

# Important Headers

## MAC Header

Dest MAC : 6 Bytes

Src MAC : 6 Bytes

## IP Header

Version : 0.5 Byte (4 bits)

TTL : 1 Byte

Protocol : 1 Byte

Src IP : 4 Bytes

Dest IP : 4 Bytes

## TCP Header

Source Port : 2 Bytes

Dest Port : 2 Bytes

Sequence No : 4 Bytes

Acknowledge No : 4 Bytes

Ack-Reset-Syn-Fin : 0.5 Byte (4 bits)

# All Headers

- - Not Important (But Discussed) ; ● - Not Important (Not Discussed)  
● - Important(Discussed) ● - Important(Discussed)

## MAC Header : 14 Bytes

Dest MAC : 6 Bytes

Src MAC : 6 Bytes

Type : 2 Bytes

## IP Header : 20 Bytes

Version : 0.5 Byte (4 bits)

L3 Header Length : 0.5 Byte (4 bits) (usually set to value of '0101' which is 5. This fixed value of 5 will always multiplied by 4 to get the IP header length i.e 20 Bytes)

DSCP : 1 Byte

Total Length : 2 Bytes

Identification : 2 Bytes

Fragments : 2 Bytes

TTL : 1 Byte

Protocol : 1 Byte

L3 Header checksum : 2 Bytes

Src IP : 4 Bytes

Dest IP : 4 Bytes

## TCP Header : 32 Bytes

Source Port : 2 Bytes

Dest Port : 2 Bytes

Sequence No : 4 Bytes

Acknowledge No : 4 Bytes

L4 Header Length : 0.5 Bytes (4 bits) (usually will be value of '1000' which is 8 This fixed value of 8 will always multiplied by 4 to get the IP header length i.e 32 Bytes)

Flags : 1 Byte

Ack-Reset-Syn-Fin : 0.5 Byte (4 bits)

Window Size : 2 Bytes

L4 Checksum : 2 Bytes

Urgent Pointer : 2 Bytes

Options : 12 Bytes ( Not Required to know )

Total Frame Size will be 1518 Bytes in which 4 Bytes used for Frame Check Sequence - FCS (i.e) Checksum of the Total Frame which you cannot see in the Wireshark packet capture.

So  $1518 - 4 \text{ Bytes} = 1514$  can be captured.

If you remove the 14 Bytes MAC headers from the Frame then it ll be  $(1514 - 14 \text{ Bytes}) = 1500$  Bytes which is called as MTU (Maximum Transmission Unit).

Now MTU will be 1500 bytes in which TCP Header(32 bytes) + IP Header(20 Bytes)

So  $1500 - (32 + 20) = 1448$  Bytes available for Payload which is called as MSS ( Maximum Segment Size).

