



COMPUTER NETWORKS

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TY Comp Div-2, T4 Batch

Assignment-8: Analyze TCP, UDP and IPV4 Header using Wireshark

The image displays the Wireshark network traffic analysis interface. The top pane shows a list of captured packets. The middle pane displays the details of the selected packet (No. 1774), including the Ethernet II header, Internet Protocol Version 4 header, and Transmission Control Protocol header. The bottom pane shows the raw packet bytes in hexadecimal and ASCII.

Packet List:

No.	Time	Source	Destination	Protocol	Length	Info
1753	87.763385	192.168.96.54	192.168.96.41	DNS	207	Standard query response 0xaa43 AAAA b.6sc.co CNAME b2.6sc.co.edgekey.net CNAME e212585.b.akamaiedge.net AAAA 64:ff9b::17c4:e7b AA...
1756	87.768108	192.168.96.54	192.168.96.41	TCP	54	53 → 52615 [FIN, ACK] Seq=155 Ack=30 Win=65536 Len=0
1759	87.777232	192.168.96.54	192.168.96.41	DNS	183	Standard query response 0xad3e A b.6sc.co CNAME b2.6sc.co.edgekey.net CNAME e212585.b.akamaiedge.net A 23.196.14.123 A 23.196.14...
1762	87.780716	192.168.96.54	192.168.96.41	TCP	54	53 → 52616 [FIN, ACK] Seq=131 Ack=30 Win=65536 Len=0
1765	87.806062	192.168.96.54	192.168.96.41	DNS	212	Standard query response 0xd4ad HTTPS b.6sc.co CNAME b2.6sc.co.edgekey.net CNAME e212585.b.akamaiedge.net SOA n0b.akamaiedge.net
1768	87.809408	192.168.96.54	192.168.96.41	TCP	54	53 → 52618 [ACK] Seq=1 Ack=30 Win=65536 Len=0
1769	87.812079	192.168.96.54	192.168.96.41	TCP	54	53 → 52617 [FIN, ACK] Seq=160 Ack=30 Win=65536 Len=0
1771	87.821807	192.168.96.54	192.168.96.41	TCP	54	53 → 52619 [ACK] Seq=1 Ack=30 Win=65536 Len=0
1772	87.866199	192.168.96.54	192.168.96.41	TCP	55	53 → 52620 [PSH, ACK] Seq=1 Ack=30 Win=65536 Len=1 [TCP segment of a reassembled PDU]
1773	87.866199	192.168.96.54	192.168.96.41	TCP	55	53 → 52619 [PSH, ACK] Seq=1 Ack=30 Win=65536 Len=1 [TCP segment of a reassembled PDU]
1774	87.866199	192.168.96.54	192.168.96.41	DNS	183	Standard query response 0x5f0f A b.6sc.co CNAME b2.6sc.co.edgekey.net CNAME e212585.b.akamaiedge.net A 23.196.14.123 A 23.196.14...
1775	87.866199	192.168.96.54	192.168.96.41	TCP	55	53 → 52618 [PSH, ACK] Seq=1 Ack=30 Win=65536 Len=1 [TCP segment of a reassembled PDU]
1776	87.866199	192.168.96.54	192.168.96.41	DNS	212	Standard query response 0x08c0 HTTPS b.6sc.co CNAME b2.6sc.co.edgekey.net CNAME e212585.b.akamaiedge.net SOA n0b.akamaiedge.net
1777	87.866199	192.168.96.54	192.168.96.41	DNS	207	Standard query response 0x4735 AAAA b.6sc.co CNAME b2.6sc.co.edgekey.net CNAME e212585.b.akamaiedge.net AAAA 64:ff9b::17c4:e7b AA...
1778	87.866199	192.168.96.54	192.168.96.41	TCP	207	[TCP Retransmission] 53 → 52618 [FIN, PSH, ACK] Seq=2 Ack=30 Win=65536 Len=153
1779	87.866199	192.168.96.54	192.168.96.41	TCP	212	[TCP Retransmission] 53 → 52620 [FIN, PSH, ACK] Seq=2 Ack=30 Win=65536 Len=158
1780	87.866199	192.168.96.54	192.168.96.41	TCP	183	[TCP Retransmission] 53 → 52619 [FIN, PSH, ACK] Seq=2 Ack=30 Win=65536 Len=129
2	2.951364	192.168.96.41	192.168.96.54	DNS	83	Standard query 0xd6cb A www.msftconnecttest.com
3	2.951364	192.168.96.41	192.168.96.54	DNS	84	Standard query 0xd941 A ipv6.msftconnecttest.com

Packet Details (No. 1774):

- Section number: 1
- Interface 0: (Device\NPF_{5F241432-C1FD-4B33-943E-D01F34034070})
- Encapsulation type: Ethernet (1)
- Arrival Time: Oct 30, 2023 00:35:22.624309000 India Standard Time
- [Time shift for this packet: 0.000000000 seconds]
- Epoch Time: 1698606322.624309000 seconds
- [Time delta from previous captured frame: 0.000000000 seconds]
- [Time delta from previous displayed frame: 0.000000000 seconds]
- [Time since reference or first frame: 87.866199000 seconds]
- Frame Number: 1774
- Frame Length: 183 bytes (1464 bits)
- Capture Length: 183 bytes (1464 bits)
- [Frame is marked: False]
- [Frame is ignored: False]
- [Protocols in frame: eth:ethertype:ip:tcp:dns]
- [Coloring Rule Name: TCP SYN/FIN]
- [Coloring Rule String: tcp.flags.fin == 1]
- Ethernet II, Src: a6:fc:22:a3:57:9d (a6:fc:22:a3:57:9d), Dst: Azurekav_c5:a8:f5 (34:6f:24:c5:a8:f5)

Packet Bytes:

```
0000 34 6f 24 c5 a8 f5 a6 fc 22 a3 57 9d 08 00 45 00 40s ..... W...E...
0010 00 a9 a9 b4 40 00 40 06 4e ea c0 a8 60 36 c0 a8 ...@.N...6...
0020 60 29 00 35 cd 8b 87 b1 a2 51 fa 40 5b 50 19 ...S.....Q.@(P...
0030 00 40 c1 de 00 00 00 5f 01 81 80 00 01 00 04 00 ...b6sc.co.....
0040 00 00 00 01 62 03 36 73 63 02 63 6f 07 65 64 67 65 6b 65 79 03 ...d...b2...
0050 01 c0 0c 00 05 00 01 00 00 04 00 17 02 62 32 ...b6sc.co.....
0060 03 36 73 63 02 63 6f 07 65 64 67 65 6b 65 79 03 ...d...b2...
0070 6e 65 74 00 c0 26 00 05 00 01 00 00 4c 87 00 17 ...net-&.....L...
0080 07 65 32 31 32 35 38 35 01 62 0a 61 6b 61 6d 61 ...e212585-bakama...
0090 69 65 64 67 65 c0 38 c0 49 00 01 00 01 00 00 00 ...iedge 8: I.....
00a0 10 00 04 17 c4 0e 7b c0 49 00 01 00 01 00 00 00 ...-...[ I.....
00b0 10 00 04 17 c4 0e 2b .....
```

Wi-Fi capture window showing network traffic. The packet list on the left includes various TCP and TLSv1.2 packets. The selected packet (No. 9082) is a TCP RST packet from 2409:40c2:102a:99e2::64 to 2409:40c2:102a:99e2::74. The packet details on the right show the TCP header with flags RST and Seq=4335. The packet bytes on the right show the raw data in hexadecimal and ASCII.

Wi-Fi capture window showing network traffic. The packet list on the left includes various TCP and TLSv1.2 packets. The selected packet (No. 6459) is a TCP Keep-Alive packet from 2409:40c2:102a:99e2::2409 to 2409:40c2:102a:99e2::2409. The packet details on the right show the TCP header with flags ACK and Seq=49907. The packet bytes on the right show the raw data in hexadecimal and ASCII.

*Wi-Fi

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

tcp

Packet: Go to packet Cancel

No.	Time	Source	Destination	Protocol	Length	Info
9079	215.382833	2409:40c2:102a:99e2...	64:ff9b::45ad:9e40	TCP	74	49992 → 443 [ACK] Seq=3 Ack=2 Win=258 Len=0
9080	215.415541	2600:140f:1e00:5a7...	2409:40c2:102a:99e2...	TCP	74	443 → 50555 [ACK] Seq=153 Ack=811 Win=64128 Len=0
9081	215.415541	2600:140f:1e00:5a7...	2409:40c2:102a:99e2...	TCP	74	443 → 50555 [ACK] Seq=153 Ack=1766 Win=64128 Len=0
9082	215.529323	64:ff9b::3654:5c9a	2409:40c2:102a:99e2...	TCP	74	443 → 50548 [RST] Seq=4335 Win=0 Len=0
9083	215.540985	64:ff9b::3654:5c9a	2409:40c2:102a:99e2...	TCP	74	443 → 50547 [ACK] Seq=5109 Ack=1357 Win=65535 Len=0
9084	215.571961	64:ff9b::c608:4782	2409:40c2:102a:99e2...	TCP	74	443 → 50005 [ACK] Seq=1 Ack=3 Win=13998 Len=0
9085	215.571961	64:ff9b::c608:4782	2409:40c2:102a:99e2...	TCP	74	443 → 50005 [FIN, ACK] Seq=1 Ack=3 Win=13998 Len=0
9086	215.572045	2409:40c2:102a:99e2...	64:ff9b::c608:4782	TCP	74	50005 → 443 [ACK] Seq=3 Ack=2 Win=258 Len=0
9087	215.629098	64:ff9b::45ad:9764	2409:40c2:102a:99e2...	TCP	74	443 → 50076 [ACK] Seq=1 Ack=3 Win=7680 Len=0
9088	215.629098	64:ff9b::45ad:9764	2409:40c2:102a:99e2...	TCP	74	443 → 50076 [FIN, ACK] Seq=1 Ack=3 Win=7680 Len=0
9089	215.629160	2409:40c2:102a:99e2...	64:ff9b::45ad:9764	TCP	74	50076 → 443 [ACK] Seq=3 Ack=2 Win=258 Len=0
9090	215.798016	2600:140f:1e00:5a7...	2409:40c2:102a:99e2...	TLSv1.2	375	Application Data
9091	215.798016	2600:140f:1e00:5a7...	2409:40c2:102a:99e2...	TLSv1.2	154	Application Data
9092	215.798149	2409:40c2:102a:99e2...	2600:140f:1e00:5a7...	TCP	74	50555 → 443 [ACK] Seq=1766 Ack=534 Win=65536 Len=0
9093	216.396997	2409:40c2:102a:99e2...	64:ff9b::acd9:a7a2	TCP	75	[TCP Keep-Alive] 50275 → 443 [ACK] Seq=1275 Ack=6404 Win=66048 Len=1
9094	216.397043	2409:40c2:102a:99e2...	2404:6800:4009:827...	TCP	75	[TCP Keep-Alive] 49896 → 443 [ACK] Seq=305 Ack=177 Win=258 Len=1
9095	216.464981	64:ff9b::acd9:a7a2	2409:40c2:102a:99e2...	TCP	86	[TCP Keep-Alive ACK] 443 → 50275 [ACK] Seq=6404 Ack=1276 Win=67840 Len=0 SLE=1275 SRE=1276
9096	216.464981	2404:6800:4009:827...	2409:40c2:102a:99e2...	TCP	86	[TCP Keep-Alive ACK] 443 → 49896 [ACK] Seq=177 Ack=306 Win=271 Len=0 SLE=305 SRE=306

Transmission Control Protocol, Src Port: 443, Dst Port: 50547, Seq: 5109, Ack: 1357, Len: 0

Source Port: 443

Destination Port: 50547

[Stream index: 480]

[Conversation completeness: Complete, WITH_DATA (63)]

[TCP Segment Len: 0]

Sequence Number: 5109 (relative sequence number)

Sequence Number (raw): 261691883

[Next Sequence Number: 5109 (relative sequence number)]

Acknowledgment Number: 1357 (relative ack number)

Acknowledgment number (raw): 584293915

0101 = Header Length: 20 bytes (5)

Flags: 0x010 (ACK)

000. = Reserved: Not set

...0. = Accurate ECN: Not set

....0. = Congestion Window Reduced: Not set

...0. = ECH-Echo: Not set

....0. = Urgent: Not set

0000 34 6f 24 c5 a8 f5 a6 fc 22 a3 57 9d 86 dd 60 00 40\$----- "W..."

0010 00 00 00 14 06 2b 00 64 ff 9b 00 00 00 00 00 00 -----+d

0020 00 00 36 54 5c 9a 24 09 40 c2 10 2a 99 e2 00 0b 6T\\$. @.....

0030 ab 62 b2 cb c9 fb 01 bb c5 73 0f 99 19 eb 22 d3 -b-----s-----

0040 9e 1b 50 10 ff ff 2b 68 00 00 --P----+h ..

wireshark-Wi-FiM4D02.pcapng

Packets: 9096 - Displayed: 5827 (64.1%) - Dropped: 0 (0.0%)

Profile: Default