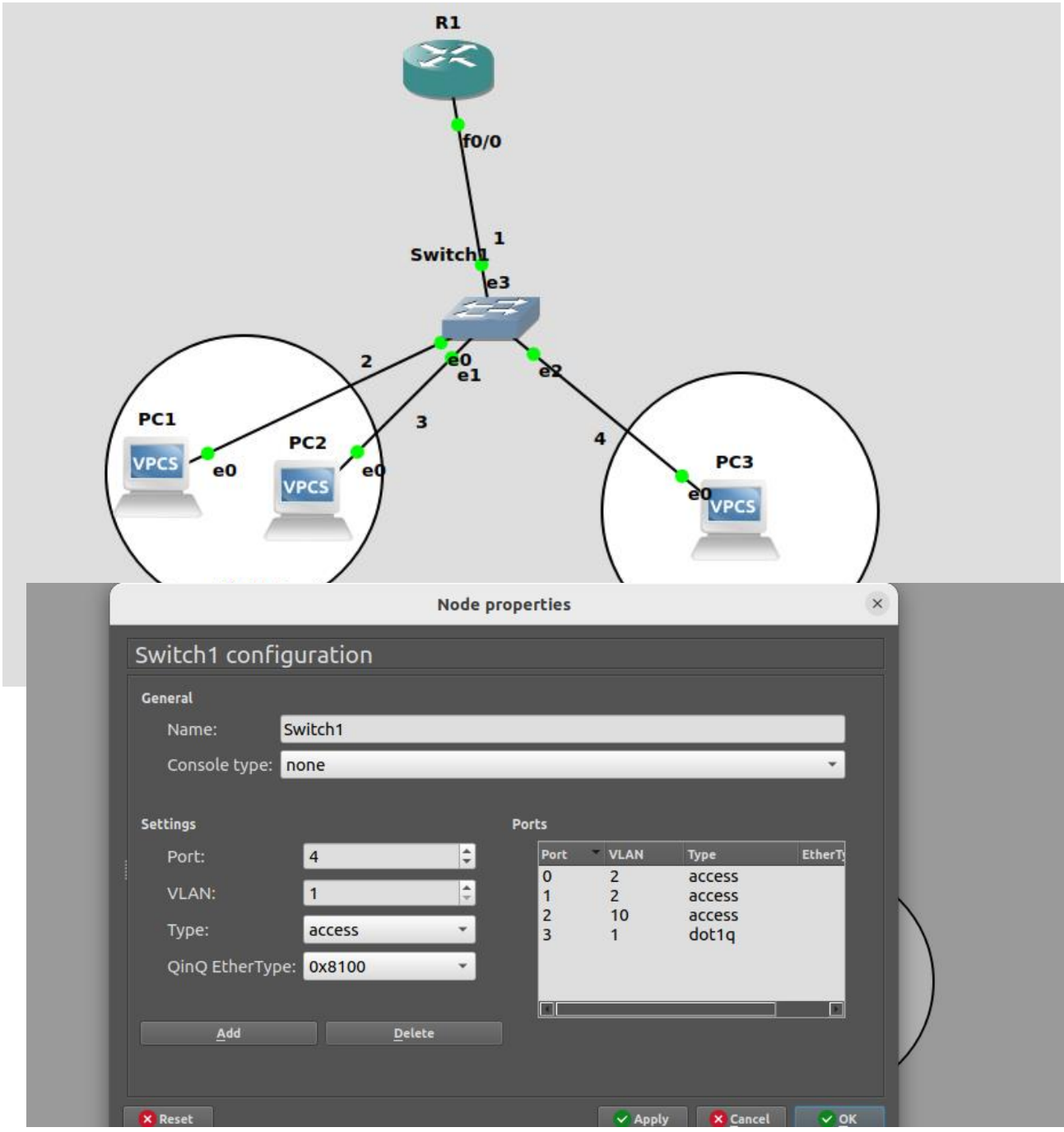


Node properties

Switch1 configuration

General

Name: Switch1

Console type: none

Settings

Port: 4

VLAN: 1

Type: access

QinQ EtherType: 0x8100

Add Delete

Ports

Port	VLAN	Type	EtherTy
0	2	access	
1	2	access	
2	10	access	
3	1	dot1q	

Reset Apply Cancel OK

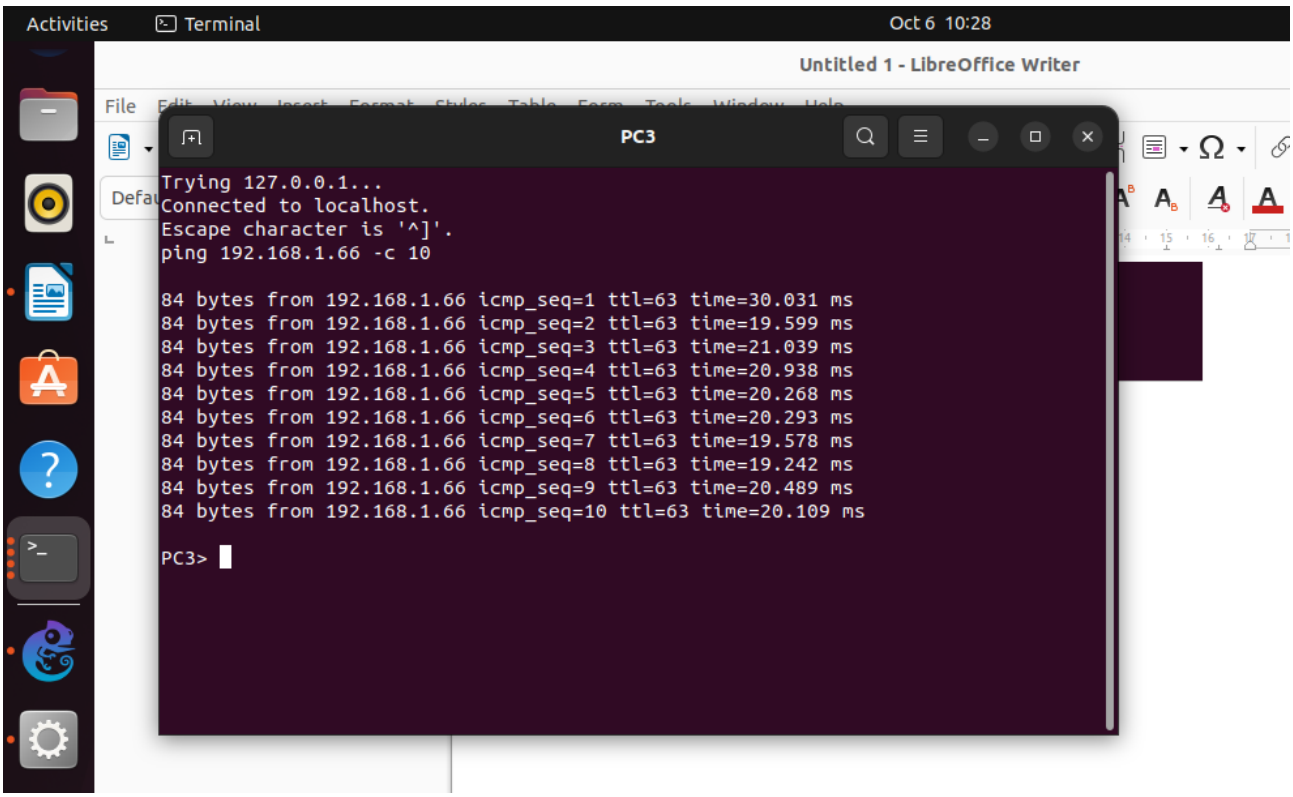
```
R1(config-if)#ip address 192.168.10.1 255.255.255.240
R1(config-if)#no shut
R1(config-if)#int f0/0.
*Mar  1 00:01:35.639: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar  1 00:01:36.639: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R1(config-if)#int f0/0.2
R1(config-subif)#encapsulation dot1q 2
R1(config-subif)#ip address 1
*Mar  1 00:02:03.659: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
R1(config-subif)#ip address 192.168.1.65 255.255.255.192
R1(config-subif)#no shut
R1(config-subif)#int f0/0.10
R1(config-subif)#encapsulation dot1q 10
R1(config-subif)#ip address 192.168.1.129 255.255.255.254
% Warning: use /31 mask on non point-to-point interface cautiously
R1(config-subif)#no shut
R1(config-subif)#exit
R1(config)#exit
R1#
*Mar  1 00:03:27.727: %SYS-5-CONFIG_I: Configured from console by console
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int f0/0
R1(config-if)#int f0/0.10
R1(config-subif)#encapsulation dot1q 10
R1(config-subif)#ip address 192.168.1.129 255.255.255.224
R1(config-subif)#no shut
R1(config-subif)#exit
R1(config)#exit
R1#
*Mar  1 00:15:07.611: %SYS-5-CONFIG_I: Configured from console by console
R1#
R1#
R1#
```

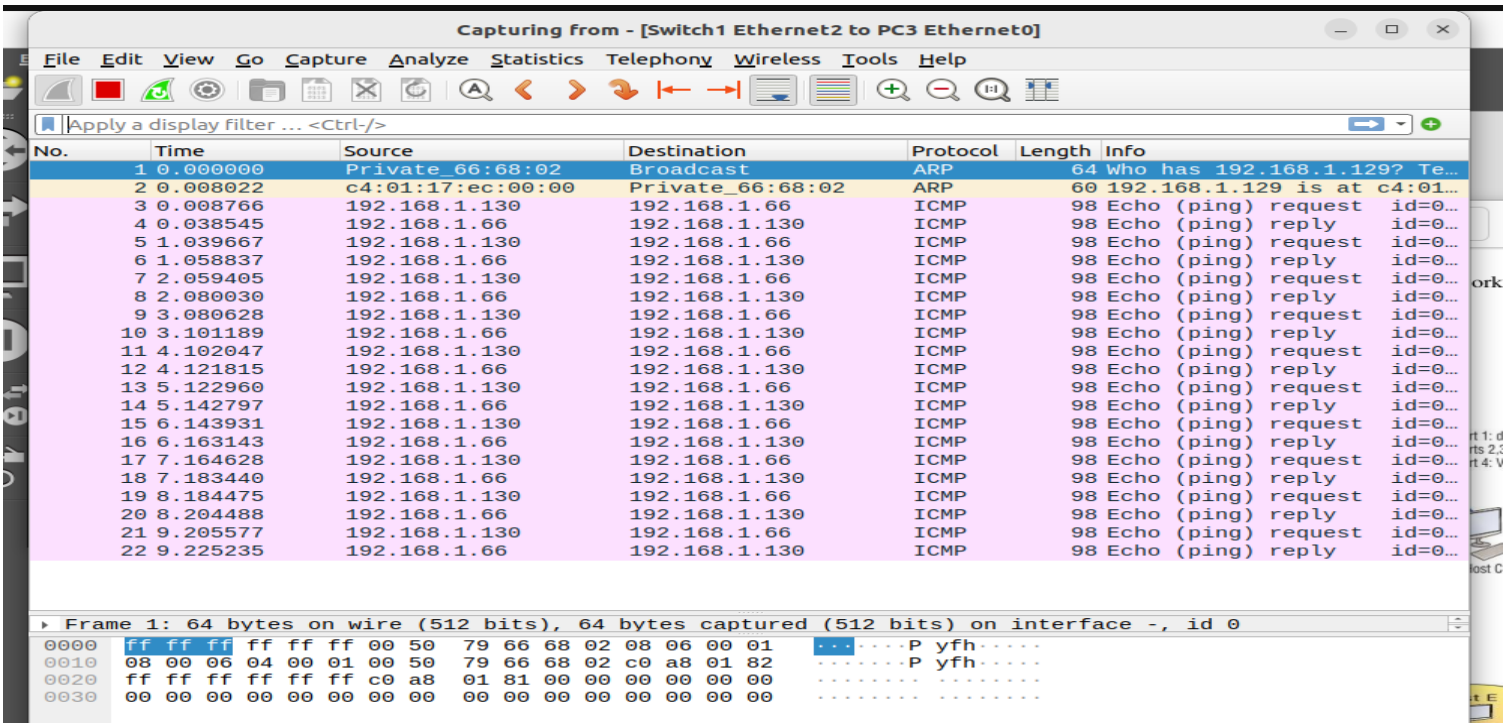
```
PC1> ip 192.168.1.66 255.255.255.192 192.168.1.65
Checking for duplicate address...
PC1 : 192.168.1.66 255.255.255.192 gateway 192.168.1.65

PC1> ping 192.168.1.67 -c 2

84 bytes from 192.168.1.67 icmp_seq=1 ttl=64 time=0.671 ms
84 bytes from 192.168.1.67 icmp_seq=2 ttl=64 time=0.894 ms
```

```
PC2> ip 192.168.1.67 255.255.255.192 192.168.1.65
Checking for duplicate address...
PC2 : 192.168.1.67 255.255.255.192 gateway 192.168.1.65
```

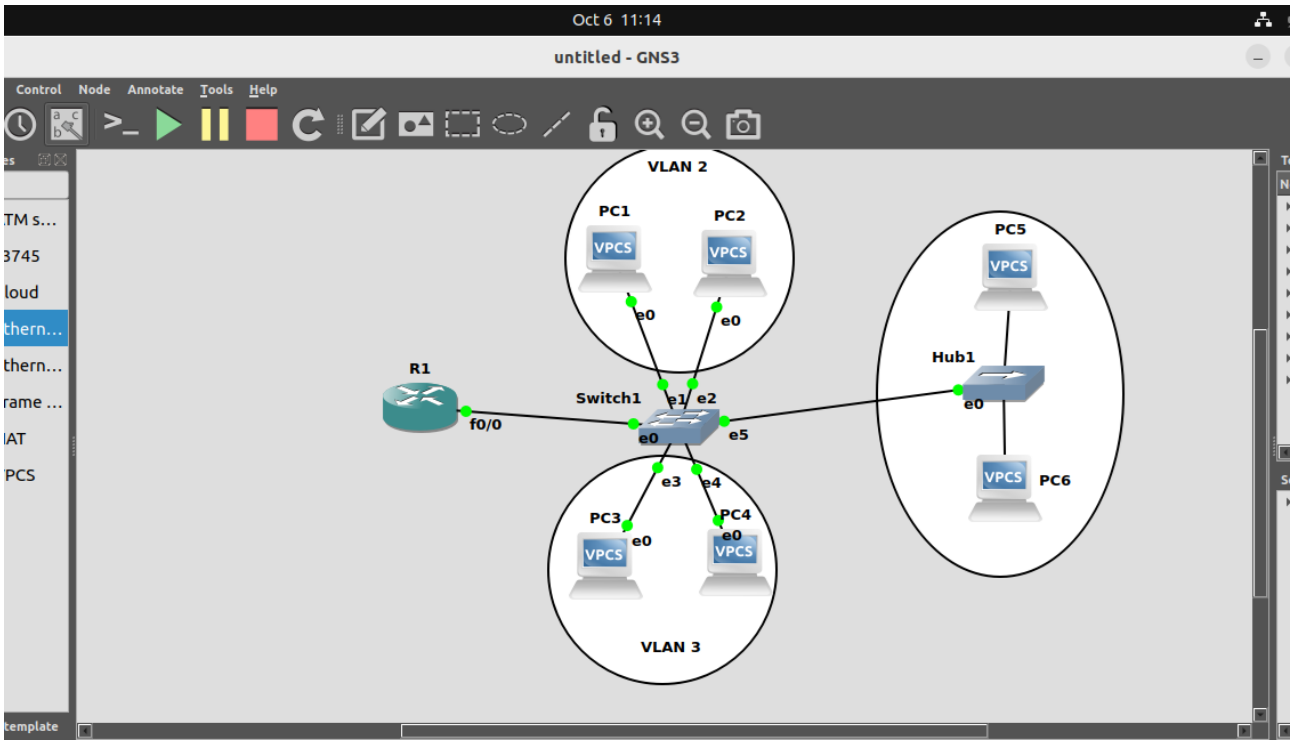
```
Executing the startup file

PC

PC3> ip 192.168.1.130 255.255.255.224 192.168.1.129
Checking for duplicate address...
PC3 : 192.168.1.130 255.255.255.224 gateway 192.168.1.129
```

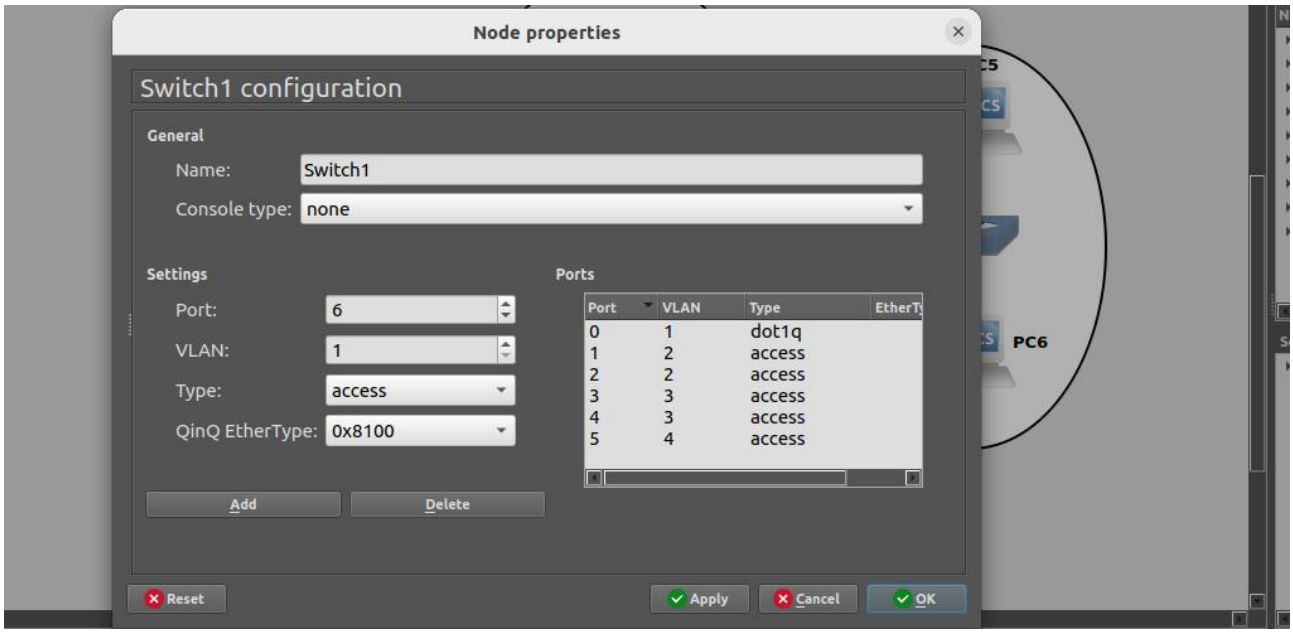
```
PC1> ping 192.168.1.67 -c 2

84 bytes from 192.168.1.67 icmp_seq=1 ttl=64 time=0.671 ms
84 bytes from 192.168.1.67 icmp_seq=2 ttl=64 time=0.894 ms
```

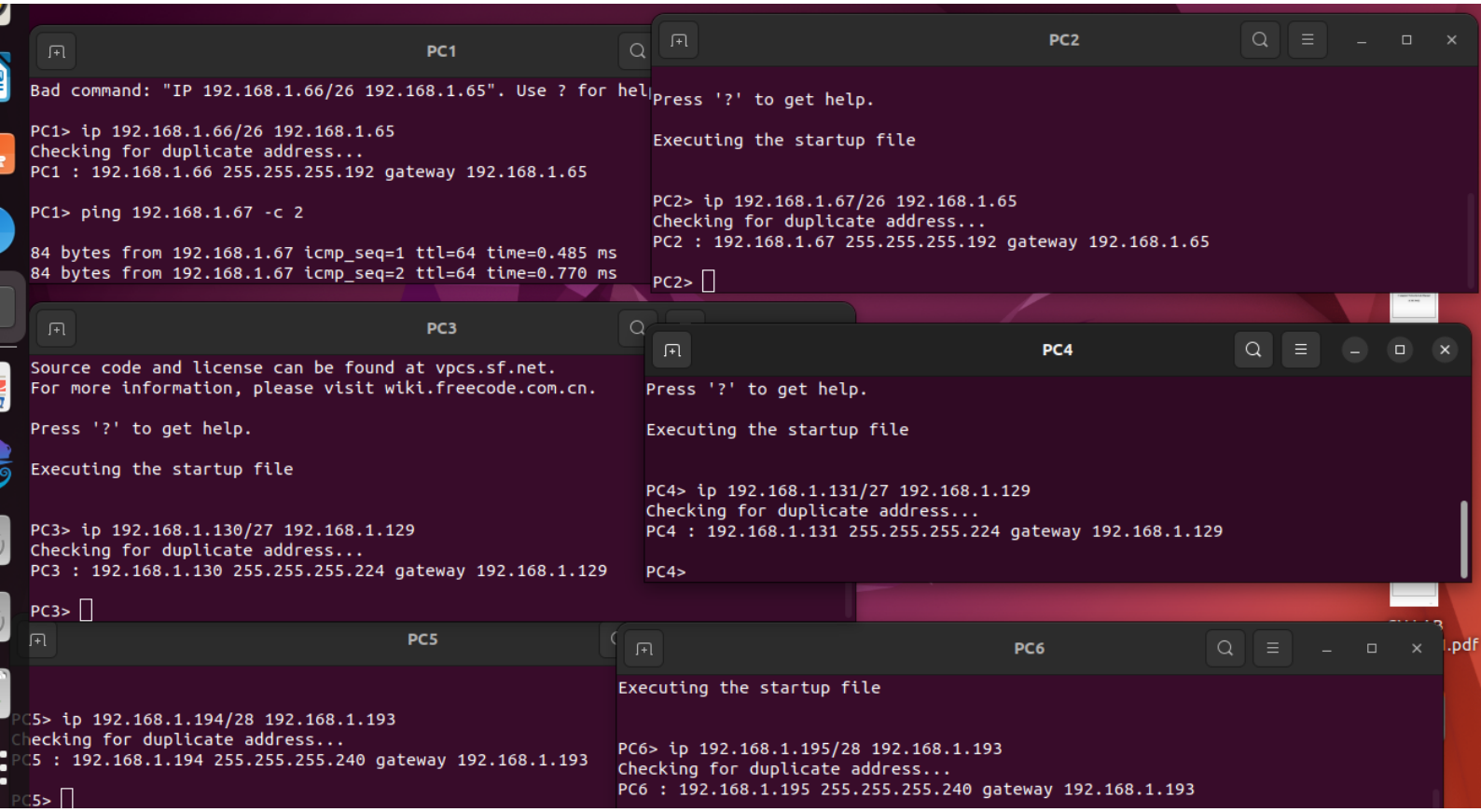

Activities
Terminal
Oct 6 10:28
Untitled 1 - LibreOffice Writer
File
PC3
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
ping 192.168.1.66 -c 10
84 bytes from 192.168.1.66 icmp_seq=1 ttl=63 time=30.031 ms
84 bytes from 192.168.1.66 icmp_seq=2 ttl=63 time=19.599 ms
84 bytes from 192.168.1.66 icmp_seq=3 ttl=63 time=21.039 ms
84 bytes from 192.168.1.66 icmp_seq=4 ttl=63 time=20.938 ms
84 bytes from 192.168.1.66 icmp_seq=5 ttl=63 time=20.268 ms
84 bytes from 192.168.1.66 icmp_seq=6 ttl=63 time=20.293 ms
84 bytes from 192.168.1.66 icmp_seq=7 ttl=63 time=19.578 ms
84 bytes from 192.168.1.66 icmp_seq=8 ttl=63 time=19.242 ms
84 bytes from 192.168.1.66 icmp_seq=9 ttl=63 time=20.489 ms
84 bytes from 192.168.1.66 icmp_seq=10 ttl=63 time=20.109 ms
PC3>


Capturing from - [Switch1 Ethernet2 to PC3 Ethernet0]
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
Apply a display filter ... <Ctrl-/>
No. Time Source Destination Protocol Length Info
1 0.000000 Private_66:68:02 Broadcast ARP 64 Who has 192.168.1.129? Te...
2 0.008022 c4:01:17:ec:00:00 Private_66:68:02 ARP 60 192.168.1.129 is at c4:01...
3 0.008766 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
4 0.038545 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
5 1.039667 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
6 1.058837 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
7 2.059405 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
8 2.080030 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
9 3.080628 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
10 3.101189 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
11 4.102047 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
12 4.121815 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
13 5.122960 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
14 5.142797 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
15 6.143931 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
16 6.163143 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
17 7.164628 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
18 7.183440 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
19 8.184475 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
20 8.204488 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
21 9.205577 192.168.1.130 192.168.1.66 ICMP 98 Echo (ping) request id=0...
22 9.225235 192.168.1.66 192.168.1.130 ICMP 98 Echo (ping) reply id=0...
Frame 1: 64 bytes on wire (512 bits), 64 bytes captured (512 bits) on interface -, id 0
0000 ff ff ff ff ff ff 00 50 79 66 68 02 08 06 00 01
0010 08 00 06 04 00 01 00 50 79 66 68 02 c0 a8 01 82
0020 ff ff ff ff ff ff c0 a8 01 81 00 00 00 00 00 00
0030 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Q2>

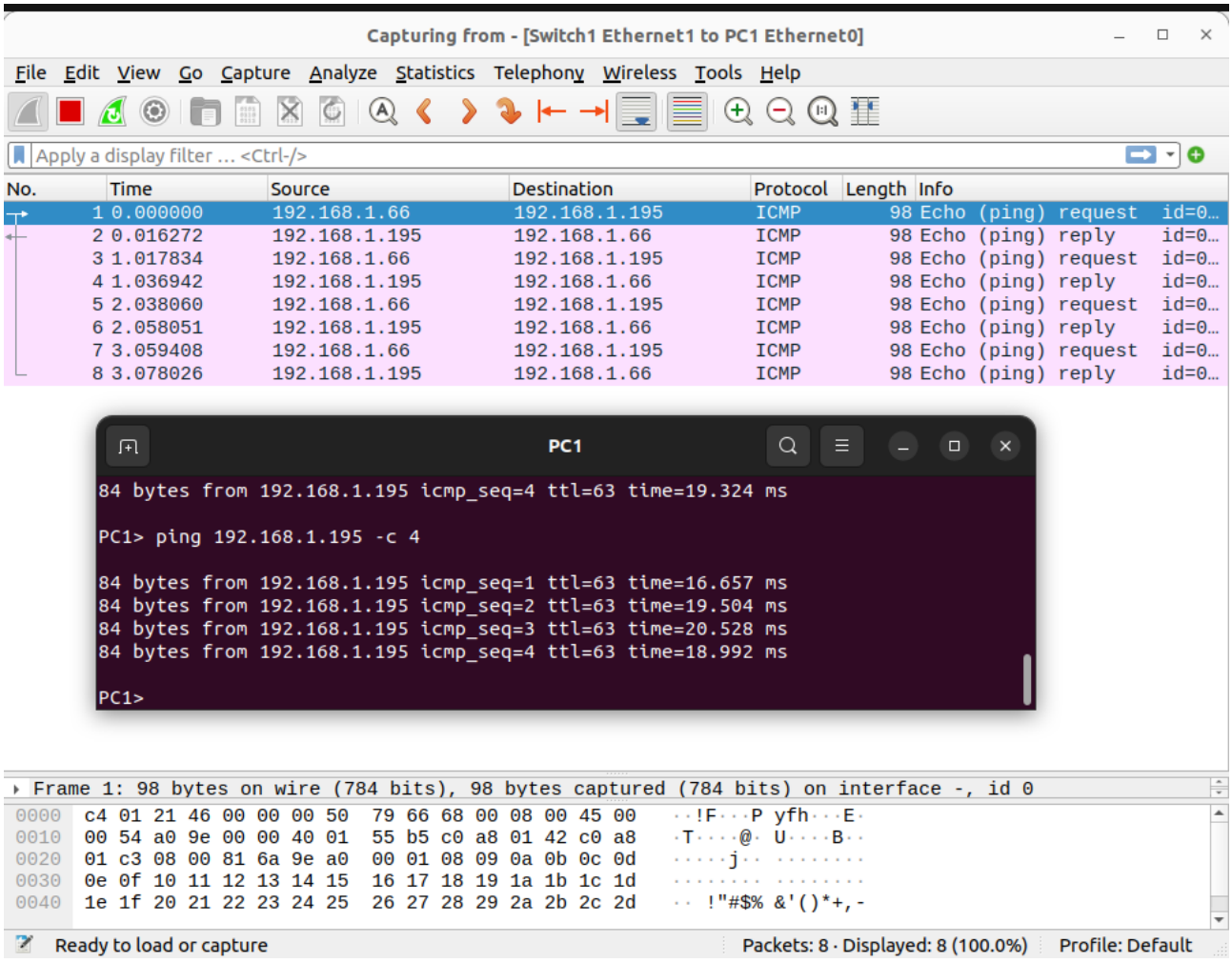

Oct 6 11:14
untitled - GNS3
Control Node Annotate Tools Help
VLAN 2
PC1
PC2
VPCS
e0
R1
f0/0
Switch1
e1 e2
e0
e5
PC5
Hub1
PC6
e3 e4
PC3
PC4
VLAN 3


Node properties
Switch1 configuration
General
Name: Switch1
Console type: none
Settings
Port: 6
VLAN: 1
Type: access
QinQ EtherType: 0x8100
Add
Delete
Ports
Port VLAN Type
0 1 dot1q
1 2 access
2 2 access
3 3 access
4 3 access
5 4 access
Reset
Apply
Cancel
OK




```
*Mar  1 00:00:04.163: %SNMP-5-COLDSTART: SNMP agent on host R1 is undergoing a cold start
*Mar  1 00:00:04.179: %LINEPROTO-5-UPDOWN: Line protocol on Interface IPv6-mpls, changed state to up
*Mar  1 00:00:04.771: %LINK-5-CHANGED: Interface FastEthernet0/0, changed state to administratively down
*Mar  1 00:00:04.847: %LINK-5-CHANGED: Interface FastEthernet0/1, changed state to administratively down
*Mar  1 00:00:04.883: %LINK-5-CHANGED: Interface Serial1/0, changed state to administratively down
*Mar  1 00:00:04.883: %LINK-5-CHANGED: Interface Serial1/1, changed state to administratively down
*Mar  1 00:00:04.883: %LINK-5-CHANGED: Interface Serial1/2, changed state to administratively down
*Mar  1 00:00:04.887: %LINK-5-CHANGED: Interface Serial1/3, changed state to administratively down
*Mar  1 00:00:05.771: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
*Mar  1 00:00:05.847: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down
*Mar  1 00:00:05.883: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/0, changed state to down
*Mar  1 00:00:05.883: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/1, changed state to down
*Mar  1 00:00:05.883: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/2, changed state to down
*Mar  1 00:00:05.887: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/3, changed state to down
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int f0/0
R1(config-if)#ip address 192.168.10.1 255.255.255.240
R1(config-if)#int f0/0.2
R1(config-subif)#encapsulation dot1q 2
R1(config-subif)#ip address 192.168.1.65 255.255.255.192
R1(config-subif)#no shut
R1(config-subif)#int f0/0.3
R1(config-subif)#encapsulation dot1q 3
R1(config-subif)#ip address 192.168.1.129 255.255.255.224
R1(config-subif)#no shut
R1(config-subif)#int f0/0.4
R1(config-subif)#encapsulation dot1q 4
R1(config-subif)#ip address 192.168.1.193 255.255.255.240
R1(config-subif)#no shut
R1(config-subif)#exit
R1(config)#exit
R1#
*Mar  1 00:12:07.759: %SYS-5-CONFIG_I: Configured from console by console
R1#
```

verifying the same from wireshark vlan 2 to vlan 4


Capturing from - [Switch1 Ethernet1 to PC1 Ethernet0]
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
Apply a display filter ... <Ctrl-/>
No. Time Source Destination Protocol Length Info
1 0.000000 192.168.1.66 192.168.1.195 ICMP 98 Echo (ping) request id=0…
2 0.016272 192.168.1.195 192.168.1.66 ICMP 98 Echo (ping) reply id=0…
3 1.017834 192.168.1.66 192.168.1.195 ICMP 98 Echo (ping) request id=0…
4 1.036942 192.168.1.195 192.168.1.66 ICMP 98 Echo (ping) reply id=0…
5 2.038060 192.168.1.66 192.168.1.195 ICMP 98 Echo (ping) request id=0…
6 2.058051 192.168.1.195 192.168.1.66 ICMP 98 Echo (ping) reply id=0…
7 3.059408 192.168.1.66 192.168.1.195 ICMP 98 Echo (ping) request id=0…
8 3.078026 192.168.1.195 192.168.1.66 ICMP 98 Echo (ping) reply id=0…
PC1
84 bytes from 192.168.1.195 icmp_seq=4 ttl=63 time=19.324 ms
PC1> ping 192.168.1.195 -c 4
84 bytes from 192.168.1.195 icmp_seq=1 ttl=63 time=16.657 ms
84 bytes from 192.168.1.195 icmp_seq=2 ttl=63 time=19.504 ms
84 bytes from 192.168.1.195 icmp_seq=3 ttl=63 time=20.528 ms
84 bytes from 192.168.1.195 icmp_seq=4 ttl=63 time=18.992 ms
PC1>
Frame 1: 98 bytes on wire (784 bits), 98 bytes captured (784 bits) on interface -, id 0
0000 c4 01 21 46 00 00 00 50 79 66 68 00 08 00 45 00
0010 00 54 a0 9e 00 00 40 01 55 b5 c0 a8 01 42 c0 a8
0020 01 c3 08 00 81 6a 9e a0 00 01 08 09 0a 0b 0c 0d
0030 0e 0f 10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d
0040 1e 1f 20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d
Ready to load or capture
Packets: 8 · Displayed: 8 (100.0%)
Profile: Default