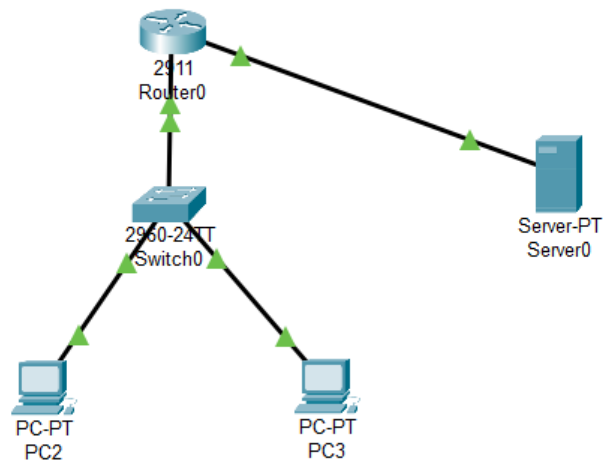


Q14) Try Static NAT, Dynamic NAT and PAT to translate IPs



Configure Static NAT

```
Router(config)#ip nat inside source static 192.168.1.10 200.200.200.10
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

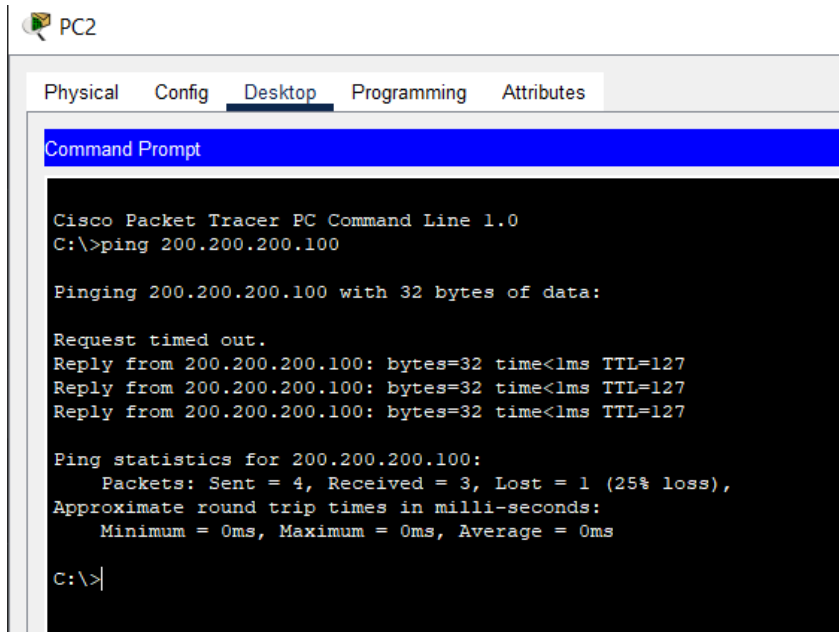
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#ip nat outside
Router(config-if)#exit
Router(config)#show ip nat translations
^
% Invalid input detected at '^' marker.

Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip nat translations
Pro Inside global      Inside local      Outside local      Outside global
icmp 200.200.200.10:1    192.168.1.10:1    200.200.200.100:1  200.200.200.100:1
icmp 200.200.200.10:2    192.168.1.10:2    200.200.200.100:2  200.200.200.100:2
icmp 200.200.200.10:3    192.168.1.10:3    200.200.200.100:3  200.200.200.100:3
icmp 200.200.200.10:4    192.168.1.10:4    200.200.200.100:4  200.200.200.100:4
--- 200.200.200.10      192.168.1.10      ---                ---

Router#
```

Testing Static NAT



The screenshot shows the 'PC2' window in Cisco Packet Tracer. The 'Desktop' tab is selected, displaying a 'Command Prompt' window. The text in the command prompt is as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 200.200.200.100

Pinging 200.200.200.100 with 32 bytes of data:

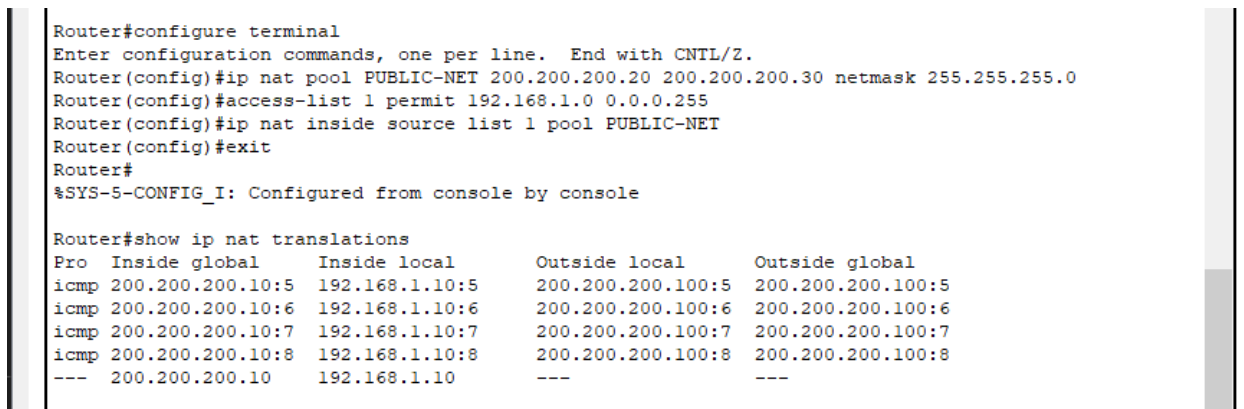
Request timed out.
Reply from 200.200.200.100: bytes=32 time<lms TTL=127
Reply from 200.200.200.100: bytes=32 time<lms TTL=127
Reply from 200.200.200.100: bytes=32 time<lms TTL=127

Ping statistics for 200.200.200.100:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

Configure Dynamic NAT

Allow **multiple internal hosts** to be assigned **public IPs dynamically**.



The screenshot shows a router configuration session. The configuration commands are entered in the following order:

```
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip nat pool PUBLIC-NET 200.200.200.20 200.200.200.30 netmask 255.255.255.0
Router(config)#access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#ip nat inside source list 1 pool PUBLIC-NET
Router(config)#exit
Router#
```

After configuration, the command `show ip nat translations` is executed, displaying the following table:

Pro	Inside global	Inside local	Outside local	Outside global
icmp	200.200.200.10:5	192.168.1.10:5	200.200.200.100:5	200.200.200.100:5
icmp	200.200.200.10:6	192.168.1.10:6	200.200.200.100:6	200.200.200.100:6
icmp	200.200.200.10:7	192.168.1.10:7	200.200.200.100:7	200.200.200.100:7
icmp	200.200.200.10:8	192.168.1.10:8	200.200.200.100:8	200.200.200.100:8
---	200.200.200.10	192.168.1.10	---	---

Configure PAT (Port Address Translation)

```
--- 200.200.200.10 192.168.1.10 --- ---  
  
Router#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#no ip nat inside source static 192.168.1.10 200.200.200.10  
Router(config)#no ip nat inside source list 1 pool PUBLIC-NET  
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)#exit  
Router#  
%SYS-5-CONFIG_I: Configured from console by console  
  
Router#show ip nat translations  
Pro Inside global Inside local Outside local Outside global  
icmp 200.200.200.1:10 192.168.1.10:10 200.200.200.100:10 200.200.200.100:10  
icmp 200.200.200.1:11 192.168.1.10:11 200.200.200.100:11 200.200.200.100:11  
icmp 200.200.200.1:12 192.168.1.10:12 200.200.200.100:12 200.200.200.100:12  
icmp 200.200.200.1:1 192.168.1.20:1 200.200.200.100:1 200.200.200.100:1  
icmp 200.200.200.1:2 192.168.1.20:2 200.200.200.100:2 200.200.200.100:2  
icmp 200.200.200.1:3 192.168.1.20:3 200.200.200.100:3 200.200.200.100:3  
icmp 200.200.200.1:4 192.168.1.20:4 200.200.200.100:4 200.200.200.100:4  
icmp 200.200.200.1:9 192.168.1.10:9 200.200.200.100:9 200.200.200.100:9  
  
Router#
```

Conv

P

NAT Type	IP Mapping	Usage
Static NAT	One private IP → One public IP	Used for servers
Dynamic NAT	Private IPs → Public IPs (from a pool)	Used for temporary connections
PAT (Overload)	Multiple private IPs → One public IP (with ports)	Used for home networks & businesses