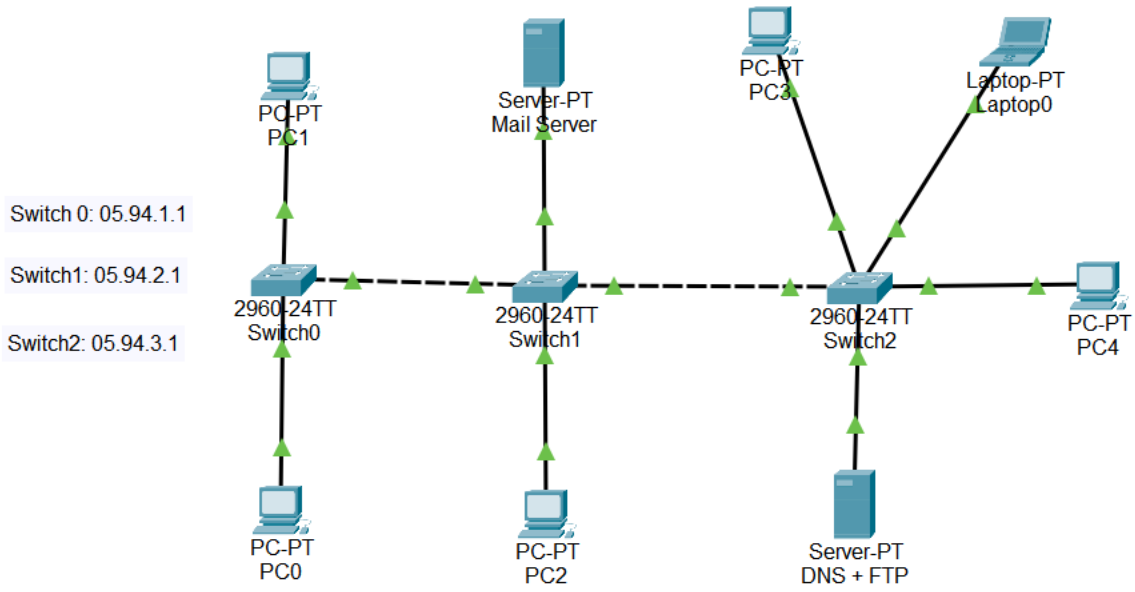
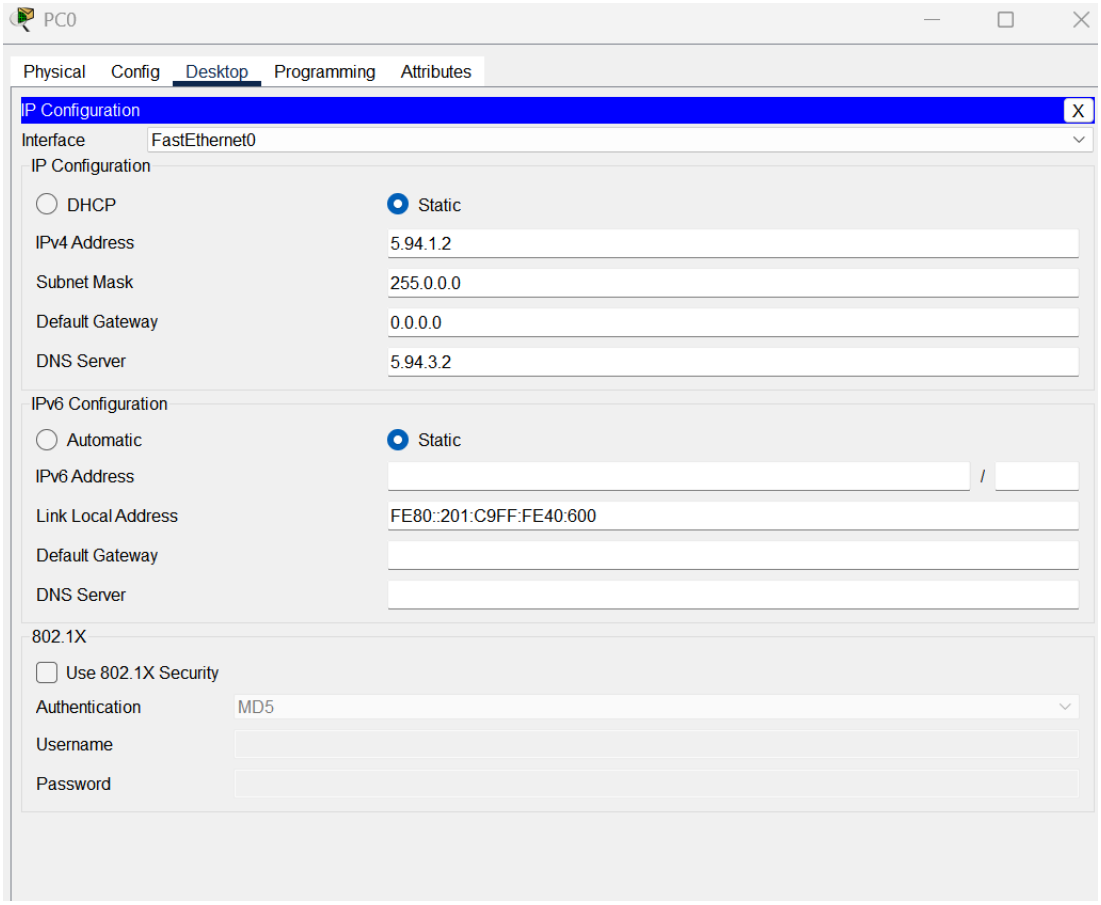
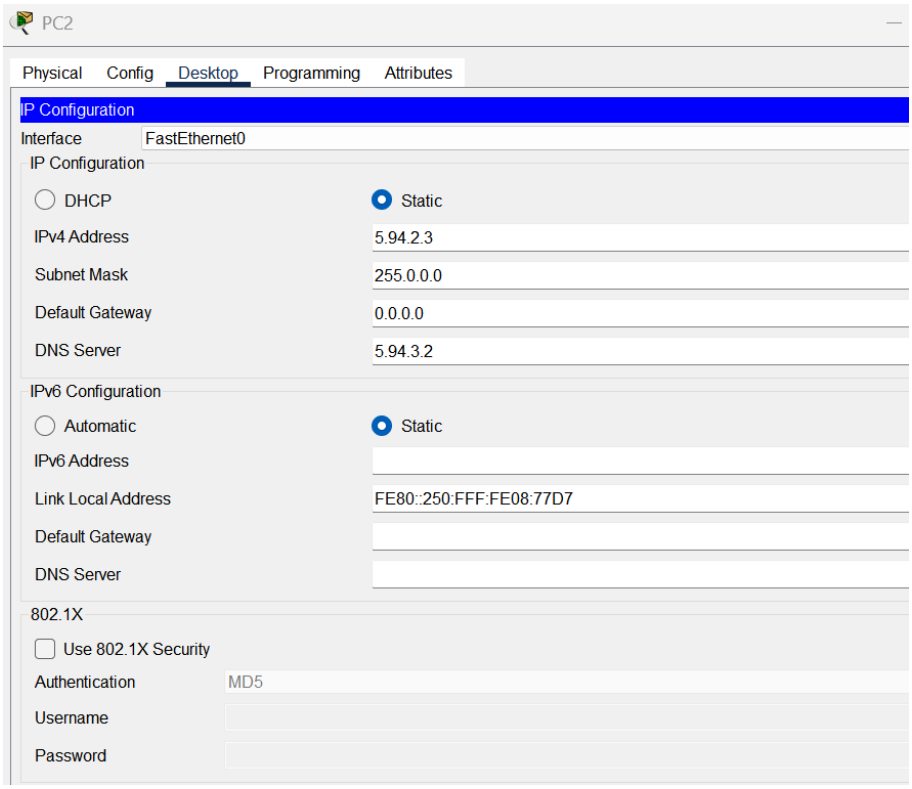
CN LAB 6

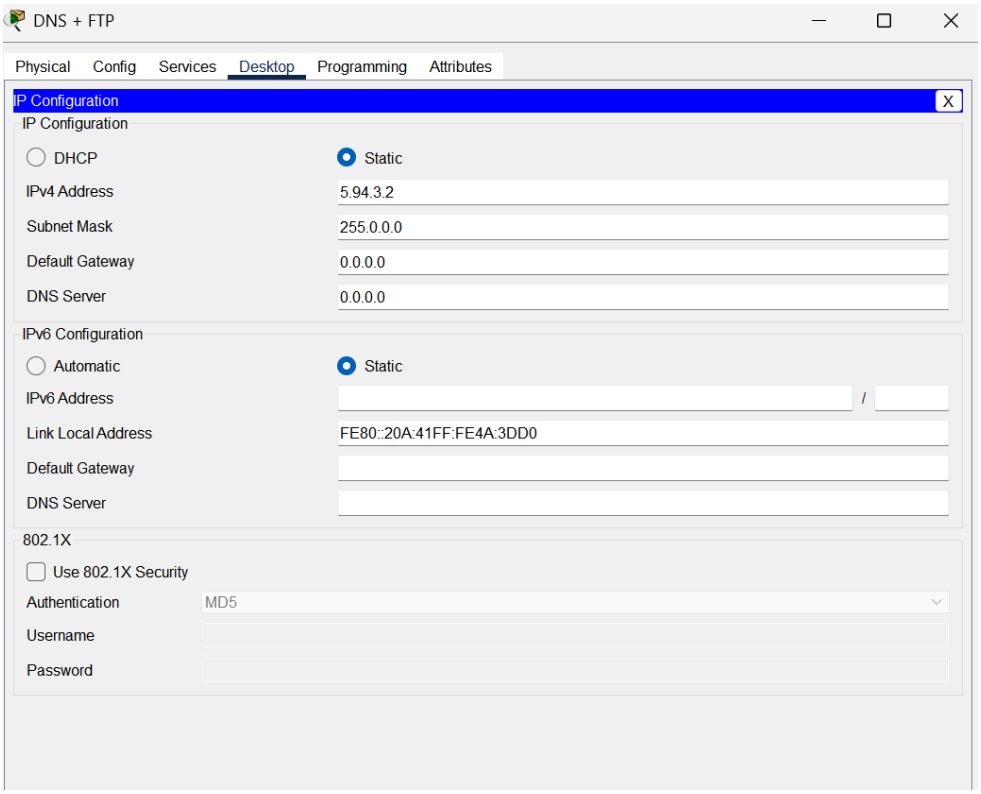
23K-0594

Task 1:

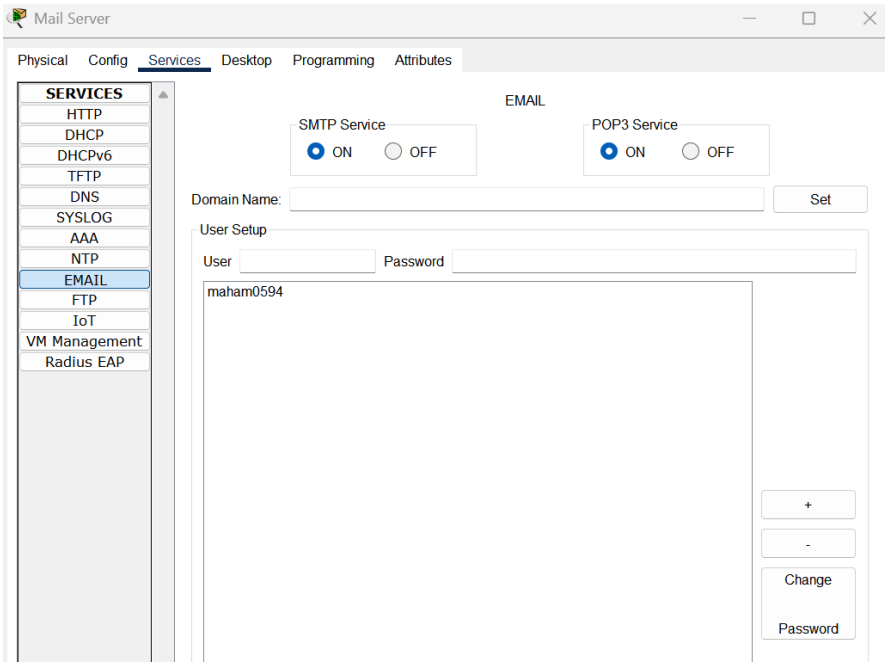








Similarly configuration done for other PCs



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
```

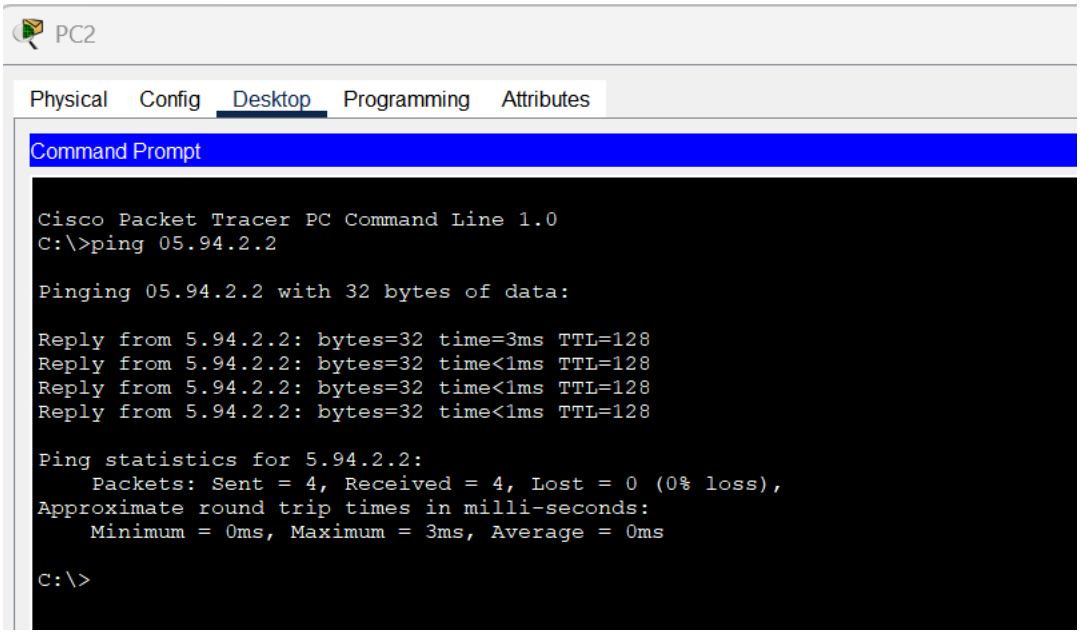
switch 1 configuration:

```
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:



Setting up all switches telnet:

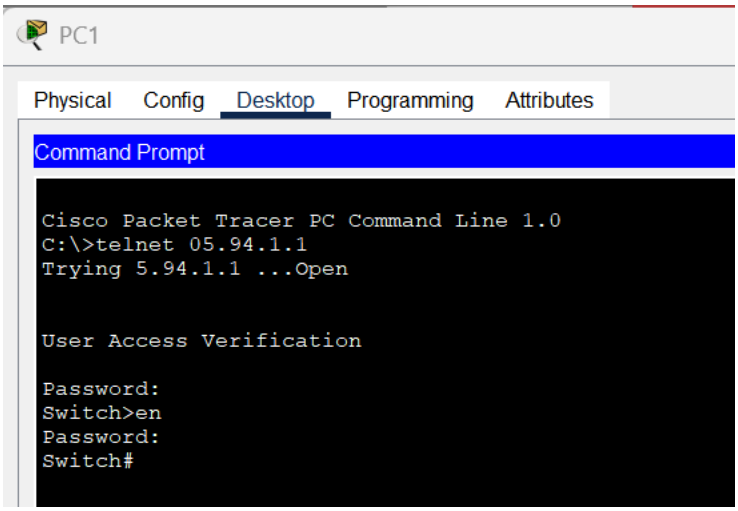
```
Switch>en
Switch#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#line vty 0 15
Switch(config-line)#password cisco
Switch(config-line)#login
Switch(config-line)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

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:

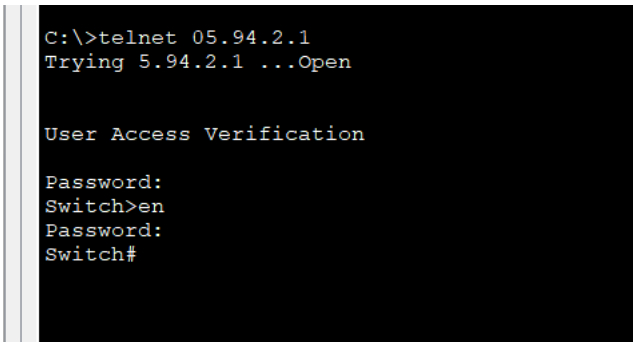
PC0:

```
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#
```

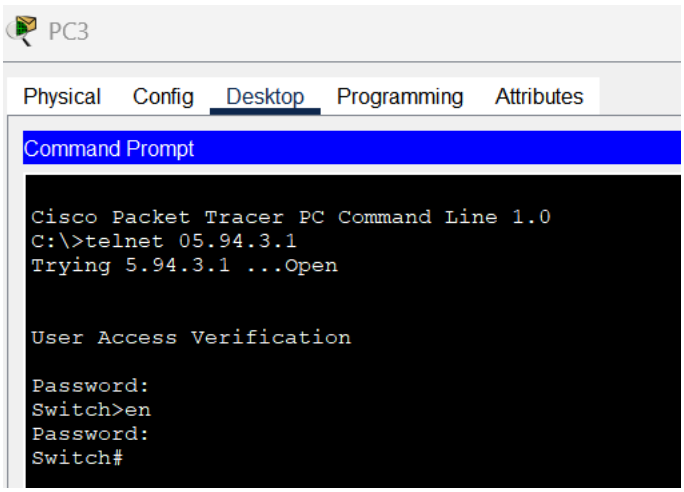
PC 1:


PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
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#

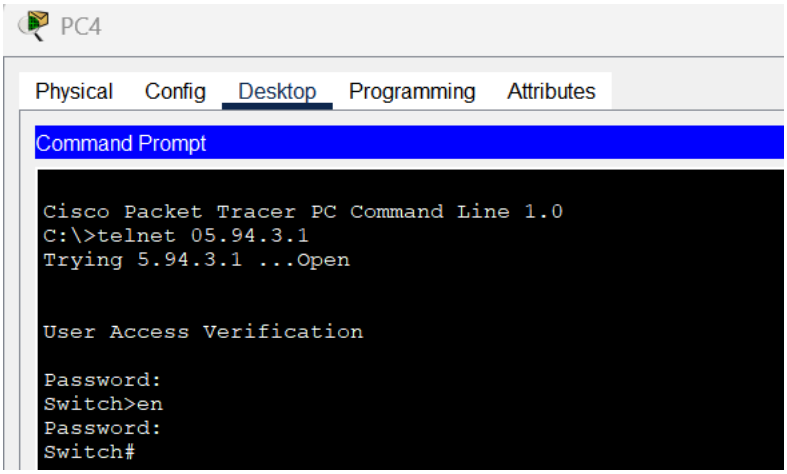
PC 2:


C:\>telnet 05.94.2.1
Trying 5.94.2.1 ...Open
User Access Verification
Password:
Switch>en
Password:
Switch#

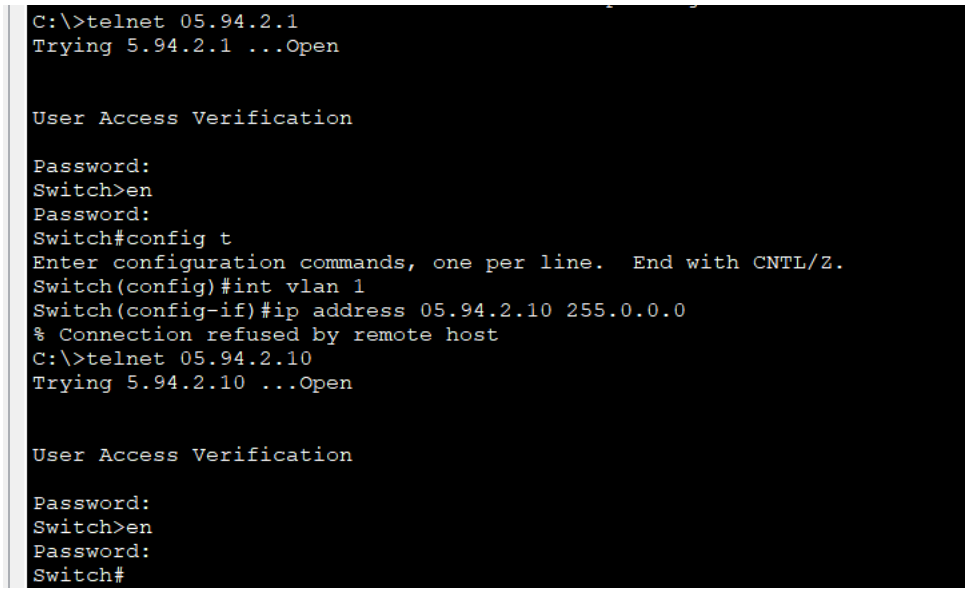
PC3:


PC3
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#

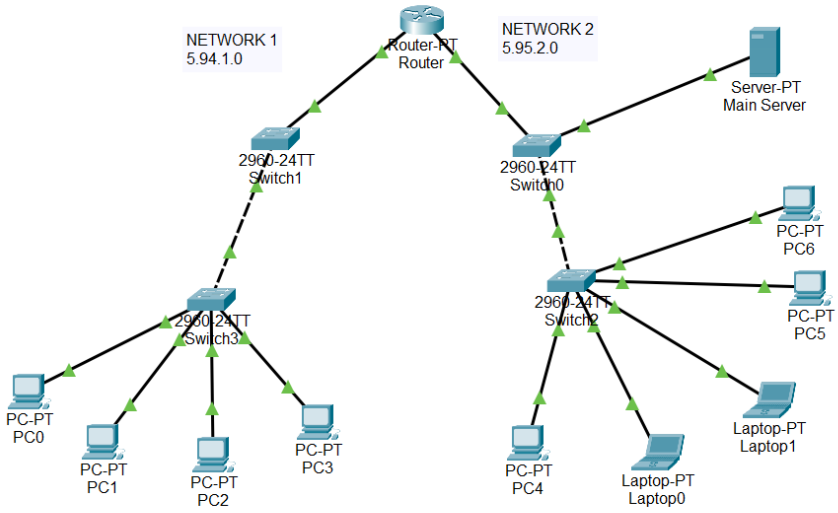
P4:



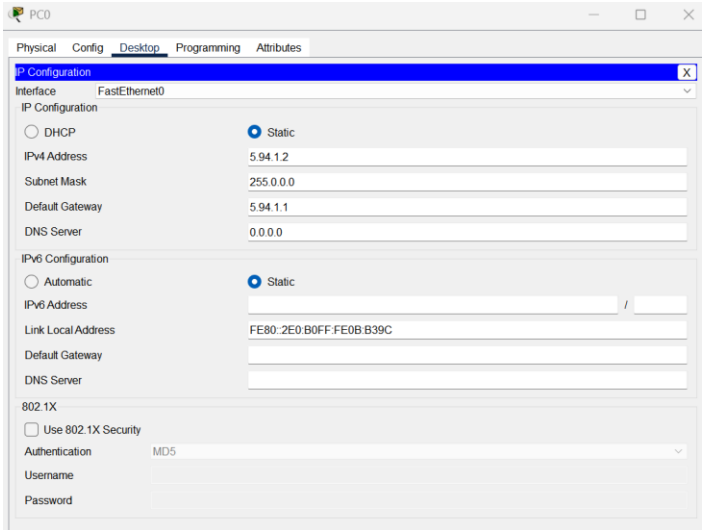
Changing IP of switch from PC 2:

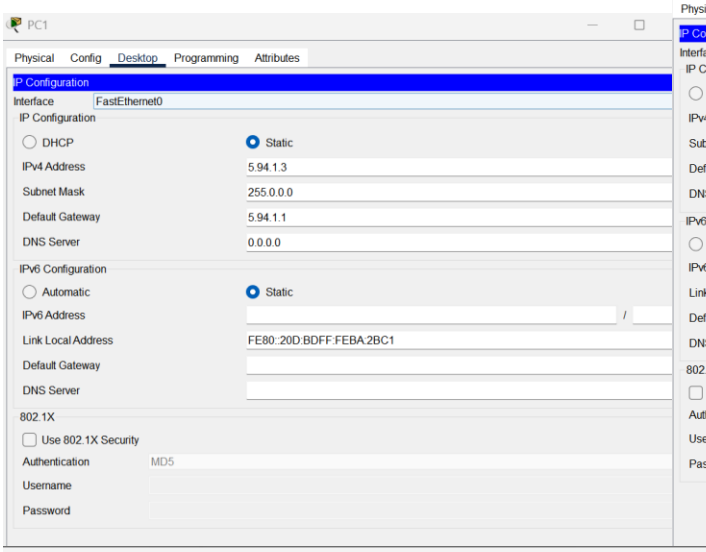


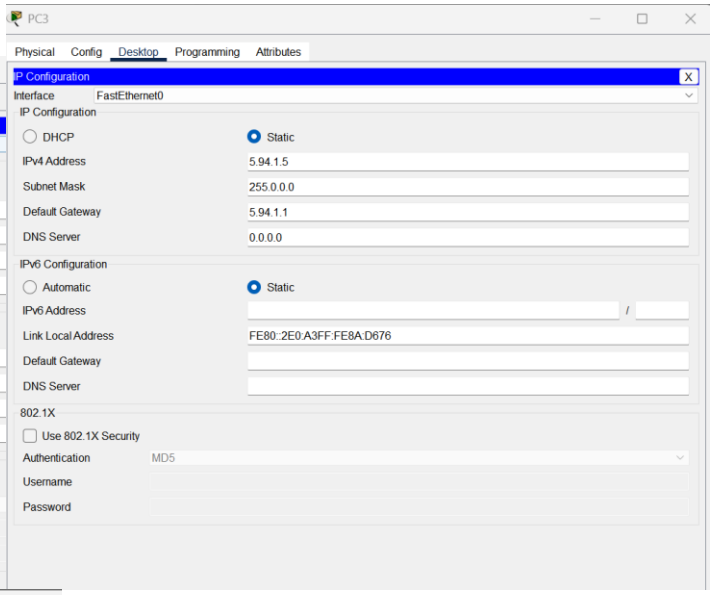
Task 2:

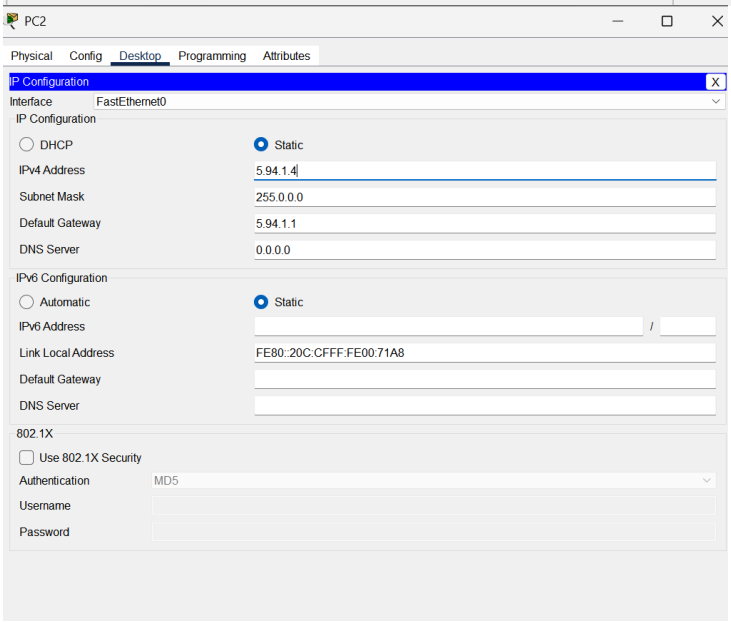


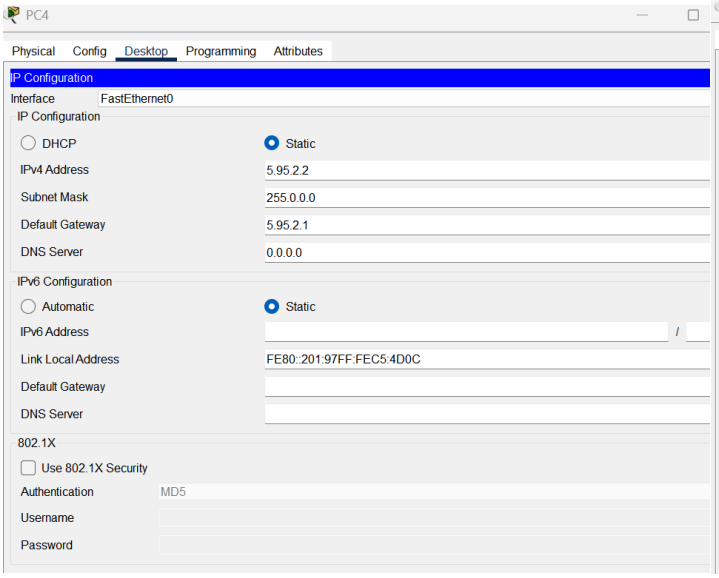
Configurations:

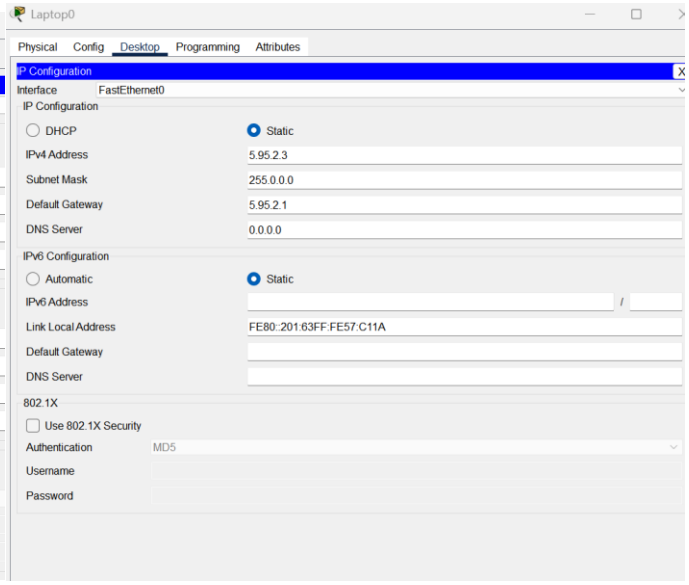


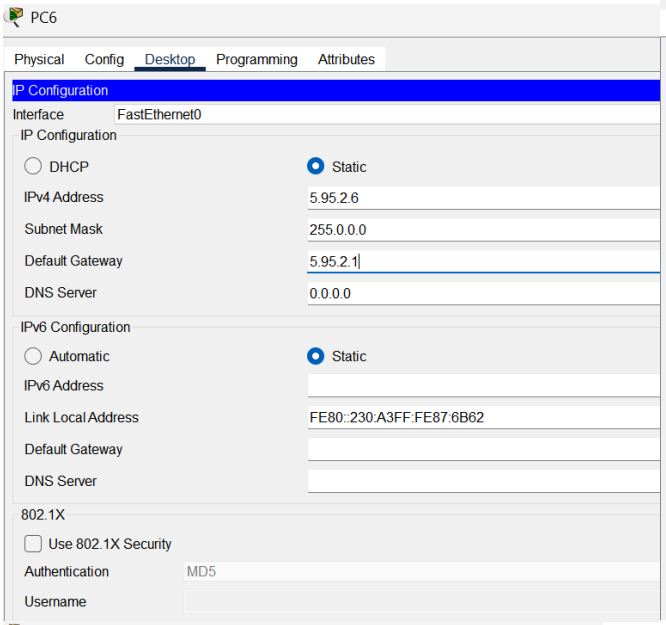


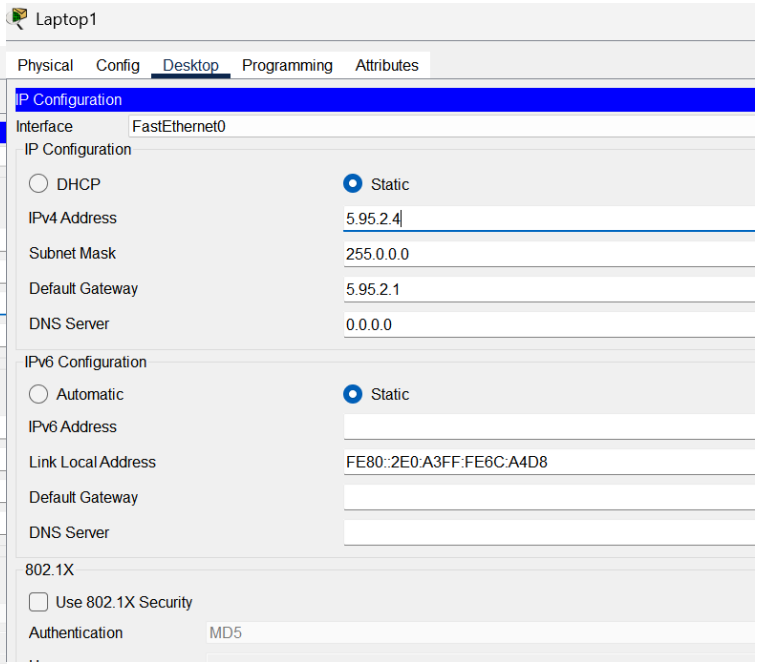


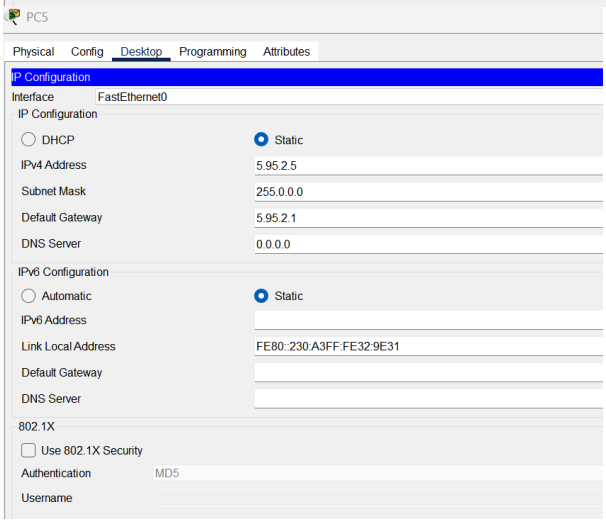


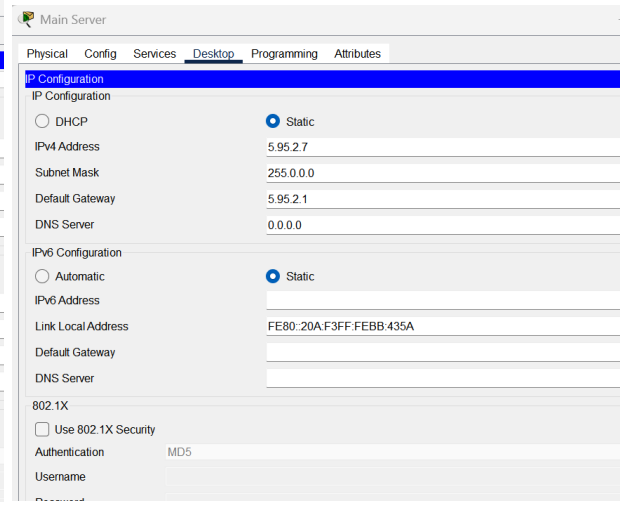

PC4
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address 5.95.2.2
Subnet Mask 255.0.0.0
Default Gateway 5.95.2.1
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::201:97FF:FEC5:4D0C
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication MD5
Username
Password

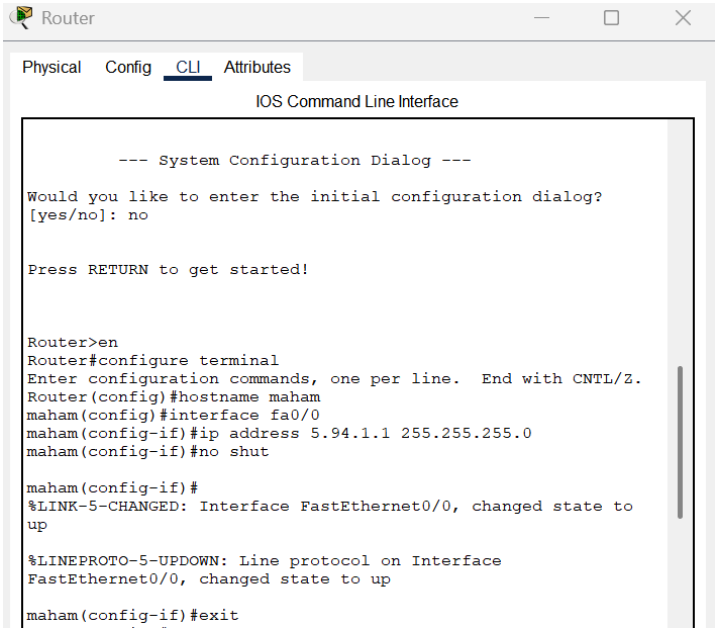

Laptop0
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address 5.95.2.3
Subnet Mask 255.0.0.0
Default Gateway 5.95.2.1
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::201:63FF:FE57:C11A
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication MD5
Username
Password

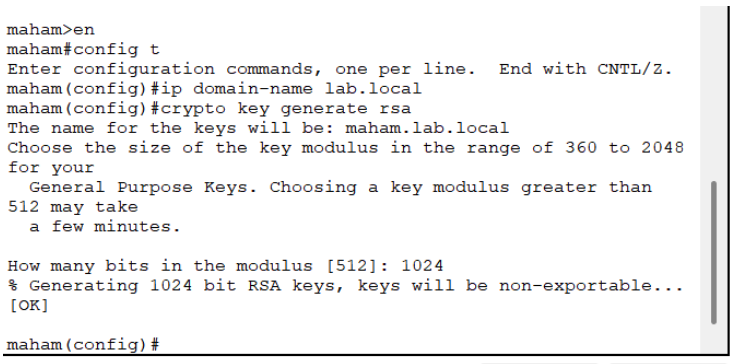

PC6
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address 5.95.2.6
Subnet Mask 255.0.0.0
Default Gateway 5.95.2.1
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::230:A3FF:FE87:6B62
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication MD5
Username

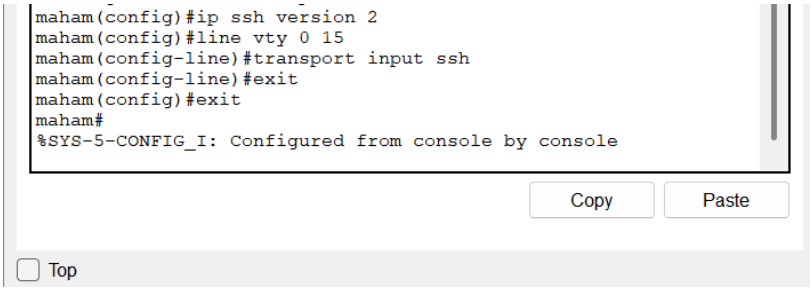

Laptop1
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address 5.95.2.4
Subnet Mask 255.0.0.0
Default Gateway 5.95.2.1
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::2E0:A3FF:FE6C:A4D8
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication MD5

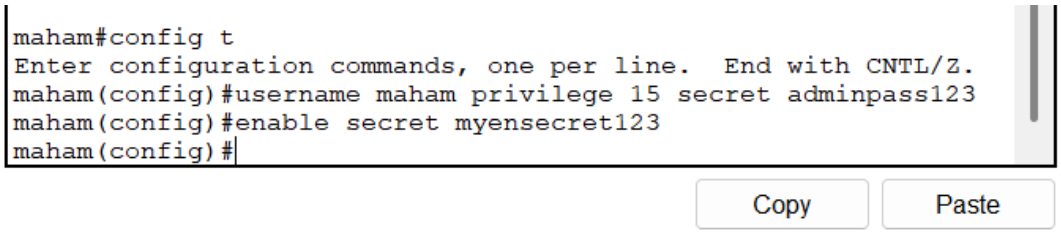

PC5
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address 5.95.2.5
Subnet Mask 255.0.0.0
Default Gateway 5.95.2.1
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::230:A3FF:FE32:9E31
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication MD5
Username

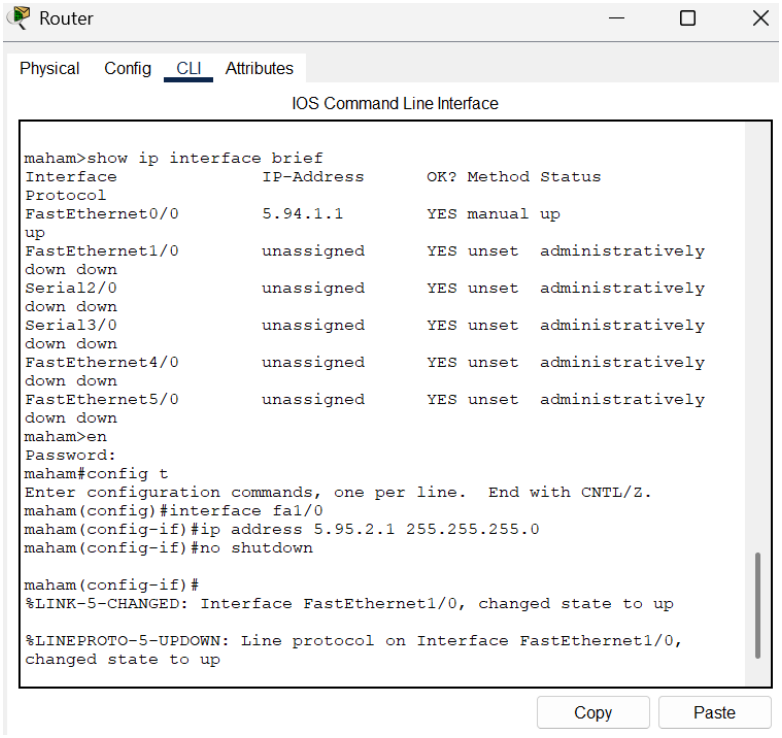

Main Server
Physical Config Services Desktop Programming Attributes
IP Configuration
IP Configuration
DHCP
Static
IPv4 Address 5.95.2.7
Subnet Mask 255.0.0.0
Default Gateway 5.95.2.1
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::20A:F3FF:FEBB:435A
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication MD5
Username


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

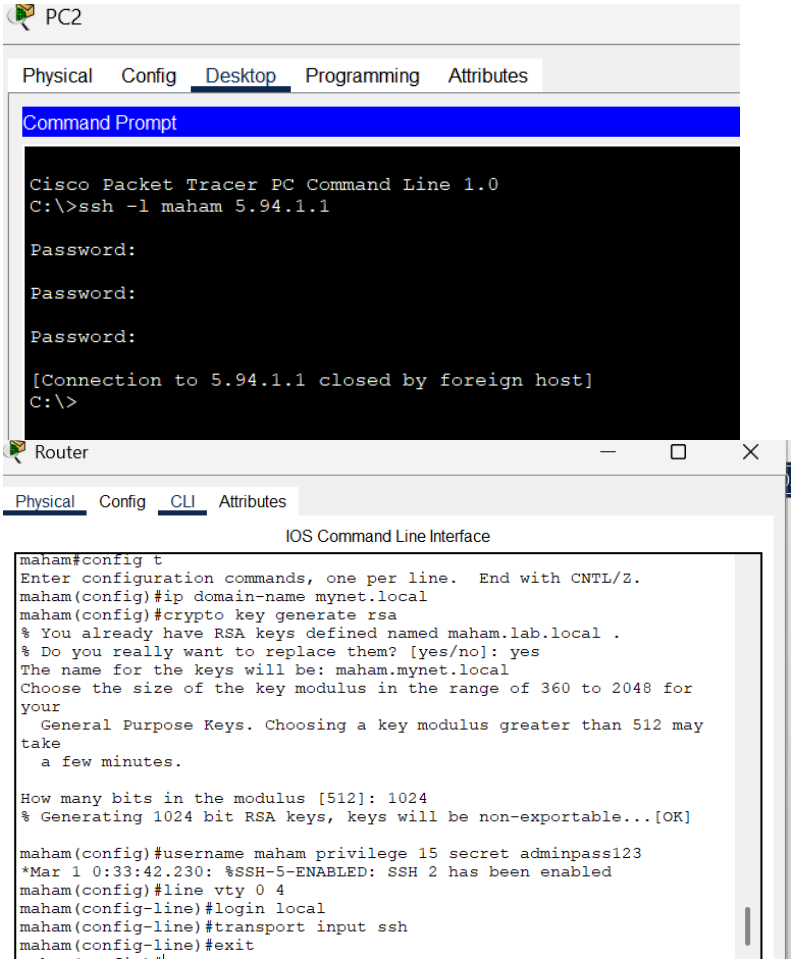

maham>en
maham#config t
Enter configuration commands, one per line. End with CNTL/Z.
maham(config)#ip domain-name lab.local
maham(config)#crypto key generate rsa
The name for the keys will be: maham.lab.local
Choose the size of the key modulus in the range of 360 to 2048 for your
General Purpose Keys.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

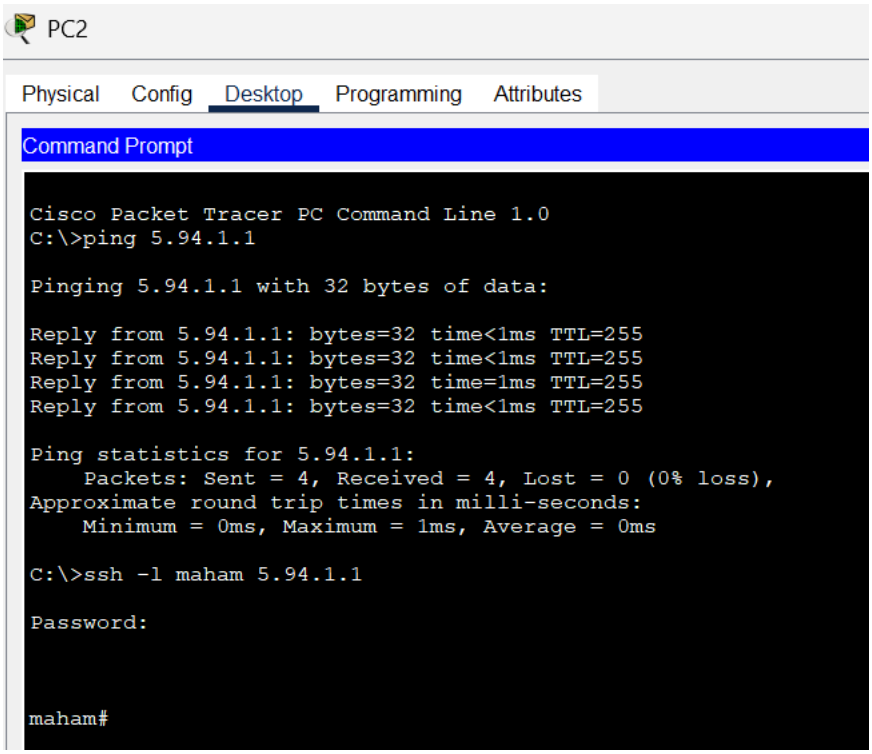

maham#config t
Enter configuration commands, one per line. End with CNTL/Z.
maham(config)#username maham privilege 15 secret adminpass123
maham(config)#enable secret myensecret123
maham(config)#
Copy
Paste



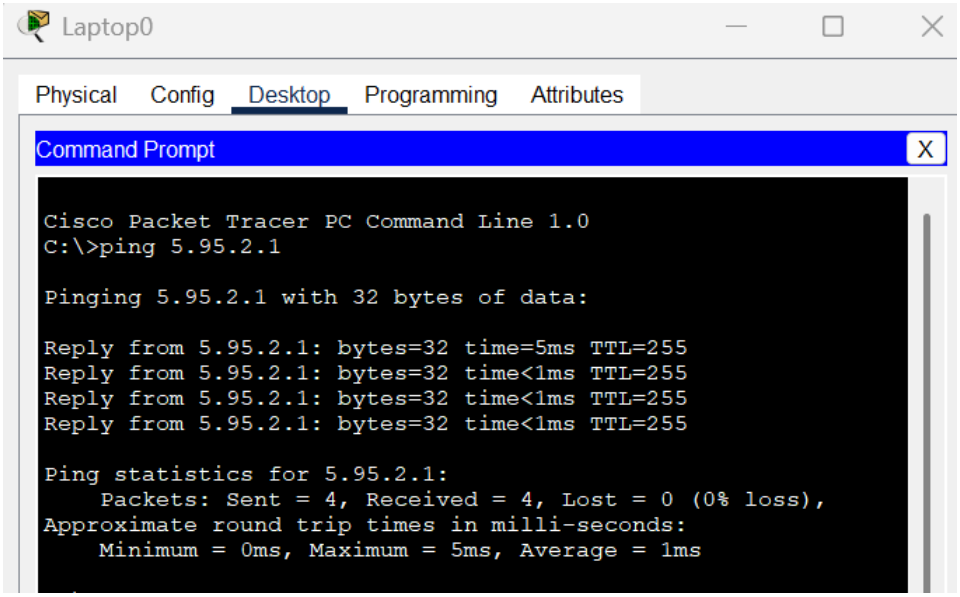
Since this error was given tried redefining rsa keys.

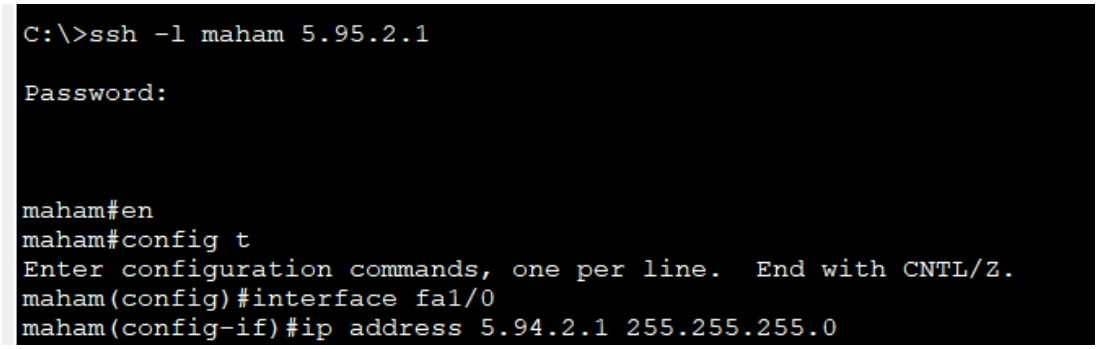


Worked fine then:



Verifying ssh and changing ip address:

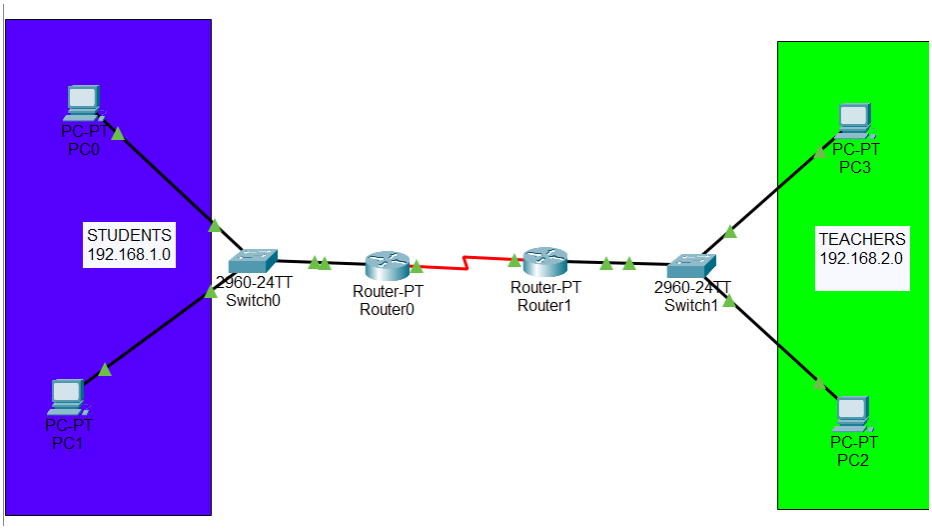




```
maham#show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol
FastEthernet0/0            5.94.1.1        YES manual up                    up
FastEthernet1/0            5.94.2.1        YES manual up                    up
Serial2/0                  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
```

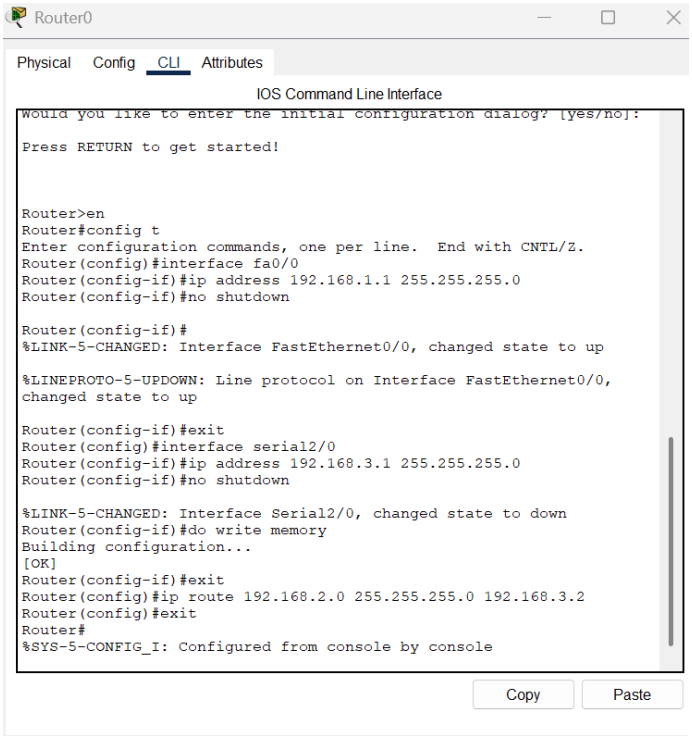
LAB 6B

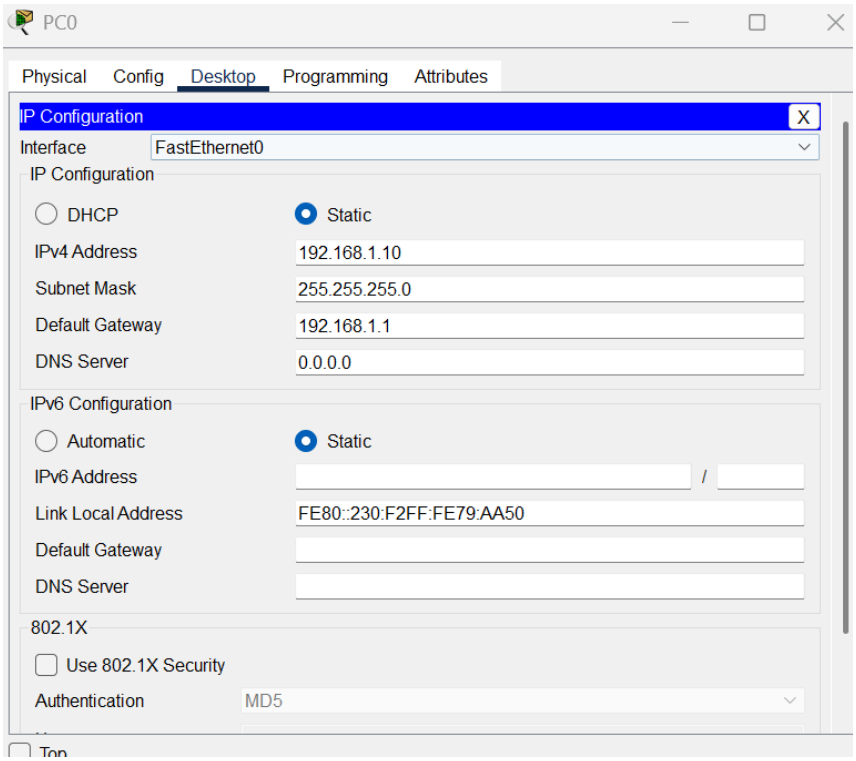
Task 3:

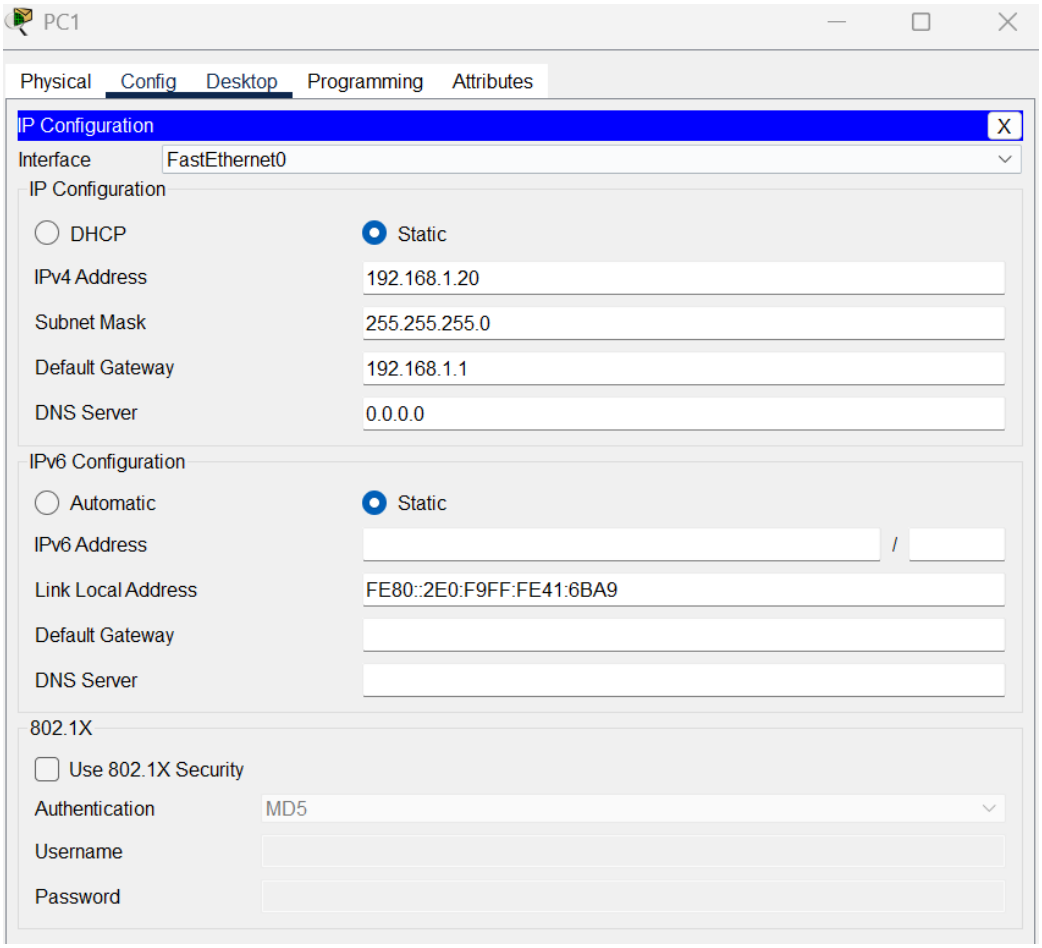


Configurations:

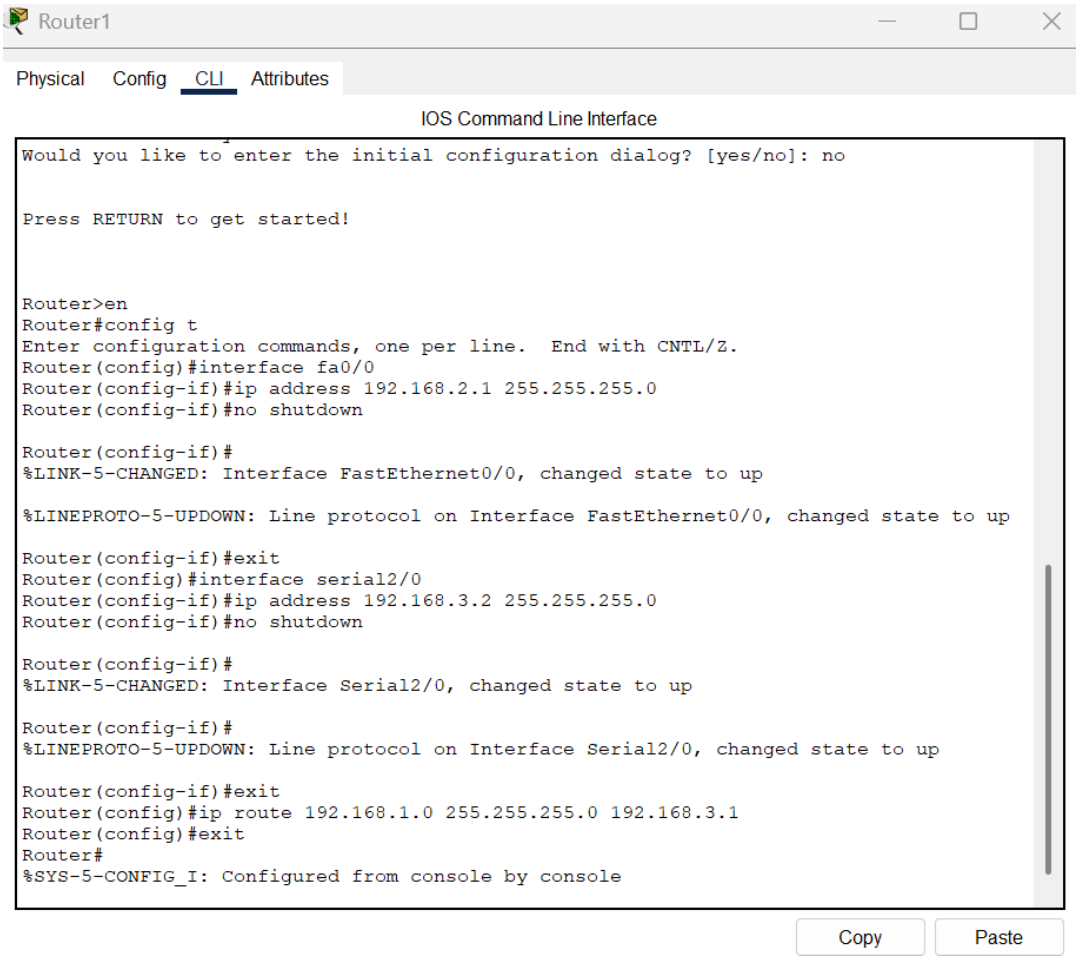
Student side:

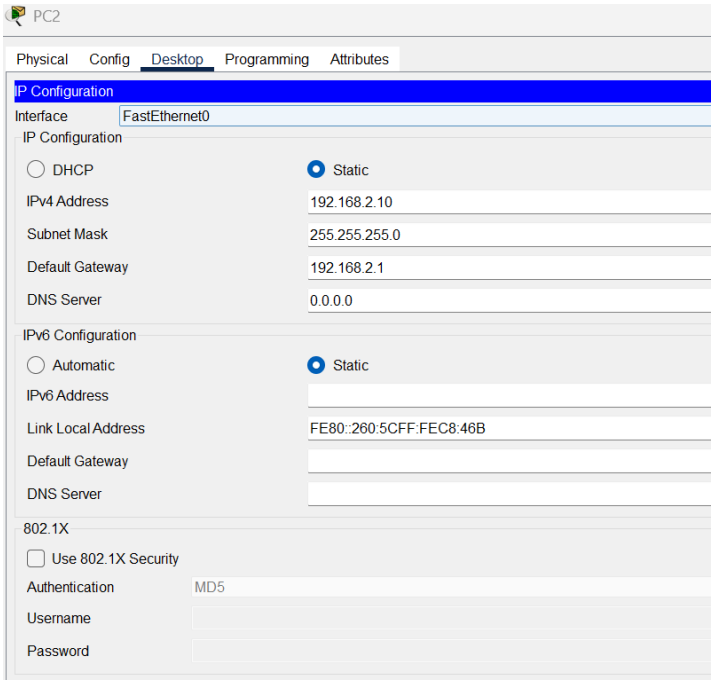


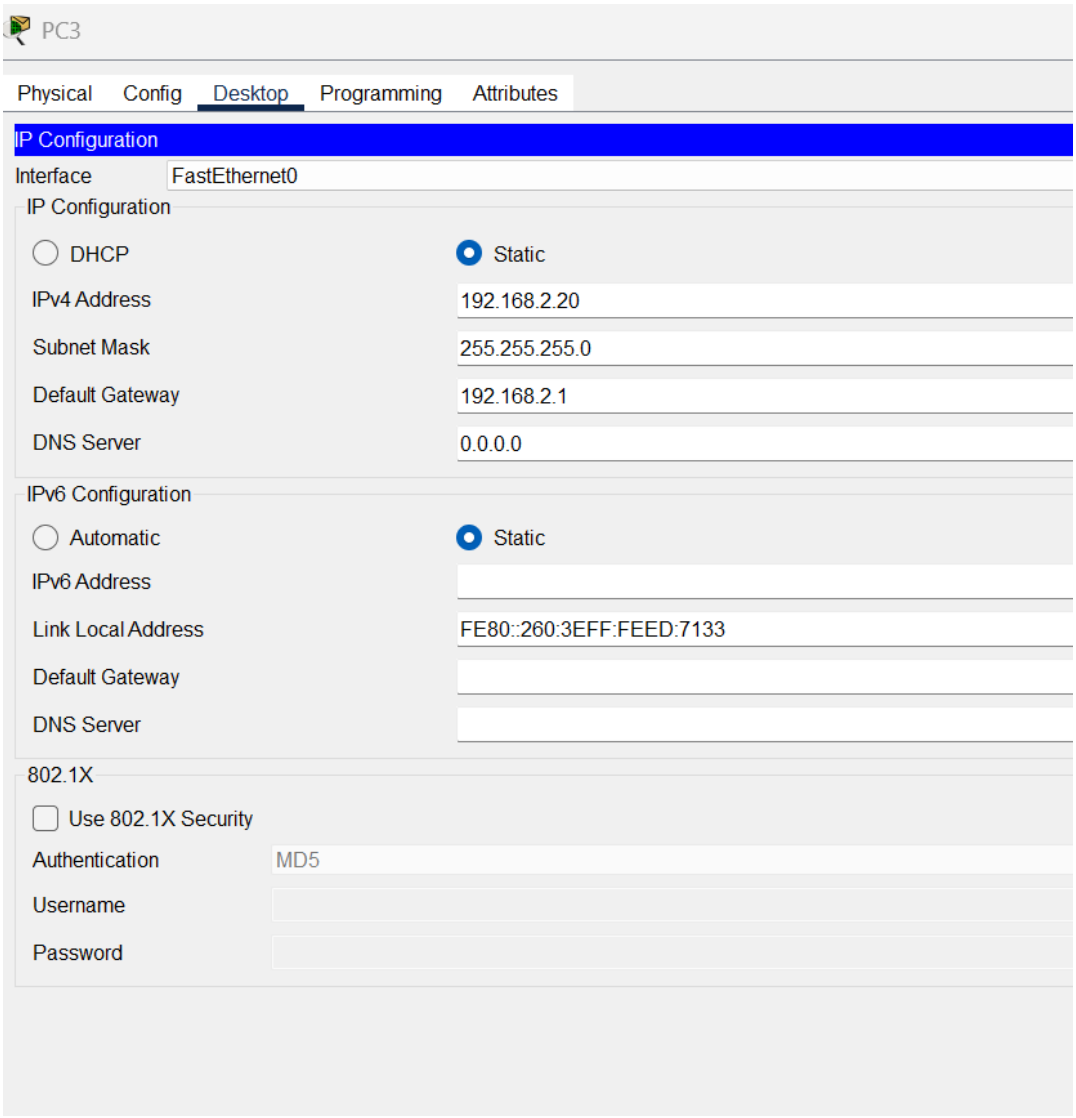

PC0
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
192.168.1.10
Subnet Mask
255.255.255.0
Default Gateway
192.168.1.1
DNS Server
0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
/
Link Local Address
FE80::230:F2FF:FE79:AA50
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Top


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

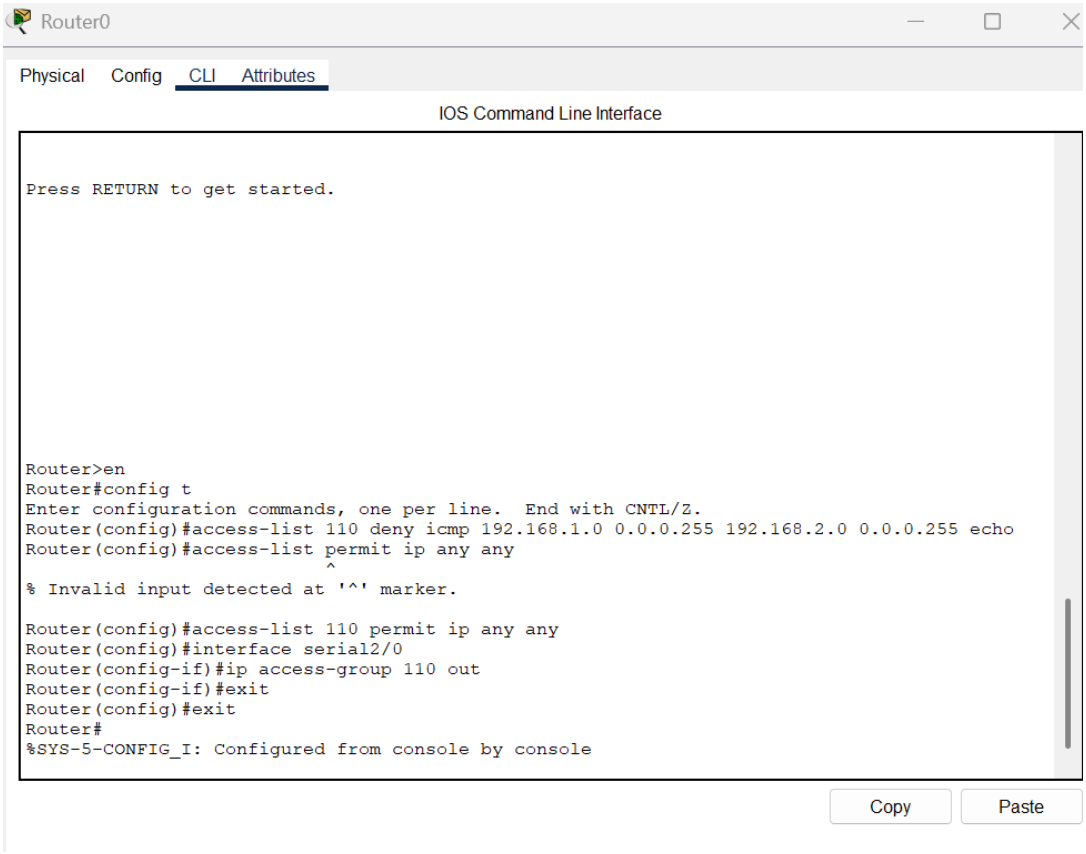
Teacher side:



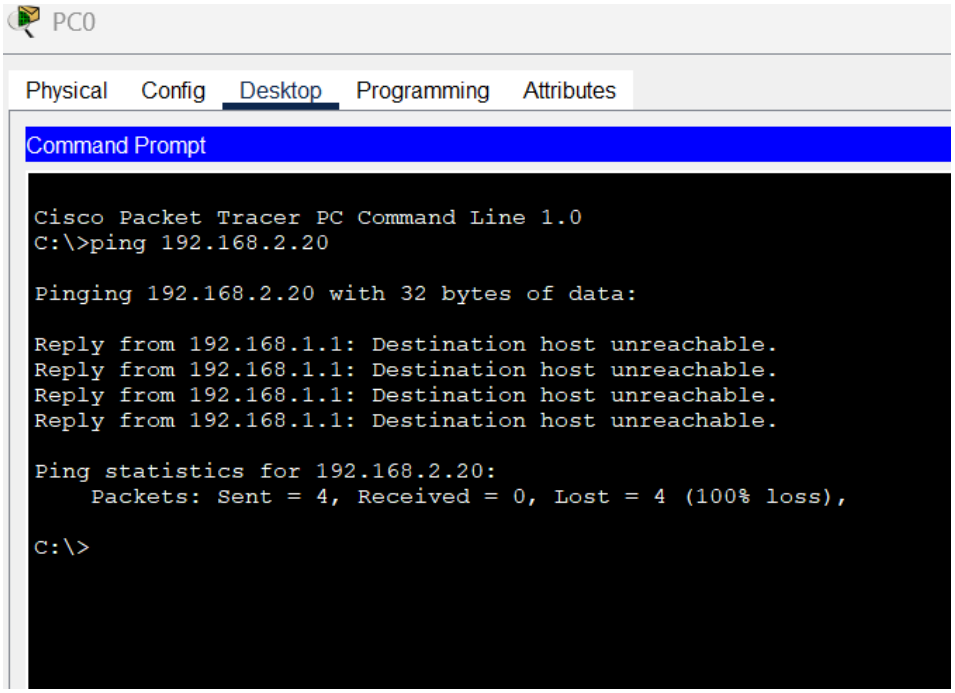



PC3
Physical
Config
Desktop
Programming
Attributes
IP Configuration
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
192.168.2.20
Subnet Mask
255.255.255.0
Default Gateway
192.168.2.1
DNS Server
0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address
FE80::260:3EFF:FEED:7133
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password

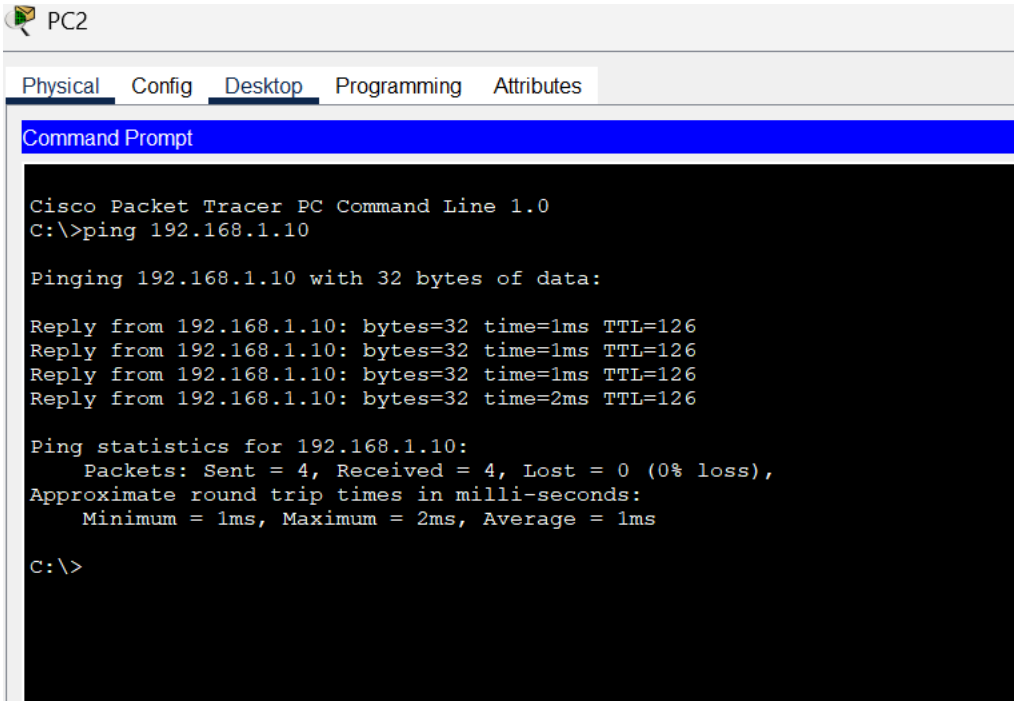
1) Preventing PCs in the Students network from communicating with any device in the Teachers network. But, Teachers should be able to communicate with the Students.



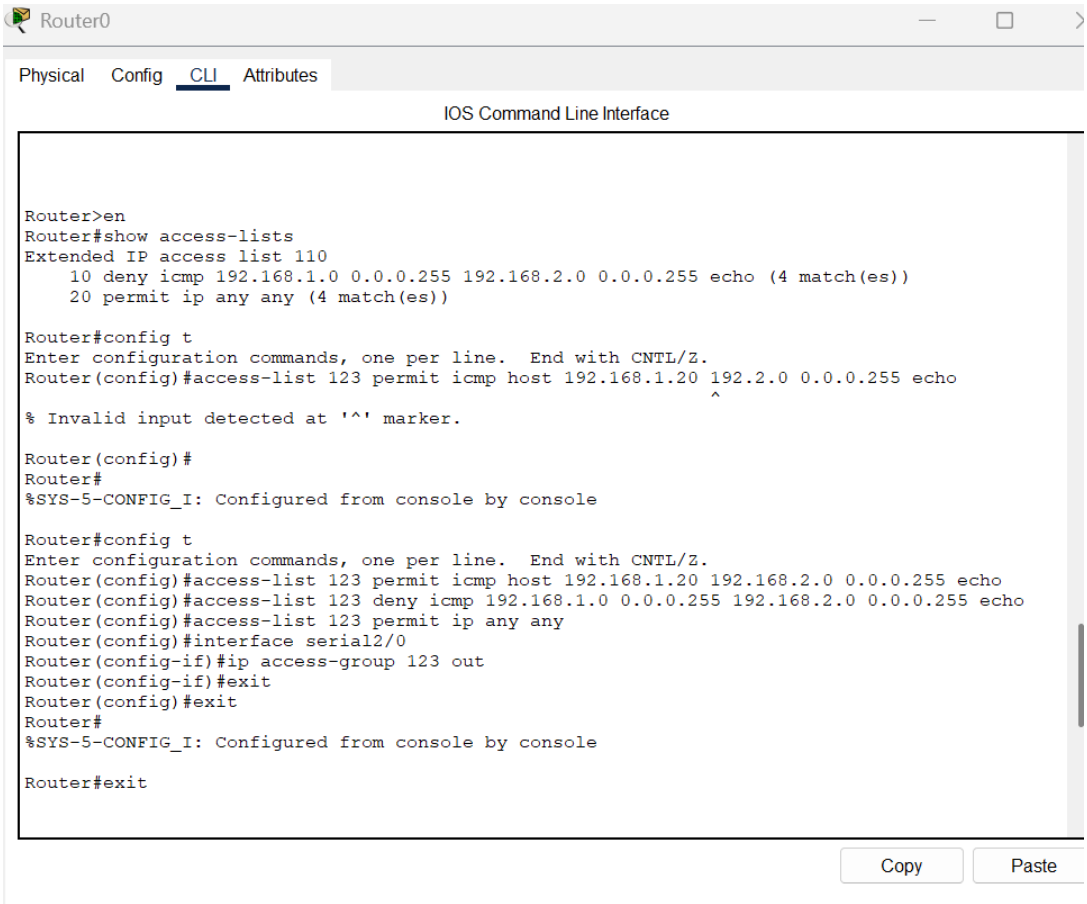
STUDENT (PC0) → TEACHER (PC3)



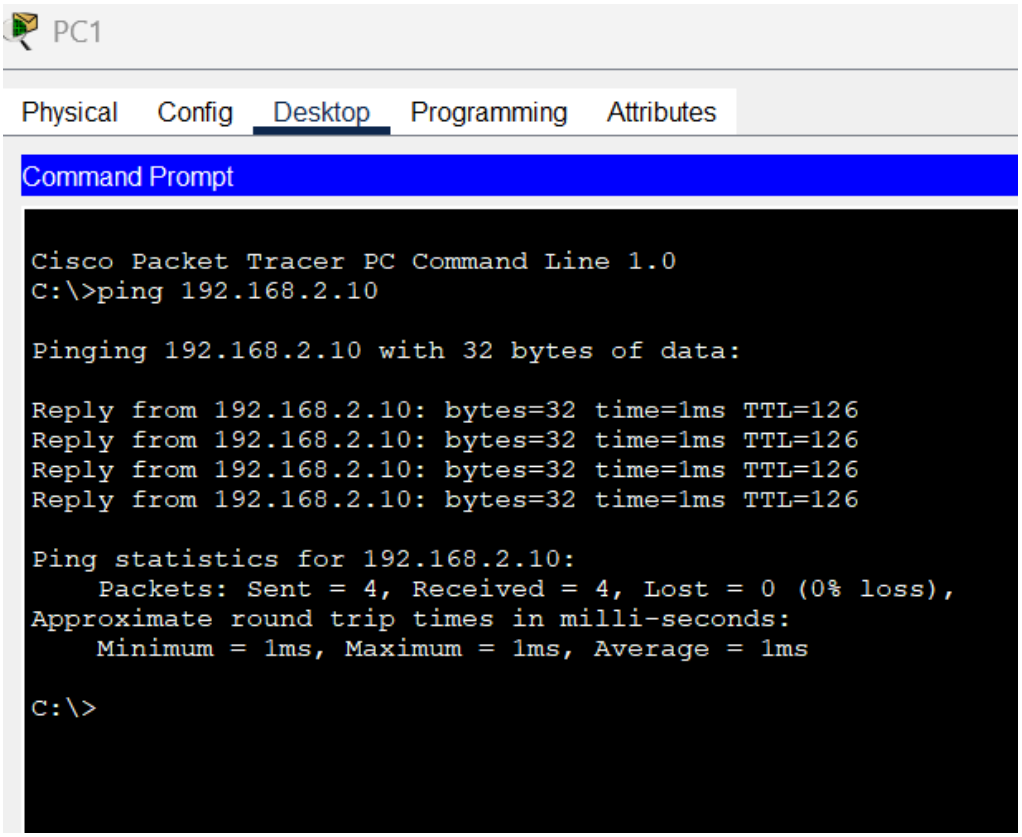
TEACHERS(PC2) → STUDENT(PC0)



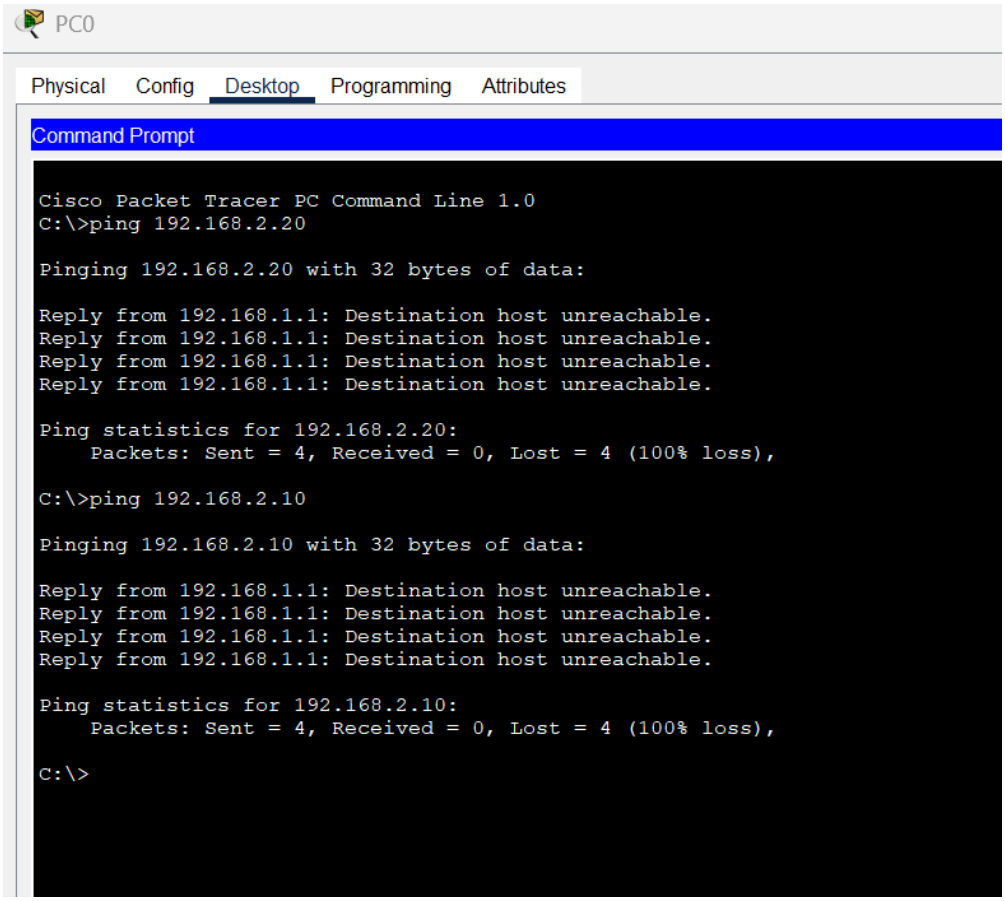
2) Only allowing any one PC in the STUDENTS network (for example: as a CR communicates with teachers) to access and communicate with the Teachers network, blocking every other device in the Students network.



PC1 (CR) only communicates with Teacher:



Every other student device blocked:



Every teacher can communicate with the students: