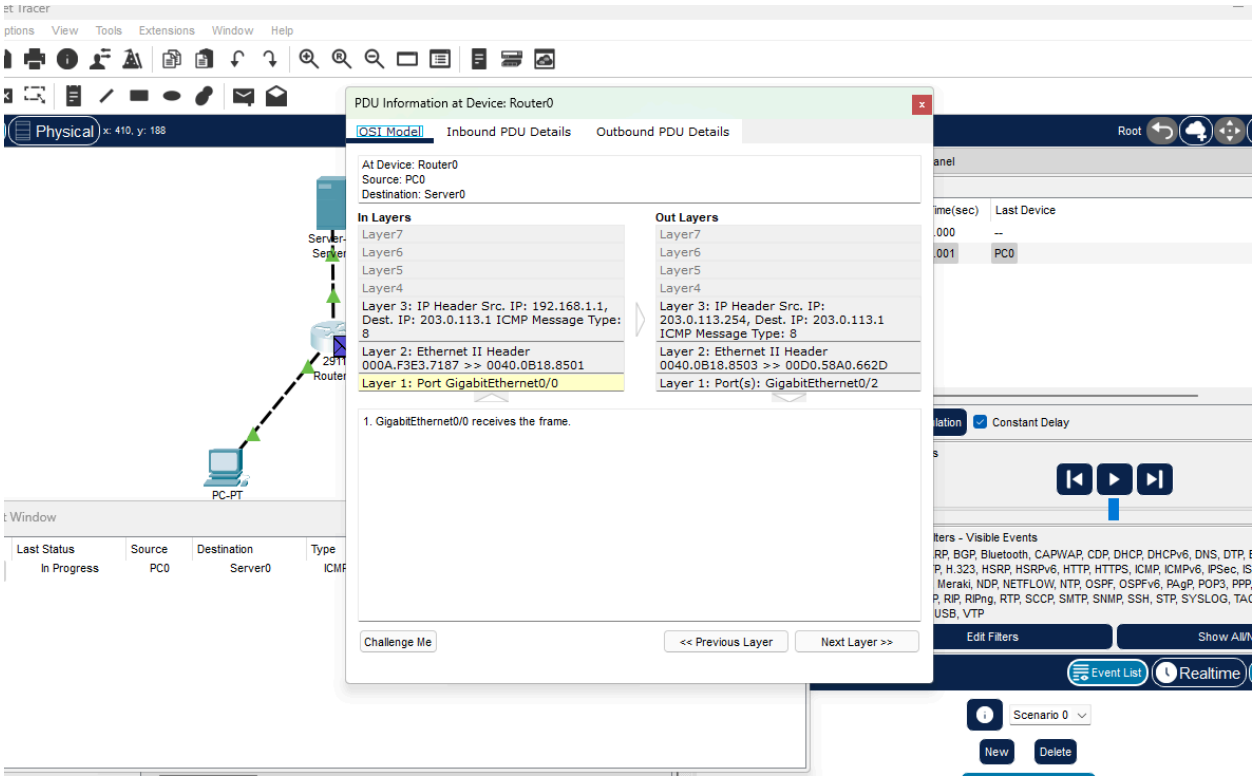
NAT (Network Address Translation) is a process where the router translates private IP addresses (like 192.168.1.1) to a public IP address when traffic leaves the local network to access the internet. This is typically done using PAT (Port Address Translation), a form of NAT where the router also maps ports to keep track of multiple devices.

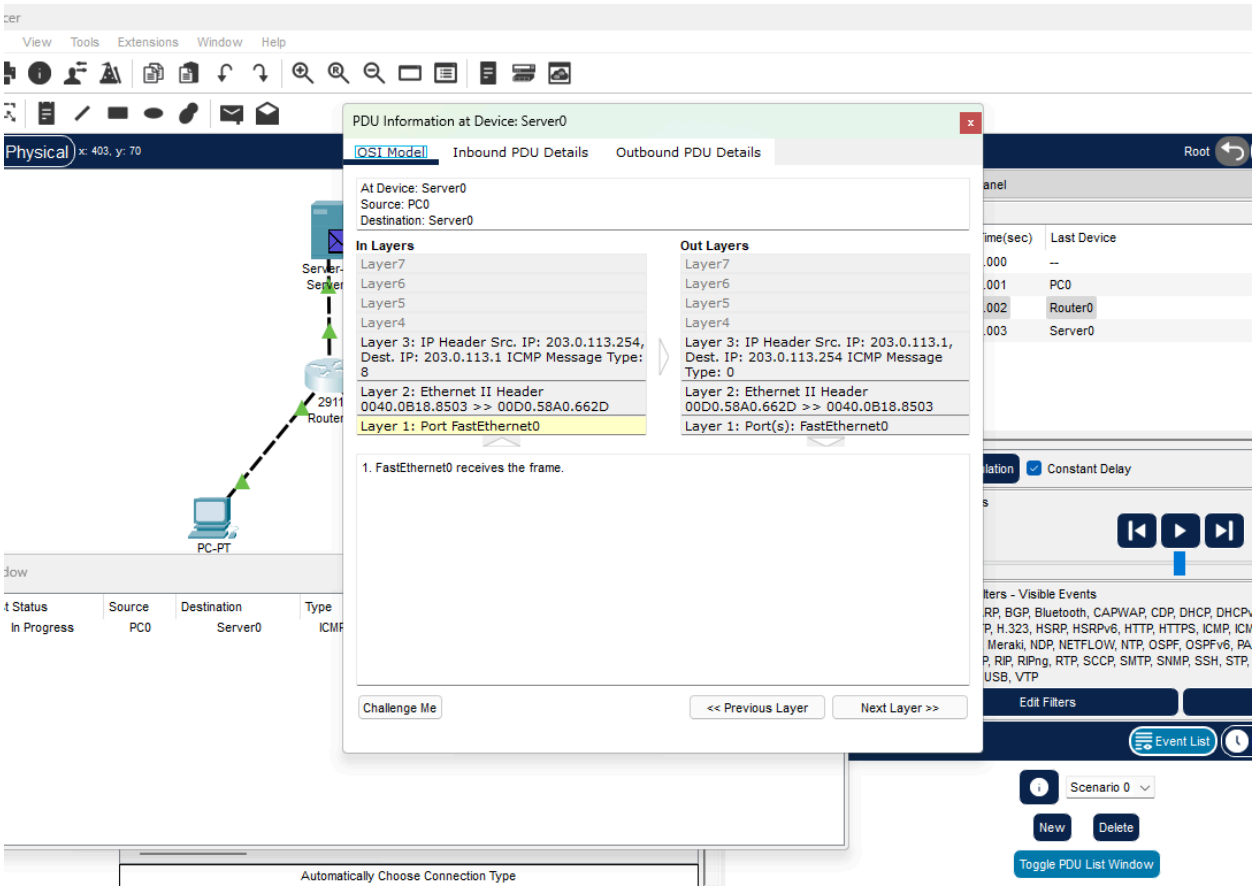
Before NAT the IP passing from PC to router is the IP address of PC0

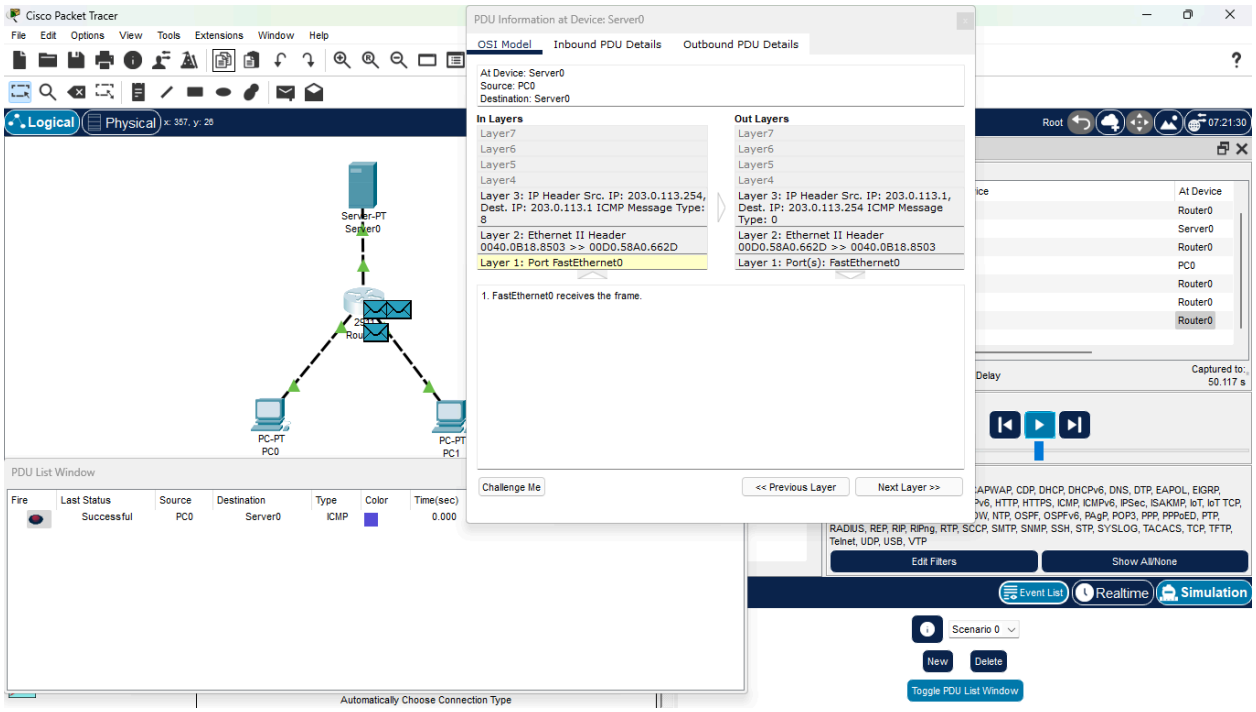


But while passing router to server the IP is translated and passed.

Before NAT: The source IP is the private IP of the PC (192.168.1.1 for PC0).

After NAT: The source IP is the public IP address assigned to the router's external (internet-facing) interface.


PDU Information at Device: Server0
OSI Model
Inbound PDU Details
Outbound PDU Details
At Device: Server0
Source: PC0
Destination: Server0
In Layers
Out Layers
Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 203.0.113.254, Dest. IP: 203.0.113.1 ICMP Message Type: 8
Layer 3: IP Header Src. IP: 203.0.113.1, Dest. IP: 203.0.113.254 ICMP Message Type: 0
Layer 2: Ethernet II Header 0040.0B18.8503 >> 00D0.58A0.662D
Layer 2: Ethernet II Header 00D0.58A0.662D >> 0040.0B18.8503
Layer 1: Port FastEthernet0
Layer 1: Port(s): FastEthernet0
1. FastEthernet0 receives the frame.
Challenge Me
<< Previous Layer
Next Layer >>
Physical
Root
PC-PT
Automatically Choose Connection Type
Edit Filters
Event List
Scenario 0
New
Delete
Toggle PDU List Window


Cisco Packet Tracer
PDU Information at Device: Server0
OSI Model
Inbound PDU Details
Outbound PDU Details
At Device: Server0
Source: PC0
Destination: Server0
In Layers
Out Layers
Layer 3: IP Header Src. IP: 203.0.113.254, Dest. IP: 203.0.113.1 ICMP Message Type: 8
Layer 3: IP Header Src. IP: 203.0.113.1, Dest. IP: 203.0.113.254 ICMP Message Type: 0
Layer 2: Ethernet II Header 0040.0B18.8503 >> 00D0.58A0.662D
Layer 2: Ethernet II Header 00D0.58A0.662D >> 0040.0B18.8503
Layer 1: Port FastEthernet0
Layer 1: Port(s): FastEthernet0
1. FastEthernet0 receives the frame.
Challenge Me
<< Previous Layer
Next Layer >>
Logical
Physical
PC-PT PC0
PC-PT PC1
PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Successful
PC0
Server0
ICMP
0.000
Automatically Choose Connection Type
Edit Filters
Show All/None
Event List
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window

By checking the packets , we can verify in the simulation mode. And also through passing command in the router CLI

```
Router#show ip nat translations
Pro  Inside global     Inside local       Outside local      Outside global
icmp 203.0.113.254:20  192.168.1.1:20     203.0.113.1:20     203.0.113.1:20

Router#
```