

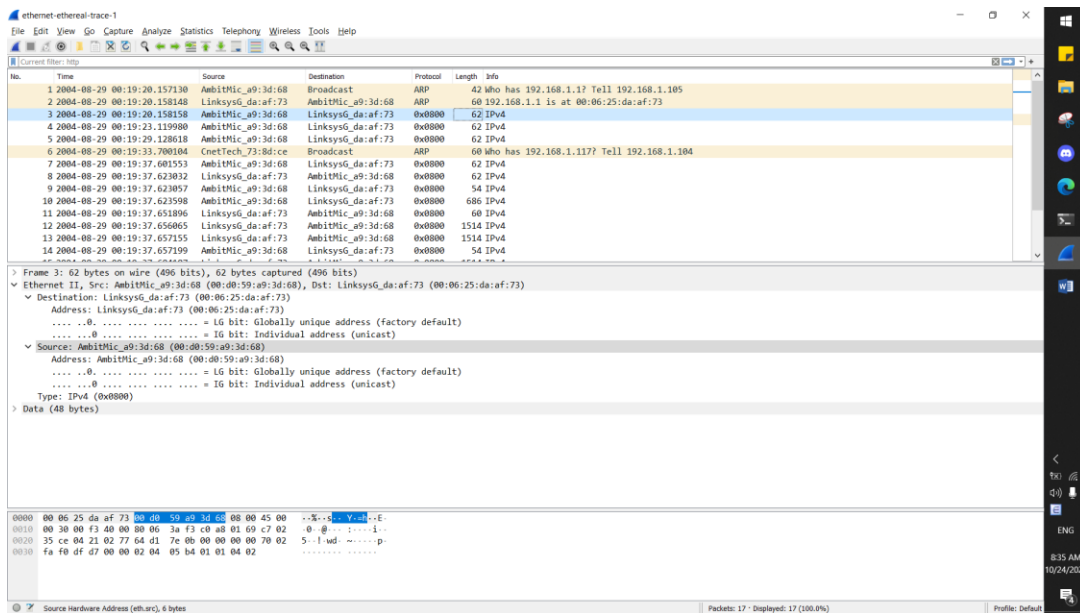
COMPUTER NETWORK LAB

LAB 6

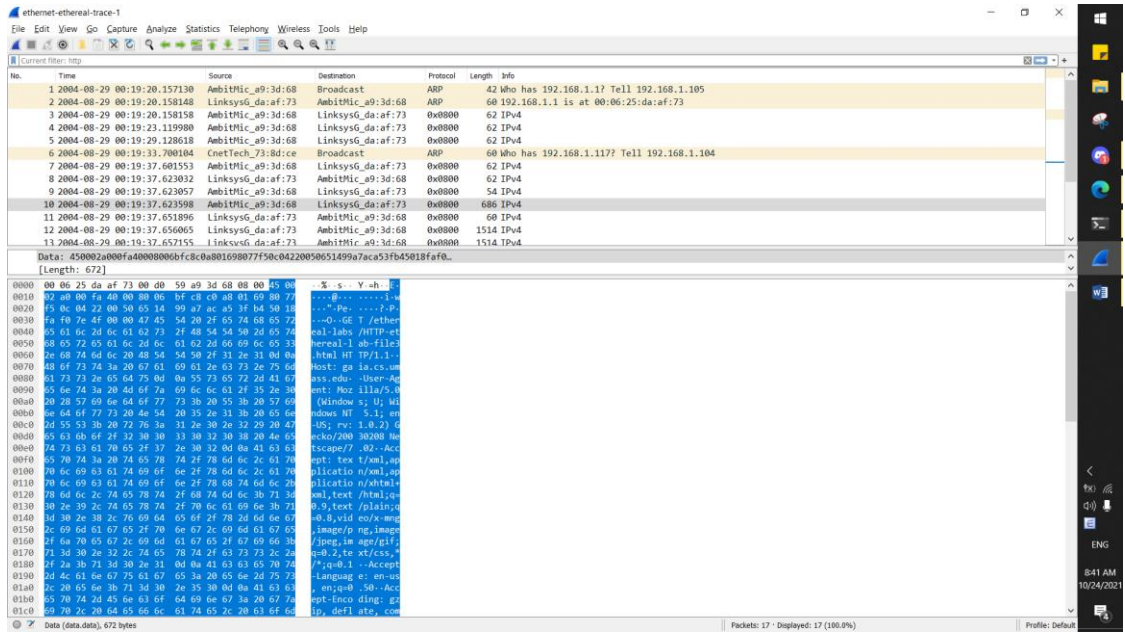
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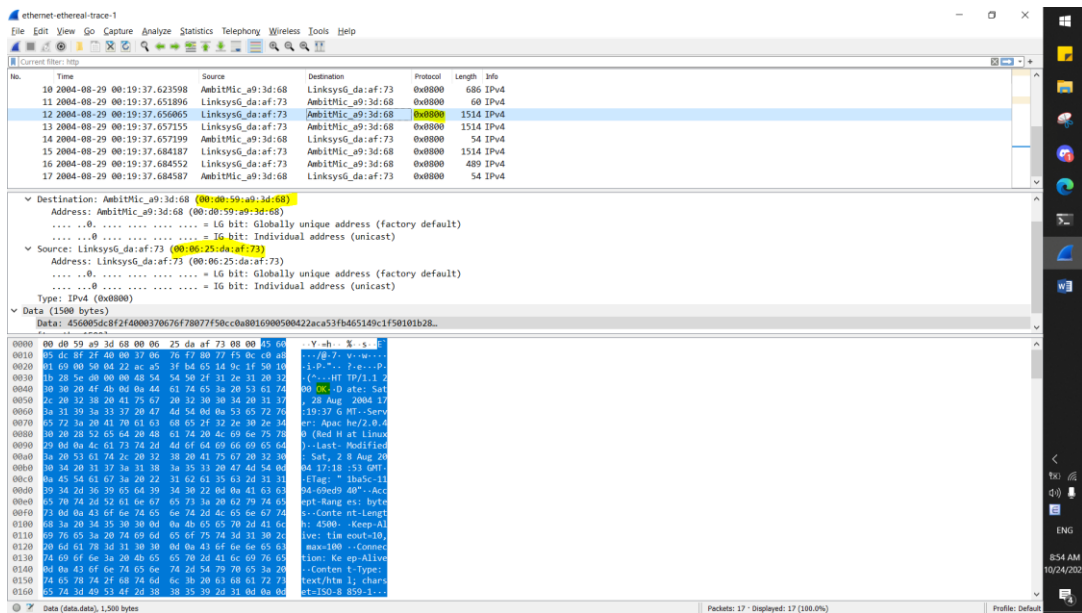
LAB 6



1. The Ethernet address of my computer is 00:d0:59:a9:3d:68
2. The destination 00:06:25:da:af:73 is not the Ethernet address of gaia.cs.umass.edu. It is the address of Linksys router, which is the link used to get off the subnet
3. The hex value for the Frame field is 0x0800. This corresponds to the IP protocol (the frame type field indicates that the nest layer above IP – the layer to which the payload of this Ethernet frame will be passes – is IP.



4. 54 bytes



5. The source address is 00:06:25:da:af:73 is neither the Ethernet address of gaia.cs.umass.edu not the address of my computer. It is the address of Linksys router, which is the link used to get onto my subnet
6. The destination address is 00:d0:59:a9:3d:68 is the address of author's computer
7. The hex value for the Frame type field is 0x0800. This value corresponds to the IP protocol
8. 67 bytes

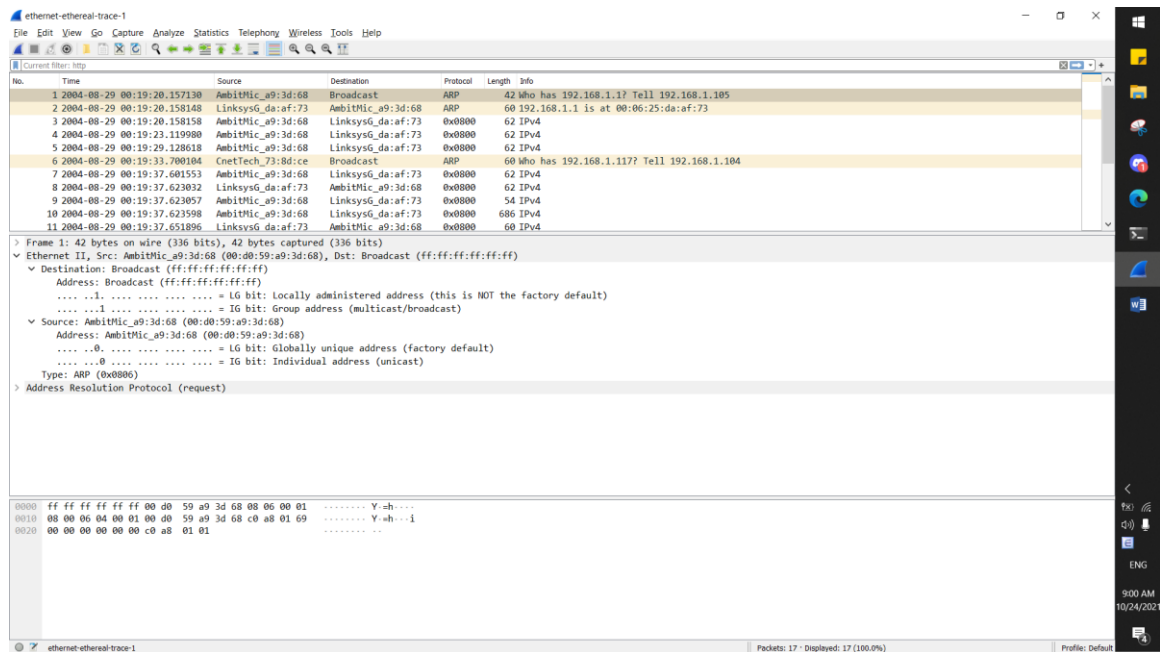
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PS C:\Users\Admin> arp -a

Interface: 192.168.1.223 --- 0xb
Internet Address      Physical Address      Type
-----
192.168.1.1           34-b5-a3-81-e7-90    dynamic
192.168.1.216         18-4f-32-1b-34-f1    dynamic
192.168.1.255         ff-ff-ff-ff-ff-ff    static
224.0.0.2             01-00-5e-00-00-02    static
224.0.0.22            01-00-5e-00-00-16    static
224.0.0.251           01-00-5e-00-00-fb    static
224.0.0.252           01-00-5e-00-00-fc    static
239.255.255.250       01-00-5e-7f-ff-fa    static
255.255.255.255       ff-ff-ff-ff-ff-ff    static
PS C:\Users\Admin>

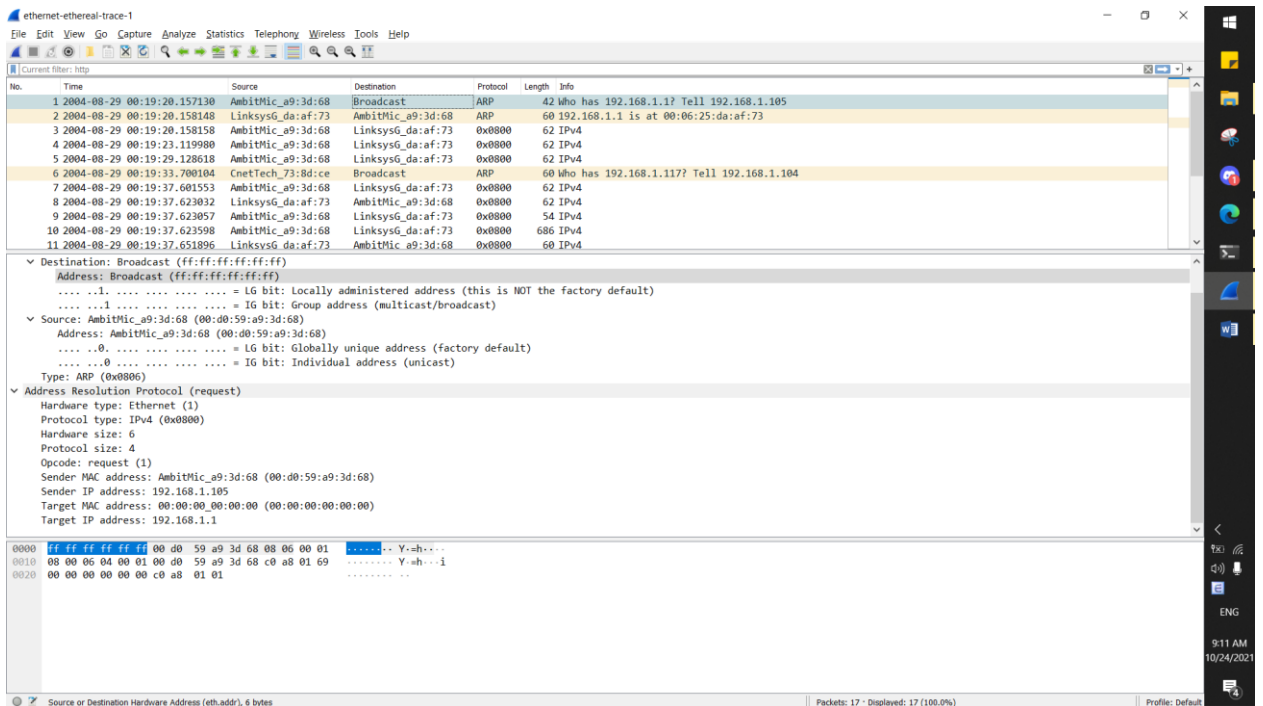
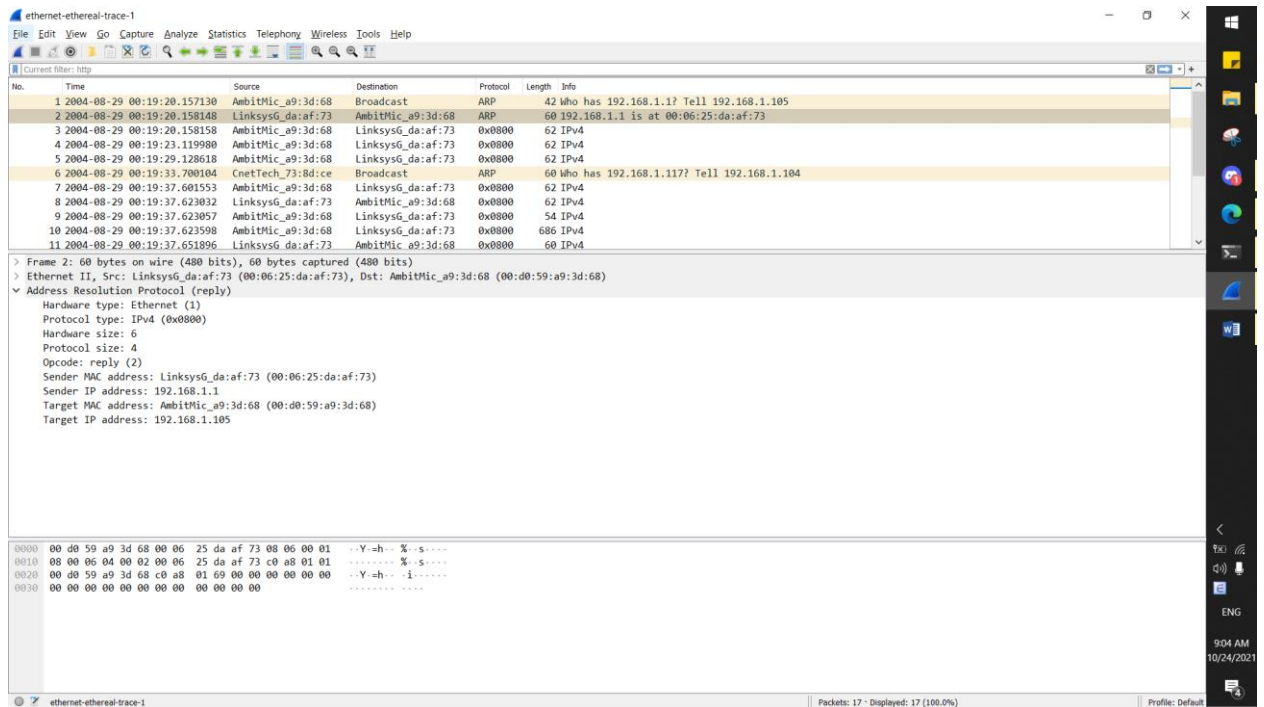
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9. The Internet address column contains the IP address, the Physical Address column contains the MAC address, and the type indicates the protocol type



10. Source address 00:d0:59:a9:3d:68, destination address ff:ff:ff:ff:ff:ff

11. The hex value for the Ethernet Frame type field is 0x0806, for ARP



12. A) 20 bytes

B) The value of the opcode field within the ARP-payload part of the Ethernet frame is 1

C) Yes

D) The field "Target MAC address" is set to 00:00:00:00:00:00 to question the machine whose corresponding IP address (192.168.1.1) is being queried

13. A) 20 bytes

B) The value of opcode field is 2

C) The answer to the earlier ARP request appears in the "Sender MAC address" field

14. Source is 00:06:25:da:af:73, destination is 00:d0:59:a9:3d:68

15. There is no reply in this trace, because we are not at the machine that sent the request. The ARP request is broadcast, but the ARP reply is sent back directly to the sender's Ethernet address