

1.

5C:50:D9:95:1F:17

Apple, Inc.a

2.

60:3e:5f:78:b7:bf

Apple, Inc.

3.

96:2b:ee:39:4c:c2

Source: 96:2b:ee:39:4c:c2 (96:2b:ee:39:4c:c2)

4.

5C:50:D9

5C-50-D9 (hex)
5C50D9 (base 16)

Apple, Inc.
Apple, Inc.
1 Infinite Loop
Cupertino CA 95014
US

5.

8d:a2:00

6.

```
[albertrosca@Alberts-MacBook-Pro ~ % arp -all
Neighbor          Linklayer Address Expire(0) Expire(I)      Netif Refs Prbs
192.168.0.1       40:ed:0:7b:50:b3  1m16s    1m16s      en0     1
192.168.0.101     72:3a:2c:c3:28:8d expired  expired      en0     1
192.168.0.255     ff:ff:ff:ff:ff:ff (none)  (none)      en0
mdns.mcast.net    1:0:5e:0:0:fb    (none)  (none)      en0
```

7.

$$2^5 = 10 * 1 = 10 + 6 = 16;$$

MAC dest	MAC src	IP scr	IP dest	Antet transport	Date
Destination: IPv4mcast_fb (01:00:5e:00:00 :fb)	Source: 72:3a:2c:c3:2 8:8d (72:3a:2c:c3:2 8:8d)	Source Address: 192.168.0.101	Destination Address: 224.0.0.251	Antet transport	Date

8.

No.	Time	Source	Destination	Protocol	Length	Info
2062	70.186660	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=74163 Ack=1763 Win=144840 Len=1444 TSval=2446848678 TSecr=1653553182 [TCP PDU reassemble]
2063	70.186663	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=75607 Ack=1763 Win=144840 Len=1444 TSval=2446848678 TSecr=1653553182 [TCP PDU reassemble]
2064	70.186773	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=77051 Win=128128 Len=0 TSval=1653553241 TSecr=2446848678
2065	70.187572	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=77051 Ack=1763 Win=144840 Len=1444 TSval=2446848679 TSecr=1653553182 [TCP PDU reassemble]
2066	70.187574	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=78495 Ack=1763 Win=144840 Len=1444 TSval=2446848679 TSecr=1653553182 [TCP PDU reassemble]
2067	70.187709	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=7939 Win=128128 Len=0 TSval=1653553241 TSecr=2446848679
2068	70.187982	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=7939 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2069	70.188011	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=81383 Win=129608 Len=0 TSval=1653553242 TSecr=2446848680
2070	70.188280	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=81383 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2071	70.188283	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=82872 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2072	70.188372	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=84271 Win=128128 Len=0 TSval=1653553242 TSecr=2446848680
2073	70.189297	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=84271 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2074	70.189300	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=85715 Ack=1763 Win=144840 Len=1444 TSval=2446848681 TSecr=1653553182 [TCP PDU reassemble]
2075	70.189470	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=87159 Win=128128 Len=0 TSval=1653553242 TSecr=2446848681
2076	70.190300	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=87159 Ack=1763 Win=144840 Len=1444 TSval=2446848682 TSecr=1653553182 [TCP PDU reassemble]
2077	70.190303	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=88683 Ack=1763 Win=144840 Len=1444 TSval=2446848682 TSecr=1653553182 [TCP PDU reassemble]
2078	70.190418	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=90847 Win=128128 Len=0 TSval=1653553244 TSecr=2446848682
2079	70.191325	199.232.210.248	192.168.0.103	TLSv1.3	1510	Application Data
2080	70.191328	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=91491 Ack=1763 Win=144840 Len=1444 TSval=2446848683 TSecr=1653553182 [TCP PDU reassemble]
2081	70.191535	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=92935 Win=128128 Len=0 TSval=1653553246 TSecr=1653553182 [TCP PDU reassemble]
2082	70.192180	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=92935 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2083	70.192183	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=94379 Ack=1763 Win=144840 Len=1444 TSval=2446848684 TSecr=1653553182 [TCP PDU reassemble]
Frame 2066: 1510 bytes on wire (12080 bits), 1510 bytes captured (12080 bits) on interface en0						
Ethernet II, Src: TP-Link_7:b5:5b (48:00:7b:5b:5b:b3), Dst: 96:2b:ee:39:4:c2 (96:2b:ee:39:4:c2)						
Destination: 96:2b:ee:39:4:c2 (96:2b:ee:39:4:c2)						
....1..... = LG bit: Locally administered address (this is NOT the factory default)						
....0..... = IG bit: Individual address (unicast)						
Source: TP-Link_7:b5:5b:b3 (48:00:7b:5b:5b:b3)						
....0..... = LG bit: Globally unique address (factory default)						
....0..... = IG bit: Individual address (unicast)						
Type: IPv4 (0x0800)						
[Stream index: 0]						
Internet Protocol Version 4, Src: 199.232.210.248, Dst: 192.168.0.103						
0100 = Version: 4						
....0101 = Header Length: 20 bytes (5)						
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)						
Total Length: 1496						
Identification: 0x054f (58703)						
010.... = Flags: 0x2, Don't fragment						
..0 0000 0000 0000 = Fragment Offset: 0						
Time to Live: 51						
Protocol: TCP (6)						
Header Checksum: 0x00e0 [validation disabled]						
[Header checksum status: Unverified]						
Source Address: 199.232.210.248						
Destination Address: 192.168.0.103						
Packets: 22075 - Dropped: 0 (0.0%)						
Profile: Default						
Destination Hardware Address (eth.dst), 6 bytes						
00:00:00:00:00:00						
Profile: Default						
Apply a display filter ... <?>						

No.	Time	Source	Destination	Protocol	Length	Info
2062	70.186660	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=74163 Ack=1763 Win=144840 Len=1444 TSval=2446848678 TSecr=1653553182 [TCP PDU reassemble]
2063	70.186663	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=75607 Ack=1763 Win=144840 Len=1444 TSval=2446848678 TSecr=1653553182 [TCP PDU reassemble]
2064	70.186773	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=77051 Win=128128 Len=0 TSval=1653553241 TSecr=2446848678
2065	70.187572	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=77051 Ack=1763 Win=144840 Len=1444 TSval=2446848679 TSecr=1653553182 [TCP PDU reassemble]
2066	70.187574	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=78495 Ack=1763 Win=144840 Len=1444 TSval=2446848679 TSecr=1653553182 [TCP PDU reassemble]
2067	70.187709	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=7939 Win=128128 Len=0 TSval=1653553241 TSecr=2446848679
2068	70.187982	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=7939 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2069	70.188011	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=81383 Win=129608 Len=0 TSval=1653553242 TSecr=2446848680
2070	70.188280	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=81383 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2071	70.188283	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=82872 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2072	70.188372	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=84271 Win=128128 Len=0 TSval=1653553242 TSecr=2446848680
2073	70.189297	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=84271 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2074	70.189300	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=85715 Ack=1763 Win=144840 Len=1444 TSval=2446848681 TSecr=1653553182 [TCP PDU reassemble]
2075	70.189470	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=87159 Win=128128 Len=0 TSval=1653553242 TSecr=2446848681
2076	70.190300	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=87159 Ack=1763 Win=144840 Len=1444 TSval=2446848682 TSecr=1653553182 [TCP PDU reassemble]
2077	70.190303	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=88683 Ack=1763 Win=144840 Len=1444 TSval=2446848682 TSecr=1653553182 [TCP PDU reassemble]
2078	70.190418	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=90847 Win=128128 Len=0 TSval=1653553244 TSecr=2446848682
2079	70.191325	199.232.210.248	192.168.0.103	TLSv1.3	1510	Application Data
2080	70.191328	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=91491 Ack=1763 Win=144840 Len=1444 TSval=2446848683 TSecr=1653553182 [TCP PDU reassemble]
2081	70.191535	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=92935 Win=128128 Len=0 TSval=1653553246 TSecr=1653553182 [TCP PDU reassemble]
2082	70.192180	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=92935 Ack=1763 Win=144840 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2083	70.192183	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=94379 Ack=1763 Win=144840 Len=1444 TSval=2446848684 TSecr=1653553182 [TCP PDU reassemble]
Frame 2066: 1510 bytes on wire (12080 bits), 1510 bytes captured (12080 bits) on interface en0						
Ethernet II, Src: TP-Link_7:b5:5b (48:00:7b:5b:5b:b3), Dst: 96:2b:ee:39:4:c2 (96:2b:ee:39:4:c2)						
Destination: 96:2b:ee:39:4:c2 (96:2b:ee:39:4:c2)						
....1..... = LG bit: Locally administered address (this is NOT the factory default)						
....0..... = IG bit: Individual address (unicast)						
Source: TP-Link_7:b5:5b:b3 (48:00:7b:5b:5b:b3)						
....0..... = LG bit: Globally unique address (factory default)						
....0..... = IG bit: Individual address (unicast)						
Type: IPv4 (0x0800)						
[Stream index: 0]						
Internet Protocol Version 4, Src: 199.232.210.248, Dst: 192.168.0.103						
0100 = Version: 4						
....0101 = Header Length: 20 bytes (5)						
Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)						
Total Length: 1496						
Identification: 0x054f (58703)						
010.... = Flags: 0x2, Don't fragment</						

No.	Time	Source	Destination	Protocol	Length	Info
2062	70.186666	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=74163 Ack=1763 Win=148480 Len=1444 TSval=2446848678 TSecr=1653553182 [TCP PDU reassemble]
2063	70.186663	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=75607 Ack=1763 Win=148480 Len=1444 TSval=2446848678 TSecr=1653553182 [TCP PDU reassemble]
2064	70.186773	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=77051 Win=128128 Len=0 TSval=1653553241 TSecr=2446848678
2065	70.187572	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=77051 Ack=1763 Win=148480 Len=1444 TSval=2446848679 TSecr=1653553182 [TCP PDU reassemble]
2066	70.187574	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=78495 Ack=1763 Win=148480 Len=1444 TSval=2446848679 TSecr=1653553182 [TCP PDU reassemble]
2067	70.187709	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=79393 Win=128128 Len=0 TSval=1653553241 TSecr=2446848679
2068	70.187982	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=79393 Ack=1763 Win=148480 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2069	70.188019	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=81383 Win=129608 Len=0 TSval=1653553242 TSecr=2446848680
2070	70.188284	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=81383 Ack=1763 Win=148480 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2071	70.188285	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=81382 Ack=1763 Win=148480 Len=1444 TSval=2446848680 TSecr=1653553182 [TCP PDU reassemble]
2072	70.188372	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=84271 Win=128128 Len=0 TSval=1653553242 TSecr=2446848680
2073	70.189297	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=84271 Ack=1763 Win=148480 Len=1444 TSval=2446848681 TSecr=1653553182 [TCP PDU reassemble]
2074	70.189304	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=85715 Ack=1763 Win=148480 Len=1444 TSval=2446848681 TSecr=1653553182 [TCP PDU reassemble]
2075	70.189474	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=87159 Win=128128 Len=0 TSval=1653553244 TSecr=2446848681
2076	70.190300	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=87159 Ack=1763 Win=148480 Len=1444 TSval=2446848682 TSecr=1653553182 [TCP PDU reassemble]
2077	70.190303	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=88603 Ack=1763 Win=148480 Len=1444 TSval=2446848682 TSecr=1653553182 [TCP PDU reassemble]
2078	70.190418	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=90847 Win=128128 Len=0 TSval=1653553244 TSecr=2446848682
2079	70.191325	199.232.210.248	192.168.0.103	TLSv1.3	1510	Application Data
2080	70.191328	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=91491 Ack=1763 Win=148480 Len=1444 TSval=2446848683 TSecr=1653553182 [TCP PDU reassemble]
2081	70.191535	192.168.0.103	199.232.210.248	TCP	66	60078 → 443 [ACK] Seq=1763 Ack=92935 Win=128128 Len=0 TSval=1653553246 TSecr=2446848683
2082	70.192182	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [ACK] Seq=92935 Ack=1763 Win=148480 Len=1444 TSval=2446848683 TSecr=1653553182 [TCP PDU reassemble]
2083	70.192183	199.232.210.248	192.168.0.103	TCP	1510	443 → 60078 [PSH, ACK] Seq=94379 Ack=1763 Win=148480 Len=1444 TSval=2446848684 TSecr=1653553182 [TCP PDU reassemble]
.....1..... = LG bit: Locally administered address (this is NOT the fa0..... = IG bit: Individual address (unicast)						
.....0..... = LG bit: Globally unique address (factory default)						
.....0..... = IG bit: Individual address (unicast)						
Type: IPv4 (0x0800)						
[Stream index: 0]						
> Internet Protocol Version 4, Src: 199.232.210.248, Dst: 192.168.0.103						
0100 Version: 4						
....0101 Header Length: 20 bytes (5)						
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)						
Total Length: 1496						
Identification: 0x545f (58703)						
010.... Flags: 0x2, Don't fragment						
..0 0000 0000 0000 = Fragment Offset: 0						
Time to Live: 51						
Protocol: TCP (6)						
Header Checksum: 0x0000 [validation disabled]						
[Header checksum status: Unverified]						
Source Address: 199.232.210.248						
Destination Address: 192.168.0.103						
[Stream index: 30]						
> Transmission Control Protocol, Src Port: 443, Dst Port: 60078, Seq: 78495, Ack: 1763, Len: 14						
Source Address (ip_src), 4 bytes						
Packets: 22075 - Dropped: 0 (0.0%)						
Profile: Default						
.....1..... = LG bit: Locally administered address (this is NOT the fa0..... = IG bit: Individual address (unicast)						
.....0..... = LG bit: Globally unique address (factory default)						
.....0..... = IG bit: Individual address (unicast)						
Type: IPv4 (0x0800)						
[Stream index: 0]						
> Internet Protocol Version 4, Src: 199.232.210.248, Dst: 192.168.0.103						
0100 Version: 4						
....0101 Header Length: 20 bytes (5)						
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)						
Total Length: 1496						
Identification: 0x545f (58703)						
010.... Flags: 0x2, Don't fragment						
..0 0000 0000 0000 = Fragment Offset: 0						
Time to Live: 51						
Protocol: TCP (6)						
Header Checksum: 0x0000 [validation disabled]						
[Header checksum status: Unverified]						
Source Address: 199.232.210.248						
Destination Address: 192.168.0.103						
[Stream index: 30]						
> Transmission Control Protocol, Src Port: 443, Dst Port: 60078, Seq: 78495, Ack: 1763, Len: 14						
Source Address (ip_src), 4 bytes						
Packets: 22075 - Dropped: 0 (0.0%)						
Profile: Default						
.....1..... = LG bit: Locally administered address (this is NOT the fa0..... = IG bit: Individual address (unicast)						
.....0..... = LG bit: Globally unique address (factory default)						
.....0..... = IG bit: Individual address (unicast)						
Type: IPv4 (0x0800)						
[Stream index: 0]						
> Internet Protocol Version 4, Src: 199.232.210.248, Dst: 192.168.0.103						
0100 Version: 4						
....0101 Header Length: 20 bytes (5)						
> Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)						
Total Length: 1496						
Identification: 0x545f (58703)						
010.... Flags: 0x2, Don't fragment						
..0 0000 0000 0000 = Fragment Offset: 0						
Time to Live: 51						
Protocol: TCP (6)						
Header Checksum: 0x0000 [validation disabled]						
[Header checksum status: Unverified]						
Source Address: 199.232.210.248						
Destination Address: 192.168.0.103						
[Stream index: 30]						
> Transmission Control Protocol, Src Port: 443, Dst Port: 60078, Seq: 78495, Ack: 1763, Len: 14						
Destination Address (ip_dst), 4 bytes						
Packets: 22075 - Dropped: 0 (0.0%)						
Profile: Default						

9.

Ipconfig afiseaza informatii de baza despre configurarea retelei adica adresa IPv4 si adresa IPv6.

Ipconfig /all afiseaza detalii extinse, inclusiv adresa MAC, servere DNS, configuratii DHCP, durata de expirare a adreselor alocate dinamic.

10.

5C:50:D9:95:1F:17

5C:50:D9:FF:FE:95:1F:17

5E:50:D9:FF:FE:95:1F:17

60:3e:5f:FF:FE:78:b7:bf

60:3e:5f:FF:FE:78:b7:bf

62:3e:5f:FF:FE:78:b7:bf