Universidad Tecnológica de Cancún.

Alumno:

Moo Canul Jesús Enrique

Grupo: IRIYC91

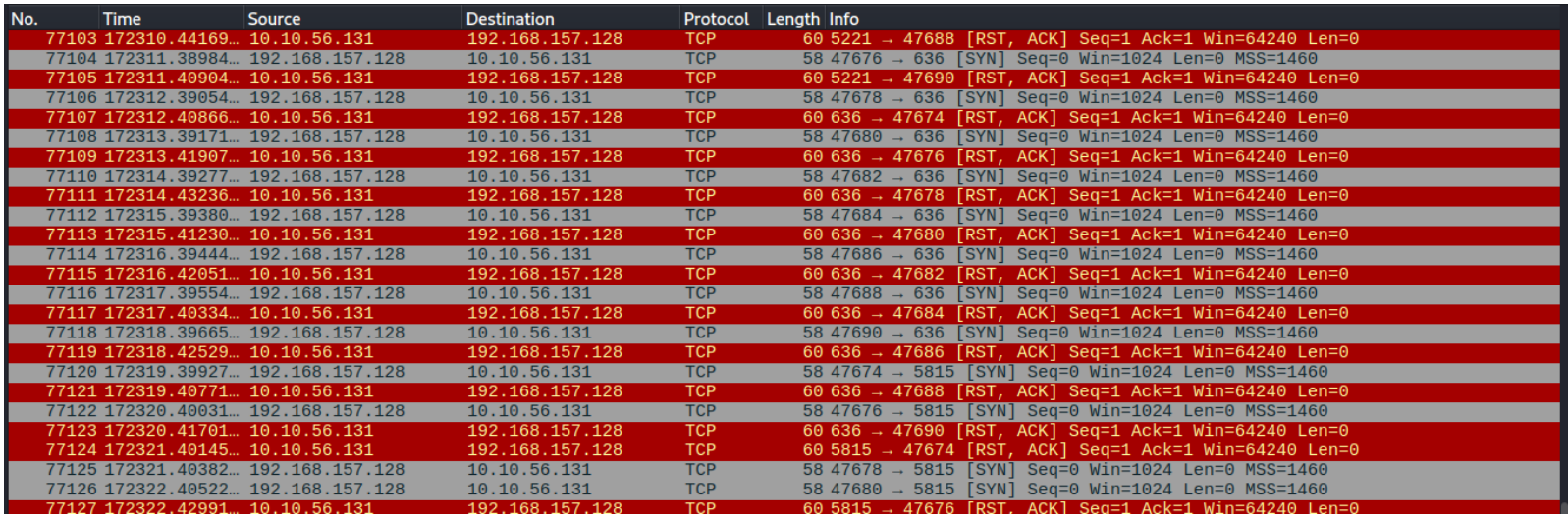
ING. REDES INTELIGENTES Y CIBERSEGURIDAD

Ejercicio 1: Mapeo completo de tu red local

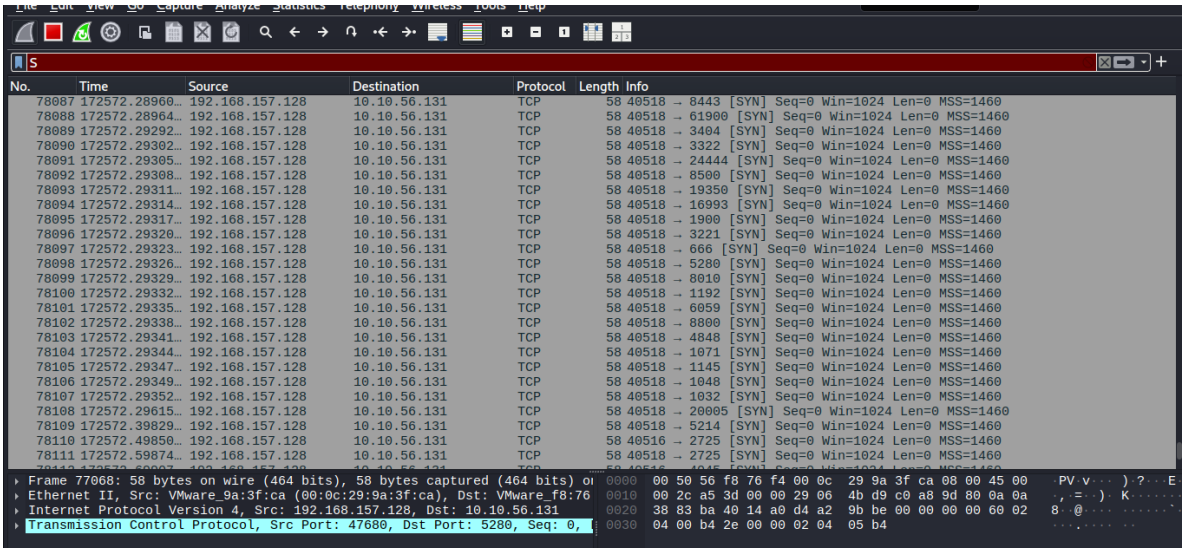
Con base en tu segmento de red, realiza un escaneo que te permita identificar todos los hosts activos y los servicios que están corriendo en cada uno. Analiza qué equipos representan un posible riesgo por los servicios expuestos.

En Wireshark deberían ver:

- Tráfico SYN enviado a múltiples IPs del segmento.
- Respuestas SYN-ACK desde los hosts activos.



No.	Time	Source	Destination	Protocol	Length	Info
77103	172310.44169…	10.10.56.131	192.168.157.128	TCP	60	5221 → 47688 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77104	172311.38984…	192.168.157.128	10.10.56.131	TCP	58	47676 → 636 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77105	172311.40904…	10.10.56.131	192.168.157.128	TCP	60	5221 → 47690 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77106	172312.39054…	192.168.157.128	10.10.56.131	TCP	58	47678 → 636 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77107	172312.40866…	10.10.56.131	192.168.157.128	TCP	60	636 → 47674 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77108	172313.39171…	192.168.157.128	10.10.56.131	TCP	58	47680 → 636 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77109	172313.41907…	10.10.56.131	192.168.157.128	TCP	60	636 → 47676 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77110	172314.39277…	192.168.157.128	10.10.56.131	TCP	58	47682 → 636 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77111	172314.43236…	10.10.56.131	192.168.157.128	TCP	60	636 → 47678 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77112	172315.39380…	192.168.157.128	10.10.56.131	TCP	58	47684 → 636 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77113	172315.41230…	10.10.56.131	192.168.157.128	TCP	60	636 → 47680 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77114	172316.39444…	192.168.157.128	10.10.56.131	TCP	58	47686 → 636 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77115	172316.42051…	10.10.56.131	192.168.157.128	TCP	60	636 → 47682 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77116	172317.39554…	192.168.157.128	10.10.56.131	TCP	58	47688 → 636 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77117	172317.40334…	10.10.56.131	192.168.157.128	TCP	60	636 → 47684 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77118	172318.39665…	192.168.157.128	10.10.56.131	TCP	58	47690 → 636 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77119	172318.42529…	10.10.56.131	192.168.157.128	TCP	60	636 → 47686 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77120	172319.39927…	192.168.157.128	10.10.56.131	TCP	58	47674 → 5815 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77121	172319.40771…	10.10.56.131	192.168.157.128	TCP	60	636 → 47688 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77122	172320.40031…	192.168.157.128	10.10.56.131	TCP	58	47676 → 5815 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77123	172320.41701…	10.10.56.131	192.168.157.128	TCP	60	636 → 47690 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77124	172321.40145…	10.10.56.131	192.168.157.128	TCP	60	5815 → 47674 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0
77125	172321.40382…	192.168.157.128	10.10.56.131	TCP	58	47678 → 5815 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77126	172322.40522…	192.168.157.128	10.10.56.131	TCP	58	47680 → 5815 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
77127	172322.42991…	10.10.56.131	192.168.157.128	TCP	60	5815 → 47676 [RST, ACK] Seq=1 Ack=1 Win=64240 Len=0

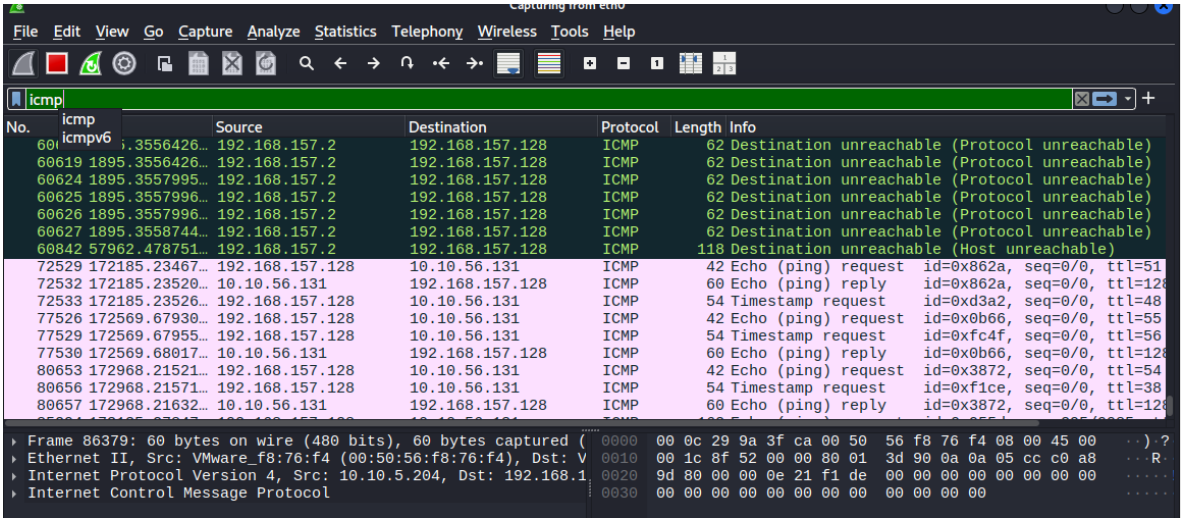


No.	Time	Source	Destination	Protocol	Length	Info
78087	172572.28960…	192.168.157.128	10.10.56.131	TCP	58	40518 → 8443 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78088	172572.28964…	192.168.157.128	10.10.56.131	TCP	58	40518 → 61900 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78089	172572.29292…	192.168.157.128	10.10.56.131	TCP	58	40518 → 3404 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78090	172572.29302…	192.168.157.128	10.10.56.131	TCP	58	40518 → 3322 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78091	172572.29305…	192.168.157.128	10.10.56.131	TCP	58	40518 → 24444 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78092	172572.29308…	192.168.157.128	10.10.56.131	TCP	58	40518 → 8500 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78093	172572.29311…	192.168.157.128	10.10.56.131	TCP	58	40518 → 19350 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78094	172572.29314…	192.168.157.128	10.10.56.131	TCP	58	40518 → 16993 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78095	172572.29317…	192.168.157.128	10.10.56.131	TCP	58	40518 → 1900 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78096	172572.29320…	192.168.157.128	10.10.56.131	TCP	58	40518 → 3221 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78097	172572.29323…	192.168.157.128	10.10.56.131	TCP	58	40518 → 666 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78098	172572.29326…	192.168.157.128	10.10.56.131	TCP	58	40518 → 5280 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78099	172572.29329…	192.168.157.128	10.10.56.131	TCP	58	40518 → 8010 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78100	172572.29332…	192.168.157.128	10.10.56.131	TCP	58	40518 → 1192 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78101	172572.29335…	192.168.157.128	10.10.56.131	TCP	58	40518 → 6059 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78102	172572.29338…	192.168.157.128	10.10.56.131	TCP	58	40518 → 8800 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78103	172572.29341…	192.168.157.128	10.10.56.131	TCP	58	40518 → 4848 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78104	172572.29344…	192.168.157.128	10.10.56.131	TCP	58	40518 → 1071 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78105	172572.29347…	192.168.157.128	10.10.56.131	TCP	58	40518 → 1145 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78106	172572.29349…	192.168.157.128	10.10.56.131	TCP	58	40518 → 1048 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78107	172572.29352…	192.168.157.128	10.10.56.131	TCP	58	40518 → 1032 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78108	172572.29615…	192.168.157.128	10.10.56.131	TCP	58	40518 → 20005 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78109	172572.39829…	192.168.157.128	10.10.56.131	TCP	58	40518 → 5214 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78110	172572.49850…	192.168.157.128	10.10.56.131	TCP	58	40516 → 2725 [SYN] Seq=0 Win=1024 Len=0 MSS=1460
78111	172572.59874…	192.168.157.128	10.10.56.131	TCP	58	40518 → 2725 [SYN] Seq=0 Win=1024 Len=0 MSS=1460

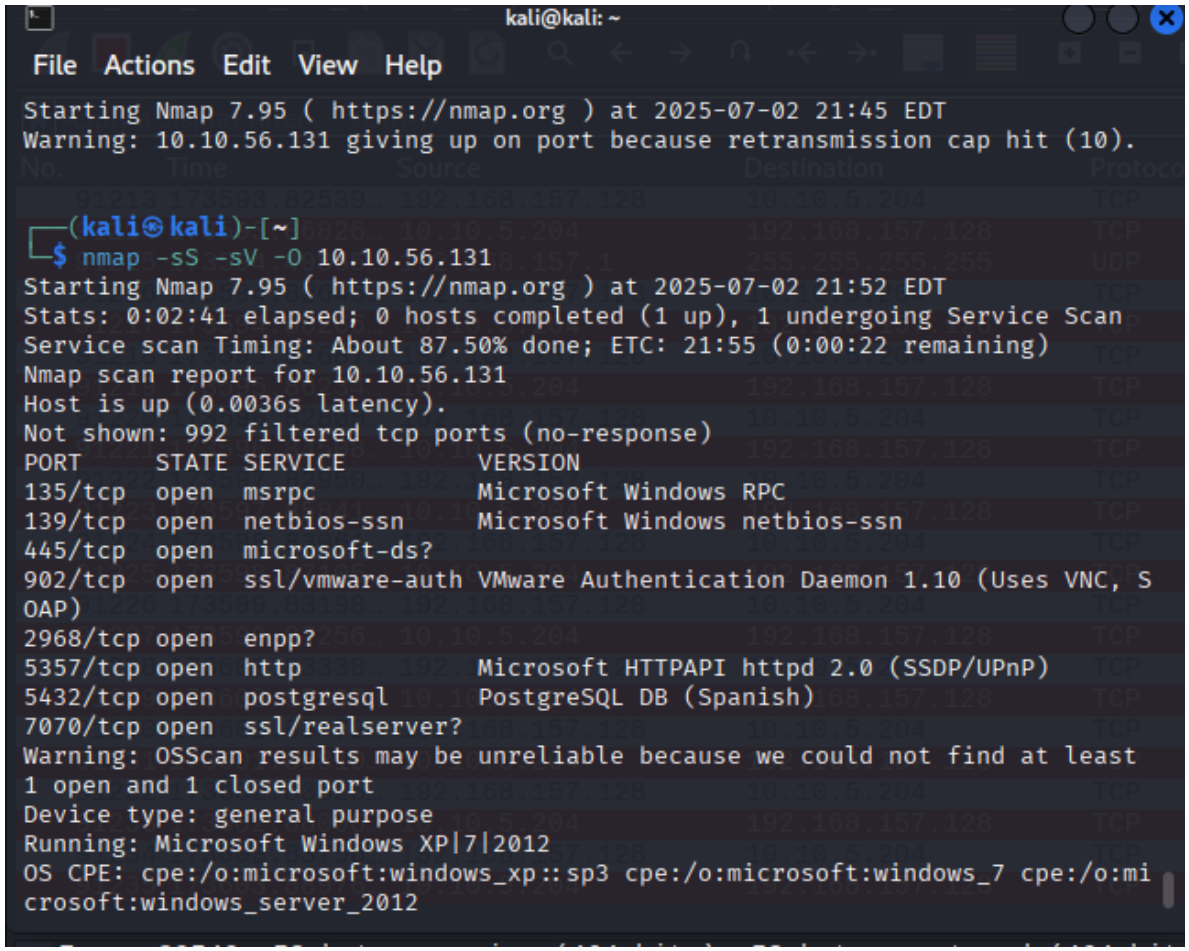
```
▸ Frame 77068: 58 bytes on wire (464 bits), 58 bytes captured (464 bits) o
▸ Ethernet II, Src: VMware_9a:3f:ca (00:0c:29:9a:3f:ca), Dst: VMware_f8:76
▸ Internet Protocol Version 4, Src: 192.168.157.128, Dst: 10.10.56.131
▸ Transmission Control Protocol, Src Port: 47680, Dst Port: 5280, Seq: 0,
```

```
0000  00 50 56 f8 76 f4 00 0c  29 9a 3f ca 08 00 45 00   ·PV·v··· )·?···E·
0010  00 2c a5 3d 00 00 29 06  4b d9 c0 a8 9d 80 0a 0a   ·,·=··)· K·······
0020  38 83 ba 40 14 a0 d4 a2  9b be 00 00 00 00 60 02   8··@···· ······`·
0030  04 00 b4 2e 00 00 02 04  05 b4                    ····.··· ··
```

Tráfico ICMP si usan ping scan.



Escaneos dirigidos a múltiples puertos por host.



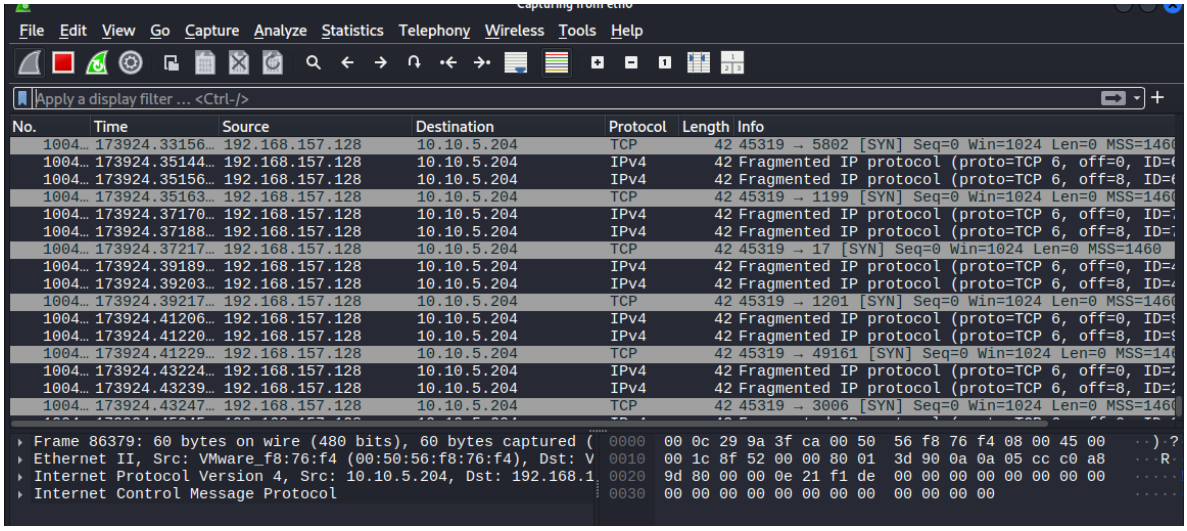
Los comandos utilizados para la realización de este ejercicio fueron: nmap -Ss , nmap -sV y Nmap -O

Ejercicio 2: Escaneo sigiloso a un host en tu red

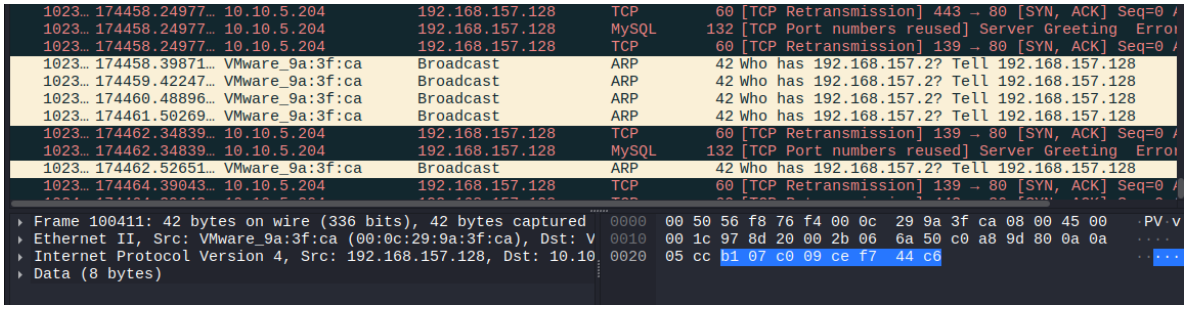
Escoge un host dentro de tu red y realiza un escaneo que utilice técnicas de evasión para evitar su detección por firewalls o sistemas de monitoreo. Evalúa si lograste obtener información sin generar tráfico evidente.

En Wireshark deberían ver:

Tráfico con fragmentación de paquetes TCP/IP.



Uso de un puerto fuente no estándar (ej. 53, 123)

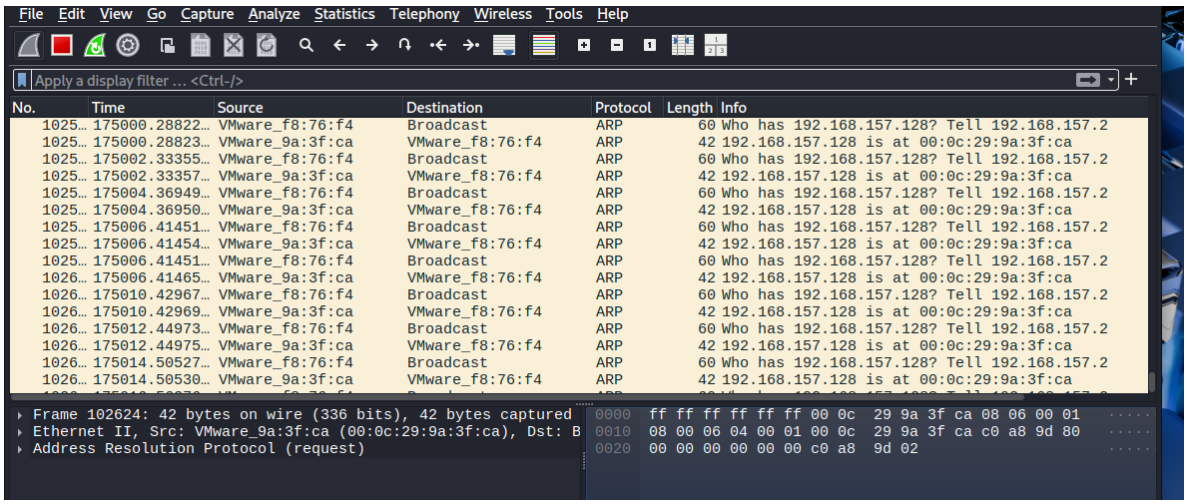


Coloque el puerto 80 ya que no me detecto otros equipo y detecto el mysql de mi equipo

```
┌──(kali㉿kali)-[~]
└─$ nmap -sS --source-port 80 10.10.5.204
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-02 22:16 EDT
Nmap scan report for 10.10.5.204
Host is up (0.0014s latency).
All 1000 scanned ports on 10.10.5.204 are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)

Nmap done: 1 IP address (1 host up) scanned in 21.35 seconds
```

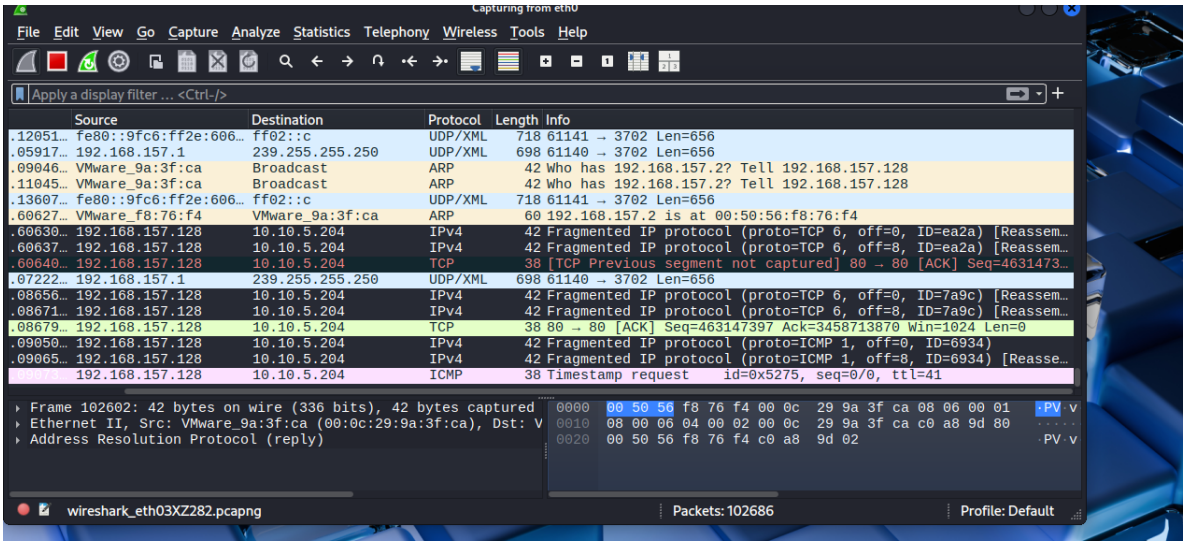
Comando: nmap -Ss –source port 80

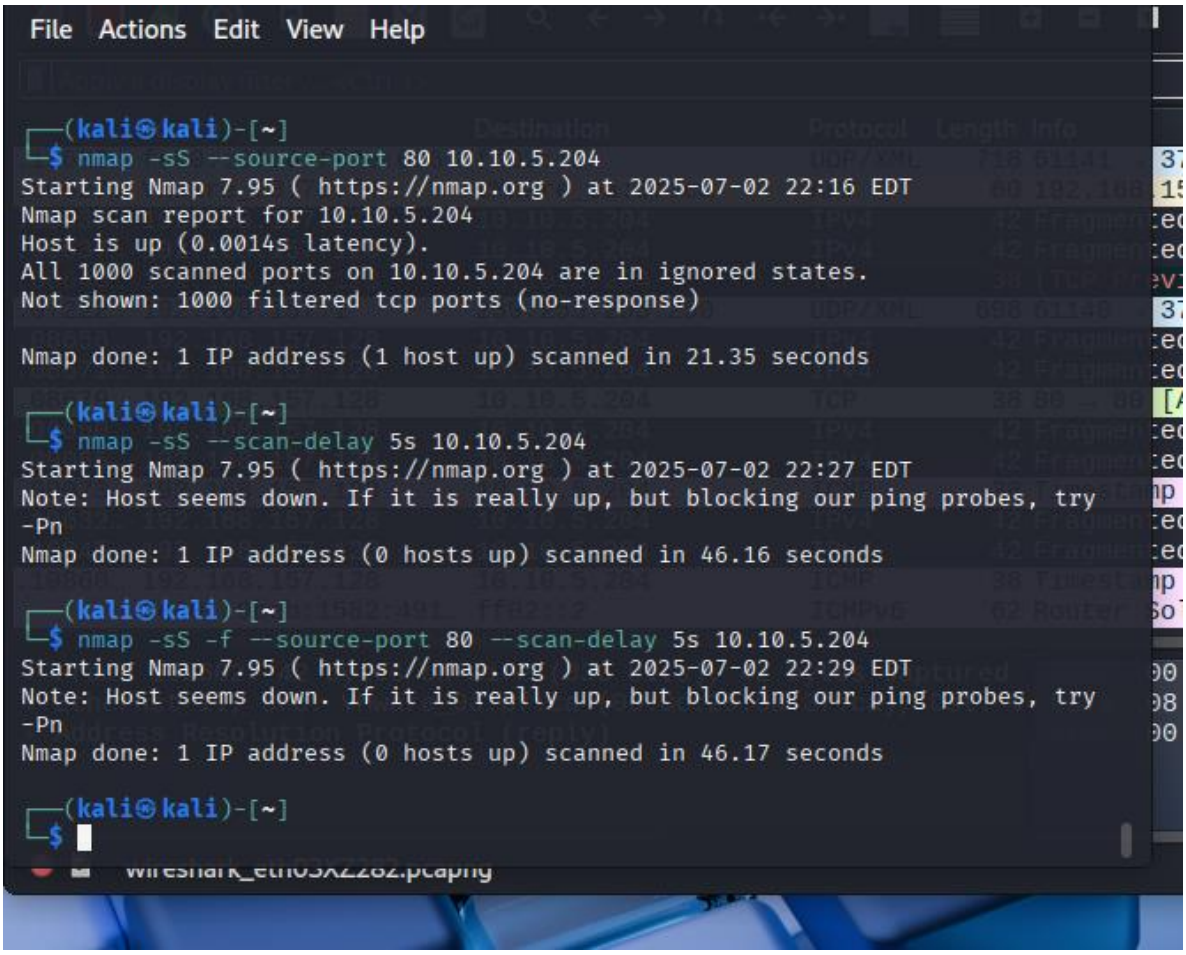
- Intervalos largos entre los paquetes (bajo volumen).



```
Warning: 10.10.5.204 giving up on port because retransmission cap hit (10).

┌──(kali㉿kali)-[~]
└─$ nmap -sS --source-port 80 10.10.5.204
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-02 22:16 EDT
Nmap scan report for 10.10.5.204
Host is up (0.0014s latency).
All 1000 scanned ports on 10.10.5.204 are in ignored states.
Not shown: 1000 filtered tcp ports (no-response)

Nmap done: 1 IP address (1 host up) scanned in 21.35 seconds

┌──(kali㉿kali)-[~]
└─$ nmap -sS --scan-delay 5s 10.10.5.204
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-02 22:27 EDT
Note: Host seems down. If it is really up, but blocking our ping probes, try
-Pn
Nmap done: 1 IP address (0 hosts up) scanned in 46.16 seconds

┌──(kali㉿kali)-[~]
└─$
```

- Tráfico que no completa handshakes TCP.





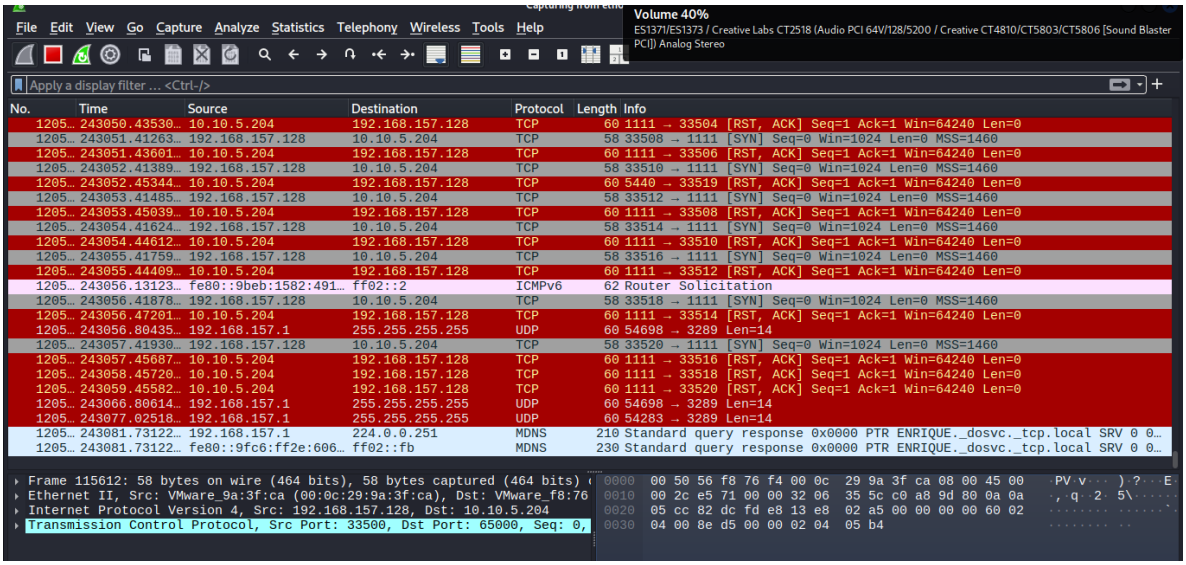
Ejercicio 3: Enumeración avanzada de servicios

Identifica un host dentro de tu red que tenga servicios web, FTP, o SSH, y utiliza técnicas avanzadas para obtener información detallada de esos servicios (como banners, versiones, métodos HTTP, etc.).

En Wireshark deberían ver:

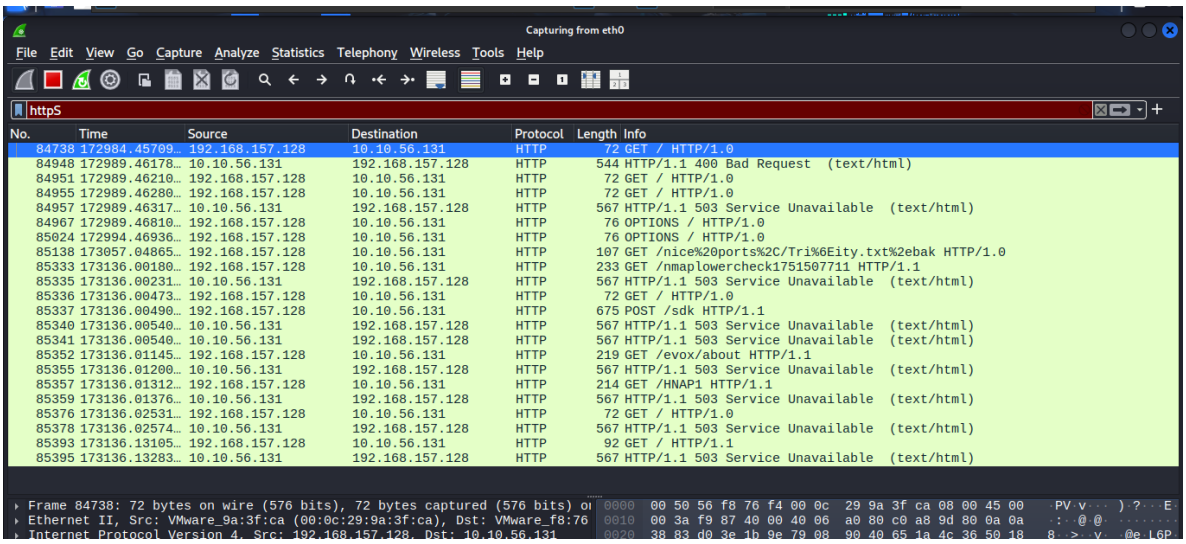
Fitros: tcp.port == 21 || tcp.port == 22 || tcp.port == 80 || tcp.port == 443

- Solicitudes hacia puertos 21, 22, 80, 443, u otros comunes.



Comandos utilizados sudo nmap -sV --script=banner -p 21,22,80,443

- Tráfico con comandos FTP, HTTP o SSH.



- Respuestas con datos identificables: versiones de servicios, encabezados HTTP, mensajes de bienvenida de FTP/SSH.

```
Nmap done: 1 IP address (1 host up) scanned in 0.54 seconds

┌──(kali㉿kali)-[~]
└─$ nmap -p 80 --script http-enum,http-headers,http-title 10.10.5.204
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-03 17:22 EDT
Nmap scan report for 10.10.5.204
Host is up (0.0012s latency).

PORT   STATE    SERVICE
80/tcp filtered http

Nmap done: 1 IP address (1 host up) scanned in 0.51 seconds

┌──(kali㉿kali)-[~]
└─$
```

nmap -p 80 --script http-enum,http-headers,http-title

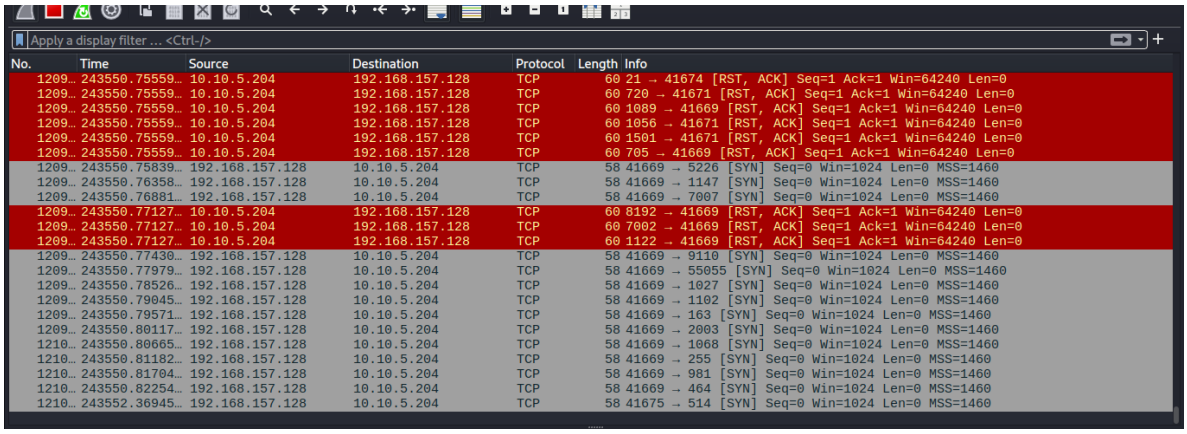
Ejercicio 4: Detección de hosts sin ICMP habilitado

Encuentra dentro de tu red aquellos hosts que no responden a ping (ICMP), pero que tienen puertos abiertos accesibles. Analiza si puedes detectarlos sin depender de ICMP.

En Wireshark deberían ver:

- Escaneos TCP sin tráfico ICMP.

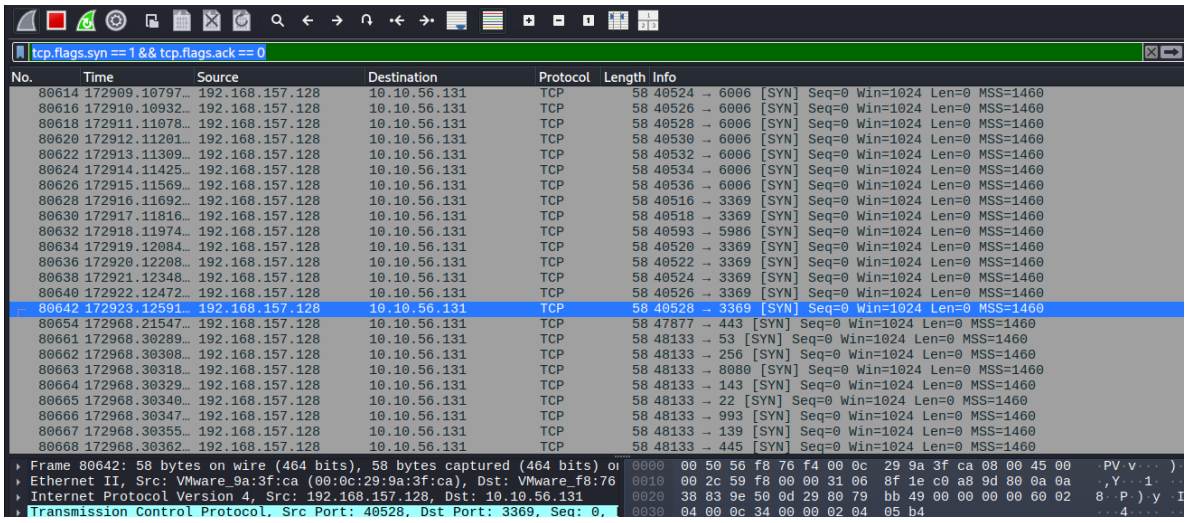
```
┌──(kali㉿kali)-[~]
└─$ nmap -Pn -p 80,443  10.10.5.204
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-03 17:26 EDT
Nmap scan report for 10.10.5.204
Host is up (2.0s latency).

PORT    STATE  SERVICE
80/tcp  closed http
443/tcp closed https

Nmap done: 1 IP address (1 host up) scanned in 4.22 seconds
```



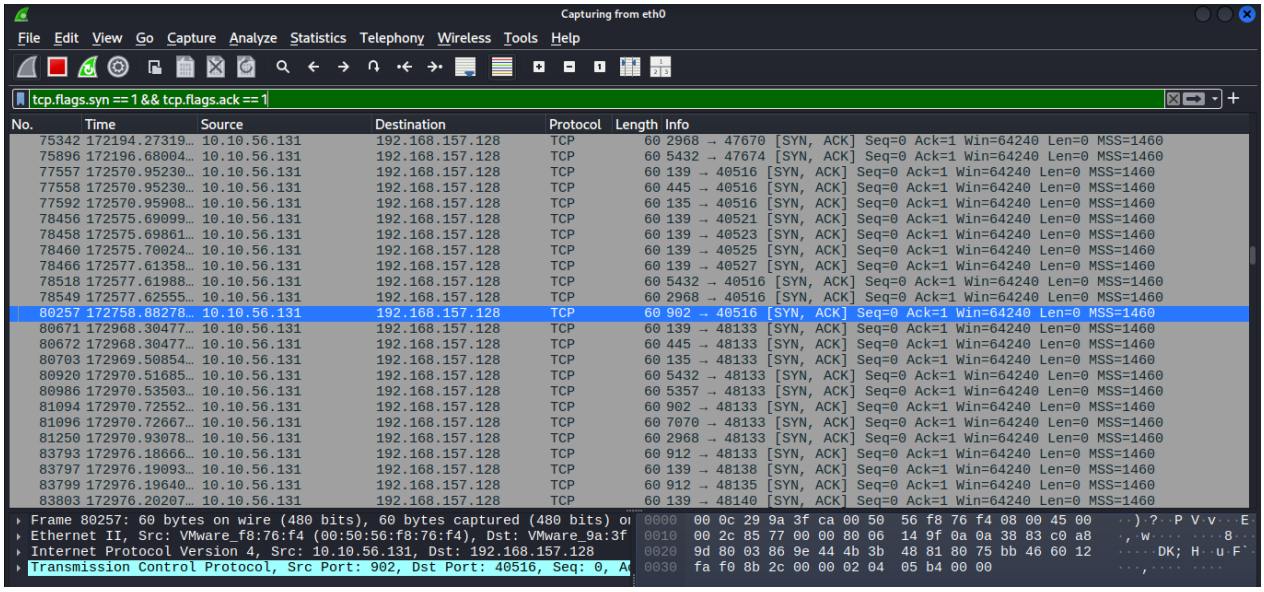
Utilice el comndo nmap -Pn -p 80,443, pero me marcaba que ese puerto estaba bloquedo, por lo que decidí realizarlo hacia todos los puertos

- Solicitudes TCP SYN enviadas directamente a puertos específicos.

Fitros: tcp.flags.syn == 1 && tcp.flags.ack == 0 y tcp.flags.syn == 0 && tcp.flags.ack == 1



```
┌──(kali㉿kali)-[~]
└─$ nmap -sS -p 80,443  10.10.5.204
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-03 17:47 EDT
Nmap scan report for 10.10.5.204
Host is up (0.00068s latency).

PORT    STATE    SERVICE
80/tcp  filtered http
443/tcp filtered https

Nmap done: 1 IP address (1 host up) scanned in 1.43 seconds

┌──(kali㉿kali)-[~]
└─$ nmap -sS -p 80,443  10.10.5.204
```




```
┌──(kali㉿kali)-[~]
└─$ nmap -sS -p 21,22  10.10.5.204
Starting Nmap 7.95 ( https://nmap.org ) at 2025-07-03 17:50 EDT
Nmap scan report for 10.10.5.204
Host is up (0.0015s latency).

PORT   STATE    SERVICE
21/tcp filtered ftp
22/tcp filtered ssh

Nmap done: 1 IP address (1 host up) scanned in 1.40 seconds

┌──(kali㉿kali)-[~]
└─$
```