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## **EXAMINING NETWORK ADDRESS TRANSLATION(NAT) USING CISCO PACKET TRACER**

### **AIM:**

To examing network address translation using cisco packet tracer.

### **INTRODUCTION:**

In modern networking, Network Address Translation (NAT) plays a vital role in enabling private networks to access the internet using a limited number of public IP addresses. NAT allows multiple devices on a local network to share a single public IP address, providing both IP address conservation and network security.

### **ALGORITHM:**

- 1.select two PCs ,two routers , two switches and one server.
- 2.Use the appropriate cables to connect the devices.
- 3.assign IP address(10.10.10.0/20) to PC1 and router 1 internal interface .
- 4.assign a public IP address(50.50.50/30) to router 1 external interface.
- 5.assignan IP address to server (10.10.10.2).
- 6.assign IP address (20.20.20.0/20) to PC2 and router2 internal interface.

```
Router#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
- . . . .
```

## 2.set up the internal and external interfaces.

```
Router#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#Enter configuration commands,one per line. End with CNTL/Z.
      ^
% Invalid input detected at '^' marker.

Router(config)#Enter configuration commands, one per line. End with CNTL/Z.
      ^
% Invalid input detected at '^' marker.

Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#ip nat inside
Router(config-if)#exit
Router(config)#no shutdown
      ^
% Invalid input detected at '^' marker.

Router(config)#ip nat inside
% Incomplete command.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#ip nat inside
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#Enter configuration commands, one per line. End with CNTL/Z.
      ^
% Invalid input detected at '^' marker.

Router(config-if)#interface FastEthernet1/0
Router(config-if)#ip address 200.0.0.1 255.255.255.252
Router(config-if)#ip nat outside
Router(config-if)#no shutdown
```

## 3.configure NAT overload(PAT)

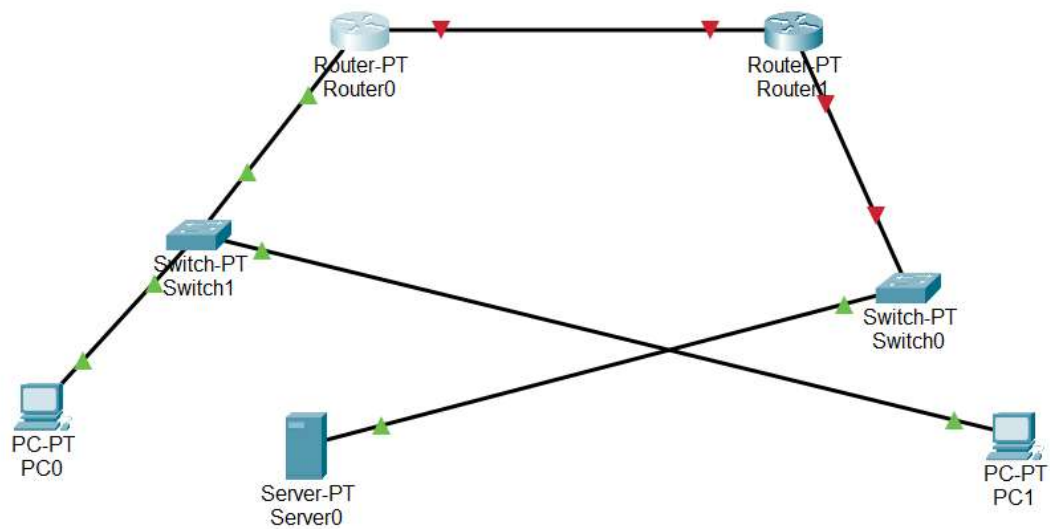
```
Router(config)#
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#ip nat inside source list 1 interface fastethernet0/1 overload
%Invalid interface number (0/1 is empty)
```

## 4.testing NAT

## 5.observing the traffic.

## 6.saving the configuration



## RESULT:

Thus,successfully we examined Network Address Translation using Cisco Packet Tracer.

