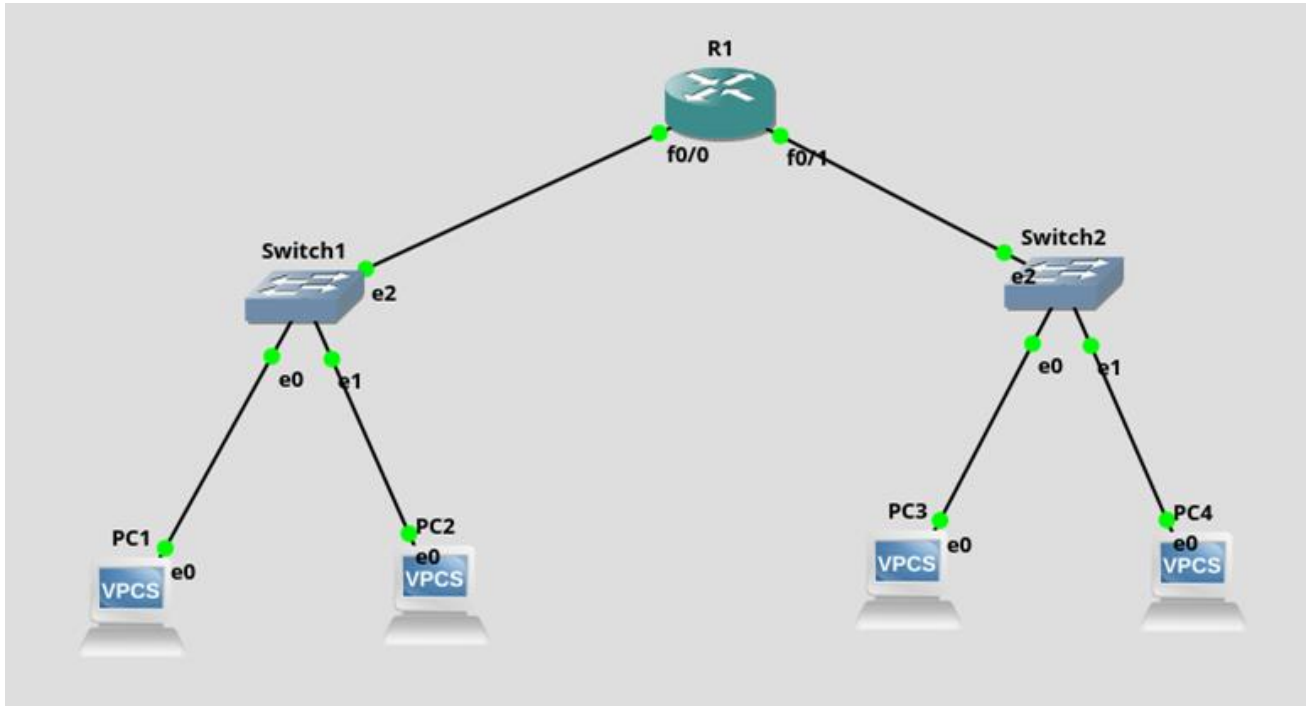


CN Lab: Week 2

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GNS3 Network:



Default Gateway

This refers to the ip address of a router for a given interface/ connection, through which a SUBNET will communicate.

Configuration of VPCs

\$ ip dns {ip address} {mask} {default gateway}

```
PC1
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

Checking for duplicate address...
PC1 : 192.168.1.1 255.255.255.0 gateway 192.168.1.254

PC1> show ip

NAME       : PC1[1]
IP/MASK    : 192.168.1.1/24
GATEWAY    : 192.168.1.254
DNS        : 192.168.1.1 0.0.0.24
MAC        : 00:50:79:66:68:00
LPORT      : 10034
RHOST:PORT : 127.0.0.1:10035
MTU        : 1500

PC1> 
```

Configuration of Router

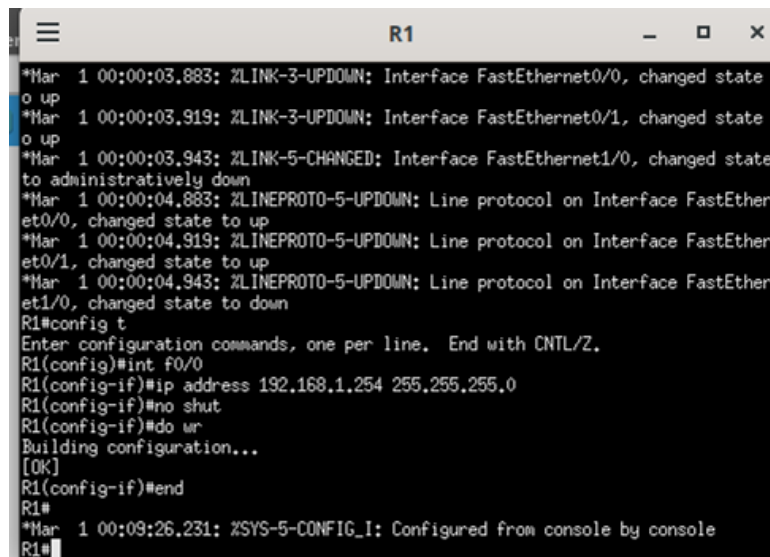
The steps to configure the router is:

1. Open the console of the router
2. Enable the router (only for cisco packet tracer)
3. Go to configuration mode
\$ config t
4. Configure that interface of the router (get the name by clicking on 'abc widget')
\$ int f0/0
5. \$ ip address 192.168.1.254 255.255.255.0
6. \$ no shut (to make it permanent)
7. \$ do wr (to save the configuration)
8. \$ end

Now these steps must be repeated for each interface.

Note: The slash notation doesn't work

Note: The VPCs connected to one side of the interface must have the similar ip address of that side router, else an error is thrown.



```
R1
*Mar 1 00:00:03.883: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar 1 00:00:03.919: %LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up
*Mar 1 00:00:03.943: %LINK-5-CHANGED: Interface FastEthernet1/0, changed state to administratively down
*Mar 1 00:00:04.883: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
*Mar 1 00:00:04.919: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
*Mar 1 00:00:04.943: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to down
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int f0/0
R1(config-if)#ip address 192.168.1.254 255.255.255.0
R1(config-if)#no shut
R1(config-if)#do wr
Building configuration...
[OK]
R1(config-if)#end
R1#
*Mar 1 00:09:26.231: %SYS-5-CONFIG_I: Configured from console by console
R1#
```

The below 2 commands give more router information (keep clicking enter to get)

\$ show interfaces

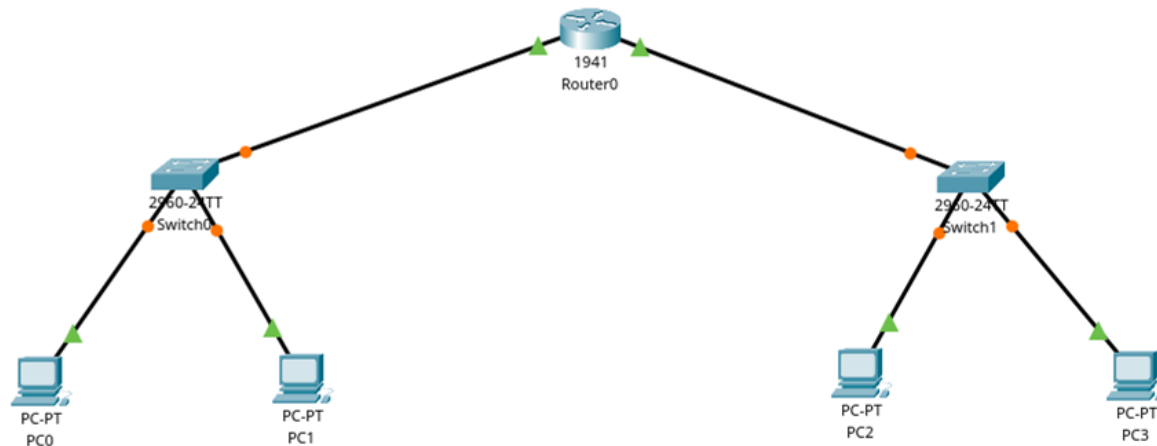
\$ show running-config

Installation of ISO Router images

The steps to be followed are

Edit > Preferences > Under Dynamips, click on IOS Routers > New > Browse > Open the download of the router image > Yes to decompress > 3 times next > In slot 1, take the first option > Click on Idle PC Finder > Finish > Apply > OK

Cisco Packet Tracer Network:



VPC Configurations

The steps to follow to configure the PCs are:

Click on PC > Desktop > ip configuration > follow commands as above + Also add default gateway

To ping another PC: Desktop > command prompt

Note: The count parameter doesn't work here. By default 4 packets are sent.

Router Configuration

Set up the interfaces in the config bar. Also, check the On button.

Pinging from PC1 to PC2

```

PC1
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.48.1

Pinging 172.16.48.1 with 32 bytes of data:

Request timed out.
Reply from 172.16.48.1: bytes=32 time<1ms TTL=127
Reply from 172.16.48.1: bytes=32 time<1ms TTL=127
Reply from 172.16.48.1: bytes=32 time=1ms TTL=127

Ping statistics for 172.16.48.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 172.16.48.1

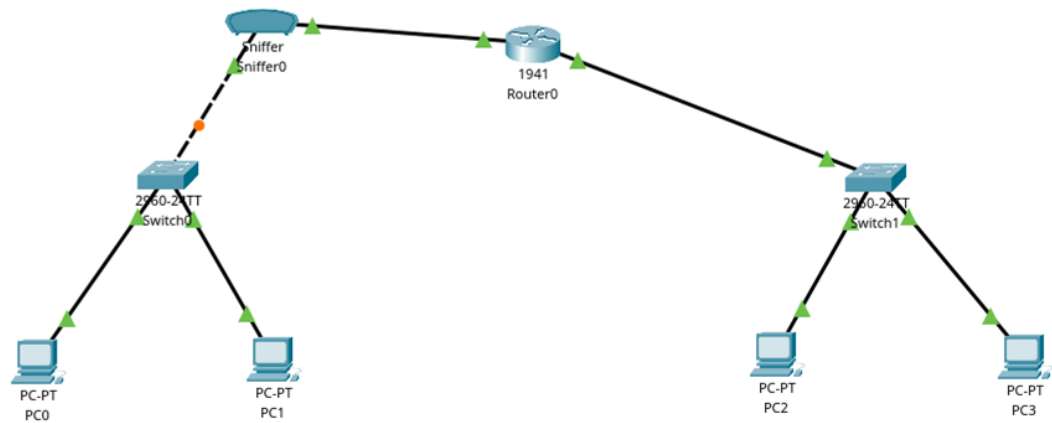
Pinging 172.16.48.1 with 32 bytes of data:

Reply from 172.16.48.1: bytes=32 time<1ms TTL=127
Reply from 172.16.48.1: bytes=32 time<1ms TTL=127
Reply from 172.16.48.1: bytes=32 time=5ms TTL=127
Reply from 172.16.48.1: bytes=32 time=1ms TTL=127

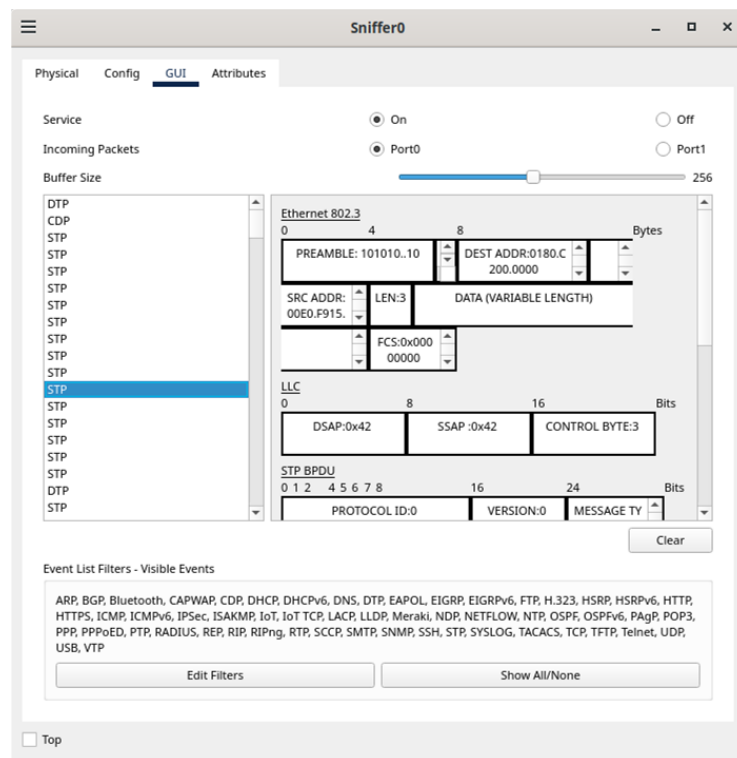
Ping statistics for 172.16.48.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 5ms, Average = 1ms

C:\>
  
```

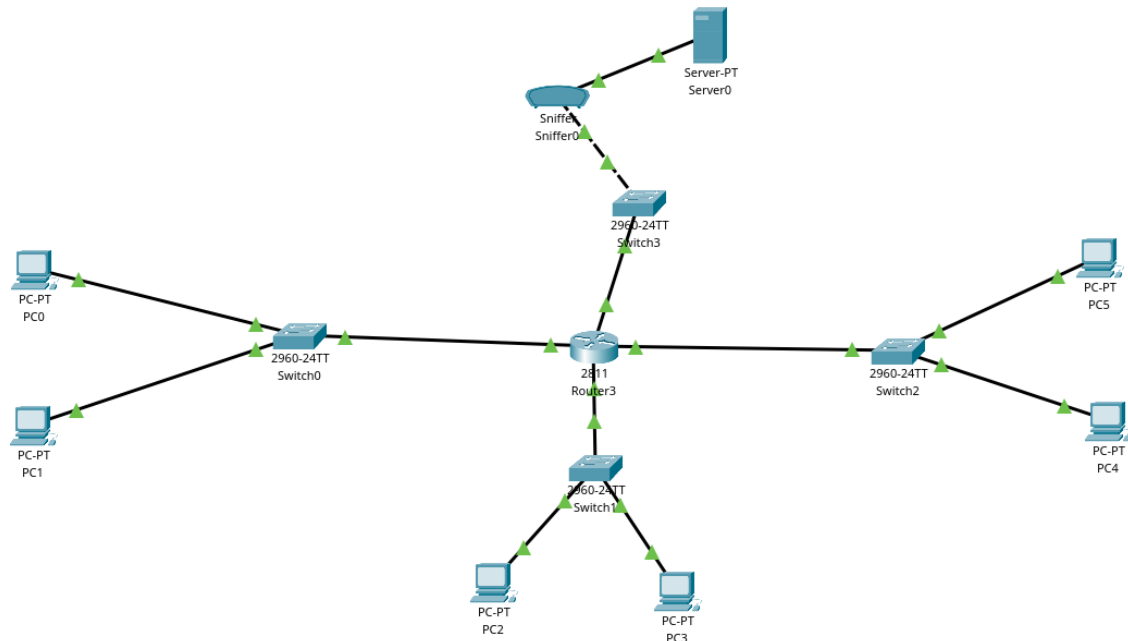
With the sniffer,



A packet from sniffer



PROBLEM 2:



How to increase the number of slots in the router:

- In GNS3:

Go to Configure > Select 1st option for slot 2

- In Cisco Packet Tracer:

Click on router, and switch it off physically. Then drag and drop the NM – 2FE2W option to the paly area. Finally switch the router on.

In GNS3:

