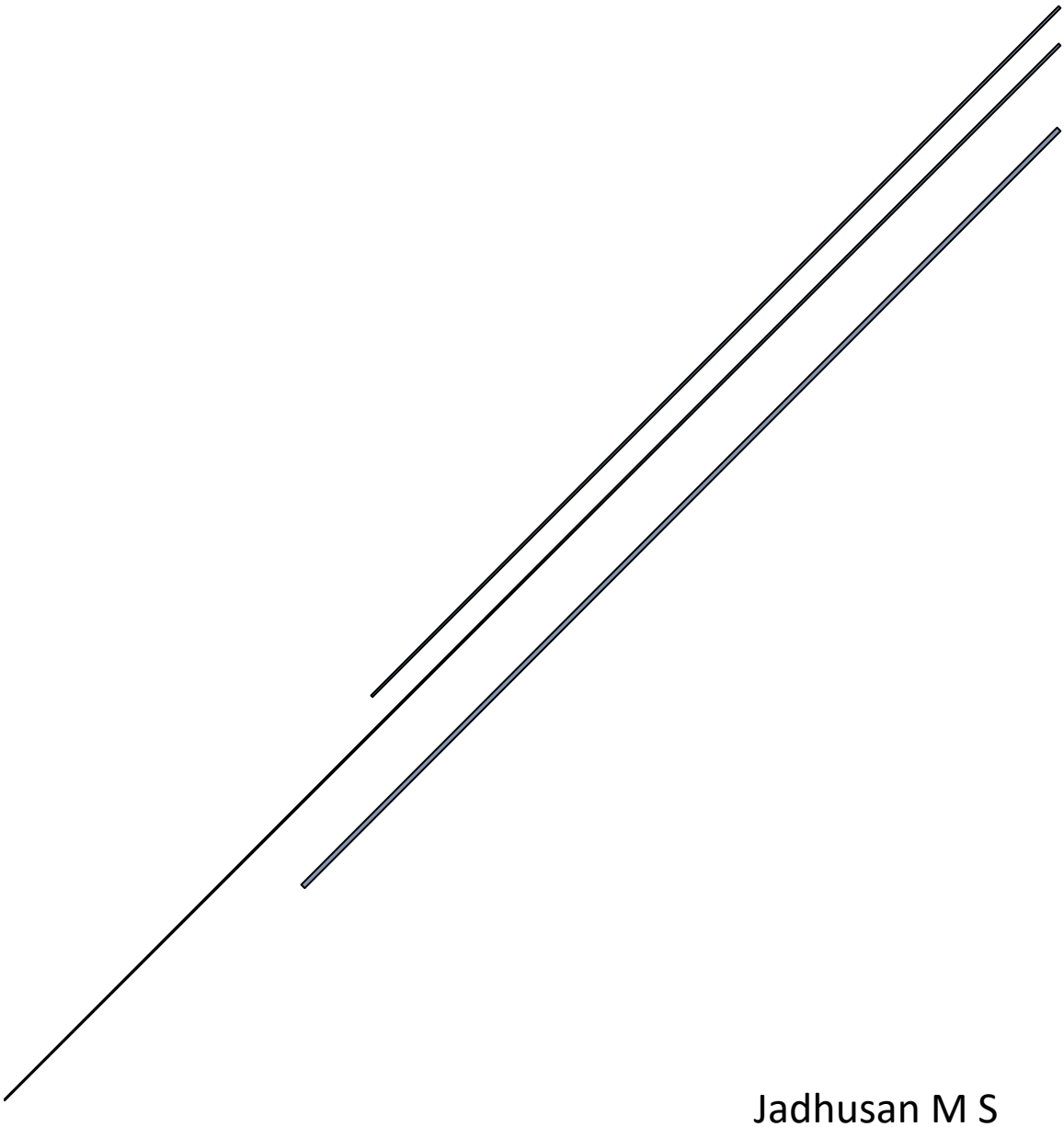
NETWORK SECURITY CW-PART-1

Infrastructure Security Labs



Jadhusan M S
COHNDNE201f-021

BASIC SETUP

Resources

GNS3 2.2.19

VMware® Workstation 16 Pro. – GNS3 VM

Windows 10 Pro. - Host machine

Network

GNS3 with 2 Virtual Network Adapter.

Custom(VMNET 1)

Custom(VMNET 2)

VLAN Access-List (VACL)

access-list 100 permit ip any host 192.168.1.2

vlan access-map No-Access-Pc2 10

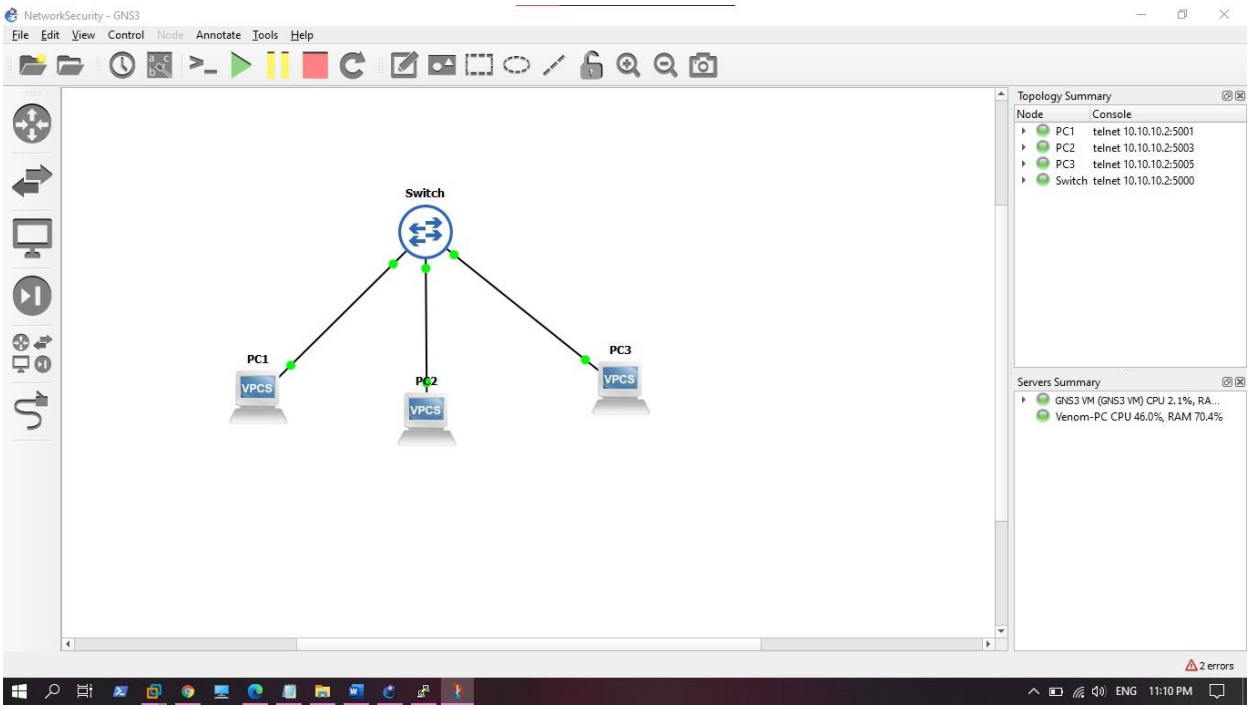
match ip address 100

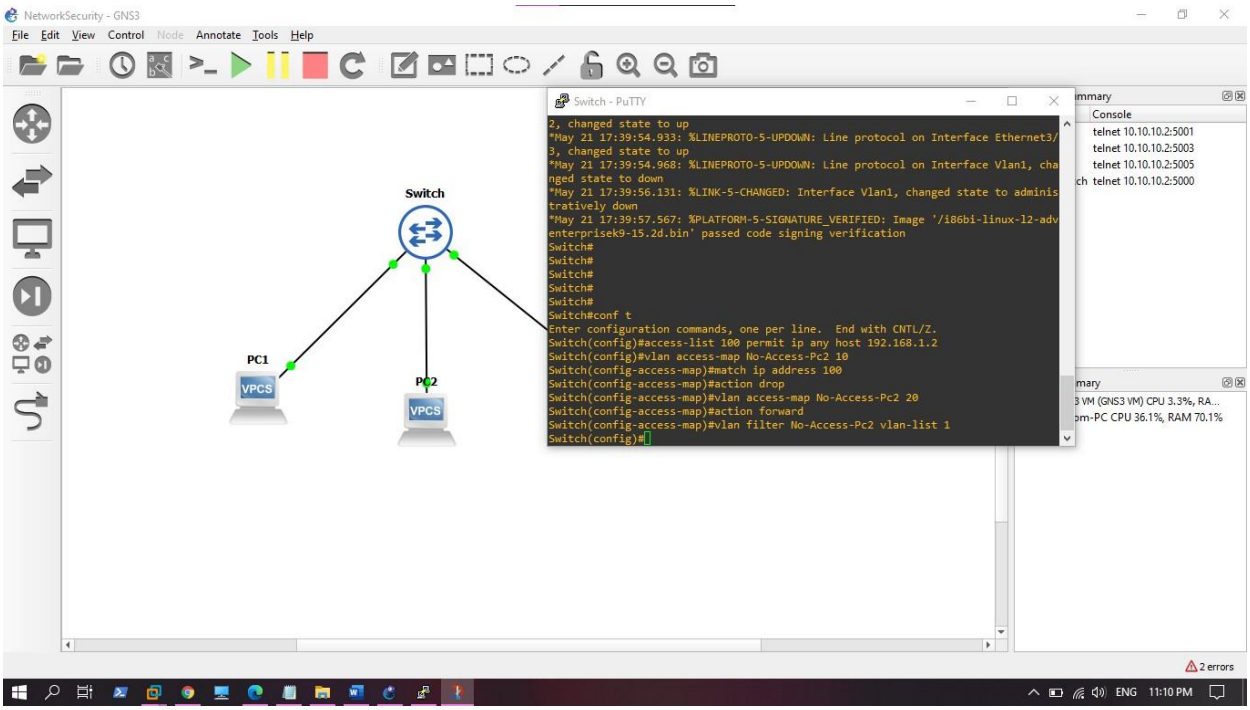
action drop

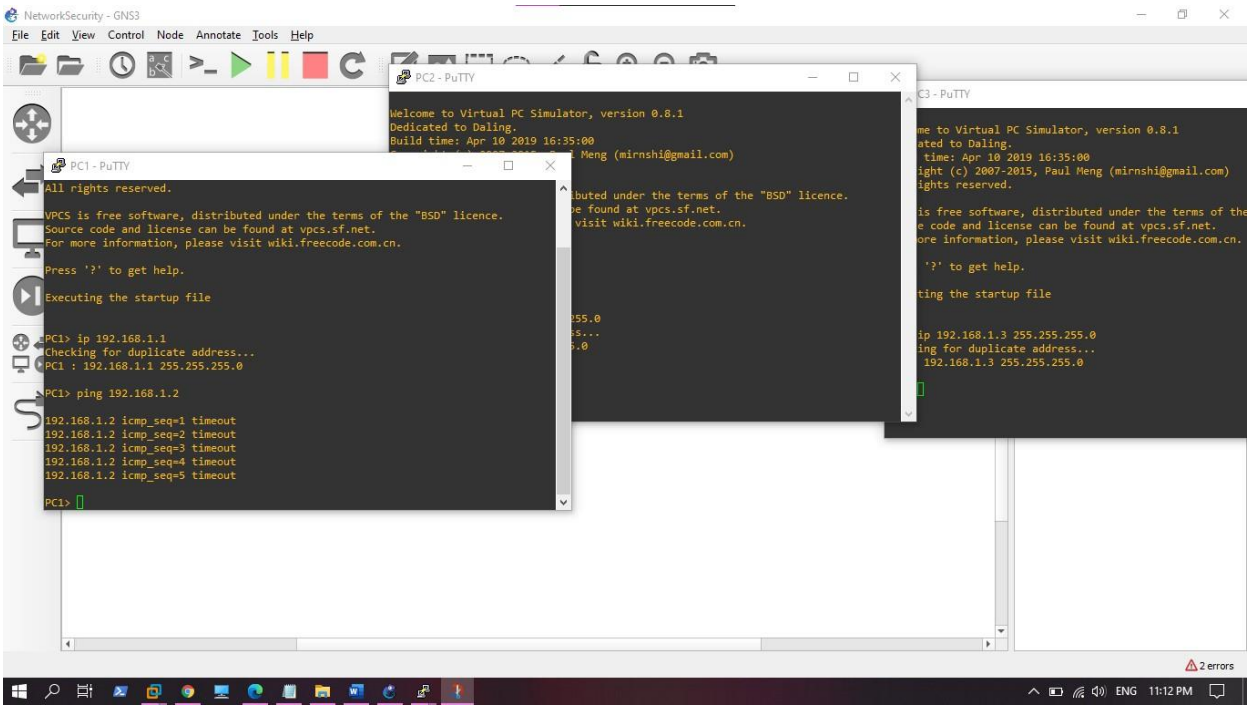
vlan access-map No-Access-Pc2 20

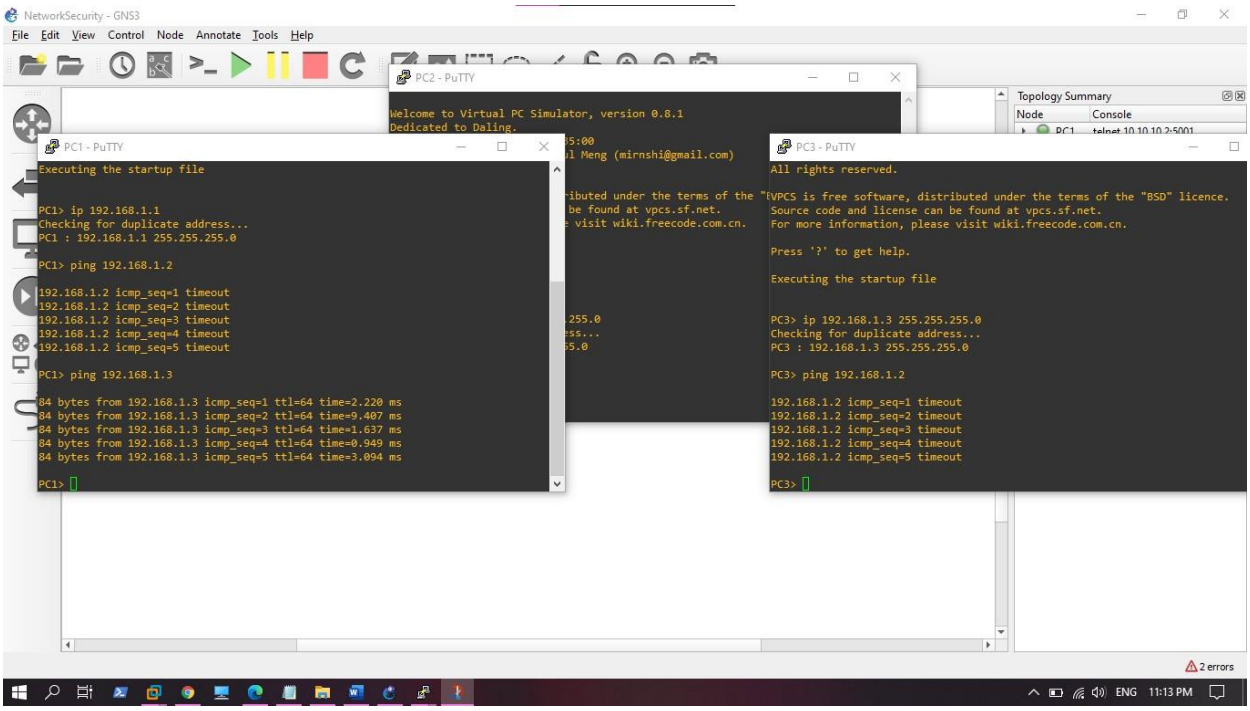
action forward

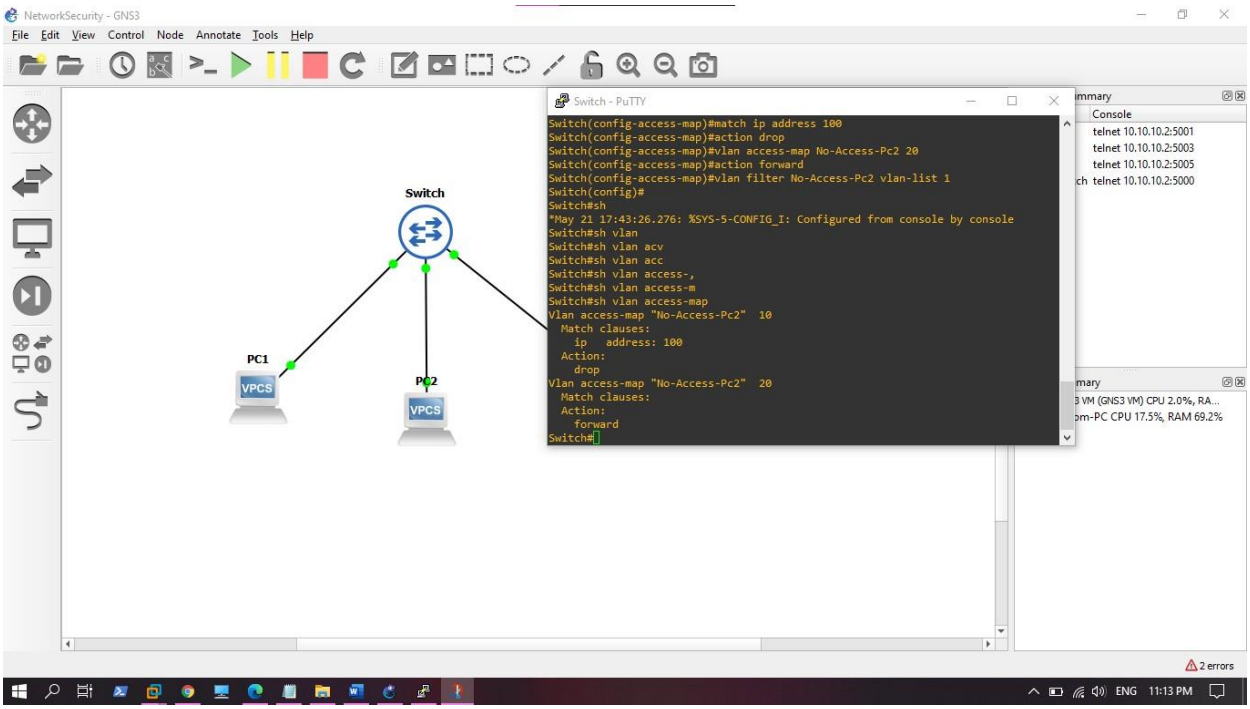
vlan filter No-Access-Pc2 vlan-list 1


NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
Topology Summary
Node Console
PC1 telnet 10.10.10.2:5001
PC2 telnet 10.10.10.2:5003
PC3 telnet 10.10.10.2:5005
Switch telnet 10.10.10.2:5000
Servers Summary
GNS3 VM (GNS3 VM) CPU 2.1%, RA...
Venom-PC CPU 46.0%, RAM 70.4%
Switch
PC1
PC2
PC3
VPCS
2 errors
ENG 11:10 PM


NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
Switch - PuTTY
2, changed state to up
*May 21 17:39:54.933: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet3/
3, changed state to up
*May 21 17:39:54.968: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, cha
nged state to down
*May 21 17:39:56.131: %LINK-5-CHANGED: Interface Vlan1, changed state to adminis
tratively down
*May 21 17:39:57.567: %PLATFORM-5-SIGNATURE_VERIFIED: Image '/i86bi-linux-l2-adv
enterprisek9-15.2d.bin' passed code signing verification
Switch#
Switch#
Switch#
Switch#
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#access-list 100 permit ip any host 192.168.1.2
Switch(config)#vlan access-map No-Access-Pc2 10
Switch(config-access-map)#match ip address 100
Switch(config-access-map)#action drop
Switch(config-access-map)#vlan access-map No-Access-Pc2 20
Switch(config-access-map)#action forward
Switch(config-access-map)#vlan filter No-Access-Pc2 vlan-list 1
Switch(config)#
Console
telnet 10.10.10.2:5001
telnet 10.10.10.2:5003
telnet 10.10.10.2:5005
telnet 10.10.10.2:5000
Switch
PC1
PC2
VPCS
2 errors
ENG 11:10 PM


NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
PC2 - PuTTY
Welcome to Virtual PC Simulator, version 0.8.1
Dedicated to Daling.
Build time: Apr 10 2019 16:35:00
Meng (mirnshi@gmail.com)
ibuted under the terms of the "BSD" licence.
be found at vpcs.sf.net.
visit wiki.freecode.com.cn.
255.0
ss...
5.0
PC1 - PuTTY
All rights reserved.
VPCS is free software, distributed under the terms of the "BSD" licence.
Source code and license can be found at vpcs.sf.net.
For more information, please visit wiki.freecode.com.cn.
Press '?' to get help.
Executing the startup file
PC1> ip 192.168.1.1
Checking for duplicate address...
PC1 : 192.168.1.1 255.255.255.0
PC1> ping 192.168.1.2
192.168.1.2 icmp_seq=1 timeout
192.168.1.2 icmp_seq=2 timeout
192.168.1.2 icmp_seq=3 timeout
192.168.1.2 icmp_seq=4 timeout
192.168.1.2 icmp_seq=5 timeout
PC1>
C3 - PuTTY
me to Virtual PC Simulator, version 0.8.1
ated to Daling.
time: Apr 10 2019 16:35:00
ight (c) 2007-2015, Paul Meng (mirnshi@gmail.com)
ights reserved.
is free software, distributed under the terms of the
e code and license can be found at vpcs.sf.net.
ore information, please visit wiki.freecode.com.cn.
'?' to get help.
ting the startup file
ip 192.168.1.3 255.255.255.0
ing for duplicate address...
192.168.1.3 255.255.255.0
2 errors
ENG 11:12 PM


NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
PC2 - PuTTY
Welcome to Virtual PC Simulator, version 0.8.1
Dedicated to Daling.
:00
l Meng (mirnshi@gmail.com)
ibuted under the terms of the "
be found at vpcs.sf.net.
visit wiki.freecode.com.cn.
255.0
ess...
5.0
Topology Summary
Node
Console
PC1 telnet 10.10.10.2:5001
PC1 - PuTTY
Executing the startup file
PC1> ip 192.168.1.1
Checking for duplicate address...
PC1 : 192.168.1.1 255.255.255.0
PC1> ping 192.168.1.2
192.168.1.2 icmp_seq=1 timeout
192.168.1.2 icmp_seq=2 timeout
192.168.1.2 icmp_seq=3 timeout
192.168.1.2 icmp_seq=4 timeout
192.168.1.2 icmp_seq=5 timeout
PC1> ping 192.168.1.3
84 bytes from 192.168.1.3 icmp_seq=1 ttl=64 time=2.220 ms
84 bytes from 192.168.1.3 icmp_seq=2 ttl=64 time=9.407 ms
84 bytes from 192.168.1.3 icmp_seq=3 ttl=64 time=1.637 ms
84 bytes from 192.168.1.3 icmp_seq=4 ttl=64 time=0.949 ms
84 bytes from 192.168.1.3 icmp_seq=5 ttl=64 time=3.094 ms
PC1>
PC3 - PuTTY
All rights reserved.
VPCS is free software, distributed under the terms of the "BSD" licence.
Source code and license can be found at vpcs.sf.net.
For more information, please visit wiki.freecode.com.cn.
Press '?' to get help.
Executing the startup file
PC3> ip 192.168.1.3 255.255.255.0
Checking for duplicate address...
PC3 : 192.168.1.3 255.255.255.0
PC3> ping 192.168.1.2
192.168.1.2 icmp_seq=1 timeout
192.168.1.2 icmp_seq=2 timeout
192.168.1.2 icmp_seq=3 timeout
192.168.1.2 icmp_seq=4 timeout
192.168.1.2 icmp_seq=5 timeout
PC3>
2 errors
ENG 11:13 PM



Private VLAN

Community VLAN

vtp mode transparent

vlan 201

private-vlan community

vlan 200

private-vlan primary

private-vlan association add 201

interface range eth 0/0-1

switchport mode private-vlan host

switchport private-vlan host-association 200 201

interface eth 1/0

switchport mode private-vlan promiscuous

switchport private-vlan mapping 200 201

Isolated VLAN

vlan 202

private-vlan isolated

vlan 200

private-vlan primary

private-vlan association add 202

interface range eth 0/2-3

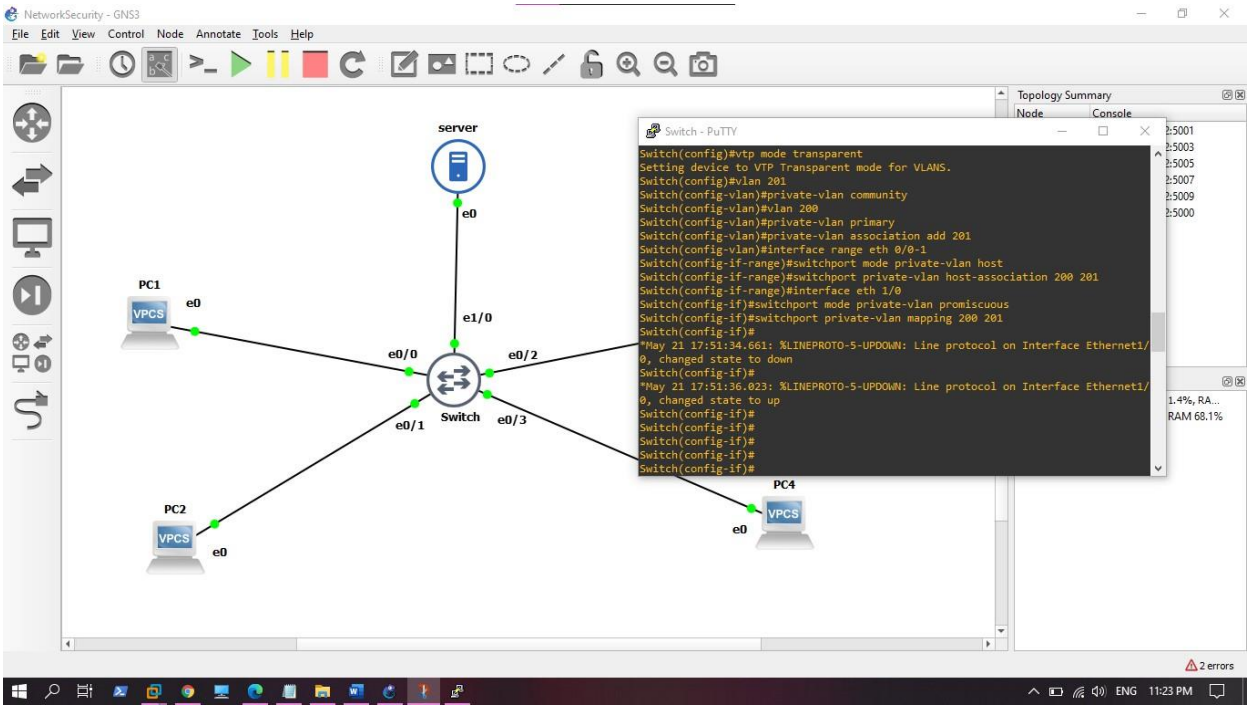
switchport mode private-vlan host

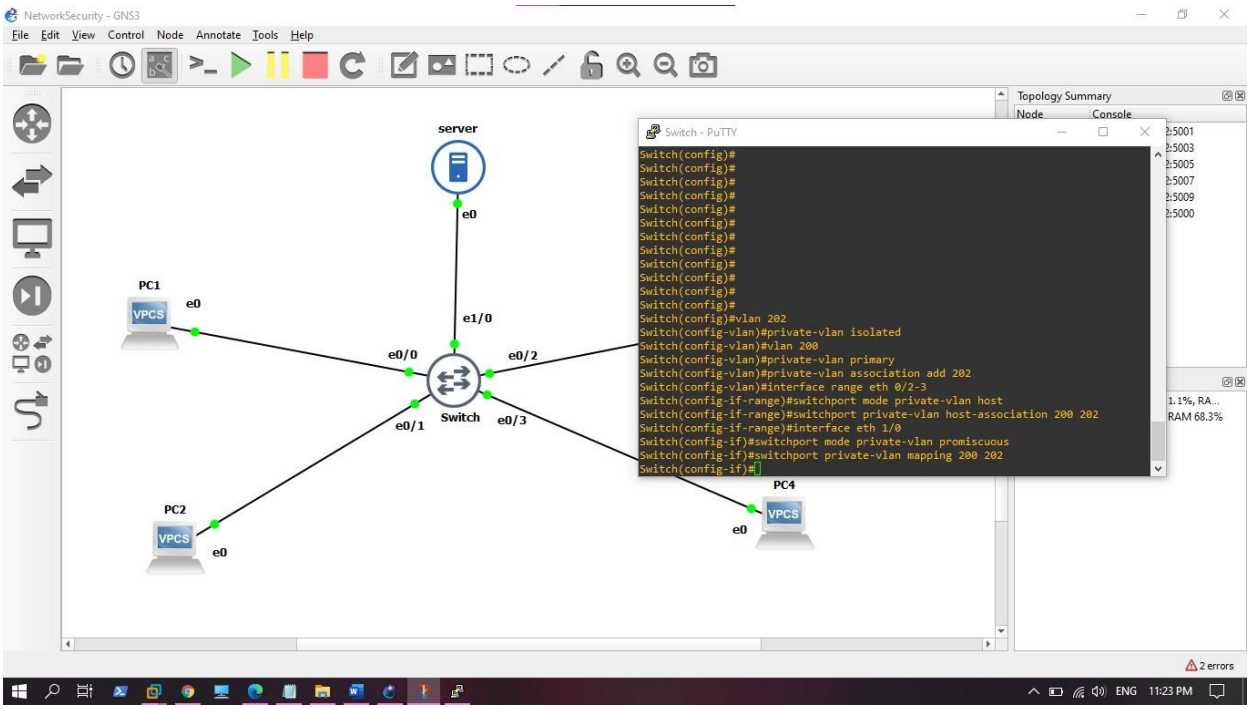
switchport private-vlan host-association 200 202

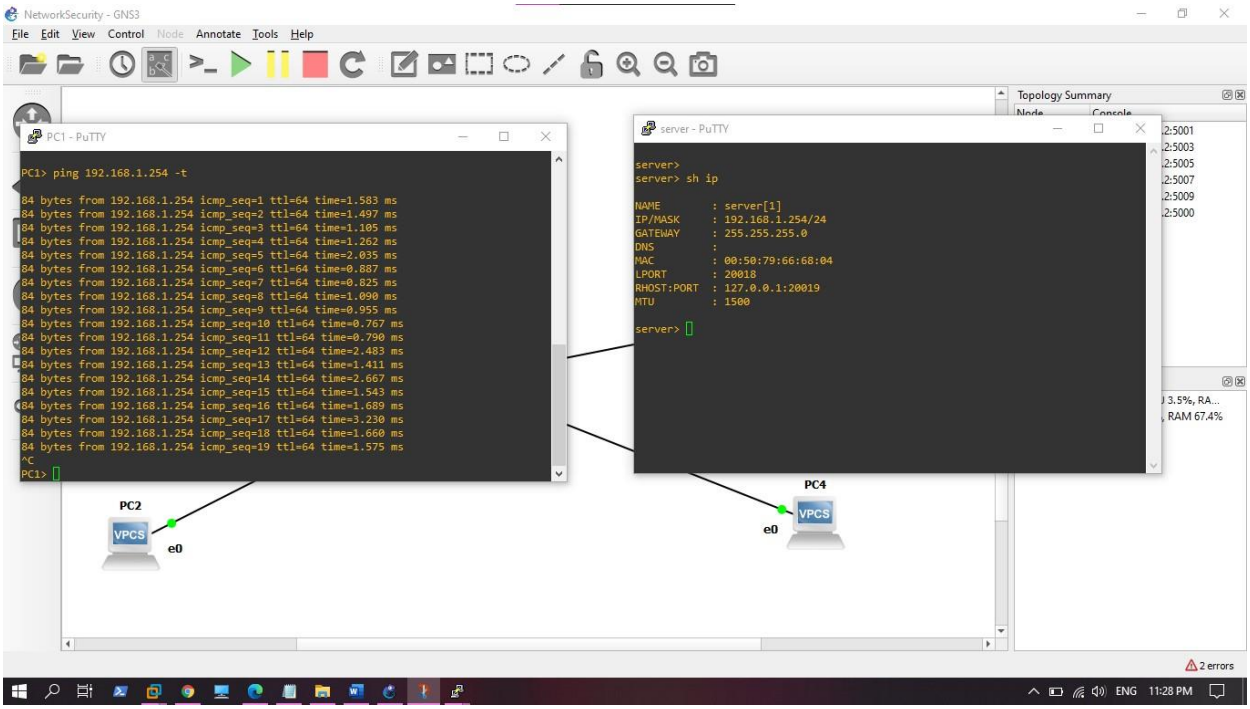
interface eth 1/0

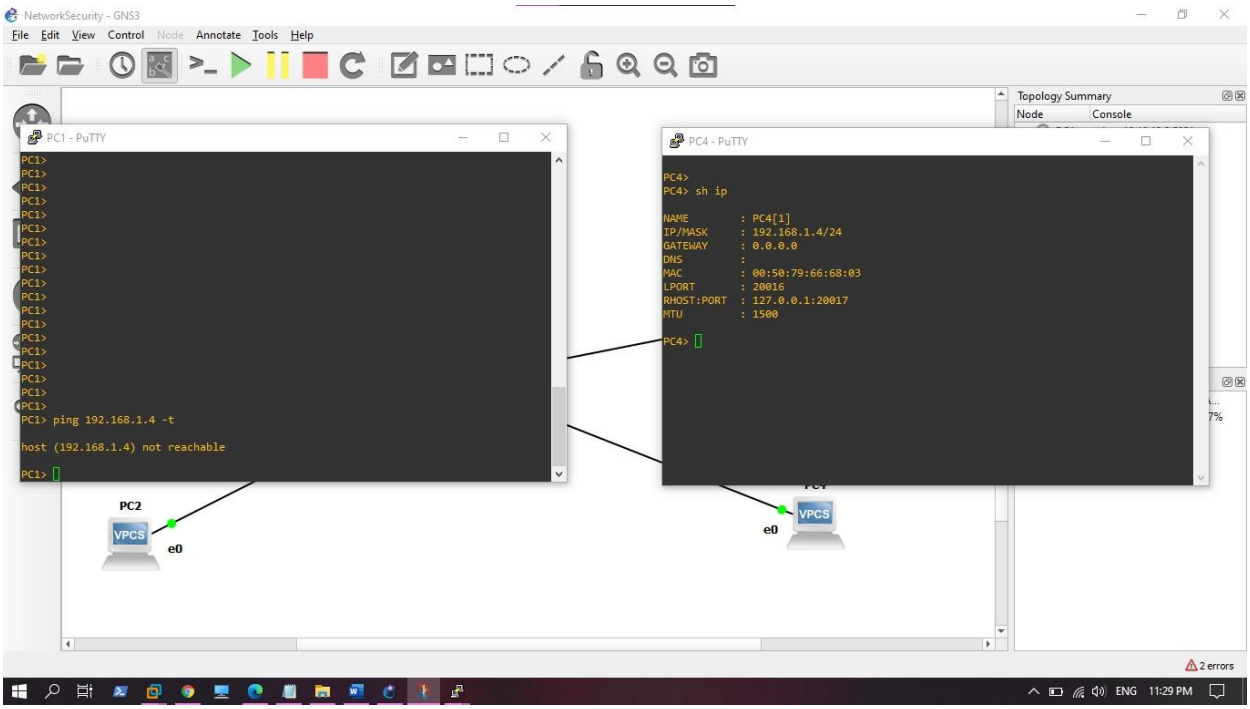
switchport mode private-vlan promiscuous

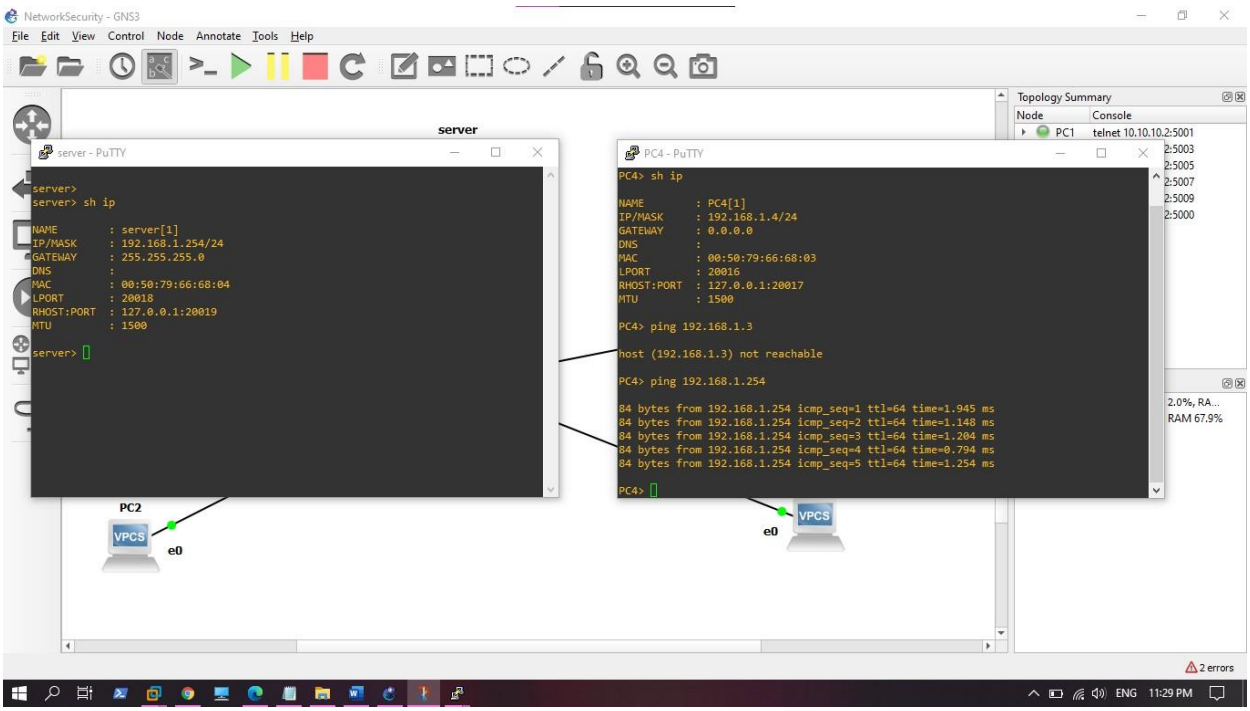
switchport private-vlan mapping 200 202

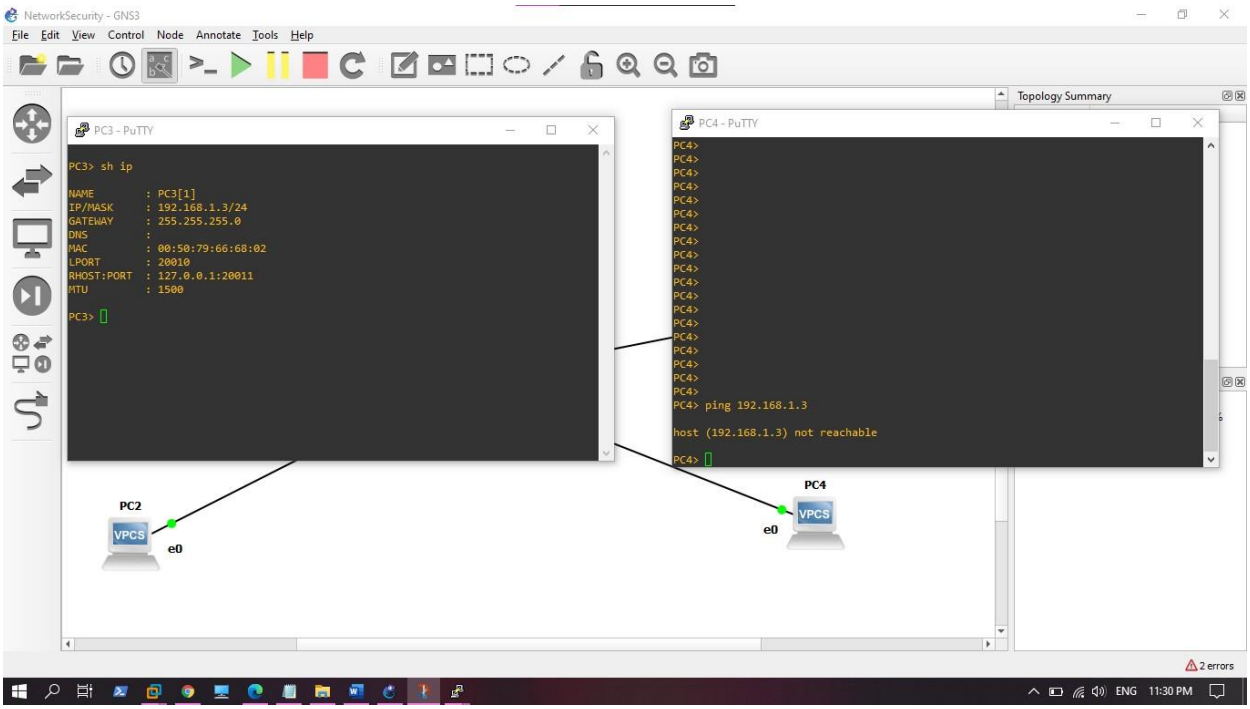



NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
Topology Summary
server
e0
PC1
VPCS
e0
e1/0
e0/0
e0/2
Switch
e0/1
e0/3
PC2
VPCS
e0
PC4
VPCS
e0
Switch - PuTTY
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#vlan 202
Switch(config-vlan)#private-vlan isolated
Switch(config-vlan)#vlan 200
Switch(config-vlan)#private-vlan primary
Switch(config-vlan)#private-vlan association add 202
Switch(config-vlan)#interface range eth 0/2-3
Switch(config-if-range)#switchport mode private-vlan host
Switch(config-if-range)#switchport private-vlan host-association 200 202
Switch(config-if-range)#interface eth 1/0
Switch(config-if)#switchport mode private-vlan promiscuous
Switch(config-if)#switchport private-vlan mapping 200 202
Switch(config-if)#
2 errors
ENG 11:23 PM


NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
Topology Summary
PC1 - PuTTY
PC1> ping 192.168.1.254 -t
84 bytes from 192.168.1.254 icmp_seq=1 ttl=64 time=1.583 ms
84 bytes from 192.168.1.254 icmp_seq=2 ttl=64 time=1.497 ms
84 bytes from 192.168.1.254 icmp_seq=3 ttl=64 time=1.105 ms
84 bytes from 192.168.1.254 icmp_seq=4 ttl=64 time=1.262 ms
84 bytes from 192.168.1.254 icmp_seq=5 ttl=64 time=2.035 ms
84 bytes from 192.168.1.254 icmp_seq=6 ttl=64 time=0.887 ms
84 bytes from 192.168.1.254 icmp_seq=7 ttl=64 time=0.825 ms
84 bytes from 192.168.1.254 icmp_seq=8 ttl=64 time=1.090 ms
84 bytes from 192.168.1.254 icmp_seq=9 ttl=64 time=0.955 ms
84 bytes from 192.168.1.254 icmp_seq=10 ttl=64 time=0.767 ms
84 bytes from 192.168.1.254 icmp_seq=11 ttl=64 time=0.790 ms
84 bytes from 192.168.1.254 icmp_seq=12 ttl=64 time=2.483 ms
84 bytes from 192.168.1.254 icmp_seq=13 ttl=64 time=1.411 ms
84 bytes from 192.168.1.254 icmp_seq=14 ttl=64 time=2.667 ms
84 bytes from 192.168.1.254 icmp_seq=15 ttl=64 time=1.543 ms
84 bytes from 192.168.1.254 icmp_seq=16 ttl=64 time=1.689 ms
84 bytes from 192.168.1.254 icmp_seq=17 ttl=64 time=3.230 ms
84 bytes from 192.168.1.254 icmp_seq=18 ttl=64 time=1.660 ms
84 bytes from 192.168.1.254 icmp_seq=19 ttl=64 time=1.575 ms
^C
PC1>
Server - PuTTY
server>
server> sh ip
NAME : server[1]
IP/MASK : 192.168.1.254/24
GATEWAY : 255.255.255.0
DNS :
MAC : 00:50:79:66:68:04
LPORT : 20018
RHOST:PORT : 127.0.0.1:20019
MTU : 1500
server>
PC2
VPCS
e0
PC4
VPCS
e0
2 errors
ENG 11:28 PM


NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
PC1 - PuTTY
PC1>
PC1> ping 192.168.1.4 -t
host (192.168.1.4) not reachable
PC1>
PC4 - PuTTY
PC4>
PC4> sh ip
NAME : PC4[1]
IP/MASK : 192.168.1.4/24
GATEWAY : 0.0.0.0
DNS :
MAC : 00:50:79:66:68:03
LPORT : 20016
RHOST:PORT : 127.0.0.1:20017
MTU : 1500
PC4>
Topology Summary
Node Console
PC2
VPCS
e0
VPCS
e0
2 errors
ENG 11:29 PM


NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
server
server - PuTTY
server>
server> sh ip
NAME : server[1]
IP/MASK : 192.168.1.254/24
GATEWAY : 255.255.255.0
DNS :
MAC : 00:50:79:66:68:04
LPORT : 20018
RHOST:PORT : 127.0.0.1:20019
MTU : 1500
server>
PC4 - PuTTY
PC4> sh ip
NAME : PC4[1]
IP/MASK : 192.168.1.4/24
GATEWAY : 0.0.0.0
DNS :
MAC : 00:50:79:66:68:03
LPORT : 20016
RHOST:PORT : 127.0.0.1:20017
MTU : 1500
PC4> ping 192.168.1.3
host (192.168.1.3) not reachable
PC4> ping 192.168.1.254
84 bytes from 192.168.1.254 icmp_seq=1 ttl=64 time=1.945 ms
84 bytes from 192.168.1.254 icmp_seq=2 ttl=64 time=1.148 ms
84 bytes from 192.168.1.254 icmp_seq=3 ttl=64 time=1.204 ms
84 bytes from 192.168.1.254 icmp_seq=4 ttl=64 time=0.794 ms
84 bytes from 192.168.1.254 icmp_seq=5 ttl=64 time=1.254 ms
PC4>
Topology Summary
Node Console
PC1 telnet 10.10.10.2:5001
2:5003
2:5005
2:5007
2:5009
2:5000
2.0%, RA...
RAM 67.9%
PC2
VPCS
e0
VPCS
e0
2 errors
ENG 11:29 PM


NetworkSecurity - GNS3
File Edit View Control Node Annotate Tools Help
PC3 - PuTTY
PC3> sh ip
NAME : PC3[1]
IP/MASK : 192.168.1.3/24
GATEWAY : 255.255.255.0
DNS :
MAC : 00:50:79:66:68:02
LPORT : 20010
RHOST:PORT : 127.0.0.1:20011
MTU : 1500
PC3>
PC4 - PuTTY
PC4> ping 192.168.1.3
host (192.168.1.3) not reachable
PC4>
Topology Summary
PC2
VPCS
e0
PC4
VPCS
e0
2 errors
ENG 11:30 PM