
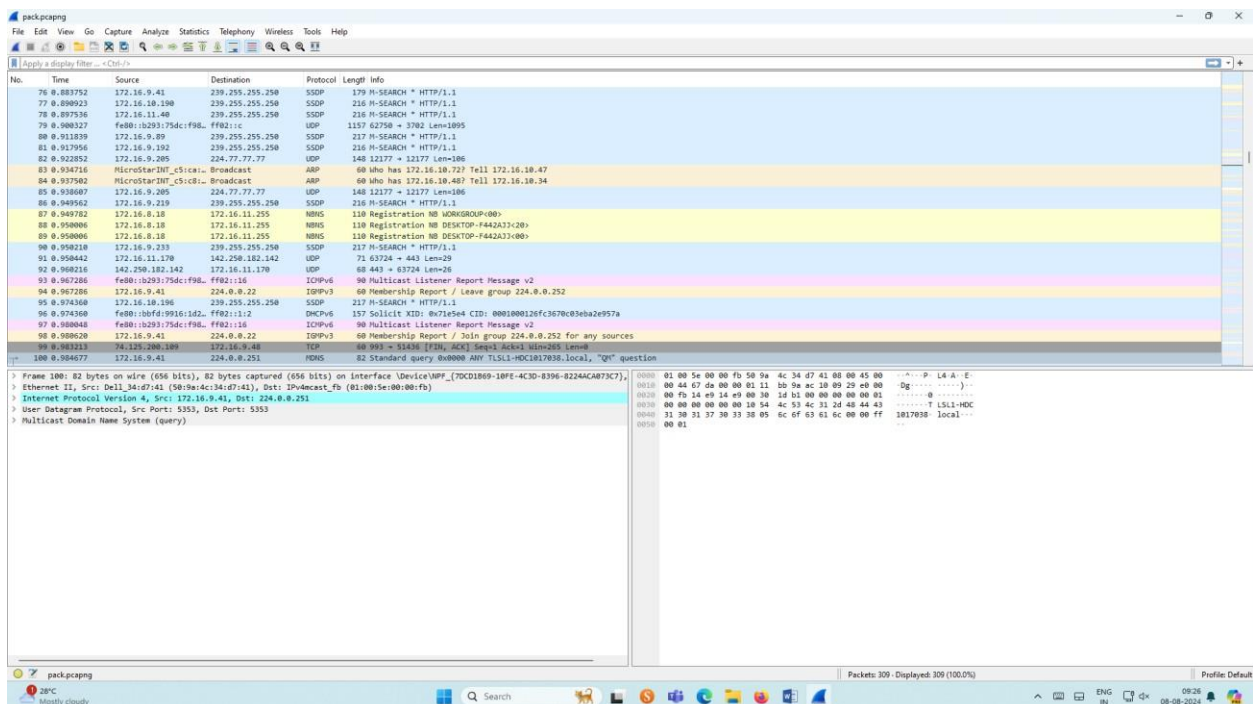


PACKET SNIFFING USING WIRESHARK**AIM:****Exercises****1. Capture 100 packets from the Ethernet: IEEE 802.3 LAN Interface and save it.****Procedure**

- Select Local Area Connection in Wireshark.
- Go to capture  option
- Select stop capture automatically after 100 packets.
- Then click Start capture.
- Save the packets.

Output


The screenshot shows the Wireshark interface with a packet capture list on the left and a detailed view of the selected packet (No. 100) on the right. The packet list shows various protocols including HTTP, NDIS, and ICMPv6. The detailed view for packet 100 shows the Ethernet II, Internet Protocol Version 4, User Datagram Protocol, and Multicast Domain Name System (query) layers.

No.	Time	Source	Destination	Protocol	Length	Info
76	0.881752	172.16.9.41	239.255.255.250	SSDP	179	M-SEARCH * HTTP/1.1
77	0.890923	172.16.10.190	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
78	0.897536	172.16.11.40	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
79	0.908327	fe80::b293:75dc:f9b...ff02::1c	ff02::1c	UDP	1157	62756 → 5702 Len=1095
80	0.911839	172.16.9.89	239.255.255.250	SSDP	217	M-SEARCH * HTTP/1.1
81	0.917956	172.16.9.192	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
82	0.922952	172.16.9.205	224.77.77.77	UDP	140	12177 → 12177 Len=106
83	0.934716	MicroStarINT_c5:ca... Broadcast		ARP	60	Who has 172.16.10.72? Tell 172.16.10.47
84	0.937582	MicroStarINT_c5:ca... Broadcast		ARP	60	Who has 172.16.10.40? Tell 172.16.10.34
85	0.938087	172.16.9.205	224.77.77.77	UDP	140	12177 → 12177 Len=106
86	0.949562	172.16.9.219	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
87	0.949782	172.16.8.18	172.16.11.255	NDIS	118	Registration NO WORKGROUP(00)
88	0.950006	172.16.8.18	172.16.11.255	NDIS	118	Registration NO DESKTOP-F442A31C(20)
89	0.950006	172.16.8.18	172.16.11.255	NDIS	118	Registration NO DESKTOP-F442A31C(00)
90	0.950218	172.16.9.233	239.255.255.250	SSDP	217	M-SEARCH * HTTP/1.1
91	0.950442	172.16.11.170	142.250.102.142	UDP	71	63724 → 443 Len=29
92	0.960216	142.250.102.142	172.16.11.170	UDP	60	443 → 63724 Len=26
93	0.967286	fe80::b293:75dc:f9b...ff02::16	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
94	0.967286	172.16.9.41	224.0.0.22	IGMPv3	60	Membership Report / Leave group 224.0.0.252
95	0.974368	172.16.10.196	239.255.255.250	SSDP	217	M-SEARCH * HTTP/1.1
96	0.974368	fe80::b0fd:9916:1d2...ff02::12	ff02::12	DHCPv6	157	Solicit XID: 0x71e5e4 CID: 0001000126fc3670c03eb2e957a
97	0.980048	fe80::b293:75dc:f9b...ff02::16	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
98	0.980620	172.16.9.41	224.0.0.22	IGMPv3	60	Membership Report / Join group 224.0.0.252 for any sources
99	0.984213	94.129.240.109	172.16.9.40	TCP	60	9491 → 51416 [FIN, ACK] Seq=816461 Win=265 Len=0
100	0.984677	172.16.9.41	224.0.0.251	NDIS	82	Standard query 0x0000 ANY TLLS1-HDC1817038.local, "Q1" question

Packet 100 details:

- Frame 100: 82 bytes on wire (656 bits), 82 bytes captured (656 bits) on interface \Device\NPF_{70CD1869-10FE-4C3D-8396-B24ACAB73C7}.
- Ethernet II, Src: Dell_34d7f41 (58:9a:4c:34:d7:f41), Dst: IPmulticast_Fb (01:00:5e:00:00:fb)
- Internet Protocol Version 4, Src: 172.16.9.41, Dst: 224.0.0.251
- User Datagram Protocol, Src Port: 5353, Dst Port: 5353
- Multicast Domain Name System (query)

Packet 100 hex dump:

```



0000  01 00 5e 00 00 fb 50 9a 4c 34 d7 41 00 00 45 00  ...P L4 A E...
0010  00 44 67 da 00 00 01 11 50 9a ac 10 00 29 e0 00  ...Sg.....
0020  00 fb 14 e9 14 e9 00 30 1d 51 00 00 00 00 01  ...T LSL1-HDC
0030  00 00 00 00 00 00 18 54 4c 53 4c 11 24 48 44 43  ...
0040  31 30 31 37 30 33 38 05 6c 6f 63 61 6c 00 00  ff  1817038 local...
0050  00 01

```

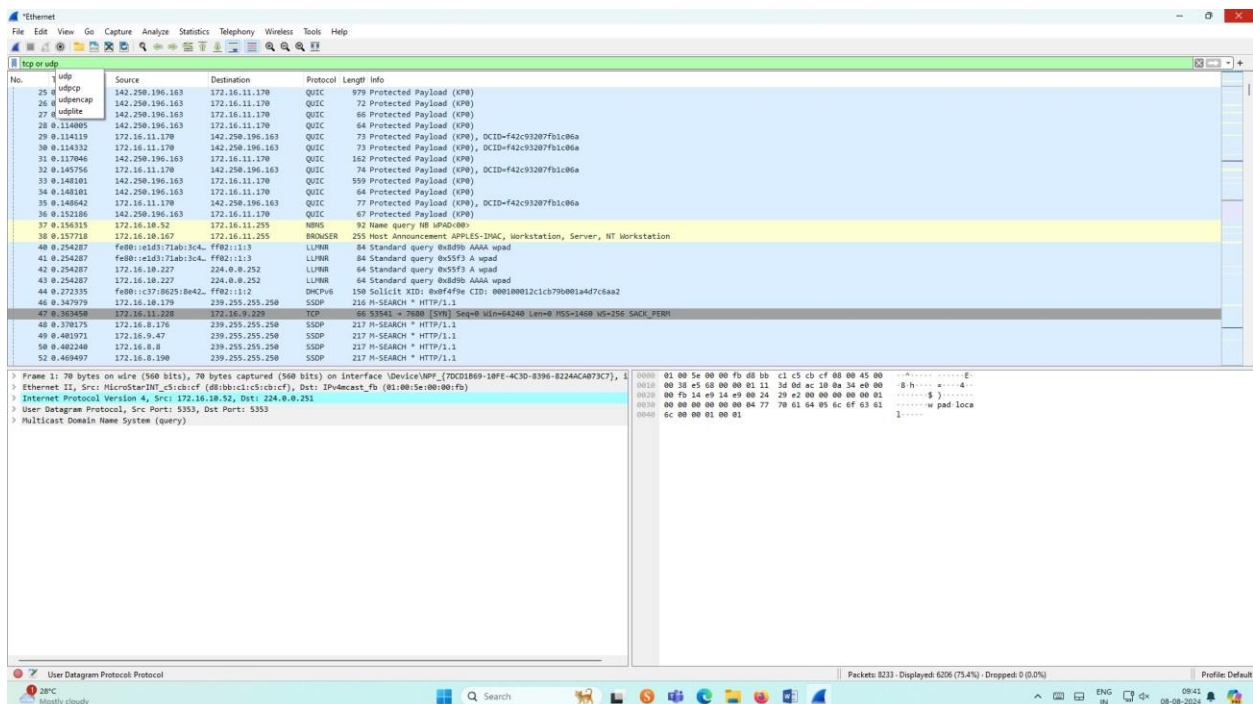
2. Create a Filter to display only TCP/UDP packets, inspect the packets and provide the flow graph.

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Procedure

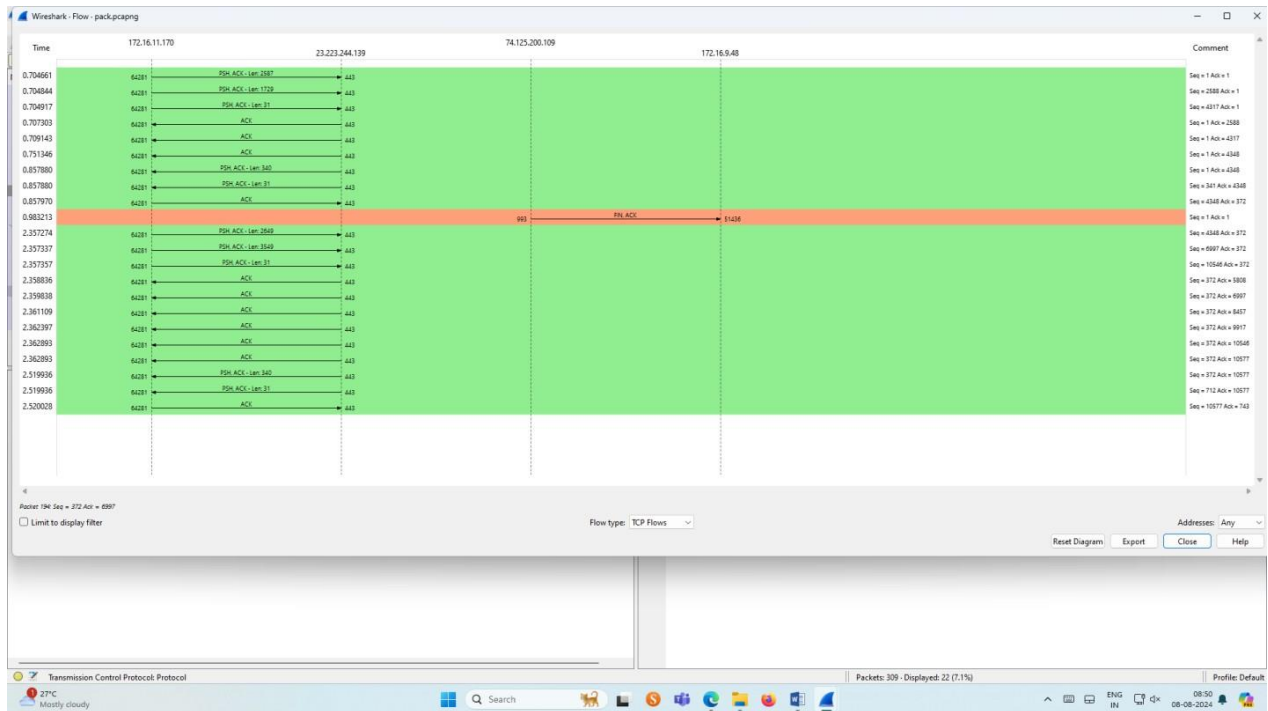
- Select Local Area Connection in Wireshark.
- Go to capture  option
- Select stop capture automatically after 100 packets.
- Then click Start capture.
- Search TCP packets in search bar.
- To see flow graph click Statistics  Flow graph.
- Save the packets.

Output:

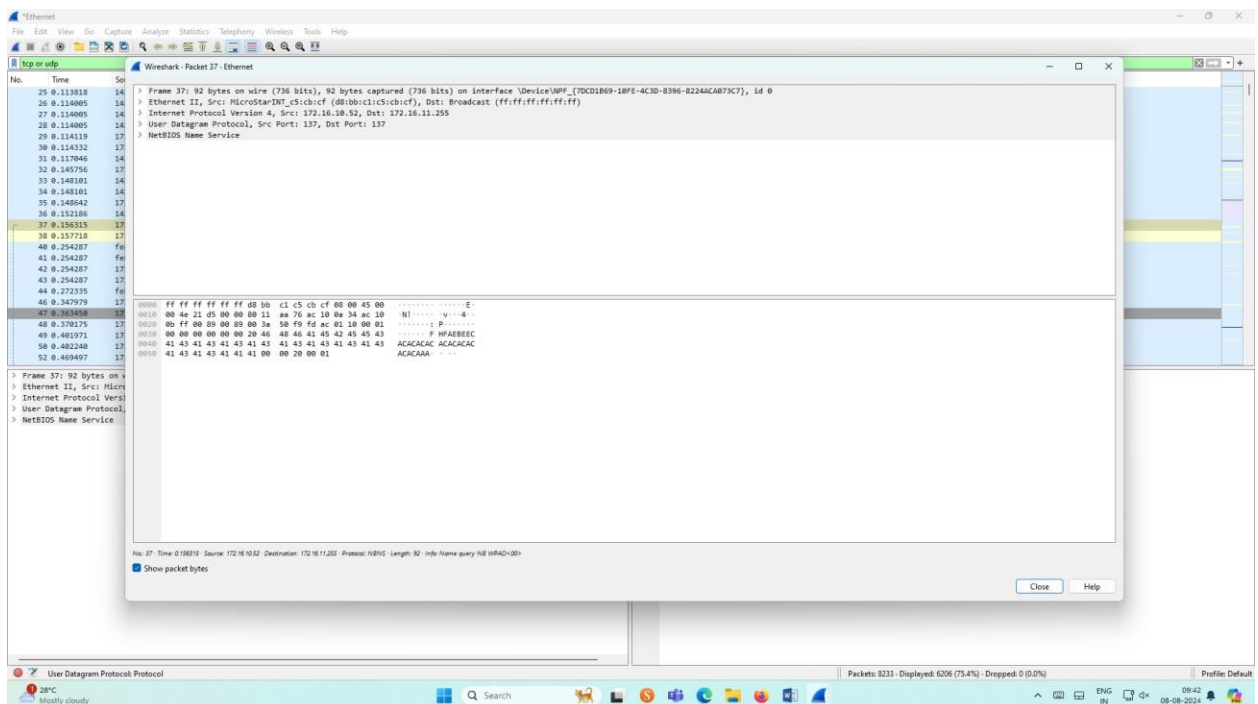


Flow Graph output

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Inspecting the packets

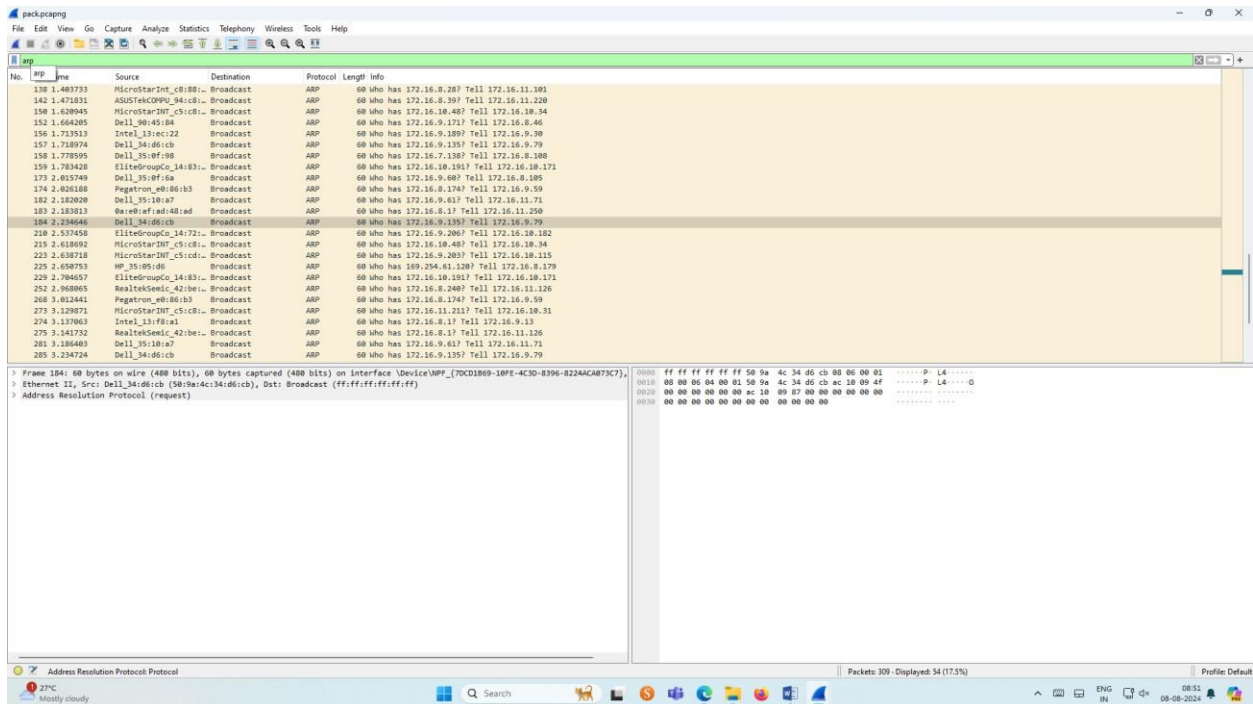


3.Create a Filter to display only ARP packets and inspect the packets.

Procedure

- Select Local Area Connection in Wireshark.
- Go to capture  option
- Select stop capture automatically after 100 packets.
- Then click Start capture.
- Search ARP packets in search bar.
- Save the packets.

Output



The screenshot shows the Wireshark interface with a packet capture of ARP traffic. The packet list pane displays the following packets:

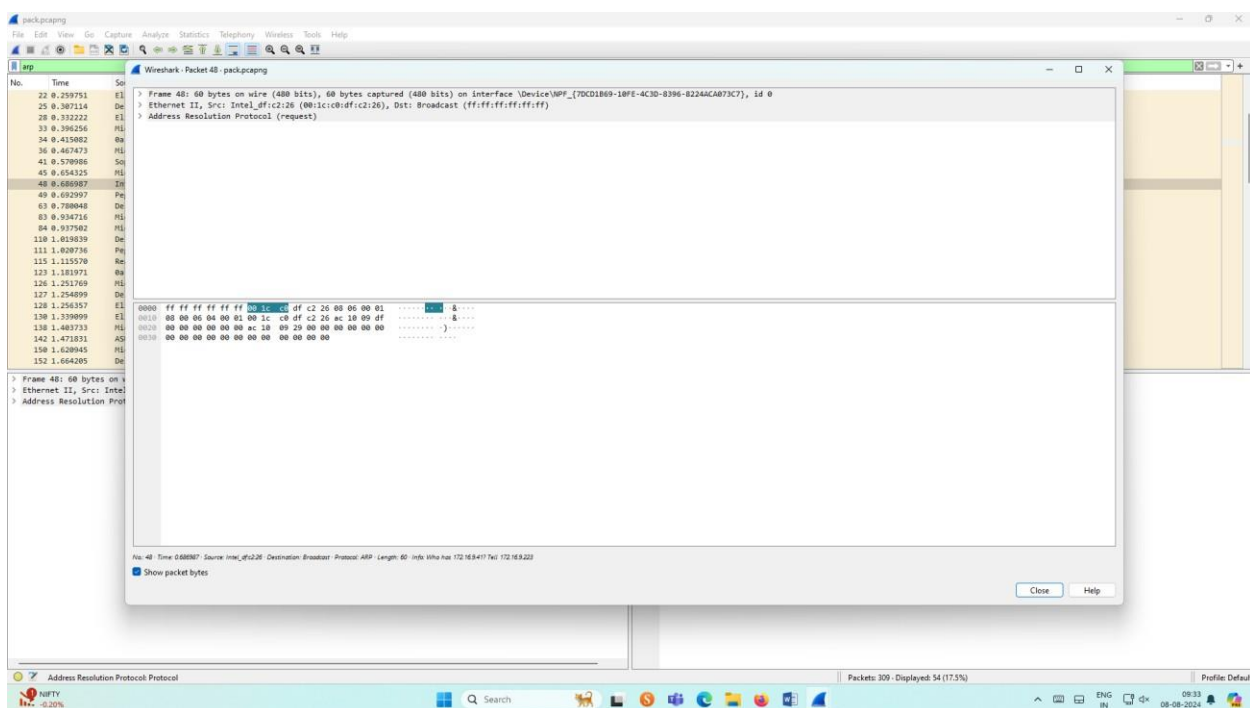
No.	Time	Source	Destination	Protocol	Length	Info
138	1.483733	MicroStarInt_c8:88:..	Broadcast	ARP	60	who has 172.16.8.28? Tell 172.16.11.181
142	1.471831	ASUSTekCOMPU_94:c8:..	Broadcast	ARP	60	who has 172.16.8.39? Tell 172.16.11.220
150	1.629945	MicroStarInt_c5:cd:..	Broadcast	ARP	60	who has 172.16.10.48? Tell 172.16.10.34
152	1.664205	Dell_90:45:04	Broadcast	ARP	60	who has 172.16.9.171? Tell 172.16.8.46
156	1.713513	Intel_13:ec:22	Broadcast	ARP	60	who has 172.16.9.189? Tell 172.16.9.30
157	1.718974	Dell_34:06:c8	Broadcast	ARP	60	who has 172.16.9.135? Tell 172.16.9.79
158	1.778595	Dell_35:0f:98	Broadcast	ARP	60	who has 172.16.7.138? Tell 172.16.8.100
159	1.783428	EliteGroupCo_14:83:..	Broadcast	ARP	60	who has 172.16.10.191? Tell 172.16.10.171
173	2.013749	Dell_35:0f:9a	Broadcast	ARP	60	who has 172.16.9.48? Tell 172.16.8.395
174	2.026188	Pegatron_eb:06:b3	Broadcast	ARP	60	who has 172.16.8.174? Tell 172.16.9.59
182	2.182028	Dell_35:18:a7	Broadcast	ARP	60	who has 172.16.9.61? Tell 172.16.11.71
183	2.183813	Qe-e0:af:ad:a8:ad	Broadcast	ARP	60	who has 172.16.8.13? Tell 172.16.11.250
184	2.254646	Dell_34:06:c8	Broadcast	ARP	60	who has 172.16.9.135? Tell 172.16.9.79
218	2.537458	EliteGroupCo_14:72:..	Broadcast	ARP	60	who has 172.16.9.206? Tell 172.16.10.182
215	2.618092	MicroStarInt_c5:cd:..	Broadcast	ARP	60	who has 172.16.10.48? Tell 172.16.10.34
223	2.638718	MicroStarInt_c5:cd:..	Broadcast	ARP	60	who has 172.16.9.203? Tell 172.16.10.115
225	2.650753	HP_35:05:d6	Broadcast	ARP	60	who has 169.254.61.120? Tell 172.16.8.179
229	2.784057	EliteGroupCo_14:83:..	Broadcast	ARP	60	who has 172.16.10.191? Tell 172.16.10.171
232	2.968065	RealtekSemi_42:be:..	Broadcast	ARP	60	who has 172.16.8.28? Tell 172.16.11.126
268	3.012441	Pegatron_eb:06:b3	Broadcast	ARP	60	who has 172.16.8.174? Tell 172.16.9.59
273	3.120871	MicroStarInt_c5:cd:..	Broadcast	ARP	60	who has 172.16.11.211? Tell 172.16.10.31
274	3.137063	Intel_13:f8:a1	Broadcast	ARP	60	who has 172.16.8.13? Tell 172.16.9.13
275	3.141732	RealtekSemi_42:be:..	Broadcast	ARP	60	who has 172.16.8.17? Tell 172.16.11.126
281	3.186403	Dell_35:18:a7	Broadcast	ARP	60	who has 172.16.9.61? Tell 172.16.11.71
285	3.234724	Dell_34:06:c8	Broadcast	ARP	60	who has 172.16.9.135? Tell 172.16.9.79

The packet details pane for the selected packet (Frame 184) shows the following structure:

```



> Frame 184: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on Interface Device_VMP_7(70CD1869-10FE-4C30-8396-0224AC873C7)
> Ethernet II, Src: Dell_34:06:c8 (58:9e:4c:34:06:c8), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
> Address Resolution Protocol (request)
  0000  ff ff ff ff ff 58 9e 4c 34 d6 c8 00 00 00 01  ....P L4 ....
  0010  00 00 06 04 00 01 58 9e 4c 34 d6 c8 00 09 4f  ....P L4 ....Q
  0020  00 00 00 00 00 00 ac 10 09 07 00 00 00 00 00  ....
  0030  00 00 00 00 00 00 00 00 00 00 00 00 00 00  ....
  
```

Inspecting the packets



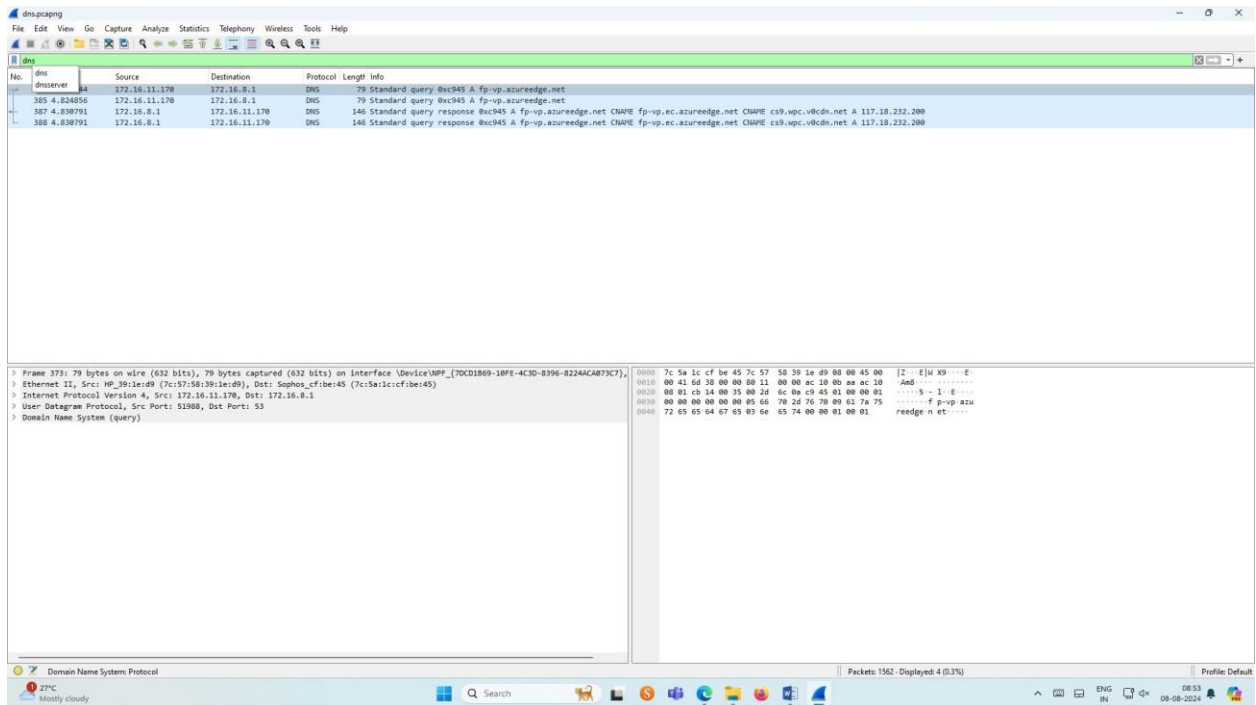
4.Create a Filter to display only DNS packets and provide the flow graph.

Procedure

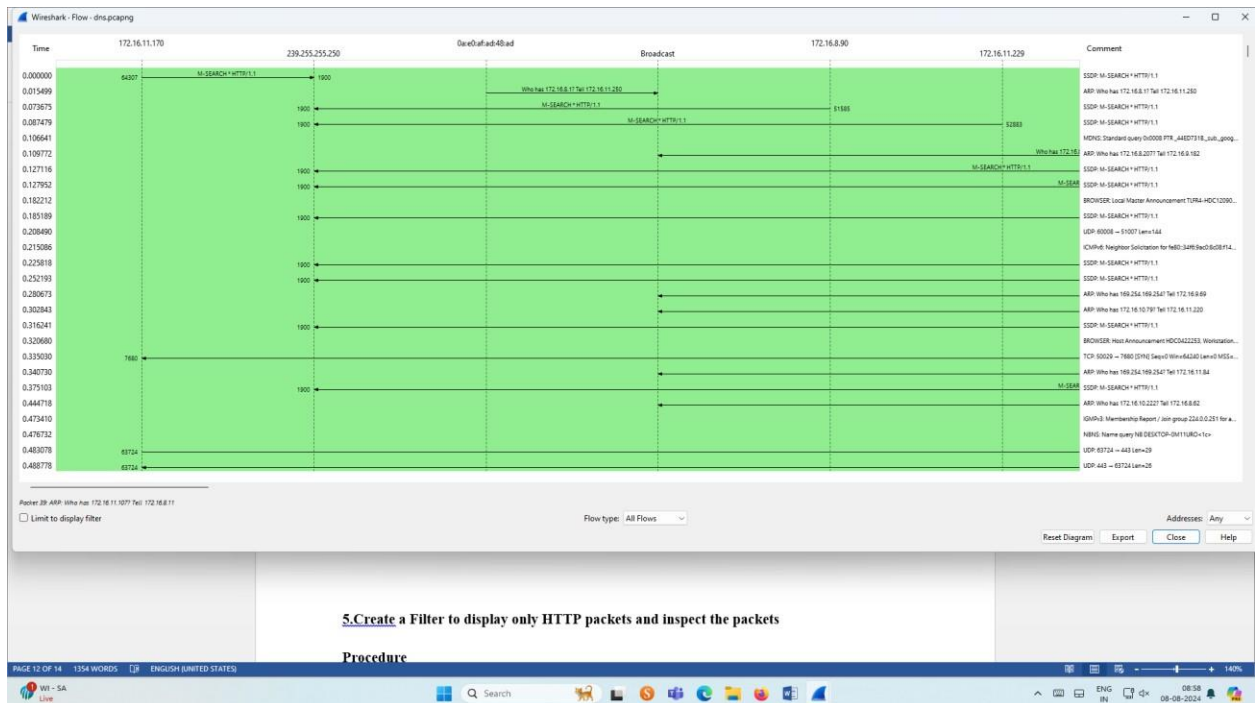
- Select Local Area Connection in Wireshark.
- Go to capture  option
- Select stop capture automatically after 100 packets.
- Then click Start capture.
- Search DNS packets in search bar.
- To see flow graph click Statistics  Flow graph.
- Save the packets.

Output

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Graph output

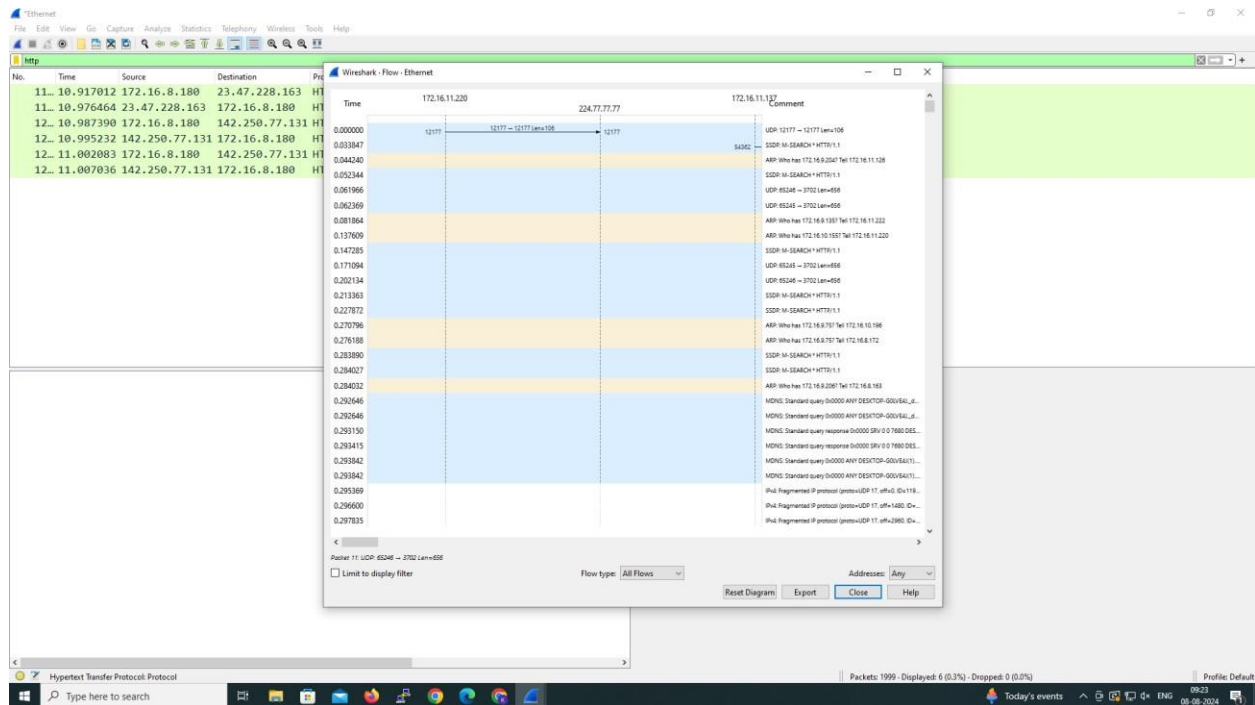


5. Create a Filter to display only HTTP packets and inspect the packets

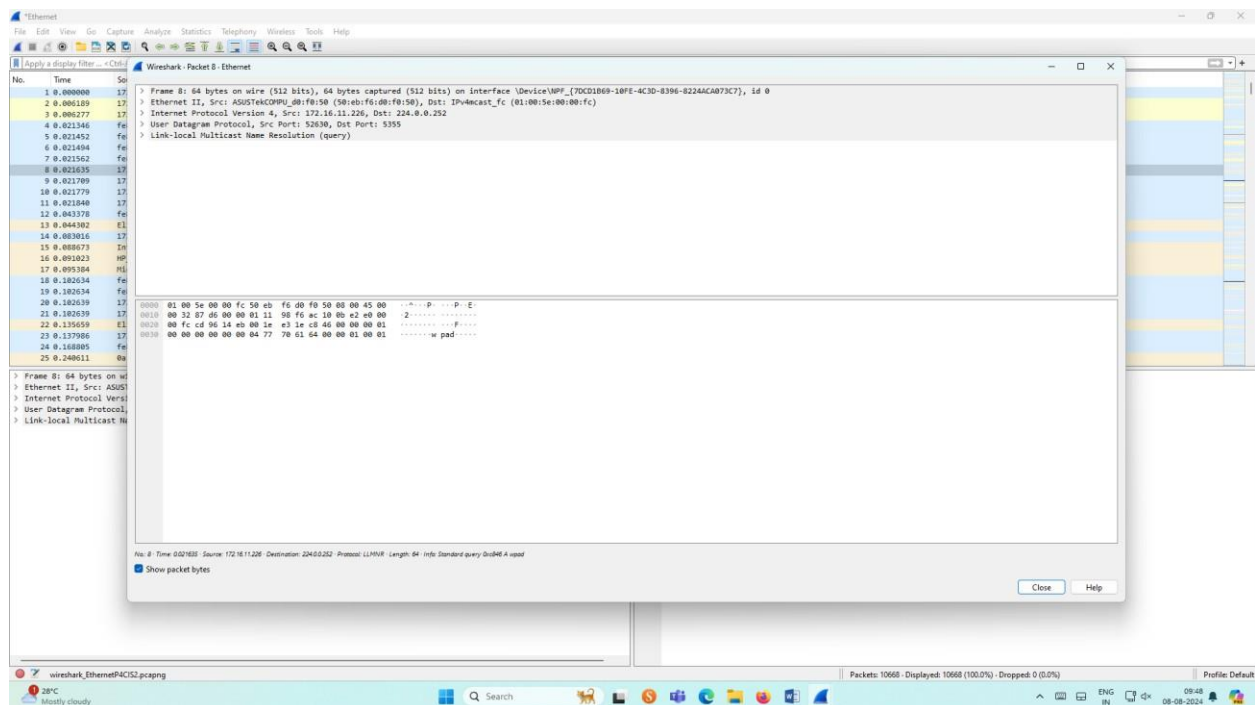
- ## Output



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Inspecting the packets

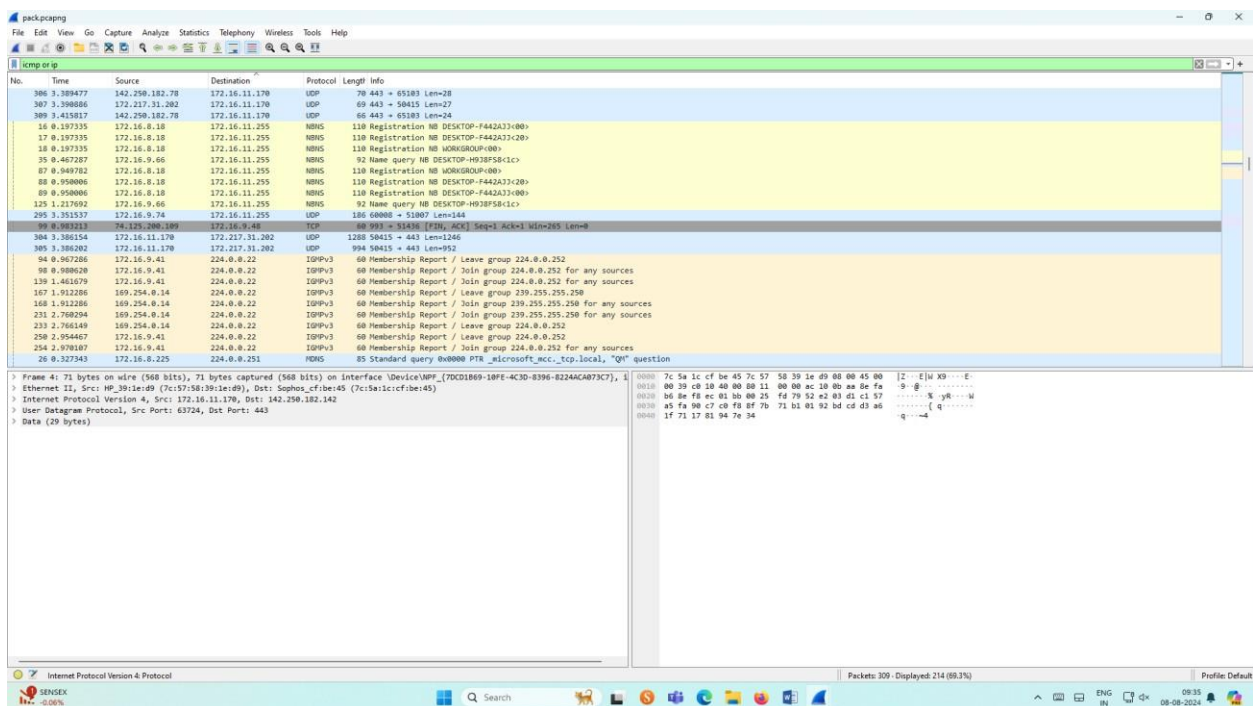


6.Create a Filter to display only IP/ICMP packets and inspect the packets.

Procedure

- Select Local Area Connection in Wireshark.
- Go to capture  option
- Select stop capture automatically after 100 packets.
- Then click Start capture.
- Search ICMP/IP packets in search bar.
- Save the packets

Output

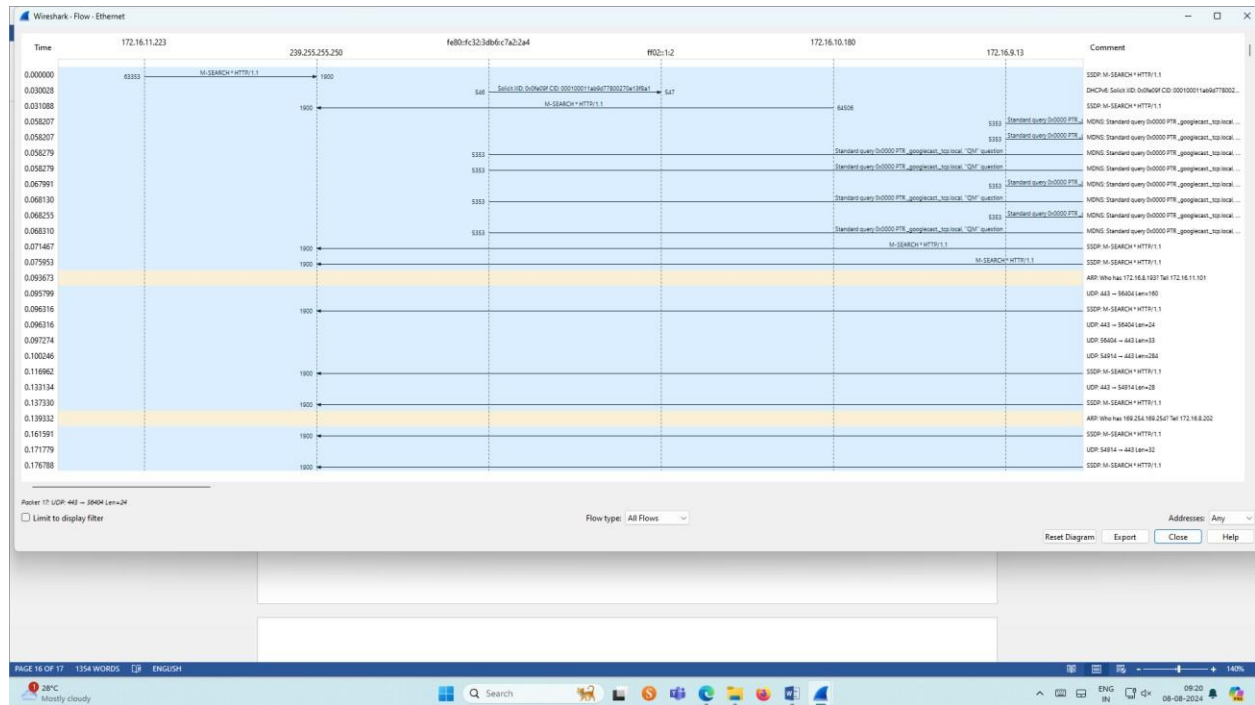


The screenshot displays the Wireshark network protocol analyzer interface. The top menu bar includes File, Edit, View, Go, Capture, Analyze, Statistics, Telephony, Wireless, Tools, and Help. The main window is divided into three panes:

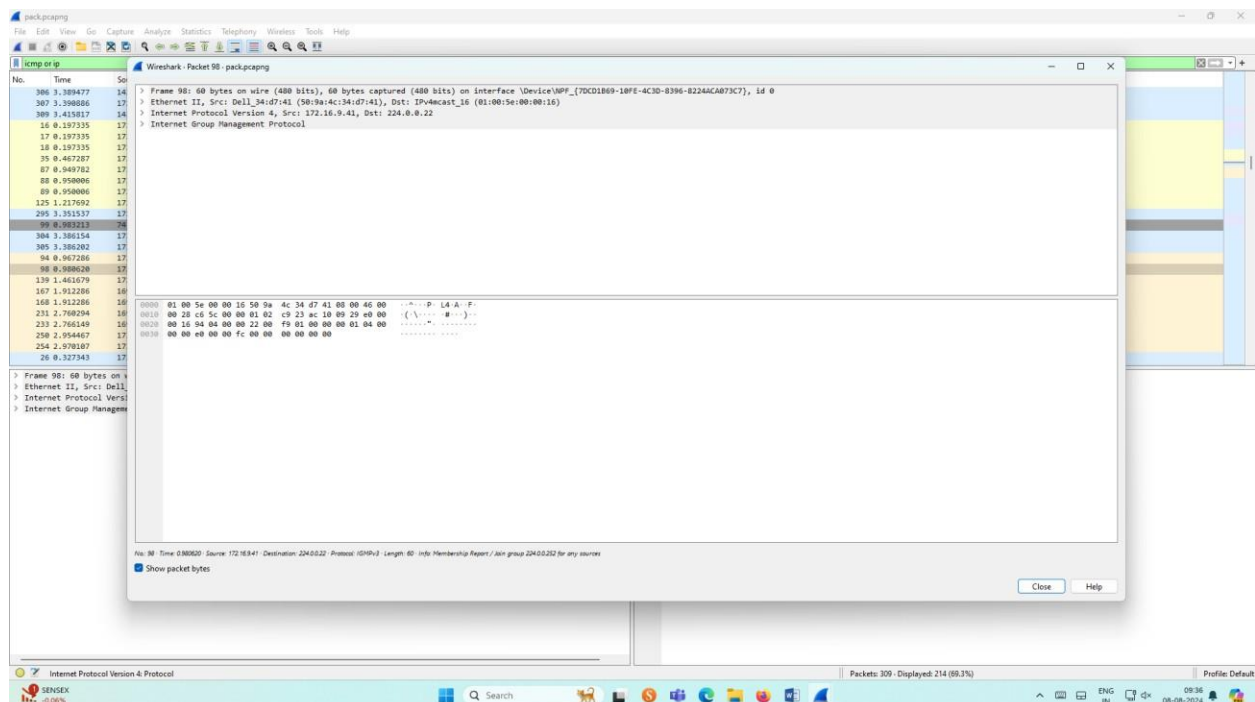
- Packet List:** Shows a list of captured packets. The first 100 packets are ICMP messages, including registration and name query requests. The 101st packet is an IP membership report.
- Packet Details:** Shows the hierarchical structure of the selected packet (Frame 4: 71 bytes on wire). It includes Ethernet II, Internet Protocol Version 4, and User Datagram Protocol (UDP) details.
- Packet Bytes:** Shows the raw hex and ASCII data of the selected packet.

The status bar at the bottom indicates that 300 packets were captured, and 214 are displayed (71.3%). The system clock shows 08:35 on 08-08-2024.

Flow Graph output




Inspecting the packets

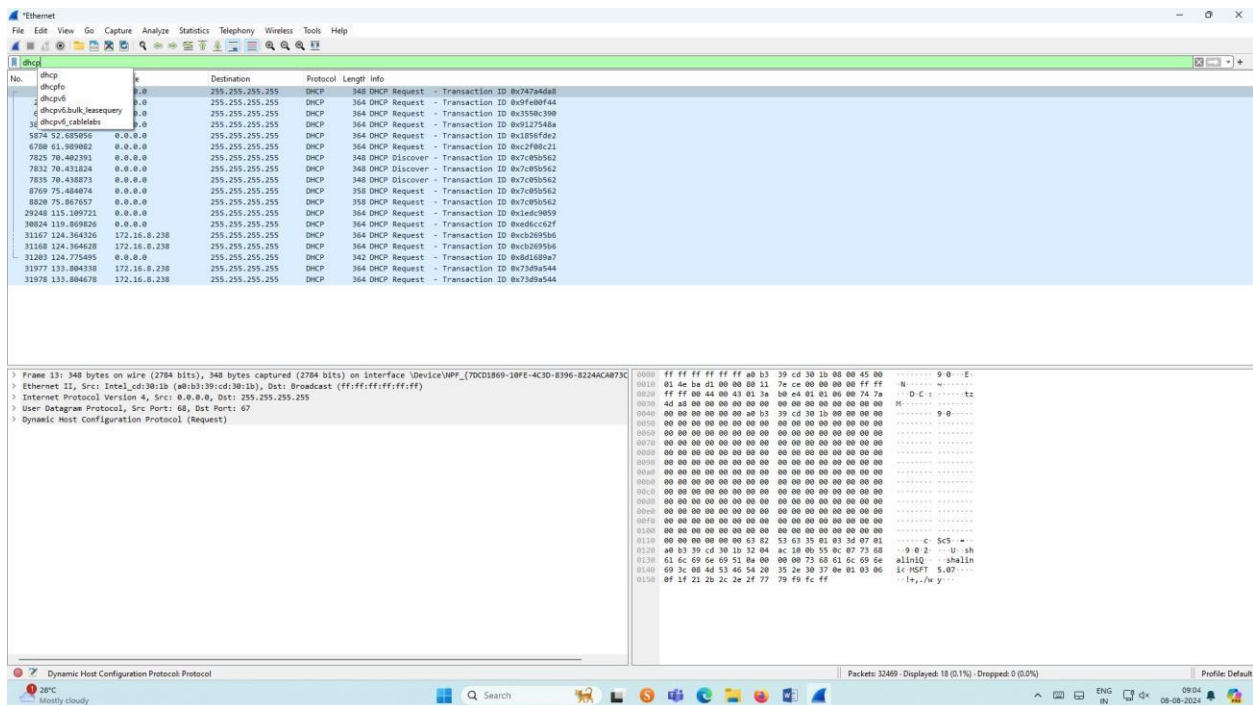


7. Create a Filter to display only DHCP packets and inspect the packets.

Procedure

- Select Local Area Connection in Wireshark.
- Go to capture  option
- Select stop capture automatically after 100 packets.
- Then click Start capture.
- Search DHCP packets in search bar.
- Save the packets

Output



Inspecting the packets

CS23532

