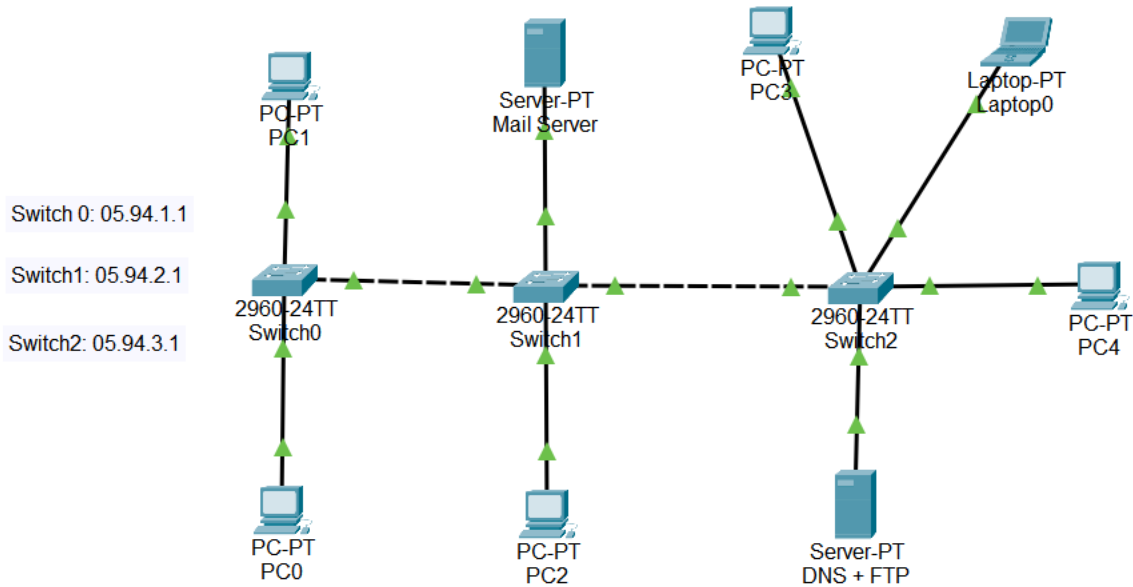


CN LAB 6

23K-0594

Task 1:



PC0

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 5.94.1.2

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 5.94.3.2

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:C9FF:FE40:600

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 5.94.2.3

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 5.94.3.2

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::250:FFF:FE08:77D7

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

DNS + FTP

Physical Config Services **Desktop** Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 5.94.3.2

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::20A:41FF:FE4A:3DD0

Default Gateway

DNS Server

802.1X

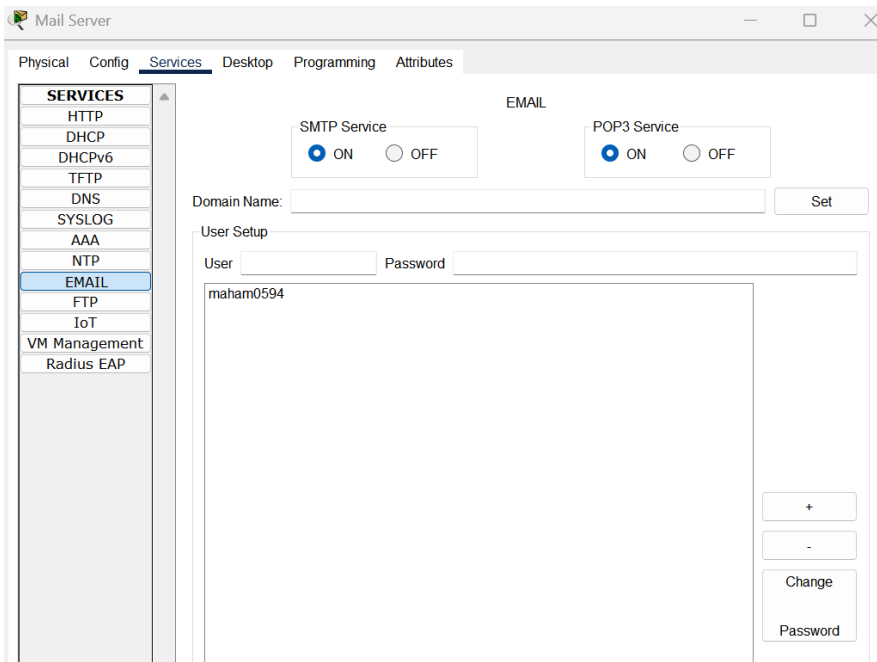
☐ Use 802.1X Security

Authentication MD5

Username

Password

Similarly configuration done for other PCs



switch 0 configuration:

```
Switch>en
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int vlan 1
Switch(config-if)#ip address 05.94.1.1 255.0.0.0
Switch(config-if)#no shut

Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up
```

switch 1 configuration:

```
Switch>en
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int vlan 1
Switch(config-if)#ip address 05.94.2.1 255.0.0.0
Switch(config-if)#no shut

Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up
```

switch 2 configuration:

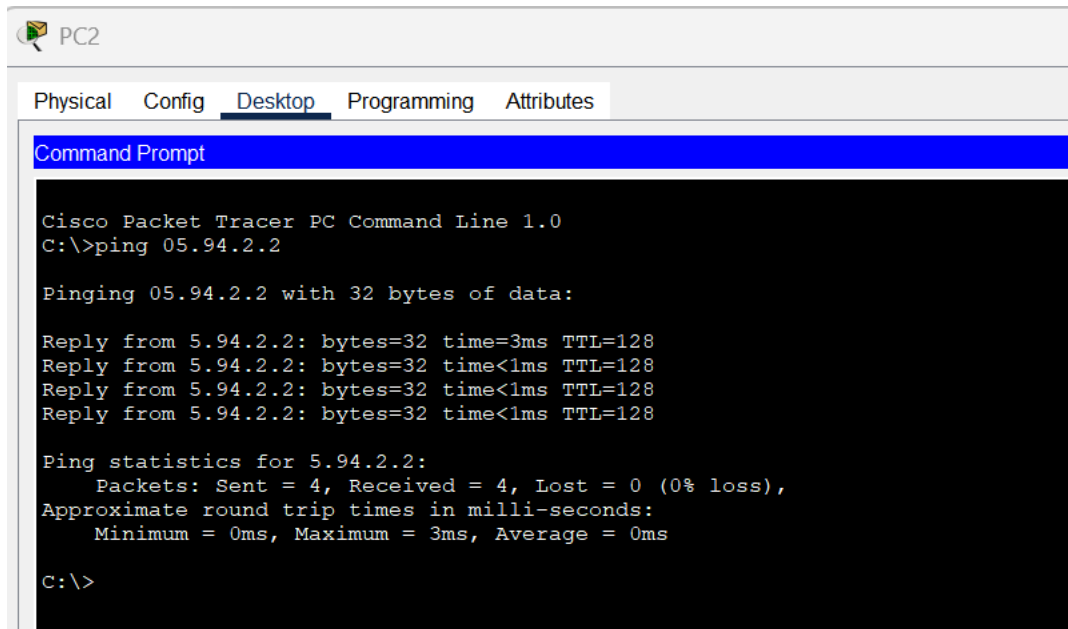
```
Switch>en
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int vlan 1
Switch(config-if)#ip 05.94.3.1 255.0.0.0
^
% Invalid input detected at '^' marker.

Switch(config-if)#ip address 05.94.3.1 255.0.0.0
Switch(config-if)#no shut

Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up
```

Ping sent to mail server from PC 2:



The screenshot shows a PC2 window with the 'Desktop' tab selected. A Command Prompt window is open, displaying the output of a ping command to 05.94.2.2. The output shows four successful replies with 32 bytes of data, a time of 3ms, and a TTL of 128. The statistics show 4 packets sent, 4 received, and 0% loss.

```
PC2
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 05.94.2.2

Pinging 05.94.2.2 with 32 bytes of data:

Reply from 5.94.2.2: bytes=32 time=3ms TTL=128
Reply from 5.94.2.2: bytes=32 time<1ms TTL=128
Reply from 5.94.2.2: bytes=32 time<1ms TTL=128
Reply from 5.94.2.2: bytes=32 time<1ms TTL=128

Ping statistics for 5.94.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 0ms

C:\>
```

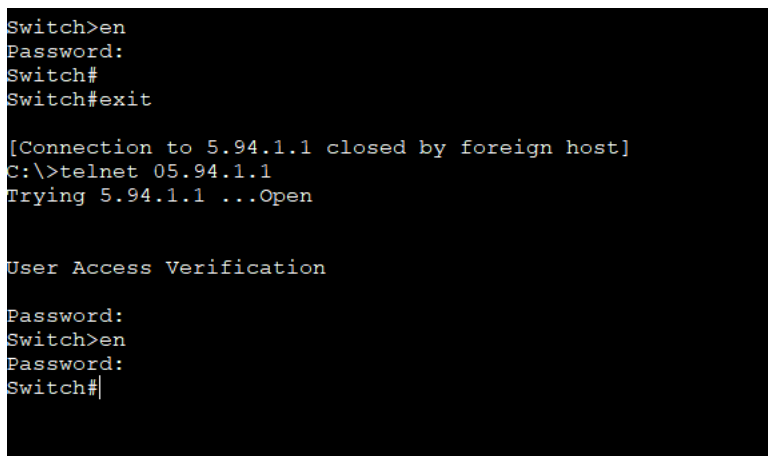
Setting up all switches telnet:

```
Switch>en
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#line vty 0 15
Switch(config-line)#password cisco
Switch(config-line)#login
Switch(config-line)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#enable password cs
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

Verifying telnet:

PC0:



The screenshot shows a PC0 window with a Command Prompt window. It displays the output of a telnet command to 05.94.1.1. The connection is successful, and the prompt changes to Switch#. The user is prompted to enter a password.

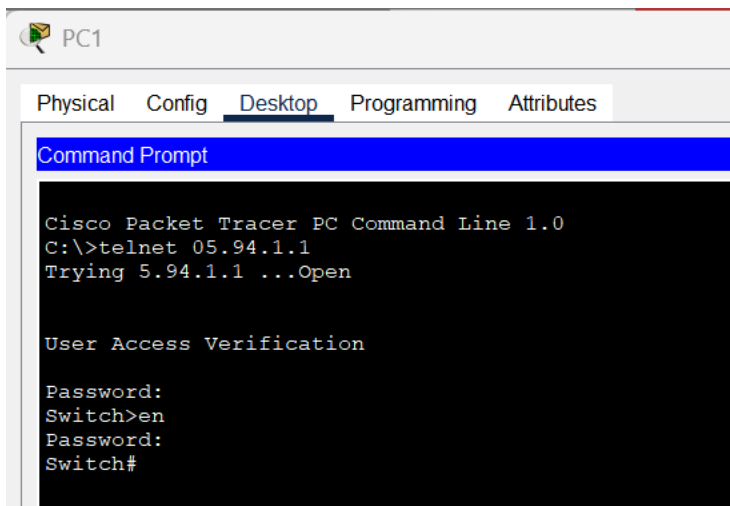
```
Switch>en
Password:
Switch#
Switch#exit

[Connection to 5.94.1.1 closed by foreign host]
C:\>telnet 05.94.1.1
Trying 5.94.1.1 ...Open

User Access Verification

Password:
Switch>en
Password:
Switch#
```

PC 1:



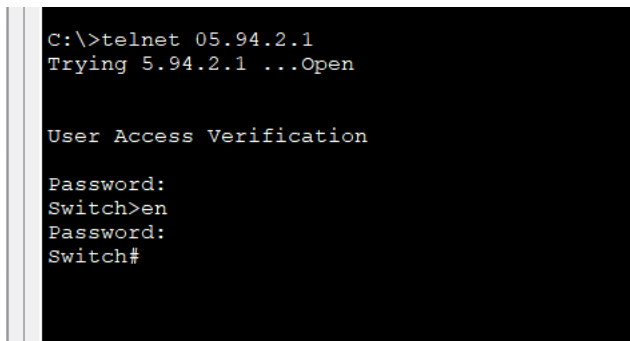
The screenshot shows the PC1 interface in Cisco Packet Tracer. The 'Desktop' tab is selected, and the 'Command Prompt' application is open. The command prompt displays the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 05.94.1.1
Trying 5.94.1.1 ...Open

User Access Verification

Password:
Switch>en
Password:
Switch#
```

PC 2:



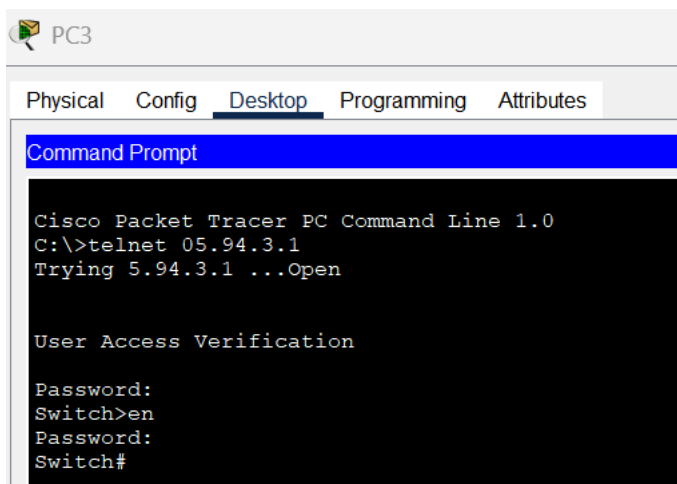
The screenshot shows the PC2 interface in Cisco Packet Tracer. The command prompt displays the following text:

```
C:\>telnet 05.94.2.1
Trying 5.94.2.1 ...Open

User Access Verification

Password:
Switch>en
Password:
Switch#
```

PC3:



The screenshot shows the PC3 interface in Cisco Packet Tracer. The 'Desktop' tab is selected, and the 'Command Prompt' application is open. The command prompt displays the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 05.94.3.1
Trying 5.94.3.1 ...Open

User Access Verification

Password:
Switch>en
Password:
Switch#
```

P4:

```
PC4
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 05.94.3.1
Trying 5.94.3.1 ...Open

User Access Verification

Password:
Switch>en
Password:
Switch#
```

Changing IP of switch from PC 2:

```
C:\>telnet 05.94.2.1
Trying 5.94.2.1 ...Open

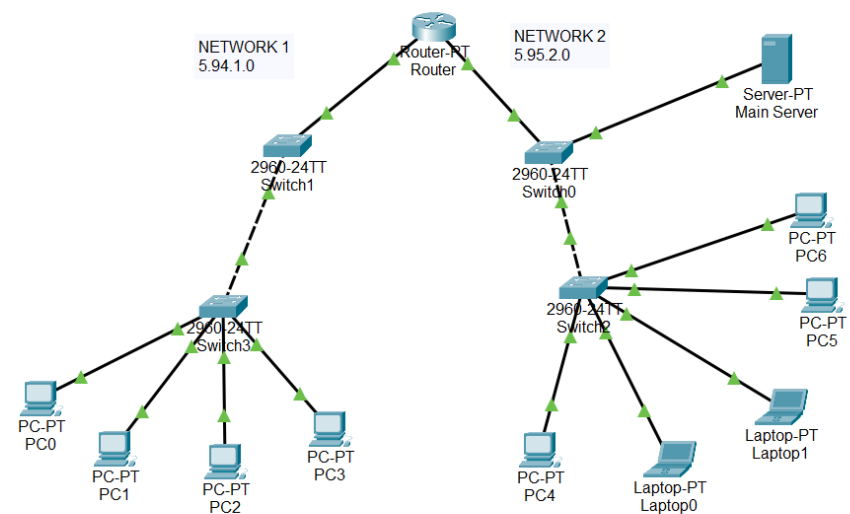
User Access Verification

Password:
Switch>en
Password:
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int vlan 1
Switch(config-if)#ip address 05.94.2.10 255.0.0.0
% Connection refused by remote host
C:\>telnet 05.94.2.10
Trying 5.94.2.10 ...Open

User Access Verification

Password:
Switch>en
Password:
Switch#
```

Task 2:



Configurations:

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 5.94.1.2

Subnet Mask 255.0.0.0

Default Gateway 5.94.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80:2E0:B0FF:FE0B:B39C

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 5.94.1.3

Subnet Mask 255.0.0.0

Default Gateway 5.94.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80:20D:B0FF:FEBA:2BC1

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

PC3

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 5.94.1.5

Subnet Mask 255.0.0.0

Default Gateway 5.94.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80:2E0:A3FF:FE8A:D676

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 5.94.1.4

Subnet Mask 255.0.0.0

Default Gateway 5.94.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80:20C:CFFF:FE00:71A8

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

PC4

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address5.95.2.2

Subnet Mask255.0.0.0

Default Gateway5.95.2.1

DNS Server0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local AddressFE80::201:97FF:FEC5:4D0C

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

AuthenticationMD5

Username

Password

Laptop0

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address5.95.2.3

Subnet Mask255.0.0.0

Default Gateway5.95.2.1

DNS Server0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local AddressFE80::201:63FF:FE57:C11A

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

AuthenticationMD5

Username

Password

PC6

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address5.95.2.6

Subnet Mask255.0.0.0

Default Gateway5.95.2.1

DNS Server0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local AddressFE80::230:A3FF:FE87:6B62

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

AuthenticationMD5

Username

Laptop1

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address5.95.2.4

Subnet Mask255.0.0.0

Default Gateway5.95.2.1

DNS Server0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local AddressFE80::2E0:A3FF:FE6C:A4D8

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

AuthenticationMD5

PCS

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address5.95.2.5

Subnet Mask255.0.0.0

Default Gateway5.95.2.1

DNS Server0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local AddressFE80::230:A3FF:FE32:9E31

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

AuthenticationMD5

Username

Main Server

PhysicalConfigServicesDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IPv4 Address5.95.2.7

Subnet Mask255.0.0.0

Default Gateway5.95.2.1

DNS Server0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local AddressFE80::20A:F3FF:FEBB:435A

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

AuthenticationMD5

Username

Password

Router

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>en
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname maham
maham(config)#interface fa0/0
maham(config-if)#ip address 5.94.1.1 255.255.255.0
maham(config-if)#no shut

maham(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
maham(config-if)#exit
```

```
maham>en
maham#config t
Enter configuration commands, one per line. End with CNTL/Z.
maham(config)#ip domain-name lab.local
maham(config)#crypto key generate rsa
The name for the keys will be: maham.lab.local
Choose the size of the key modulus in the range of 360 to 2048
for your
  General Purpose Keys. Choosing a key modulus greater than
  512 may take
    a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...
[OK]
maham(config)#
```

```
maham(config)#ip ssh version 2
maham(config)#line vty 0 15
maham(config-line)#transport input ssh
maham(config-line)#exit
maham(config)#exit
maham#
%SYS-5-CONFIG_I: Configured from console by console
```

Copy

Paste

☐ Top

```
maham#config t
Enter configuration commands, one per line. End with CNTL/Z.
maham(config)#username maham privilege 15 secret adminpass123
maham(config)#enable secret myensecret123
maham(config)#
```

Copy

Paste

Router

Physical Config CLI Attributes

IOS Command Line Interface

```
maham>show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
FastEthernet0/0    5.94.1.1       YES manual up
up
FastEthernet1/0    unassigned     YES unset  administratively
down down
Serial2/0          unassigned     YES unset  administratively
down down
Serial3/0          unassigned     YES unset  administratively
down down
FastEthernet4/0    unassigned     YES unset  administratively
down down
FastEthernet5/0    unassigned     YES unset  administratively
down down
maham>en
Password:
maham#config t
Enter configuration commands, one per line. End with CNTL/Z.
maham(config)#interface fa1/0
maham(config-if)#ip address 5.95.2.1 255.255.255.0
maham(config-if)#no shutdown

maham(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0,
changed state to up
```

Copy Paste

Since this error was given tried redefining rsa keys.

PC2

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ssh -l maham 5.94.1.1

Password:

Password:

Password:

[Connection to 5.94.1.1 closed by foreign host]
C:\>
```

Router

Physical Config CLI Attributes

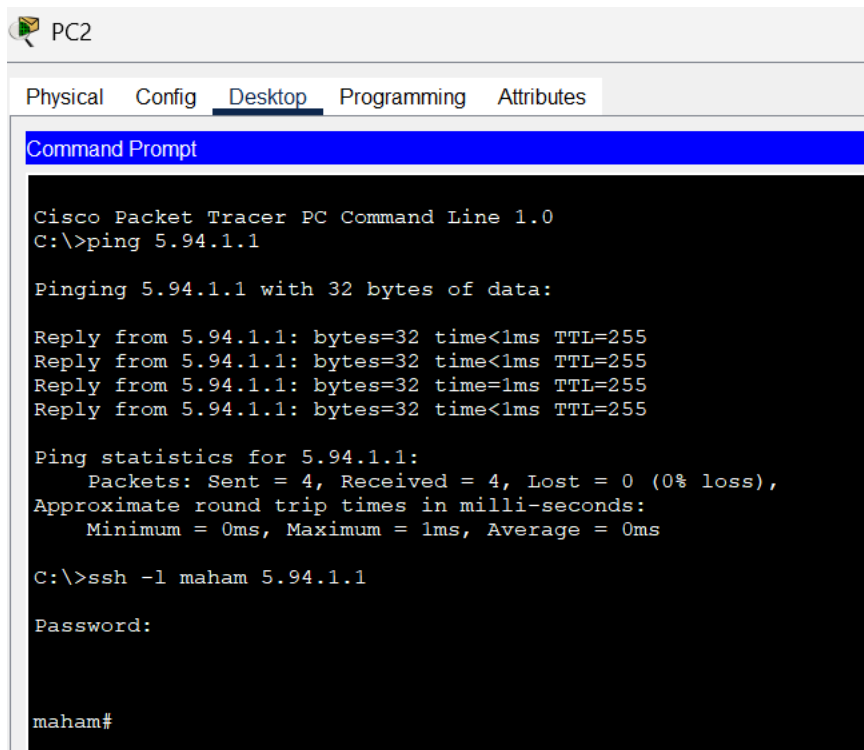
IOS Command Line Interface

```
maham#config t
Enter configuration commands, one per line. End with CNTL/Z.
maham(config)#ip domain-name mynet.local
maham(config)#crypto key generate rsa
% You already have RSA keys defined named maham.lab.local .
% Do you really want to replace them? [yes/no]: yes
The name for the keys will be: maham.mynet.local
Choose the size of the key modulus in the range of 360 to 2048 for
your
General Purpose Keys. Choosing a key modulus greater than 512 may
take
a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

maham(config)#username maham privilege 15 secret adminpass123
*Mar 1 0:33:42.230: %SSH-5-ENABLED: SSH 2 has been enabled
maham(config)#line vty 0 4
maham(config-line)#login local
maham(config-line)#transport input ssh
maham(config-line)#exit
```

Worked fine then:



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC2. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The Command Prompt shows the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 5.94.1.1

Pinging 5.94.1.1 with 32 bytes of data:

Reply from 5.94.1.1: bytes=32 time<1ms TTL=255
Reply from 5.94.1.1: bytes=32 time<1ms TTL=255
Reply from 5.94.1.1: bytes=32 time=1ms TTL=255
Reply from 5.94.1.1: bytes=32 time<1ms TTL=255

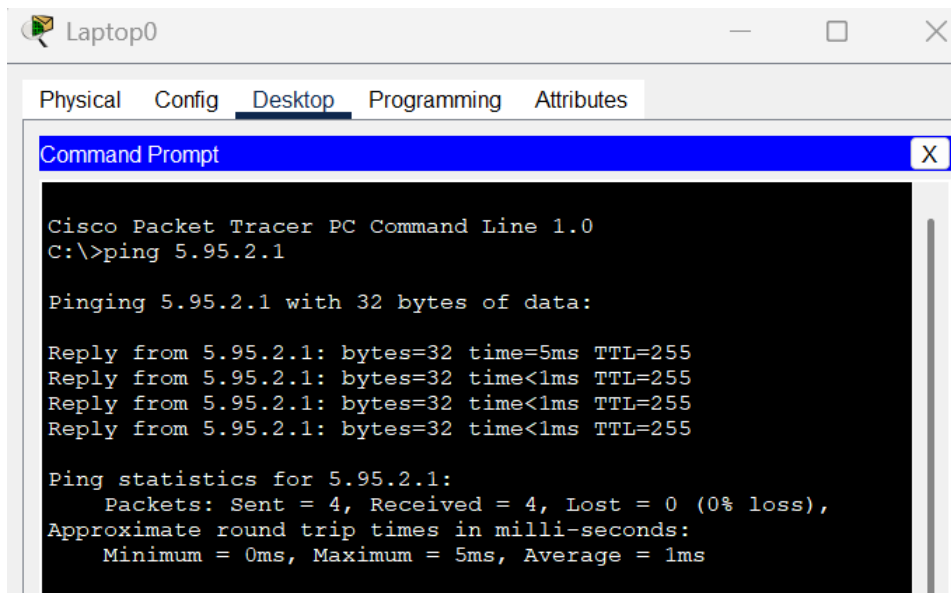
Ping statistics for 5.94.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ssh -l maham 5.94.1.1

Password:

maham#
```

Verifying ssh and changing ip address:



The screenshot shows a Cisco Packet Tracer Laptop0 Command Line window. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The Command Prompt shows the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 5.95.2.1

Pinging 5.95.2.1 with 32 bytes of data:

Reply from 5.95.2.1: bytes=32 time=5ms TTL=255
Reply from 5.95.2.1: bytes=32 time<1ms TTL=255
Reply from 5.95.2.1: bytes=32 time<1ms TTL=255
Reply from 5.95.2.1: bytes=32 time<1ms TTL=255

Ping statistics for 5.95.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 5ms, Average = 1ms
```

```
C:\>ssh -l maham 5.95.2.1

Password:

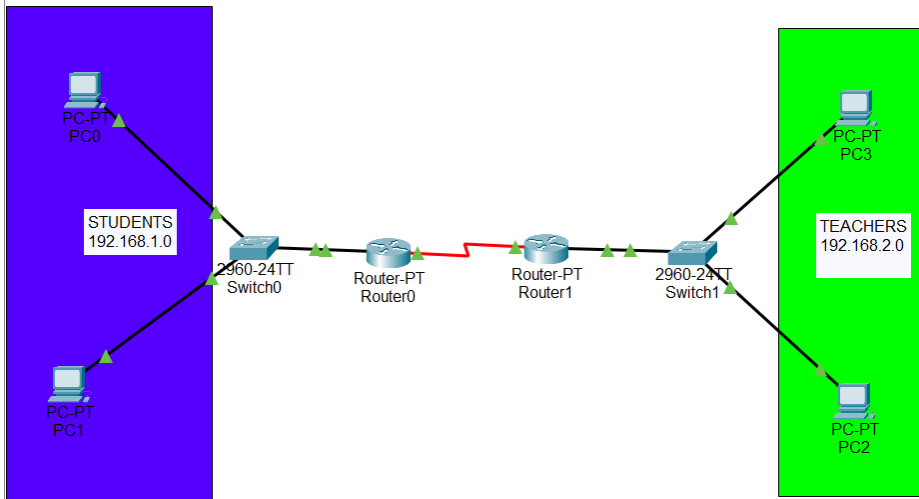
maham#en
maham#config t
Enter configuration commands, one per line. End with CNTL/Z.
maham(config)#interface fa1/0
maham(config-if)#ip address 5.94.2.1 255.255.255.0
```

maham#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	5.94.1.1	YES	manual	up	up
FastEthernet1/0	5.94.2.1	YES	manual	up	up
Serial2/0	unassigned	YES	unset	administratively down	down
Serial3/0	unassigned	YES	unset	administratively down	down
FastEthernet4/0	unassigned	YES	unset	administratively down	down
FastEthernet5/0	unassigned	YES	unset	administratively down	down

LAB 6B

Task 3:



Configurations:

Student side:

```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
would you like to enter the initial configuration dialog? [yes/no]:
Press RETURN to get started!

Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
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)#exit
Router(config)#interface serial2/0
Router(config-if)#ip address 192.168.3.1 255.255.255.0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#do write memory
Building configuration...
[OK]
Router(config-if)#exit
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.3.2
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

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::230:F2FF:FE79:AA50

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

PC1

Physical **Config** Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.20

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:F9FF:FE41:6BA9

Default Gateway

DNS Server

802.1X


☐ Use 802.1X Security

Authentication MD5

Username

Password

Teacher side:

 Router1

Physical Config CLI Attributes

IOS Command Line Interface

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

Press RETURN to get started!

Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip address 192.168.2.1 255.255.255.0
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)#exit
Router(config)#interface serial2/0
Router(config-if)#ip address 192.168.3.2 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.3.1
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

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 PC2

Physical Config Desktop Programming Attributes

IP Configuration

Interface	FastEthernet0
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IPv4 Address	192.168.2.10
Subnet Mask	255.255.255.0
Default Gateway	192.168.2.1
DNS Server	0.0.0.0
IPv6 Configuration	
<input type="radio"/> Automatic	<input checked="" type="radio"/> Static
IPv6 Address	
Link Local Address	FE80::260:5CFF:FEC8:46B
Default Gateway	
DNS Server	
802.1X	
<input type="checkbox"/> Use 802.1X Security	
Authentication	MD5
Username	
Password	

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.20

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::260:3EFF:FEED:7133

Default Gateway

DNS Server

802.1X

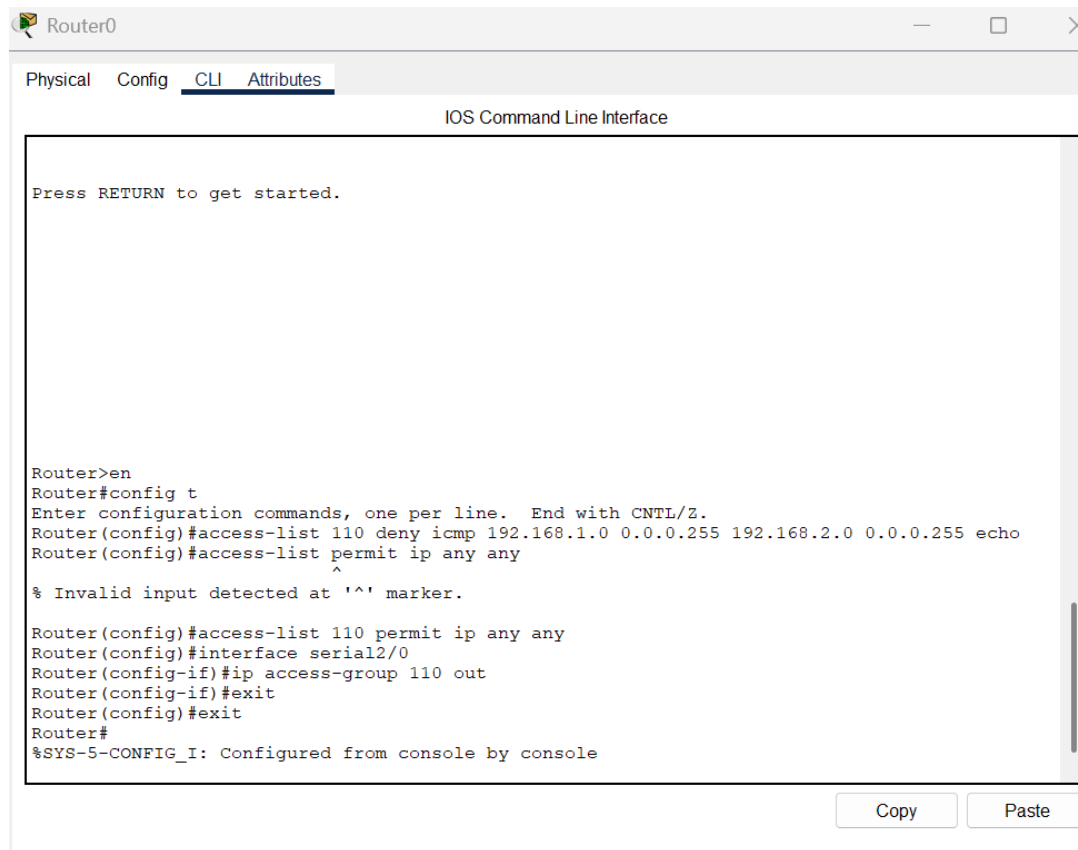
☐ Use 802.1X Security

Authentication MD5

Username

Password

**1) Preventing PCs in the Students network from communicating with any device in the Teachers network.
But, Teachers should be able to communicate with the Students.**



The image shows a Packet Tracer window for Router0. The 'CLI' tab is selected, showing the IOS Command Line Interface. The user has entered several commands to configure an access list and apply it to an interface. The output shows that the configuration was successful.

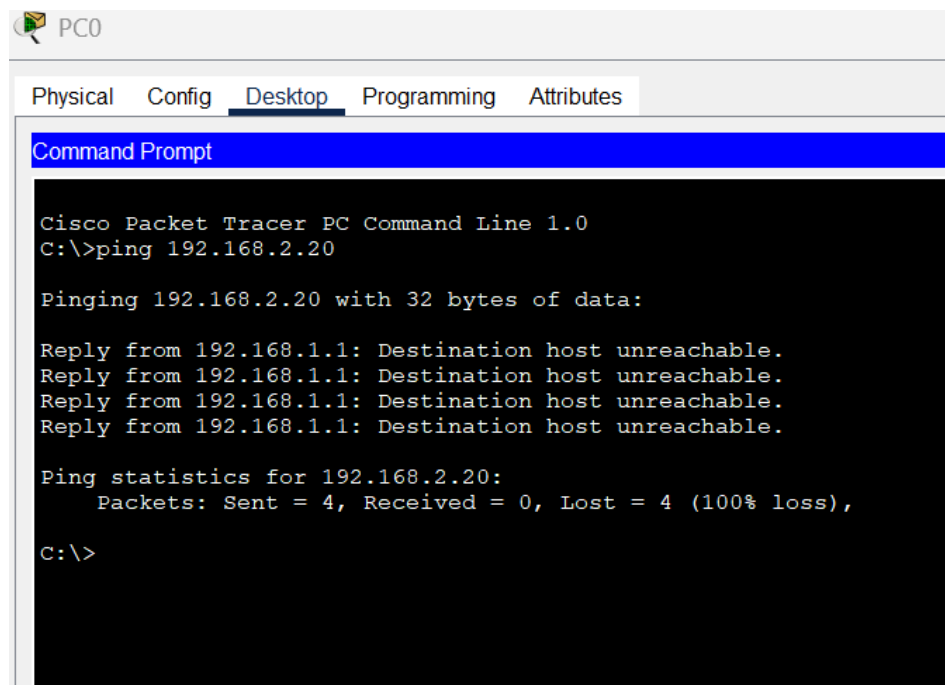
```
Router0
Physical Config CLI Attributes
IOS Command Line Interface

Press RETURN to get started.

Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list 110 deny icmp 192.168.1.0 0.0.0.255 192.168.2.0 0.0.0.255 echo
Router(config)#access-list permit ip any any
% Invalid input detected at '^' marker.
Router(config)#access-list 110 permit ip any any
Router(config)#interface serial2/0
Router(config-if)#ip access-group 110 out
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

Copy Paste

STUDENT (PC0) → TEACHER (PC3)



The image shows a Packet Tracer window for PC0. The 'Desktop' tab is selected, showing the Command Prompt. The user has entered a ping command to test connectivity to 192.168.2.20. The output shows that the destination host is unreachable, resulting in a 100% loss of packets.

```
PC0
Physical Config Desktop Programming Attributes
Command Prompt

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.20


Pinging 192.168.2.20 with 32 bytes of data:

Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.

Ping statistics for 192.168.2.20:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```


TEACHERS(PC2) → STUDENT(PC0)

 PC2

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.10


Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time=1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>
```

2) Only allowing any one PC in the STUDENTS network (for example: as a CR communicates with teachers) to access and communicate with the Teachers network, blocking every other device in the Students network.

 Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>en
Router#show access-lists
Extended IP access list 110
 10 deny icmp 192.168.1.0 0.0.0.255 192.168.2.0 0.0.0.255 echo (4 match(es))
 20 permit ip any any (4 match(es))

Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list 123 permit icmp host 192.168.1.20 192.2.0 0.0.0.255 echo
                                     ^
% Invalid input detected at '^' marker.

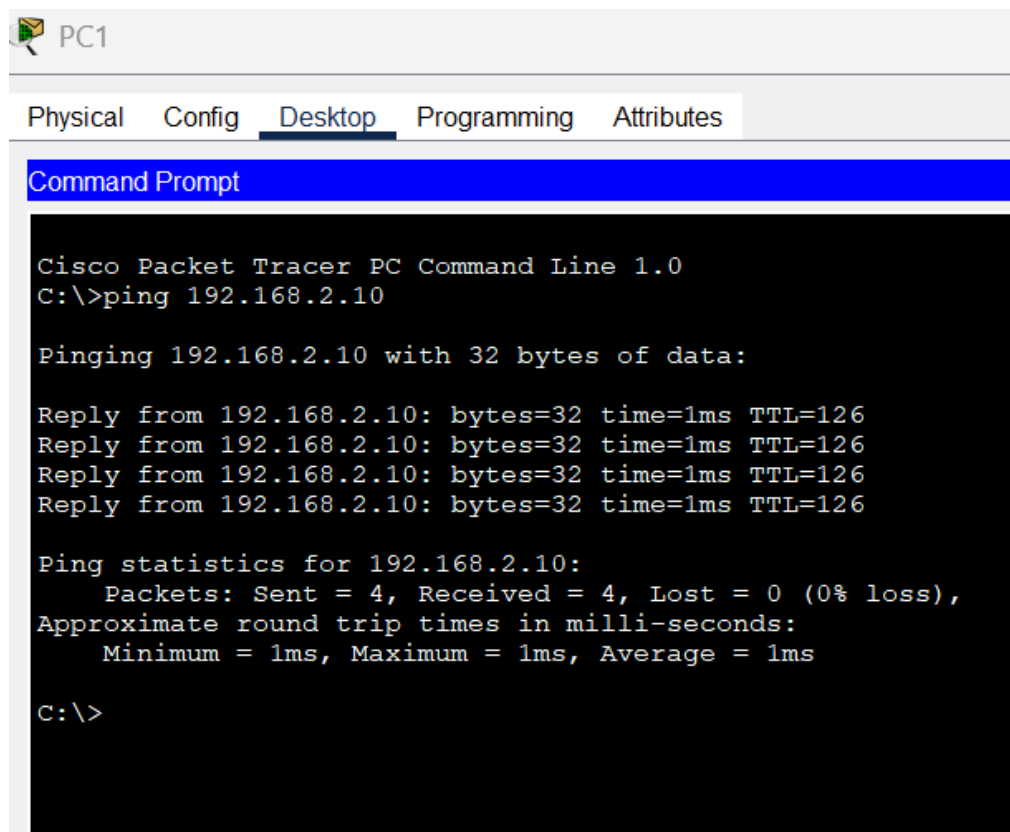
Router(config)#
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list 123 permit icmp host 192.168.1.20 192.168.2.0 0.0.0.255 echo
Router(config)#access-list 123 deny icmp 192.168.1.0 0.0.0.255 192.168.2.0 0.0.0.255 echo
Router(config)#access-list 123 permit ip any any
Router(config)#interface serial2/0
Router(config-if)#ip access-group 123 out
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#exit
```

Copy Paste

PC1 (CR) only communicates with Teacher:



PC1

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.10

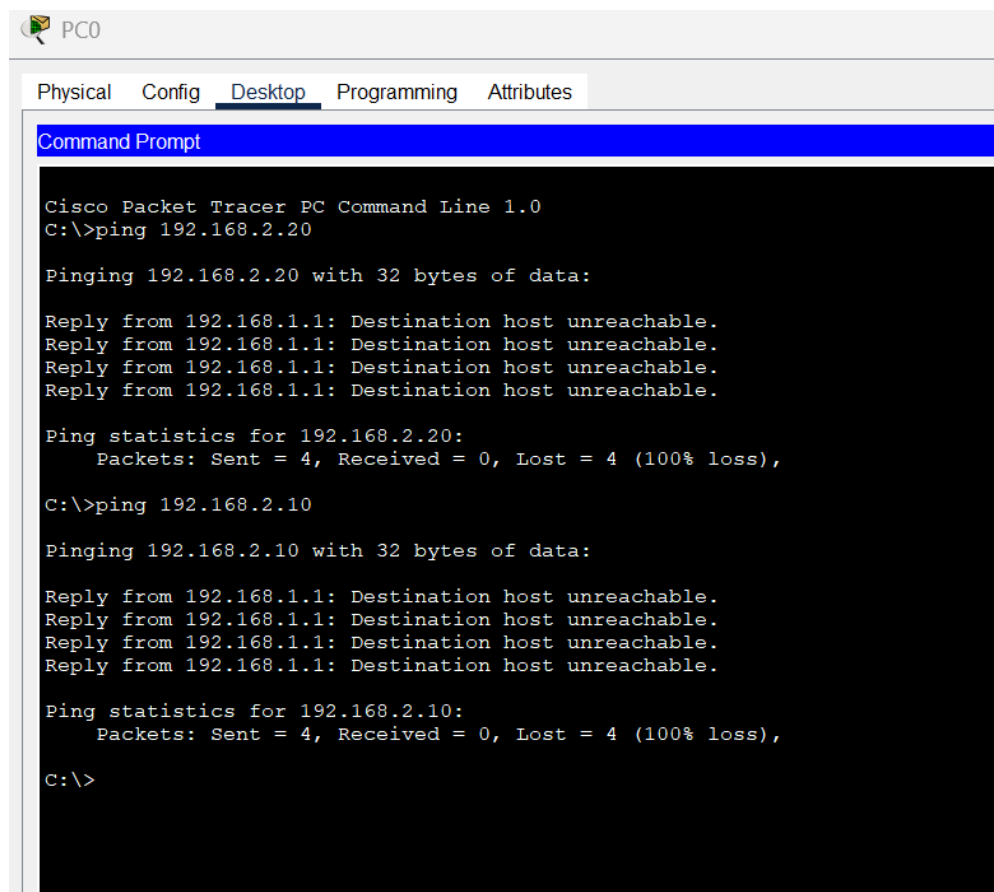
Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time=1ms TTL=126
Reply from 192.168.2.10: bytes=32 time=1ms TTL=126
Reply from 192.168.2.10: bytes=32 time=1ms TTL=126
Reply from 192.168.2.10: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>
```

Every other student device blocked:



PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.20

Pinging 192.168.2.20 with 32 bytes of data:

Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.

Ping statistics for 192.168.2.20:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.2.10

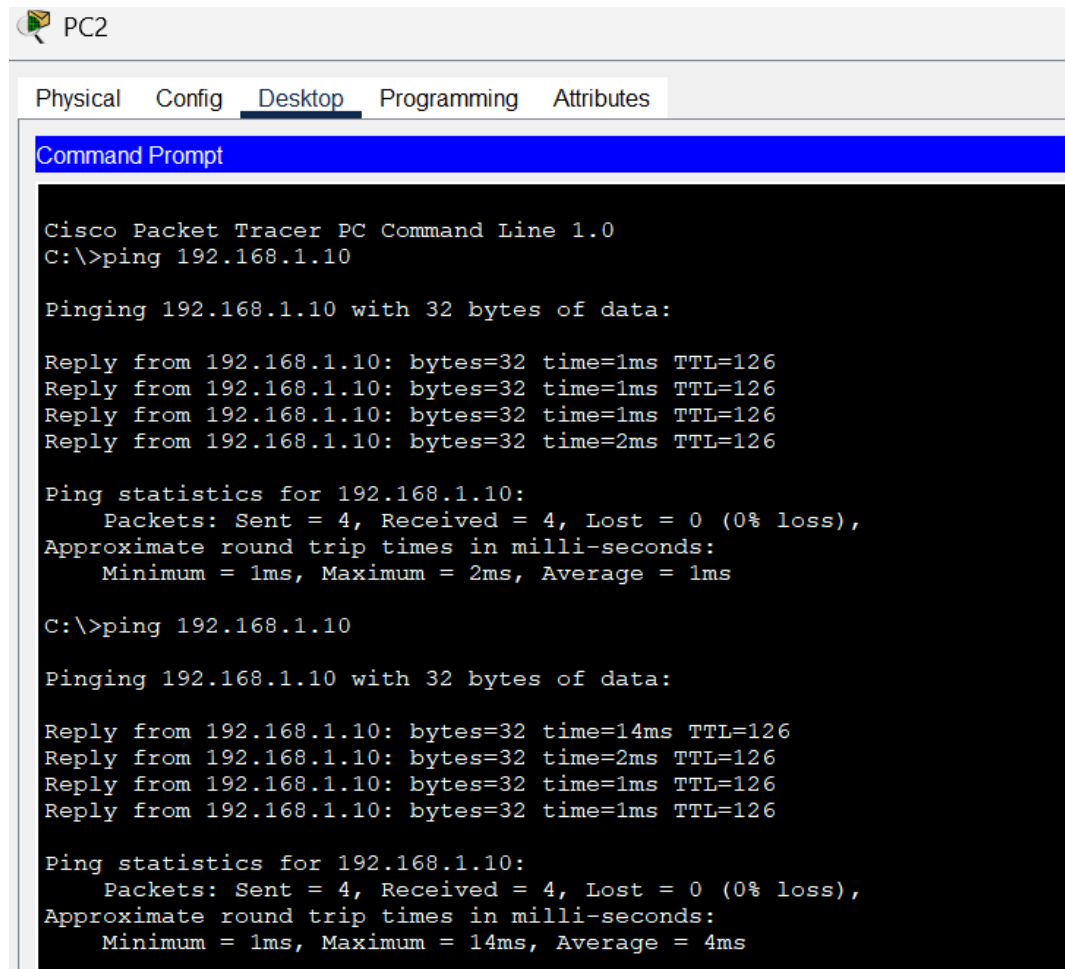
Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

Every teacher can communicate with the students:



PC2

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time=1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.1.10:
    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

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time=14ms TTL=126
Reply from 192.168.1.10: bytes=32 time=2ms TTL=126
Reply from 192.168.1.10: bytes=32 time=1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 14ms, Average = 4ms
```