

Computer Network Lab Task 12

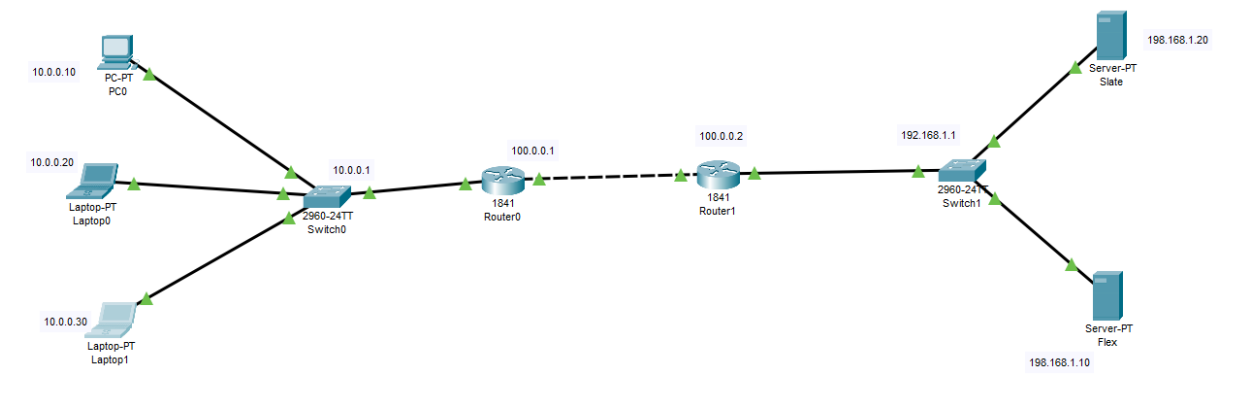
Name: Mahad Ashraf

Roll No: 20P-0563

Instructor: Hurmat Hidayat

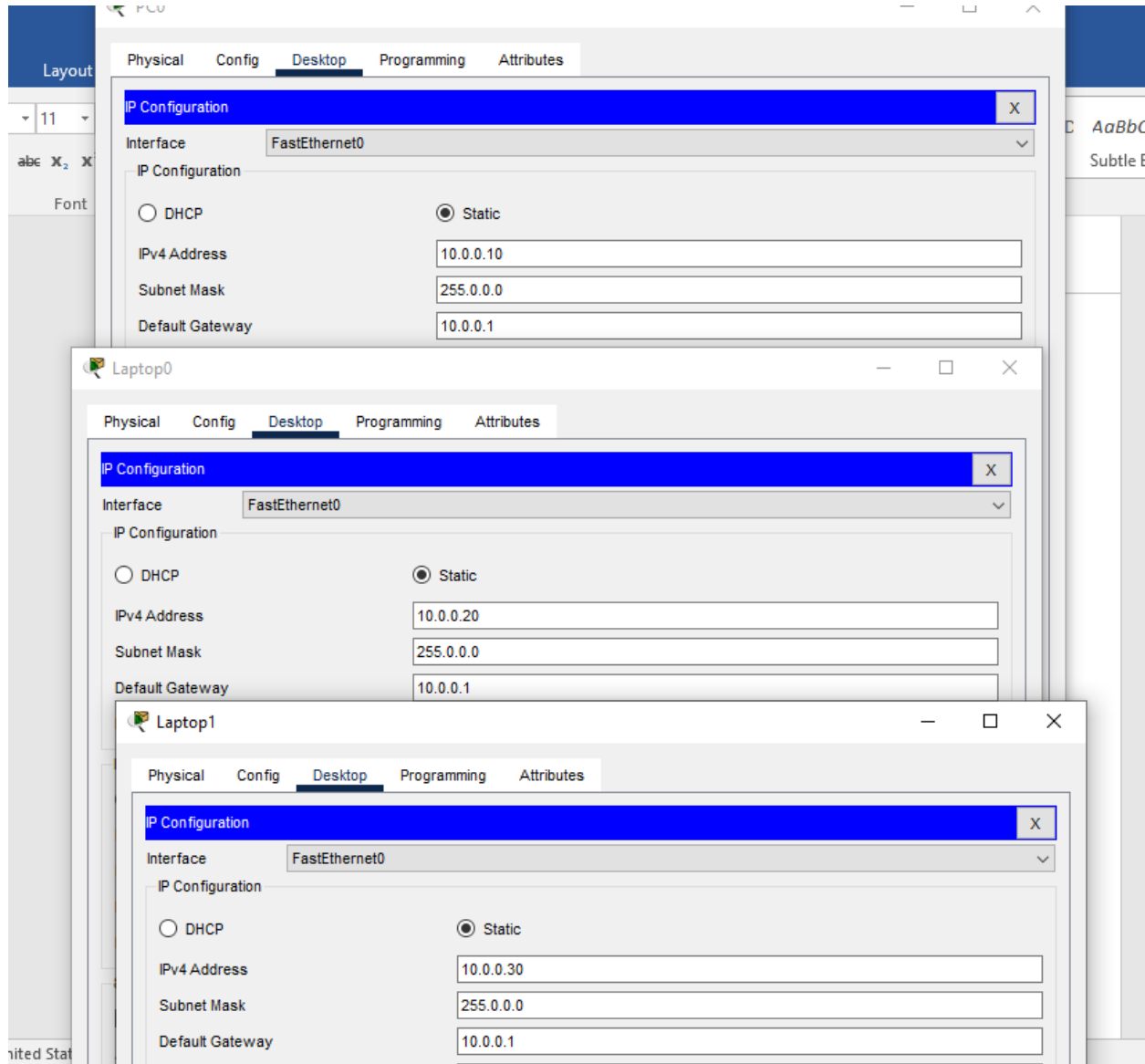
Section: BSCS(5B)

The topology of our whole process is attached below. Here is the below topology which will contains all the devices that are going to be used in our system. These include switches, servers and routers. And also the PC and Laptops are also the part of this topology.



The IP Configuration of our PC's is mentioned below:

We are configuring all three PC's here.

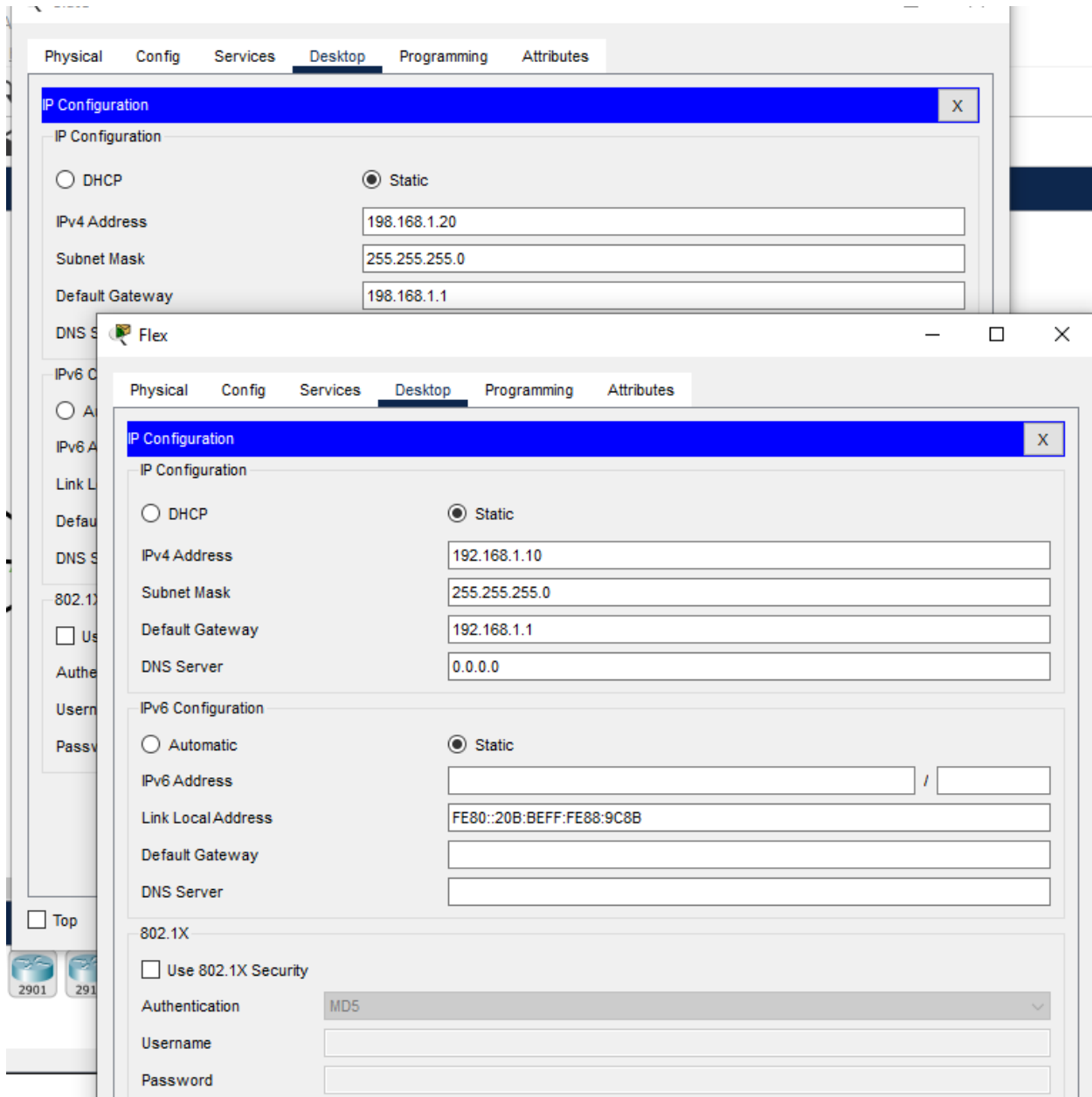


The IP Configuration of our servers is attached below:

Here we are configuring both of the servers

IP is assigned to Flex.

IP is assigned to Slate.



IOS Command Line Configuration for both of the Routers is attached in the below picture.

```
Router0

Physical Config CLI Attributes

IOS Command Line Interface

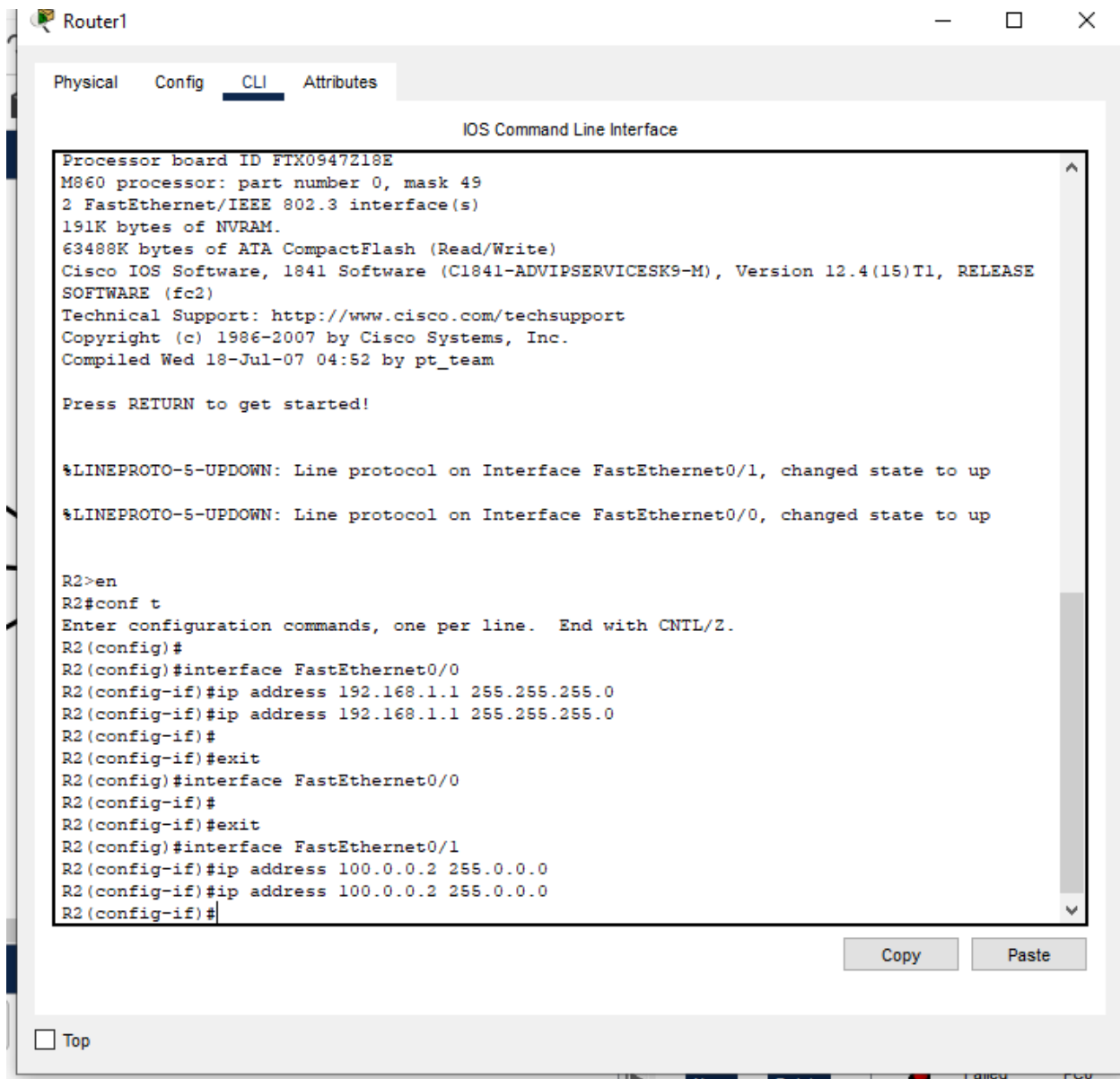
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(15)T1, RELEASE
SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

R1>en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int fa0/0
R1(config-if)#ip add
% Incomplete command.
R1(config-if)#exit
R1(config)#interface FastEthernet0/0
R1(config-if)#ip address 10.0.0.1 255.0.0.0
R1(config-if)#ip address 10.0.0.1 255.0.0.0
R1(config-if)#
R1(config-if)#exit
R1(config)#interface FastEthernet0/0
R1(config-if)#
R1(config-if)#exit
R1(config)#interface FastEthernet0/1
R1(config-if)#ip address 100.0.0.1 255.0.0.0
R1(config-if)#ip address 100.0.0.1 255.0.0.0
R1(config-if)#
```

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Configure Static NAT:

Here we are doing R1 Static NAT Configuration for the router 1. We will configure NAT as you can see in the Picture attached below.

```
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#R1(config)#ip nat inside source s^Z
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#ip nat inside source static 10.0.0.10 50.0.0.10
R1(config)#interface FastEthernet 0/0
R1(config-if)#ip nat inside
R1(config-if)#exit
R1(config)#
R1(config)#interface FastEthernet 0/1
R1(config-if)#ip nat outside
R1(config-if)#exit
R1(config)#ip nat inside source static 10.0.0.20 50.0.0.20
R1(config)#ip nat inside source static 10.0.0.30 50.0.0.30
R1(config)#
```

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R2 Static NAT Configuration:

The Static Nat Configuration for router 2 is mentioned in the below picture. We will configure NAT as you can see in the picture attached.

```

R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#
R1(config-if)#R1(config)#ip nat inside source s^Z
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#ip nat inside source static 10.0.0.10 50.0.0.10
R1(config)#interface FastEthernet 0/0
R1(config-if)#ip nat inside
R1(config-if)#exit
R1(config)#
R1(config)#interface FastEthernet 0/1
R1(config-if)#ip nat outside
R1(config-if)#exit
R1(config)#ip nat inside source static 10.0.0.20 50.0.0.20
R1(config)#ip nat inside source static 10.0.0.30 50.0.0.30
R1(config)#

```

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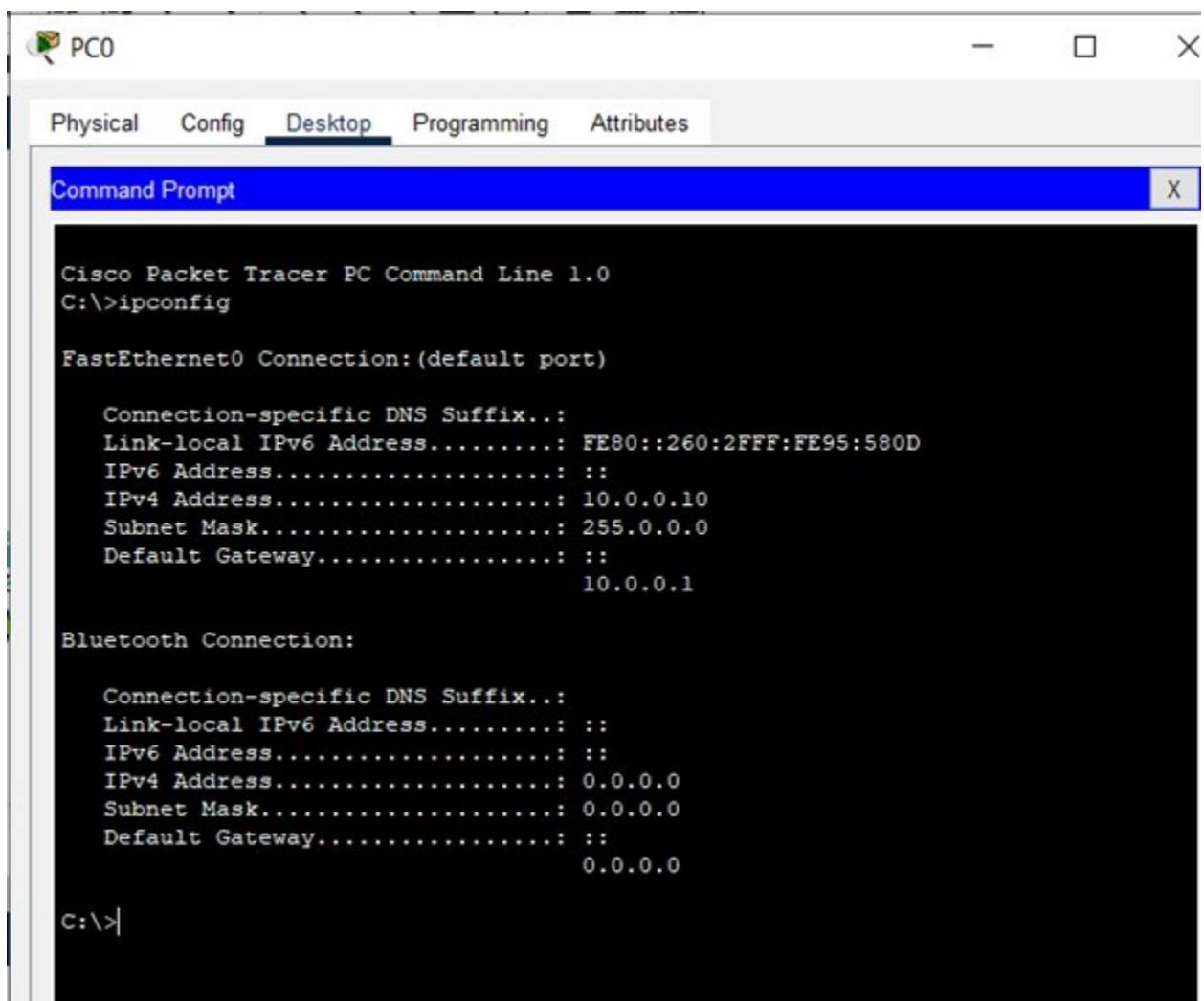
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To test this setup click Laptop0 and Desktop and click Command Prompt.

- **Run ipconfig command.**
- **Run ping 200.0.0.10 command.**
- **Run ping 192.168.1.10 command.**

We are going to perform Ping Test between various devices. So first of all we are ping from PC's To The Servers. We have already performed the ping tests between the PCs and the both of the routers. The test was positive and we were getting response on regular intervals.



```
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=11ms TTL=126
Reply from 200.0.0.10: bytes=32 time=11ms TTL=126

Ping statistics for 200.0.0.10:
```

```
C:\>ping 192.168.1.20

Pinging 192.168.1.20 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 192.168.1.20:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

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```
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.
Request timed out.
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:\>
```

Here we can see that we've successfully received the response of the ping test that we have performed between the PC's. This is showing the correctness of our topology.