

In cisco packet tracer , I have developed a network with

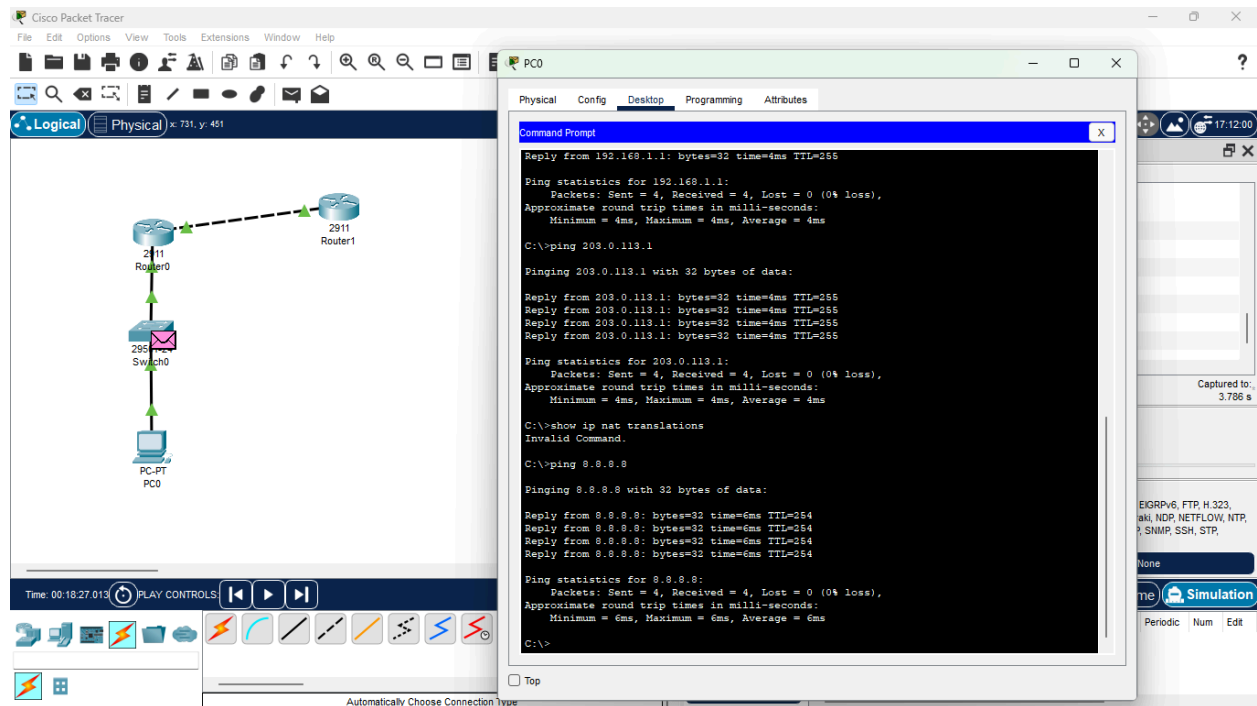
A Cisco router (e.g., 2911 model).

A switch

A PC

An external network (simulated by another router).

PC , Internal router & External Router are configured



Here The gateway , Router ip and external network are verified the connectivity

C:\>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time=4ms TTL=255

Reply from 192.168.1.1: bytes=32 time=4ms TTL=255

Reply from 192.168.1.1: bytes=32 time=4ms TTL=255

Reply from 192.168.1.1: bytes=32 time=4ms TTL=255

Ping statistics for 192.168.1.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 4ms, Maximum = 4ms, Average = 4ms

C:\>ping 203.0.113.1

Pinging 203.0.113.1 with 32 bytes of data:

Reply from 203.0.113.1: bytes=32 time=4ms TTL=255

Reply from 203.0.113.1: bytes=32 time=4ms TTL=255
Reply from 203.0.113.1: bytes=32 time=4ms TTL=255
Reply from 203.0.113.1: bytes=32 time=4ms TTL=255
Ping statistics for 203.0.113.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 4ms, Maximum = 4ms, Average = 4ms

C:\>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:

Reply from 8.8.8.8: bytes=32 time=6ms TTL=254

Reply from 8.8.8.8: bytes=32 time=6ms TTL=254

Reply from 8.8.8.8: bytes=32 time=6ms TTL=254

Reply from 8.8.8.8: bytes=32 time=6ms TTL=254

Ping statistics for 8.8.8.8:

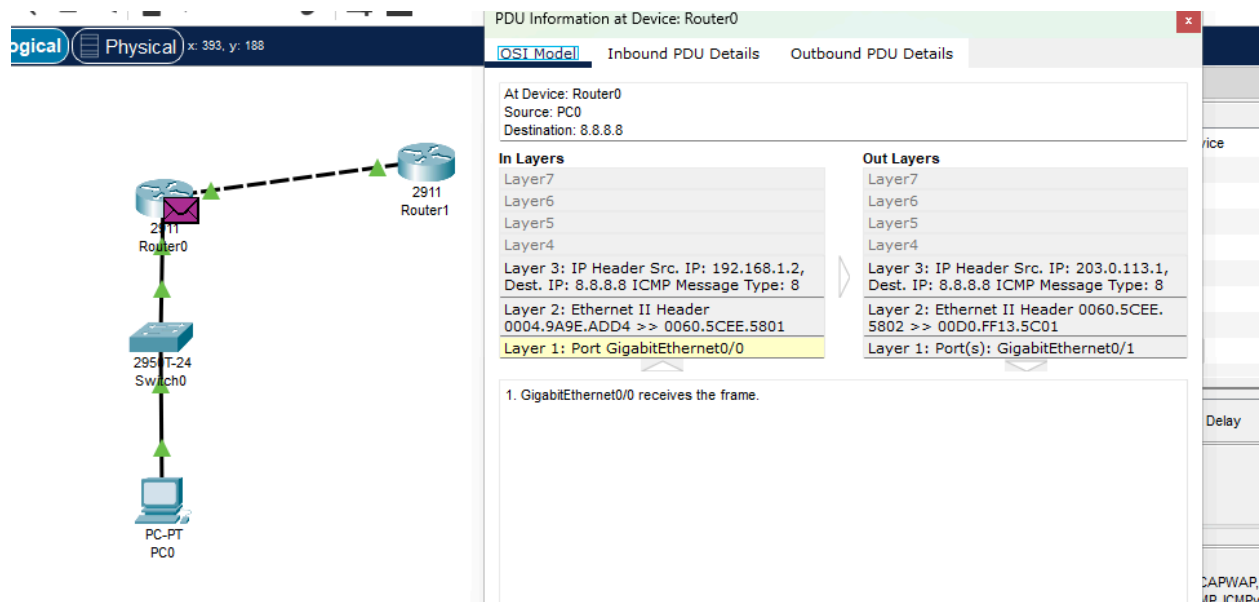
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 6ms, Maximum = 6ms, Average = 6ms

Before NAT , while passing the packet

The source IP is the private IP of the PC (192.168.1.2).



After NAT : The source IP is the public IP of the router's external interface (203.0.113.1).

The screenshot shows a network diagram in Packet Tracer with the following components:

- Router0** (2911) connected to **Router1** (2911) via a serial link.
- Router0** connected to **Switch0** (2951 T-24) via a GigabitEthernet interface.
- Switch0** connected to **PC-PT PC0**.

The **PDU Information at Device: Router0** window is open, showing the following details:

- At Device:** Router0
- Source:** PC0
- Destination:** 8.8.8.8

In Layers:

- Layer7
- Layer6
- Layer5
- Layer4
- Layer 3: IP Header Src. IP: 8.8.8.8, Dest. IP: 203.0.113.1 ICMP Message Type: 0
- Layer 2: Ethernet II Header 00D0.FF13.5C01 >> 0060.5CEE.5802
- Layer 1: Port GigabitEthernet0/1

Out Layers:

- Layer7
- Layer6
- Layer5
- Layer4
- Layer 3: IP Header Src. IP: 8.8.8.8, Dest. IP: 192.168.1.2 ICMP Message Type: 0
- Layer 2: Ethernet II Header 0060.5CEE.5801 >> 0004.9A9E.ADD4
- Layer 1: Port(s): GigabitEthernet0/0

The status bar at the bottom indicates: **1. GigabitEthernet0/1 receives the frame.**

The “ show ip nat translations” command output is checked for verification

The screenshot shows the same network diagram as above. The **IOS Command Line Interface** window is open, displaying the following configuration and output:

```

Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#ip nat inside source list 1 interface GigabitEthernet0/1 overload
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip nat outside
Router(config-if)#exit
Router(config)#ip route 0.0.0.0 0.0.0.0 203.0.113.2
Router(config)#ip nat
Router(config)#%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
Router(config)#
Router(config)#exit
Router#show ip nat translations
Pro Inside global      Inside local      Outside local      Outside global
icmp 203.0.113.1:10     192.168.1.2:10    8.8.8.8:10         8.8.8.8:10
icmp 203.0.113.1:9      192.168.1.2:9     8.8.8.8:9          8.8.8.8:9

Router#
Router#
$SYS-5-CONFIG_I: Configured from console by console

Router#
Router#show ip nat translations
Pro Inside global      Inside local      Outside local      Outside global
icmp 203.0.113.1:19     192.168.1.2:19    8.8.8.8:19         8.8.8.8:19
icmp 203.0.113.1:20     192.168.1.2:20    8.8.8.8:20         8.8.8.8:20
icmp 203.0.113.1:21     192.168.1.2:21    8.8.8.8:21         8.8.8.8:21
icmp 203.0.113.1:22     192.168.1.2:22    8.8.8.8:22         8.8.8.8:22

Router#
  
```

The status bar at the bottom shows: **Time: 00:18:27.014** and **PLAY CONTROLS**.