

18CSC302J (Computer Networks Lab)

Lab session -NAT Implementation

Addressing &Subnetting

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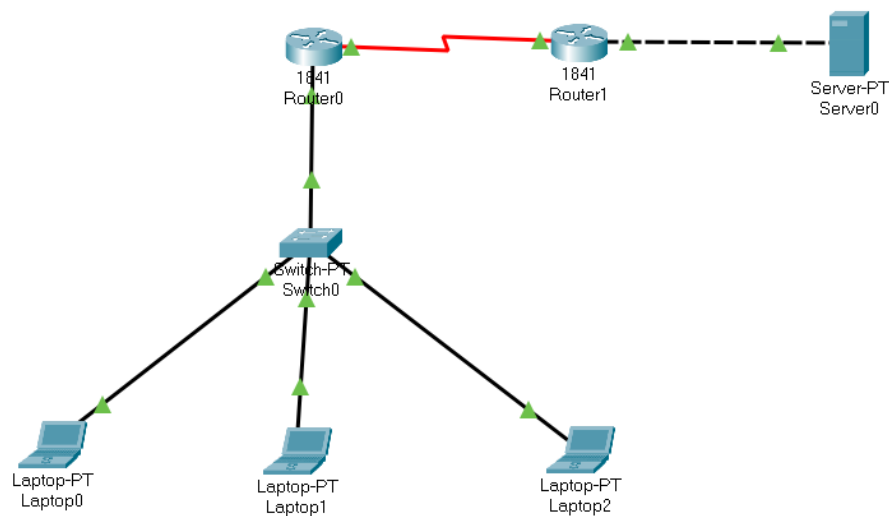
AIM:

To design a NAT on Cisco Packet Tracer.

PROCEDURE:

Follow steps provided in the given document.

DIAGRAM:



ROUTER 0 CLI:

Router0

Physical

Config

CLI

Attributes

IOS Command Line Interface

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#hostname VD

VD(config)#interface FastEthernet 0/0

VD(config-if)#ip address 10.0.0.1 255.0.0.0

VD(config-if)#no shutdown

VD(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

VD(config-if)#exit

VD(config)#exit

VD#

%SYS-5-CONFIG_I: Configured from console by console

VD#show controllers serial 0/0/0

Interface Serial0/0/0

Hardware is PowerQUICC MPC860

DCR V.35, clock rate 2000000

idb at 0x81051AC4, driver data structure at 0x81054AC0

SCC Registers:

General [OSMR]=0x2:0x00000000, Protocol-specific [FSMR]=0x8

Events [SCCE]=0x0000, Mask [SCCM]=0x0000, Status [SCCS]=0x00

Transmit on Demand [TODR]=0x0, Data Sync [DSR]=0x7E7E

Interrupt Registers:

0x00000000 0x00000000 0x00000000 0x00000000

Ctrl+F6 to exit CLI focus

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Router0

Physical

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IOS Command Line Interface

Mask [CIMR]=0x0200000, In-srv [CISR]=0x00000000

Command register [CR]=0x50

Port A [PADIR]=0x1030, [PAPAR]=0xFFFF

[PAODR]=0x0010, [PADAT]=0xCBFF

Port B [PBDIR]=0x09C0F, [PBPAR]=0x0800E

[PBODR]=0x00000, [PB DAT]=0x3FFF0

Port C [PCDIR]=0x00C, [PCPAR]=0x200

[PCSO]=0xC20, [PCDAT]=0xDF2, [PCINT]=0x00F

Receive Ring

rmd(68012830): status 9000 length 60C address 3B6DAC4

rmd(68012838): status B000 length 60C address 3B6D444

Transmit Ring

VD#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

VD(config)#interface Serial 0/0/0

VD(config-if)#ip address 100.0.0.1 255.0.0.0

VD(config-if)#clock rate 64000

VD(config-if)#bandwidth 64

VD(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down

VD(config-if)#exit

VD(config)#

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up

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

VD(config)#ip nat inside source static 10.0.0.10 50.0.0.10

VD(config)#interface FastEthernet 0/0

VD(config-if)#ip nat inside

VD(config-if)#exit

VD(config)#interface Serial 0/0/0

VD(config-if)#ip nat outside

VD(config-if)#exit

VD(config)#ip route 200.0.0.0 255.255.255.0 100.0.0.2

VD(config)#

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ROUTER 1 CLI:



Router1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Press RETURN to get started!

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname AS
AS(config)#interface FastEthernet 0/0
AS(config-if)#ip address 192.168.1.1 255.255.255.0
AS(config-if)#no shutdown

AS(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
AS(config-if)#exit
AS(config)#interface Serial 0/0/0
AS(config-if)#ip address 100.0.0.2 255.0.0.0
AS(config-if)#no shutdown

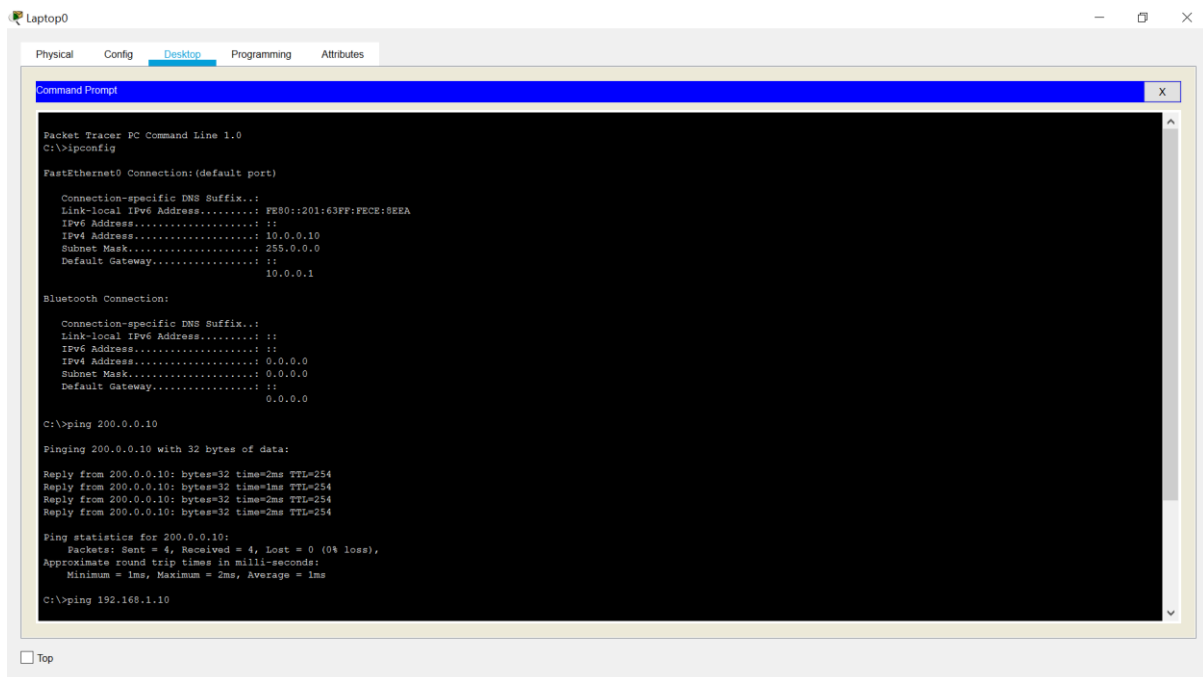
AS(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
AS(config-if)#exit
AS(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
AS(config)#ip nat inside source static 192.168.1.1 200.0.0.10
AS(config)#interface FastEthernet 0/0
AS(config-if)#exit
AS(config)#interface Serial 0/0/0
AS(config-if)#ip nat outside
AS(config-if)#exit
AS(config)#ip route 50.0.0.0 255.0.0.0 100.0.0.1
AS(config)#
```

Ctrl+F6 to exit CLI focus

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LAPTOP 0 COMMAND PROMPT:



Laptop0

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>ipconfig

FastEthernet0 Connection (default port):
    Connection-specific DNS Suffix...: 
    Link-local IPv6 Address . . . . .: FE80::201:63FF:FECE:8EEA
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 10.0.0.10
    Subnet Mask . . . . .: 255.0.0.0
    Default Gateway . . . . .: ::
    10.0.0.1

Bluetooth Connection:
    Connection-specific DNS Suffix...: 
    Link-local IPv6 Address . . . . .: ::
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 0.0.0.0
    Subnet Mask . . . . .: 0.0.0.0
    Default Gateway . . . . .: ::
    0.0.0.0

C:\>ping 200.0.0.10

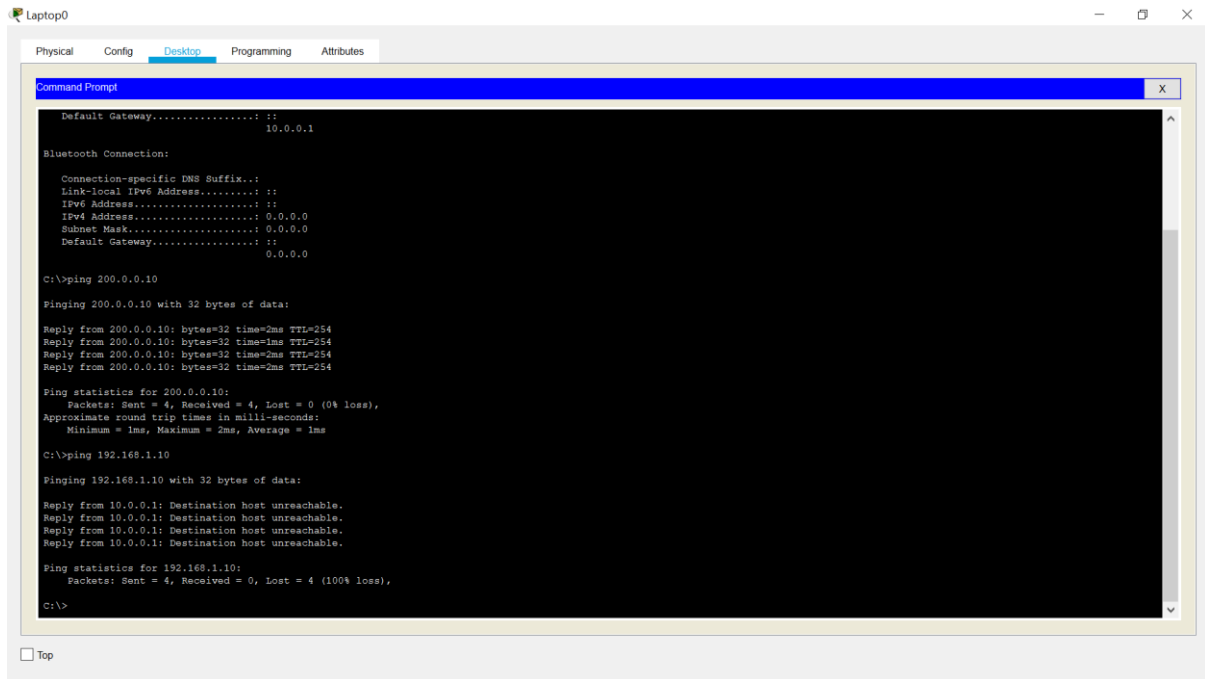
Pinging 200.0.0.10 with 32 bytes of data:

Reply from 200.0.0.10: bytes=32 time=2ms TTL=254
Reply from 200.0.0.10: bytes=32 time=1ms TTL=254
Reply from 200.0.0.10: bytes=32 time=2ms TTL=254
Reply from 200.0.0.10: bytes=32 time=2ms TTL=254

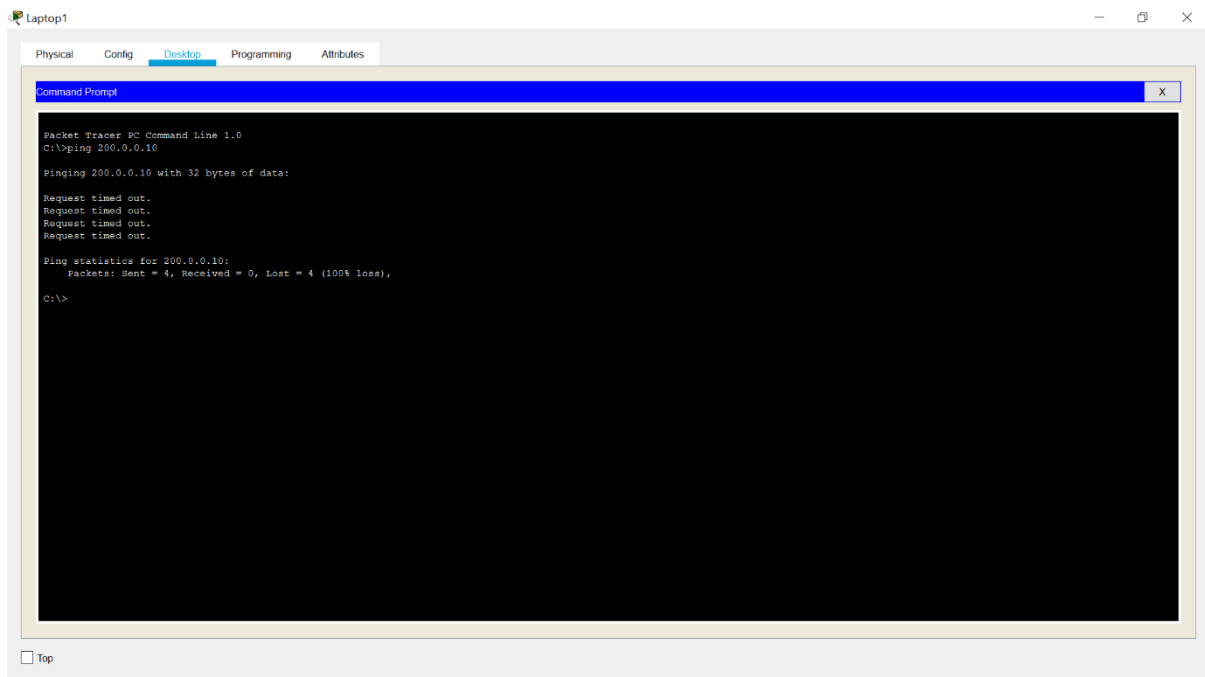
Ping statistics for 200.0.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>ping 192.168.1.10
```

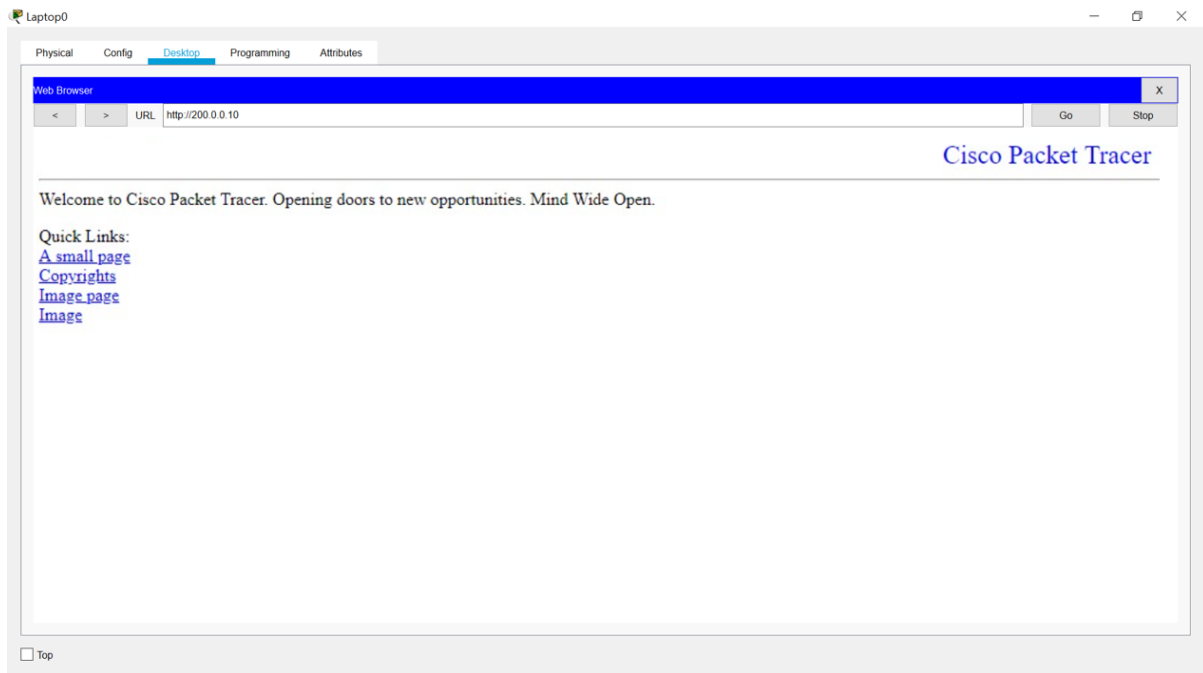
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LAPTOP 1 COMMAND PROMPT:



LAPTOP 0 BROWSER:



LAPTOP 1 BROWSER:

