CYBER SECURITY

CS_TALAKUNCHI NETWORKS BATCH 2

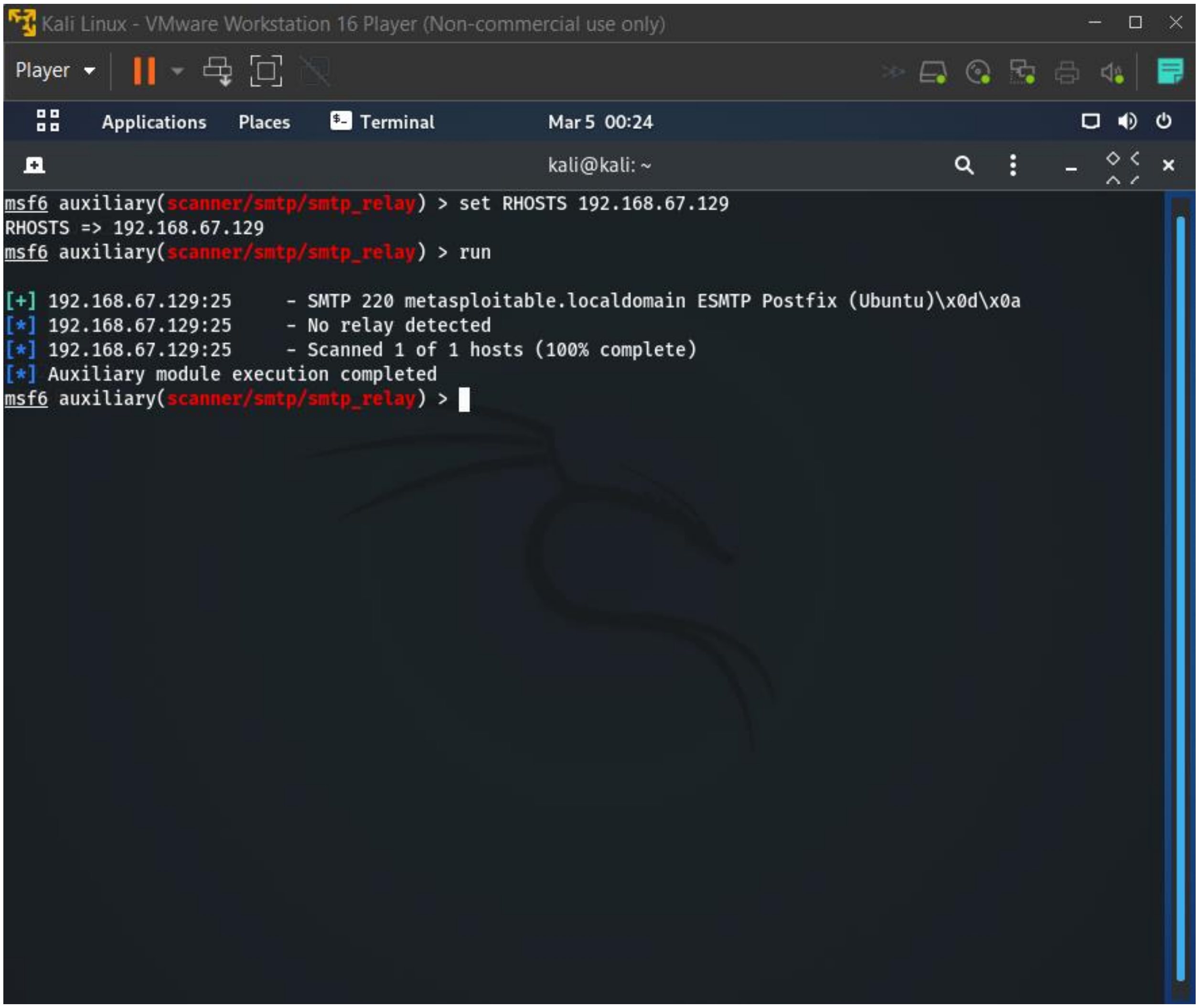
NAME :- OJUS P. JAISWAL

Internship Project 2

Exploiting Server Vulnerabilities

Task 1 :- Check for SMTP Open Relay

Solution :-

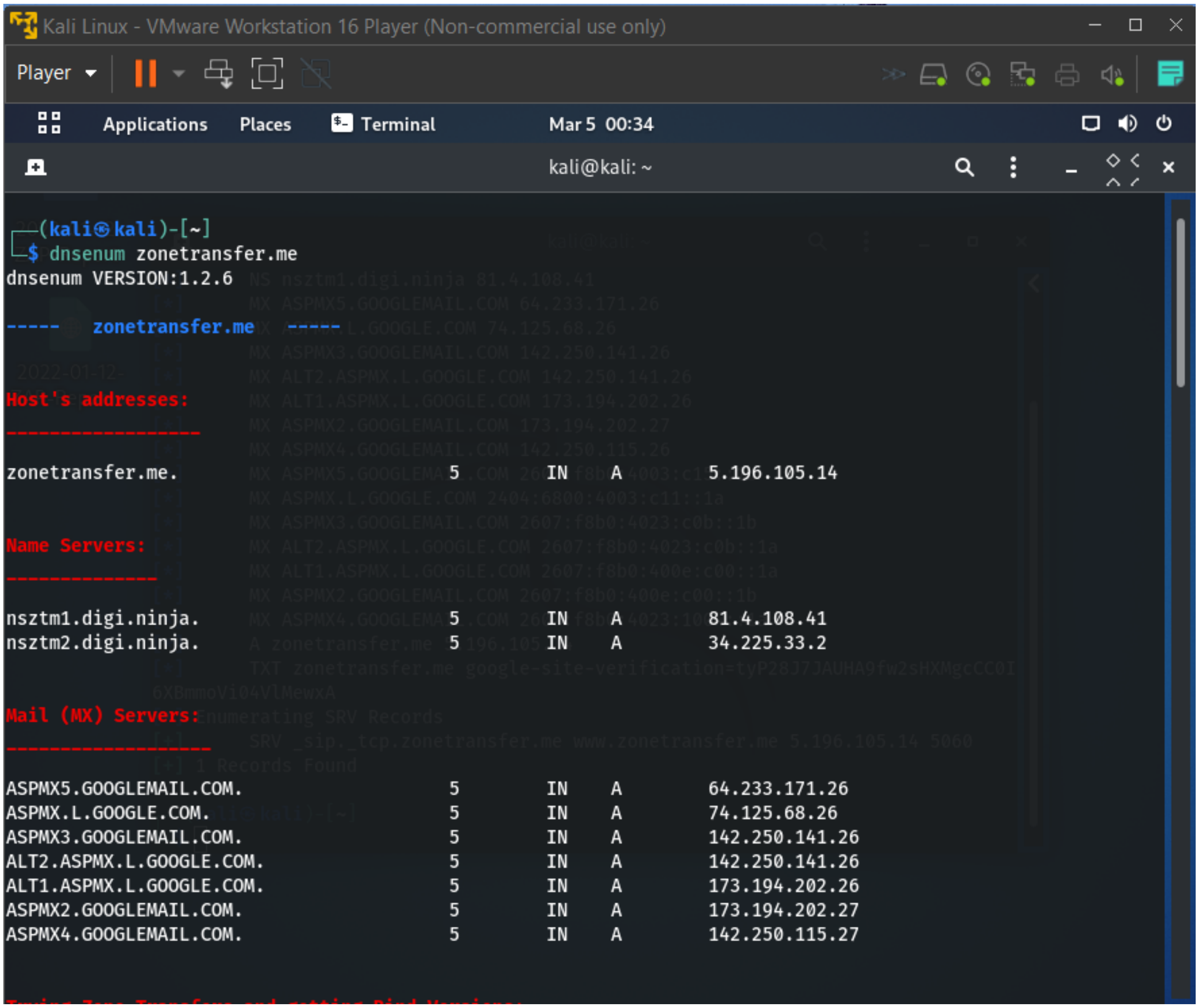

Kali Linux - VMware Workstation 16 Player (Non-commercial use only)
Player
Applications
Places
Terminal
Mar 5 00:24
kali@kali: ~

```
msf6 auxiliary(scanner/smtp/smtp_relay) > set RHOSTS 192.168.67.129
RHOSTS => 192.168.67.129
msf6 auxiliary(scanner/smtp/smtp_relay) > run

[+] 192.168.67.129:25     - SMTP 220 metasploitable.localdomain ESMTP Postfix (Ubuntu)\x0d\x0a
[*] 192.168.67.129:25     - No relay detected
[*] 192.168.67.129:25     - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf6 auxiliary(scanner/smtp/smtp_relay) > 
```

Task 2 :- Check for Zone Transfers

Solution :-



Kali Linux - VMware Workstation 16 Player (Non-commercial use only)
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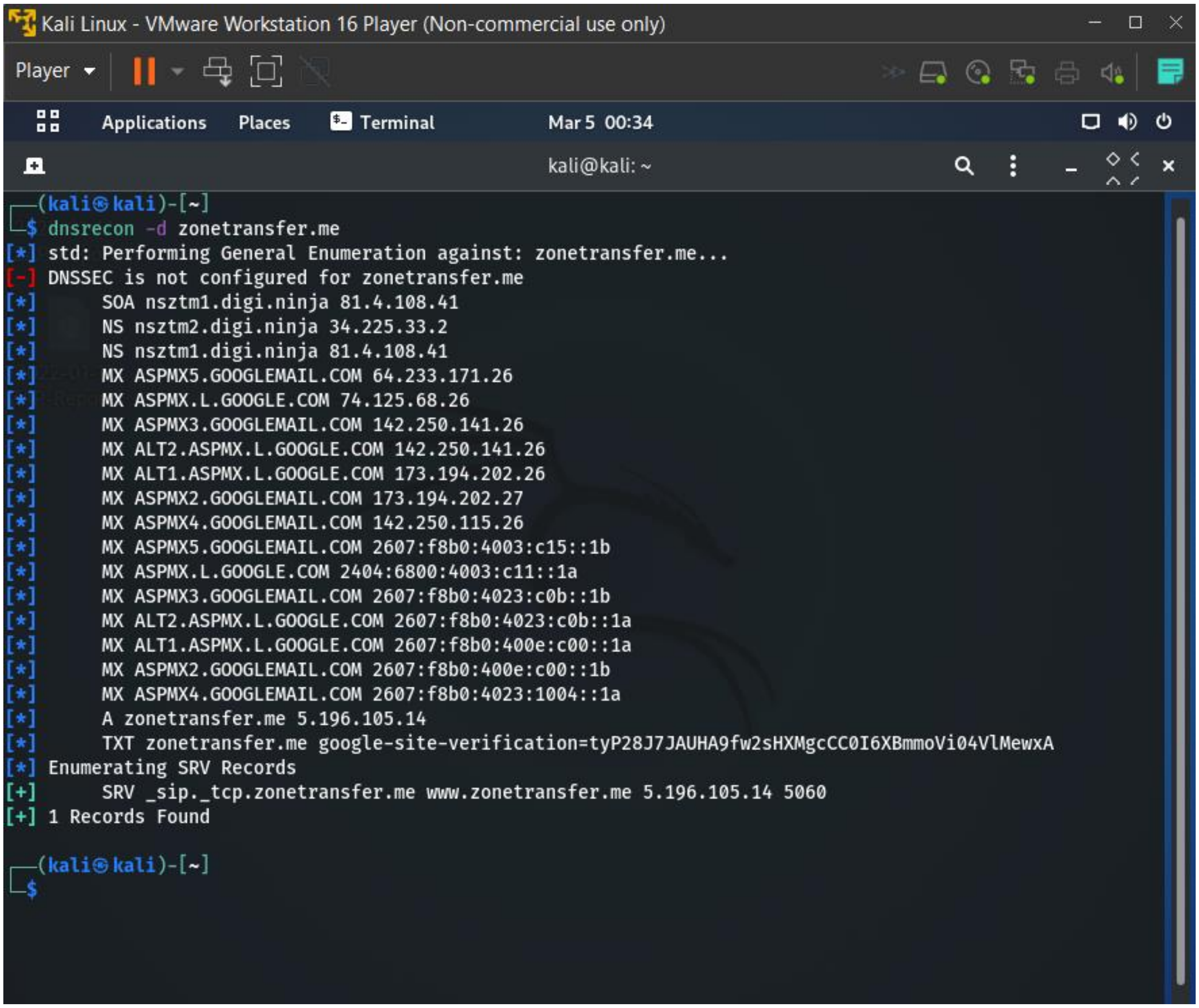
Mar 5 00:34
kali@kali: ~

```
┌──(kali㉿kali)-[~]
└─$ dnsenum zonetransfer.me
dnsenum VERSION:1.2.6

-----   zonetransfer.me   -----


Host's addresses:
__________________

zonetransfer.me.                         5       IN    A        5.196.105.14


Name Servers:
______________

nsztm1.digi.ninja.                       5       IN    A        81.4.108.41
nsztm2.digi.ninja.                       5       IN    A        34.225.33.2


Mail (MX) Servers:
___________________

ASPMX5.GOOGLEMAIL.COM.                   5       IN    A        64.233.171.26
ASPMX.L.GOOGLE.COM.                      5       IN    A        74.125.68.26
ASPMX3.GOOGLEMAIL.COM.                   5       IN    A        142.250.141.26
ALT2.ASPMX.L.GOOGLE.COM.                 5       IN    A        142.250.141.26
ALT1.ASPMX.L.GOOGLE.COM.                 5       IN    A        173.194.202.26
ASPMX2.GOOGLEMAIL.COM.                   5       IN    A        173.194.202.27
ASPMX4.GOOGLEMAIL.COM.                   5       IN    A        142.250.115.27


Trying Zone Transfers and getting Bind Versions:
```


Kali Linux - VMware Workstation 16 Player (Non-commercial use only)
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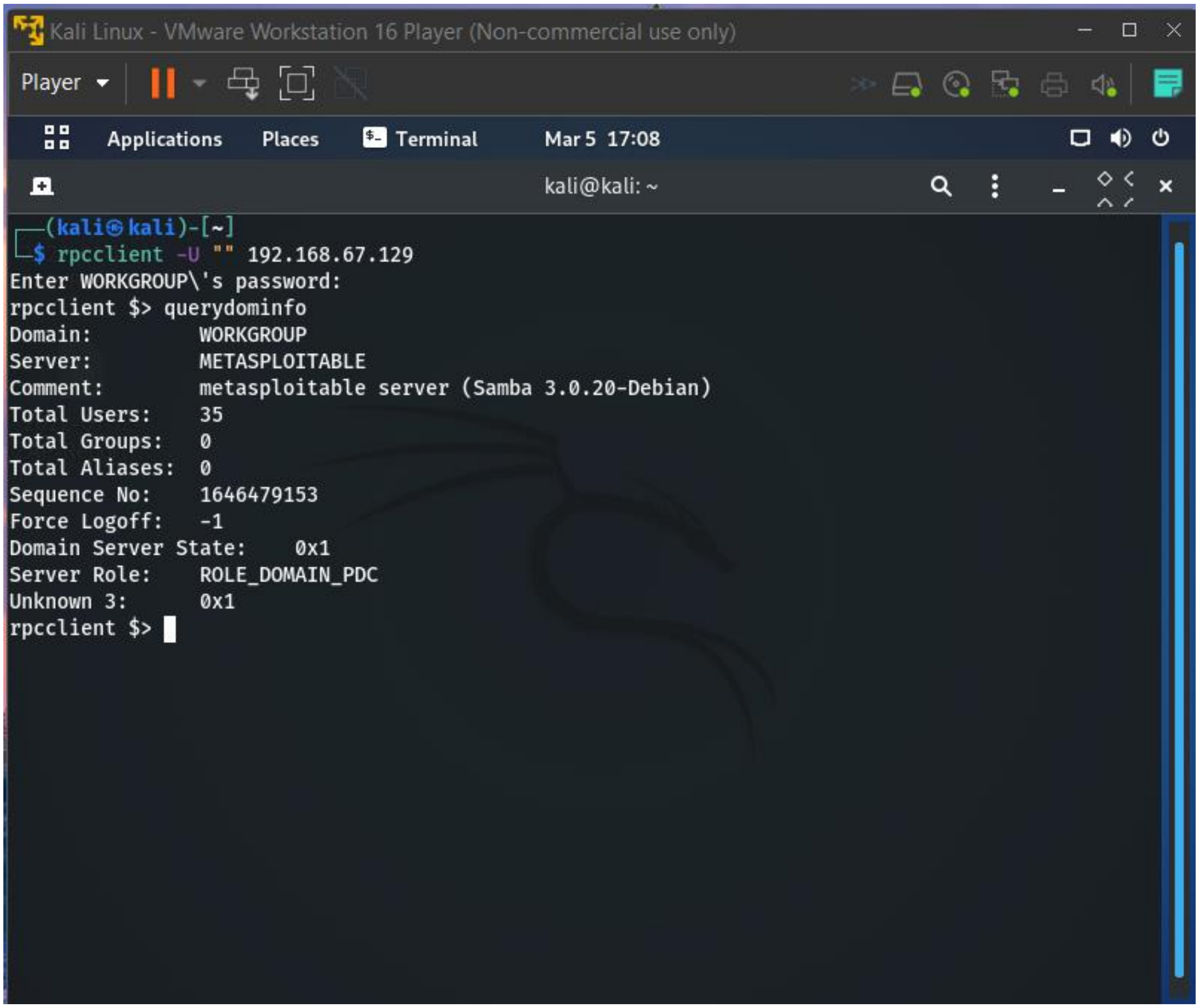
Mar 5 00:34
kali@kali: ~

```
┌──(kali㉿kali)-[~]
└─$ dnsrecon -d zonetransfer.me
[*] std: Performing General Enumeration against: zonetransfer.me...
[-] DNSSEC is not configured for zonetransfer.me
[*]      SOA nsztm1.digi.ninja 81.4.108.41
[*]      NS nsztm2.digi.ninja 34.225.33.2
[*]      NS nsztm1.digi.ninja 81.4.108.41
[*]      MX ASPMX5.GOOGLEMAIL.COM 64.233.171.26
[*]      MX ASPMX.L.GOOGLE.COM 74.125.68.26
[*]      MX ASPMX3.GOOGLEMAIL.COM 142.250.141.26
[*]      MX ALT2.ASPMX.L.GOOGLE.COM 142.250.141.26
[*]      MX ALT1.ASPMX.L.GOOGLE.COM 173.194.202.26
[*]      MX ASPMX2.GOOGLEMAIL.COM 173.194.202.27
[*]      MX ASPMX4.GOOGLEMAIL.COM 142.250.115.26
[*]      MX ASPMX5.GOOGLEMAIL.COM 2607:f8b0:4003:c15::1b
[*]      MX ASPMX.L.GOOGLE.COM 2404:6800:4003:c11::1a
[*]      MX ASPMX3.GOOGLEMAIL.COM 2607:f8b0:4023:c0b::1b
[*]      MX ALT2.ASPMX.L.GOOGLE.COM 2607:f8b0:4023:c0b::1a
[*]      MX ALT1.ASPMX.L.GOOGLE.COM 2607:f8b0:400e:c00::1a
[*]      MX ASPMX2.GOOGLEMAIL.COM 2607:f8b0:400e:c00::1b
[*]      MX ASPMX4.GOOGLEMAIL.COM 2607:f8b0:4023:1004::1a
[*]      A zonetransfer.me 5.196.105.14
[*]      TXT zonetransfer.me google-site-verification=tyP28J7JAUHA9fw2sHXMgcCC0I6XBmmoVi04VlMewxA
[*] Enumerating SRV Records
[+]      SRV _sip._tcp.zonetransfer.me www.zonetransfer.me 5.196.105.14 5060
[+] 1 Records Found

┌──(kali㉿kali)-[~]
└─$
```

Task 3 :- Perform NetBIOS Enumeration

Solution :-



Kali Linux - VMware Workstation 16 Player (Non-commercial use only)
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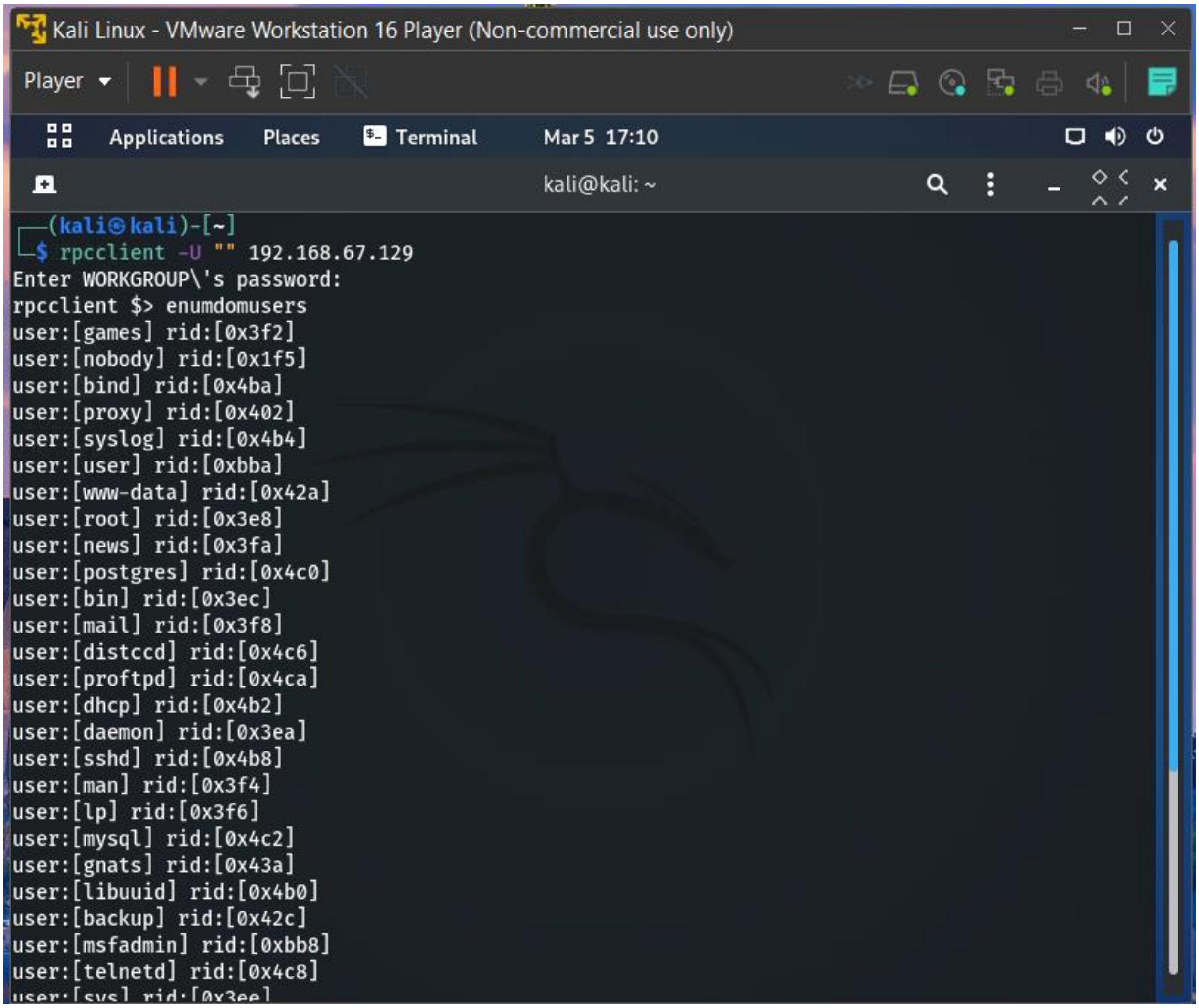
Mar 5 17:08
kali@kali: ~

```
┌──(kali㉿kali)-[~]
└─$ rpcclient -U "" 192.168.67.129
Enter WORKGROUP\'s password:
rpcclient $> querydominfo
Domain:         WORKGROUP
Server:         METASPLOITABLE
Comment:        metasploitable server (Samba 3.0.20-Debian)
Total Users:    35
Total Groups:   0
Total Aliases:  0
Sequence No:    1646479153
Force Logoff:   -1
Domain Server State:    0x1
Server Role:    ROLE_DOMAIN_PDC
Unknown 3:      0x1
rpcclient $> 
```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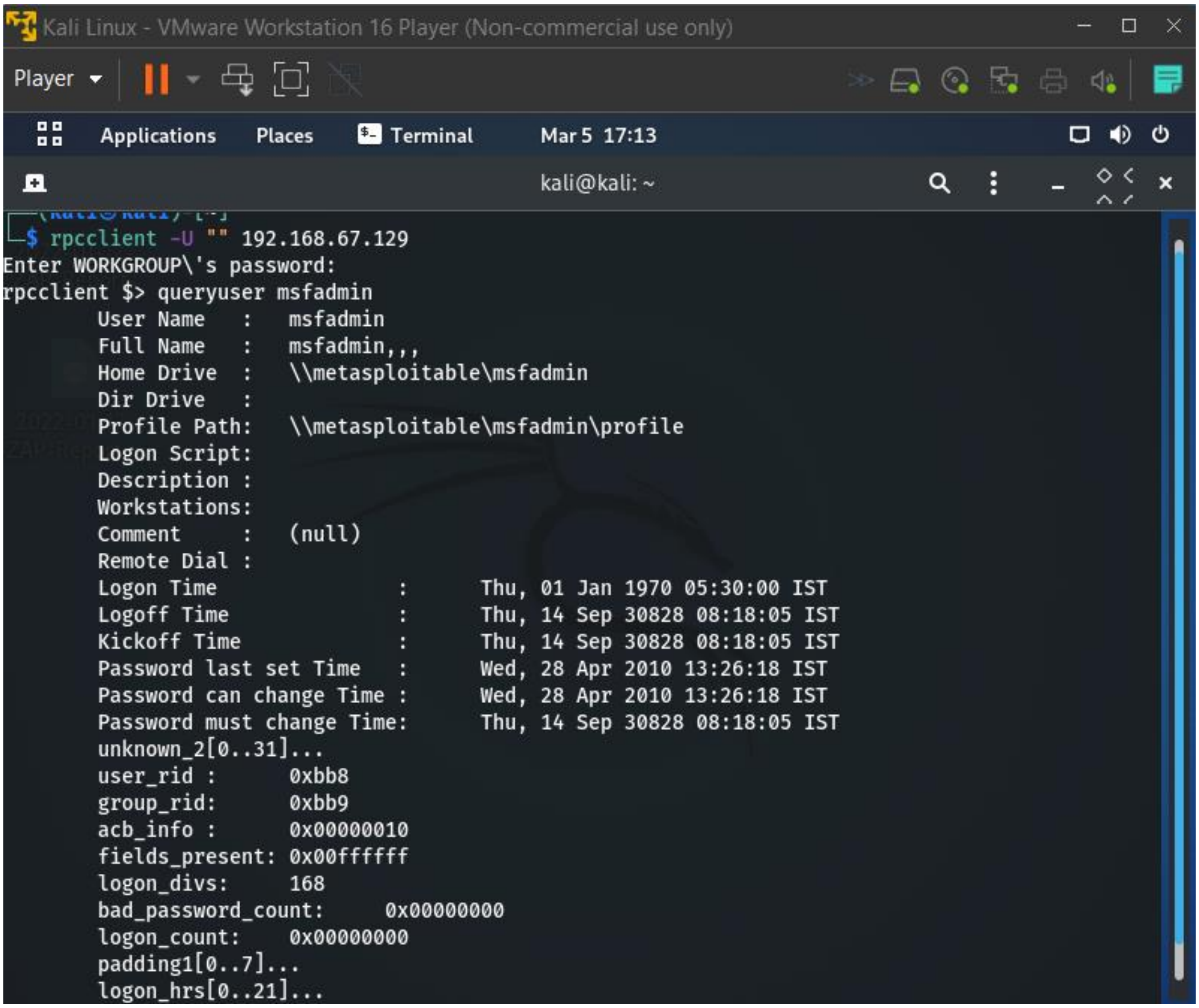
Mar 5 17:10
kali@kali: ~

```
┌──(kali㉿kali)-[~]
└─$ rpcclient -U "" 192.168.67.129
Enter WORKGROUP\'s password:
rpcclient $> enumdomusers
user:[games] rid:[0x3f2]
user:[nobody] rid:[0x1f5]
user:[bind] rid:[0x4ba]
user:[proxy] rid:[0x402]
user:[syslog] rid:[0x4b4]
user:[user] rid:[0xbba]
user:[www-data] rid:[0x42a]
user:[root] rid:[0x3e8]
user:[news] rid:[0x3fa]
user:[postgres] rid:[0x4c0]
user:[bin] rid:[0x3ec]
user:[mail] rid:[0x3f8]
user:[distccd] rid:[0x4c6]
user:[proftpd] rid:[0x4ca]
user:[dhcp] rid:[0x4b2]
user:[daemon] rid:[0x3ea]
user:[sshd] rid:[0x4b8]
user:[man] rid:[0x3f4]
user:[lp] rid:[0x3f6]
user:[mysql] rid:[0x4c2]
user:[gnats] rid:[0x43a]
user:[libuuid] rid:[0x4b0]
user:[backup] rid:[0x42c]
user:[msfadmin] rid:[0xbb8]
user:[telnetd] rid:[0x4c8]
user:[sys] rid:[0x3ee]
```



Kali Linux - VMware Workstation 16 Player (Non-commercial use only)
Player
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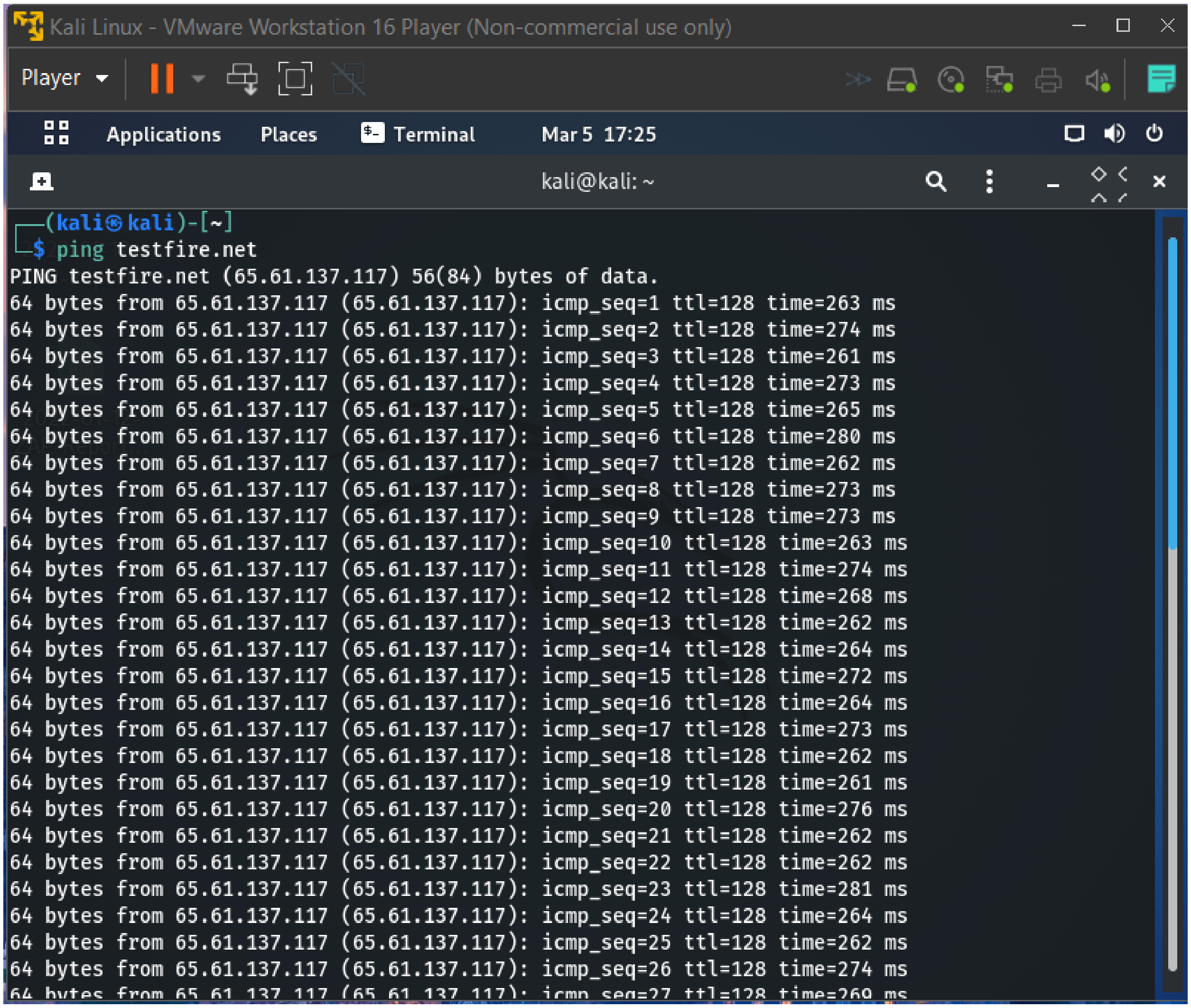
Mar 5 17:13
kali@kali: ~

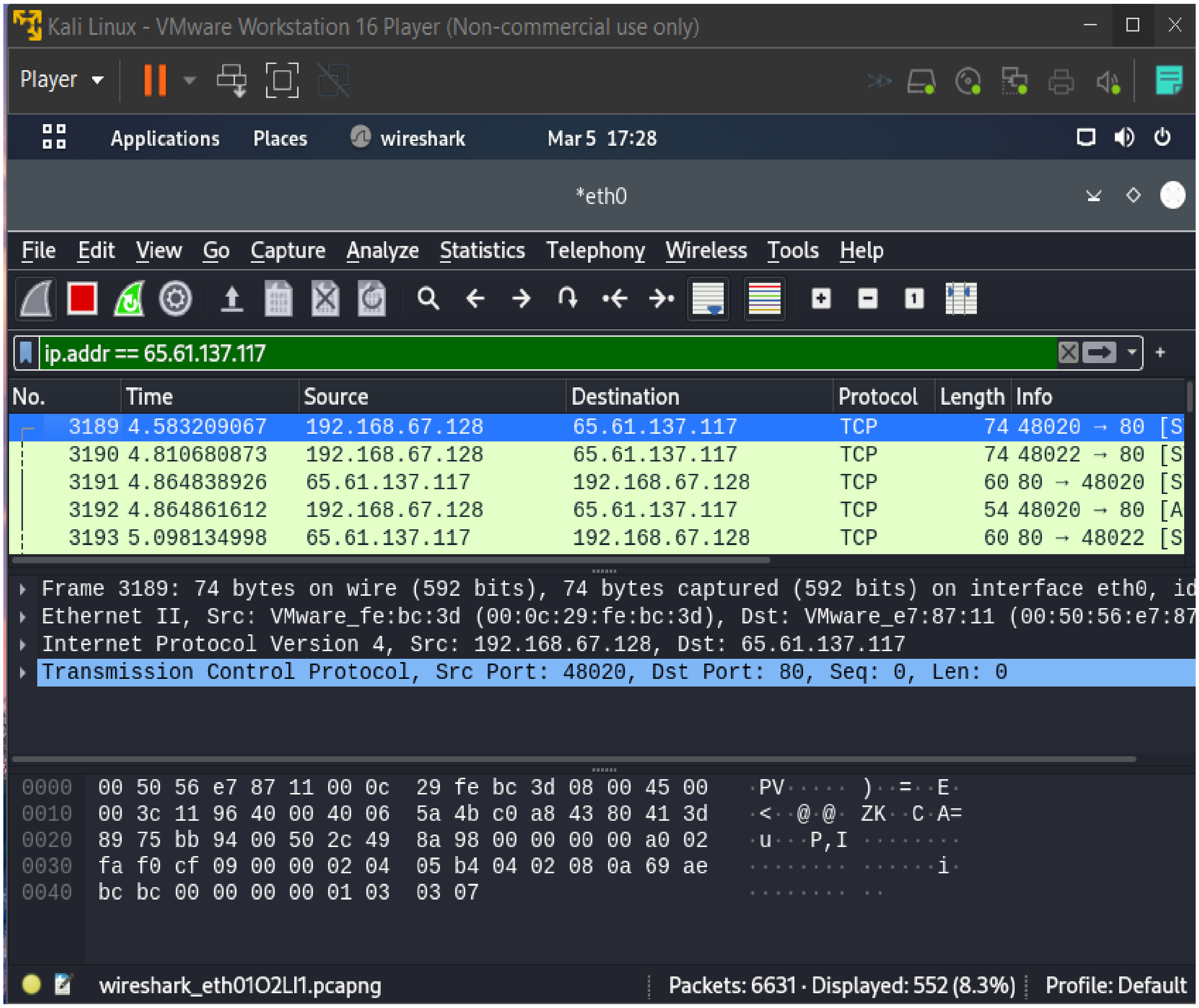
```
┌──(kali㉿kali)-[~]
└─$ rpcclient -U "" 192.168.67.129
Enter WORKGROUP\'s password:
rpcclient $> queryuser msfadmin
        User Name   :   msfadmin
        Full Name   :   msfadmin,,,
        Home Drive  :   \\metasploitable\msfadmin
        Dir Drive   :
        Profile Path:   \\metasploitable\msfadmin\profile
        Logon Script:
        Description :
        Workstations:
        Comment     :   (null)
        Remote Dial :
        Logon Time               :      Thu, 01 Jan 1970 05:30:00 IST
        Logoff Time              :      Thu, 14 Sep 30828 08:18:05 IST
        Kickoff Time             :      Thu, 14 Sep 30828 08:18:05 IST
        Password last set Time   :      Wed, 28 Apr 2010 13:26:18 IST
        Password can change Time :      Wed, 28 Apr 2010 13:26:18 IST
        Password must change Time:      Thu, 14 Sep 30828 08:18:05 IST
        unknown_2[0..31]...
        user_rid :      0xbb8
        group_rid:      0xbb9
        acb_info :      0x00000010
        fields_present: 0x00ffffff
        logon_divs:     168
        bad_password_count:     0x00000000
        logon_count:    0x00000000
        padding1[0..7]...
        logon_hrs[0..21]...
```

Task 4 :- Sniff the data of any application using Wire-Shark

Solution :-


Kali Linux - VMware Workstation 16 Player (Non-commercial use only)
Player
Applications
Places
Terminal
Mar 5 17:25
kali@kali: ~

```
┌──(kali㉿kali)-[~]
└─$ ping testfire.net
PING testfire.net (65.61.137.117) 56(84) bytes of data.
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=1 ttl=128 time=263 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=2 ttl=128 time=274 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=3 ttl=128 time=261 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=4 ttl=128 time=273 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=5 ttl=128 time=265 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=6 ttl=128 time=280 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=7 ttl=128 time=262 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=8 ttl=128 time=273 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=9 ttl=128 time=273 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=10 ttl=128 time=263 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=11 ttl=128 time=274 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=12 ttl=128 time=268 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=13 ttl=128 time=262 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=14 ttl=128 time=264 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=15 ttl=128 time=272 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=16 ttl=128 time=264 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=17 ttl=128 time=273 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=18 ttl=128 time=262 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=19 ttl=128 time=261 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=20 ttl=128 time=276 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=21 ttl=128 time=262 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=22 ttl=128 time=262 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=23 ttl=128 time=281 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=24 ttl=128 time=264 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=25 ttl=128 time=262 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=26 ttl=128 time=274 ms
64 bytes from 65.61.137.117 (65.61.137.117): icmp_seq=27 ttl=128 time=269 ms
```



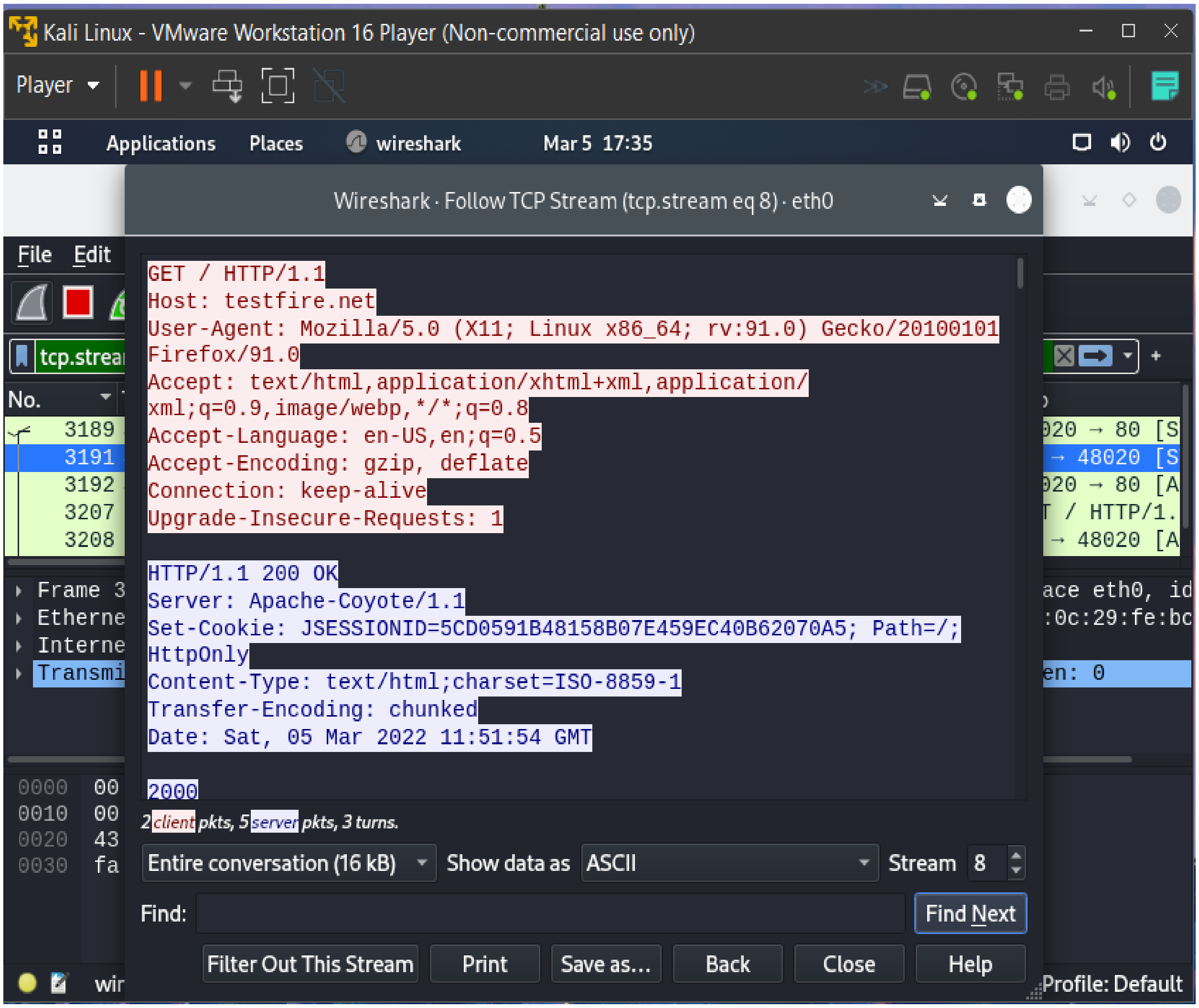
```
ip.addr == 65.61.137.117
```

```
No.   Time        Source          Destination     Protocol Length Info
 3189 4.583209067 192.168.67.128  65.61.137.117   TCP          74 48020 → 80 [S
 3190 4.810680873 192.168.67.128  65.61.137.117   TCP          74 48022 → 80 [S
 3191 4.864838926 65.61.137.117   192.168.67.128  TCP          60 80 → 48020 [S
 3192 4.864861612 192.168.67.128  65.61.137.117   TCP          54 48020 → 80 [A
 3193 5.098134998 65.61.137.117   192.168.67.128  TCP          60 80 → 48022 [S
```

```
Frame 3189: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface eth0, id
Ethernet II, Src: VMware_fe:bc:3d (00:0c:29:fe:bc:3d), Dst: VMware_e7:87:11 (00:50:56:e7:87
Internet Protocol Version 4, Src: 192.168.67.128, Dst: 65.61.137.117
Transmission Control Protocol, Src Port: 48020, Dst Port: 80, Seq: 0, Len: 0
```

```
0000  00 50 56 e7 87 11 00 0c  29 fe bc 3d 08 00 45 00   ·PV·····)··=··E·
0010  00 3c 11 96 40 00 40 06  5a 4b c0 a8 43 80 41 3d   ·<··@·@·ZK··C·A=
0020  89 75 bb 94 00 50 2c 49  8a 98 00 00 00 00 a0 02   ·u···P,I········
0030  fa f0 cf 09 00 00 02 04  05 b4 04 02 08 0a 69 ae   ··············i·
0040  bc bc 00 00 00 00 01 03  03 07                     ··········
```

wireshark_eth01O2LI1.pcapng   Packets: 6631 · Displayed: 552 (8.3%)   Profile: Default



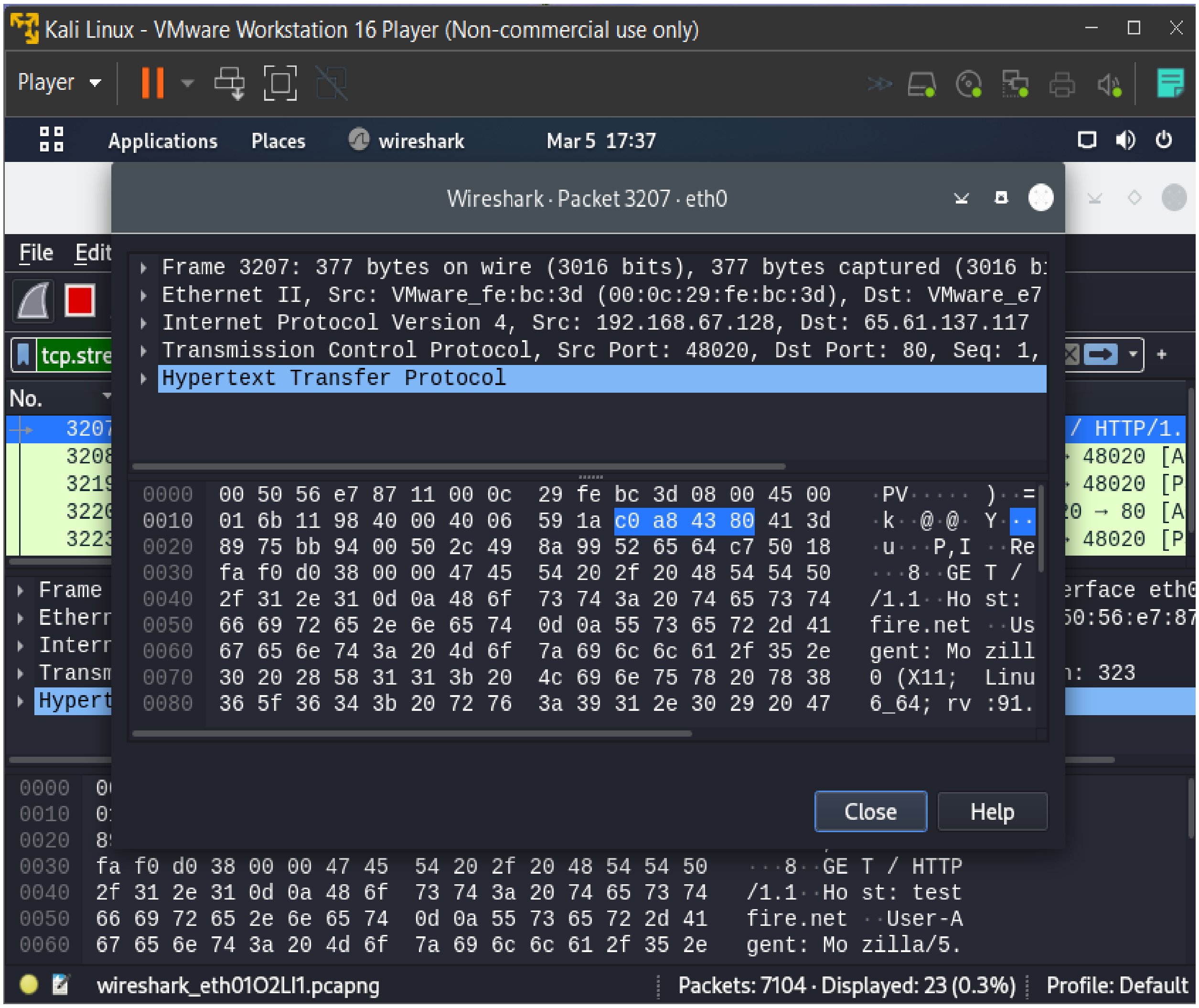
```
GET / HTTP/1.1
Host: testfire.net
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:91.0) Gecko/20100101
Firefox/91.0
Accept: text/html,application/xhtml+xml,application/
xml;q=0.9,image/webp,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Connection: keep-alive
Upgrade-Insecure-Requests: 1

HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Set-Cookie: JSESSIONID=5CD0591B48158B07E459EC40B62070A5; Path=/;
HttpOnly
Content-Type: text/html;charset=ISO-8859-1
Transfer-Encoding: chunked
Date: Sat, 05 Mar 2022 11:51:54 GMT

2000
```

2 client pkts, 5 server pkts, 3 turns.

Entire conversation (16 kB) · Show data as ASCII · Stream 8



```
Frame 3207: 377 bytes on wire (3016 bits), 377 bytes captured (3016 b:
Ethernet II, Src: VMware_fe:bc:3d (00:0c:29:fe:bc:3d), Dst: VMware_e7
Internet Protocol Version 4, Src: 192.168.67.128, Dst: 65.61.137.117
Transmission Control Protocol, Src Port: 48020, Dst Port: 80, Seq: 1,
Hypertext Transfer Protocol
```

```
0000  00 50 56 e7 87 11 00 0c  29 fe bc 3d 08 00 45 00   ·PV·····  )··=
0010  01 6b 11 98 40 00 40 06  59 1a c0 a8 43 80 41 3d   ·k··@·@·  Y···
0020  89 75 bb 94 00 50 2c 49  8a 99 52 65 64 c7 50 18   ·u···P,I  ··Re
0030  fa f0 d0 38 00 00 47 45  54 20 2f 20 48 54 54 50   ···8··GE  T /
0040  2f 31 2e 31 0d 0a 48 6f  73 74 3a 20 74 65 73 74   /1.1··Ho  st:
0050  66 69 72 65 2e 6e 65 74  0d 0a 55 73 65 72 2d 41   fire.net  ··Us
0060  67 65 6e 74 3a 20 4d 6f  7a 69 6c 6c 61 2f 35 2e   gent: Mo  zill
0070  30 20 28 58 31 31 3b 20  4c 69 6e 75 78 20 78 38   0 (X11;   Linu
0080  36 5f 36 34 3b 20 72 76  3a 39 31 2e 30 29 20 47   6_64; rv  :91.
```

```
3207   / HTTP/1.
3208   → 48020 [A
3219   → 48020 [P
3220   0 → 80 [A
3223   → 48020 [P
```

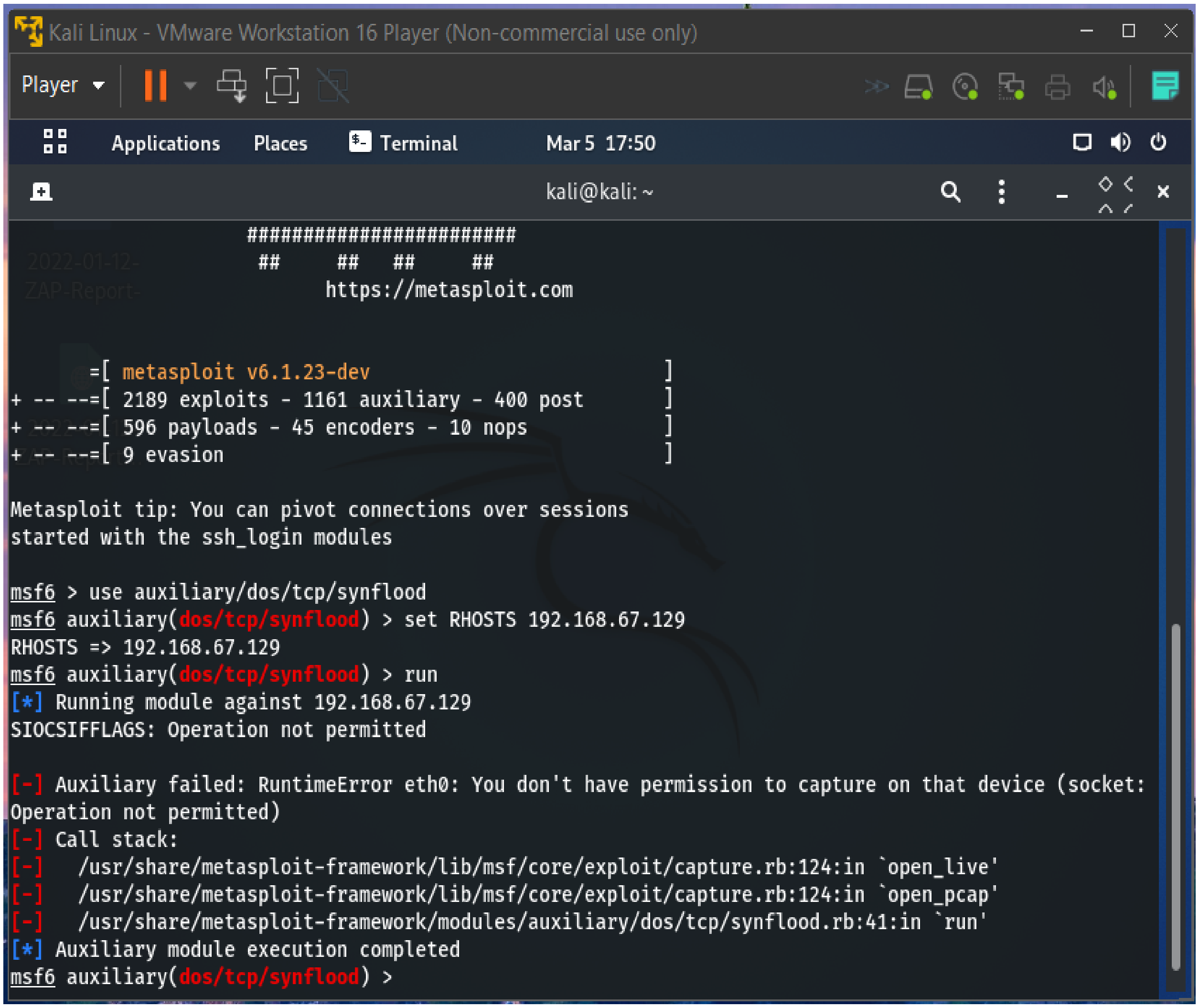
```
erface eth0
50:56:e7:87
n: 323
```

```
0000  0(
0010  0:
0020  8:
0030  fa f0 d0 38 00 00 47 45  54 20 2f 20 48 54 54 50   ···8··GE T / HTTP
0040  2f 31 2e 31 0d 0a 48 6f  73 74 3a 20 74 65 73 74   /1.1··Ho st: test
0050  66 69 72 65 2e 6e 65 74  0d 0a 55 73 65 72 2d 41   fire.net ··User-A
0060  67 65 6e 74 3a 20 4d 6f  7a 69 6c 6c 61 2f 35 2e   gent: Mo zilla/5.
```

wireshark_eth01O2LI1.pcapng Packets: 7104 · Displayed: 23 (0.3%) Profile: Default

Task 5 :- Perform DOS Attack using Metasploit framework

Solution :-


Kali Linux - VMware Workstation 16 Player (Non-commercial use only)
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Mar 5 17:50
kali@kali: ~

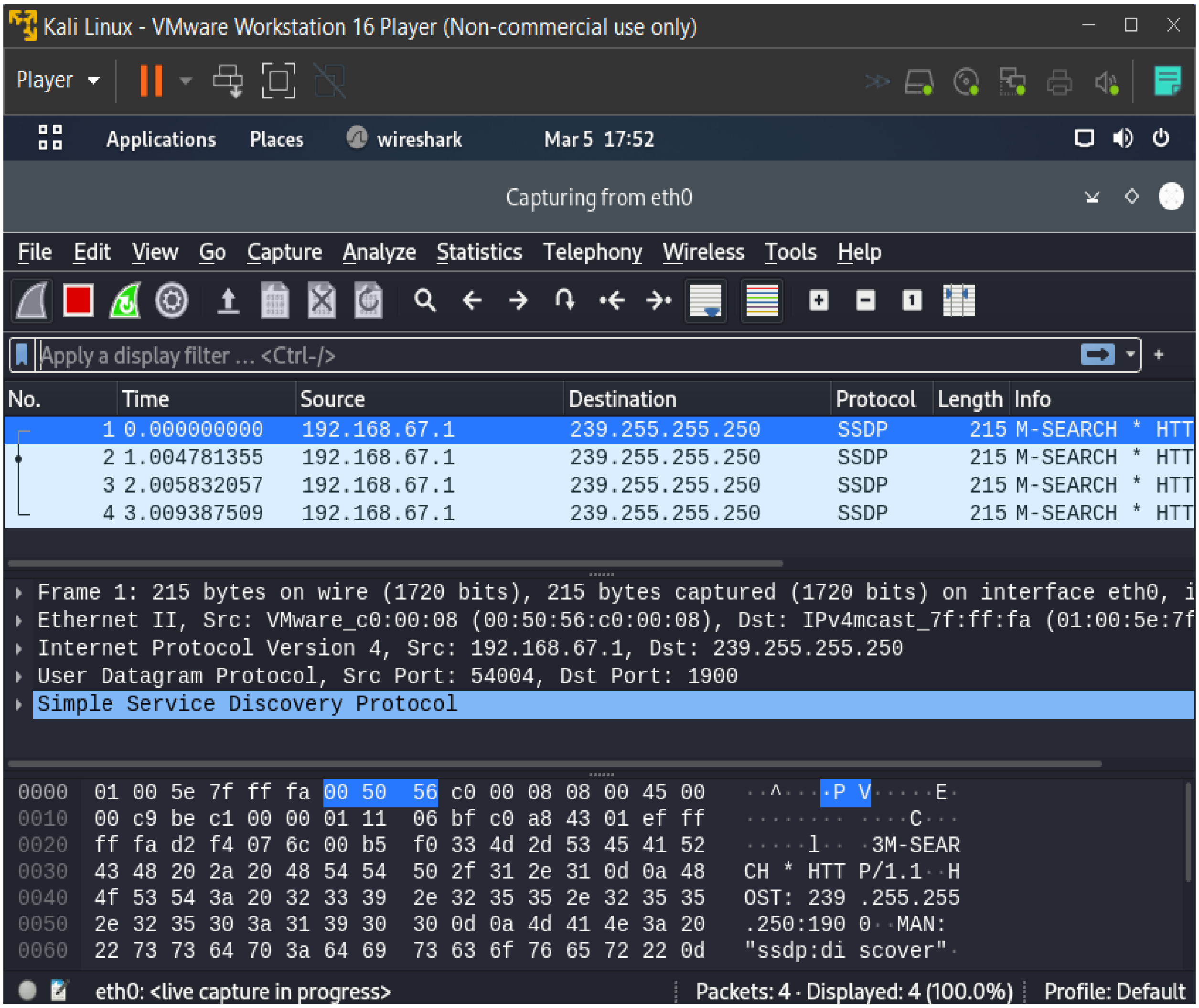
```
                     ########################
                      ##     ##   ##     ##
                            https://metasploit.com


       =[ metasploit v6.1.23-dev                          ]
+ -- --=[ 2189 exploits - 1161 auxiliary - 400 post       ]
+ -- --=[ 596 payloads - 45 encoders - 10 nops            ]
+ -- --=[ 9 evasion                                       ]

Metasploit tip: You can pivot connections over sessions
started with the ssh_login modules

msf6 > use auxiliary/dos/tcp/synflood
msf6 auxiliary(dos/tcp/synflood) > set RHOSTS 192.168.67.129
RHOSTS => 192.168.67.129
msf6 auxiliary(dos/tcp/synflood) > run
[*] Running module against 192.168.67.129
SIOCSIFFLAGS: Operation not permitted

[-] Auxiliary failed: RuntimeError eth0: You don't have permission to capture on that device (socket:
Operation not permitted)
[-] Call stack:
[-]   /usr/share/metasploit-framework/lib/msf/core/exploit/capture.rb:124:in `open_live'
[-]   /usr/share/metasploit-framework/lib/msf/core/exploit/capture.rb:124:in `open_pcap'
[-]   /usr/share/metasploit-framework/modules/auxiliary/dos/tcp/synflood.rb:41:in `run'
[*] Auxiliary module execution completed
msf6 auxiliary(dos/tcp/synflood) >
```



```
No.   Time          Source          Destination       Protocol  Length Info
    1 0.000000000   192.168.67.1    239.255.255.250   SSDP         215 M-SEARCH * HTT
    2 1.004781355   192.168.67.1    239.255.255.250   SSDP         215 M-SEARCH * HTT
    3 2.005832057   192.168.67.1    239.255.255.250   SSDP         215 M-SEARCH * HTT
    4 3.009387509   192.168.67.1    239.255.255.250   SSDP         215 M-SEARCH * HTT
```

```
› Frame 1: 215 bytes on wire (1720 bits), 215 bytes captured (1720 bits) on interface eth0, i
› Ethernet II, Src: VMware_c0:00:08 (00:50:56:c0:00:08), Dst: IPv4mcast_7f:ff:fa (01:00:5e:7f
› Internet Protocol Version 4, Src: 192.168.67.1, Dst: 239.255.255.250
› User Datagram Protocol, Src Port: 54004, Dst Port: 1900
› Simple Service Discovery Protocol
```

```
0000  01 00 5e 7f ff fa 00 50  56 c0 00 08 08 00 45 00   ··^···P V·····E·
0010  00 c9 be c1 00 00 01 11  06 bf c0 a8 43 01 ef ff   ········ ····C···
0020  ff fa d2 f4 07 6c 00 b5  f0 33 4d 2d 53 45 41 52   ·····l·· ·3M-SEAR
0030  43 48 20 2a 20 48 54 54  50 2f 31 2e 31 0d 0a 48   CH * HTT P/1.1··H
0040  4f 53 54 3a 20 32 33 39  2e 32 35 35 2e 32 35 35   OST: 239 .255.255
0050  2e 32 35 30 3a 31 39 30  30 0d 0a 4d 41 4e 3a 20   .250:190 0··MAN:
0060  22 73 73 64 70 3a 64 69  73 63 6f 76 65 72 22 0d   "ssdp:di scover"·
```

eth0: <live capture in progress>   Packets: 4 · Displayed: 4 (100.0%)   Profile: Default