Lab – 2: GNS3 and Cisco Packet Tracer Documentation

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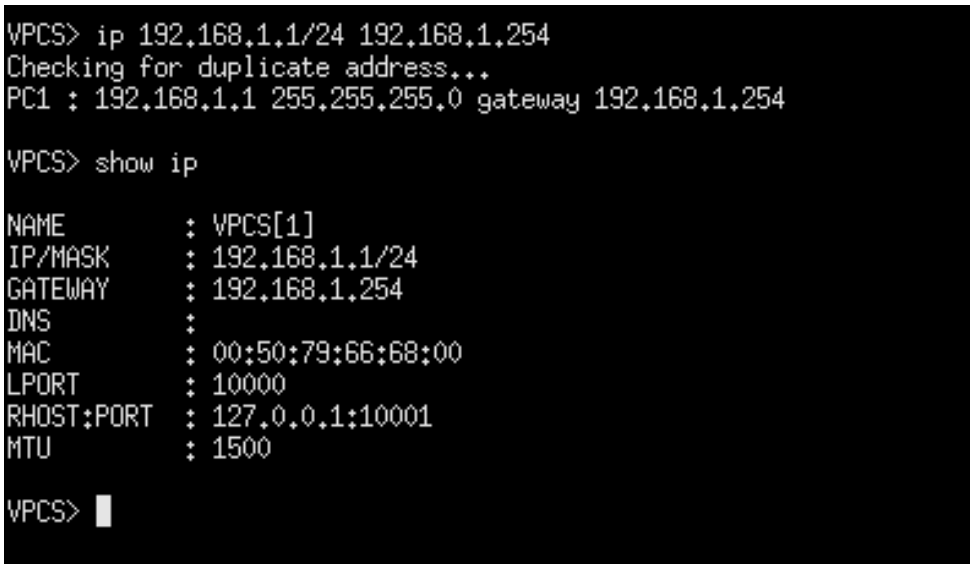
GNS3

Configuring Virtual PC:

```
# Terminal Commands to configure a Virtual PC:
ip 192.168.1.1/24 192.168.1.254 # <ip address>/24 <gateway address>

# To show configurations:
show ip
```



Configuring Virtual Router:

```
# Terminal Commands to configure a Virtual Router:
> enable
# config t
# int f0/0
ip address 192.168.1.254 255.255.255.0
no shutdown
end

# To save all configurations:
# do wr
```

```
Router#
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int f0/0
Router(config-if)#ip address 192.168.1.254 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#end
Router#
*Mar  1 00:30:37.675: %SYS-5-CONFIG_I: Configured from console by console
Router#
Router#
```

Pinging a PC across a Router and Capturing:

```
Trying ::1...
Connected to localhost.
Escape character is '^]'.

VPCS> ping 172.16.48.2 -c 5

84 bytes from 172.16.48.2 icmp_seq=1 ttl=63 time=47.481 ms
84 bytes from 172.16.48.2 icmp_seq=2 ttl=63 time=50.890 ms
84 bytes from 172.16.48.2 icmp_seq=3 ttl=63 time=36.558 ms
84 bytes from 172.16.48.2 icmp_seq=4 ttl=63 time=40.475 ms
84 bytes from 172.16.48.2 icmp_seq=5 ttl=63 time=50.268 ms

VPCS>
```

Captured Packets:

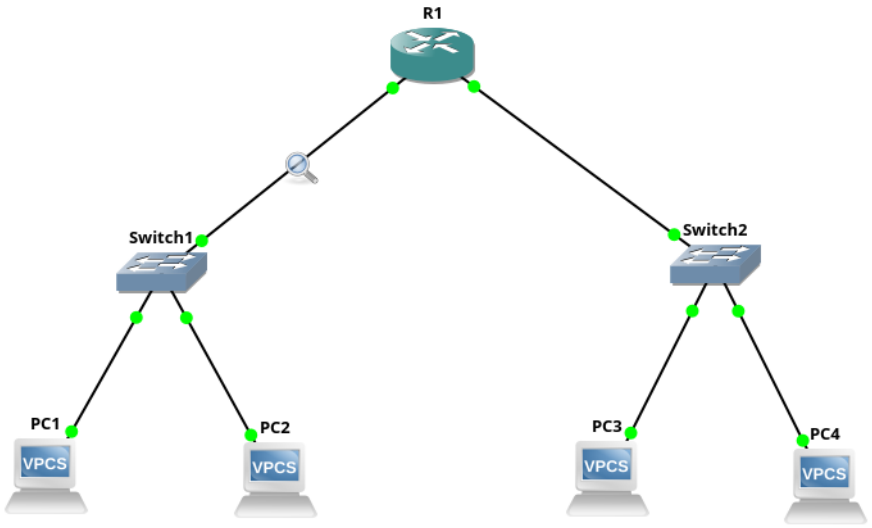
Apply a display filter ... <Ctrl-/>

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	c4:01:dc:2e:00:00	c4:01:dc:2e:00:00	LOOP	60	Reply
2	10.241157	c4:01:dc:2e:00:00	c4:01:dc:2e:00:00	LOOP	60	Reply
3	11.051015	192.168.1.1	172.16.48.2	ICMP	98	Echo (ping) request id=0x7964, seq=1/256, ttl=64 (reply in 4)
4	11.098200	172.16.48.2	192.168.1.1	ICMP	98	Echo (ping) reply id=0x7964, seq=1/256, ttl=63 (request in 3)
5	12.098956	192.168.1.1	172.16.48.2	ICMP	98	Echo (ping) request id=0x7a64, seq=2/512, ttl=64 (reply in 6)
6	12.149575	172.16.48.2	192.168.1.1	ICMP	98	Echo (ping) reply id=0x7a64, seq=2/512, ttl=63 (request in 5)
7	13.150521	192.168.1.1	172.16.48.2	ICMP	98	Echo (ping) request id=0x7b64, seq=3/768, ttl=64 (reply in 8)
8	13.186946	172.16.48.2	192.168.1.1	ICMP	98	Echo (ping) reply id=0x7b64, seq=3/768, ttl=63 (request in 7)
9	14.187871	192.168.1.1	172.16.48.2	ICMP	98	Echo (ping) request id=0x7c64, seq=4/1024, ttl=64 (reply in 10)
10	14.228009	172.16.48.2	192.168.1.1	ICMP	98	Echo (ping) reply id=0x7c64, seq=4/1024, ttl=63 (request in 9)
11	15.228667	192.168.1.1	172.16.48.2	ICMP	98	Echo (ping) request id=0x7d64, seq=5/1280, ttl=64 (reply in 12)
12	15.278649	172.16.48.2	192.168.1.1	ICMP	98	Echo (ping) reply id=0x7d64, seq=5/1280, ttl=63 (request in 11)

```
▸ Frame 1: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on i
▸ Ethernet II, Src: c4:01:dc:2e:00:00 (c4:01:dc:2e:00:00), Dst: c4:01:dc:2
▸ Configuration Test Protocol (loopback)
▸ Data (40 bytes)
```

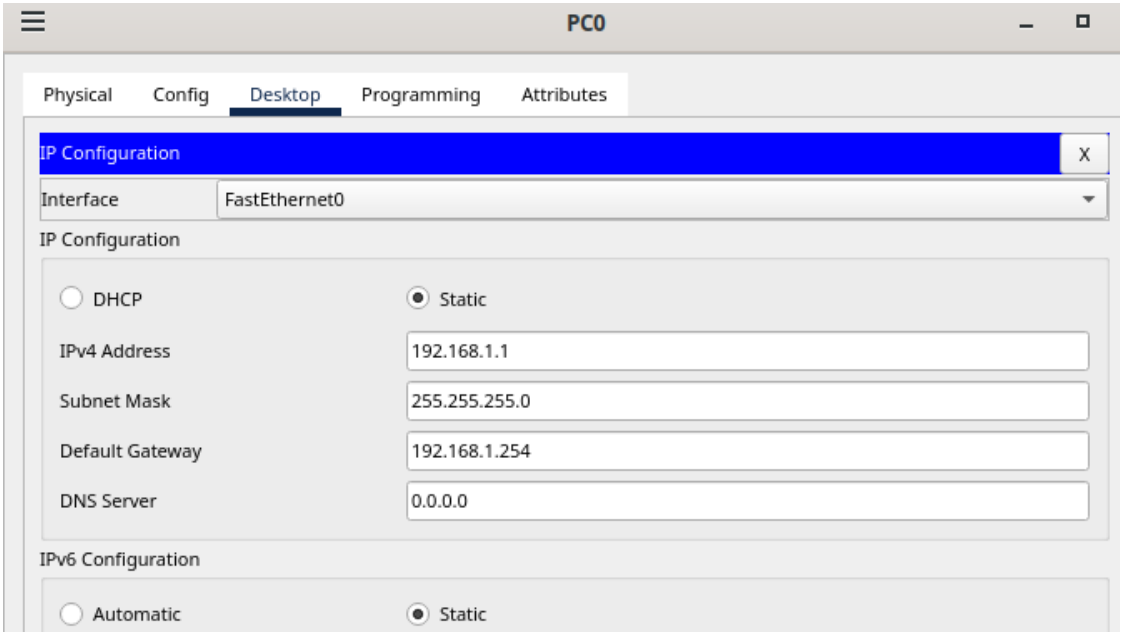
```
0000  c4 01 dc 2e 00 00 c4 01  dc 2e 00 00 90 00 00 00   ....···· .·......
0010  01 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ........ ........
0020  00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ........ ........
0030  00 00 00 00 00 00 00 00  00 00 00 00               ........ ····
```

Arrangement of PCs:

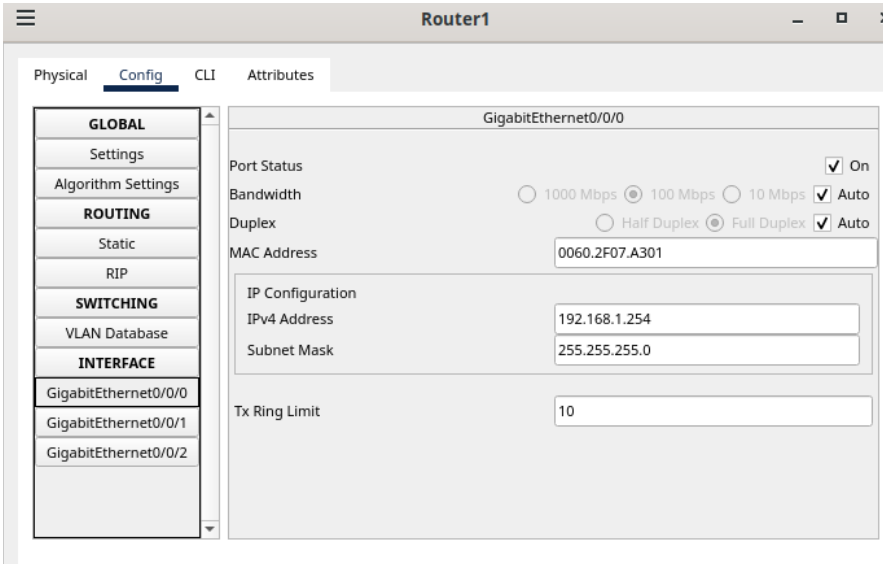


Cisco Packet Tracer

Configuring Virtual PC:



Configuring Virtual Router:



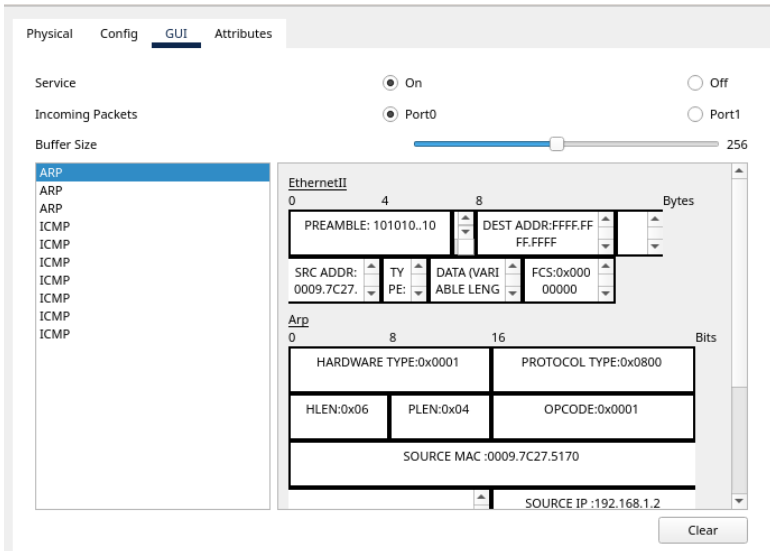
Tracing packets:

```
C:\>ping 172.16.48.2

Pinging 172.16.48.2 with 32 bytes of data:

Reply from 172.16.48.2: bytes=32 time=14ms TTL=127
Reply from 172.16.48.2: bytes=32 time<1ms TTL=127
Reply from 172.16.48.2: bytes=32 time<1ms TTL=127
Reply from 172.16.48.2: bytes=32 time=11ms TTL=127

Ping statistics for 172.16.48.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 14ms, Average = 6ms
```



Arrangement of PCs: