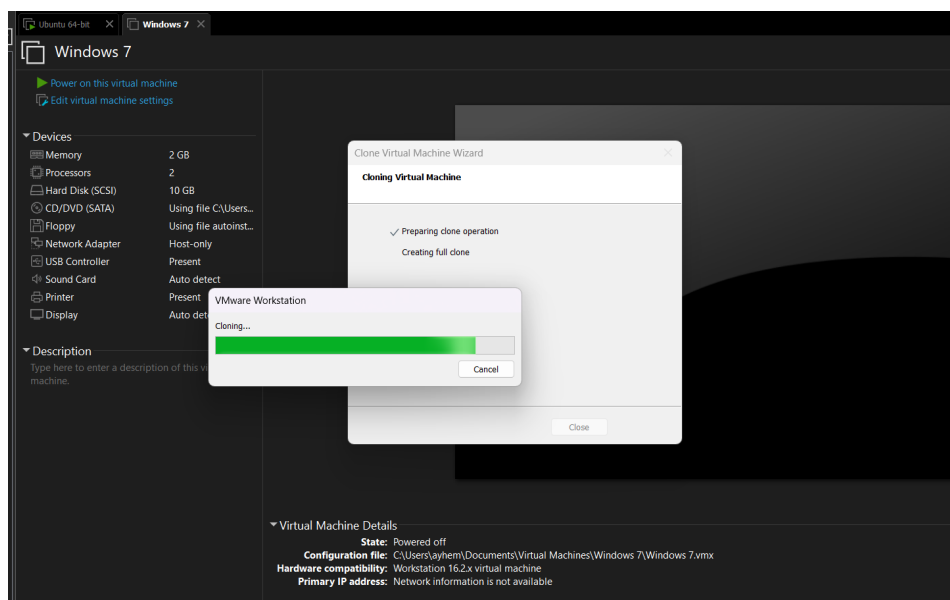
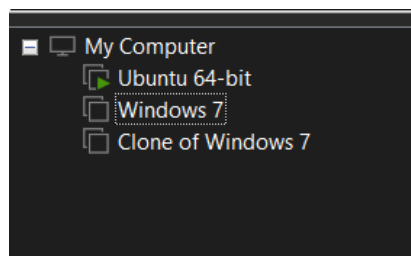


## Partie VMware

Créer une duplication (clone) de l'état actuel de la VM Windows 7 (full réplication).

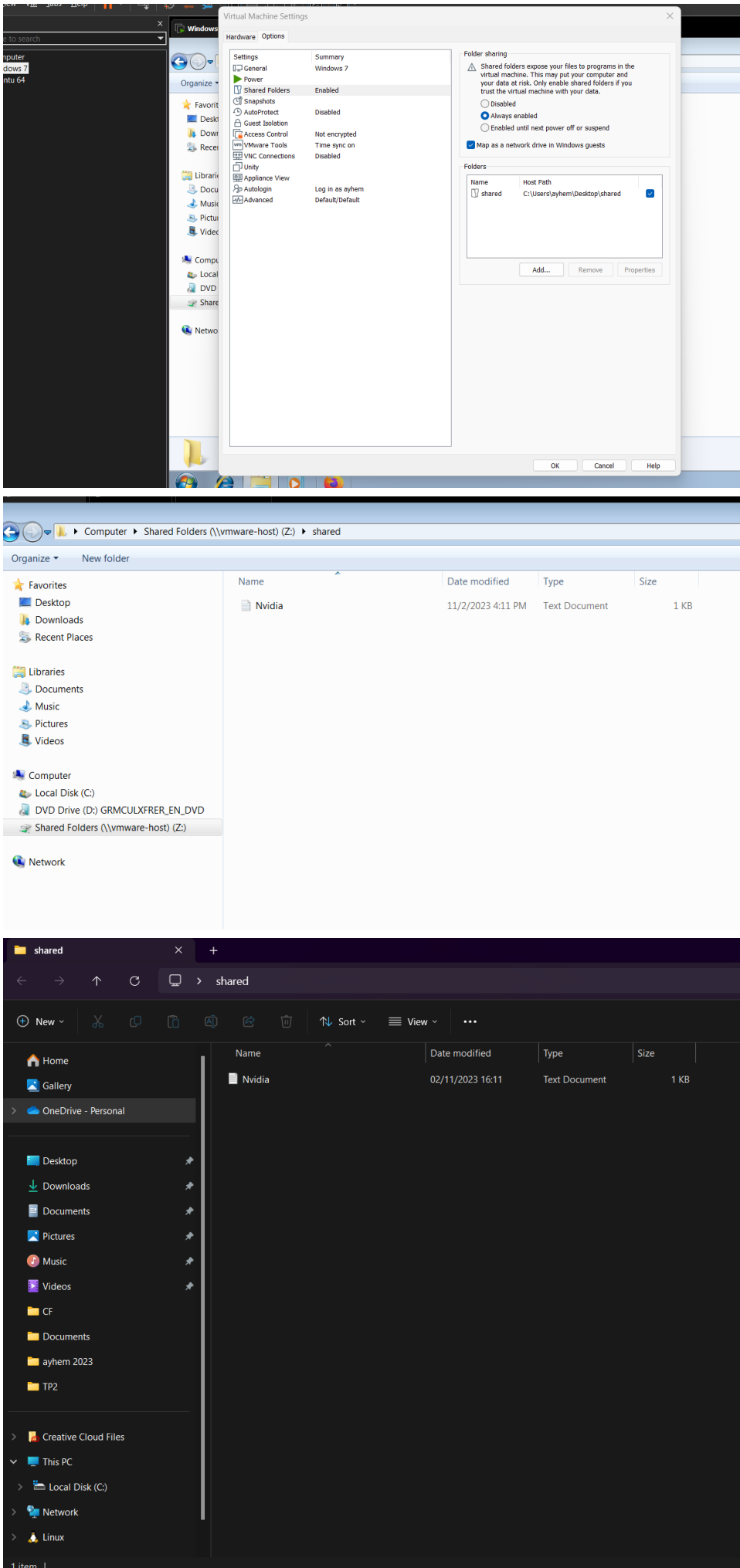


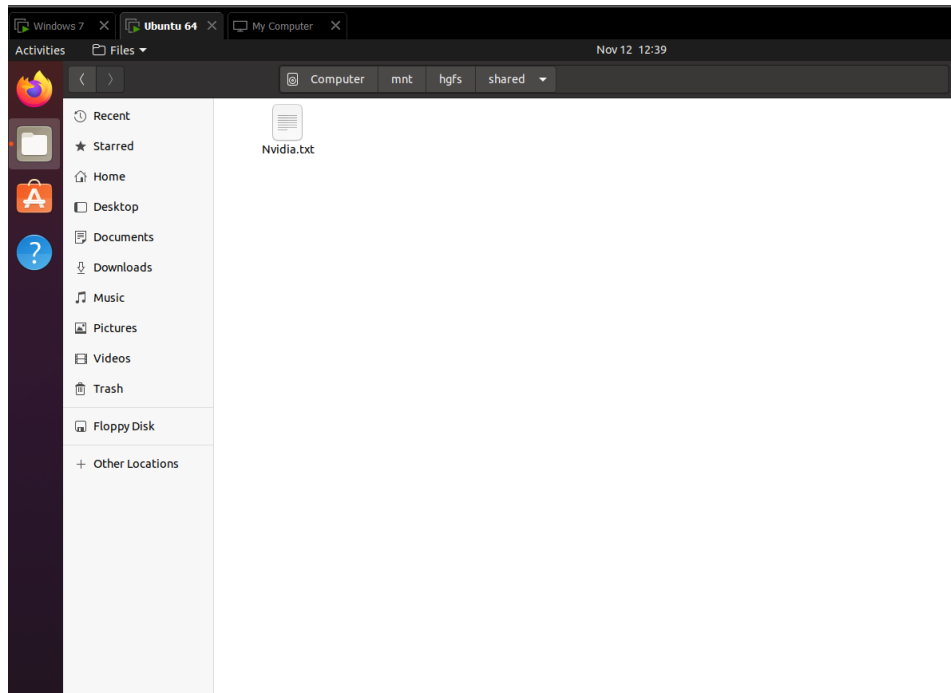
Une nouvelle machine clone a été créée.



Configurer un partage de fichiers entre la VM et l'hôte.

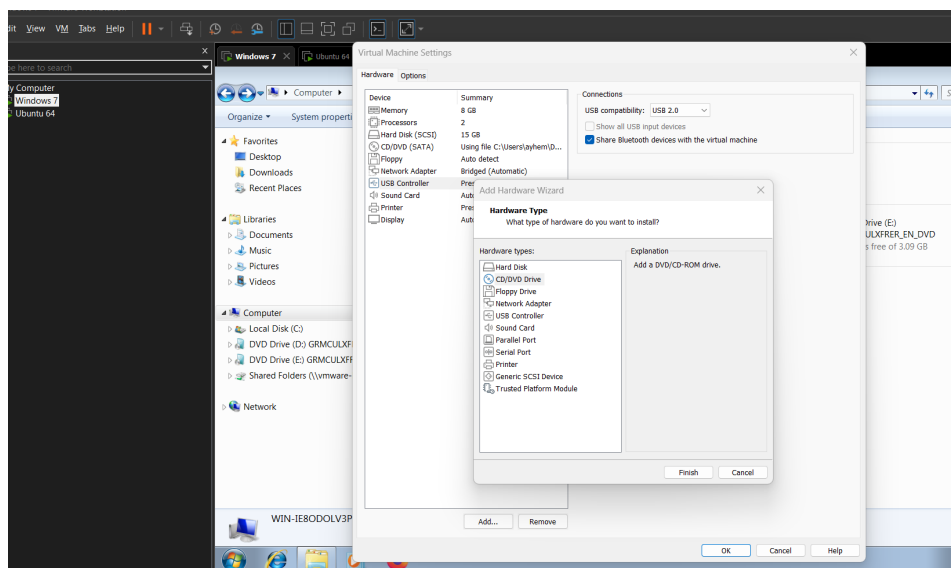
- On doit d'abord aller vers les parametre de machine virtuelle → options → Shared Folder et le modifier vers "Always enabled" et ajouter le chemin du dossier dans la machine host
- On doit installer VMware Tools pour qu'on puisse faire le partage entre la machine host et guest.
- On peut voir que le fichier est bien partagé entre la machine host et guest.





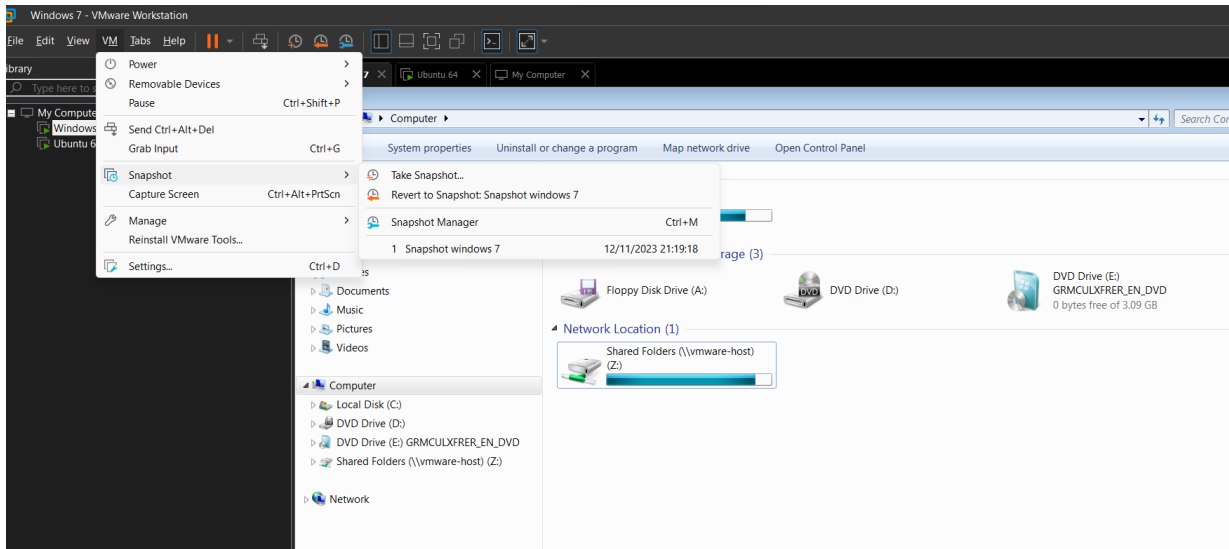
## Configurer un partage des périphériques entre la VM et l'hôte.

On ajoute un nouveau périphérique. et on voit que l'on peut voir sur la machine hôte et guest



# Créer et restaurer une image instantanée (snapshot) pour la VM Windows 7.

Pour prendre une snapshot dans vmware , on clique sur VM → Snapshot → Take Snapshot



Pour restaurer un snaphshot on clique sur : revert to Snapshot : Snapshot windows 7 , et on va voire qu'on a reviendrai dans la meme etat et la position ou on a creee le snapshot

## Mettre les VMs dans un réseau privé (Host-Only) :

Device	Summary
Memory	4 GB
Processors	2
Hard Disk (SCSI)	10 GB
CD/DVD 2 (SATA)	Using file C:\Users\ayhem\D...
CD/DVD (SATA)	Using file autoinst.iso
Floppy	Using file autoinst.flp
Network Adapter	Host-only
USB Controller	Present
Sound Card	Auto detect
Printer	Present
Display	Auto detect

**Device status**

- ☒ Connected
- ☒ Connect at power on

**Network connection**

- ☐ Bridged: Connected directly to the physical network
  - ☐ Replicate physical network connection state
- ☐ NAT: Used to share the host's IP address
- ☒ Host-only: A private network shared with the host
- ☐ Custom: Specific virtual network

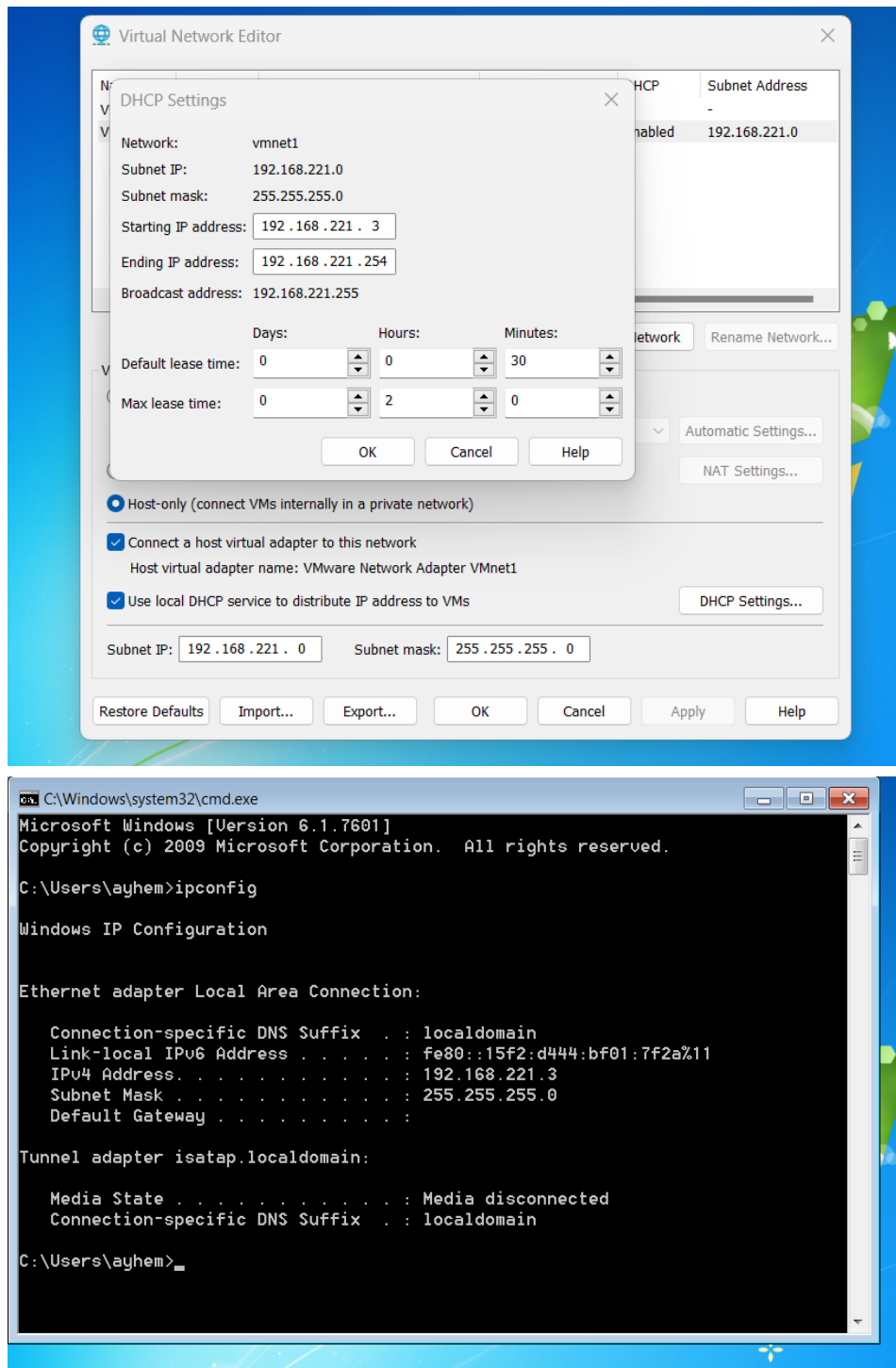
VMnet0

☐ LAN segment:

LAN Segments... Advanced...

l'intervalle de reseau et de 192.168.157.128 → 192.168.157.254

## Ip address pour Windows 7 et Ubuntu



192.168.221.3

```

allprotas@ubuntu: ~
command 'ifconfig' from deb net-tools (1.60+git20180626.aebd88e-1ubuntu1)
Try: sudo apt install <deb name>

allprotas@ubuntu:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.221.4 netmask 255.255.255.0 broadcast 192.168.221.255
    inet6 fe80::495a:f954:20b2:a1ff prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:81:1a:03 txqueuelen 1000 (Ethernet)
    RX packets 11354 bytes 1016379 (1.0 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 11392 bytes 911784 (911.7 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 3210 bytes 249503 (249.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 3210 bytes 249503 (249.5 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

allprotas@ubuntu:~$

```

192.168.221.4

toutes le machine sont dans le meme reseau

On teste la connectivite

```

Wireless LAN adapter Local Area Connection* 10:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Ethernet adapter VMware Network Adapter VMnet1:

    Connection-specific DNS Suffix  . :
    Link-Local IPv6 Address . . . . . : fe80::335c:9b5a:5d05:d4ea%7
    IPv4 Address. . . . . : 192.168.221.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . :

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . :
    Link-Local IPv6 Address . . . . . : fe80::dc43:933c:ba32:5319%21
    IPv4 Address. . . . . : 192.168.221.70
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.221.2

Ethernet adapter vEthernet (Default Switch):

    Connection-specific DNS Suffix  . :
    Link-Local IPv6 Address . . . . . : fe80::a43c:874b:e186:589c%47
    IPv4 Address. . . . . : 172.26.240.1
    Subnet Mask . . . . . : 255.255.240.0
    Default Gateway . . . . . :

C:\Users\ayhem>

C:\Users\ayhem>ping 192.168.221.3

Pinging 192.168.221.3 with 32 bytes of data:
Reply from 192.168.221.3: bytes=32 time<1ms TTL=128
Reply from 192.168.221.3: bytes=32 time<1ms TTL=128
Reply from 192.168.221.3: bytes=32 time<1ms TTL=128
Reply from 192.168.221.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.221.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\ayhem>

```

```
IPV4 Address. . . . . : 192.168.221.3
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :

Tunnel adapter isatap.localdomain:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  : localdomain

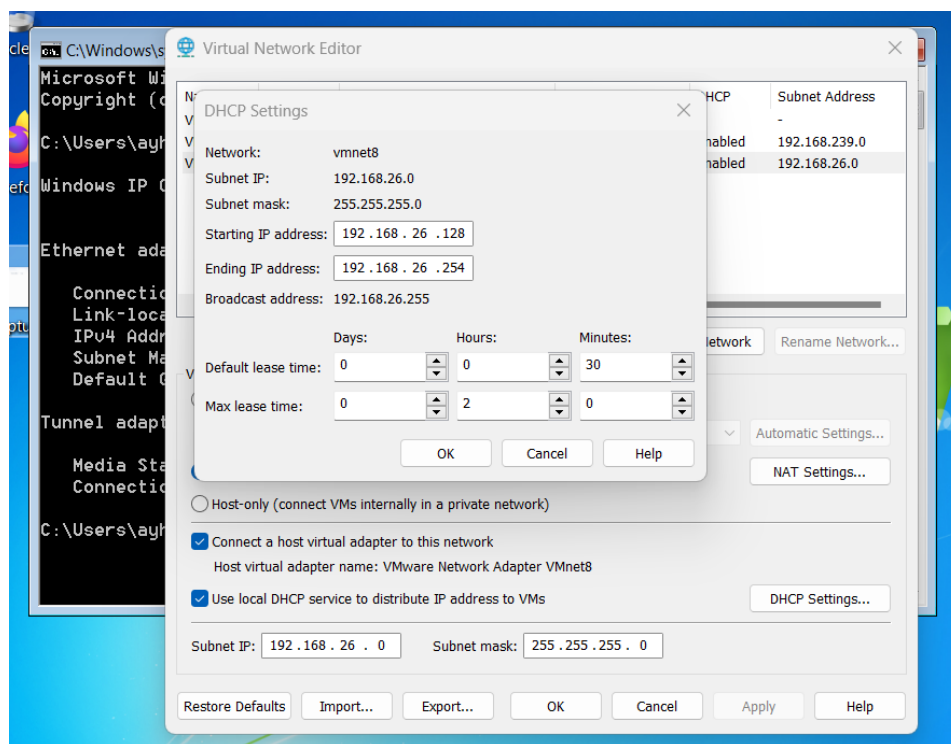
C:\Users\ayhem>ping 192.168.221.4

Pinging 192.168.221.4 with 32 bytes of data:
Reply from 192.168.221.4: bytes=32 time<1ms TTL=64
Reply from 192.168.221.4: bytes=32 time<1ms TTL=64
Reply from 192.168.221.4: bytes=32 time<1ms TTL=64
Reply from 192.168.221.4: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.221.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\ayhem>
```

## Mettre les VMs sur le mode de réseau virtuel NAT



```

C:\Windows\system32\cmd.exe

Tunnel adapter isatap.localdomain:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : localdomain

C:\Users\ayhem>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : localdomain
    Link-local IPv6 Address . . . . . : fe80::15f2:d444:bf01:7f2a%11
    IPv4 Address. . . . . : 192.168.26.128
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.26.2

Tunnel adapter isatap.localdomain:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : localdomain

C:\Users\ayhem>

```

192.168.26.128

```

allprotas@ubuntu: ~
allprotas@ubuntu:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.26.129 netmask 255.255.255.0 broadcast 192.168.26.255
    inet6 fe80::495a:f954:20b2:a1ff prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:81:1a:03 txqueuelen 1000 (Ethernet)
    RX packets 75278 bytes 108561828 (108.5 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12180 bytes 797194 (797.1 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 266 bytes 23117 (23.1 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 266 bytes 23117 (23.1 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

allprotas@ubuntu:~$

```

192.168.26.129

```

C:\Users\ayhem>ping 192.168.26.129

Pinging 192.168.26.129 with 32 bytes of data:
Reply from 192.168.26.129: bytes=32 time<1ms TTL=64
Reply from 192.168.26.129: bytes=32 time<1ms TTL=64
Reply from 192.168.26.129: bytes=32 time<1ms TTL=64
Reply from 192.168.26.129: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.26.129:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\ayhem>

```

ping de les vm vers l'hote



```
C:\Users\ayhem>ping 192.168.221.70

Pinging 192.168.221.70 with 32 bytes of data:
Reply from 192.168.221.70: bytes=32 time=1ms TTL=128
Reply from 192.168.221.70: bytes=32 time=1ms TTL=128
Reply from 192.168.221.70: bytes=32 time=1ms TTL=128
Reply from 192.168.221.70: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.221.70:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\ayhem>
```

accéder vers l'internet à partir des vms

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

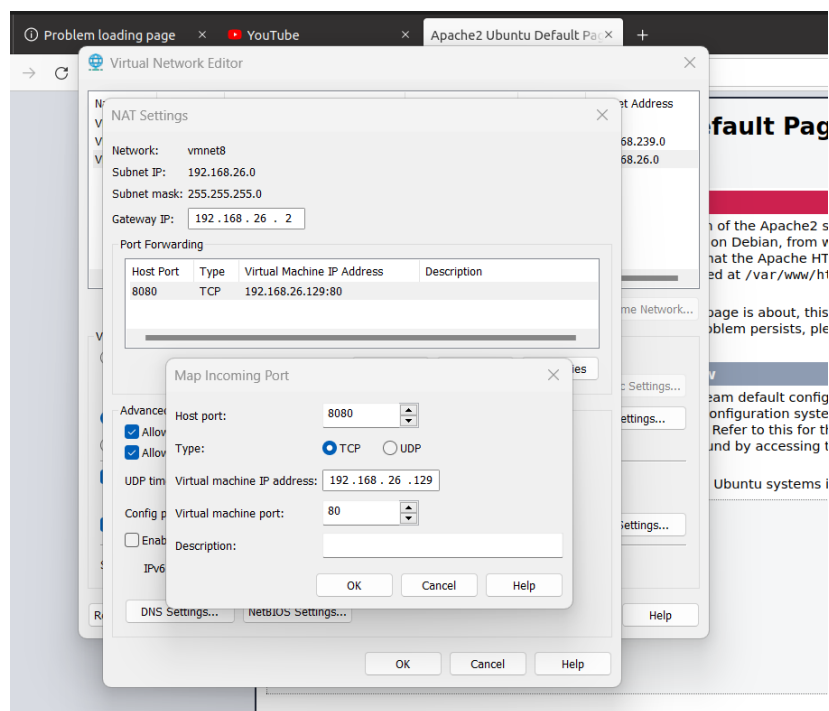
C:\Users\ayhem>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=76ms TTL=128
Reply from 8.8.8.8: bytes=32 time=49ms TTL=128
Reply from 8.8.8.8: bytes=32 time=63ms TTL=128
Reply from 8.8.8.8: bytes=32 time=59ms TTL=128

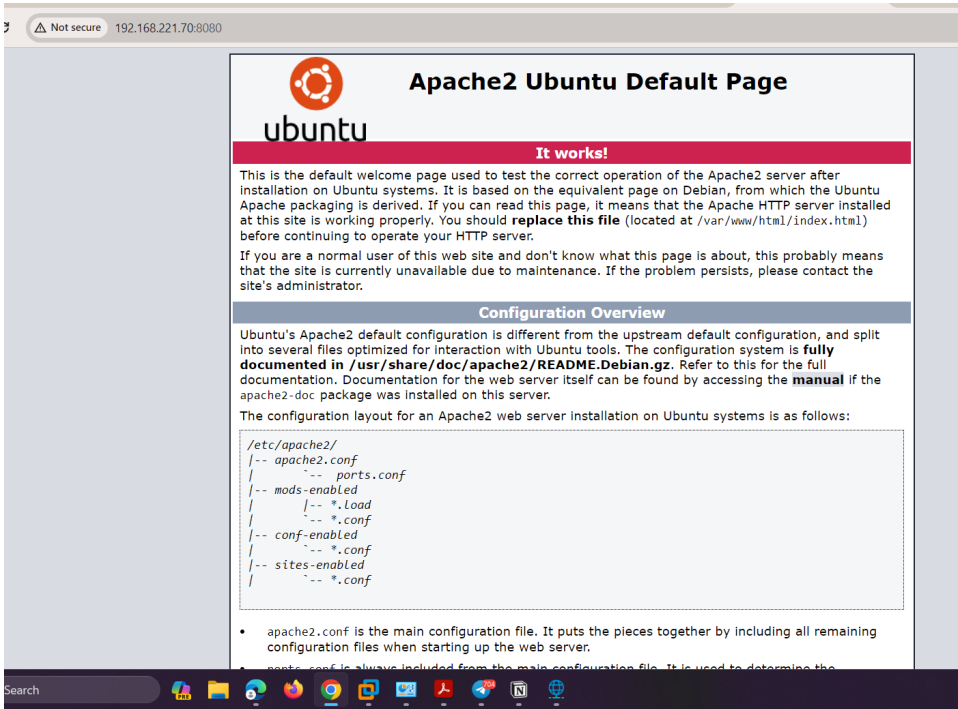
Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 49ms, Maximum = 76ms, Average = 61ms

C:\Users\ayhem>
```

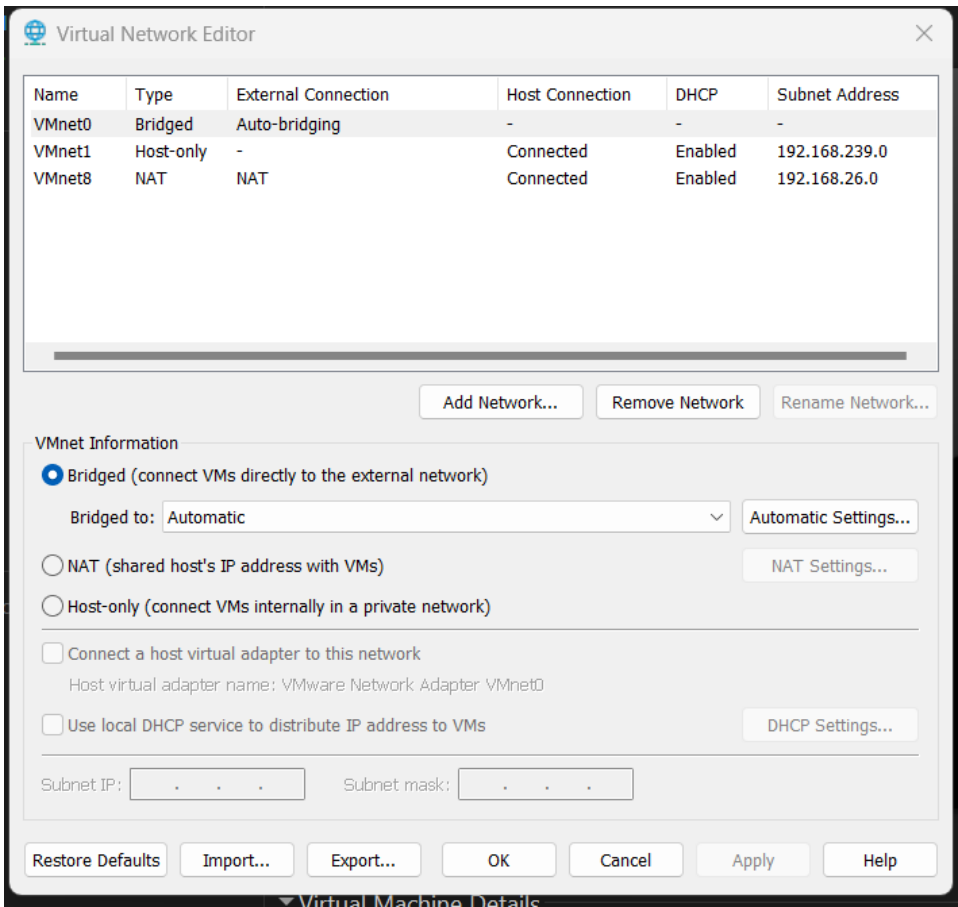
## Port forwarding



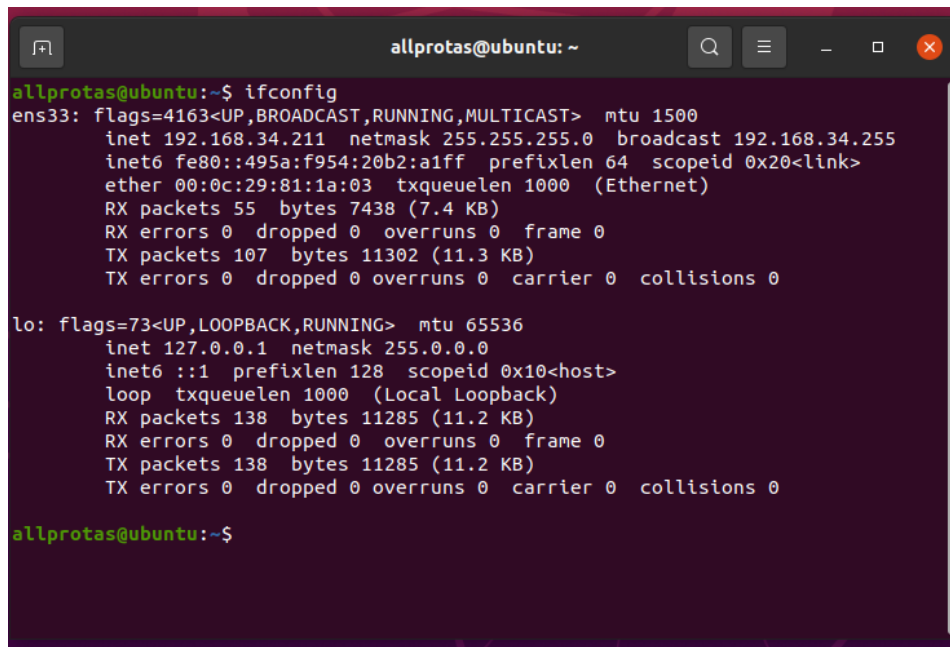
on peut accéder vers le serveur apache à travers notre hôte



## 8. Mettre les VMs sur le mode de réseau virtuel Bridged.

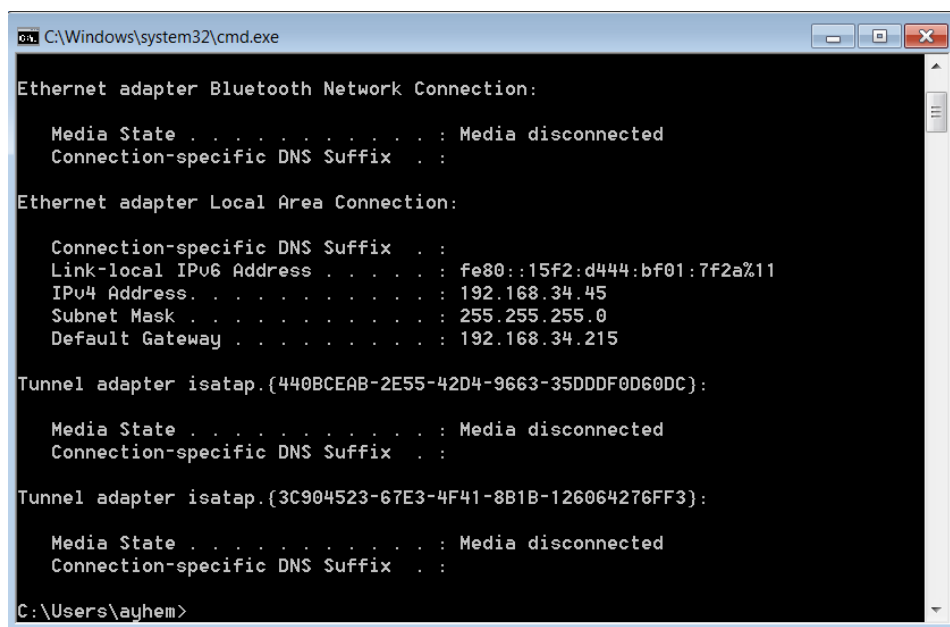


### L'attribution des adresses IP



```
allprotas@ubuntu: ~  
allprotas@ubuntu:~$ ifconfig  
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 192.168.34.211 netmask 255.255.255.0 broadcast 192.168.34.255  
    inet6 fe80::495a:f954:20b2:a1ff prefixlen 64 scopeid 0x20<link>  
    ether 00:0c:29:81:1a:03 txqueuelen 1000 (Ethernet)  
    RX packets 55 bytes 7438 (7.4 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 107 bytes 11302 (11.3 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536  
    inet 127.0.0.1 netmask 255.0.0.0  
    inet6 ::1 prefixlen 128 scopeid 0x10<host>  
    loop txqueuelen 1000 (Local Loopback)  
    RX packets 138 bytes 11285 (11.2 KB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 138 bytes 11285 (11.2 KB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
allprotas@ubuntu:~$
```

Ubuntu → 192.168.34.211



```
C:\Windows\system32\cmd.exe  
  
Ethernet adapter Bluetooth Network Connection:  
  
    Media State . . . . . : Media disconnected  
    Connection-specific DNS Suffix  . :  
  
Ethernet adapter Local Area Connection:  
  
    Connection-specific DNS Suffix  . :  
    Link-local IPv6 Address . . . . . : fe80::15f2:d444:bf01:7f2a%11  
    IPv4 Address. . . . . : 192.168.34.45  
    Subnet Mask . . . . . : 255.255.255.0  
    Default Gateway . . . . . : 192.168.34.215  
  
Tunnel adapter isatap.{440BCEAB-2E55-42D4-9663-35DDDF0D60DC}:  
  
    Media State . . . . . : Media disconnected  
    Connection-specific DNS Suffix  . :  
  
Tunnel adapter isatap.{3C904523-67E3-4F41-8B1B-126064276FF3}:  
  
    Media State . . . . . : Media disconnected  
    Connection-specific DNS Suffix  . :  
  
C:\Users\ayhem>
```

Windows7 → 192.168.34.45

```
Command Prompt

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::ae1f:f752:1894:6fba%21
    IPv4 Address. . . . . : 192.168.34.99
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.34.215

Ethernet adapter Bluetooth Network Connection:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

C:\Users\ayhem>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=101ms TTL=114
Reply from 8.8.8.8: bytes=32 time=101ms TTL=114
Reply from 8.8.8.8: bytes=32 time=110ms TTL=114
Reply from 8.8.8.8: bytes=32 time=82ms TTL=114

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 82ms, Maximum = 110ms, Average = 98ms

C:\Users\ayhem>
```

Host → 192.168.34.99

Toutes les machine sont dans le meme sous reseau , et la machine host est connecte a l'internet (on peut ping 8.8.8.8) Le pasrelle par default est : 192.168.34.215

## Teste de connectivite entre les machines

```
allprotas@ubuntu: ~
allprotas@ubuntu:~$ ping 192.168.34.45
PING 192.168.34.45 (192.168.34.45) 56(84) bytes of data:
64 bytes from 192.168.34.45: icmp_seq=1 ttl=128 time=1.06 ms
64 bytes from 192.168.34.45: icmp_seq=2 ttl=128 time=1.02 ms
64 bytes from 192.168.34.45: icmp_seq=3 ttl=128 time=1.15 ms
64 bytes from 192.168.34.45: icmp_seq=4 ttl=128 time=1.32 ms
64 bytes from 192.168.34.45: icmp_seq=5 ttl=128 time=0.984 ms
64 bytes from 192.168.34.45: icmp_seq=6 ttl=128 time=1.07 ms
64 bytes from 192.168.34.45: icmp_seq=7 ttl=128 time=0.989 ms
^C
```

ping ubuntu vers windows7

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\ayhem>ping 192.168.34.211

Pinging 192.168.34.211 with 32 bytes of data:
Reply from 192.168.34.211: bytes=32 time=1ms TTL=64
Reply from 192.168.34.211: bytes=32 time<1ms TTL=64
Reply from 192.168.34.211: bytes=32 time<1ms TTL=64
Reply from 192.168.34.211: bytes=32 time=1ms TTL=64
```

ping windows7 vers ubuntu

```

C:\Users\ayhem>ping 192.168.34.45

Pinging 192.168.34.45 with 32 bytes of data:
Reply from 192.168.34.45: bytes=32 time<1ms TTL=128
Reply from 192.168.34.45: bytes=32 time<1ms TTL=128
Reply from 192.168.34.45: bytes=32 time<1ms TTL=128
Reply from 192.168.34.45: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.34.45:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\ayhem>ping 192.168.34.211

Pinging 192.168.34.211 with 32 bytes of data:
Reply from 192.168.34.211: bytes=32 time<1ms TTL=64
Reply from 192.168.34.211: bytes=32 time<1ms TTL=64
Reply from 192.168.34.211: bytes=32 time<1ms TTL=64
Reply from 192.168.34.211: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.34.211:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

```

ping windows ver ubuntu et windows7

## Teste de connectivite vers l'internet

```

C:\Users\ayhem>ping google.com

Pinging google.com [216.58.198.78] with 32 bytes of data:
Reply from 216.58.198.78: bytes=32 time=74ms TTL=114
Reply from 216.58.198.78: bytes=32 time=78ms TTL=114
Reply from 216.58.198.78: bytes=32 time=119ms TTL=114
Reply from 216.58.198.78: bytes=32 time=78ms TTL=114

Ping statistics for 216.58.198.78:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 74ms, Maximum = 119ms, Average = 87ms

C:\Users\ayhem>_

```

Windows7 peut connecter a l'internet

```

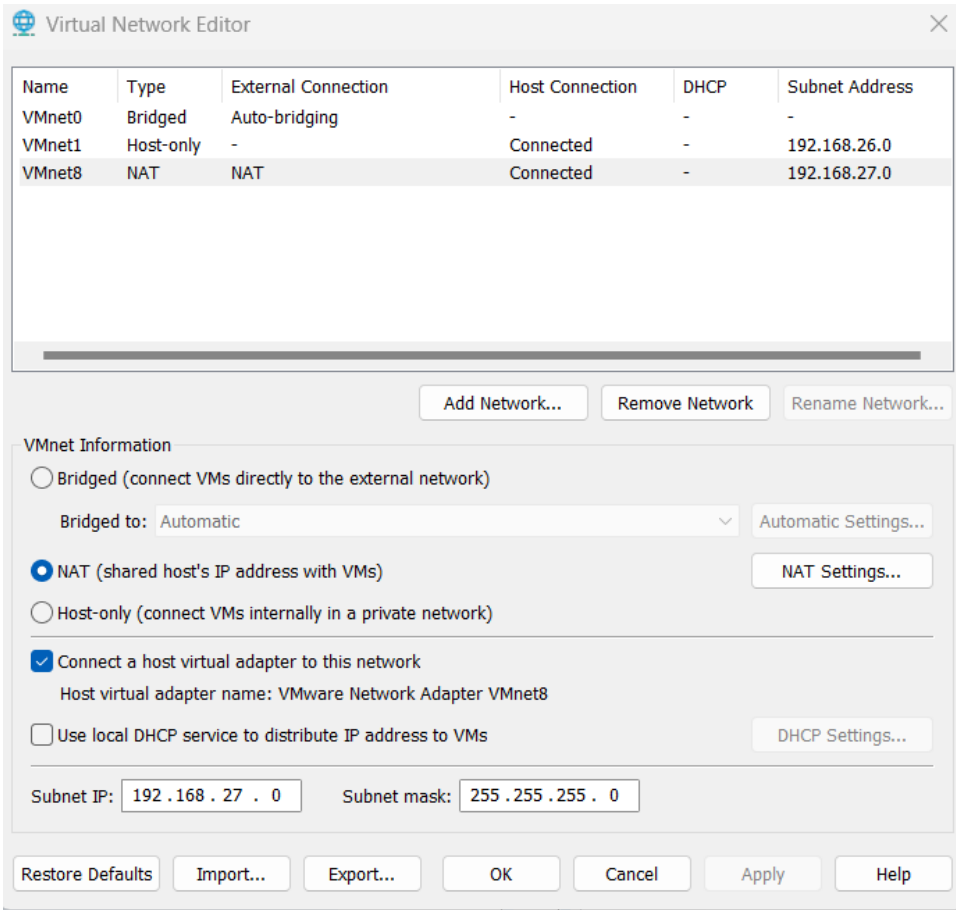
allprotas@ubuntu:~$ ping google.com
PING google.com (216.58.198.78) 56(84) bytes of data:
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=1 ttl=114 time=126 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=2 ttl=114 time=101 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=3 ttl=114 time=136 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=4 ttl=114 time=95.5 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=5 ttl=114 time=106 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=6 ttl=114 time=87.7 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=7 ttl=114 time=81.9 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=8 ttl=114 time=94.7 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=9 ttl=114 time=167 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=10 ttl=114 time=89.7 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=11 ttl=114 time=84.0 ms
64 bytes from mrs09s08-in-f14.1e100.net (216.58.198.78): icmp_seq=12 ttl=114 time=137 ms
^C

```

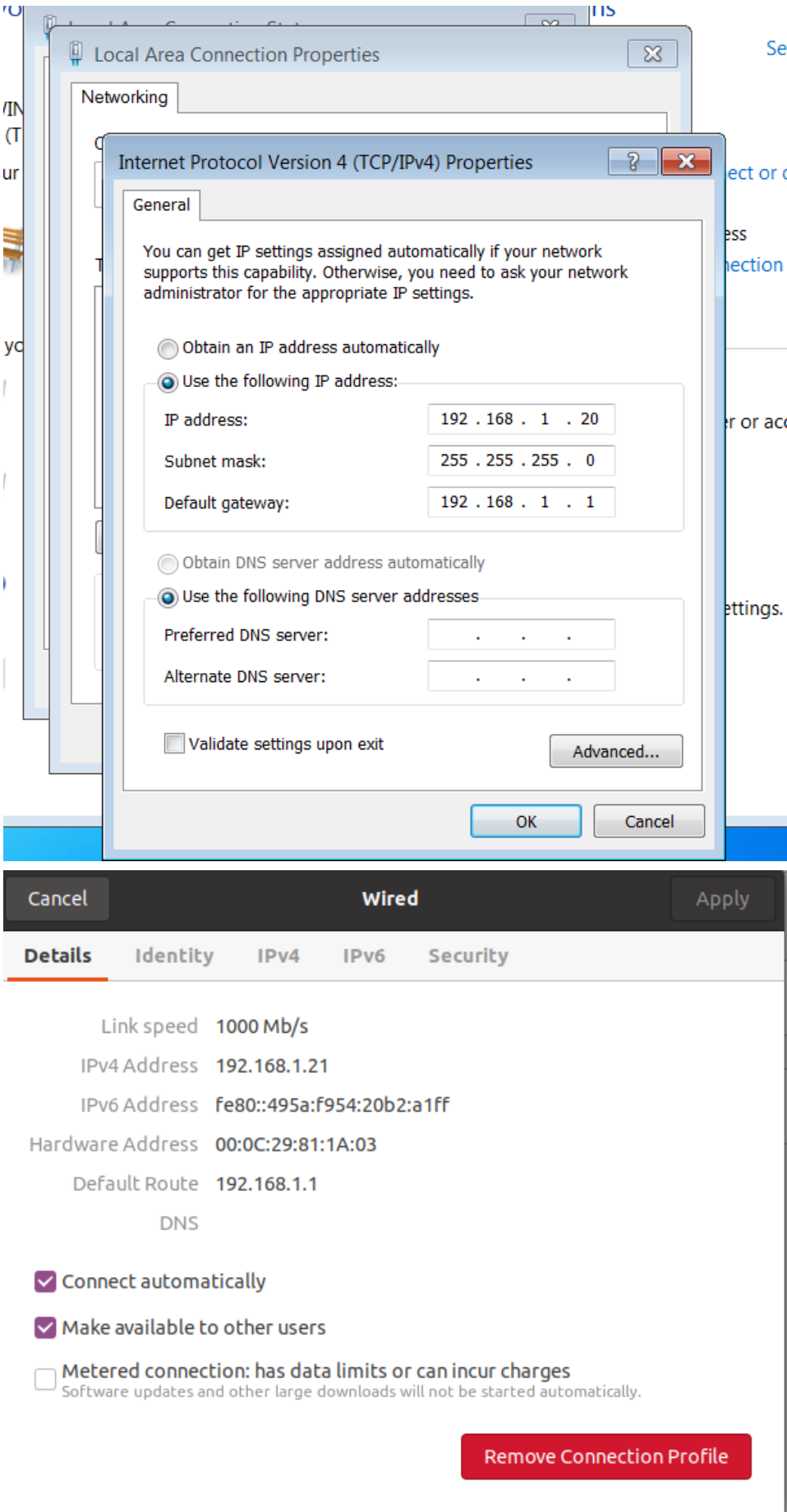
Ubuntu peut connecter a l'internet

## 9. Mettre les deux VMs sur deux modes de réseau virtuel différents (une VM sur le Nat et autre sur Host-Only)

Le server DHCP est desactive dans les deux vm Windows7 → NAT Ubuntu → Host-Only

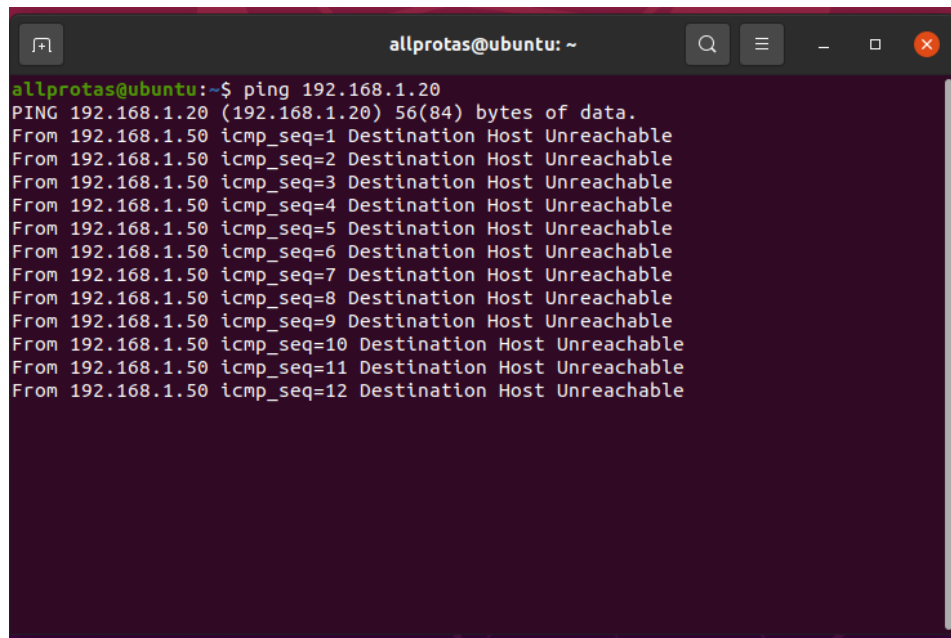


On va attribuer un ip static pour chacune des machines virtuelles



ip ubuntu : 192.168.1.21

ip windows7 : 192.168.1.20

A terminal window titled 'allprotas@ubuntu: ~' with standard window controls. The terminal shows a command 'ping 192.168.1.20' and its output. The output indicates that the destination host is unreachable for 12 consecutive attempts, each with an ICMP sequence number from 1 to 12. The window has a dark background and a light-colored text.

```
allprotas@ubuntu:~$ ping 192.168.1.20
PING 192.168.1.20 (192.168.1.20) 56(84) bytes of data.
From 192.168.1.50 icmp_seq=1 Destination Host Unreachable
From 192.168.1.50 icmp_seq=2 Destination Host Unreachable
From 192.168.1.50 icmp_seq=3 Destination Host Unreachable
From 192.168.1.50 icmp_seq=4 Destination Host Unreachable
From 192.168.1.50 icmp_seq=5 Destination Host Unreachable
From 192.168.1.50 icmp_seq=6 Destination Host Unreachable
From 192.168.1.50 icmp_seq=7 Destination Host Unreachable
From 192.168.1.50 icmp_seq=8 Destination Host Unreachable
From 192.168.1.50 icmp_seq=9 Destination Host Unreachable
From 192.168.1.50 icmp_seq=10 Destination Host Unreachable
From 192.168.1.50 icmp_seq=11 Destination Host Unreachable
From 192.168.1.50 icmp_seq=12 Destination Host Unreachable
```

On peut pas faire une connection entre le windows et ubuntu