

DEPT: COMPUTER ENGG. **ROLL NO:** 24CE1251 **NAME:** DIPEEKA SINGH
CLASS: E **BATCH:** E1 **SUBJECT:** CN LAB **EXPT NO:** 03
DATE OF PERFORM: 09/02/2026
AIM: USE WIRESHARK TO UNDERSTAND THE OPERATIONS OF TCP/IP LAYERS

RESULTS OF _____

```
▼ Transmission Control Protocol, Src Port: 57745, Dst Port: 443, Seq: 3530, Ack: 13981, Len: 0
  Source Port: 57745
  Destination Port: 443
  [Stream index: 64]
  ▶ [Conversation completeness: Complete, WITH_DATA (31)]
  [TCP Segment Len: 0]
  Sequence Number: 3530 (relative sequence number)
  Sequence Number (raw): 3482244085
  [Next Sequence Number: 3531 (relative sequence number)]
  Acknowledgment Number: 13981 (relative ack number)
  Acknowledgment number (raw): 3476407570
  0101 .... = Header Length: 20 bytes (5)
  ▶ Flags: 0x011 (FIN, ACK)
  Window: 1021
  [Calculated window size: 261376]
  [Window size scaling factor: 256]
  Checksum: 0xd0c0 [unverified]
  [Checksum Status: Unverified]
  .....
0000 3c 33 32 72 6e 8e 8c dc d4 4c ae 2f 08 00 45 00 <32rn...L/.E
0010 00 28 9f b8 40 00 80 06 00 00 c0 a8 34 39 8e fa .(. @... 49
0020 4c ca e1 91 01 bb cf 8e d3 f5 cf 35 c5 12 50 11 L.....S.P
0030 03 fd d0 c0 00 00 .....
```

```
▶ Frame 40970: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface \Device\NPF_{D9D6BD08-BA81-4931-9D42-BFDDAE07C1E}, id 0
▶ Ethernet II, Src: HewlettPacka_4c:ae:2f (8c:dc:d4:4c:ae:2f), Dst: DLink_72:6e:8e (3c:33:32:72:6e:8e)
▼ Internet Protocol Version 4, Src: 192.168.52.57, Dst: 142.250.76.202
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
  ▶ Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
  Total Length: 40
  Identification: 0x9fb8 (40888)
  ▶ 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: 192.168.52.57
  Destination Address: 142.250.76.202
  [Stream index: 225]
  ▶ Transmission Control Protocol, Src Port: 57745, Dst Port: 443, Seq: 3530, Ack: 13981, Len: 0
  .....
0000 3c 33 32 72 6e 8e 8c dc d4 4c ae 2f 08 00 45 00 <32rn...L/.E
0010 00 28 9f b8 40 00 80 06 00 00 c0 a8 34 39 8e fa .(. @... 49
0020 4c ca e1 91 01 bb cf 8e d3 f5 cf 35 c5 12 50 11 L.....S.P
0030 03 fd d0 c0 00 00 .....
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Frame 40970: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface \Device\NPF_{D9D6BD08-BA81-4931-9D42-BFDDAE07C1E}, id 0
  Ethernet II, Src: HewlettPacka_4c:ae:2f (8c:dc:d4:4c:ae:2f), Dst: DLink_72:6e:8e (3c:33:32:72:6e:8e)
    Destination: DLink_72:6e:8e (3c:33:32:72:6e:8e)
    Source: HewlettPacka_4c:ae:2f (8c:dc:d4:4c:ae:2f)
    Type: IPv4 (0x0800)
    [Stream index: 37]
  Internet Protocol Version 4, Src: 192.168.52.57, Dst: 142.250.76.202
  Transmission Control Protocol, Src Port: 57745, Dst Port: 443, Seq: 3530, Ack: 13981, Len: 0

0000  3c 33 32 72 6e 8e 8c dc d4 4c ae 2f 08 00 45 00  <32rn... L / E
0010  00 28 9f b8 40 00 80 06 00 00 c0 a8 34 39 8e fa  <...@... 49
0020  4c ca e1 91 01 bb cf 8e d3 f5 cf 35 c5 12 50 11  L... 5 P
0030  03 fd d0 c0 00 00                                ....
```

```
Frame 40970: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface \Device\NPF_{D9D6BD08-BA81-4931-9D42-BFDDAE07C1E}, id 0
  Section number: 1
  Interface id: 0 (\Device\NPF_{D9D6BD08-BA81-4931-9D42-BFDDAE07C1E})
  Encapsulation type: Ethernet (1)
  Arrival Time: Feb 9, 2026 11:32:15.834814000 India Standard Time
  UTC Arrival Time: Feb 9, 2026 06:02:15.834814000 UTC
  Epoch Arrival Time: 1770616935.834814000
  [Time shift for this packet: 0.000000000 seconds]
  [Time delta from previous captured frame: 0.000220000 seconds]
  [Time delta from previous displayed frame: 0.000220000 seconds]
  [Time since reference or first frame: 613.934595000 seconds]
  Frame Number: 40970
  Frame Length: 54 bytes (432 bits)
  Capture Length: 54 bytes (432 bits)
  [Frame is marked: False]
  [Frame is ignored: False]
  [Protocols in frame: eth:ethertype:ip:tcp]
  [Coloring Rule Name: TCP SYN/FIN]

0000  3c 33 32 72 6e 8e 8c dc d4 4c ae 2f 08 00 45 00  <32rn... L / E
0010  00 28 9f b8 40 00 80 06 00 00 c0 a8 34 39 8e fa  <...@... 49
0020  4c ca e1 91 01 bb cf 8e d3 f5 cf 35 c5 12 50 11  L... 5 P
0030  03 fd d0 c0 00 00                                ....
```

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No.	Time	Source	Destination	Protocol	Length	Info
37186	466.332772	192.168.5.138	192.168.52.158	TCP	66	[TCP Retransmission] 54669 → 7680 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=256 SACK PERM
37192	466.900615	192.168.52.57	57.144.15.32	TLsv1.3	124	Application Data
37203	467.141716	57.144.15.32	192.168.52.57	TCP	60	443 → 57755 [ACK] Seq=842039 Ack=163030 Win=442368 Len=0
37207	467.304125	57.144.15.32	192.168.52.57	TLsv1.3	126	Application Data
37209	467.351549	192.168.52.57	57.144.15.32	TCP	54	57755 → 443 [ACK] Seq=163030 Ack=842111 Win=262656 Len=0
37221	468.132765	192.168.52.57	142.250.195.78	TCP	55	[TCP Keep-Alive] 57720 → 443 [ACK] Seq=2732 Ack=9626 Win=262400 Len=1
37222	468.135552	142.250.195.78	192.168.52.57	TCP	66	[TCP Keep-Alive ACK] 443 → 57720 [ACK] Seq=9626 Ack=2733 Win=267776 Len=0 SLE=2732 SRE=2733
37223	468.148387	192.168.52.57	142.250.195.78	TCP	55	[TCP Keep-Alive] 57721 → 443 [ACK] Seq=3084 Ack=10792 Win=262400 Len=1
37224	468.150918	142.250.195.78	192.168.52.57	TCP	66	[TCP Keep-Alive ACK] 443 → 57721 [ACK] Seq=10792 Ack=3085 Win=267776 Len=0 SLE=3084 SRE=3085
37243	469.382649	192.168.52.57	172.217.25.99	TCP	55	[TCP Keep-Alive] 57739 → 443 [ACK] Seq=3423 Ack=7232 Win=262400 Len=1
37244	469.451092	172.217.25.99	192.168.52.57	TCP	66	[TCP Keep-Alive ACK] 443 → 57739 [ACK] Seq=7232 Ack=3424 Win=267008 Len=0 SLE=3423 SRE=3424
37278	470.369061	192.168.5.138	192.168.52.158	TCP	66	[TCP Retransmission] 54669 → 7680 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=256 SACK PERM
37271	470.509194	192.168.52.57	142.250.195.78	TCP	55	[TCP Keep-Alive] 57734 → 443 [ACK] Seq=3519 Ack=3985 Win=261632 Len=1
37272	470.511577	142.250.195.78	192.168.52.57	TCP	66	[TCP Keep-Alive ACK] 443 → 57734 [ACK] Seq=3985 Ack=3520 Win=267008 Len=0 SLE=3519 SRE=3520
37298	470.771065	192.168.52.57	142.250.70.69	TCP	55	[TCP Keep-Alive] 57727 → 443 [ACK] Seq=5477 Ack=12183 Win=261376 Len=1
37299	470.773733	142.250.70.69	192.168.52.57	TCP	55	[TCP Keep-Alive ACK] 443 → 57727 [ACK] Seq=12183 Ack=5478 Win=262640 Len=0 SLE=5477 SRE=5478
37305	471.071644	192.168.52.57	142.251.220.67	TCP	55	[TCP Keep-Alive] 57736 → 443 [ACK] Seq=12148 Ack=8724 Win=262400 Len=1
37306	471.073913	142.251.220.67	192.168.52.57	TCP	66	[TCP Keep-Alive ACK] 443 → 57736 [ACK] Seq=8724 Ack=12149 Win=258304 Len=0 SLE=12148 SRE=12149

Frame 1151: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface \Device\NPF...

Ethernet II, Src: DLink 72:6E:8E (3c:33:32:72:6E:8E), Dst: Hewlett-Packa 43:4B:60 (50:65:3f:43:4B:60)

Internet Protocol Version 4, Src: 192.168.5.138, Dst: 192.168.52.48

Transmission Control Protocol, Src Port: 60429, Dst Port: 7680, Seq: 0, Len: 0