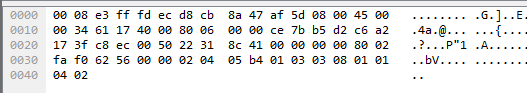
Lab 3 – T00533766



**00 08 e3 ff fd ec d8 cb 8a 47 af 5d 08 00 45 00**

**00 34 61 17 40 00 80 06 00 00 ce 7b b5 d2 c6 a2**

**17 3f C8 ec 00 50 22 31 8c 41 00 00 00 00 80 02**

**fa f0 62 56 00 00 02 04 05 b4 01 03 03 08 01 01**

**04 02**

**Ethernet Header: DATALINK MAC LAYER**

**00 08 e3 ff fd ec d8 cb 8a 47 af 5d 08 00**

Ethernet Destination: 00 08 e3 ff fd ec

Ethernet Source: d8 cb 8a 47 af 5d

Payload Type: 08 00 => IPv4

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Destination Address:0008e3fffdec | Source Address:d8cb8a47af5d | Type: IPv4 | Data | CRC |

**IP header: TRANSPORT LAYER**

**45 00 00 34 61 17 40 00 80 06 00 00 ce 7b b5 d2 c6 a2 17 3f**

45: 4=> IPv4

45: 5=> Header Length = 5\*4 = 20 bytes

00: Contains the Precedence value for packet, TOS value

Below is 00 from the IP header in binary:

0 0 0 0 0 0 0 0: Precedence Value => Routine for this packet

0 0 0 0 0 0 0 0: TOS bits

0 0 0: Normal delay

0 0 0: Normal throughput

0 0 0: Normal Reliability

0 0 0 0 0 0 0 0: Must be zero

00 34: These describe the length of the IP datagram => 34(hex=> 0X0034) converted to decimal = 52 bytes. The IP datagram is 52 bytes long.

61 17: The identification of the datagram for fragmentation. 6117(hex=> 0x6117) in decimal is 24855.

40 00: in binary = (0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0)

1 Don’t fragment flag set

0 More Fragments flag set

0: Fragment Offset

80: Time for datagram to live = 128 i.e. (0x0080) in decimal

06: The protocol used is TCP (6)

00 00: Check sum of the datagram

ce 7b b5 d2: Source IP address: 206.123.181.210

c6 a2 17 3f: Destination IP address: 198.162.23.63

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Version: 4 | IP Header Length: 20 | | Type Of Service: 00 | | | Total Length: 52 |
| Identification: 24855 | | Flags: 40 00 | | | Fragment Offset: 0 | |
| Time to live: 128 | | Protocol: TCP(6) | | | Header Checksum: 00 00 | |
| Source IP address: 206.123.181.210 | | | | | | |
| Destination IP address: 198.162.23.63 | | | | | | |
| Options | | | | Padding: Just to fill size of TCP header | | |

**TCP Header: NETWORK LAYER**

**C8 ec 00 50 22 31 8c 41 00 00 00 00 80 02**

**fa f0 62 56 00 00 02 04 05 b4 01 03 03 08 01 01**

**04 02**

c8 ec: Source port: 51436

00 50: Destination Port: 80

22 31 8c 41: Sequence Number: 573672513

00 00 00 00: Acknowledgment Number: 0

80: TCP Header/offset length = 8\*4 = 32 bytes

02 = Flags = 0 0 0 0 0 0 1 0

NONCE: 0

Congestion Window reduced: 0

ECHO: 0

Urgent: 0

Acknowledgment: 0

Push: 0

Reset: 0

Syn: 1 =>The SYN[chronize] flag is the **TCP** packet flag that is used to initiate a TCP connection. A packet containing solely a SYN flag is the first part of the "**three-way handshake**" of TCP connection initiation. It is responded to with a **SYN-ACK** packet.

Fin: 0

Fa f0: Window size: 64240

62 56: check sum: 25174

00 00: Urgent pointer

**02 04 05 b4 01 03 03 08 01 01 04 02: Optional**

02 04 05 b4: TCP max segment size

01: NOP No-Operation flag

03 03 08: Window scale: Kind = 03, Length = 03, Shift = 08

01: No operation

01: No operation

04 02: TCP SACK permitted, length 2

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Source Port: 51436 | | Destination Port: 80 | | | | | | | |
| Sequence Number:573672513 | | | | | | | | | |
| Acknowledgment Number: 0 | | | | | | | | | |
| Data Offset: 32 | Reserved  0 0 0 | U  R  G  **0** | A  C  K  **0** | P  S  H  **0** | R  S  T  **0** | S  Y  N  **1** | F  I  N  **0** | | Window-Size: 64240 |
| Checksum: 25174 | | Urgent Pointer: 0 | | | | | | | |
| Options: 12 bytes | | | | | | | | Padding: Just to fill size of TCP header | |
| Data | | | | | | | | | |