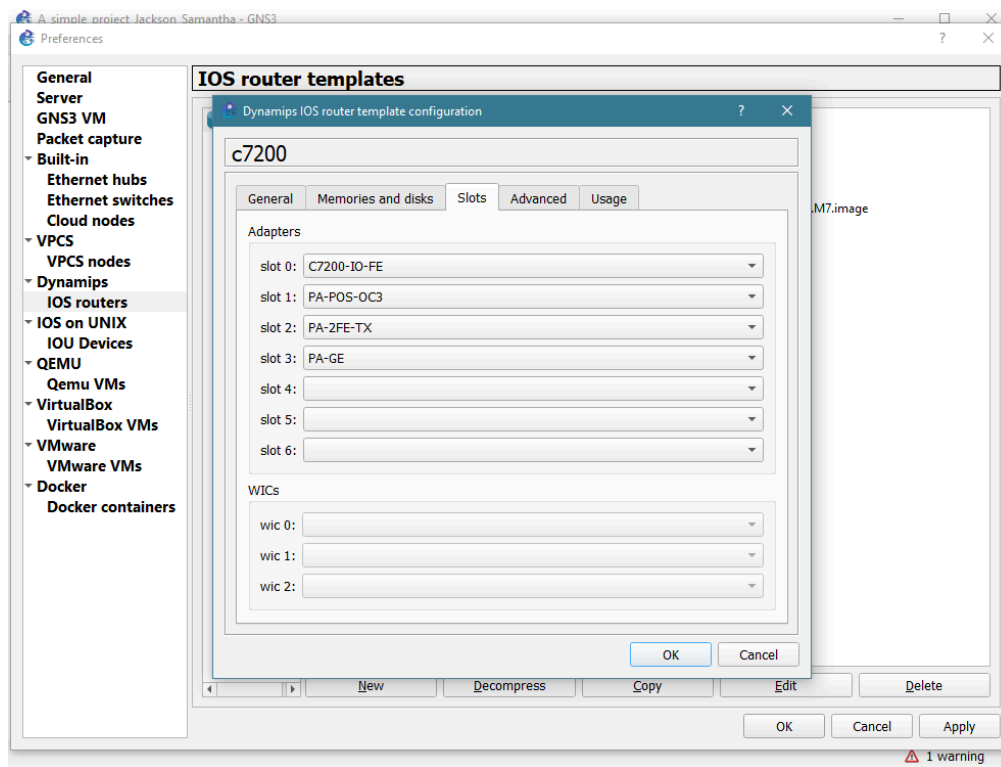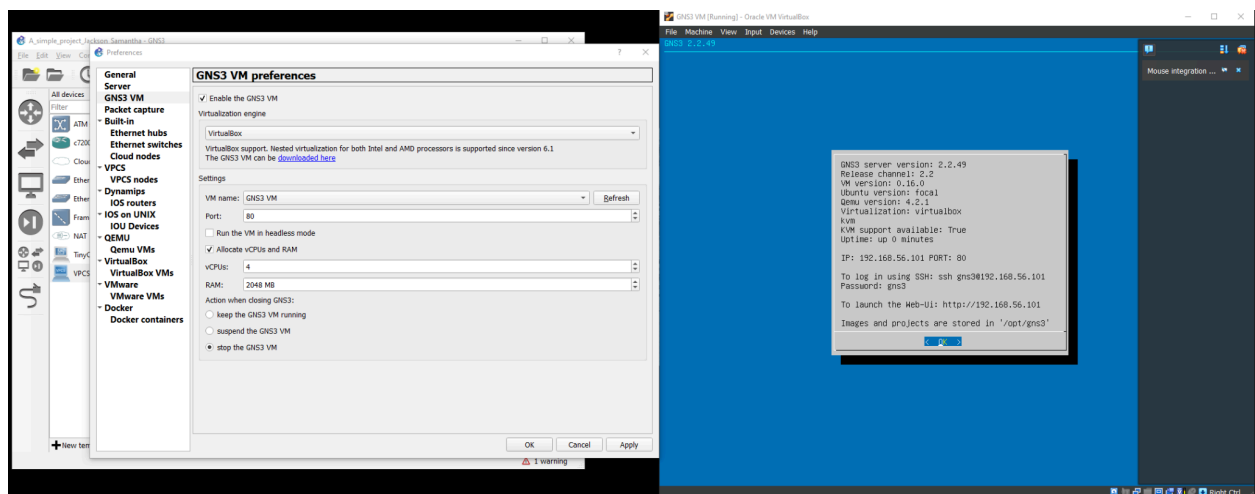Samantha Jackson

CSCI4406

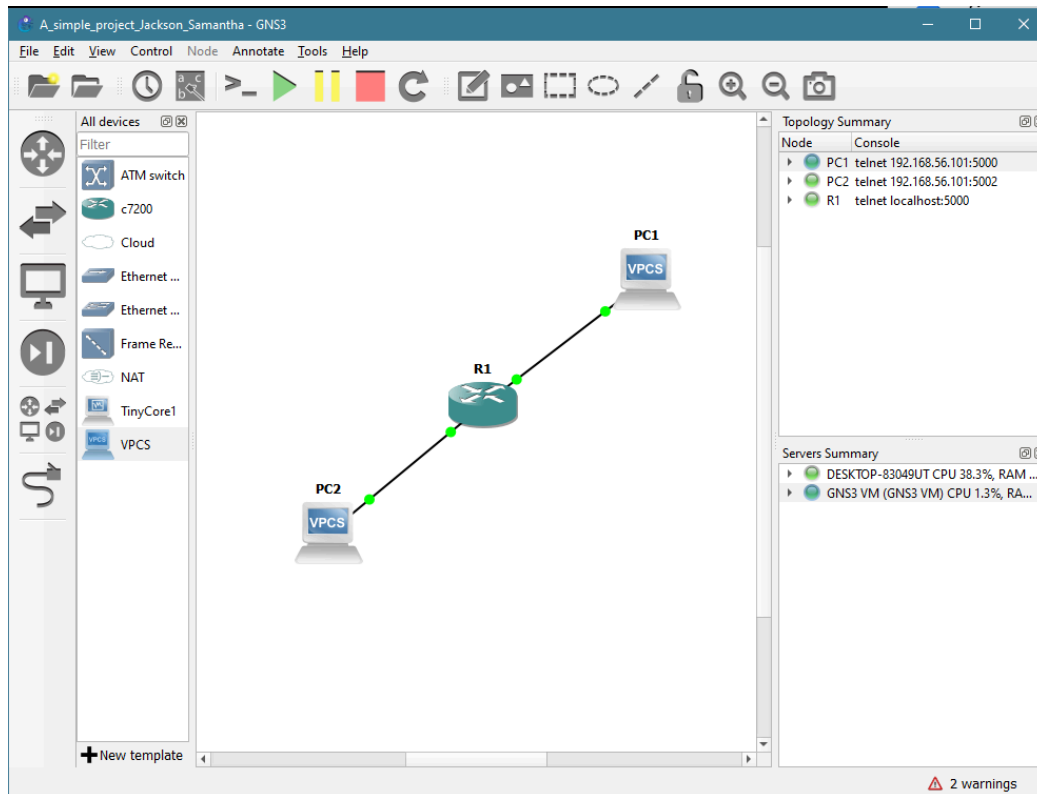8/31/2024

Main Class Lab 1

Installed C7200 and configured the adapter slots according to the instructions.

Downloaded the GNS3 VM on VirtualBox and attached it to run in GNS3.

Configured and started the nodes.

I opened the console and configured interface f0/0 and f2/0 and changed the state to up.
(FastEthernet1/0 doesn't exist in C7200 so I assigned it to FasteEthernet2/0 under a different IP
address to not overlap IPs with the other ethernet adapter)

```
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#interface f0/0
R1(config-if)#ip address 10.1.1.1 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#
*Aug 31 21:35:55.903: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to down
R1(config-if)#
*Aug 31 21:38:27.335: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Aug 31 21:38:28.335: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R1(config-if)#end
R1#
*Aug 31 21:39:00.159: %SYS-5-CONFIG_I: Configured from console by console
R1#configure terminal f2/0
                     ^
% Invalid input detected at '^' marker.

R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#interface f2/0
R1(config-if)#ip address 10.1.1.3 255.255.255.0
% 10.1.1.0 overlaps with FastEthernet0/0
% 10.1.1.0 overlaps with FastEthernet0/0
R1(config-if)#ip address 10.1.2.3
% Incomplete command.

R1(config-if)#ip address 10.1.2.3 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#end
R1#
*Aug 31 21:40:20.547: %SYS-5-CONFIG_I: Configured from console by console
R1#
*Aug 31 21:40:21.575: %LINK-3-UPDOWN: Interface FastEthernet2/0, changed state to up
*Aug 31 21:40:22.575: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet2/0, changed state to up
```

Configured Host 1 and 2.

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For more information, please visit wiki.freecode.com.cn.

Press '?' to get help.

Executing the startup file

PC1> dhcp
DDD
Can't find dhcp server

PC1> ip 10.1.1.20 255.255.255.0 10.1.1.1
Checking for duplicate address...
PC1 : 10.1.1.20 255.255.255.0 gateway 10.1.1.1

PC1> save
Saving startup configuration to startup.vpc
. done

PC1> show ip

NAME   : PC1[1]
IP/MASK   : 10.1.1.20/24
GATEWAY   : 10.1.1.1
DNS   :
MAC   : 00:50:79:66:68:01
LPORT   : 20000
RHOST:PORT : 127.0.0.1:20001
MTU   : 1500

Welcome to Virtual PC Simulator, version 0.8.3
Dedicated to Daling.
Build time: Sep 9 2023 11:15:00
Copyright (c) 2007-2015, Paul Meng (mirnshi@gmail.com)
All rights reserved.

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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

PC2> ip 10.1.2.30 255.255.255.0 10.1.2.3
Checking for duplicate address...
PC2 : 10.1.2.30 255.255.255.0 gateway 10.1.2.3

PC2> save
Saving startup configuration to startup.vpc
. done

PC2> show ip

NAME   : PC2[1]
IP/MASK   : 10.1.2.30/24
GATEWAY   : 10.1.2.3
DNS   :
MAC   : 00:50:79:66:68:00
LPORT   : 20002
RHOST:PORT : 127.0.0.1:20003
MTU   : 1500

Show IP Route

```
R1#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route, H - NHRP, l - LISP
       + - replicated route, % - next hop override

Gateway of last resort is not set

      10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
C        10.1.1.0/24 is directly connected, FastEthernet0/0
L        10.1.1.1/32 is directly connected, FastEthernet0/0
C        10.1.2.0/24 is directly connected, FastEthernet2/0
L        10.1.2.3/32 is directly connected, FastEthernet2/0
R1#show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/0        10.1.1.1        YES manual up                    up
POS1/0                 unassigned      YES unset  administratively down down
FastEthernet2/0        10.1.2.3        YES manual up                    up
FastEthernet2/1        unassigned      YES unset  administratively down down
GigabitEthernet3/0     unassigned      YES unset  administratively down down
R1#
```

Machine pinging each gateway and each other.

```
PC1> ping 10.1.1.1

84 bytes from 10.1.1.1 icmp_seq=1 ttl=255 time=84.384 ms
84 bytes from 10.1.1.1 icmp_seq=2 ttl=255 time=19.730 ms
84 bytes from 10.1.1.1 icmp_seq=3 ttl=255 time=6.833 ms
84 bytes from 10.1.1.1 icmp_seq=4 ttl=255 time=7.260 ms
84 bytes from 10.1.1.1 icmp_seq=5 ttl=255 time=8.130 ms

PC1> ping 10.1.2.30

84 bytes from 10.1.2.30 icmp_seq=1 ttl=63 time=42.344 ms
84 bytes from 10.1.2.30 icmp_seq=2 ttl=63 time=19.898 ms
84 bytes from 10.1.2.30 icmp_seq=3 ttl=63 time=17.897 ms
84 bytes from 10.1.2.30 icmp_seq=4 ttl=63 time=16.928 ms
84 bytes from 10.1.2.30 icmp_seq=5 ttl=63 time=15.172 ms
```

```
PC2> ping 10.1.2.3

84 bytes from 10.1.2.3 icmp_seq=1 ttl=255 time=11.276 ms
84 bytes from 10.1.2.3 icmp_seq=2 ttl=255 time=4.278 ms
84 bytes from 10.1.2.3 icmp_seq=3 ttl=255 time=4.072 ms
84 bytes from 10.1.2.3 icmp_seq=4 ttl=255 time=6.013 ms
84 bytes from 10.1.2.3 icmp_seq=5 ttl=255 time=4.197 ms

PC2> ping 10.1.1.20

84 bytes from 10.1.1.20 icmp_seq=1 ttl=63 time=16.698 ms
84 bytes from 10.1.1.20 icmp_seq=2 ttl=63 time=12.932 ms
84 bytes from 10.1.1.20 icmp_seq=3 ttl=63 time=15.625 ms
84 bytes from 10.1.1.20 icmp_seq=4 ttl=63 time=14.166 ms
84 bytes from 10.1.1.20 icmp_seq=5 ttl=63 time=22.053 ms
```

This assignment taught me how to troubleshoot installations of GNS3 on VirtualBox. There was an issue where the OVA file assigned a non-existent network adapter "vboxnet0" that had to be manually changed to a host ethernet adapter with the VirtualBox Extension Pack installed to avoid a critical failure. I also learned a lot about the GNS3 software mainly how the UI works because I didn't realize you had to link servers using the "Add a link" tool. Besides that setting up the servers was a relatively simple process.