

JARINGAN KOMPUTER
Pertemuan 9 Application Layer



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HTTP

Buka paket dengan label GET

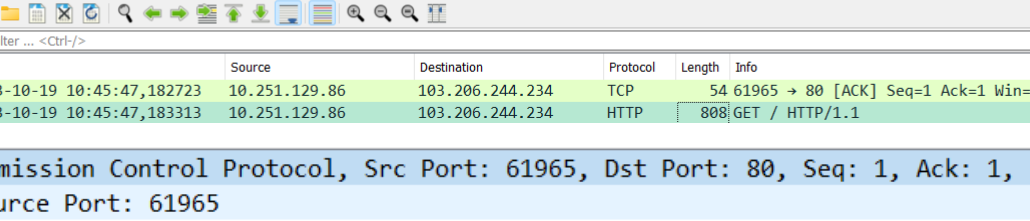
The image shows a Wireshark packet capture analysis of an HTTP GET request. The top menu bar includes File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, and Help. Below the menu is a toolbar with various icons for packet capture and analysis. The packet list pane shows a single packet, No. 145, captured on interface eth0 at 2023-10-19 10:45:47.183313. The packet details pane shows the following structure:

No.	Time	Source	Destination	Protocol	Length	Info
145	2023-10-19 10:45:47.183313	10.251.129.86	103.206.244.234	HTTP	808	GET / HTTP/1.1

The packet details pane shows the following structure:

- Internet Protocol Version 4, Src: 10.251.129.86, Dst: 103.206.244.234
 - 0100 = Version: 4
 - 0101 = Header Length: 20 bytes (5)
 - > Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
 - Total Length: 794
 - Identification: 0x950e (38158)
 - > 010. = Flags: 0x2, Don't fragment
 - ...0 0000 0000 0000 = Fragment Offset: 0
 - Time to Live: 128
 - Protocol: TCP (6)
 - Header Checksum: 0x0000 [validation disabled]
 - [Header checksum status: Unverified]
 - Source Address: 10.251.129.86
 - Destination Address: 103.206.244.234

Cek apakah protokolnya TCP atau UDP



The image shows the Wireshark network protocol analyzer interface. The top menu bar includes File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, and Help. Below the menu is a toolbar with various icons for file operations, packet navigation, and analysis. The main window is divided into three panes: the packet list, the packet details, and the packet bytes.

The packet list pane shows two captured packets:

No.	Time	Source	Destination	Protocol	Length	Info
144	2023-10-19 10:45:47,182723	10.251.129.86	103.206.244.234	TCP	54	61965 → 80 [ACK] Seq=1 Ack=1 Win=131328 Len=0
145	2023-10-19 10:45:47,183313	10.251.129.86	103.206.244.234	HTTP	808	GET / HTTP/1.1

The packet details pane shows the structure of the selected packet (No. 145, HTTP GET request). The details are as follows:

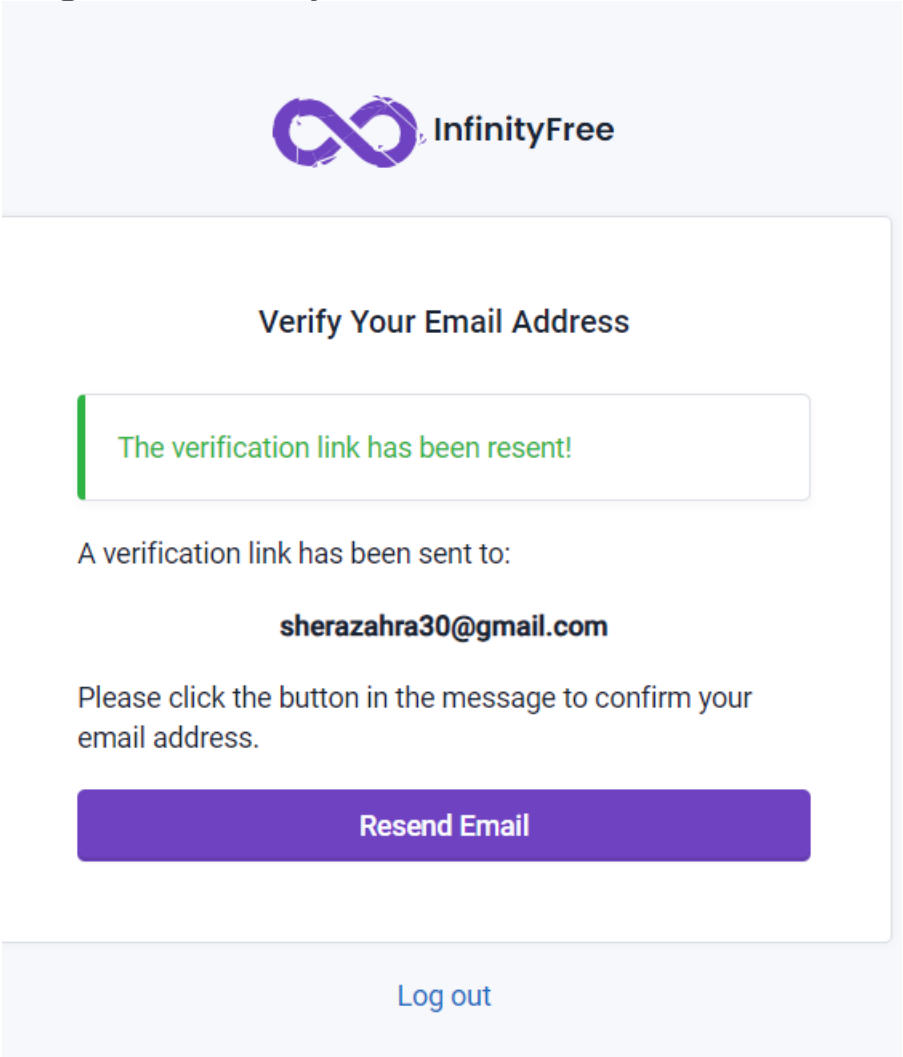
- Transmission Control Protocol, Src Port: 61965, Dst Port: 80, Seq: 1, Ack: 1, Len: 754
 - Source Port: 61965
 - Destination Port: 80
 - [Stream index: 4]
 - [Conversation completeness: Complete, WITH_DATA (31)]
 - [TCP Segment Len: 754]
 - Sequence Number: 1 (relative sequence number)
 - Sequence Number (raw): 1655553783
 - [Next Sequence Number: 755 (relative sequence number)]
 - Acknowledgment Number: 1 (relative ack number)
 - Acknowledgment number (raw): 3413686902
 - 0101 = Header Length: 20 bytes (5)

Cek berapa port nya

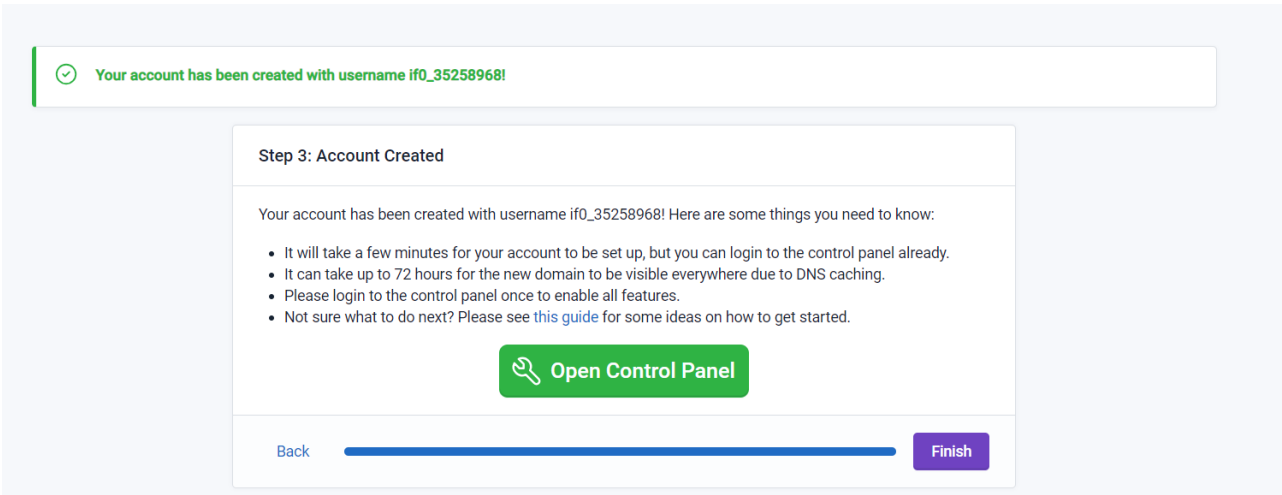
- Transmission Control Protocol, Src Port: 61965, Dst Port: 80, Seq: 1, Ack: 1, Len: 754
 - Source Port: 61965
 - Destination Port: 80

FTP (1)

- Login ke infinityfree.com



- Klik menu home, pilih create Account
- Masukkan informasi yang diperlukan



- Klik akun yang telah dibuat, klik ftp detail untuk informasi ftp yang akan dipakai untuk upload file

infinityFree

Go Premium

sherazahra30@gmail.com

Home

Profile

Accounts

Free SSL Certificates

Site Builders

Domain Checker

Knowledge Base

Community Forum

if0_35258968 (Website for shera.lovestoblog.com)

FTP Details for if0_35258968

Don't see your website yet?

Please note that it can take up to 72 hours for a new domain name or hosting account to start working everywhere. [Learn more.](#)

Manage if0_35258968

Home

Domains

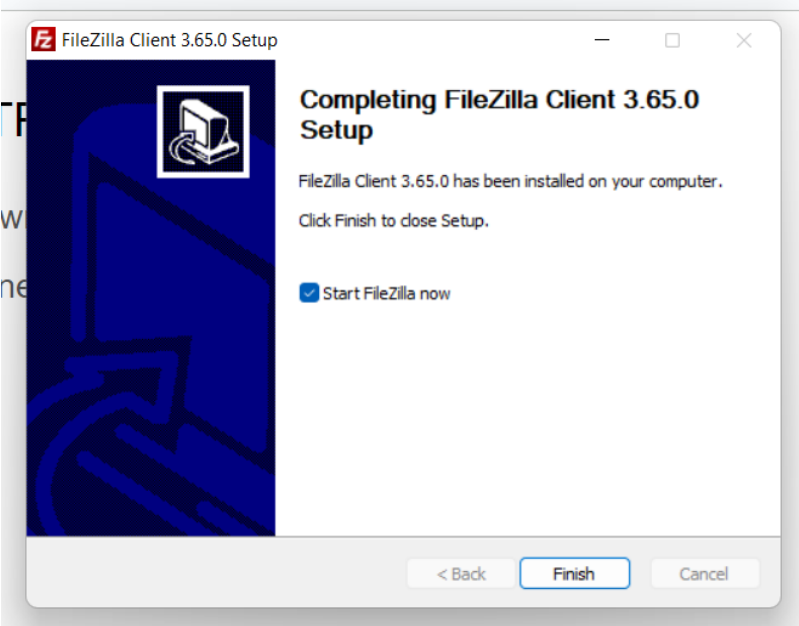
FTP Details

FTP Details for if0_35258968

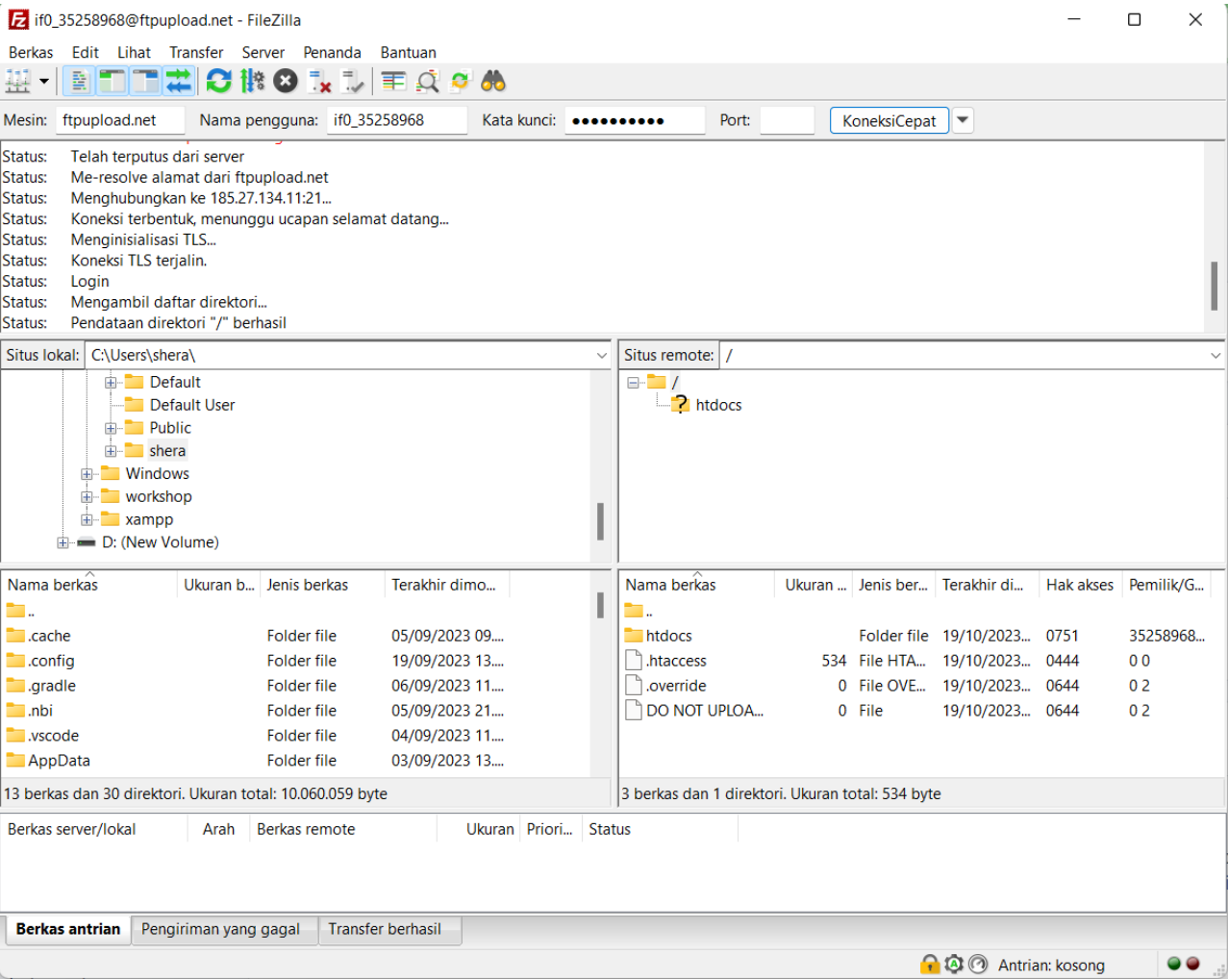
FTP USERNAME	FTP PASSWORD	FTP HOSTNAME
if0_35258968	***** <div>Show/Hide</div>	ftpupload.net
FTP PORT (OPTIONAL)		
21		

FTP(2)

Download Filezilla client

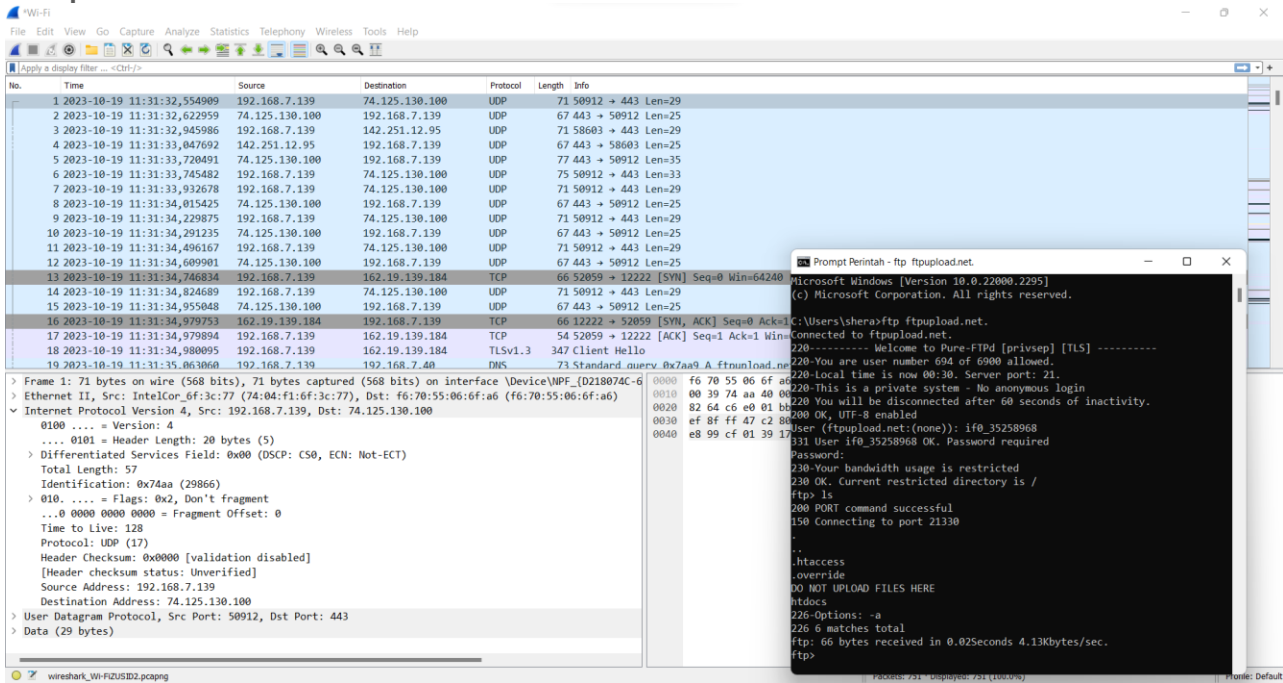


Konek FTP menggunakan filezilla



FTP (3)

- Jalankan wireshark
- Bukan terminal ketik ftp alamat_ftp
- Ketik username
- Ketik password
- Ketik ls untuk melihat isi direktori
- Stop wireshark



- Lakukan filter ftp, kemudian masuk ke menu conversation

*Wi-Fi							
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help							
ftp							
No.	Time	Source	Destination	Protocol	Length	Info	
	23-10-19 11:31:35,596886	185.27.134.11	192.168.7.139	FTP	323	Response: 220----- Welcome to Pure-FTPd [privsep] [TLS] -----	
35	2023-10-19 11:31:35,616700	192.168.7.139	185.27.134.11	FTP	68	Request: OPTS UTF8 ON	
37	2023-10-19 11:31:35,879806	185.27.134.11	192.168.7.139	FTP	77	Response: 200 OK, UTF-8 enabled	
315	2023-10-19 11:31:54,577866	192.168.7.139	185.27.134.11	FTP	73	Request: USER if0_35258968	
316	2023-10-19 11:31:54,838247	185.27.134.11	192.168.7.139	FTP	99	Response: 331 User if0_35258968 OK. Password required	
455	2023-10-19 11:32:04,598918	192.168.7.139	185.27.134.11	FTP	71	Request: PASS IuqmVbRxOb	
456	2023-10-19 11:32:04,860801	185.27.134.11	192.168.7.139	FTP	137	Response: 230-Your bandwidth usage is restricted	
631	2023-10-19 11:32:21,819941	192.168.7.139	185.27.134.11	FTP	82	Request: PORT 192,168,7,139,203,100	
633	2023-10-19 11:32:22,070549	185.27.134.11	192.168.7.139	FTP	83	Response: 200 PORT command successful	
634	2023-10-19 11:32:22,075070	192.168.7.139	185.27.134.11	FTP	60	Request: NLST	
741	2023-10-19 11:32:29,589667	185.27.134.11	192.168.7.139	FTP	84	Response: 150 Connecting to port 21330	
744	2023-10-19 11:32:29,589667	185.27.134.11	192.168.7.139	FTP	93	Response: 226-Options: -a	

*Wi-Fi							
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help							
(ip.addr eq 185.27.134.11 and ip.addr eq 192.168.7.139) and (tcp.port eq 21 and tcp.port eq 52060)							
No.	Time	Source	Destination	Protocol	Length	Info	
21	2023-10-19 11:31:35,103157	192.168.7.139	185.27.134.11	TCP	66	52060 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=1 SACK_PERM	
29	2023-10-19 11:31:35,346517	185.27.134.11	192.168.7.139	TCP	66	21 → 52060 [SYN, ACK] Seq=0 Ack=1 Win=14600 Len=0 MSS=1400 SACK_PERM WS=256	
30	2023-10-19 11:31:35,346607	192.168.7.139	185.27.134.11	TCP	54	52060 → 21 [ACK] Seq=1 Ack=1 Win=8192 Len=0	
34	2023-10-19 11:31:35,596886	185.27.134.11	192.168.7.139	FTP	323	Response: 220----- Welcome to Pure-FTPd [privsep] [TLS] -----	
35	2023-10-19 11:31:35,616700	192.168.7.139	185.27.134.11	FTP	68	Request: OPTS UTF8 ON	
36	2023-10-19 11:31:35,879806	185.27.134.11	192.168.7.139	TCP	54	21 → 52060 [ACK] Seq=270 Ack=15 Win=14848 Len=0	
37	2023-10-19 11:31:35,879806	185.27.134.11	192.168.7.139	FTP	77	Response: 200 OK, UTF-8 enabled	
38	2023-10-19 11:31:35,934417	192.168.7.139	185.27.134.11	TCP	54	52060 → 21 [ACK] Seq=15 Ack=293 Win=7900 Len=0	
315	2023-10-19 11:31:54,577866	192.168.7.139	185.27.134.11	FTP	73	Request: USER if0_35258968	
316	2023-10-19 11:31:54,838247	185.27.134.11	192.168.7.139	FTP	99	Response: 331 User if0_35258968 OK. Password required	
317	2023-10-19 11:31:54,885929	192.168.7.139	185.27.134.11	TCP	54	52060 → 21 [ACK] Seq=34 Ack=338 Win=7855 Len=0	
455	2023-10-19 11:32:04,598918	192.168.7.139	185.27.134.11	FTP	71	Request: PASS IuqmVbRxOb	
456	2023-10-19 11:32:04,860801	185.27.134.11	192.168.7.139	FTP	137	Response: 230-Your bandwidth usage is restricted	
457	2023-10-19 11:32:04,904013	192.168.7.139	185.27.134.11	TCP	54	52060 → 21 [ACK] Seq=51 Ack=421 Win=7772 Len=0	
631	2023-10-19 11:32:21,819941	192.168.7.139	185.27.134.11	FTP	82	Request: PORT 192,168,7,139,203,100	
633	2023-10-19 11:32:22,070549	185.27.134.11	192.168.7.139	FTP	83	Response: 200 PORT command successful	
634	2023-10-19 11:32:22,075070	192.168.7.139	185.27.134.11	FTP	60	Request: NLST	
638	2023-10-19 11:32:22,362772	185.27.134.11	192.168.7.139	TCP	54	21 → 52060 [ACK] Seq=450 Ack=85 Win=14848 Len=0	
741	2023-10-19 11:32:29,589667	185.27.134.11	192.168.7.139	FTP	84	Response: 150 Connecting to port 21330	
744	2023-10-19 11:32:29,589667	185.27.134.11	192.168.7.139	FTP	93	Response: 226-Options: -a	
746	2023-10-19 11:32:29,589921	192.168.7.139	185.27.134.11	TCP	54	52060 → 21 [ACK] Seq=85 Ack=519 Win=7674 Len=0	

- Cek apakah protocol FTP adalah TCP atau UDP

Wi-Fi							
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help							
(ip.addr eq 185.27.134.11 and ip.addr eq 192.168.7.139) and (tcp.port eq 21 and tcp.port eq 52060)							
No.	Time	Source	Destination	Protocol	Length	Info	
21	2023-10-19 11:31:35,103157	192.168.7.139	185.27.134.11	TCP	66	52060 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=1 SACK_PERM	
29	2023-10-19 11:31:35,346517	185.27.134.11	192.168.7.139	TCP	66	21 → 52060 [SYN, ACK] Seq=0 Ack=1 Win=14600 Len=0 MSS=1400 SACK_PERM WS=256	
30	2023-10-19 11:31:35,346607	192.168.7.139	185.27.134.11	TCP	54	52060 → 21 [ACK] Seq=1 Ack=1 Win=8192 Len=0	
34	2023-10-19 11:31:35,596886	185.27.134.11	192.168.7.139	FTP	323	Response: 220----- Welcome to Pure-FTPd [privsep] [TLS] -----	
35	2023-10-19 11:31:35,616700	192.168.7.139	185.27.134.11	FTP	68	Request: OPTS UTF8 ON	
36	2023-10-19 11:31:35,879806	185.27.134.11	192.168.7.139	TCP	54	21 → 52060 [ACK] Seq=270 Ack=15 Win=14848 Len=0	
37	2023-10-19 11:31:35,879806	185.27.134.11	192.168.7.139	FTP	77	Response: 200 OK, UTF-8 enabled	
38	2023-10-19 11:31:35,934417	192.168.7.139	185.27.134.11	TCP	54	52060 → 21 [ACK] Seq=15 Ack=293 Win=7900 Len=0	
315	2023-10-19 11:31:54,577866	192.168.7.139	185.27.134.11	FTP	73	Request: USER if0_35258968	
316	2023-10-19 11:31:54,838247	185.27.134.11	192.168.7.139	FTP	99	Response: 331 User if0_35258968 OK. Password required	
317	2023-10-19 11:31:54,885929	192.168.7.139	185.27.134.11	TCP	54	52060 → 21 [ACK] Seq=34 Ack=338 Win=7855 Len=0	
455	2023-10-19 11:32:04,598918	192.168.7.139	185.27.134.11	FTP	71	Request: PASS IuqmVbRxOb	
Internet Protocol Version 4, Src: 185.27.134.11, Dst: 192.168.7.139							
Transmission Control Protocol, Src Port: 21, Dst Port: 52060, Seq: 1, Ack: 1, Len: 269							
Source Port: 21							
Destination Port: 52060							
[Stream index: 1]							
[Conversation completeness: Incomplete, DATA (15)]							
[TCP Segment Len: 269]							
Sequence Number: 1 (relative sequence number)							
Sequence Number (raw): 3824063822							
[Next Sequence Number: 270 (relative sequence number)]							
Acknowledgment Number: 1 (relative ack number)							
Acknowledgment number (raw): 3358397633							
0101 = Header Length: 20 bytes (5)							
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- Cek port dari FTP

SYN

Wireshark packet capture analysis of a SYN packet. The packet list shows a SYN packet from 192.168.7.139 to 185.27.134.11. The packet details show the Transmission Control Protocol (TCP) segment with sequence number 0, destination port 21, and the SYN flag set. The packet bytes show the raw data of the SYN packet.

No.	Time	Source	Destination	Protocol	Length	Info
21	2023-10-19 11:31:35.103157	192.168.7.139	185.27.134.11	TCP	66	52060 → 21 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=1 SACK_PERM

> Frame 21: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface \Device\NPF_{D218074C-...}

Ethernet II, Src: IntelCor_6f:3c:77 (74:04:f1:6f:3c:77), Dst: f6:70:55:06:6f:a6 (f6:70:55:06:6f:a6)

Internet Protocol Version 4, Src: 192.168.7.139, Dst: 185.27.134.11

Transmission Control Protocol, Src Port: 52060, Dst Port: 21, Seq: 0, Len: 0

Source Port: 52060

Destination Port: 21

[Stream index: 1]

[Conversation completeness: Incomplete, DATA (15)]

[TCP Segment Len: 0]

Sequence Number: 0 (relative sequence number)

Sequence Number (raw): 3358397632

[Next Sequence Number: 1 (relative sequence number)]

Acknowledgment Number: 0

Acknowledgment number (raw): 0

1000 = Header Length: 32 bytes (8)

Flags: 0x002 (SYN)

000. = Reserved: Not set

...0 = Accurate ECN: Not set

...0 = Congestion Window Reduced: Not set

...0 = ECN-Echo: Not set

...0 = Urgent: Not set

...0 = Acknowledgment: Not set

...0 = Push: Not set

...0 = Reset: Not set

...1 = Syn: Set

...0 = Fin: Not set

[TCP Flags:S.]

Window: 8192

[Calculated window size: 8192]

Checksum: 0x0781 [unverified]

[Checksum Status: Unverified]

Urgent Pointer: 0

0000 f6 70 55 06 6f a6 74 04 f1 6f 3c 77 08 00
0010 00 34 11 2e 40 00 80 06 00 00 c0 a8 07 8b
0020 86 0b cb 5c 00 15 c8 2d 14 c0 00 00 00 00
0030 20 00 07 81 00 00 02 04 05 b4 01 03 03 00
0040 04 02

SYN,ACK

The image shows a Wireshark packet capture analysis of a SYN flood attack. The packet list on the left shows a SYN packet from 192.168.7.139 to 185.27.134.11 on port 52060. The packet details on the right show the TCP header with SYN flag set and sequence number 3824063821. The packet bytes on the right show the raw TCP segment.

Packet List:

No.	Time	Source	Destination	Protocol	Length	Info
29	2023-10-19 11:31:35.346517	185.27.134.11	192.168.7.139	TCP	66	[21 → 52060] [SYN, ACK] Seq=0 Ack=1 Win=14600 Len=0 MSS=1400 SACK_PERM WS=256

Packet Details:

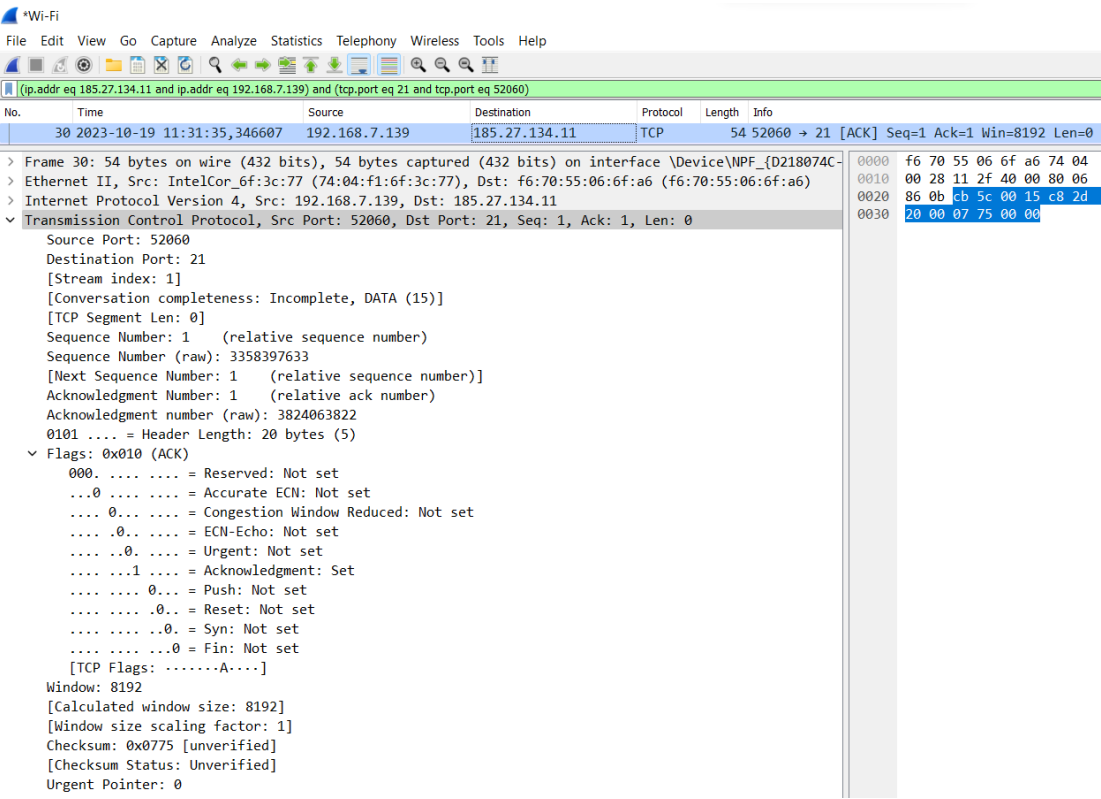
- Frame 29: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface \Device\NPF{D218074C-...}
- Ethernet II, Src: f6:70:55:06:f6:a6 (f6:70:55:06:f6:a6), Dst: IntelCor_f6:3c:77 (74:04:f1:6f:3c:77)
- Internet Protocol Version 4, Src: 185.27.134.11, Dst: 192.168.7.139
- Transmission Control Protocol, Src Port: 21, Dst Port: 52060, Seq: 0, Ack: 1, Len: 0**
 - Source Port: 21
 - Destination Port: 52060
 - [Stream index: 1]
 - [Conversation completeness: Incomplete, DATA (15)]
 - [TCP Segment Len: 0]
 - Sequence Number: 0 (relative sequence number)
 - Sequence Number (raw): 3824063821
 - [Next Sequence Number: 1 (relative sequence number)]
 - Acknowledgment Number: 1 (relative ack number)
 - Acknowledgment number (raw): 3358397633
 - 1000 = Header Length: 32 bytes (8)
 - Flags: 0x012 (SYN, ACK)**
 - 000. = Reserved: Not set
 - ...0 = Accurate ECN: Not set
 - ...0... = Congestion Window Reduced: Not set
 - ...0... = ECN-Echo: Not set
 - ...10. = Urgent: Not set
 - ...1... = Acknowledgment: Set
 - ...0... = Push: Not set
 - ...0... = Reset: Not set
 - ...1... = Syn: Set**
 - ...0... = Fin: Not set
 - [TCP Flags:A.-S.]
 - Window: 14600
 - [Calculated window size: 14600]
 - Checksum: 0x0d3d [unverified]
 - [Checksum Status: Unverified]
 - Urgent Pointer: 0

Packet Bytes:

```

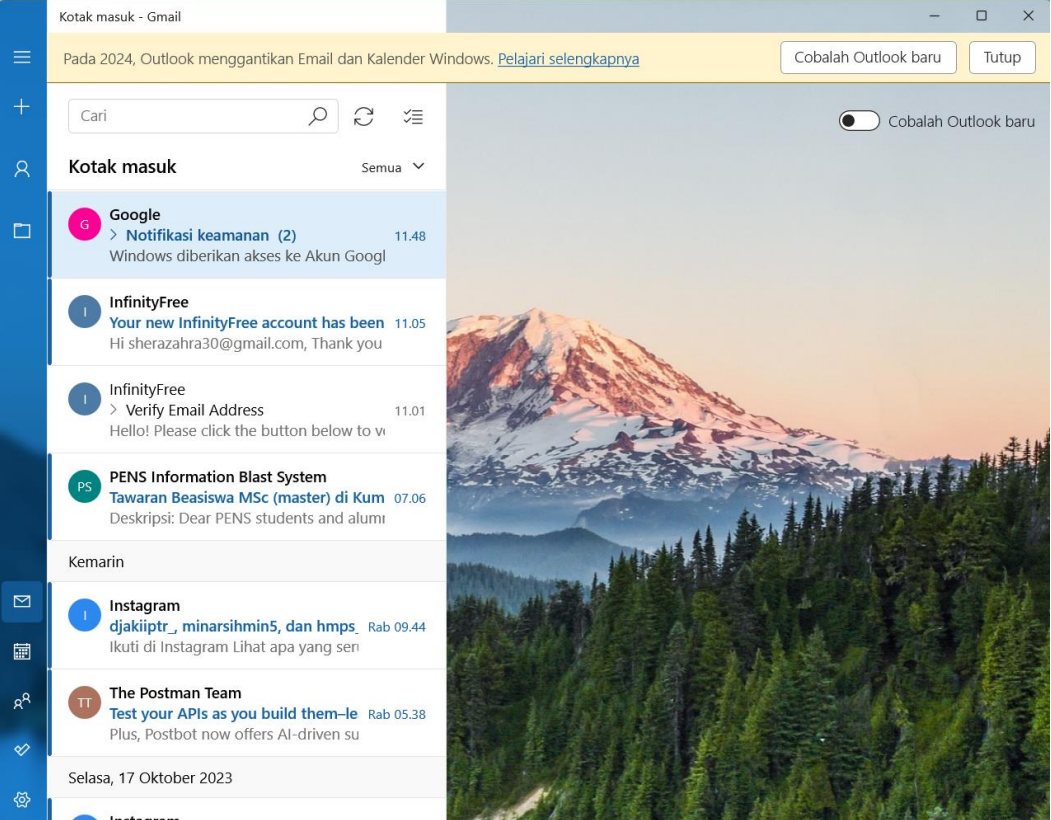
0000  74 04 f1 6f 3c 77 f6 70 55 06 f6 a6 08 00 45 00  t...o
0010  00 34 00 00 00 00 00 06 43 6a b9 1b 86 0b c0 a8  4...@
0020  07 8b 00 15 cb 5c e3 ee 95 4d c8 2d 14 c1 80 12  .....
0030  39 08 0d 3d 00 00 02 04 05 78 01 01 04 02 01 03  9...=
0040  03 00                                     .
  
```


ACK



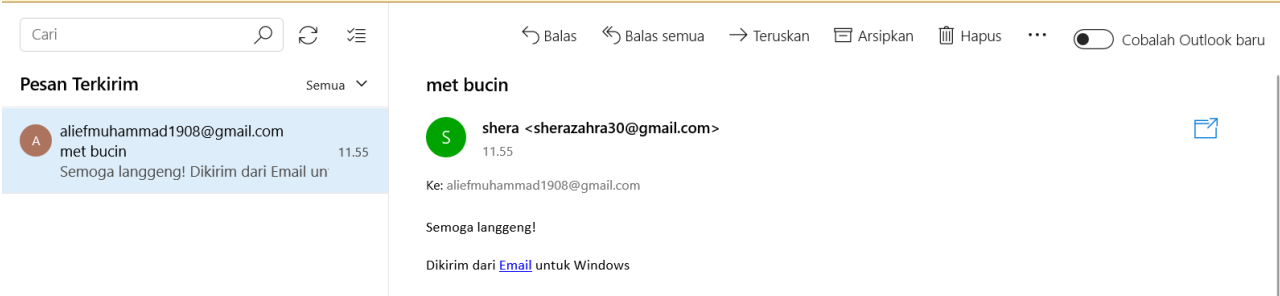
POP3(1)

- Buka microsoft mail
- Klik accounts
- Click add account
- Click google
- Masukkan akun google

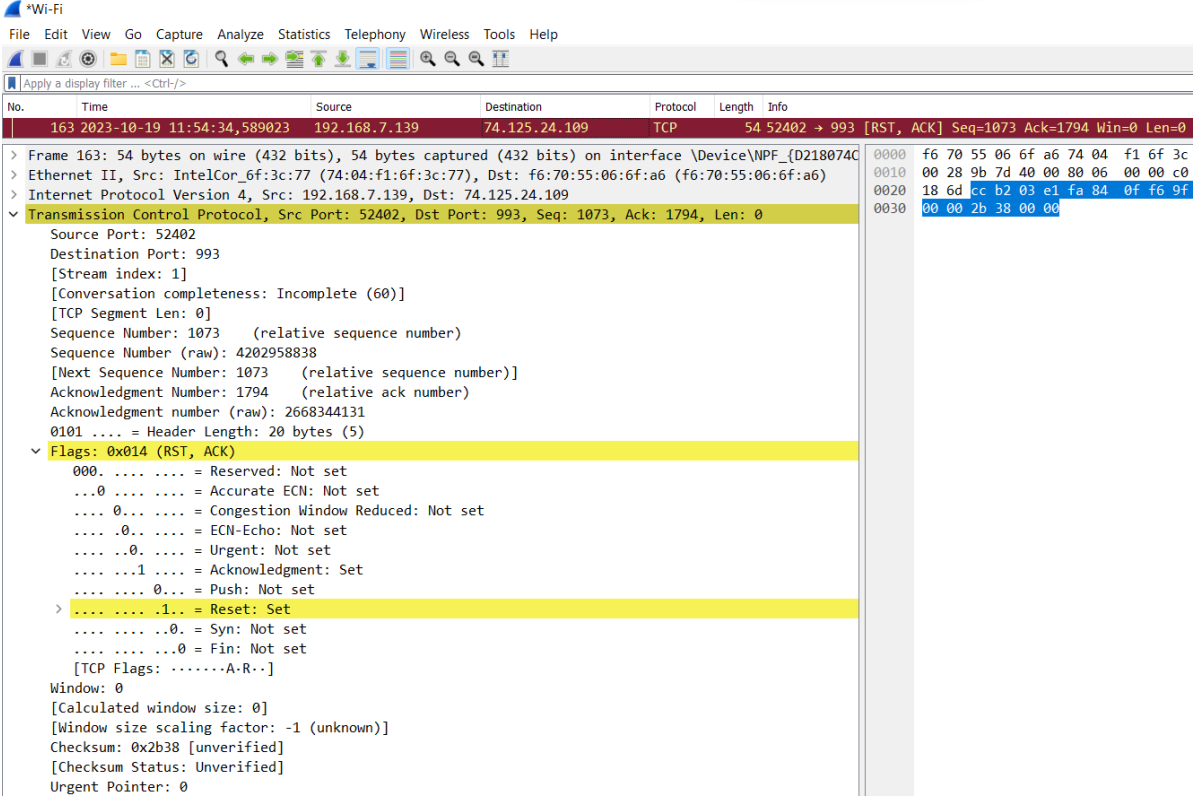


POP3(2)

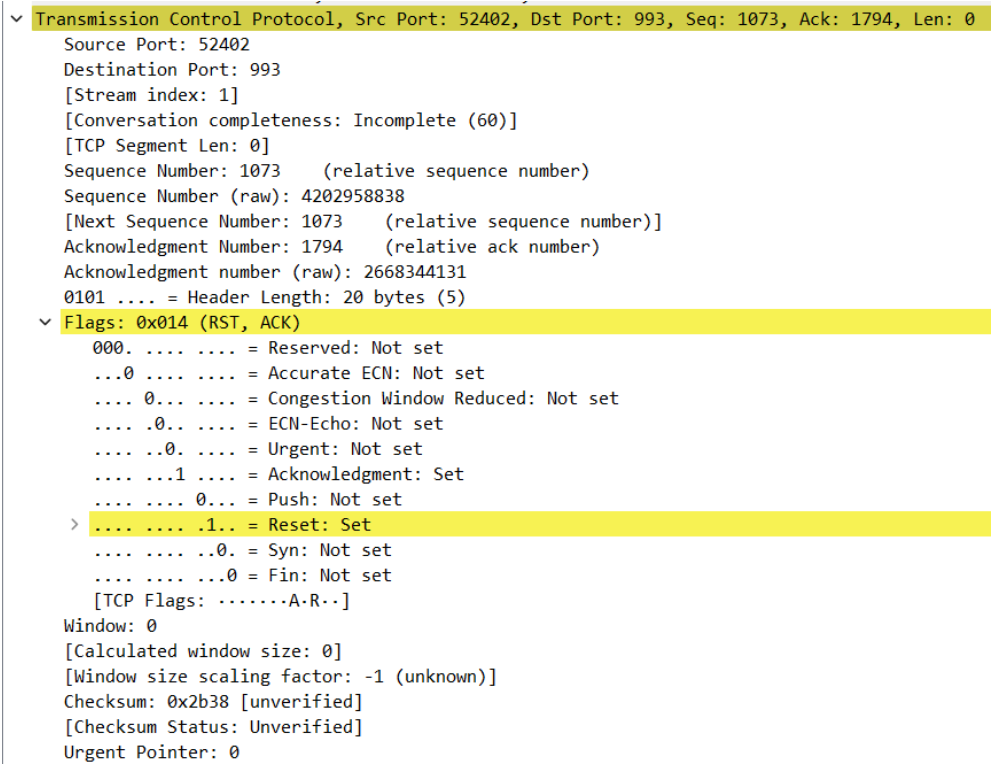
- Jalankan wireshare
- Kirim email ke alamat tertentu



- Stop wireshark
- Cari paket pop3



- Check apakah paket tersebut tcp atau udp



- Check port nya

```

v Transmission Control Protocol, Src Port: 52402, Dst Port: 993, Seq: 1073, Ack: 1794, Len: 0
  Source Port: 52402
  Destination Port: 993
  [Stream index: 1]
  [Conversation completeness: Incomplete (60)]
  [TCP Segment Len: 0]
  Sequence Number: 1073      (relative sequence number)
  Sequence Number (raw): 4202958838
  [Next Sequence Number: 1073      (relative sequence number)]
  Acknowledgment Number: 1794      (relative ack number)
  Acknowledgment number (raw): 2668344131
  0101 .... = Header Length: 20 bytes (5)

```

DNS

- Ketik ipconfig /flushdns, untuk menghapus DNS cache

```

Ctrl Prompt Perintah
Microsoft Windows [Version 10.0.22000.2295]
(c) Microsoft Corporation. All rights reserved.

C:\Users\shera>ipconfig /flushdns

Windows IP Configuration

Successfully flushed the DNS Resolver Cache.

```

- Ketik ipconfig /displaydns, untuk melihat DNS cache, maka hanya memunculkan satu hosts file

```

Ctrl Prompt Perintah
C:\Users\shera>ipconfig /displaydns

Windows IP Configuration

www.trendmicro.com
-----
No records of type AAAA

www.trendmicro.com
-----
Record Name . . . . . : www.trendmicro.com
Record Type . . . . . : 1
Time To Live . . . . . : 592655
Data Length . . . . . : 4
Section . . . . . : Answer
A (Host) Record . . . : 0.0.0.0

www.zillya.com
-----
No records of type AAAA

www.zillya.com
-----
Record Name . . . . . : www.zillya.com
Record Type . . . . . : 1
Time To Live . . . . . : 592655
Data Length . . . . . : 4

```

- Jalankan wireshark
- Ketik nslookup en.wikiversity.org

```
C:\Users\shera>nslookup en.wikiversity.org
Server:      UnKnown
Address:     192.168.7.40

Non-authoritative answer:
Name:        dyna.wikimedia.org
Addresses:   2001:df2:e500:ed1a::1
             103.102.166.224
Aliases:     en.wikiversity.org
```

- Stop wireshark
- Cek paket DNS dengan label Standard query A en.wikiversity.org

*Wi-Fi

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dns

No.	Time	Source	Destination	Protocol	Length	Info
484	2023-10-19 12:06:49,093726	192.168.7.139	192.168.7.40	DNS	78	Standard query 0x0002 A en.wikiversity.org

> Frame 484: 78 bytes on wire (624 bits), 78 bytes captured (624 bits) on interface \Device\NPF_{D218074C...}

> Ethernet II, Src: IntelCor_6f:3c:77 (74:04:f1:6f:3c:77), Dst: f6:70:55:06:6f:a6 (f6:70:55:06:6f:a6)

> Internet Protocol Version 4, Src: 192.168.7.139, Dst: 192.168.7.40

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

Total Length: 64

Identification: 0x930f (37647)

> 000. = Flags: 0x0

...0 0000 0000 0000 = Fragment Offset: 0

Time to Live: 128

Protocol: UDP (17)

Header Checksum: 0x0000 [validation disabled]

[Header checksum status: Unverified]

Source Address: 192.168.7.139

Destination Address: 192.168.7.40

> User Datagram Protocol, Src Port: 51441, Dst Port: 53

Source Port: 51441

Destination Port: 53

Length: 44

Checksum: 0x9041 [unverified]

[Checksum Status: Unverified]

[Stream index: 11]

> [Timestamps]

UDP payload (36 bytes)

> Domain Name System (query)

0000 f6 70 55 06 6f a6 74 04

0010 00 40 93 0f 00 00 80 11

0020 07 28 c8 f1 00 35 00 2c

0030 00 00 00 00 00 00 02 65

0040 72 73 69 74 79 03 6f 72

- Cek apakah protokol DNS adalah TCP atau UDP

> User Datagram Protocol, Src Port: 51441, Dst Port: 53

Source Port: 51441

Destination Port: 53

Length: 44

Checksum: 0x9041 [unverified]

[Checksum Status: Unverified]

[Stream index: 11]

> [Timestamps]

UDP payload (36 bytes)

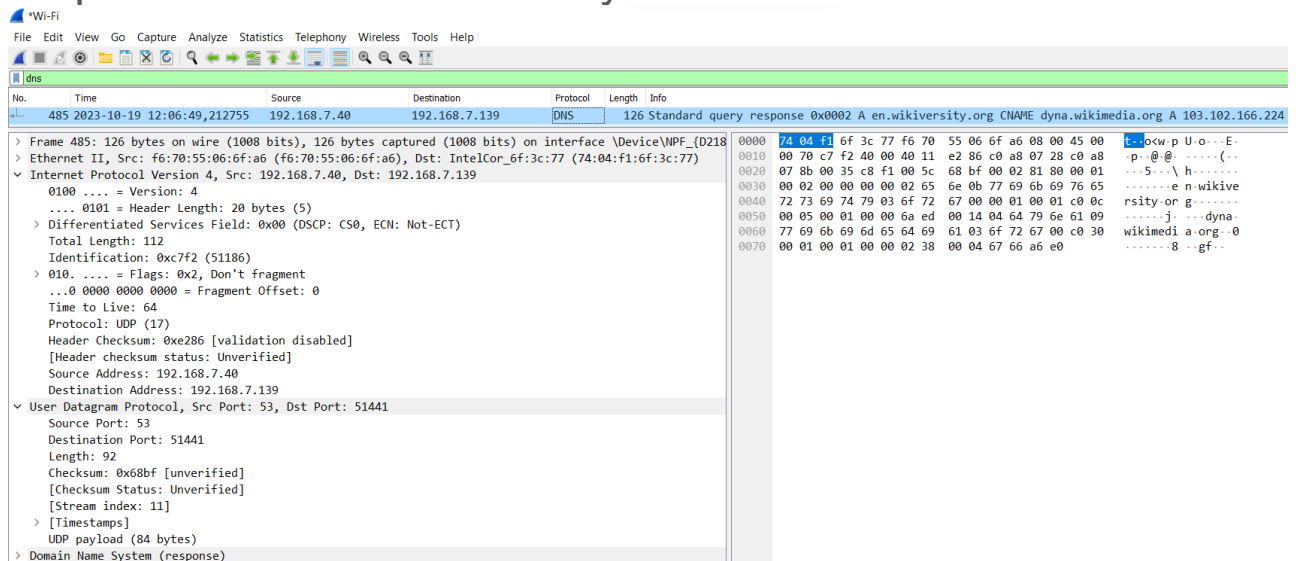
- Cek port nya

> User Datagram Protocol, Src Port: 51441, Dst Port: 53

Source Port: 51441

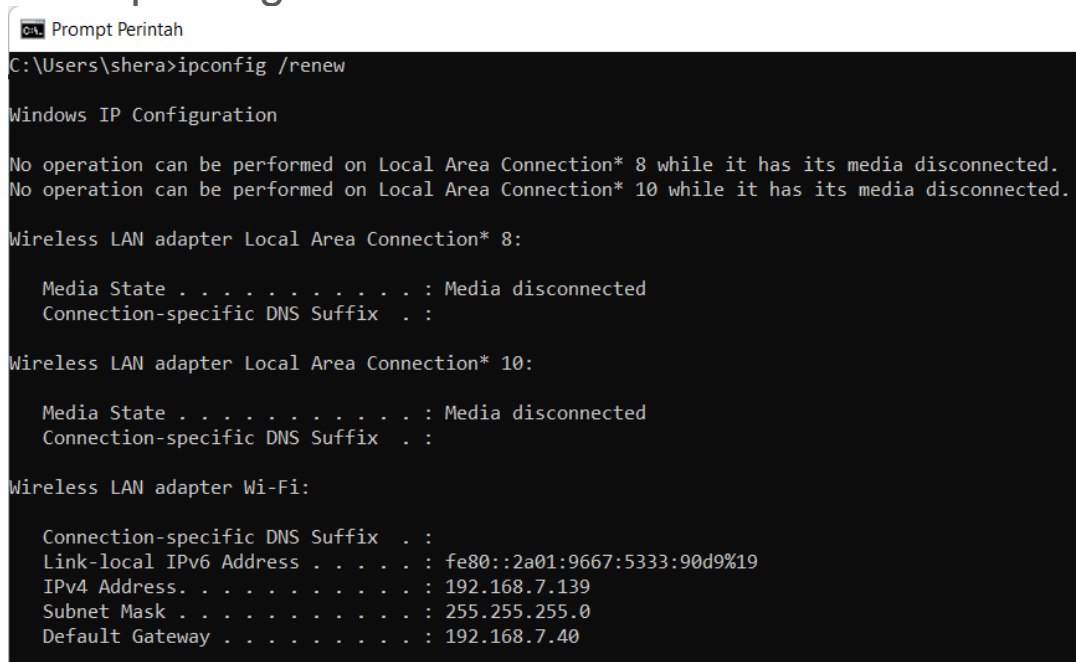
Destination Port: 53

- Cek respon paket DNS dengan label Standard query response CNAME wikiversity....

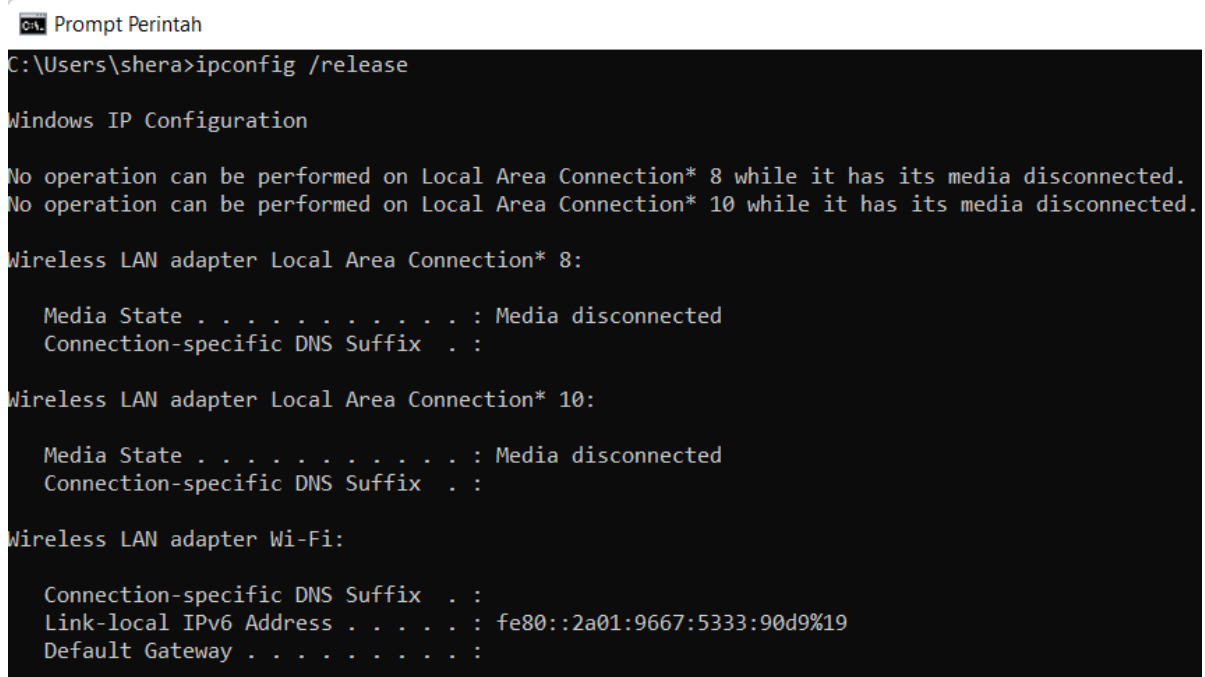


DHCP

- Jalankan wireshark
- ketik ipconfig /renew



- ketik ipconfig /release



- Ketik `ipconfig /renew`

```
C:\ Prompt Perintah
C:\Users\shera>ipconfig /renew

Windows IP Configuration

No operation can be performed on Local Area Connection* 8 while it has its media disconnected.
No operation can be performed on Local Area Connection* 10 while it has its media disconnected.

Wireless LAN adapter Local Area Connection* 8:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 10:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . :
    Link-local IPv6 Address . . . . . : fe80::2a01:9667:5333:90d9%19
    IPv4 Address. . . . . : 192.168.7.139
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.7.40
```

- Stop wireshark
- Cek paket DHCP dengn label DHCP Request.

*Wi-Fi

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dhcp

No.	Time	Source	Destination	Protocol	Length	Info
	524	2023-10-19 12:21:33,050765	192.168.7.139	192.168.7.40	DHCP	342 DHCP Request - Transaction ID 0xd38a01af
> Frame 524: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface \Device\NPF_{D218...}						
> Ethernet II, Src: IntelCor_6f:3c:77 (74:04:f1:6f:3c:77), Dst: f6:70:55:06:6f:a6 (f6:70:55:06:6f:a6)						
> Internet Protocol Version 4, Src: 192.168.7.139, Dst: 192.168.7.40 0100 = Version: 4 0101 = Header Length: 20 bytes (5) > Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT) Total Length: 328 Identification: 0x94dc (38108) > 000. = Flags: 0x0 ...0 0000 0000 0000 = Fragment Offset: 0 Time to Live: 128 Protocol: UDP (17) Header Checksum: 0x0000 [validation disabled] [Header checksum status: Unverified] Source Address: 192.168.7.139 Destination Address: 192.168.7.40						
> User Datagram Protocol, Src Port: 68, Dst Port: 67 Source Port: 68 Destination Port: 67 Length: 308 Checksum: 0x9149 [unverified] [Checksum Status: Unverified] [Stream index: 5] > [Timestamps] UDP payload (300 bytes)						
> Dynamic Host Configuration Protocol (Request)						

```

0000 f6 70 55 06 6f a6 74 0
0010 01 48 94 dc 00 00 80 1
0020 07 28 00 44 00 43 01 3
0030 01 af 00 00 00 00 c0 a
0040 00 00 00 00 00 00 74 0
0050 00 00 00 00 00 00 00 0
0060 00 00 00 00 00 00 00 0
0070 00 00 00 00 00 00 00 0
0080 00 00 00 00 00 00 00 0
0090 00 00 00 00 00 00 00 0
00a0 00 00 00 00 00 00 00 0
00b0 00 00 00 00 00 00 00 0
00c0 00 00 00 00 00 00 00 0
00d0 00 00 00 00 00 00 00 0
00e0 00 00 00 00 00 00 00 0
00f0 00 00 00 00 00 00 00 0
0100 00 00 00 00 00 00 00 0
0110 00 00 00 00 00 00 63 8
0120 74 04 f1 6f 3c 77 0c 0
0130 4d 53 49 3c 08 4d 53 4
0140 03 06 0f 1f 21 2b 2c 2
0150 00 00 00 00 00 00 00 0
    
```

*Wi-Fi

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</

• Cek apakah protokol DHCP adalah UDP atau TCP

 v User Datagram Protocol, Src Port: 68, Dst Port: 67

 Source Port: 68

 Destination Port: 67

 Length: 308

 Checksum: 0x9149 [unverified]

 [Checksum Status: Unverified]

 [Stream index: 5]

 > [Timestamps]

 UDP payload (300 bytes)

• Cek port DHCP

 v User Datagram Protocol, Src Port: 68, Dst Port: 67

 Source Port: 68

 Destination Port: 67

• Cek paket DHCP dengan label DHCP ACK.

Wi-Fi

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dhcp

No.	Time	Source	Destination	Protocol	Length	Info
525	2023-10-19 12:21:33,074311	192.168.7.40	192.168.7.139	DHCP	352	DHCP ACK - Transaction ID 0xd38a01af
766	2023-10-19 12:22:06,529625	192.168.7.40	192.168.7.139	DHCP	352	DHCP ACK - Transaction ID 0xe4da2ee5
1252	2023-10-19 12:22:10,489546	192.168.7.40	192.168.7.139	DHCP	352	DHCP ACK - Transaction ID 0x5a473701

> Frame 1252: 352 bytes on wire (2816 bits), 352 bytes captured (2816 bits) on interface \Device\NPF_{D21...}

> Ethernet II, Src: f6:70:55:06:6f:a6 (f6:70:55:06:6f:a6), Dst: IntelCor_6f:3c:77 (74:04:f1:6f:3c:77)

v Internet Protocol Version 4, Src: 192.168.7.40, Dst: 192.168.7.139

0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
Total Length: 338
Identification: 0x7649 (30281)
> 010. = Flags: 0x2, Don't fragment
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 64
Protocol: UDP (17)
Header Checksum: 0x334e [validation disabled]
[Header checksum status: Unverified]
Source Address: 192.168.7.40
Destination Address: 192.168.7.139

v User Datagram Protocol, Src Port: 67, Dst Port: 68

Source Port: 67
Destination Port: 68
Length: 318
Checksum: 0x21d1 [unverified]
[Checksum Status: Unverified]
[Stream index: 5]
> [Timestamps]
UDP payload (310 bytes)

> Dynamic Host Configuration Protocol (ACK)

- Cek paket dhcp dengan label DHCP Release.

The figure displays a Wireshark network traffic analysis. The top bar shows the application name '*Wi-Fi' and standard menu options like File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, and Help. Below the menu is a toolbar with various icons for file operations, navigation, and analysis.

The main window is divided into three panes:

- Packets Pane (Left):** Shows a list of captured packets. Packet 733 is selected, identified as a DHCP Release message from 192.168.7.139 to 192.168.7.40.
- Packet Details Pane (Middle):** Provides a hierarchical view of the selected packet's structure. It includes Ethernet II, Internet Protocol Version 4, UDP, and Dynamic Host Configuration Protocol (Release) sections.
- Packet Bytes Pane (Right):** Displays the raw hexadecimal and ASCII data of the selected packet, starting with 0000 f6 70 55 06 6f a6 74 04.

The packet details for the selected DHCP Release packet are as follows:

- Ethernet II, Src: IntelCor_6f:3c:77 (74:04:f1:6f:3c:77), Dst: f6:70:55:06:6f:a6 (f6:70:55:06:6f:a6)
- Internet Protocol Version 4, Src: 192.168.7.139, Dst: 192.168.7.40
 - 0100 = Version: 4
 - 0101 = Header Length: 20 bytes (5)
 - > Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
 - Total Length: 328
 - Identification: 0x94ed (38125)
 - > 000. = Flags: 0x0
 - ...0 0000 0000 0000 = Fragment Offset: 0
 - Time to Live: 128
 - Protocol: UDP (17)
 - Header Checksum: 0x0000 [validation disabled]
 - [Header checksum status: Unverified]
 - Source Address: 192.168.7.139
 - Destination Address: 192.168.7.40
- User Datagram Protocol, Src Port: 68, Dst Port: 67
 - Source Port: 68
 - Destination Port: 67
 - Length: 308
 - Checksum: 0x9149 [unverified]
 - [Checksum Status: Unverified]
 - [Stream index: 5]
 - > [Timestamps]
 - UDP payload (300 bytes)
- Dynamic Host Configuration Protocol (Release)

- Cek paket dhcp dengan label DHCP Discover.

The image shows a Wireshark packet capture of a DHCP Discover message. The top menu bar includes File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, and Help. The toolbar contains icons for various network analysis functions. The packet list pane on the left shows a single packet, No. 757, which is a DHCP Discover message from 192.168.1.10 to 255.255.255.255. The packet details pane on the right shows the structure of the DHCP message, including the Ethernet II header, Internet Protocol Version 4 header, User Datagram Protocol header, and Dynamic Host Configuration Protocol (DHCP) message. The packet bytes pane on the right shows the raw data of the packet in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
757	2023-10-19 12:22:06.498145	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xe4da2ee5

> Frame 757: 342 bytes on wire (2736 bits), 342 bytes captured (2736 bits) on interface \Device\NPF_{D218...}

> Ethernet II, Src: IntelCor_6f:3c:77 (74:04:f1:6f:3c:77), Dst: Broadcast (ff:ff:ff:ff:ff:ff)

> Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

Total Length: 328

Identification: 0x5e17 (24087)

> 000. = Flags: 0x0

...0 0000 0000 0000 = Fragment Offset: 0

Time to Live: 128

Protocol: UDP (17)

Header Checksum: 0x0000 [validation disabled]

[Header checksum status: Unverified]

Source Address: 0.0.0.0

Destination Address: 255.255.255.255

> User Datagram Protocol, Src Port: 68, Dst Port: 67

Source Port: 68

Destination Port: 67

Length: 308

Checksum: 0xe46e [unverified]

[Checksum status: Unverified]

[Stream index: 14]

> [Timestamps]

UDP payload (300 bytes)

> Dynamic Host Configuration Protocol (Discover)

0000 ff ff ff ff ff ff 74 00
0010 01 48 5e 17 00 00 80 1
0020 ff ff 00 44 00 43 01 3
0030 2e e5 00 00 00 00 00
0040 00 00 00 00 00 00 74 0
0050 00 00 00 00 00 00 00
0060 00 00 00 00 00 00 00
0070 00 00 00 00 00 00 00
0080 00 00 00 00 00 00 00
0090 00 00 00 00 00 00 00
00a0 00 00 00 00 00 00 00
00b0 00 00 00 00 00 00 00
00c0 00 00 00 00 00 00 00
00d0 00 00 00 00 00 00 00
00e0 00 00 00 00 00 00 00
00f0 00 00 00 00 00 00 00
0100 00 00 00 00 00 00 00
0110 00 00 00 00 00 00 63 8
0120 74 04 f1 6f 3c 77 32 0
0130 49 3c 08 4d 53 46 54 2
0140 0f 1f 21 2b 2c 2e 2f 7
0150 00 00 00 00 00 00

- Cek paket dhcp dengan label DHCP Offer.

Wi-Fi

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dhcp

No.	Time	Source	Destination	Protocol	Length	Info
762	2023-10-19 12:22:06.509415	192.168.7.40	192.168.7.139	DHCP	352	DHCP Offer - Transaction ID 0xe4da2ee5
> Frame 762: 352 bytes on wire (2816 bits), 352 bytes captured (2816 bits) on interface \Device\NPF_{D218...}						
> Ethernet II, Src: f6:70:55:06:6f:a6 (f6:70:55:06:6f:a6), Dst: IntelCor_f6:3c:77 (74:04:f1:6f:3c:77)						
> Internet Protocol Version 4, Src: 192.168.7.40, Dst: 192.168.7.139						
0100 = Version: 4						
.... 0101 = Header Length: 20 bytes (5)						
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)						
Total Length: 338						
Identification: 0x746e (29806)						
> 010. = Flags: 0x2, Don't fragment						
...0 0000 0000 0000 = Fragment Offset: 0						
Time to Live: 64						
Protocol: UDP (17)						
Header Checksum: 0x3529 [validation disabled]						
[Header checksum status: Unverified]						
Source Address: 192.168.7.40						
Destination Address: 192.168.7.139						
> User Datagram Protocol, Src Port: 67, Dst Port: 68						
Source Port: 67						
Destination Port: 68						
Length: 318						
Checksum: 0x678d [unverified]						
[Checksum Status: Unverified]						
[Stream index: 5]						
> [Timestamps]						
UDP payload (310 bytes)						
> Dynamic Host Configuration Protocol (Offer)						

- Cek paket dhcp dengan label DHCP Request

Wi-Fi

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

dhcp

No.	Time	Source	Destination	Protocol	Length	Info
764	2023-10-19 12:22:06.516700	0.0.0.0	255.255.255.255	DHCP	346	DHCP Request - Transaction ID 0xe4da2ee5

> Frame 764: 346 bytes on wire (2768 bits), 346 bytes captured (2768 bits) on interface \Device\NPF_{D218...}

> Ethernet II, Src: IntelCor_6f:3c:77 (74:04:f1:6f:3c:77), Dst: Broadcast (ff:ff:ff:ff:ff:ff)

✓ Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

Total Length: 332

Identification: 0x5e18 (24088)

> 000. = Flags: 0x0

...0 0000 0000 0000 = Fragment Offset: 0

Time to Live: 128

Protocol: UDP (17)

Header Checksum: 0x0000 [validation disabled]

[Header checksum status: Unverified]

Source Address: 0.0.0.0

Destination Address: 255.255.255.255

✓ User Datagram Protocol, Src Port: 68, Dst Port: 67

Source Port: 68

Destination Port: 67

Length: 312

Checksum: 0x47ed [unverified]

[Checksum Status: Unverified]

[Stream index: 14]

> [Timestamps]

UDP payload (304 bytes)

> Dynamic Host Configuration Protocol (Request)

0000 ff ff ff ff ff ff 74 04

0010 01 4c 5e 18 00 00 80 11

0020 ff ff 00 44 00 43 01 3f

0030 2e e5 00 00 00 00 00 00

0040 00 00 00 00 00 00 74 04

0050 00 00 00 00 00 00 00 00

0060 00 00 00 00 00 00 00 00

0070 00 00 00 00 00 00 00 00

0080 00 00 00 00 00 00 00 00

0090 00 00 00 00 00 00 00 00

00a0 00 00 00 00 00 00 00 00

00b0 00 00 00 00 00 00 00 00

00c0 00 00 00 00 00 00 00 00

00d0 00 00 00 00 00 00 00 00

00e0 00 00 00 00 00 00 00 00

00f0 00 00 00 00 00 00 00 00

0100 00 00 00 00 00 00 00 00

0110 00 00 00 00 00 00 63 87

0120 74 04 f1 6f 3c 77 32 04

0130 07 28 0c 03 4d 53 49 51

0140 08 4d 53 46 54 20 35 2e

0150 21 2b 2c 2e 2f 77 79 fe

- Cek paket dhcp dengan label DHCP ACK

The image displays the Wireshark network protocol analyzer interface. The top section shows a packet list with three DHCP transactions. The bottom section provides a detailed view of the selected packet (Frame 1252), showing the Ethernet II header, Internet Protocol Version 4 header, User Datagram Protocol header, and Dynamic Host Configuration Protocol (ACK) payload.

No.	Time	Source	Destination	Protocol	Length	Info
525	2023-10-19 12:21:33,074311	192.168.7.40	192.168.7.139	DHCP	352	DHCP ACK - Transaction ID 0xd38a01af
766	2023-10-19 12:22:06,529625	192.168.7.40	192.168.7.139	DHCP	352	DHCP ACK - Transaction ID 0xe4da2ee5
1252	2023-10-19 12:22:10,489546	192.168.7.40	192.168.7.139	DHCP	352	DHCP ACK - Transaction ID 0x5a473701

```

> Frame 1252: 352 bytes on wire (2816 bits), 352 bytes captured (2816 bits) on interface \Device\NPF_{D21
> Ethernet II, Src: f6:70:55:06:6f:a6 (f6:70:55:06:6f:a6), Dst: IntelCor_6f:3c:77 (74:04:f1:6f:3c:77)
> Internet Protocol Version 4, Src: 192.168.7.40, Dst: 192.168.7.139
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
  Total Length: 338
  Identification: 0x7649 (30281)
> 010. .... = Flags: 0x2, Don't fragment
  ...0 0000 0000 0000 = Fragment Offset: 0
  Time to Live: 64
  Protocol: UDP (17)
  Header Checksum: 0x334e [validation disabled]
  [Header checksum status: Unverified]
  Source Address: 192.168.7.40
  Destination Address: 192.168.7.139
> User Datagram Protocol, Src Port: 67, Dst Port: 68
  Source Port: 67
  Destination Port: 68
  Length: 318
  Checksum: 0x21d1 [unverified]
  [Checksum Status: Unverified]
  [Stream index: 5]
> [Timestamps]
  UDP payload (310 bytes)
> Dynamic Host Configuration Protocol (ACK)
  
```