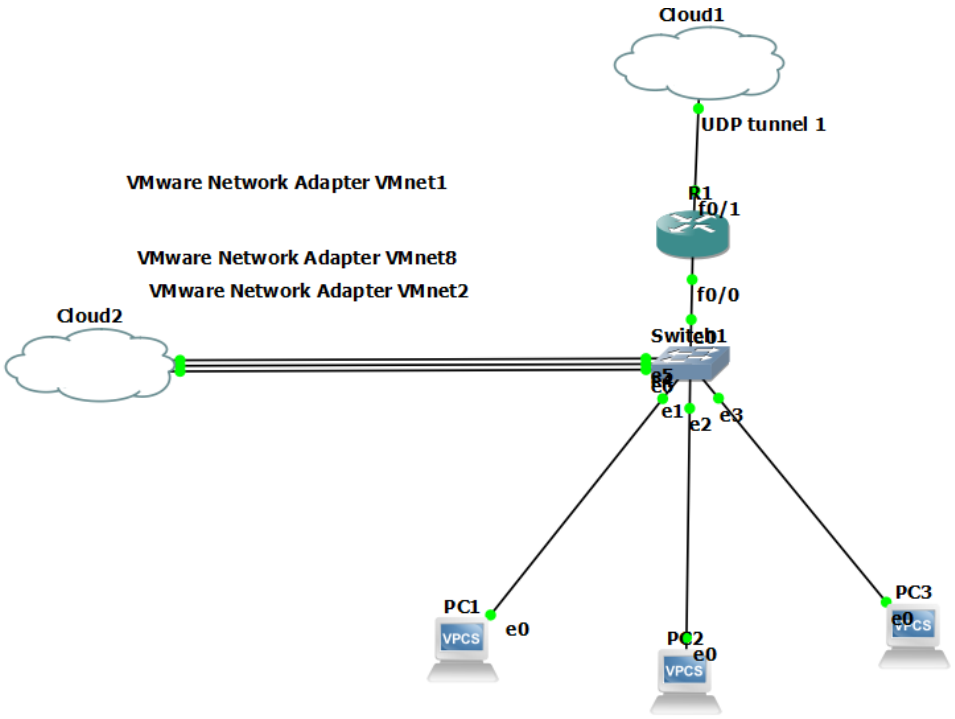
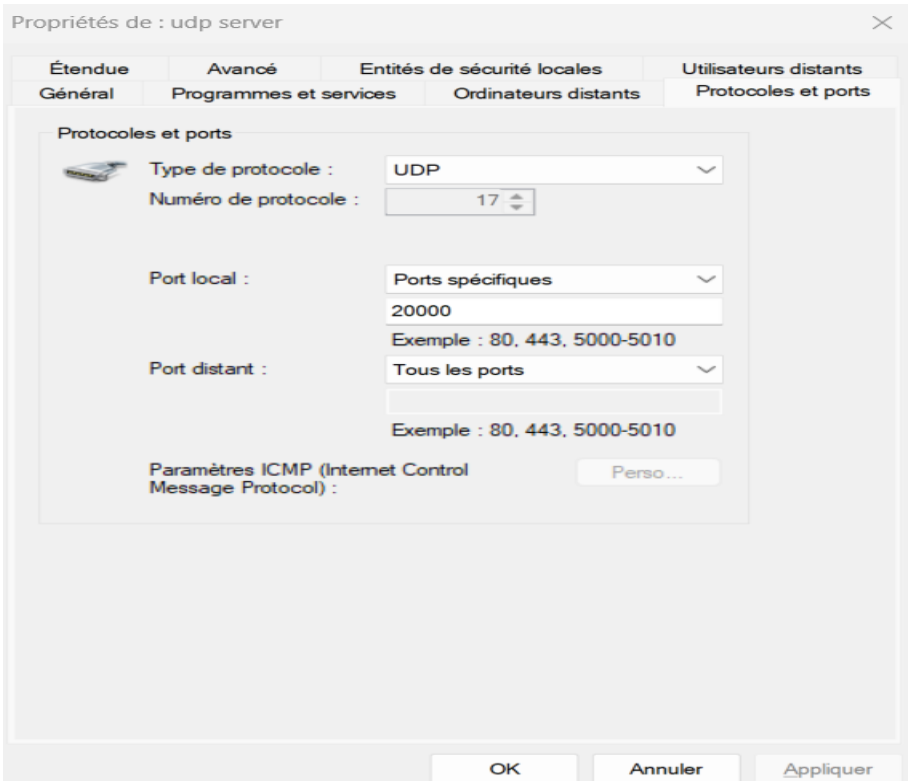
Département Collaboration

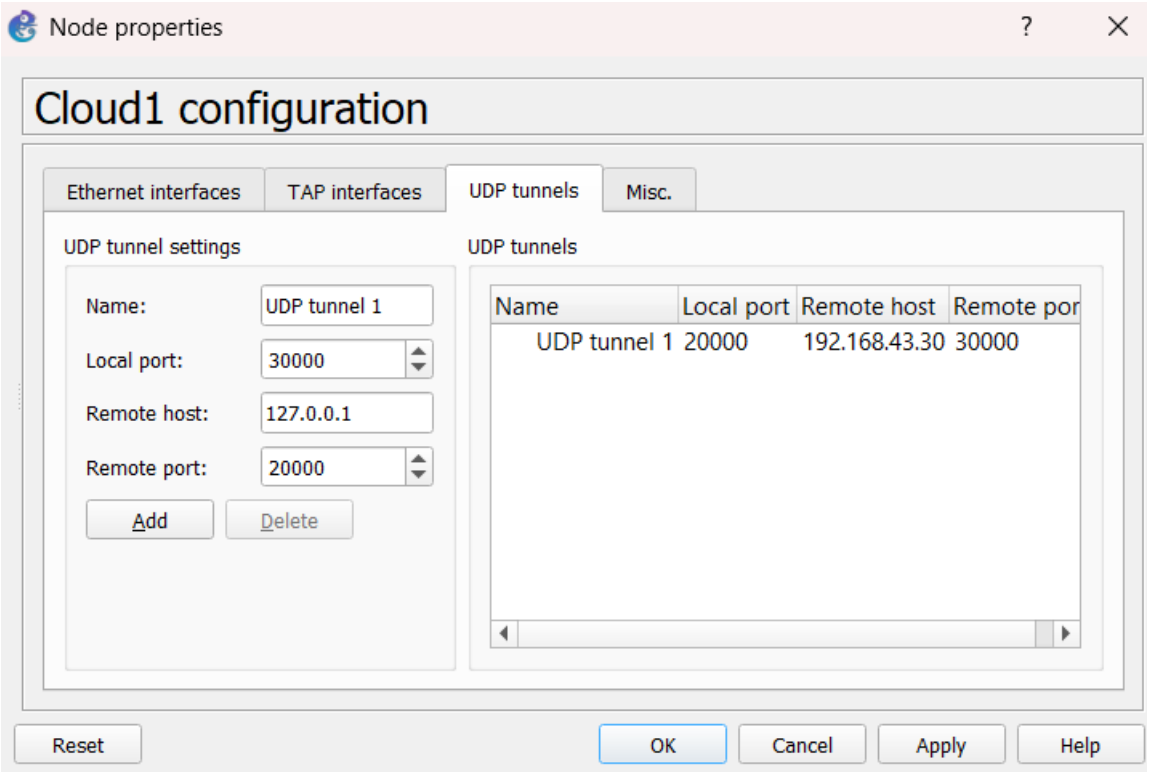
- **Topologies :**



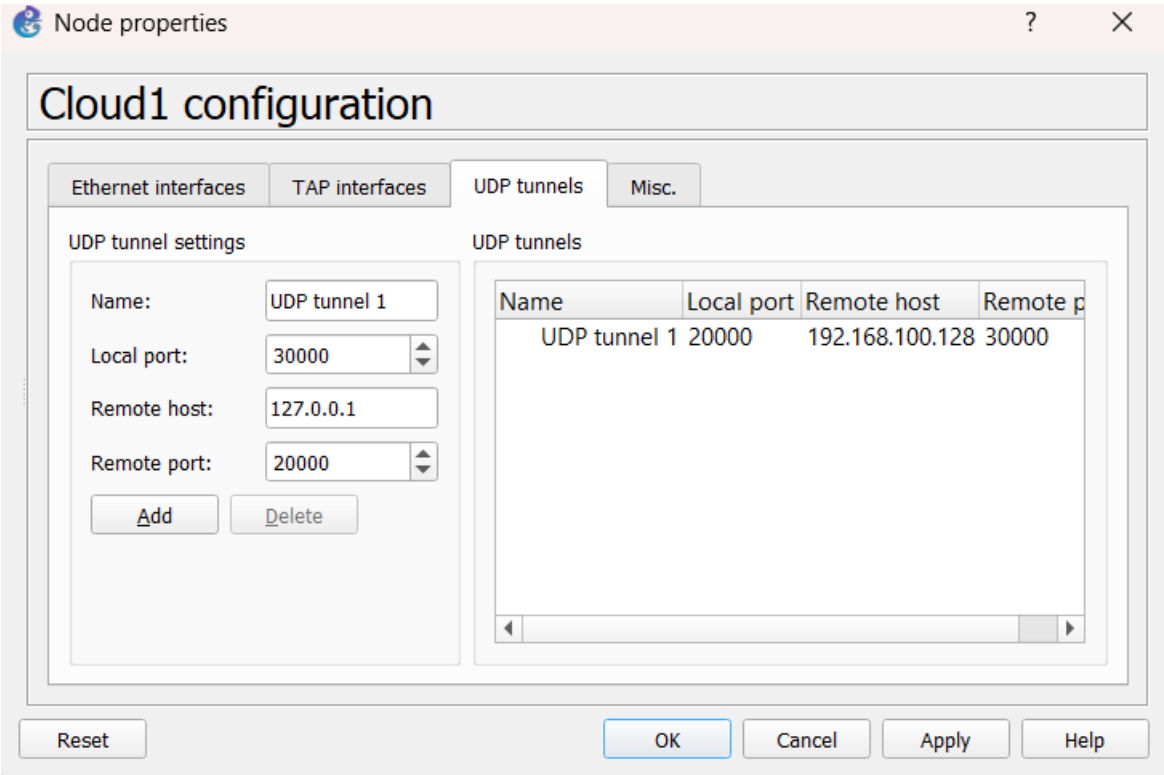
- **Configuration UDP :**



- **Configuration du cloud :**



- **Configuration du cloud pour la connexion avec BackBone :**



- **Configuration du routeur collaboration pour ping avec la base de donnée :**

```
!
!═══════════════════════════════════════════════════════
! ‖  PAT CONFIGURATION                    ‖
!═══════════════════════════════════════════════════════
!
! === ACL: Translate LAN traffic, NOT tunnel traffic ===
R1-Collab(config)# access-list 100 permit ip 10.10.42.0 0.0.0.255 any
R1-Collab(config)# access-list 100 deny ip any 172.16.0.0 0.0.255.255
R1-Collab(config)# access-list 100 deny ip any 10.11.0.0 0.0.255.255
!
! === Enable PAT (overload) ===
R1-Collab(config)# ip nat inside source list 100 interface FastEthernet0/1 overload
!
!═══════════════════════════════════════════════════════
!
! === Static Routes to Your Backbone Networks ===
R1-Collab(config)# ip route 10.10.0.0 255.254.0.0 Tunnel0
R1-Collab(config)# ip route 10.11.0.0 255.255.0.0 Tunnel0
!
! === OSPF Configuration ===
R1-Collab(config)# router ospf 1
R1-Collab(config-router)# router-id 14.14.14.14
R1-Collab(config-router)# network 172.16.1.0 0.0.0.3 area 0
R1-Collab(config-router)# network 10.10.42.0 0.0.0.255 area 4
R1-Collab(config-router)# exit
```

10:15

- **Configuration NAT 1 :**

```
ss = Exec.
-Traceback= 0x621B993C 0x621BA5E0 0x62181CBC 0x62181F7C 0x621820A0 0x621820A0 0x62182F70 0x621B5DC0 0x6
21C1FB8 0x621AC3B0 0x621AD014 0x621ADF64 0x6190C5B0 0x61251300 0x6126D5C4 0x6239E54C
*Mar  1 00:07:29.335: %SYS-3-CPUYLD: Task ran for (2528)msecs, more than (2000)msecs (0/0),process = Ex
ec
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#interface FastEthernet0/1
R1(config-if)#ip address 200.200.200.23 255.255.255.0
R1(config-if)#ip address 200.200.200.23 255.255.255.0
R1(config-if)#ip nat outside
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#
*Mar  1 00:09:25.947: %LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up
*Mar  1 00:09:26.947: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to
 up
R1(config)#exit
R1#wri
*Mar  1 00:09:29.851: %SYS-5-CONFIG_I: Configured from console by console
R1#write memory
Building configuration...
[OK]
R1#access-list 10 permit 10.10.42.0 0.0.0.255
          ^
% Invalid input detected at '^' marker.

R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#access-list 10 permit 10.10.42.0 0.0.0.255
R1(config)#ip nat inside source list 10 interface FastEthernet0/1 overload
R1(config)#interface Tunnel0
R1(config-if)#
*Mar  1 00:11:28.143: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel0, changed state to down
R1(config-if)#ip address 172.16.0.2 255.255.255.252
R1(config-if)#tunnel source f0/1
```

- **Configuration NAT 2 :**

```
R1(config)#ip nat inside source list 10 interface FastEthernet0/1 overload
R1(config)#interface Tunnel0
R1(config-if)#
*Mar  1 00:11:28.143: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel0, changed state to down
R1(config-if)#ip address 172.16.0.2 255.255.255.252
R1(config-if)#tunnel source f0/1
R1(config-if)#tunnel destination 200.200.200.24
R1(config-if)#tunnel
*Mar  1 00:12:09.215: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel0, changed state to up
R1(config-if)#tunnel mode gre ip
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#ip route
% Incomplete command.

R1(config)#ip route 10.10.0.0 255.254.0.0 Tunnel0
R1(config)#ip route 10.11.0.0 255.255.0.0 Tunnel0
R1(config)#exit
R1#
*Mar  1 00:13:14.951: %SYS-5-CONFIG_I: Configured from console by console
R1#write memory
Building configuration...
[OK]
R1#show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol
FastEthernet0/0            10.10.42.1      YES NVRAM  up                    up
FastEthernet0/1            200.200.200.23  YES manual up                    up
NVI0                       unassigned      NO  unset  up                    up
Tunnel0                    172.16.0.2      YES manual up                    up
R1#ping 200.200.200.24

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 200.200.200.24, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/217/384 ms
R1#ping 172.16.0.2
```

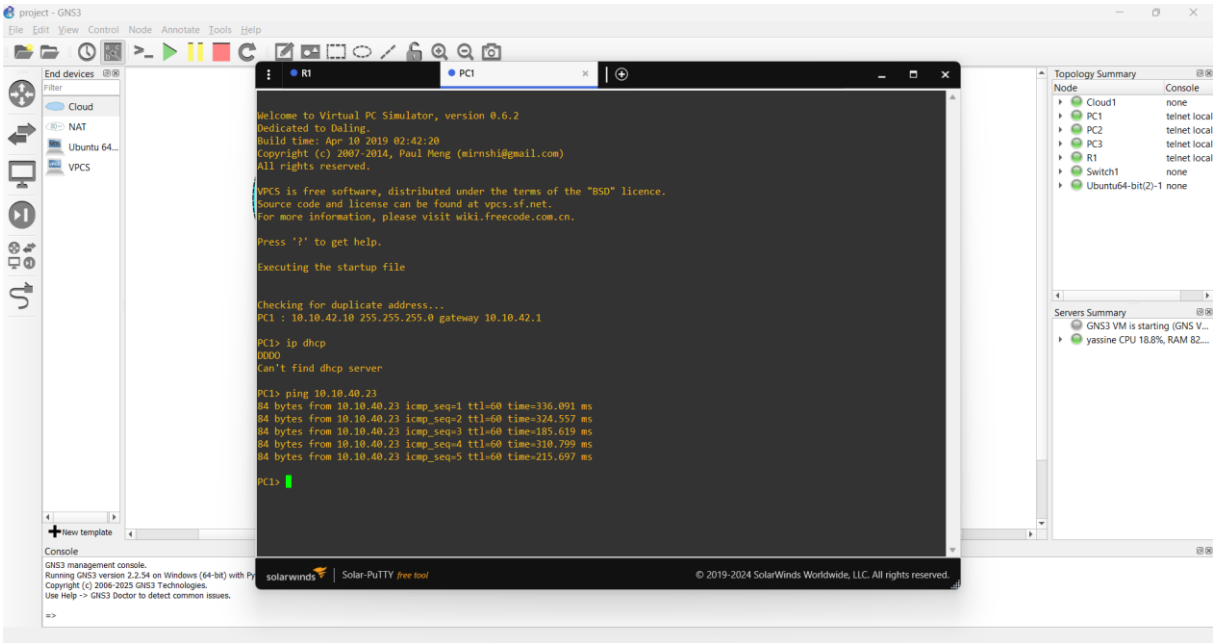
- **Ping du backbone via adresse publique :**

```
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 200.200.200.24, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/217/384 ms
R1#ping 172.16.0.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.0.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
R1#ping 172.16.0.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.0.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 212/300/360 ms
R1#ping 10.11.0.14

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.11.0.14, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 180/269/340 ms
R1#
```

- **Ping entre département collaboration et le backbone :**

```
.....
Success rate is 0 percent (0/5)
R1#ping 10.11.0.49

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.11.0.49, timeout is 2 seconds:
.....
Success rate is 0 percent (0/5)
R1#show ip interface brief
Interface                  IP-Address      OK? Method Status                Prot
ocol
FastEthernet0/0            10.10.42.1      YES NVRAM  up                    up

FastEthernet0/1            10.11.0.50      YES manual up                    up

R1#ping 10.11.0.49

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.11.0.49, timeout is 2 seconds:
.....
Success rate is 0 percent (0/5)
R1#ping 10.11.0.49

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.11.0.49, timeout is 2 seconds:
.....
Success rate is 0 percent (0/5)
R1#ping 10.11.0.49
*Mar  1 00:14:34.967: %OSPF-5-ADJCHG: Process 1, Nbr 5.5.5.5 on FastEthernet0/1
from LOADING to FULL, Loading Done
R1#ping 10.11.0.49

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.11.0.49, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 220/308/500 ms
R1#
*Mar  1 00:16:02.599: %OSPF-5-ADJCHG: Process 1, Nbr 5.5.5.5 on FastEthernet0/1
from LOADING to FULL, Loading Done
R1#
*Mar  1 00:16:11.699: %OSPF-5-ADJCHG: Process 1, Nbr 5.5.5.5 on FastEthernet0/1
from LOADING to FULL, Loading Done
R1#
*Mar  1 00:17:03.899: %OSPF-5-ADJCHG: Process 1, Nbr 5.5.5.5 on FastEthernet0/1
from FULL to DOWN, Neighbor Down: Dead timer expired
R1#
```

- **Ping avec le département base de données :**



- **Script de Configuration Serveur NFS (install_nfs_server.sh) :**

```
  GNU nano 6.2
#!/bin/bash

echo "===== CONFIGURATION SERVEUR NFS ====="
echo " 🔹 Installation du serveur NFS"
#apt update -y
#apt install -y nfs-kernel-server

echo "Groupe prop"
getent group nfsgrp || groupadd nfsgrp

echo "Création rep"
mkdir -p /nfs_share

echo "Les droits"
chown root:nfsgrp /nfs_share
chmod 2775 /nfs_share

echo "Configuration /etc/exports"
grep -q "/nfs_share" /etc/exports || \
echo "/nfs_share 10.10.42.0/24(rw,sync,no_subtree_check)" >> /etc/exports

echo "appliquer exportfs"
exportfs -ra
systemctl restart nfs-server
systemctl enable nfs-server
echo "le serveur nfs est pres yassine m3allem"
```

- **Vérification du Partage NFS Monté (/nfs_share) :**

```
server@server-virtual-machine:~$ cd /nfs_share
server@server-virtual-machine:/nfs_share$ ls -l
total 36
-rw-r--r-- 1 server        nfsgrp  13 15:22 28 ديسمبر bnt.txt
-rw-r--r-- 1 server        nfsgrp  38 19:33 28 ديسمبر dhriouaa.txt
-rw-r--r-- 1 server        nfsgrp  51 12:49 18 ديسمبر file1.txt
-rw-r--r-- 1 server        nfsgrp  14 15:15 12 ديسمبر file2.txt
-rw-r--r-- 1 server        nfsgrp  15 15:16 12 ديسمبر file3.txt
-rw-r--r-- 1 server        nfsgrp  12 15:40 28 ديسمبر l.txt
-rw-r--r-- 1 server        nfsgrp 167 15:47 28 ديسمبر maram.txt
-rw-rw-r-- 1 server        nfsgrp   0 00:33 19 ديسمبر tabarka.txt
-rw-rw-r-- 1 server        nfsgrp   5 19:59 17 ديسمبر test.txt
-rw-r--r-- 1 node_exporter nfsgrp  73 10:20 19 ديسمبر valid.txt
server@server-virtual-machine:/nfs_share$
```