PRACTICAL 9

AIM: To implement NAT

NAT means network address translation

- Why do we require it?

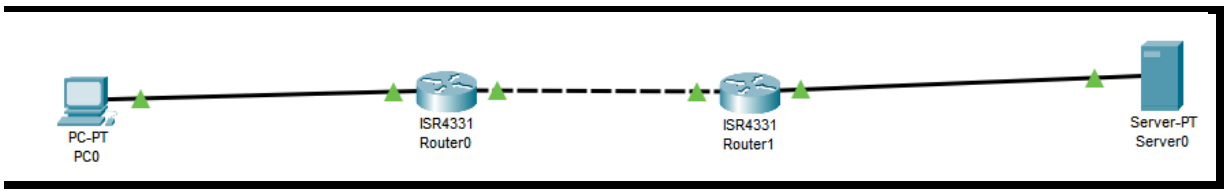
To convert public ip to private and private to public ip

- What are the benefits of using it?

Practically all device need to connect with internet where public ip is required giving every device to public ip is next to impossible causes numerous cost and increase traffic so we do implement NAT concept.

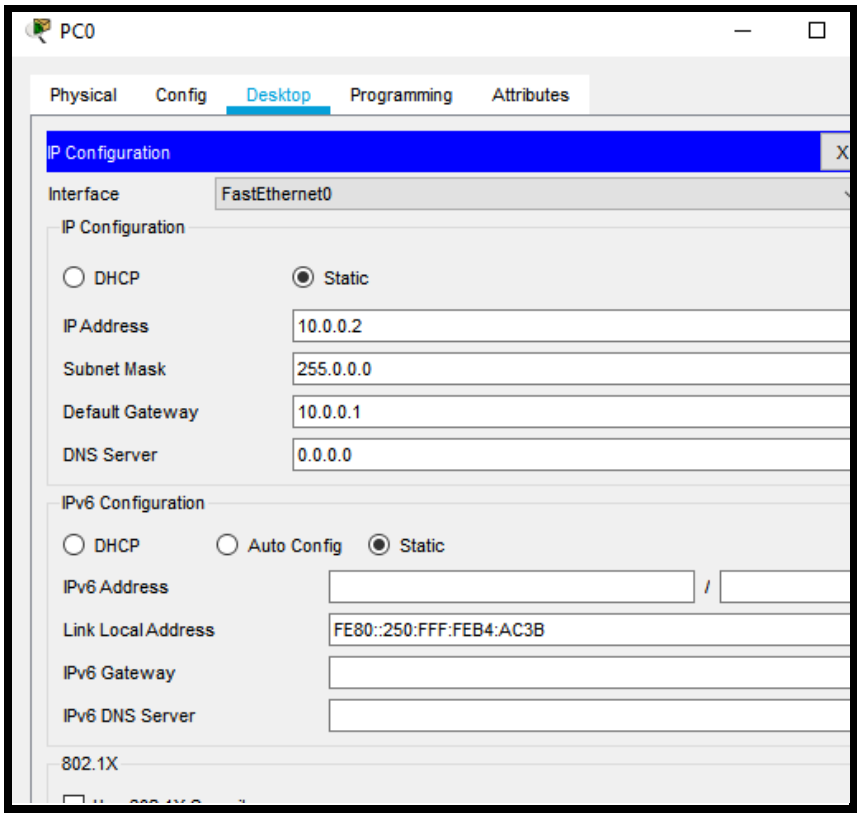
Lets start with static NAT first

Make below type of network



Then do as follow

Give ip address to PC0



I have created totally 3 networks

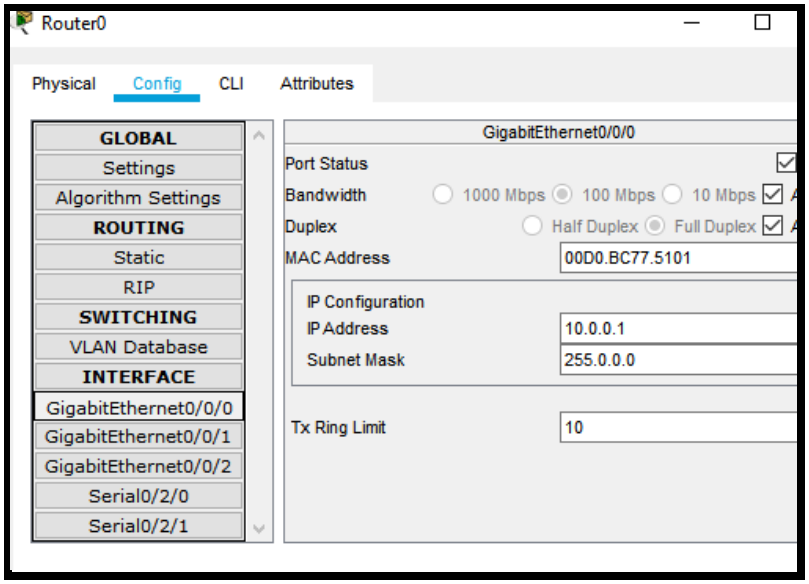
10.0.0.0

20.0.0.0

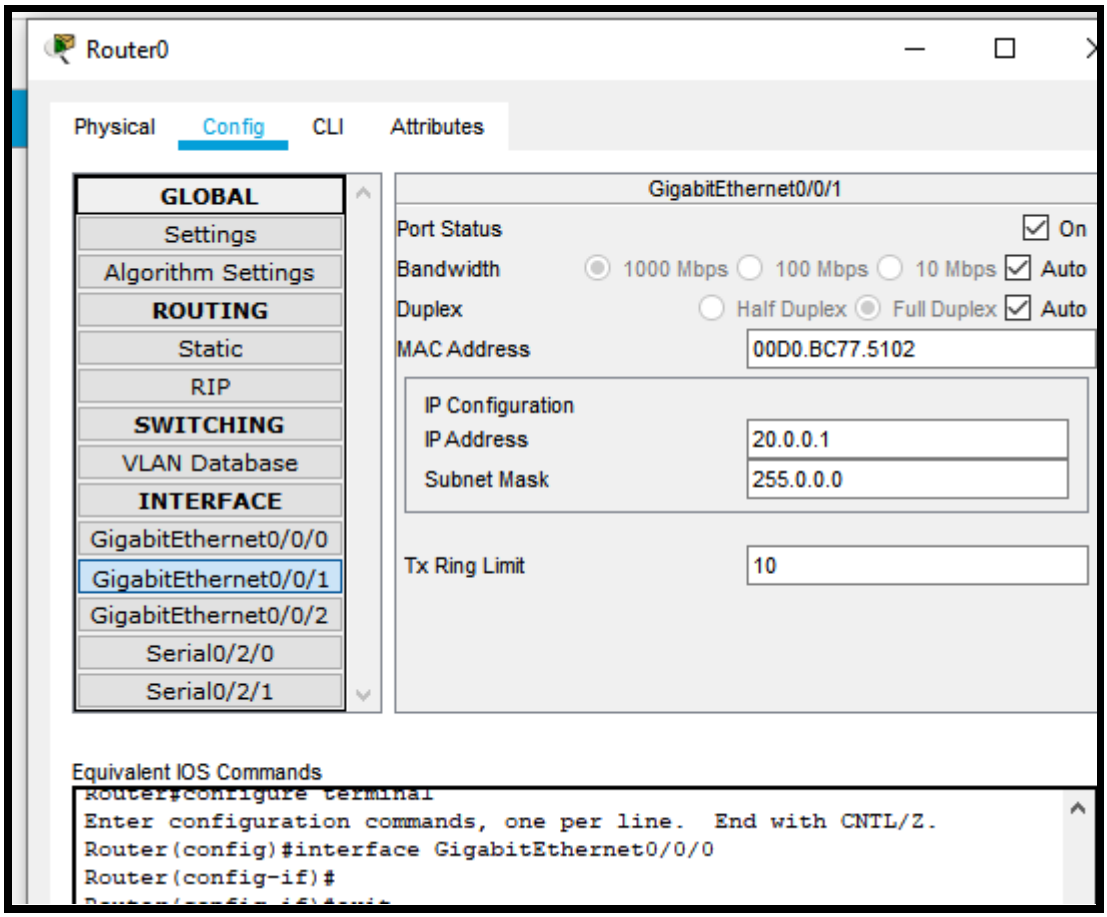
30.0.0.0

So start with pco then give ip address to router0 on both interface

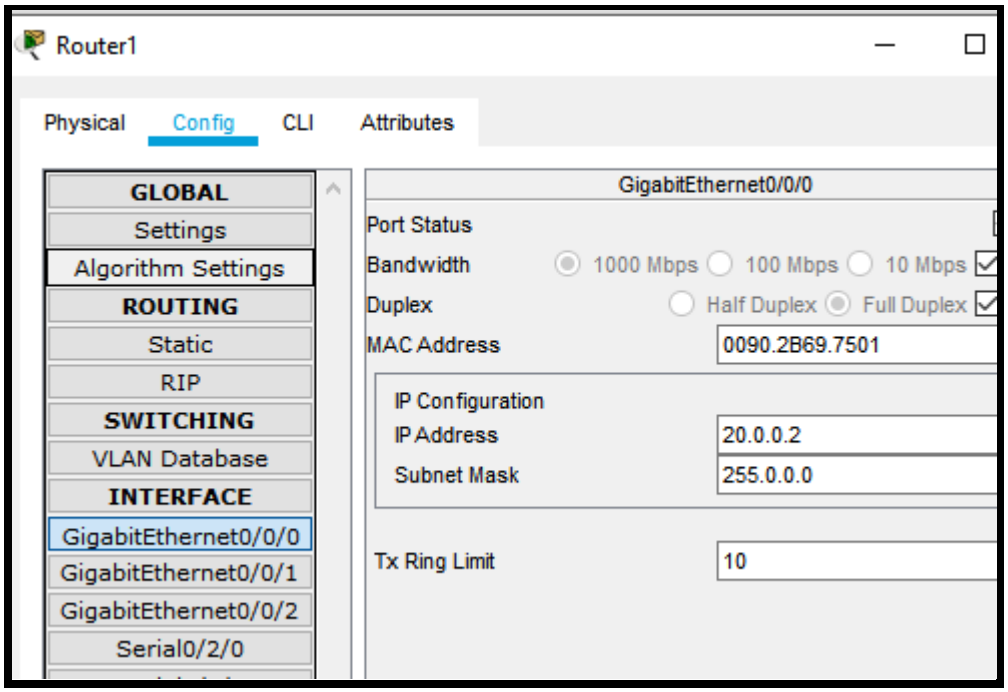
1 interface connected to pc



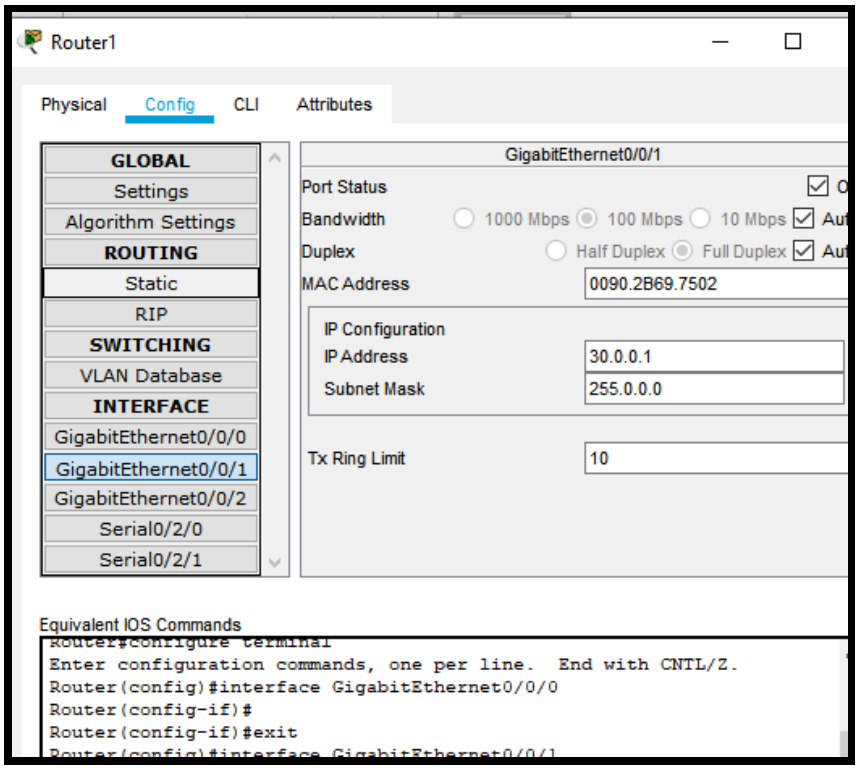
2 interface connected to Router



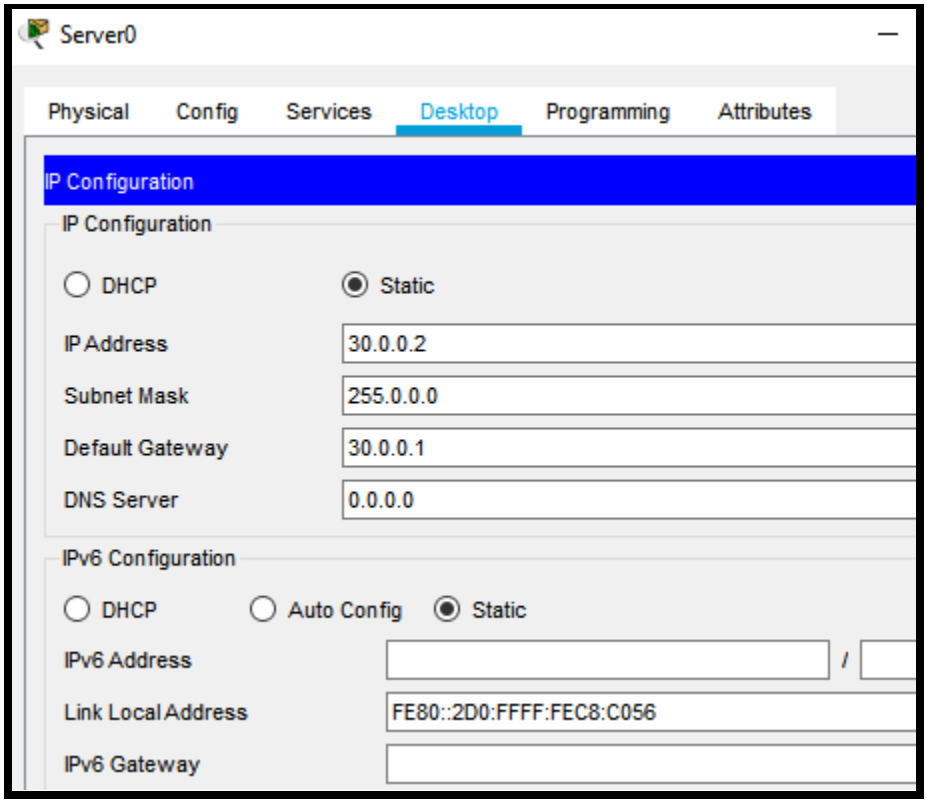
Now similarly configure router1



Now the router 1 connected to Server ip



Now server Ip



Now add Routing to both routers

Then we do implement NAT and for that use Below commands

- It requires three steps for configuration of Static NAT.

1. Define IP address mapping.
2. Define inside local interface.
3. Define inside global interface.

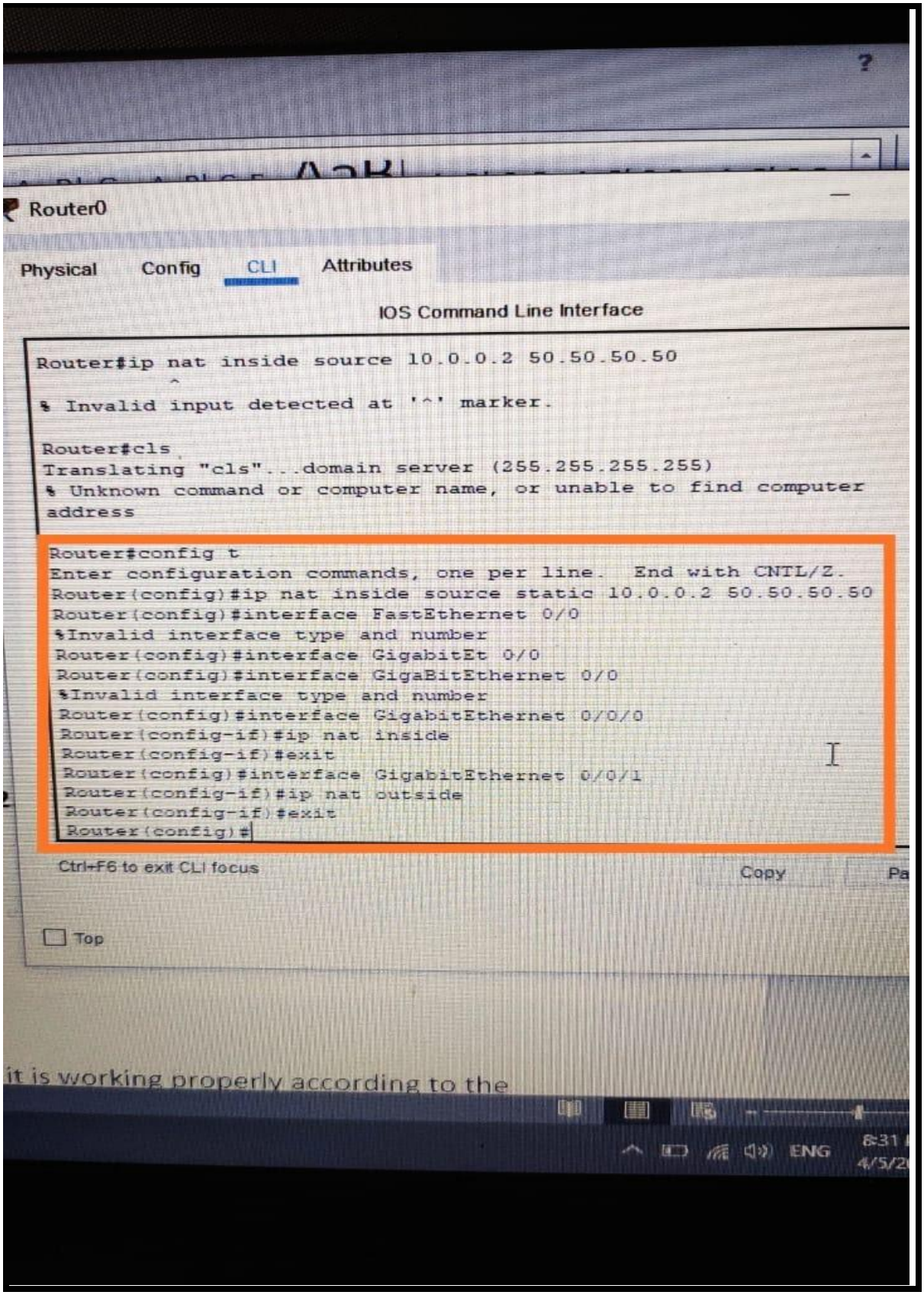
Router(config)# ip nat inside source static [inside local ip address] [inside global IP address]

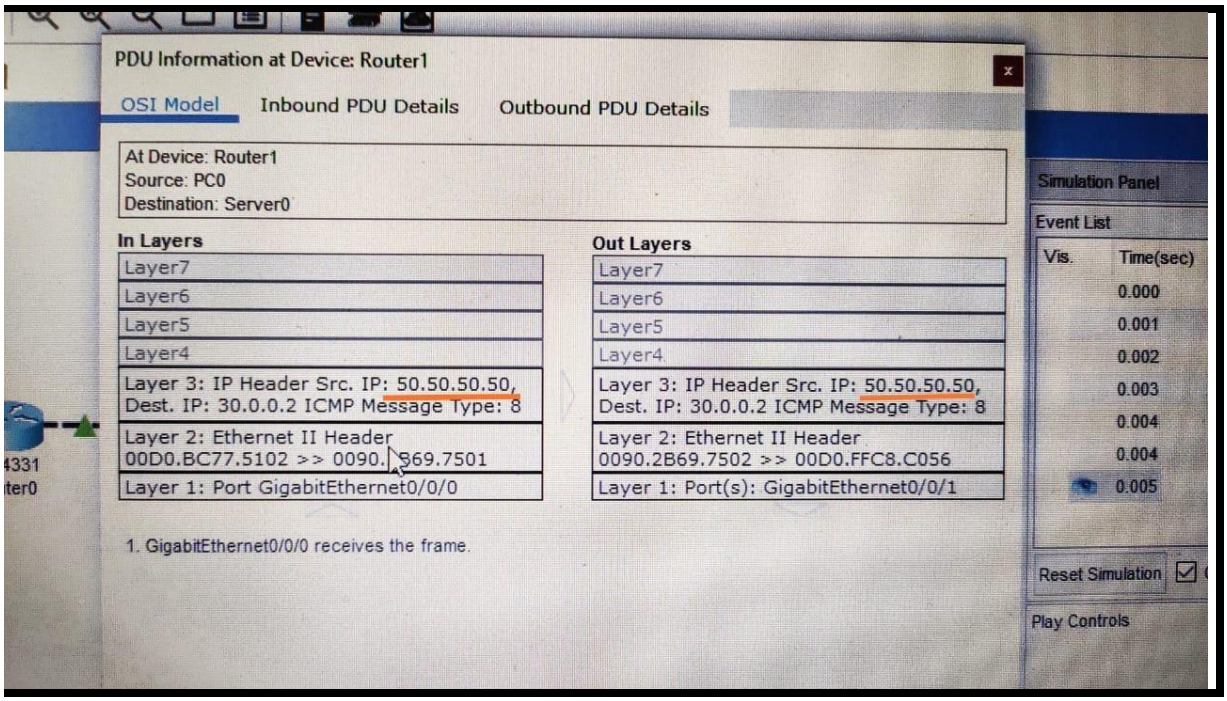
Static NAT Configuration on R1.

```
R1(config)#ip nat inside source static 10.0.0.2 50.50.50.50
R1(config)#interface FastEthernet 0/0
R1(config-if)#ip nat inside
R1(config-if)#exit
R1(config)#
R1(config)#interface Serial 0/0/0
R1(config-if)#ip nat outside
R1(config-if)#exit
```

Static NAT Configuration on R2.

```
R2(config)#ip nat inside source static 30.0.0.2 50.50.50.50
R2(config)#interface FastEthernet 0/0
R2(config-if)#ip nat inside
R2(config-if)#exit
R2(config)#
R2(config)#interface Serial 0/0/0
R2(config-if)#ip nat outside
R2(config-if)#exit
```


Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router#ip nat inside source 10.0.0.2 50.50.50.50
% Invalid input detected at '^' marker.
Router#cls
Translating "cls"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip nat inside source static 10.0.0.2 50.50.50.50
Router(config)#interface FastEthernet 0/0
%Invalid interface type and number
Router(config)#interface GigabitEt 0/0
Router(config)#interface GigaBitEthernet 0/0
%Invalid interface type and number
Router(config)#interface GigabitEthernet 0/0/0
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#interface GigabitEthernet 0/0/1
Router(config-if)#ip nat outside
Router(config-if)#exit
Router(config)#
Ctrl+F6 to exit CLI focus
Copy
Top
it is working properly according to the
ENG



Hence we have given 50.50.50.50 to all as a public ip so it will go out with this ip in the network