Network Security Lab 4: Identifying IPv6 Addresses

Alexander Hoffmann
ECE Paris
Paris, France
alexander.hoffmann@edu.ece.fr

I. Identify the Different Types of IPv6 Addresses

A. Match the IPv6 address to its type

2001:0DB8:1:ACAD::FE55:6789:B210	Global unicast addres
::1	Loopback address
FC00:22:A:2::CD4:23E4:76FA	Unique-local addres
2033:DB8:1:1:22:A33D:259A:21FE	Global unicast address
FE80::3201:CC01:65B1	Link-local address
FF00::	Multicast address
FF00::DB7:4322:A231:67C	Multicast address
FF02::2	Multicast address

II. Examine a Host IPv6 Network Interface and Address

A. Check your PC IPv6 network address settings

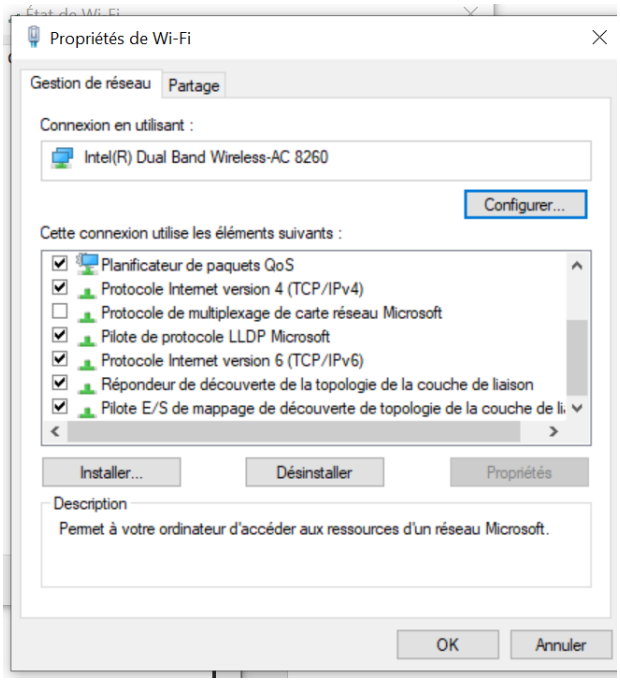

Fig. 1. Configuration of the accounting server

i. It indicates that there is no IPv6 enabled gateway router providing global address, local address, or subnet information on the network.

```
wlo1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.43.195  netmask 255.255.255.0  broadcast 192.168.43.2
        inet6 fe80::45b:1f34:7e8a:5711  prefixlen 64  scopeid 0x20<link>
        ether 88:78:73:c8:37:46  txqueuelen 1000  (Ethernet)
        RX packets 41324  bytes 27756235 (27.7 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 34862  bytes 8654703 (8.6 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

Fig. 2. Configuration of the accounting server

f. Answers will vary, but most likely they will be link-local addresses also.

III. Practice IPv6 Address Abbreviation

A. Study and review the rules for IPv6 address abbreviation

1)2002:0EC0:0200:0001:0000:04EB:44CE:08A2
2002:EC0:200:1::4EB:44CE:8A2

2)FE80:0000:0000:0001:0000:60BB:008E:7402
FE80::1:0:60BB:8E:7402

3)FE80::7042:B3D7:3DEC:84B8
FE80:0000:0000:0000:7042:B3D7:3DEC:84B8

4)FF00:: FF00:0000:0000:0000:0000:0000:0000:0000

5)2001:0030:0001:ACAD:0000:330E:10C2:32BF
2001:30:1:ACAD::330E:10C2:32BF