# GHARDA FOUNDATION

# GHARDA INSTITUTE OF TECHNOLOGY, LAVEL

Department of Computer Engineering

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## Evaluation Sheet

Class: TE-Computer Engineering Sem: V

Subject: **Computer Networks**

Experiment No: 10

Title of Experiment: Study of Network Address Translation

Name of Student: Sanket Chandrashekhar Harvande Roll No: 19

| Sr. No. | Evaluation Criteria | Max Marks | Marks Obtained |
|---|---|---|---|
| 1 | Practical Performance | 8 | |
| 2 | Oral | 5 | |
| 3 | Timely Submission | 2 | |
| | Total | 15 | |

Signature of Subject Teacher
(Mr. S. S. Tathare)

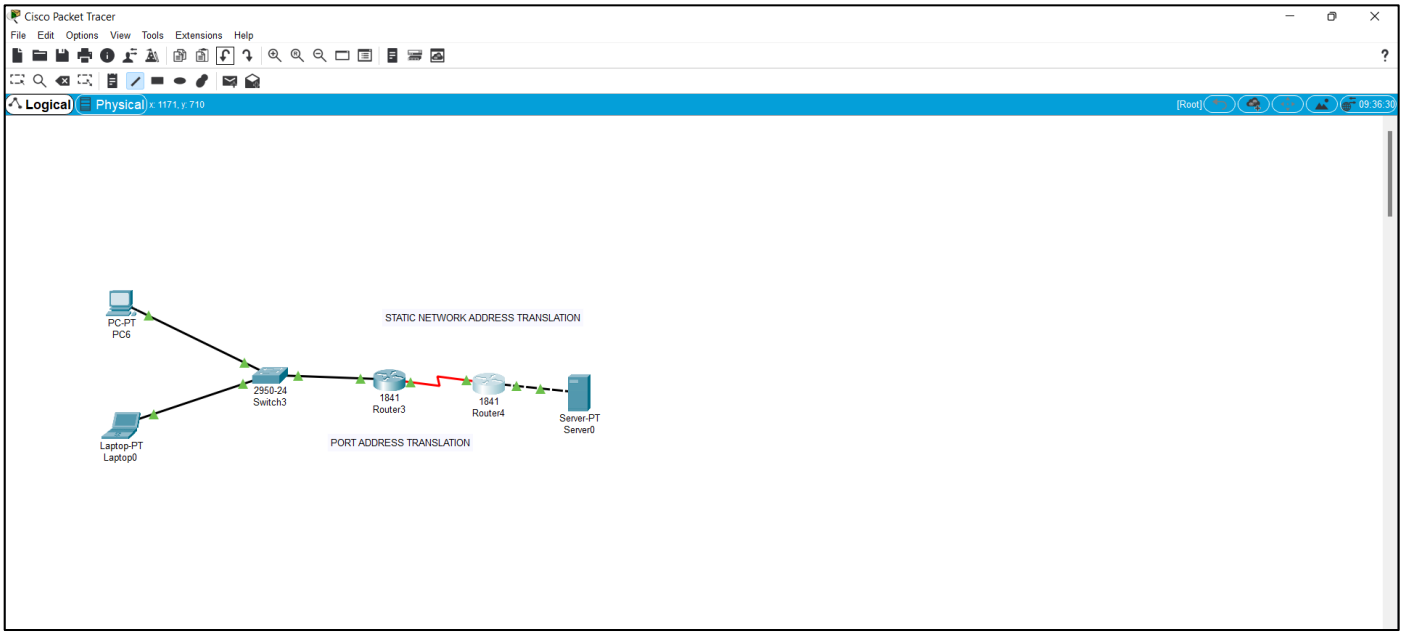
**Aim**: To study the implementation of NAT(static and dynamic) using CISCO packet tracer.

**Apparatus**: Packet Tracer software

**Procedure**:

1. Configure a network using one switch, two PCs, two routers and one server.
2. Configure IP addresses of all PCs and the router interfaces using proper rules of classless addressing, ensuring there are two LANs with private IP addresses and the IP on the router serial ports should be with public IP address.
3. Ensure that all the connections turn green which indicate the connections as UP.
4. Check for the connectivity using ICMP ping command, the connectivity fails.
5. Configure static default routing on both the routers.
6. Check for the connectivity using ICMP ping command, the connectivity succeeds.
7. Configure static NAT on the router connected to LAN with server.
8. Configure dynamic NAT called Port address translation on the router connected to LAN with two PCs.
8. Using the command prompt of server, ping the PC on other network, and check the reply comes from the public IP on the router, which ensures successful configuration of NAT.

**Screenshots**:



Router1

Physical | Config | CLI

## IOS Command Line Interface

```
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#ex
Router(config)#ip route 0.0.0.0 0.0.0.0 s0/1/0
Router(config)#interface fa0/0
Router(config-if)#ip nat inside
Router(config-if)#ex
Router(config)#interface s0/1/0
Router(config-if)#ip nat
% Incomplete command.
Router(config-if)#ip nat outside
Router(config-if)#ex
Router(config)#ip nat inside source static 10.0.0.10 220.110.0.1
Router(config)#
```

Copy | Paste

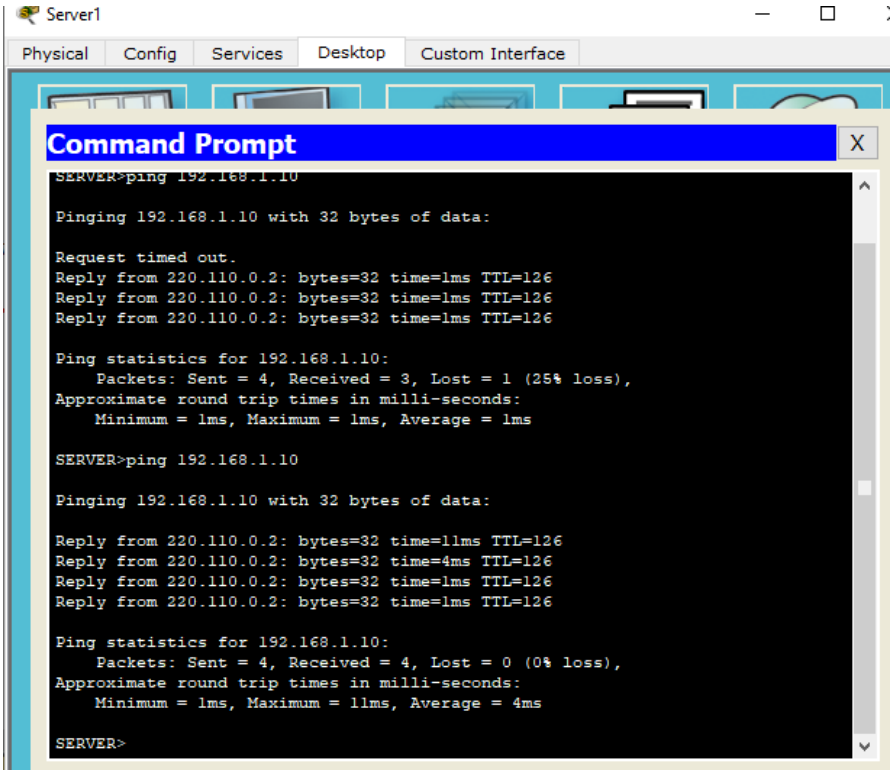
Router0

Physical | Config | CLI

## IOS Command Line Interface

```
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#ex
Router(config)#ip route 0.0.0.0 0.0.0.0 s0/1/0
Router(config)#int fa0/0
Router(config-if)#ip nat inside
Router(config-if)#int s0/1/0
Router(config-if)#ip nat outside
Router(config-if)#access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#ip nat inside source list 1 int
% Incomplete command.
Router(config)#ip nat inside source list 1 interface s0/1/0 overload
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#ping 220.110.0.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 220.110.0.1, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 1/1/1 ms

Router#ping 220.110.0.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 220.110.0.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/3/13 ms
```

Copy | Paste




**Conclusion**: Thus the study of the implementation of NAT(static and dynamic) using CISCO packet tracer is done.