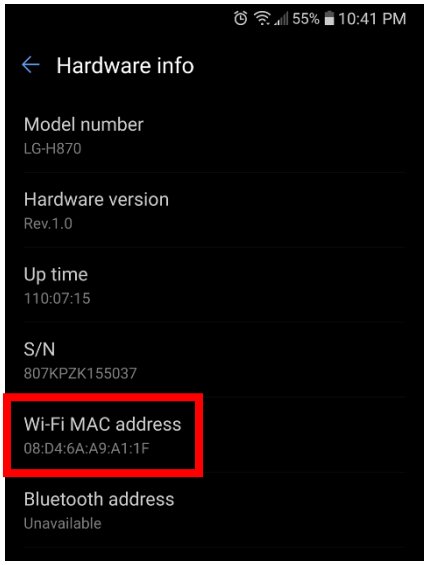
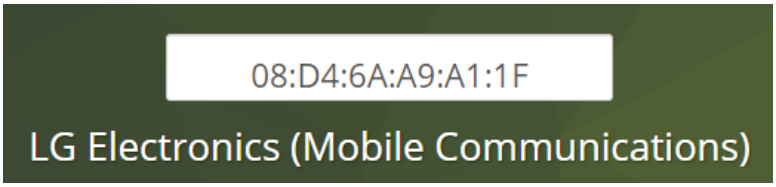
Addressing in Computer Networks

Tatu Bogdan – Gr. 3.1

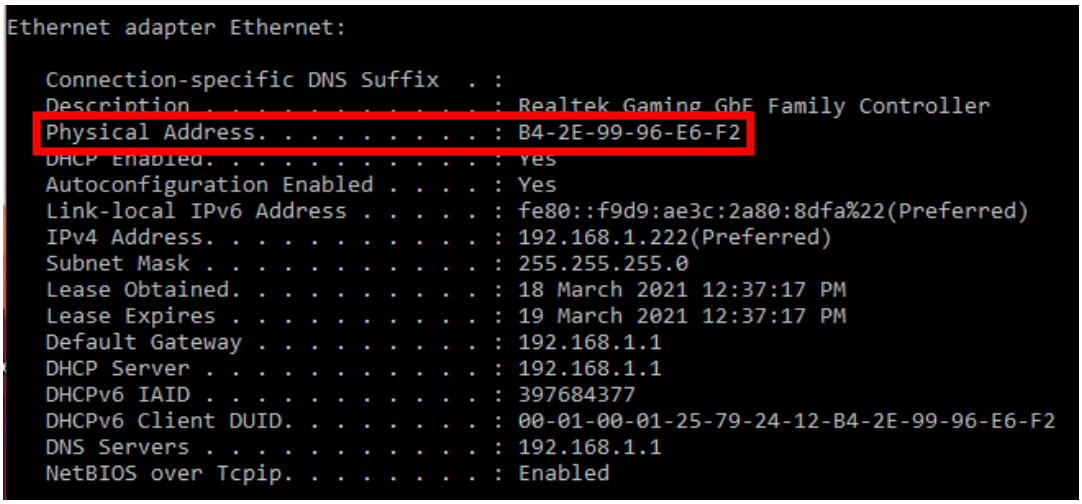
1. Phone MAC Address: 08:D4:6A:A9:A1:1F



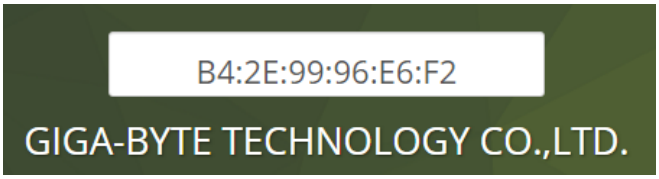
2. Phone's NIC Manufacturer: LG Electronics



3. PC's MAC Address: B4:2E:99:96:E6:F2



4. PC's NIC Manufacturer: GIGA-BYTE




```
Frame 5: 50 bytes on wire (400 bits), 50 bytes captured (400 bits) on interface \Device\NPF_{F1A7D8CC-772B-4D92-A7CC-3463EF9E7AAD}, id 0
Ethernet II, Src: Giga-Byt_96:e6:f2 (b4:2e:99:96:e6:f2), Dst: ASUSTekC_e4:dd:98 (54:a0:50:e4:dd:98)
Internet Protocol Version 4, Src: 192.168.1.222, Dst: 213.163.95.28
User Datagram Protocol, Src Port: 65126, Dst Port: 50003
Data (8 bytes)
```

5. Individual Part: 96:e6:f2 (last 3 bytes of MAC address)

6. ARP Table Entries:

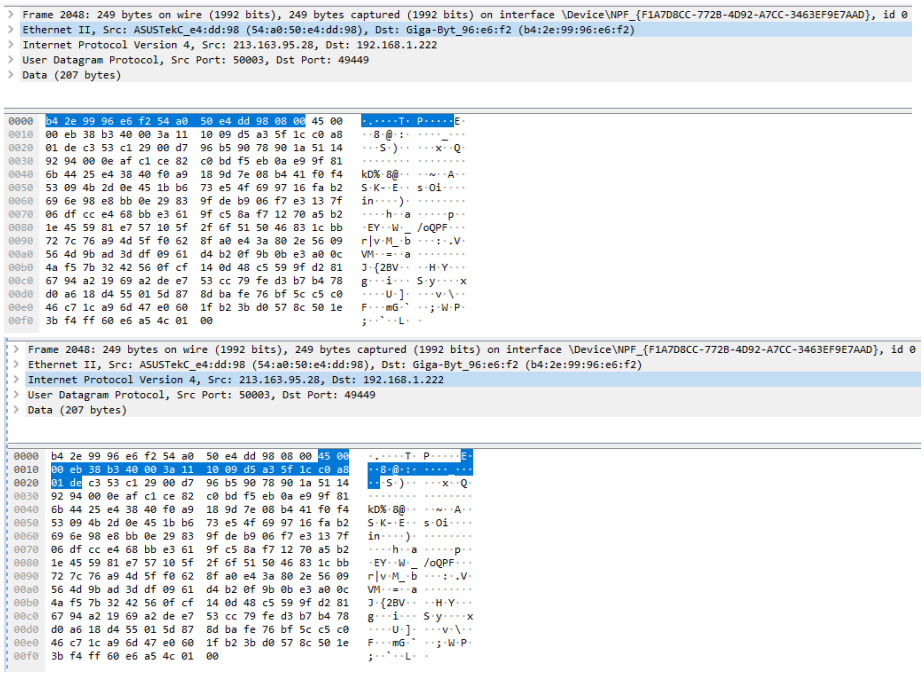
```
Interface: 192.168.1.222 --- 0x16
  Internet Address      Physical Address      Type
  192.168.1.1           54-a0-50-e4-dd-98     dynamic
  192.168.1.88          1c-5a-3e-53-01-96     dynamic
  192.168.1.113         4c-eb-bd-4a-98-6f     dynamic
  192.168.1.219         f8-77-b8-5f-01-00     dynamic
  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
```

7. Frame 42:

MAC Dest	MAC Src	IP Scr	IP Dest	Transport Header	Data
B4:2E:99:96:E6:F2	54:A0:50:E4:DD:98	162.159.133.234	192.168.1.222	-	-

```
Frame 42: 97 bytes on wire (776 bits), 97 bytes captured (776 bits) on interface \Device\NPF_{F1A7D8CC-772B-4D92-A7CC-3463EF9E7AAD}, id 0
Ethernet II, Src: ASUSTekC_e4:dd:98 (54:a0:50:e4:dd:98), Dst: Giga-Byt_96:e6:f2 (b4:2e:99:96:e6:f2)
Internet Protocol Version 4, Src: 162.159.133.234, Dst: 192.168.1.222
Transmission Control Protocol, Src Port: 443, Dst Port: 58436, Seq: 371, Ack: 1, Len: 43
Transport Layer Security
```

8. Frame 2048: Physical then Logical Addresses



9. ipconfig vs ipconfig /all: Shows more details, such as the physical address.

```
Options:
   /?               Display this help message
   /all             Display full configuration information.
   /release         Release the IPv4 address for the specified adapter.
   /release6        Release the IPv6 address for the specified adapter.
   /renew           Renew the IPv4 address for the specified adapter.
```

ipconfig

```
Ethernet adapter Ethernet:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::f9d9:ae3c:2a80:8dfa%22
   IPv4 Address. . . . . . . . . . . : 192.168.1.222
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.1.1
```

ipconfig /all

```
Ethernet adapter Ethernet:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Realtek Gaming GbE Family Controller
   Physical Address. . . . . . . . . : B4-2E-99-96-E6-F2
   DHCP Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes
   Link-local IPv6 Address . . . . . : fe80::f9d9:ae3c:2a80:8dfa%22(Preferred)
   IPv4 Address. . . . . . . . . . . : 192.168.1.222(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Lease Obtained. . . . . . . . . . : 18 March 2021 12:37:17 PM
   Lease Expires . . . . . . . . . . : 19 March 2021 12:37:16 PM
   Default Gateway . . . . . . . . . : 192.168.1.1
   DHCP Server . . . . . . . . . . . : 192.168.1.1
   DHCPv6 IAID . . . . . . . . . . . : 397684377
   DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-25-79-24-12-B4-2E-99-96-E6-F2
   DNS Servers . . . . . . . . . . . : 192.168.1.1
   NetBIOS over Tcpip. . . . . . . . : Enabled
```

10. IPv6 Addresses:
    - PC MAC: B4:2E:99:96:E6:F2
    - PC IPv6: B6:2E:99:FF:FE:96:E6:F2
    - Phone MAC: 08:D4:6A:A9:A1:1F
    - Phone IPv6: 0A:D4:6A:FF:FE:A9:A1:1F