IP

1.IP address of my computer: 192.168.1.102

2. ICMP

3. Header length = 20 bytes

Total length = 84 bytes

Therefore, Payload length = Total length – Header length = 84-20 = 64 bytes

4. No ,this is not fragmented because flag offset value is 0 and more fragments flag is also not set.

5. Identification, Time to Live, Header Checksum

6. Source IP, Version, Protocol, Header Length, Differentiated Services , Destination IP must remain constant .

Fields which change are-

I) Identification number(two fragments can have same IP)

ii) Time to live

7. Identification field is incremented by 1 after a packet is sent

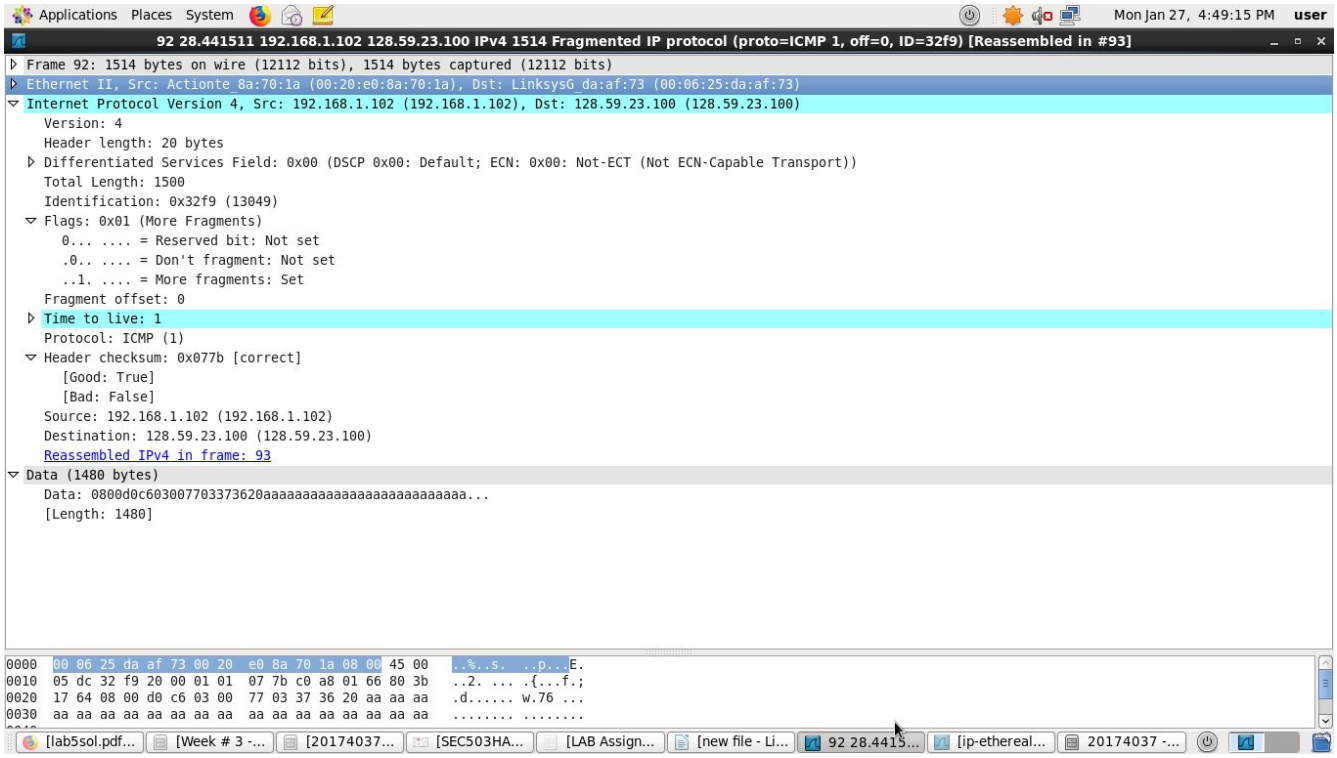
8. For nearest hop router: 128.59.1.41

Identification field varies but TTL remains same for all i.e. 243

Fragmentation

9. No, fragment offset=0 and more fragment flag not set

10.

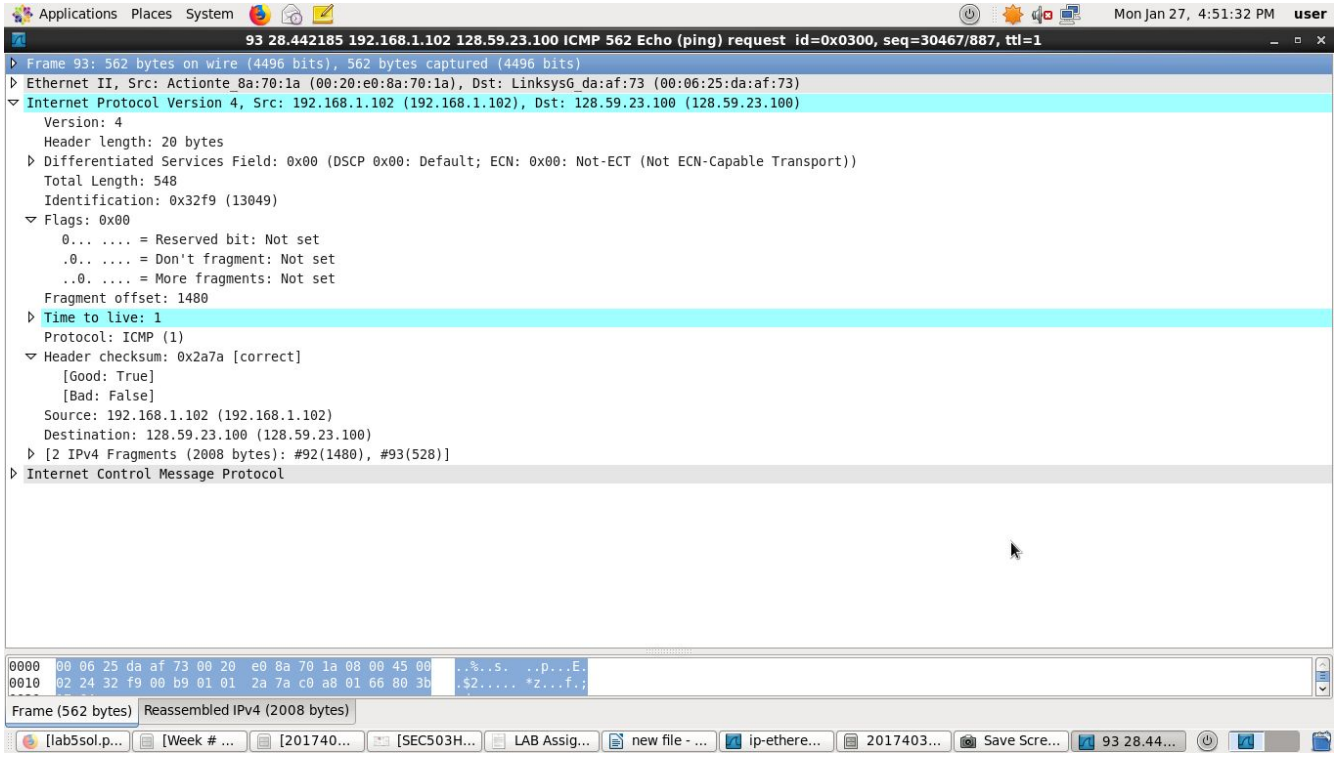


Fragment offset = 0 and more fragment flag is set

So it is first fragment with identification 13049.

Length = 1500 bytes

11.

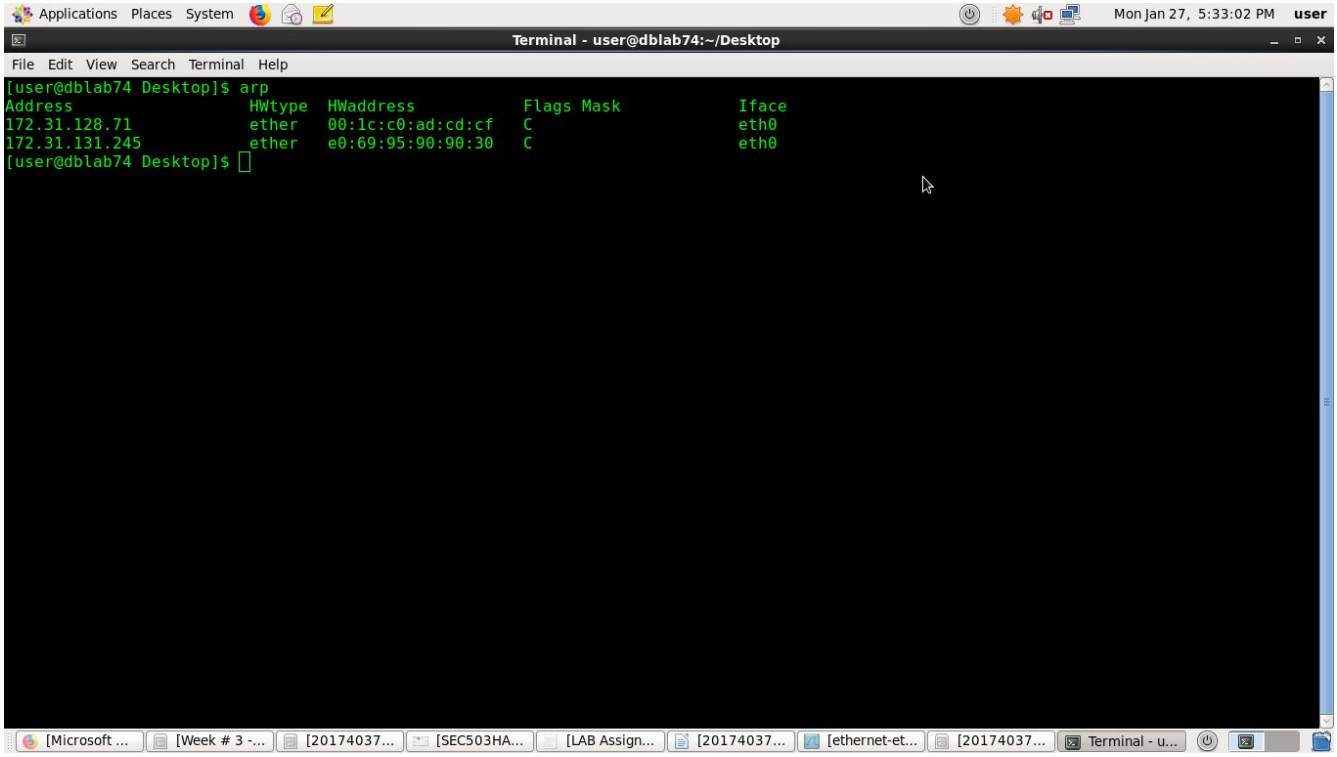


Here fragment offset = 1480(not zero)

12. Fragment offset was 0 in first and it was 1480 in second fragment.

ARP

1. 48 bit ethernet address of my computer= AmbitMic_a9:3d:68 (00:d0:59:a9:3d:68)
2. 48 bit ethernet destination address= ff:ff:ff:ff:ff:ff
   No
   This address is used for broadcast
3. ARP(0x0806)
4. 54 bytes(36 in hex)
5. Source: LinksysG_da:af:73 (00:06:25:da:af:73)
   No,this is neither mine nor gaia.cs.umass.edu
6. Destination: AmbitMic_a9:3d:68 (00:d0:59:a9:3d:68)
   Yes , this is address of my computer
7. Type: IP (0x0800) corresponds to IP
8. 13 bytes
9.



Address: IP address
Hwtype : type of physical medium
Hwaddress: MAC address
10. Sender MAC address: AmbitMic_a9:3d:68 (00:d0:59:a9:3d:68)
Target MAC address: ff:ff:ff:ff:ff:ff used for broadcasting
11. Type: ARP (0x0806)
12. a) 20 bytes
b) 0x0001
c) Yes, IP address of sender is 192.168.1.11
d)The Target MAC address is 00:00:00:00:00:00, this broadcast will queries the machine which IP address is 192.168.1.1
13. a) 13 bytes
b) 0x0002 (4 byte opcode)
c)Sender MAC address: LinksysG_da:af:73 (00:06:25:da:af:73)
Sender IP address: 192.168.1.1 (192.168.1.1)
14. Source: LinksysG_da:af:73 (00:06:25:da:af:73)
Destination: AmbitMic_a9:3d:68 (00:d0:59:a9:3d:68)
15. Because the ARP request is broadcast, but the ARP reply is not broadcast. The reply will be sent to the computer who made the request directly.