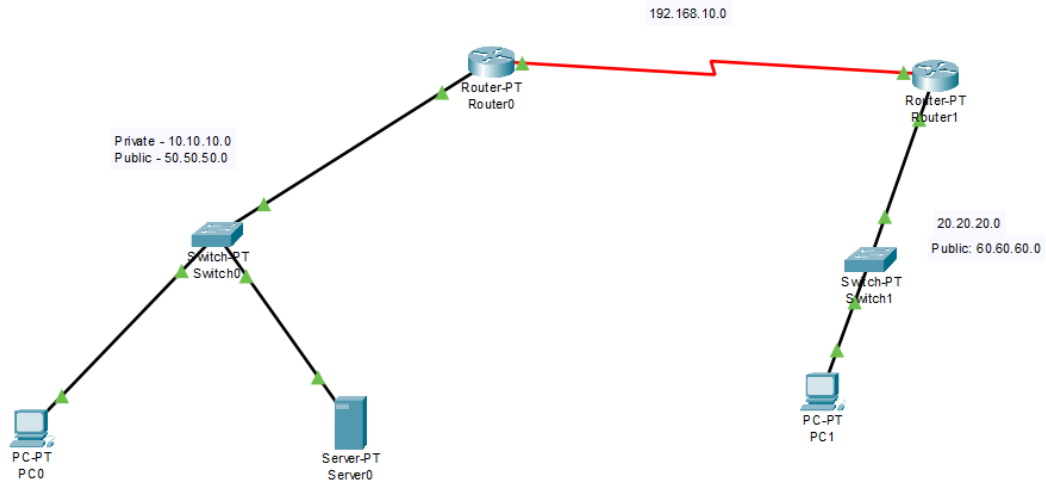
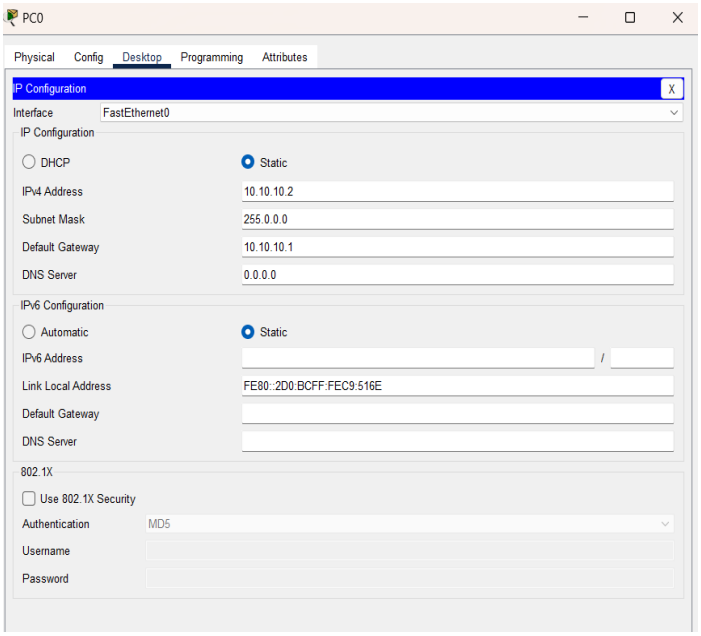
7 . In Cisco Packet Tracer, create a small network with multiple devices (e.g., 2 PCs and a router). Use private IP addresses (e.g., 192.168.1 .x) on the PCs and configure the router to perform NAT to allow the PCs to access the internet. Task: Test the NAT configuration by pinging an external IP address from the PCs and capture the traffic using Wireshark. What is the source IP address before and after NAT? explain indetail what to do in cisco packet tracer .

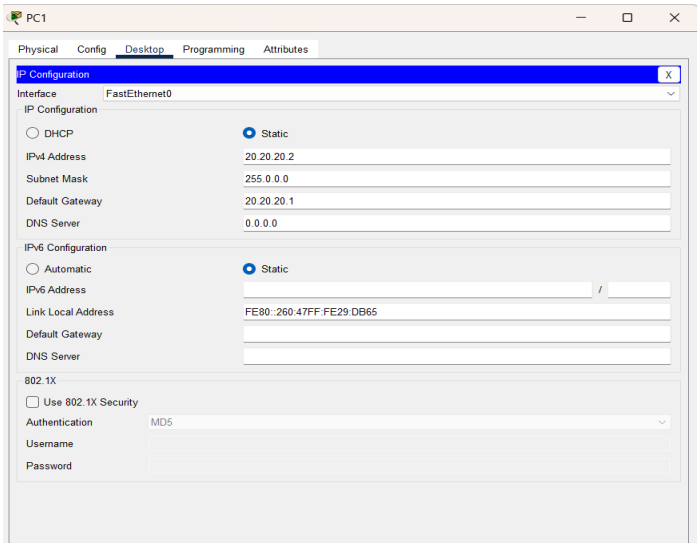
- Public IP address range of one network is 50.50.50.0 and private as 10.10.10.0
- Public IP address range of one network is 60.60.60.0 and private as 20.20.20.0

NETWORK TOPOLOGY

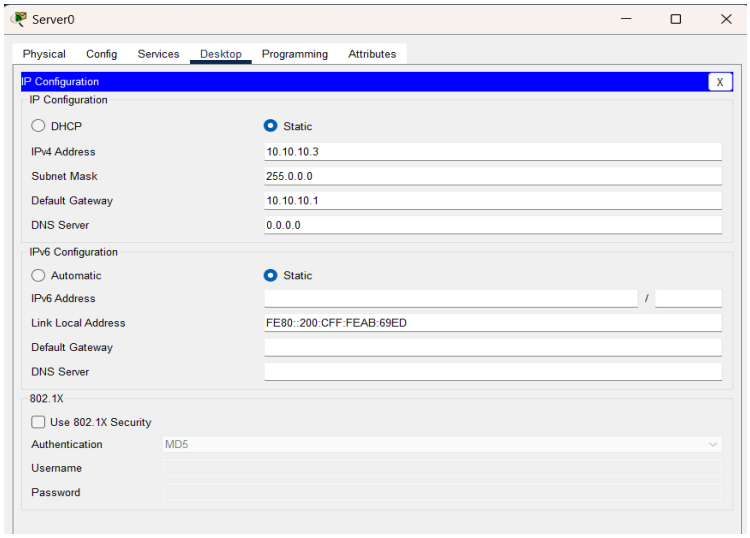


PC CONFIGURATION :

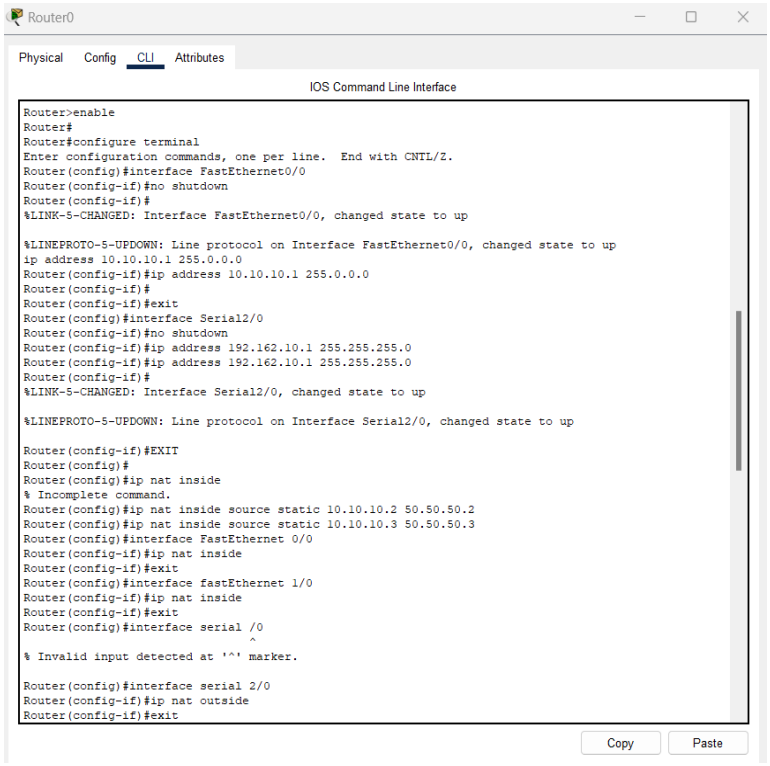


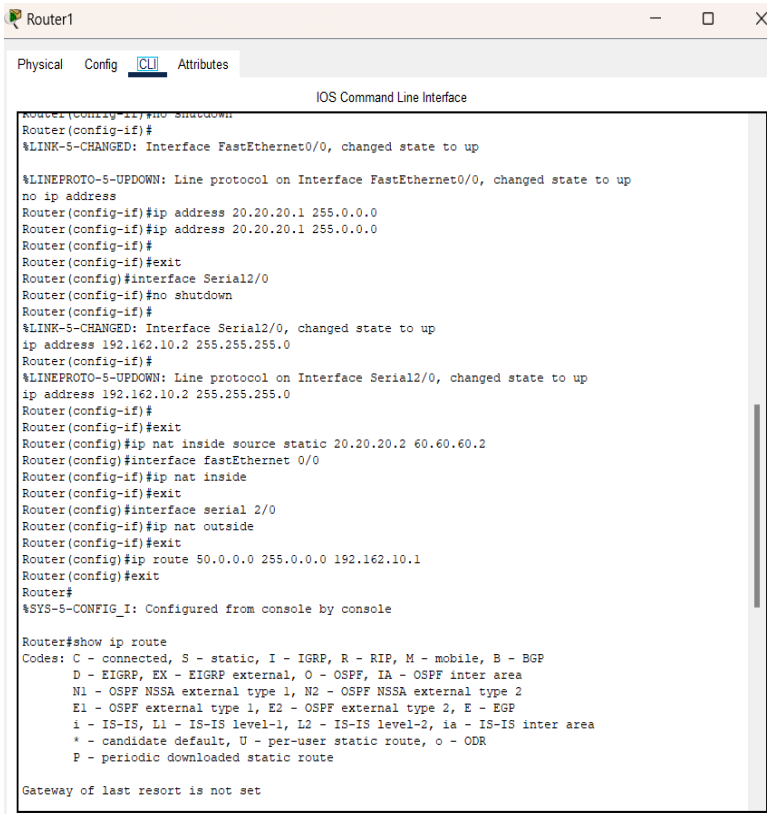


Server configuration:



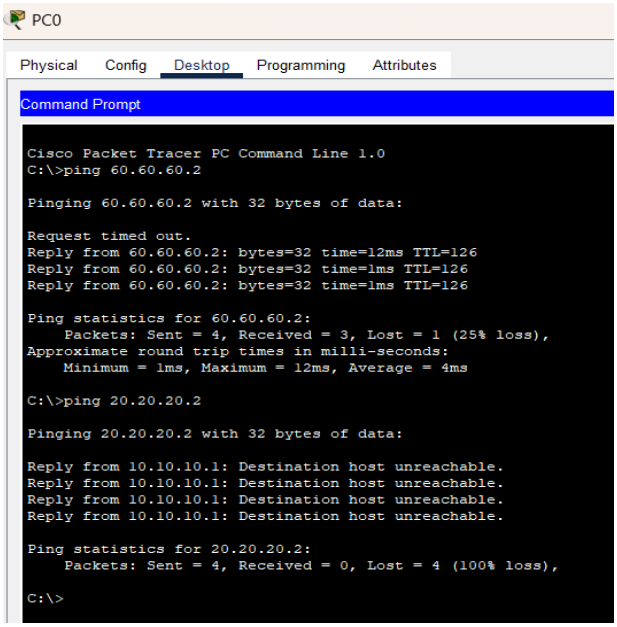
Router configurations :





In the above I configured the routers with the ip address of devices connected to the router and then Did NAT by mapping public ip address to private ip address of the devices.

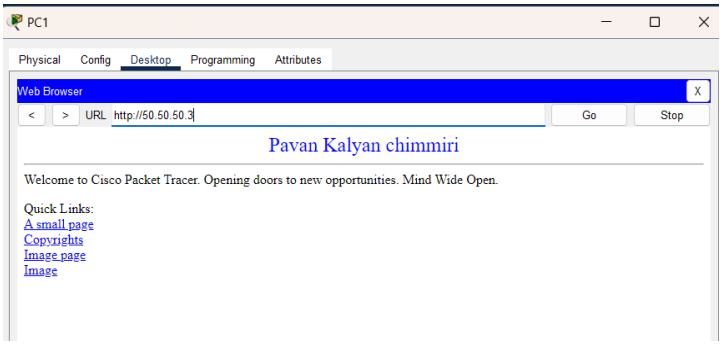
Pinging from pc0 to pc1



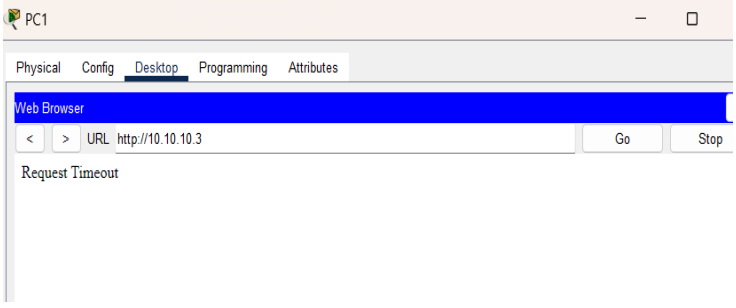
In the above when I ping from pc0 to pc1 with public ip address the packet are sent to the pc1 .

But when I ping using private ip address of pc 1 it shows that the host is not reachable this is because of NAT.

Accessing the internet from pc1 : using server public ip address



Using private ip address to access



Unable to access this is because of nat .

NAT TABLE:

```
Router#show ip nat translations
Pro  Inside global     Inside local       Outside local      Outside global
---  50.50.50.2        10.10.10.2         ---                ---
---  50.50.50.3        10.10.10.3         ---                ---
tcp 50.50.50.3:80      10.10.10.3:80      60.60.60.2:1025    60.60.60.2:1025
tcp 50.50.50.3:80      10.10.10.3:80      60.60.60.2:1026    60.60.60.2:1026
```

Here we understand that every local address is mapped with global address whenever any device wants to connect to a pc from outside of the network the pc ip address is taken as public ip address and cannot connect with private ip address this is because nat hides the private address .