

Christopher Desir

```
No.      Time                               Source                               Destination                         Protocol Length Info
3 2019-11-30 19:57:33.162566      Micro-St_92:30:cb                   AsustekC_d3:3e:b4                   0x0800    54    IPv4
Frame 3: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface 0
  Interface id: 0 (\Device\NPF_{9EAF4FE-D7F7-4004-83CA-AC4A37B553F4})
  Encapsulation type: Ethernet (1)
  Arrival Time: Nov 30, 2019 19:57:33.162566000 Eastern Standard Time
  [Time shift for this packet: 0.000000000 seconds]
  Epoch Time: 1575161853.162566000 seconds
  [Time delta from previous captured frame: 0.000012000 seconds]
  [Time delta from previous displayed frame: 0.000012000 seconds]
  [Time since reference or first frame: 0.000012000 seconds]
  Frame Number: 3
  Frame Length: 54 bytes (432 bits)
  Capture Length: 54 bytes (432 bits)
  [Frame is marked: False]
  [Frame is ignored: False]
  [Protocols in frame: eth:ethertype:data]
Ethernet II, Src: Micro-St_92:30:cb (4c:cc:6a:92:30:cb), Dst: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)
  Destination: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)
    Address: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)
    ....0. .... = LG bit: Globally unique address (factory default)
    ....0. .... = IG bit: Individual address (unicast)
  Source: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
    Address: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
    ....0. .... = LG bit: Globally unique address (factory default)
    ....0. .... = IG bit: Individual address (unicast)
  Type: IPv4 (0x0800)
Data (40 bytes)
0000  45 00 00 28 84 d3 40 00 80 06 0c 28 c0 a8 01 f9  E..(..@....(....
0010  68 7b 3e b8 e2 7b 01 bb 62 21 94 eb 42 eb cc 57  h{>..{..b!..B..W
0020  50 10 48 89 12 f0 00 00                                P.H.....
    Data: 4500002884d3400080060c28c0a801f9687b3eb8e27b01bb..
```

1) The Ethernet address of my computer is 4c:cc:6a:92:30:cb

2) Within the frames listed, it only shows communication between my computer and my router which is 1c:87:2c:d3:3e:b4.

3)Data link layer

```
▼ Ethernet II, Src: Micro-St_92:30:cb (4c:cc:6a:92:30:cb), Dst: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)
  ▼ Destination: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)
    Address: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)
    ....0. .... = LG bit: Globally unique address (factory default)
    ....0. .... = IG bit: Individual address (unicast)
  ▼ Source: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
    Address: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
    ....0. .... = LG bit: Globally unique address (factory default)
    ....0. .... = IG bit: Individual address (unicast)
  Type: IPv4 (0x0800)
```

4)IP 0x0800

5) Within the frames listed, it only shows communication between my computer and my router which is 1c:87:2c:d3:3e:b4.

```

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : 
    Description . . . . . : Realtek PCIe GbE Family Controller
    Physical Address. . . . . : 4C-CC-6A-92-30-CB
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    Link-local IPv6 Address . . . . . : fe80::1c52:78b2:2472:6c1d%14(Preferred)
    IPv4 Address. . . . . : 192.168.1.249(Preferred)
    Subnet Mask . . . . . : 255.255.255.0
    Lease Obtained. . . . . : Saturday, November 30, 2019 8:29:36 AM
    Lease Expires . . . . . : Sunday, December 1, 2019 8:29:34 AM
    Default Gateway . . . . . : 192.168.1.1
    DHCP Server . . . . . : 192.168.1.1
    DHCPv6 IAID . . . . . : 105696362
    DHCPv6 Client DUID. . . . . : 00-01-00-01-25-16-A8-B7-4C-CC-6A-92-30-CB
    DNS Servers . . . . . : 192.168.1.1
    NetBIOS over Tcpip. . . . . : Enabled

```

6) 4c:cc:6a:92:30:cb is my computer ethernet address because It showed in Ipconfig

7) IP 0x0800

00	48	54	54	50	2f	31	2e	31	20	32	30	30	20	4f	4b	0d	HTTP/1.1	200	OK
10	0a	44	61	74	65	3a	20	53	75	6e	2c	20	30	31	20	44	Date: Sun, 01 Dec		
	4c	cc	6a	92	30	cb	1c	87	2c	d3	3e	b4	08	00	45	00	L:j0... ,>...E		
	02	09	9c	b2	40	00	2f	06	75	17	80	77	f5	0c	c0	a8	...@/ u...w...		
	01	f9	00	50	e2	b1	6b	0b	63	84	01	5e	d5	04	50	18	...P...k...c...^...P		
	00	ed	d2	03	00	00	68	6d	65	6e	74	73	20	69	6e	66	...hm ents inf		

8)52

9)

```
C:\Users\CD>arp -a

Interface: 192.168.85.1 --- 0x4
  Internet Address      Physical Address      Type
  192.168.85.254        00-50-56-eb-f9-81    dynamic
  192.168.85.255        ff-ff-ff-ff-ff-ff    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

Interface: 169.254.229.62 --- 0x6
  Internet Address      Physical Address      Type
  169.254.255.255      ff-ff-ff-ff-ff-ff    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

Interface: 192.168.1.249 --- 0xe
  Internet Address      Physical Address      Type
  192.168.1.1          1c-87-2c-d3-3e-b4    dynamic
  192.168.1.255        ff-ff-ff-ff-ff-ff    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
```

My IP , MAC address , and type

```
> Frame 11: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on interface 0
▼ Ethernet II, Src: Micro-St_92:30:cb (4c:cc:6a:92:30:cb), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
  ▼ Destination: Broadcast (ff:ff:ff:ff:ff:ff)
    Address: Broadcast (ff:ff:ff:ff:ff:ff)
    .... 1. .... = LG bit: Locally administered address (this is NOT the factory default)
    .... 1 .... = IG bit: Group address (multicast/broadcast)
  ▼ Source: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
    Address: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
    .... 0. .... = LG bit: Globally unique address (factory default)
    .... 0 .... = IG bit: Individual address (unicast)
    Type: ARP (0x0806)
▼ Address Resolution Protocol (request)
```

10)source is 4c:cc:6a:92:40:cb and the dest is ff:ff:ff:ff:ff:ff

11) ARP(0x0806)

```
▼ Ethernet II, Src: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4), Dst: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
  ▼ Destination: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
    Address: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)
    .... 0. .... = LG bit: Globally unique address (factory default)
    .... 0 .... = IG bit: Individual address (unicast)
  ▼ Source: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)
    Address: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)
    .... 0. .... = LG bit: Globally unique address (factory default)
    .... 0 .... = IG bit: Individual address (unicast)
    Type: IPv4 (0x0800)
```

31 2019-11-30 20:40:10.588668 54 145 115 34 192.168.1.249 TCP 66 443 → 50085 [ACK] Seq=1 Ack=2 W

> Frame 14: 273 bytes on wire (2184 bits), 273 bytes captured (2184 bits) on interface 0

▼ Ethernet II, Src: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4), Dst: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)

▼ Destination: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)

Address: Micro-St_92:30:cb (4c:cc:6a:92:30:cb)

.... 0. = LG bit: Globally unique address (factory default)

.... 0. = IG bit: Individual address (unicast)

▼ Source: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)

Address: AsustekC_d3:3e:b4 (1c:87:2c:d3:3e:b4)

.... 0. = LG bit: Globally unique address (factory default)

.... 0. = IG bit: Individual address (unicast)

Type: IPv4 (0x0800)

▼ Internet Protocol Version 4, Src: 162.159.132.234, Dst: 192.168.1.249

0100 = Version: 4

.... 0101 = Header Length: 20 bytes (5)

> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)

Total Length: 259

Identification: 0x2a7d (10877)

12) a. 20 bytes b. 0x001 c. yes according to the IP 192.168.1.249

13) a. 20 bytes b. 0x001 c. yes according to the IP 192.168.1.249

14) 4c:cc:6a:92:20:cb and 1c:87:2c:d3:3e:b4

15) there is no arp reply because the reply will be sent to the computer who made the request not the computer that is being broadcast.