ) (2205 ) (2206 ) (2207 ) (2208 ) (2209 ) (2210 ) (2211 ) (22
 (2275 ) (2285 ) (2286 ) (2288 ) (2292 ) (2294 ) (2295 ) (2297 ) (2299 ) (2301 ) (2302 ) (2307 )
4 ) (2345 ) (2346 ) (2347 ) (2348 ) (2349 ) (2350 ) (2351 ) (2352 ) (2353 ) (2354 ) (2355 ) (2356
2469 ) (2470 ) (2471 ) (2472 ) (2473 ) (2474 ) (2475 ) (2476 ) (2477 ) (2478 ) (2479 ) (2480 ) (2
) (2592 ) (2595 ) (2596 ) (2597 ) (2598 ) (2599 ) (2600 zebrasrv) (2601 zebra) (2602 ripd) (2603
2612 ) (2613 ) (2614 ) (2615 ) (2617 ) (2618 ) (2619 ) (2620 ) (2621 ) (2623 ) (2624 ) (2625 ) (2
) (2787 ) (2788 ) (2789 ) (2790 ) (2791 ) (2792 f5-globalsi) (2793 ) (2794 ) (2795 ) (2796 ) (279
(2860 ) (2861 ) (2862 ) (2863 ) (2864 ) (2865 ) (2866 ) (2867 ) (2868 ) (2869 ) (2870 ) (2871 ) (
```

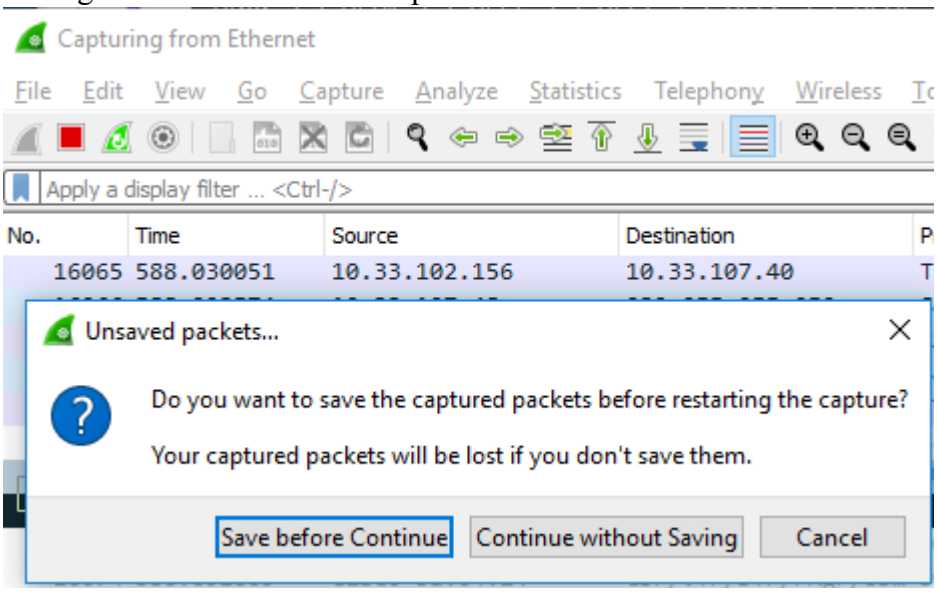
10. Untuk melakukan pembuatan paket UDP, ketik *hping3 x.x.x.x --udp --rand-source --data 500* dan tekan Enter.

```
┌──(root💀kali)-[/home/kali]
└─# hping3 10.33.107.40 --udp --rand-source --data 500
HPING 10.33.107.40 (eth0 10.33.107.40): udp mode set, 28 headers + 500 data bytes
```

11. Beralih ke mesin Windows dan klik paket UDP apa pun untuk melihat detail paket. Di panel detail paket, perluas bagian Data untuk melihat ukuran data paket.



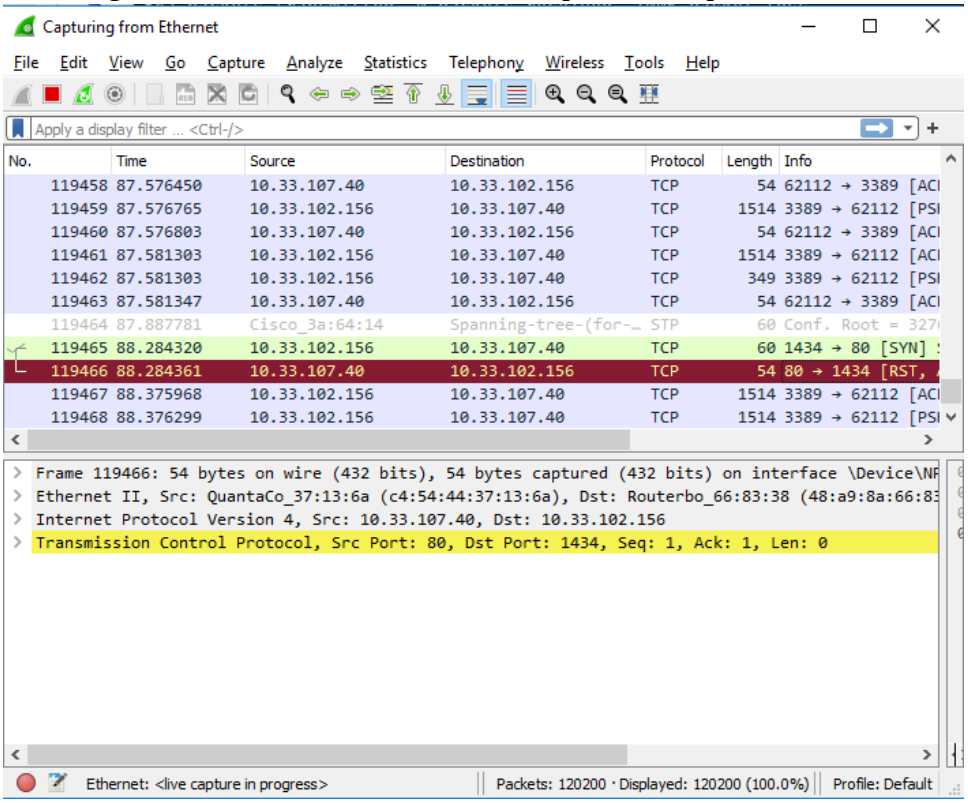
12. Klik tombol Restart Packet Capturing dari bilah menu dan klik Continue Without Saving tombol masuk Unsaved packets…



13. Kirim permintaan TCP SYN ke mesin target, ketik *hping3 -S x.x.x.x -p 80 -c 5* dan tekan Enter.

```
┌──(root💀kali)-[/home/kali]
└─# hping3 -S 10.33.107.40 -p 80 -c 5
HPING 10.33.107.40 (eth0 10.33.107.40): S set, 40 headers + 0 data bytes
len=46 ip=10.33.107.40 ttl=127 DF id=14594 sport=80 flags=RA seq=0 win=0 rtt=15.7 ms
len=46 ip=10.33.107.40 ttl=127 DF id=14901 sport=80 flags=RA seq=1 win=0 rtt=11.7 ms
len=46 ip=10.33.107.40 ttl=127 DF id=14983 sport=80 flags=RA seq=2 win=0 rtt=11.6 ms
len=46 ip=10.33.107.40 ttl=127 DF id=15065 sport=80 flags=RA seq=4 win=0 rtt=11.2 ms

--- 10.33.107.40 hping statistic ---
5 packets transmitted, 4 packets received, 20% packet loss
round-trip min/avg/max = 11.2/12.6/15.7 ms
```

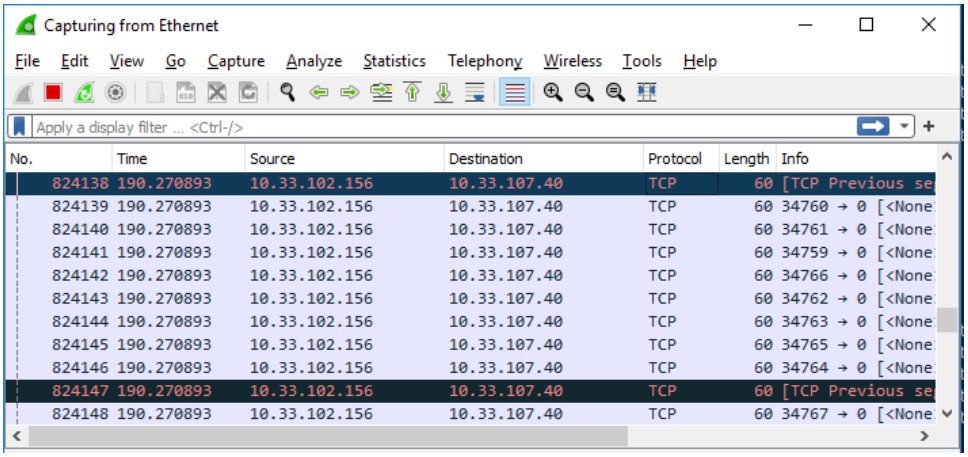
14. Sekarang beralih keWindows 10 dan amati paket TCP pada Wireshark



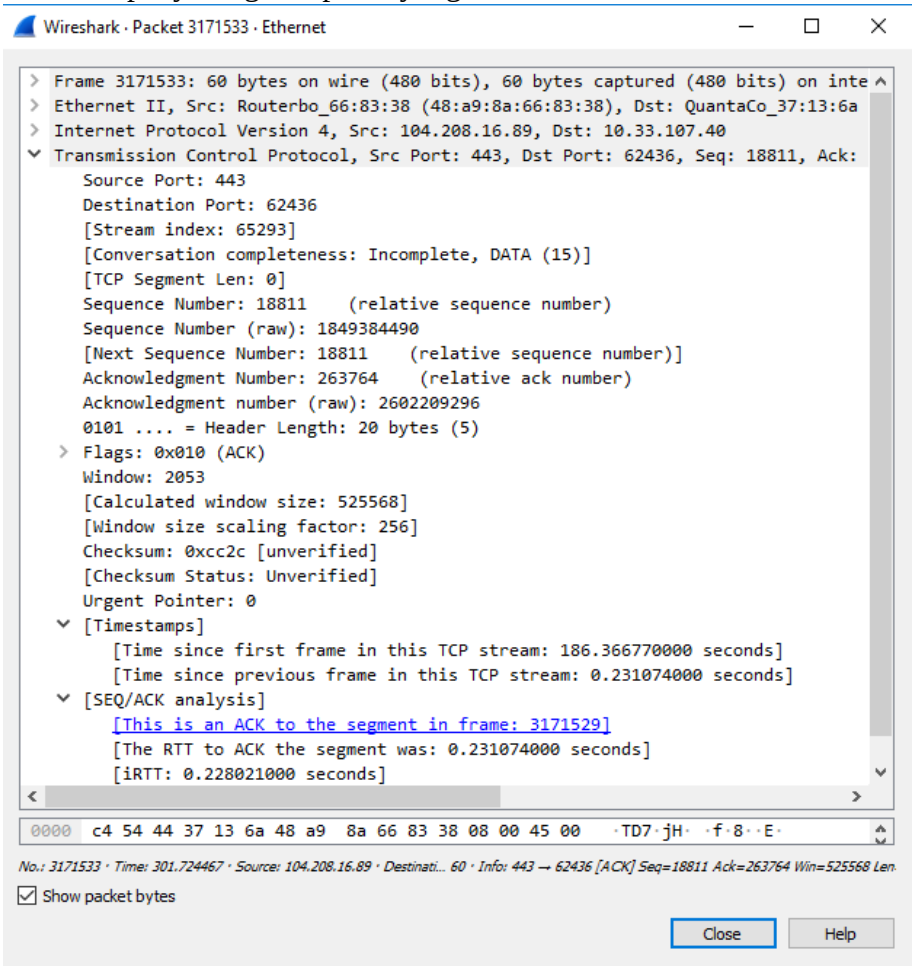
15. Beralih ke Kali Linux masuk ke terminal dan ketik *hping3 x.x.x.x --flood* dan tekan Enter.

```
┌──(root💀kali)-[/home/kali]
└─# hping3 10.33.107.40 --flood
HPING 10.33.107.40 (eth0 10.33.107.40): NO FLAGS are set, 40 headers + 0 data bytes
hping in flood mode, no replies will be shown
```

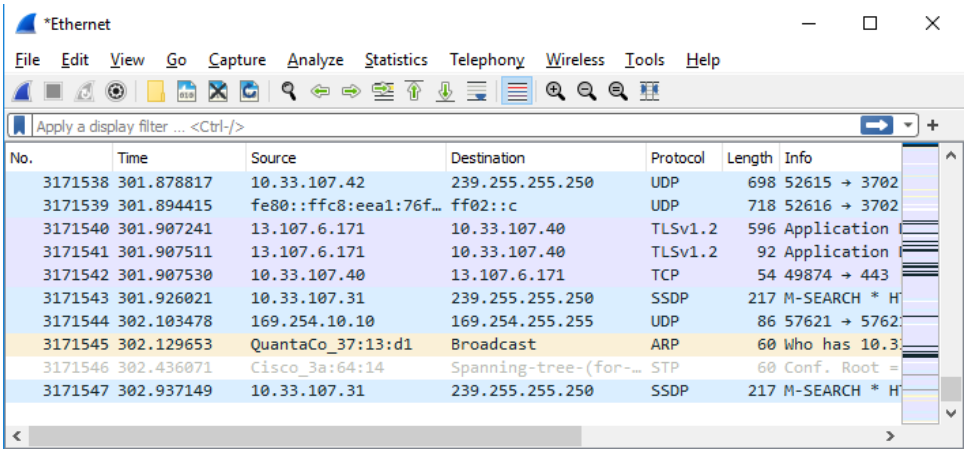
16. Beralih keWindows 10 dan amati Wireshark, yang menampilkan paket TCP yang membanjiri dari mesin penyerang.



17. Klik dua kali paket TCP pada aliran paket untuk mengamati informasi paket TCP. Aliran Paket TCP menampilkan informasi lengkap paket TCP yang ditransmisikan ke mesin penyerang dan paket yang diterima.



18. Berapa banyak paket yang telah dikirim ke mesin target?



RECONNAISSANCE

1. Masuk ke Kali Linux
2.

```
┌──(root💀kali)-[/home/kali]
└─# dnsrecon -d www.acme.com
[*] Performing General Enumeration of Domain: www.acme.com
[-] DNSSEC is not configured for www.acme.com
[*]      NS dns2.name-services.com 216.40.47.201
[*]      NS dns2.name-services.com 2604:4000:0:d:216:40:47:201
[*]      NS dns1.name-services.com 64.98.148.137
[*]      NS dns1.name-services.com 2604:4000:2800:2000:64:98:148:137
[*]      NS dns4.name-services.com 216.40.47.202
[*]      NS dns4.name-services.com 2604:4000:0:d:216:40:47:202
[*]      NS dns5.name-services.com 64.98.148.139
[*]      NS dns5.name-services.com 2604:4000:2800:2000:64:98:148:139
[*]      NS dns3.name-services.com 64.98.148.138
[*]      NS dns3.name-services.com 2604:4000:2800:2000:64:98:148:138
[-] Could not Resolve MX Records for www.acme.com
[*]      CNAME www.acme.com acme.com
[*]      A acme.com 23.93.76.124
[*] Enumerating SRV Records
[+] 0 Records Found
```

3. dnsrecon -d www.certifiedhacker.com

```
┌──(root💀kali)-[/home/kali]
└─# dnsrecon -d www.certifiedhacker.com
[*] Performing General Enumeration of Domain: www.certifiedhacker.com
[-] DNSSEC is not configured for www.certifiedhacker.com
[*]      NS ns2.bluehost.com 162.159.25.175
[*]      NS ns1.bluehost.com 162.159.24.80
[*]      MX mail.certifiedhacker.com 162.241.216.11
[*]      CNAME www.certifiedhacker.com certifiedhacker.com
[*]      A certifiedhacker.com 162.241.216.11
[*]      TXT www.certifiedhacker.com v=spf1 a mx ptr include:bluehost.com ?all
[*] Enumerating SRV Records
[+] 0 Records Found
```

4. dnsrecon -t snoop -n ns_server -d www.acme.com -D /path/to/dict.txt

```
┌──(root💀kali)-[/home/kali]
└─# dnsrecon -t snoop -n ns_server -d www.acme.com -D /path/to/dict.txt
[-] Could not resolve NS server provided and server doesn't appear to be an IP: ns_server
[-] Please specify valid name servers.
```

5. dnsrecon -d www.acme.com -t zonewalk

```
┌──(root💀kali)-[/home/kali]
└─# dnsrecon -t snoop -n ns_server -d www.acme.com -D /path/to/dict.txt
[-] Could not resolve NS server provided and server doesn't appear to be an IP: ns_server
[-] Please specify valid name servers.

┌──(root💀kali)-[/home/kali]
└─# dnsrecon -d www.acme.com -t zonewalk
[*] Performing NSEC Zone Walk for www.acme.com
[*] Getting SOA record for www.acme.com
[-] This zone appears to be misconfigured, no SOA record found.
[*]       CNAME www.acme.com acme.com
[*]       A acme.com 23.93.76.124
[+] 2 records found
```

6. dnsrecon -d www.acme.com -D /path/to/dict.txt -t brt

```
┌──(root💀kali)-[/home/kali]
└─# dnsrecon -d www.acme.com -D /path/to/dict.txt -t brt
[-] File /path/to/dict.txt does not exist!
```

7. dnsrecon -d www.acme.com -t axfr

```
┌──(root💀kali)-[/home/kali]
└─# dnsrecon -d www.acme.com -D /path/to/dict.txt -t brt
[-] File /path/to/dict.txt does not exist!

┌──(root💀kali)-[/home/kali]
└─# dnsrecon -d www.acme.com -t axfr
[*] Testing NS Servers for Zone Transfer
[*] Checking for Zone Transfer for www.acme.com name servers
[*] Resolving SOA Record
[*] Resolving NS Records
[*] NS Servers found:
[*]     NS dns5.name-services.com 64.98.148.139
[*]     NS dns5.name-services.com 2604:4000:2800:2000:64:98:148:139
[*]     NS dns2.name-services.com 216.40.47.201
[*]     NS dns2.name-services.com 2604:4000:0:d:216:40:47:201
[*]     NS dns3.name-services.com 64.98.148.138
[*]     NS dns3.name-services.com 2604:4000:2800:2000:64:98:148:138
[*]     NS dns1.name-services.com 64.98.148.137
[*]     NS dns1.name-services.com 2604:4000:2800:2000:64:98:148:137
[*]     NS dns4.name-services.com 216.40.47.202
[*]     NS dns4.name-services.com 2604:4000:0:d:216:40:47:202
[*] Removing any duplicate NS server IP Addresses ...
[*]
[*] Trying NS server 216.40.47.202
[-] Zone Transfer Failed for 216.40.47.202!
[-] Port 53 TCP is being filtered
[*]
[*] Trying NS server 64.98.148.138
[-] Zone Transfer Failed for 64.98.148.138!
[-] Port 53 TCP is being filtered
```

```
[*]
[*] Trying NS server 2604:4000:2800:2000:64:98:148:138
[-] Zone Transfer Failed for 2604:4000:2800:2000:64:98:148:138!
[-] Port 53 TCP is being filtered
[*]
[*] Trying NS server 2604:4000:2800:2000:64:98:148:139
[-] Zone Transfer Failed for 2604:4000:2800:2000:64:98:148:139!
[-] Port 53 TCP is being filtered
[*]
[*] Trying NS server 64.98.148.137
[-] Zone Transfer Failed for 64.98.148.137!
[-] Port 53 TCP is being filtered
[*]
[*] Trying NS server 2604:4000:0:d:216:40:47:202
[-] Zone Transfer Failed for 2604:4000:0:d:216:40:47:202!
[-] Port 53 TCP is being filtered
[*]
[*] Trying NS server 216.40.47.201
[-] Zone Transfer Failed for 216.40.47.201!
[-] Port 53 TCP is being filtered
[*]
[*] Trying NS server 2604:4000:0:d:216:40:47:201
[-] Zone Transfer Failed for 2604:4000:0:d:216:40:47:201!
[-] Port 53 TCP is being filtered
[*]
[*] Trying NS server 2604:4000:2800:2000:64:98:148:137
[-] Zone Transfer Failed for 2604:4000:2800:2000:64:98:148:137!
[-] Port 53 TCP is being filtered
[*]
[*] Trying NS server 64.98.148.139
[-] Zone Transfer Failed for 64.98.148.139!
[-] Port 53 TCP is being filtered
```

8. dnsrecon -r 208.67.222.200-208.67.222.255 -d microsoft.com

```
┌──(root💀kali)-[/home/kali]
└─# dnsrecon -r 208.67.222.200-208.67.222.255 -d microsoft.com
[*] Reverse Look-up of a Range
[*] Performing Reverse Lookup from 208.67.222.200 to 208.67.222.255
[+] PTR dns.umbrella.com 208.67.222.222
[+] PTR dns.opendns.com 208.67.222.222
[+] PTR resolver1.opendns.com 208.67.222.222
[+] PTR resolver3.opendns.com 208.67.222.220
[+] 4 Records Found
```

V. Pembahasan

VI. Kesimpulan

Pada praktikum kali ini dapat disimpulkan bahwa :

1.

VII. Daftar Pustaka

Klopmart. (February 23, 2021). 2 Kegunaan Solder, Komponen Beserta Jenis-Jenisnya. Retrieved August 21, 2022, from https://www.klopmart.com/article/detail/kegunaan-solder