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***Name: Muhammad Abeer***

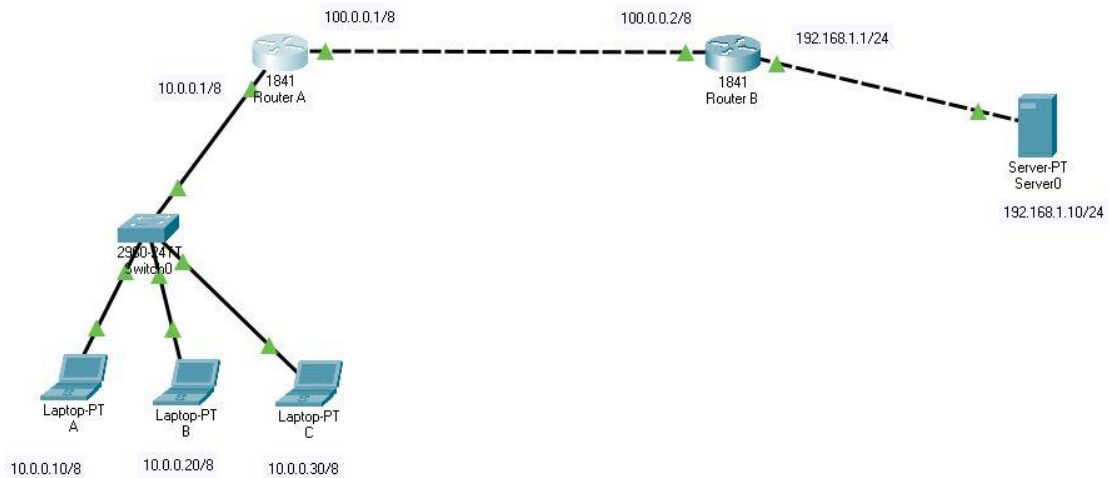
***Roll no: 19P-0061***

***Section: 5-B***

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## Lab Work 11

### *Dynamic NAT*



#### Router A

```
R1>enable
R1#
R1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#interface FastEthernet0/0
R1(config-if)#ip address 100.0.0.1 255.0.0.0
R1(config-if)#
R1(config-if)#exit
R1(config)#interface FastEthernet0/1
R1(config-if)#ip address 10.0.0.1 255.0.0.0
R1(config-if)#
```

Ctrl+F6 to exit CLI focus

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## Router B

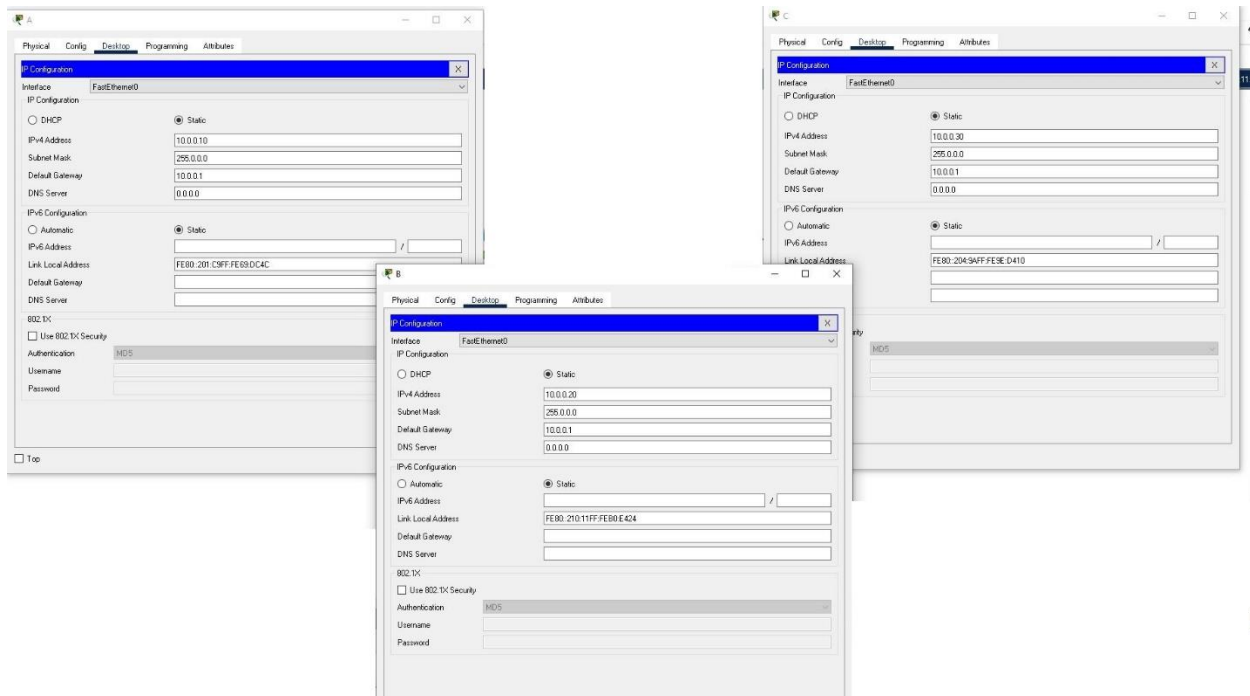
```
R2>enable
R2#
R2#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#interface FastEthernet0/0
R2(config-if)#ip address 100.0.0.2 255.0.0.0
R2(config-if)#
R2(config-if)#exit
R2(config)#interface FastEthernet0/1
R2(config-if)#ip address 192.168.1.1 255.255.255.0
R2(config-if)#
```

Ctrl+F6 to exit CLI focus

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## Laptop IP



## SERVER

Server0

Physical

Config

Services

Desktop

Programming

Attributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.10

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::2E0:F7FF:FE06:E5B9

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

MD5

Username

Password

☐ Top

## Configuring Dynamic NAT on Router A & Static NAT on Router B

```
R1(config)#access-list 1 permit 10.0.0.0 0.255.255.255
R1(config)#ip nat pool ccna 50.0.0.1 50.0.0.2 netmask 255.0.0.0
R1(config)#ip nat inside source list 1 pool ccna
R1(config)#interface FastEthernet 0/1
R1(config-if)#ip nat inside
R1(config-if)#ex
R1(config)#interface FastEthernet 0/0
R1(config-if)#ip nat outside
R1(config-if)#ex
R1(config)#
```

Ctrl+F6 to exit CLI focus

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```
R2>enable
R2#conf ter
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#ip nat inside source static 192.168.1.10 200.0.0.10
R2(config)#interface FastEthernet 0/0
R2(config-if)#ip nat outside
R2(config-if)#ex
R2(config)#interface FastEthernet 0/1
R2(config-if)#ip nat inside
R2(config-if)#ex
R2(config)#
```

Ctrl+F6 to exit CLI focus

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## Configuring Static Routing in Router A & B

```
R1(config)#ip route 200.0.0.0 255.255.255.0 100.0.0.2
R1(config)#
```

Ctrl+F6 to exit CLI focus

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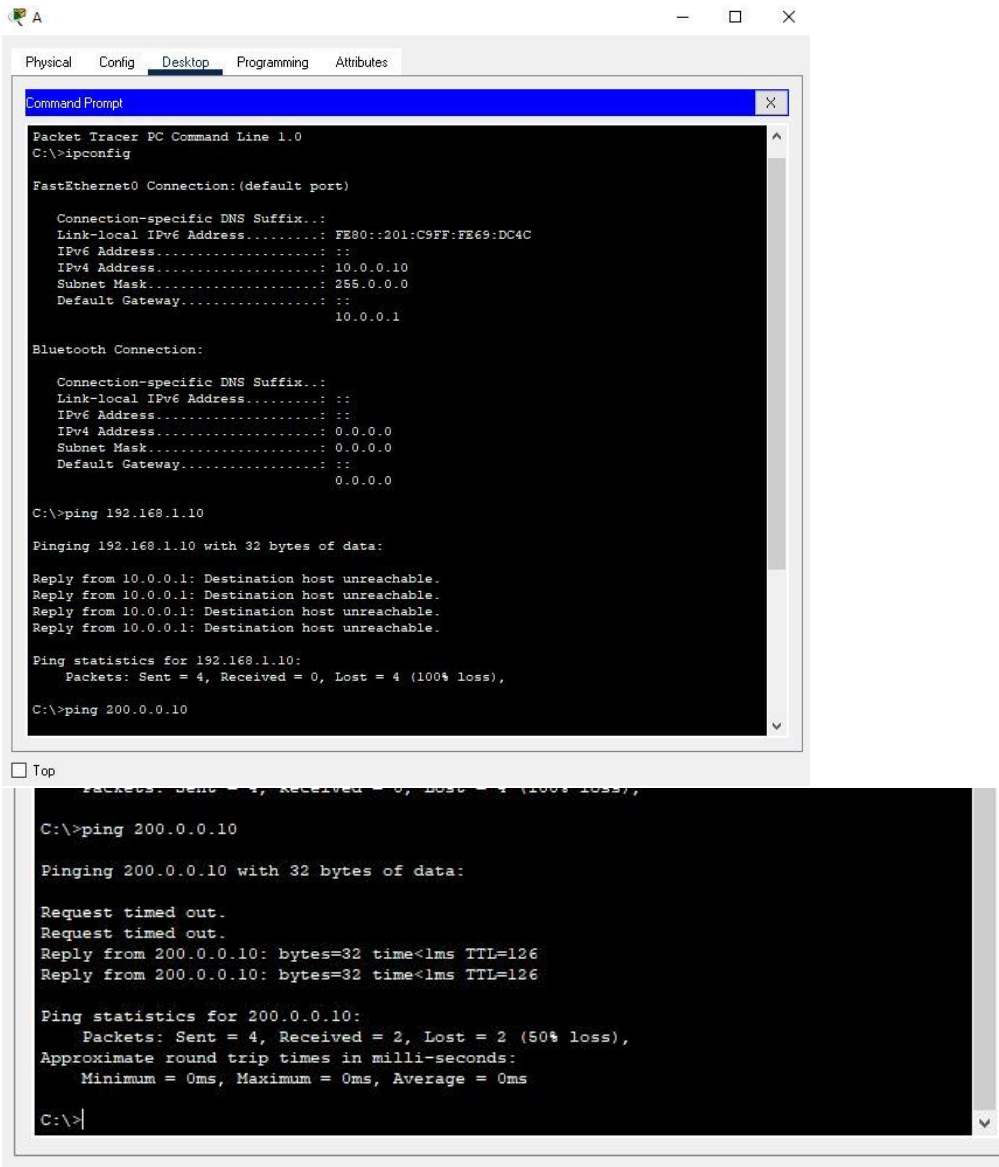
```
R2(config)#ip route 50.0.0.0 255.0.0.0 100.0.0.1
R2(config)#
```

Ctrl+F6 to exit CLI focus

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## Testing Setup



The screenshot shows the Packet Tracer PC Command Line 1.0 interface. The 'Desktop' tab is selected. The Command Prompt window displays the following output:

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

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...: 
    Link-local IPv6 Address . . . . .: FE80::201:C9FF:FE69:DC4C
    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 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 200.0.0.10

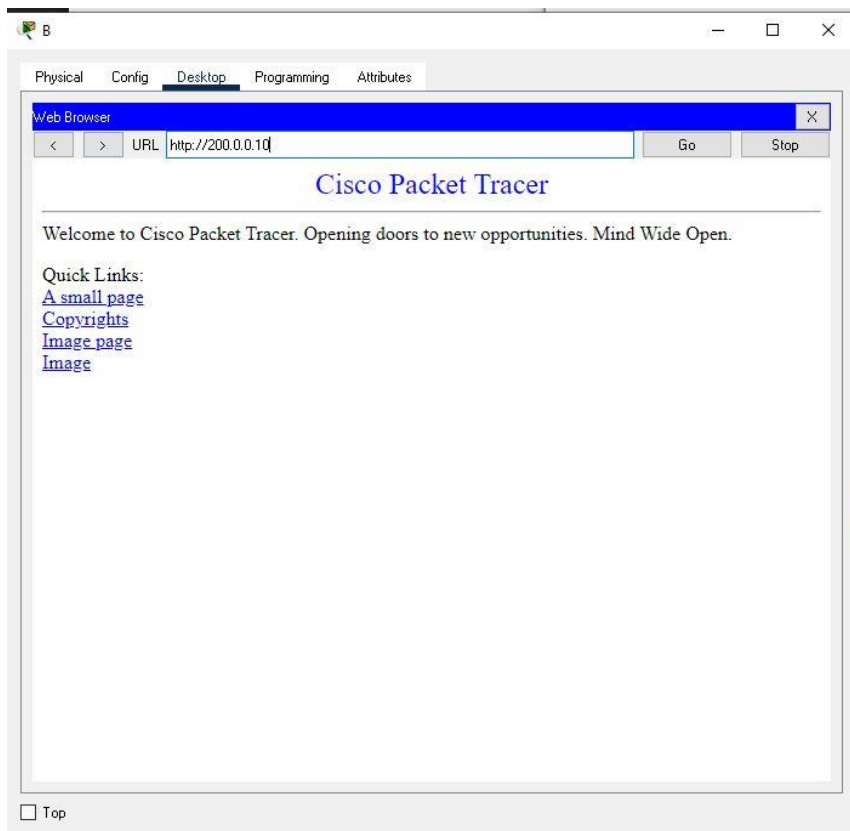
Pinging 200.0.0.10 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 200.0.0.10: bytes=32 time<1ms TTL=126
Reply from 200.0.0.10: bytes=32 time<1ms TTL=126

Ping statistics for 200.0.0.10:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Below the Command Prompt window, there is a 'Top' button.



# ***P NAT Working***

## **Configuring P NAT on Router A & Static NAT on Router B**

```
R1>enable
R1#conf ter
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#access-list 1 permit 10.0.0.0 0.255.255.255
R1(config)#ip nat pool ccna 50.0.0.1 50.0.0.2 netmask 255.0.0.0
R1(config)#ip nat inside source list 1 pool ccna overload
R1(config)#interface FastEthernet 0/1
R1(config-if)#ip nat inside
R1(config-if)#ex
R1(config)#interface FastEthernet 0/0
R1(config-if)#ip nat outside
R1(config-if)#ex
R1(config)#
```

Ctrl+F6 to exit CLI focus

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```
R2>enable
R2#conf ter
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#ip nat inside source static 192.168.1.10 200.0.0.10
R2(config)#interface FastEthernet 0/0
R2(config-if)#ip nat outside
R2(config-if)#ex
R2(config)#interface FastEthernet 0/1
R2(config-if)#ip nat inside
R2(config-if)#ex
R2(config)#
```

Ctrl+F6 to exit CLI focus

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## TESTING SETUP

