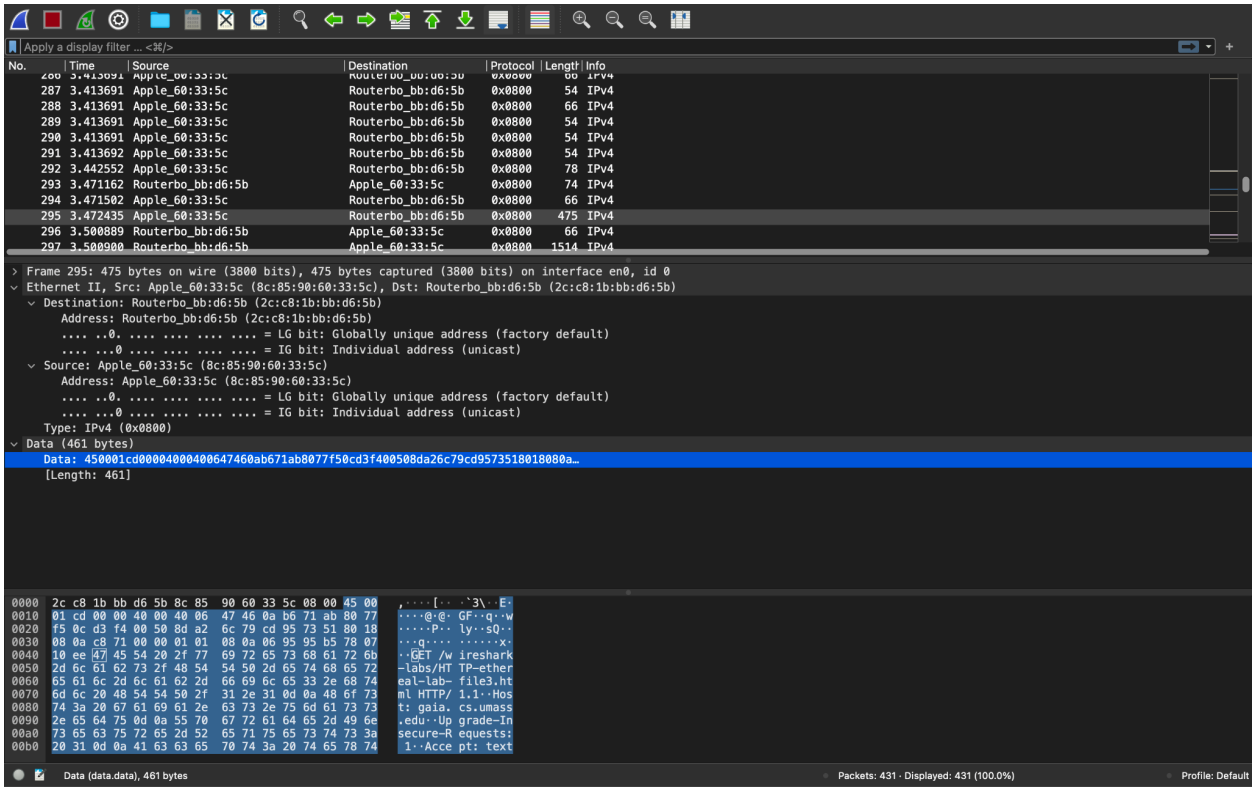
Foundation of Computer Networks - Wireshark Project
Bhavin Oza (bo2115)



1). 8c:85:90:60:33:5c

2). No.
The destination address: 2c:c8:1b:bb:d6:5b is value of RouterBo, link used to go out of the subnet

3). 0x0800
The value represents IP protocol

4). 67 bytes

5). 2c:c8:1b:bb:d6:5b
It is the ethernet address of RouterBo

6). 8c:85:90:60:33:5c
It is the ethernet address of my router

7). 0x0800
The value represents IP protocol

8). 80 bytes

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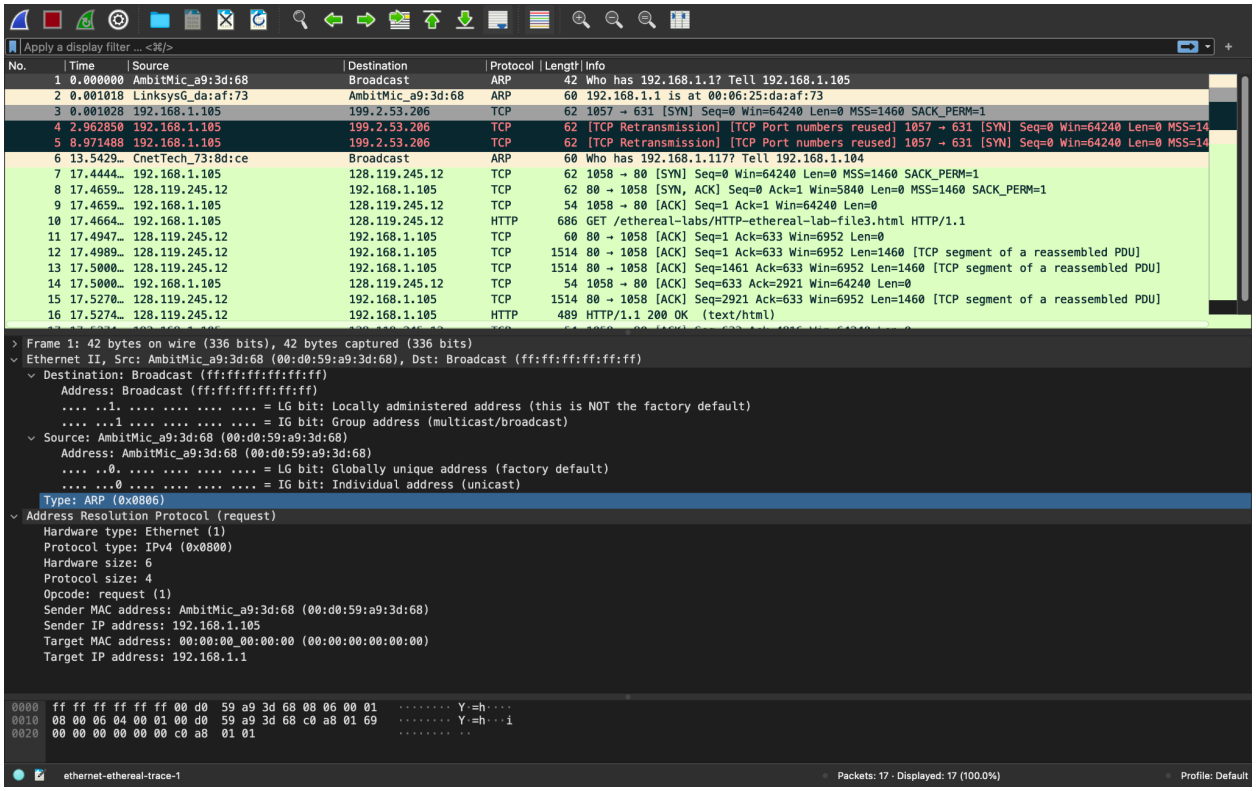
```
Bhavin@Ozas-MacBook-Pro ~ % arp -a
rit-core2-hsrp-010-vlan4072.rit.edu (129.21.91.253) at 2c:21:31:4e:6b:78 on en0 ifscope [ethernet]
rit-hsrp-010-vlan4072.rit.edu (129.21.91.254) at 0:0:5e:0:1:1 on en0 ifscope [ethernet]
? (224.0.0.251) at 1:0:5e:0:0:fb on en0 ifscope permanent [ethernet]
Bhavin@Ozas-MacBook-Pro ~ %
```

9). Refer image above



10). Source address HEX value: 00:d0:59:a9:3d:68
Destination address HEX value: ff:ff:ff:ff:ff:ff

11). Hex Value 0x0806 stands for ARP

12). a). 20 bytes from beginning of Ethernet frame
b). The opcode value is 1 (0x0001) for request.
c). Yes.
d). The Target MAC address field set to 00:00:00_00:00:00, is used to query the machine with IP address: 192.168.1.1

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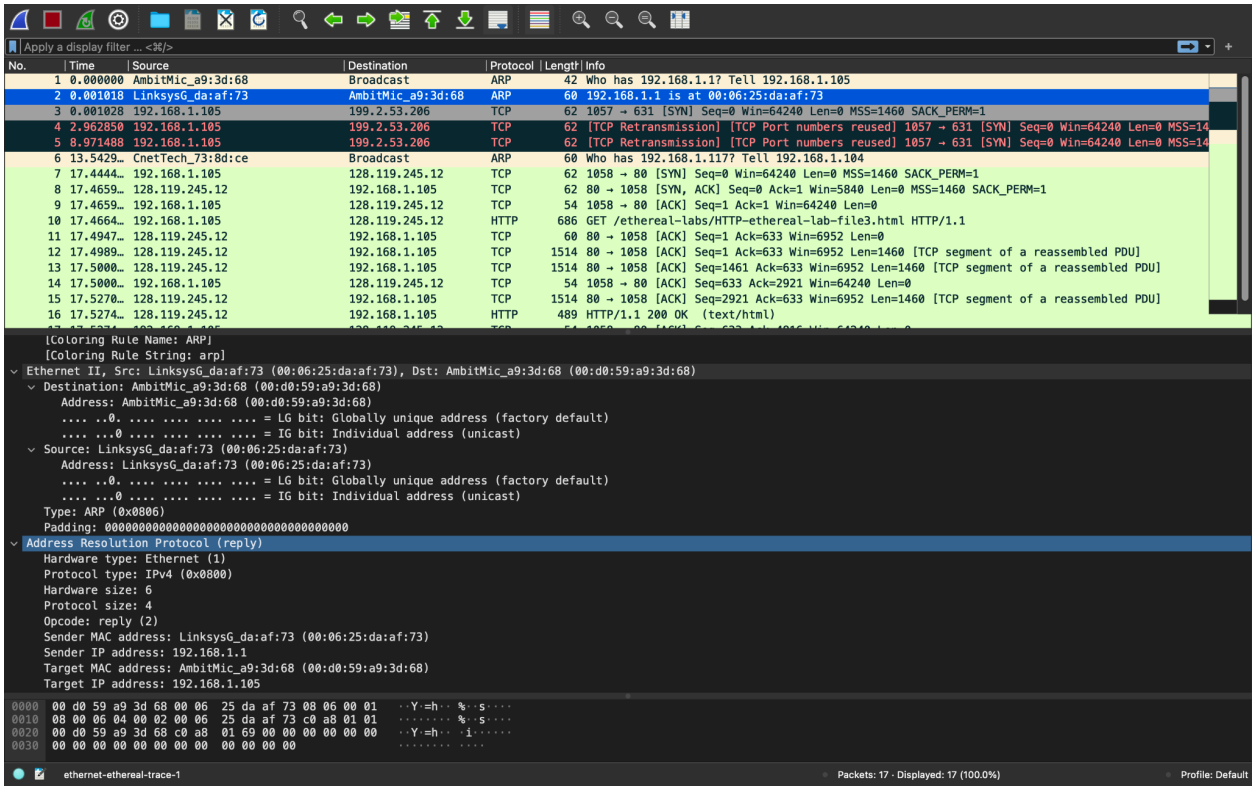

13). a). 20 bytes from beginning of Ethernet frame
b). The opcode value is 2 (0x0002), for reply
c). The Sender MAC address field set to 00:06:25:da:af:73 corresponding to machine with Sender IP address 192.168.1.1, is the answer.

14). The source address is 00:06:25:da:af:73
The destination address is 00:d0:59:a9:3d:68

15). Since, the ARP requests are broadcasted, but the ARP response is sent back to the sender's Ethernet address, thus we don't see any reply in this trace, as we are not on the requester's machine.