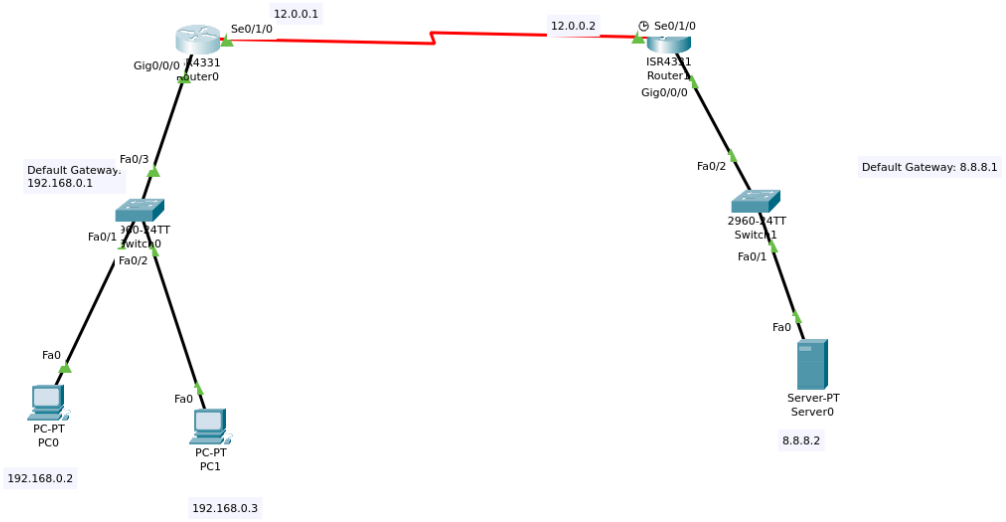
Q5) Simulating a NAT in Cisco Packet Tracer:



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
                 ^
% Invalid input detected at '^' marker.

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)#
```

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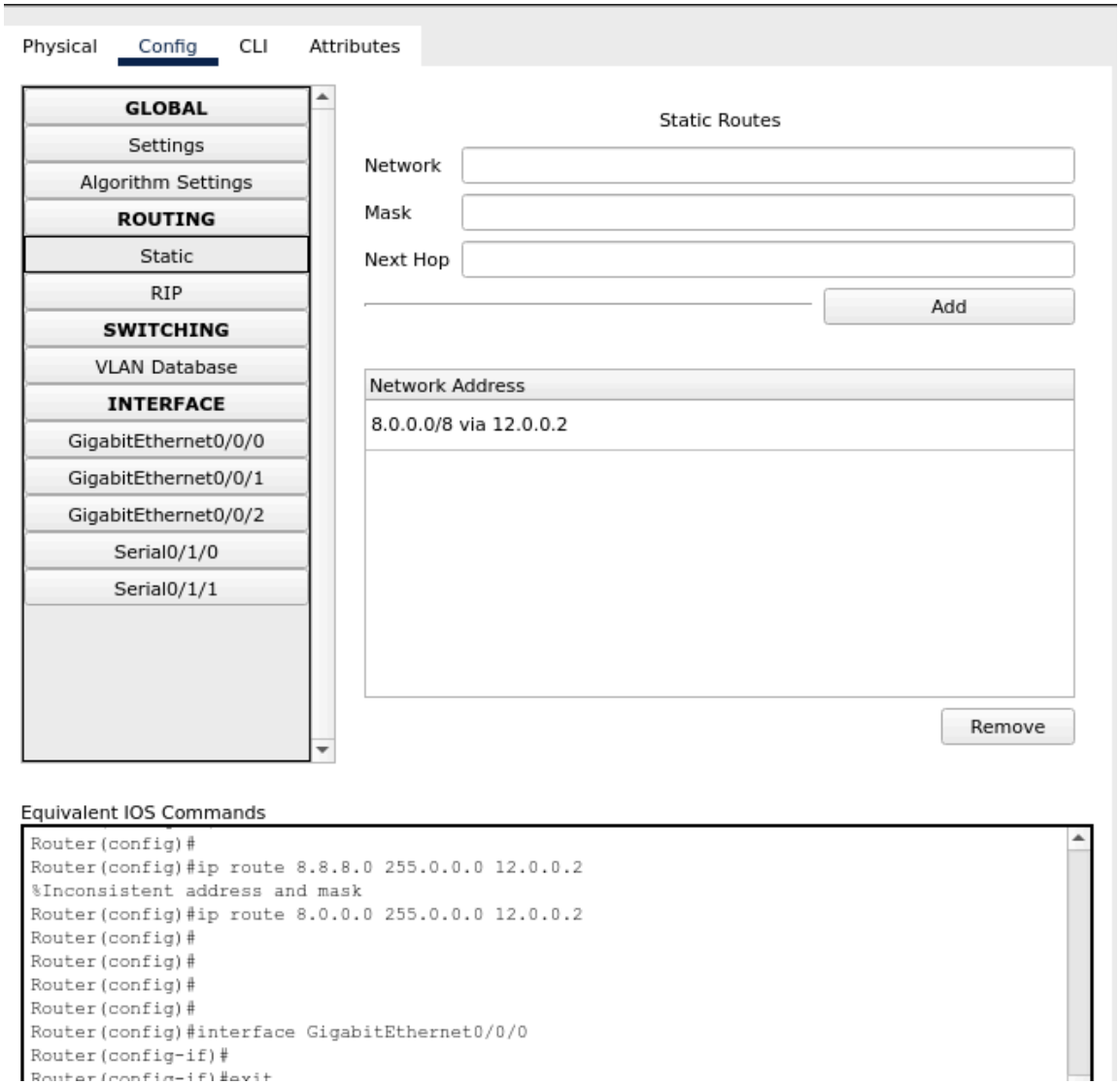
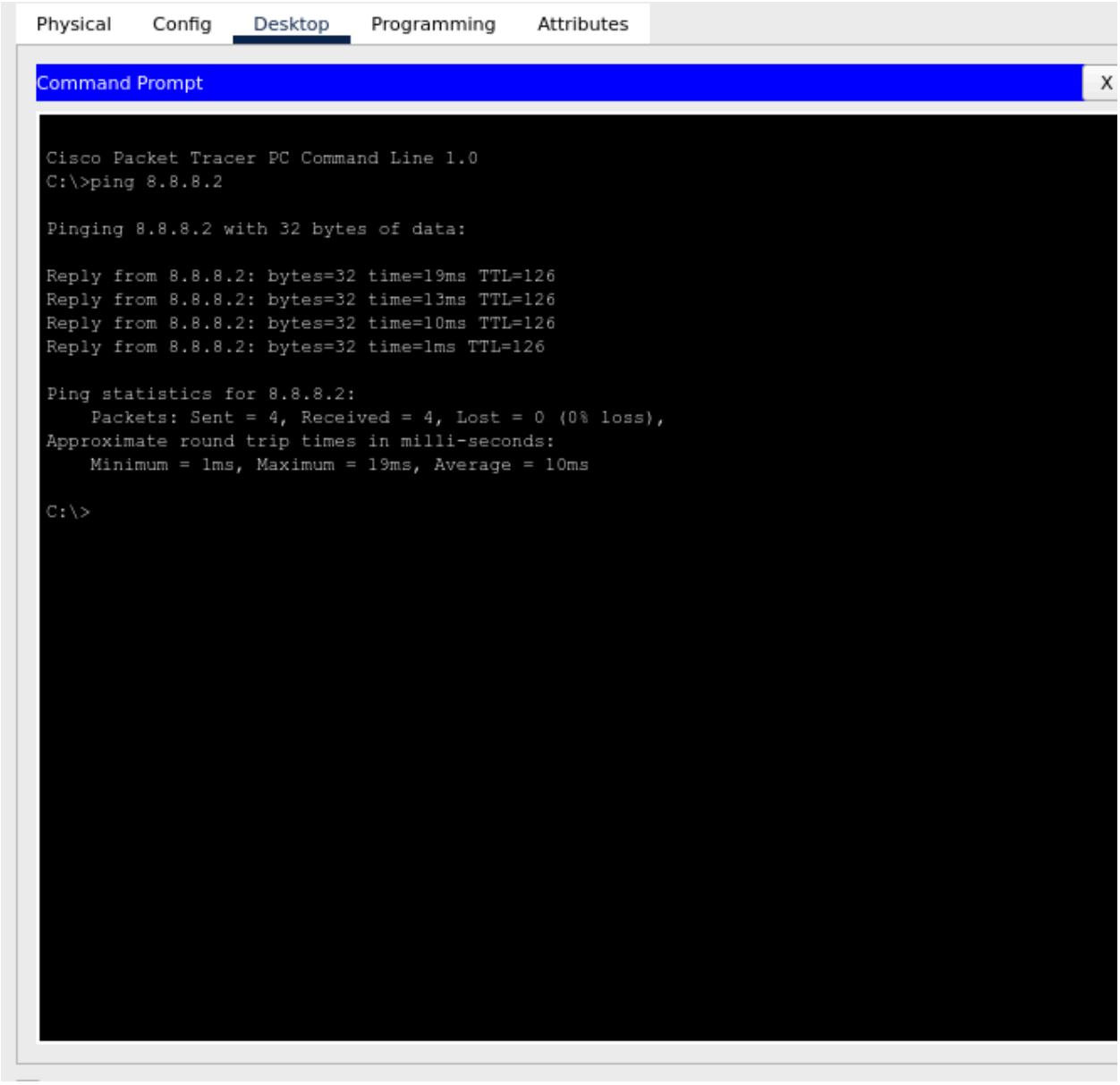
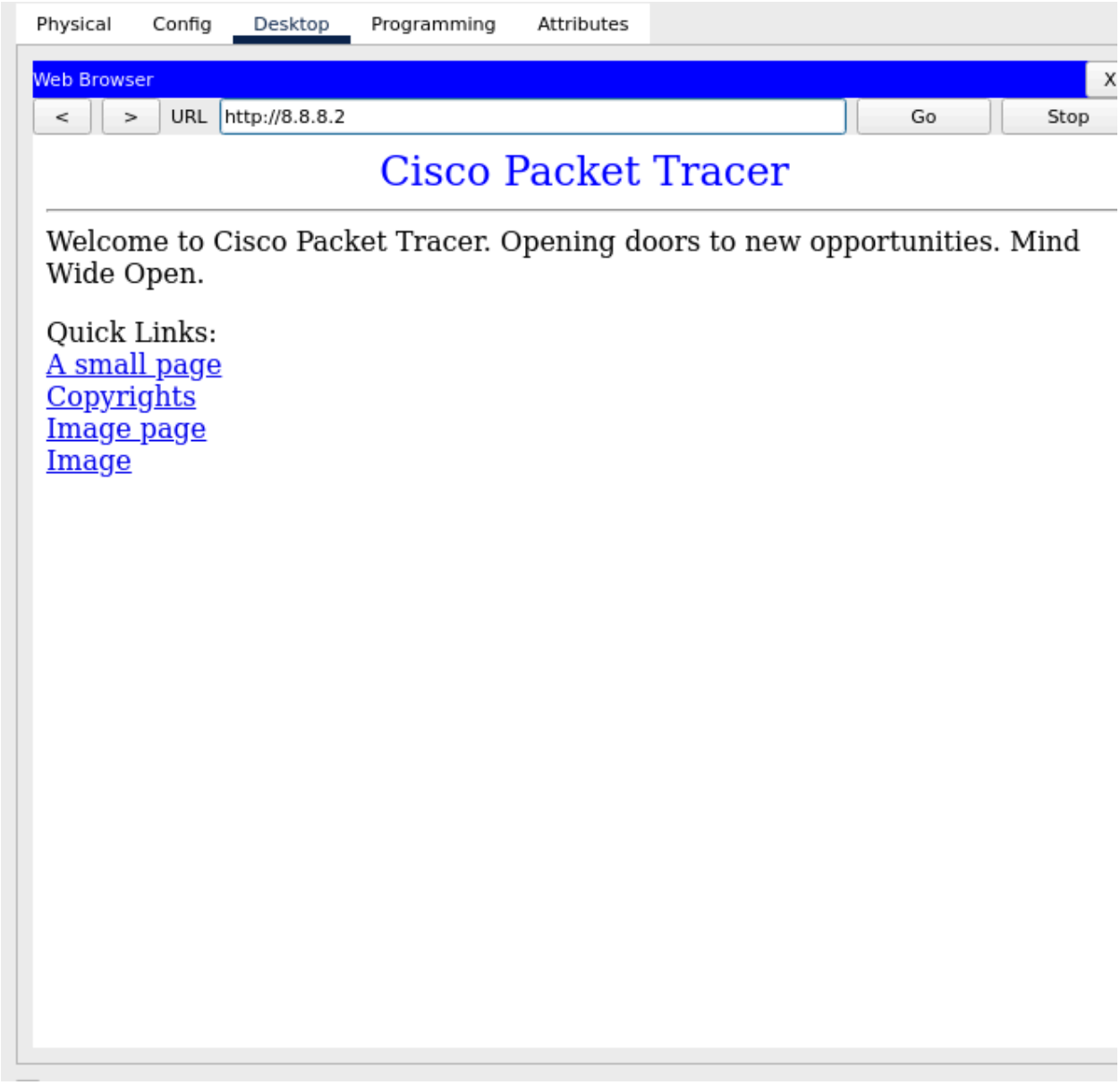
Assign Static routing in Router0:



Pinging Public Server:

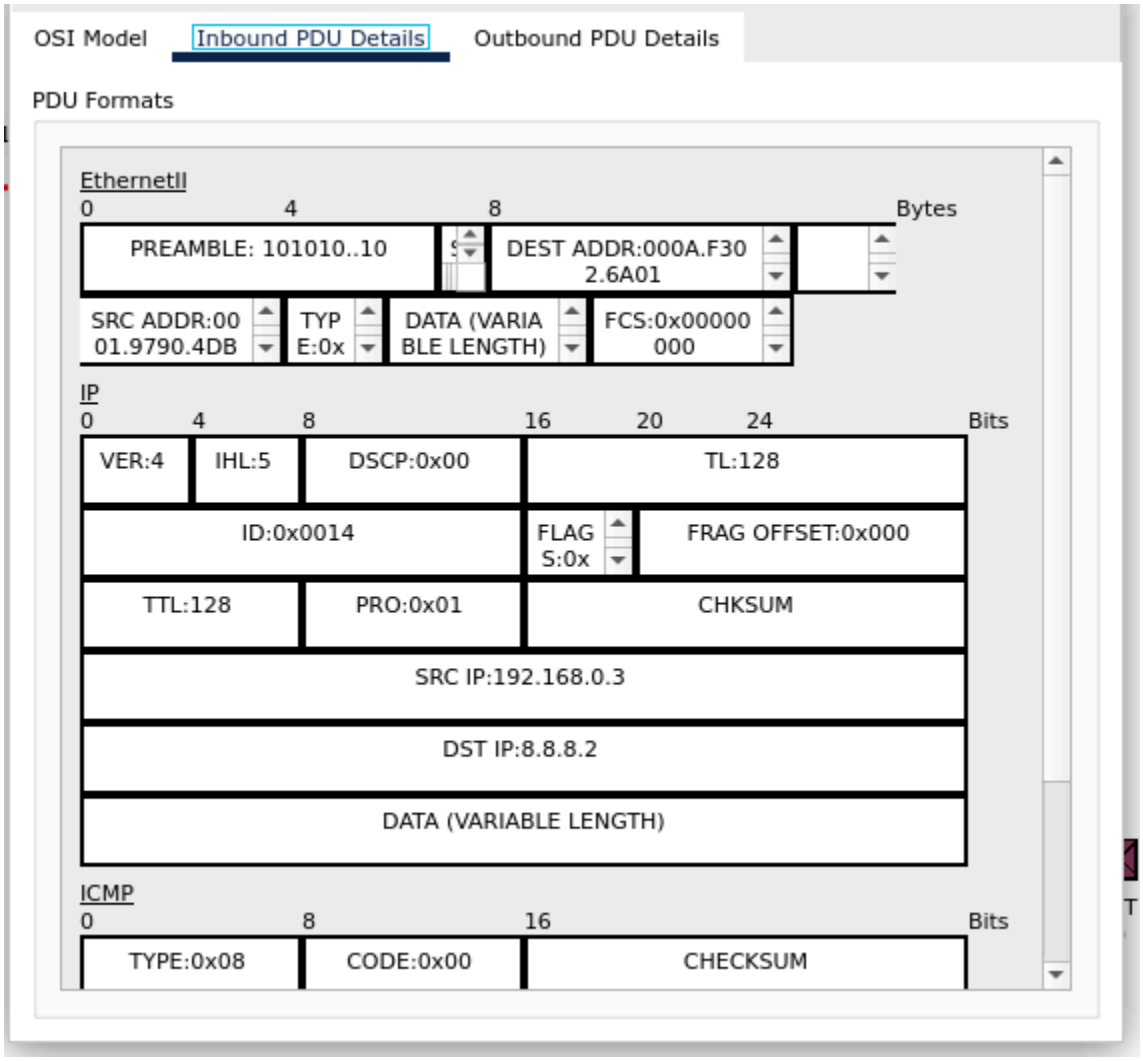


Accessing Public IP in WebBrowser:



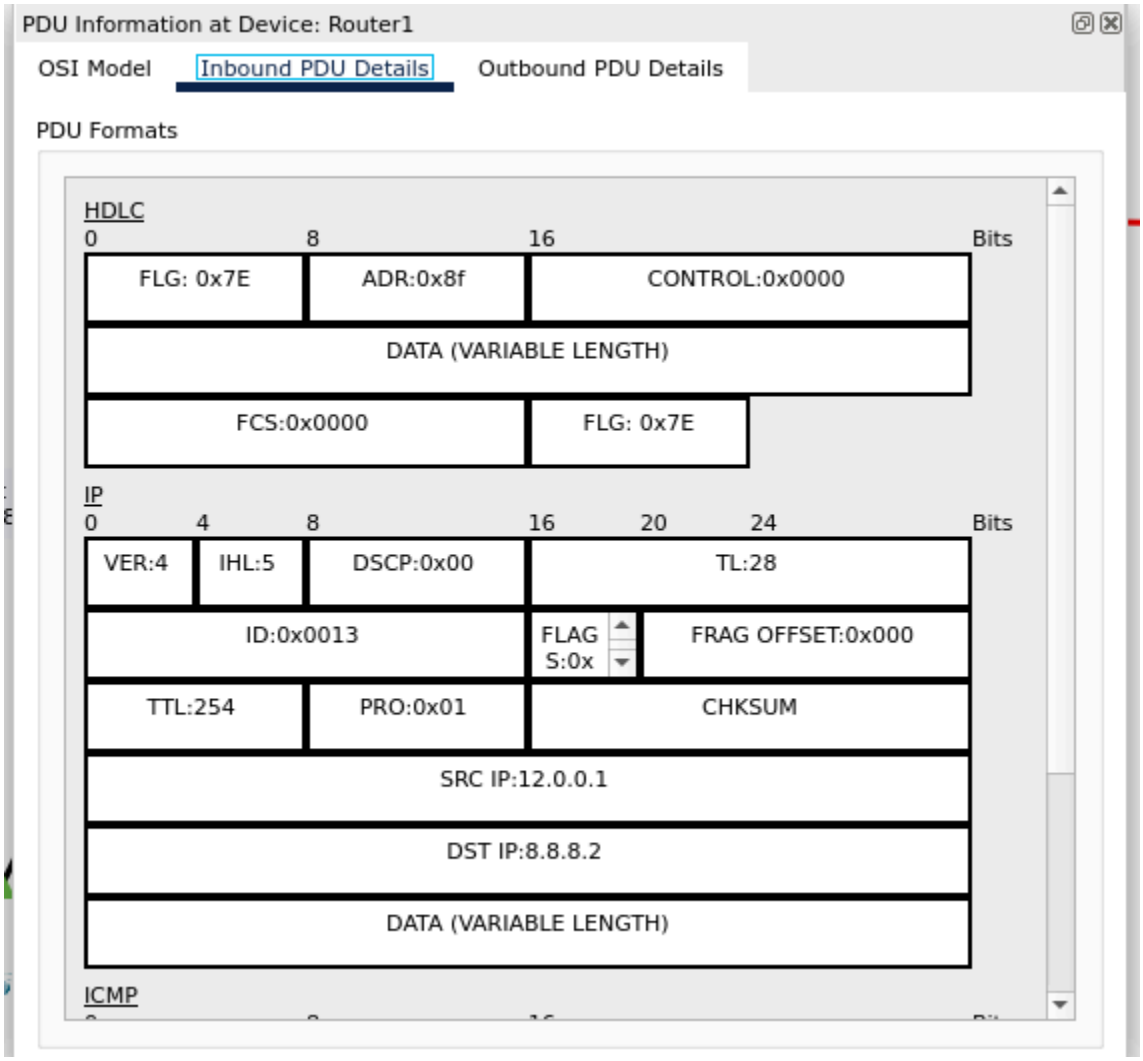
Analysis of Packet Frames:

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