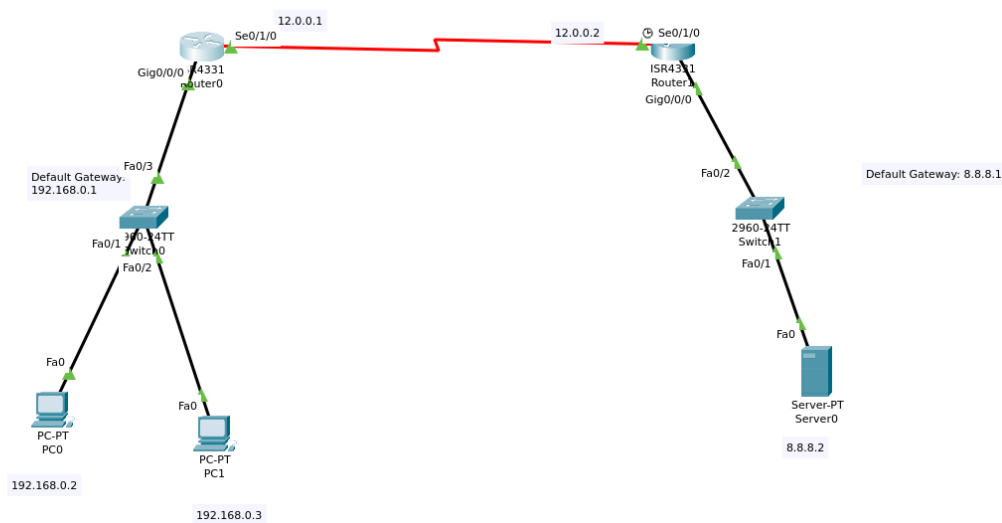


Q7) Simulating a NAT in Cisco Packet Tracer:



Here, the Private IP of the computers in Private network are 192.168.0.x
Public IP of the server is 8.8.8.2

Assigning Router0 as NAT:

Physical Config CLI Attributes

IOS Command Line Interface

```
Router(config)#
Router(config)#ip nat inside source static 192.168.0.2 12.0.0.2
Router(config)#no ip nat inside source static 192.168.0.2 12.0.0.2
Router(config)#ip nat inside source static 192.168.0.2 12.0.0.1
Router(config)#ip nat inside source static 192.168.0.3 12.0.0.1
Router(config)#intefa
Router(config)#intefa
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#interface
Router#interface Gig0/0/0
Router#int
Router#int
Translating "int"...domain server (255.255.255.255) % Name lookup aborted
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interfa
Router(config)#interface gi
Router(config)#interface gigabitEthernet 0.
Router(config)#interface gigabitEthernet 0/
Router(config)#interface gigabitEthernet 0/0/0
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#inter
Router(config)#interface se
Router(config)#interface serial 0/1/0
Router(config-if)#ip nat outside
Router(config-if)#exit
Router(config)#
Router(config)#
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
```

Copy

Paste

Assign Static routing in Router0:

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

Serial0/1/0

Serial0/1/1

Static Routes

Network

Mask

Next Hop

Add

Network Address

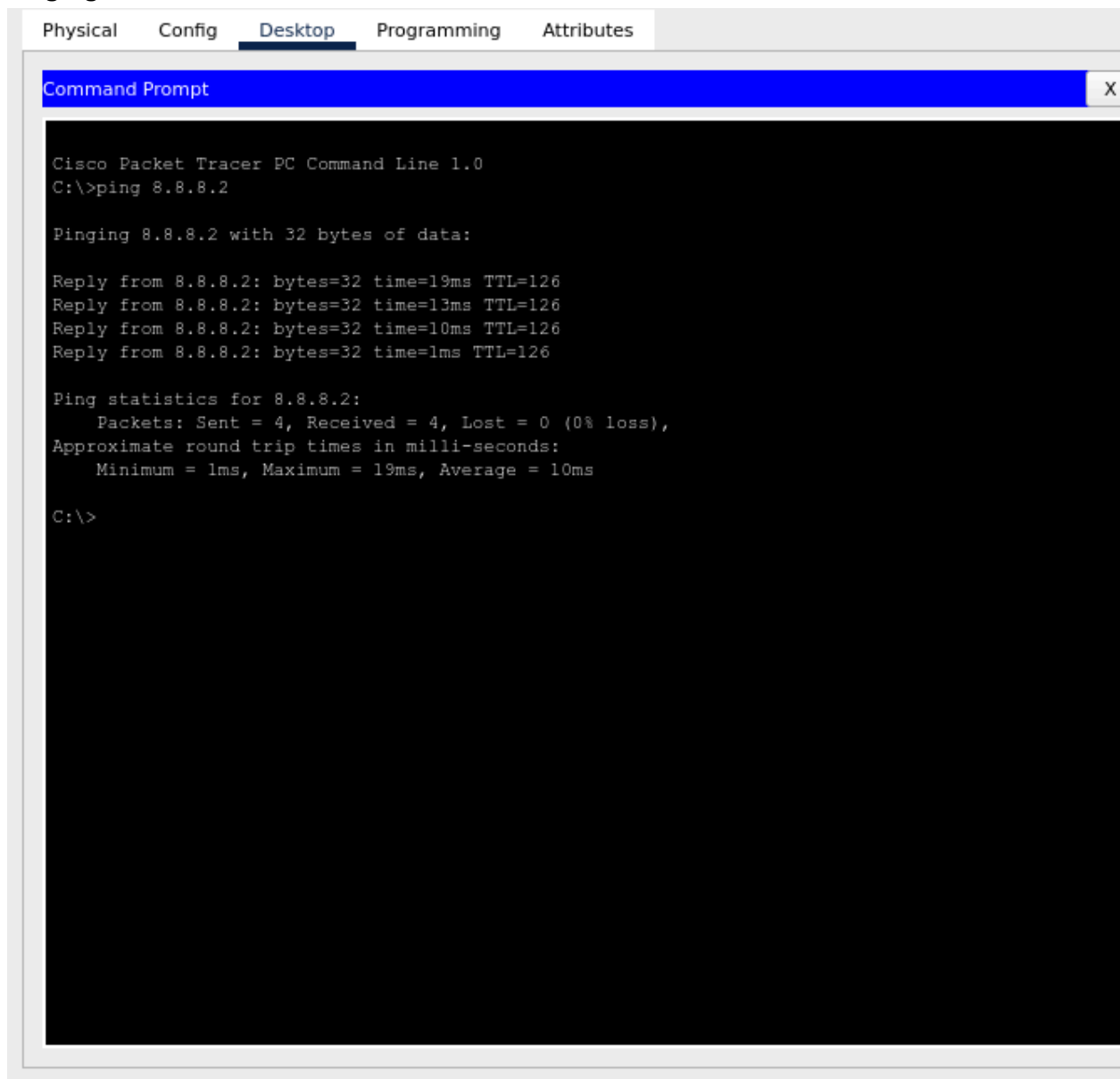
8.0.0.0/8 via 12.0.0.2

Remove

Equivalent IOS Commands

Router(config)#
Router(config)#ip route 8.8.8.0 255.0.0.0 12.0.0.2
%Inconsistent address and mask
Router(config)#ip route 8.0.0.0 255.0.0.0 12.0.0.2
Router(config)#
Router(config)#
Router(config)#
Router(config)#
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
Router(config-if)#exit

Pinging Public Server:



The screenshot shows the Cisco Packet Tracer interface with the 'Desktop' tab selected. A 'Command Prompt' window is open, displaying the output of a ping command to the public IP address 8.8.8.2. The output shows four successful replies with varying round-trip times and a summary of the ping statistics.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 8.8.8.2

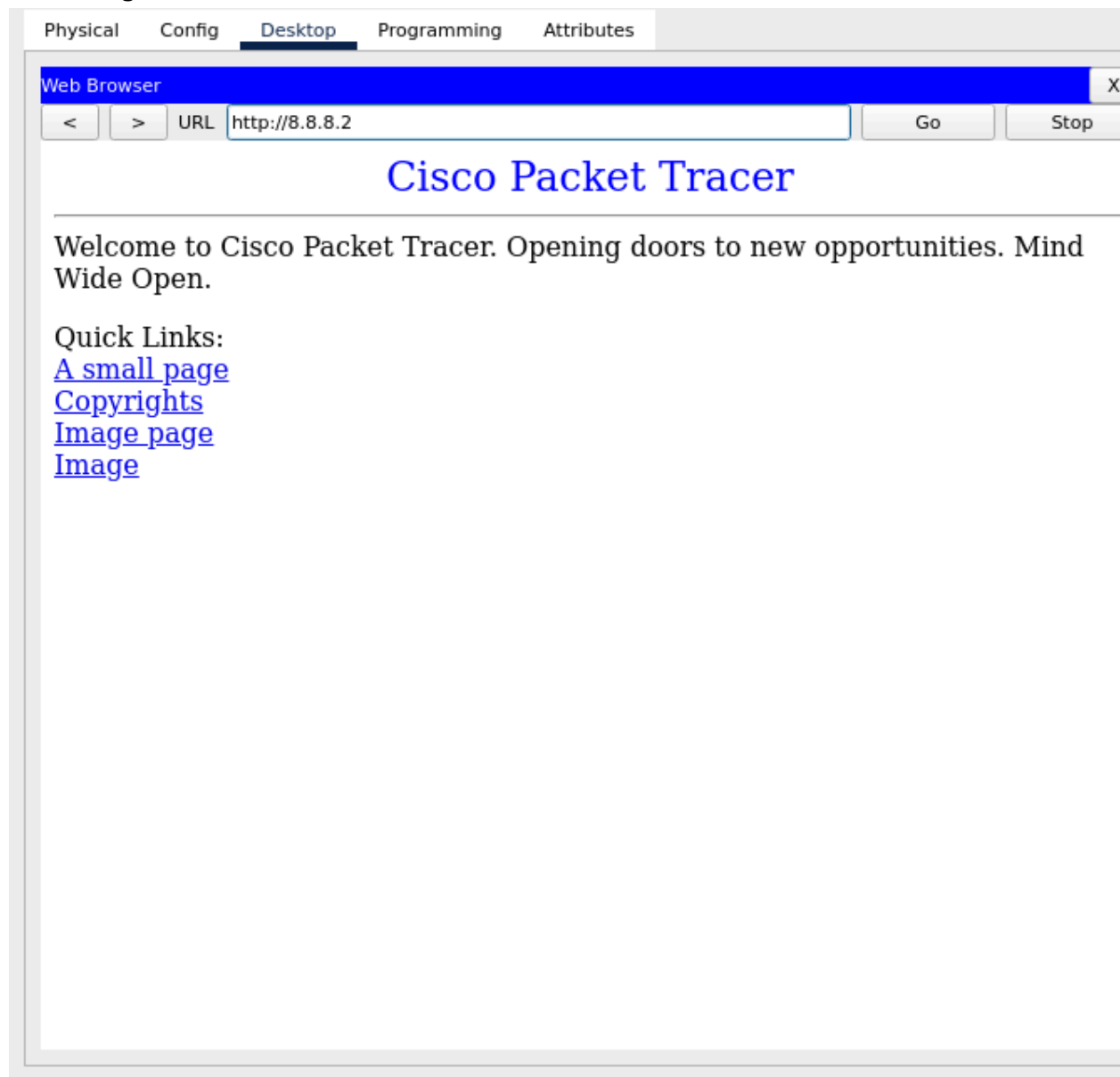
Pinging 8.8.8.2 with 32 bytes of data:

Reply from 8.8.8.2: bytes=32 time=19ms TTL=126
Reply from 8.8.8.2: bytes=32 time=13ms TTL=126
Reply from 8.8.8.2: bytes=32 time=10ms TTL=126
Reply from 8.8.8.2: bytes=32 time=1ms TTL=126

Ping statistics for 8.8.8.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 19ms, Average = 10ms

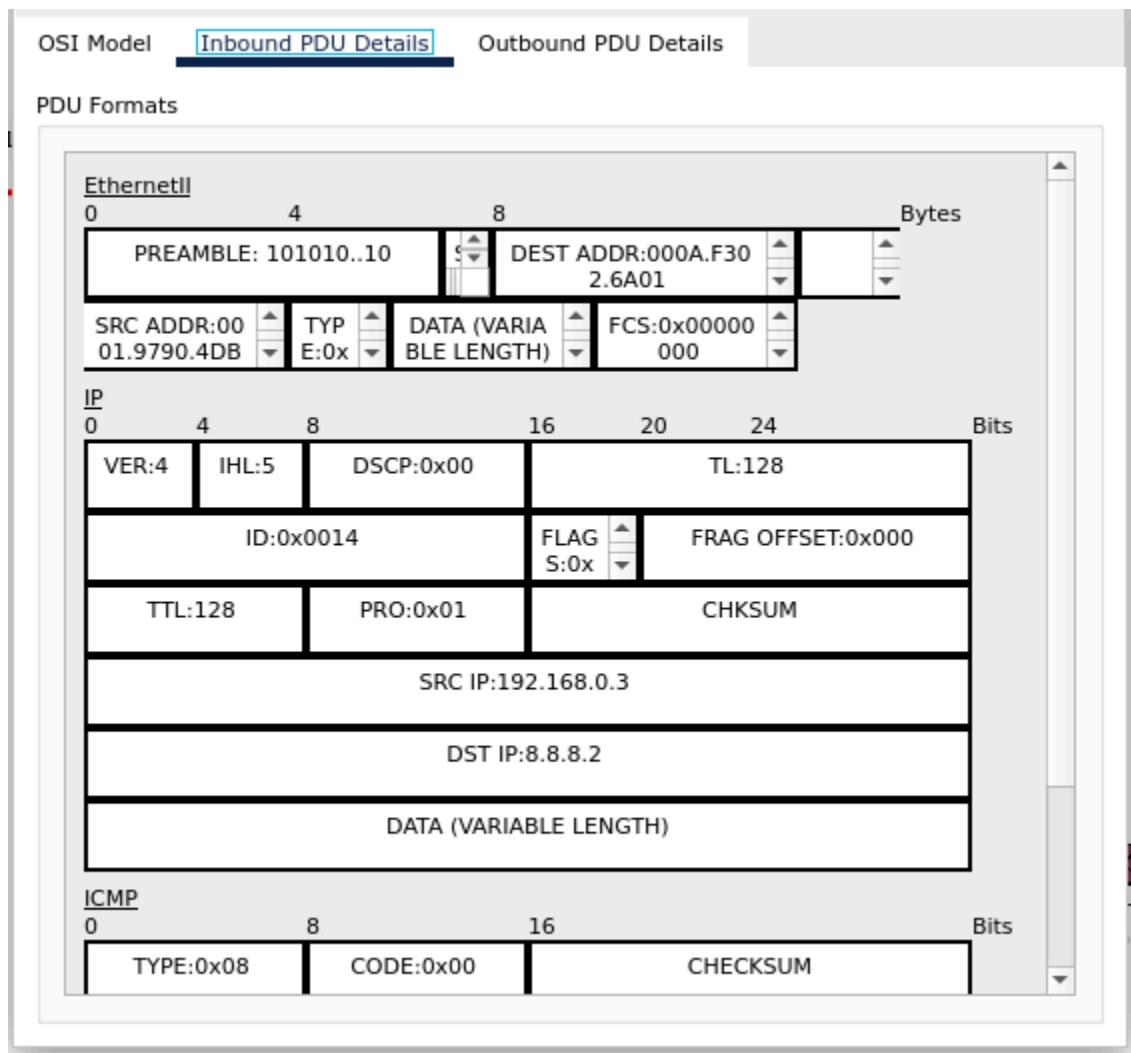
C:\>
```

Accessing Public IP in WebBrowser:



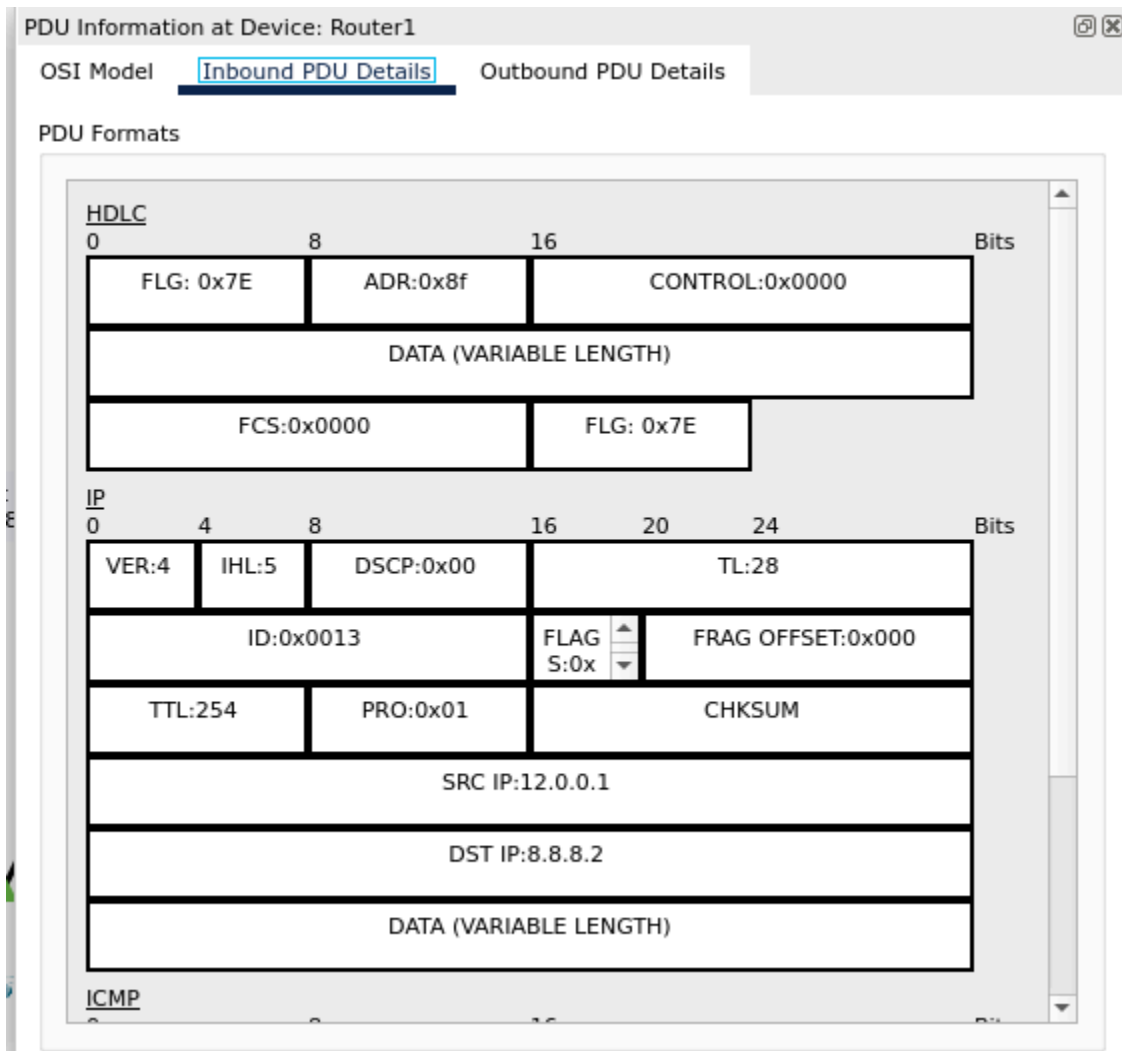
Analysis of Packet Frames:

1) Packet from PC -> Switch -> Router(NAT)



When the packet reaches the NAT, we can see that the Source IP is 192.168.0.3, which is the private IP address of the system, and destination address is 8.8.8.2.

2) Packet from Router0 (NAT) -> Router1 (Public Server Router):



As we can see, the source IP is now 12.0.0.1, which means that the NAT has converted it from Private IP to Public IP