

Министерство образования Республики Беларусь

Учреждение образования
БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
ИНФОРМАТИКИ И РАДИОЭЛЕКТРОНИКИ

Факультет компьютерных систем и сетей

Кафедра электронных вычислительных машин

Дисциплина: Оборудование компьютерных сетей

ОТЧЕТ
по лабораторной работе № 5

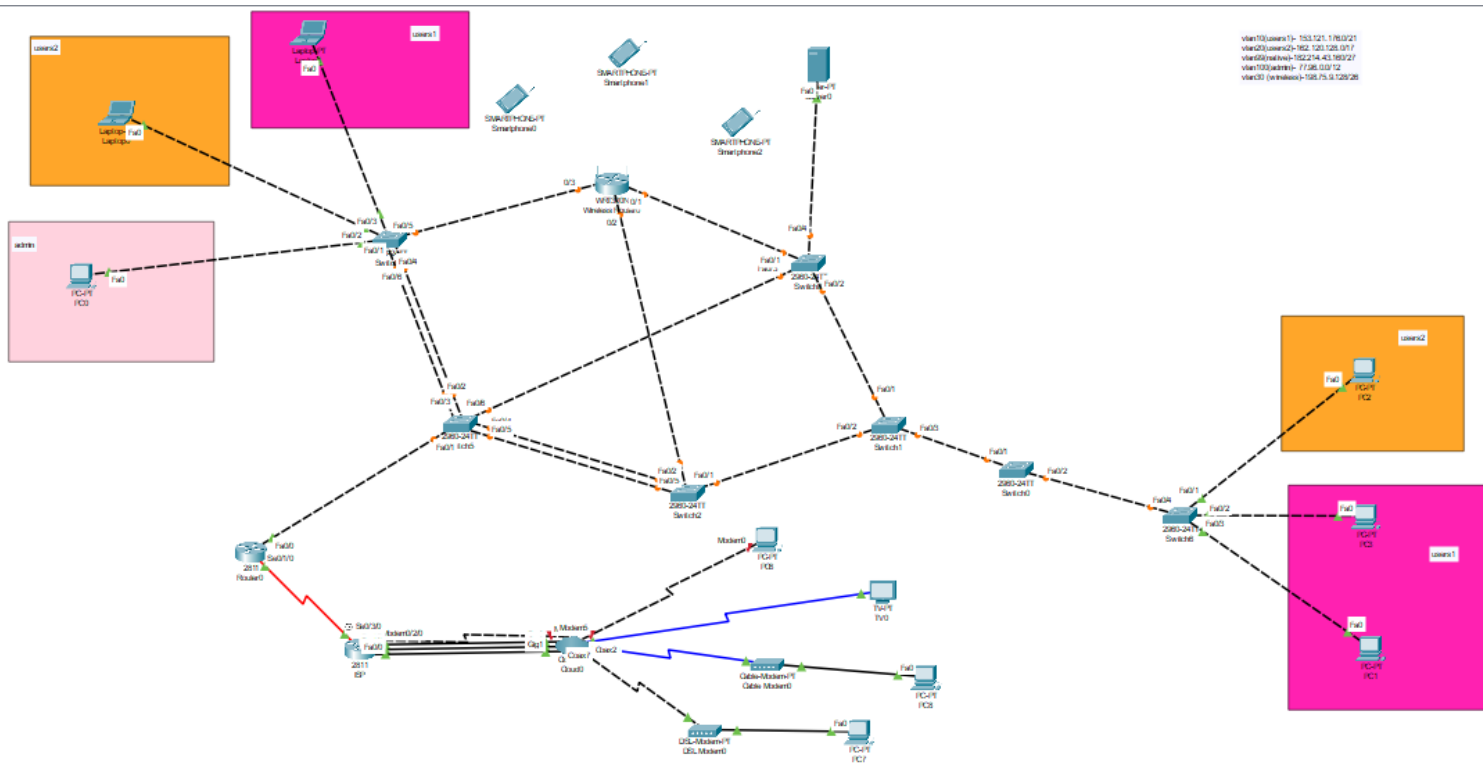
ВАРИАНТ № 112

Студент:

Преподаватель:

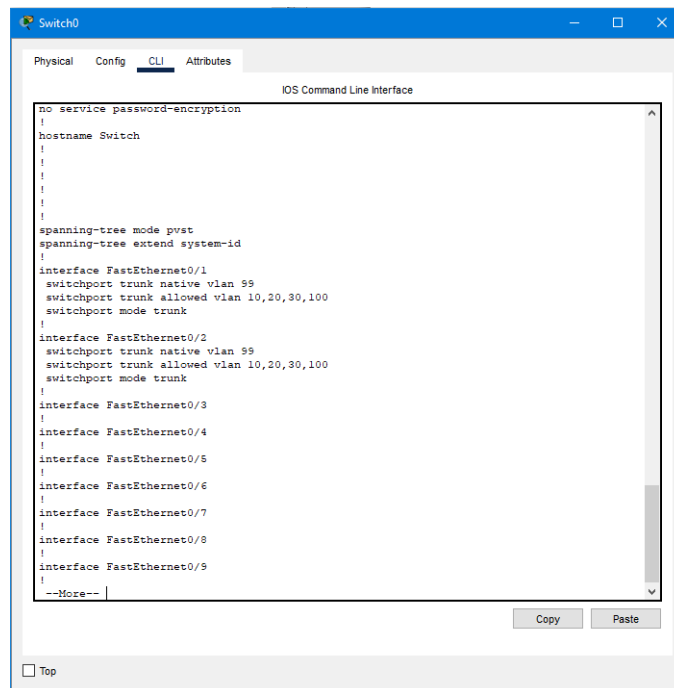
МИНСК 2024

1. Реализация топологии в Cisco Packet Tracer



2. Рабочие конфигурации

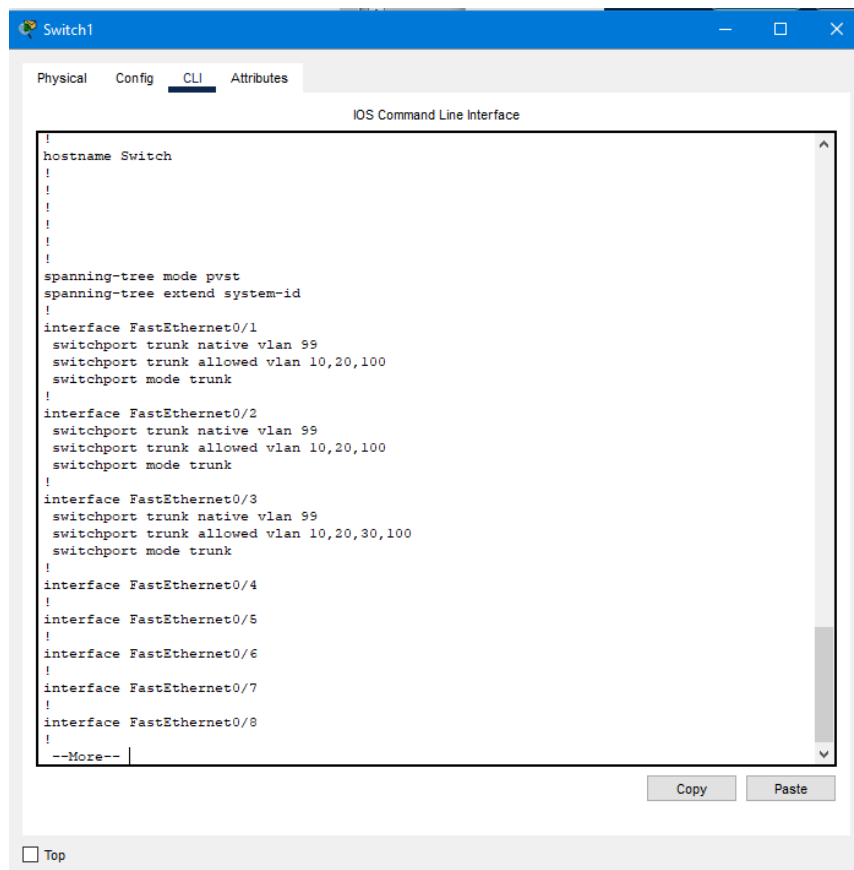
Switch0



```
Switch0
Physical Config CLI Attributes
IOS Command Line Interface

no service password-encryption
!
hostname Switch
!
!
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,30,100
switchport mode trunk
!
interface FastEthernet0/2
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,30,100
switchport mode trunk
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
--More--
Copy Paste
☐ Top
```

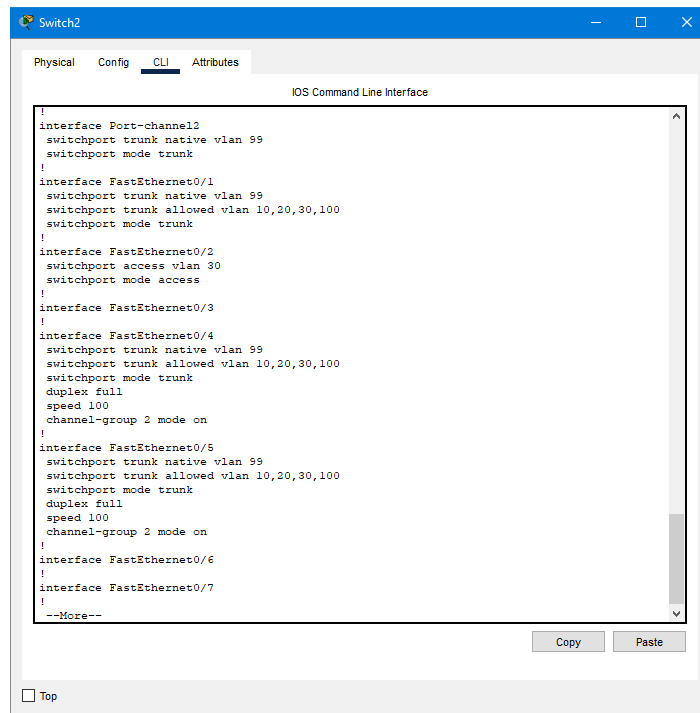
Switch1



```
Switch1
Physical Config CLI Attributes
IOS Command Line Interface

!
hostname Switch
!
!
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,100
switchport mode trunk
!
interface FastEthernet0/2
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,100
switchport mode trunk
!
interface FastEthernet0/3
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,30,100
switchport mode trunk
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
--More--
Copy Paste
☐ Top
```

Switch2



Switch2

Physical Config **CLI** Attributes

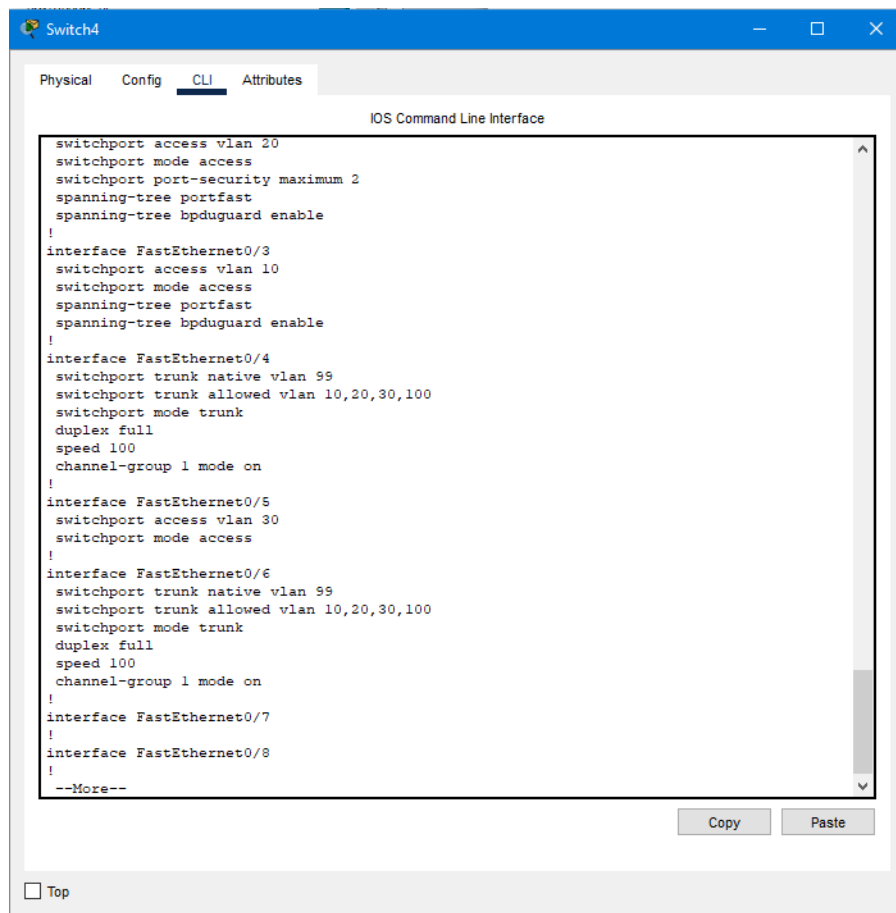
IOS Command Line Interface

```
!
interface Port-channel12
  switchport trunk native vlan 99
  switchport mode trunk
!
interface FastEthernet0/1
  switchport trunk native vlan 99
  switchport trunk allowed vlan 10,20,30,100
  switchport mode trunk
!
interface FastEthernet0/2
  switchport access vlan 30
  switchport mode access
!
interface FastEthernet0/3
!
interface FastEthernet0/4
  switchport trunk native vlan 99
  switchport trunk allowed vlan 10,20,30,100
  switchport mode trunk
  duplex full
  speed 100
  channel-group 2 mode on
!
interface FastEthernet0/5
  switchport trunk native vlan 99
  switchport trunk allowed vlan 10,20,30,100
  switchport mode trunk
  duplex full
  speed 100
  channel-group 2 mode on
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
--More--
```

Copy Paste

☐ Top

Switch4



Switch4

Physical Config **CLI** Attributes

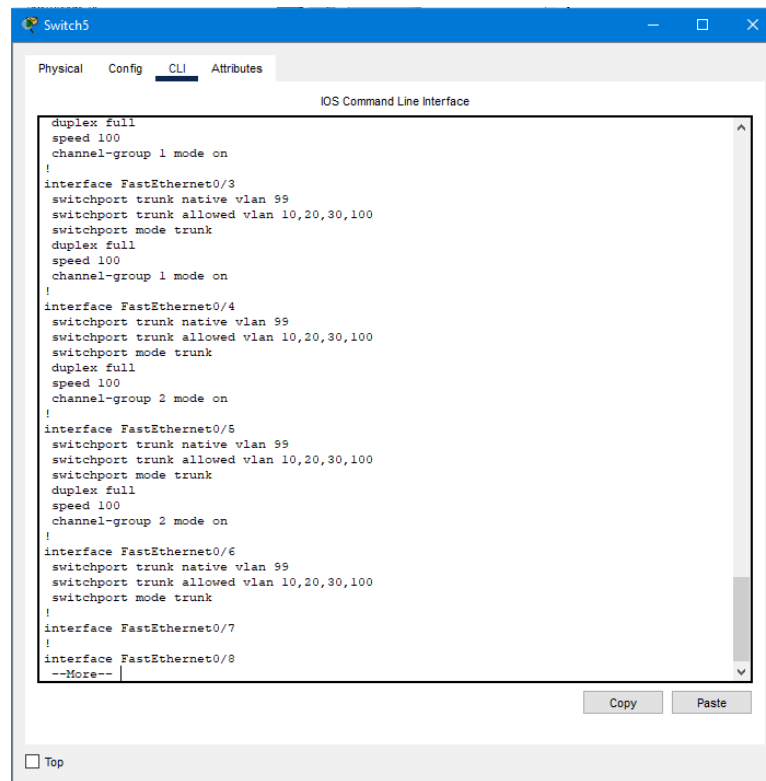
IOS Command Line Interface

```
switchport access vlan 20
switchport mode access
switchport port-security maximum 2
spanning-tree portfast
spanning-tree bpduguard enable
!
interface FastEthernet0/3
  switchport access vlan 10
  switchport mode access
  spanning-tree portfast
  spanning-tree bpduguard enable
!
interface FastEthernet0/4
  switchport trunk native vlan 99
  switchport trunk allowed vlan 10,20,30,100
  switchport mode trunk
  duplex full
  speed 100
  channel-group 1 mode on
!
interface FastEthernet0/5
  switchport access vlan 30
  switchport mode access
!
interface FastEthernet0/6
  switchport trunk native vlan 99
  switchport trunk allowed vlan 10,20,30,100
  switchport mode trunk
  duplex full
  speed 100
  channel-group 1 mode on
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
--More--
```

Copy Paste

☐ Top

Switch5

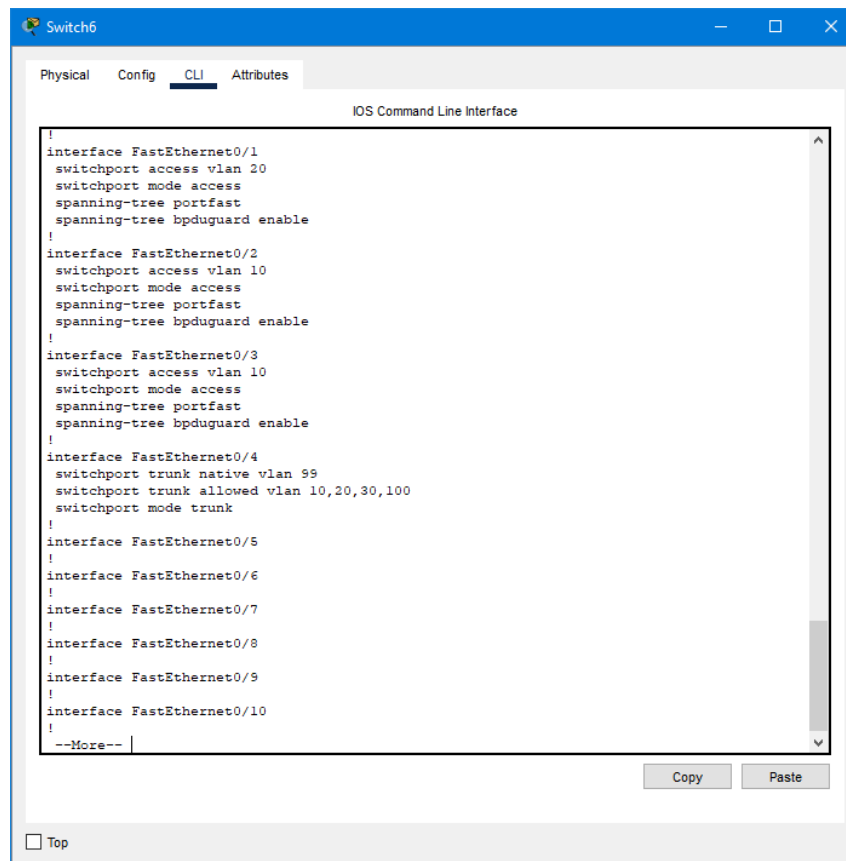


The screenshot shows the configuration window for Switch5. The 'CLI' tab is selected, displaying the following configuration commands in the 'IOS Command Line Interface' area:

```
duplex full
speed 100
channel-group 1 mode on
!
interface FastEthernet0/3
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,30,100
switchport mode trunk
duplex full
speed 100
channel-group 1 mode on
!
interface FastEthernet0/4
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,30,100
switchport mode trunk
duplex full
speed 100
channel-group 2 mode on
!
interface FastEthernet0/5
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,30,100
switchport mode trunk
duplex full
speed 100
channel-group 2 mode on
!
interface FastEthernet0/6
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,30,100
switchport mode trunk
!
interface FastEthernet0/7
!
interface FastEthernet0/8
--More--
```

At the bottom of the CLI area, there are 'Copy' and 'Paste' buttons. Below the CLI area, there is a 'Top' button with a checkbox.

Switch6

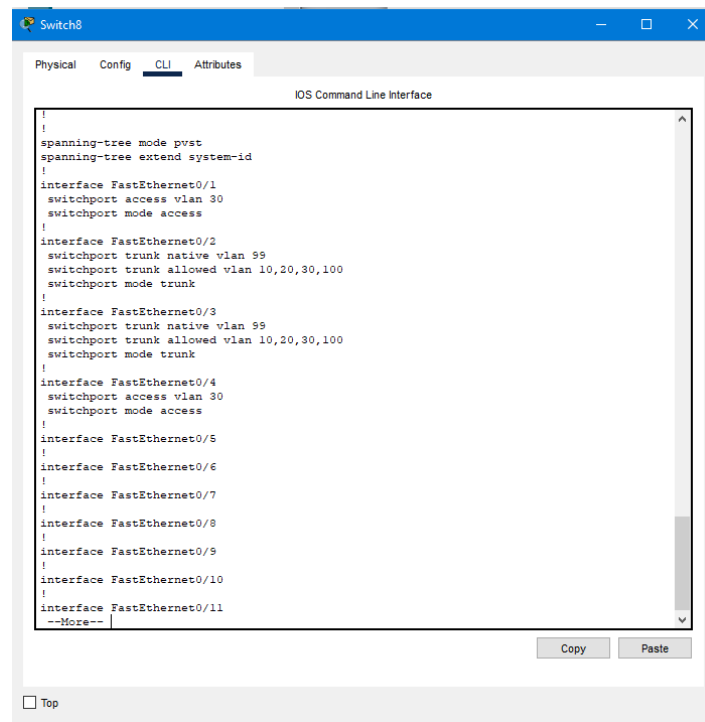


The screenshot shows the configuration window for Switch6. The 'CLI' tab is selected, displaying the following configuration commands in the 'IOS Command Line Interface' area:

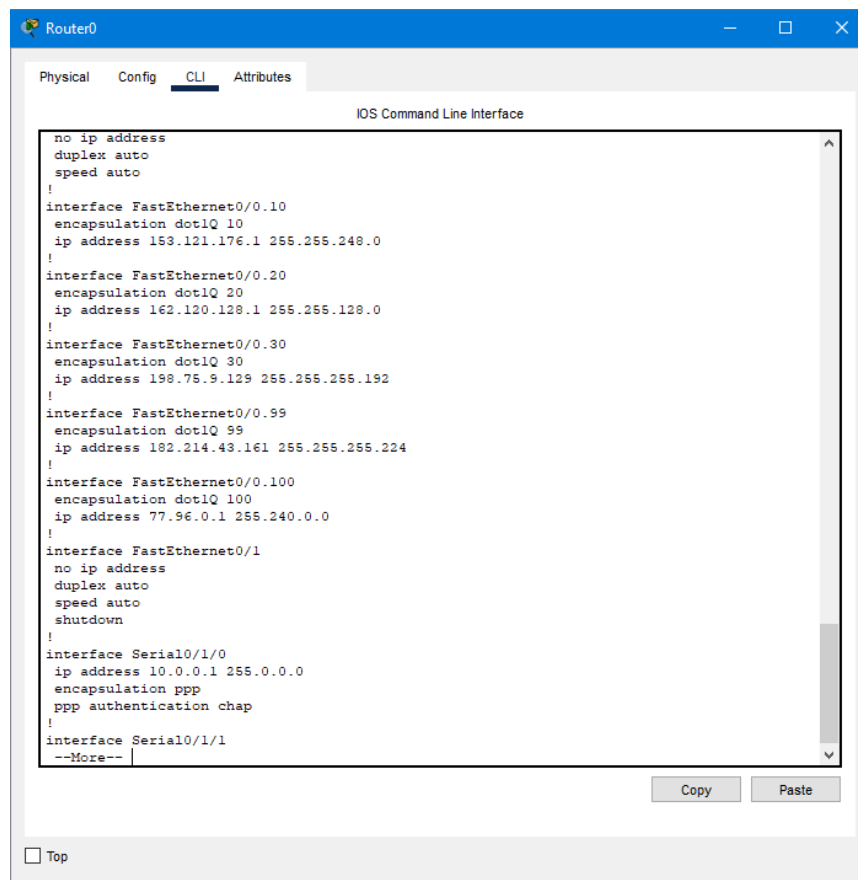
```
!
interface FastEthernet0/1
switchport access vlan 20
switchport mode access
spanning-tree portfast
spanning-tree bpduguard enable
!
interface FastEthernet0/2
switchport access vlan 10
switchport mode access
spanning-tree portfast
spanning-tree bpduguard enable
!
interface FastEthernet0/3
switchport access vlan 10
switchport mode access
spanning-tree portfast
spanning-tree bpduguard enable
!
interface FastEthernet0/4
switchport trunk native vlan 99
switchport trunk allowed vlan 10,20,30,100
switchport mode trunk
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
--More--
```

At the bottom of the CLI area, there are 'Copy' and 'Paste' buttons. Below the CLI area, there is a 'Top' button with a checkbox.

Switch8



Router0



Wireless router0

Wireless Router0

PhysicalConfigGUIAttributes

Network Setup

Router IP

DHCP Server Settings

IP Address:198759130

Subnet Mask:255.255.255.192

DHCP Server:

Enabled

Disabled

DHCP Reservation

Start IP Address:198.75.9.140

Maximum number of Users:15

IP Address Range:198.75.9.140 - 154

Client Lease Time:0minutes (0 means one day)

Static DNS 1:0.0.0.0

Static DNS 2:0.0.0.0

Static DNS 3:0.0.0.0

WINS:0.0.0.0

Wireless Router0

PhysicalConfigGUIAttributes

Wireless-N Broadband Router

Firmware Version: v0.93.3

Wireless

SetupWirelessSecurityAccess RestrictionsApplications & GamingAdministrationStatus

Basic Wireless Settings

Network Mode: Mixed

Network Name (SSID): net

Radio Band: Auto

Wide Channel: Auto

Standard Channel: 1 - 2.412GHz

SSID Broadcast:

Enabled

Disabled

Help...

Wireless Router0

PhysicalConfigGUIAttributes

Wireless-N Broadband Router

Firmware Version: v0.93.3

Wireless

SetupWirelessSecurityAccess RestrictionsApplications & GamingAdministrationStatus

Wireless Security

Security Mode: WPA2 Enterprise

Encryption: AES

RADIUS Server:198759135

RADIUS Port:1645

Shared Secret: cisco

Key Renewal:3600seconds

Help...

Wireless Router0

PhysicalConfigGUIAttributes

Wireless-N Broadband Router

Firmware Version: v0.93.3

Wireless

SetupWirelessSecurityAccess RestrictionsApplications & GamingAdministrationStatus

Wireless MAC Filter

Wireless Port: 2.4G

Enabled

Disabled

Prevent PCs listed below from accessing the wireless network

Permit PCs listed below to access wireless network

Wireless Client List

MAC Address filter list

MAC 01:00:04:5A:D4:62:5B

MAC 26:00:00:00:00:00

MAC 02:00:0B:BE:98:94:6E

MAC 27:00:00:00:00:00

MAC 03:00:00:97:54:8A:0C

MAC 28:00:00:00:00:00

MAC 04:00:00:00:00:00

MAC 29:00:00:00:00:00

MAC 05:00:00:00:00:00

MAC 30:00:00:00:00:00

MAC 06:00:00:00:00:00

MAC 31:00:00:00:00:00

MAC 07:00:00:00:00:00

MAC 32:00:00:00:00:00

Server0

Server0

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA**
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

AAA

Service ☒ On ☐ Off Radius Port 1645

Network Configuration

Client Name Client IP

Secret ServerType Radius

	Client Name	Client IP	Server Type	Key	
1	net	198.75.9.130	Radius	cisco	<input type="button" value="Add"/>
					<input type="button" value="Save"/>
					<input type="button" value="Remove"/>

User Setup

Username Password

	Username	Password	
1	u0	u0	<input type="button" value="Add"/>
2	u1	u1	
3	u2	u2	<input type="button" value="Save"/>

PC0(admin)

PC0

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

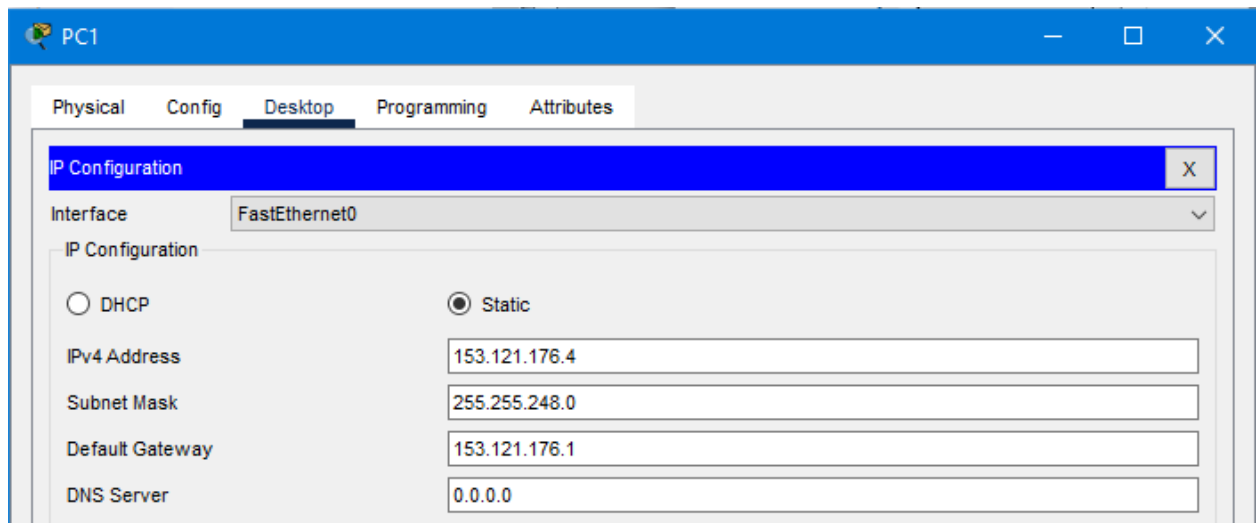
IPv4 Address 77.96.0.2

Subnet Mask 255.240.0.0

Default Gateway 77.96.0.1

DNS Server 0.0.0.0

PC1



PC1

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

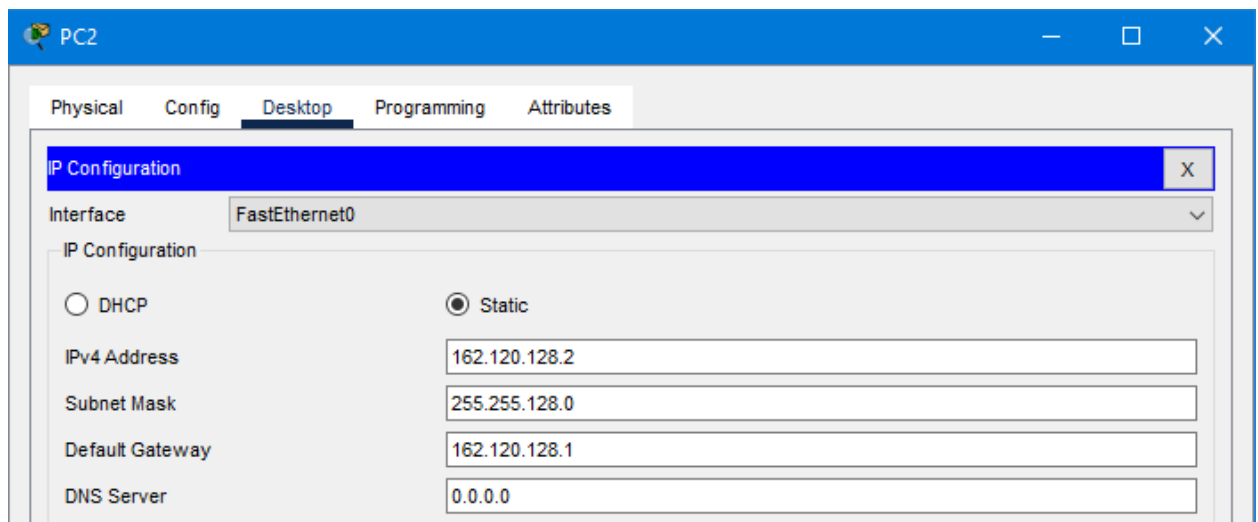
IPv4 Address: 153.121.176.4

Subnet Mask: 255.255.248.0

Default Gateway: 153.121.176.1

DNS Server: 0.0.0.0

PC2



PC2

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

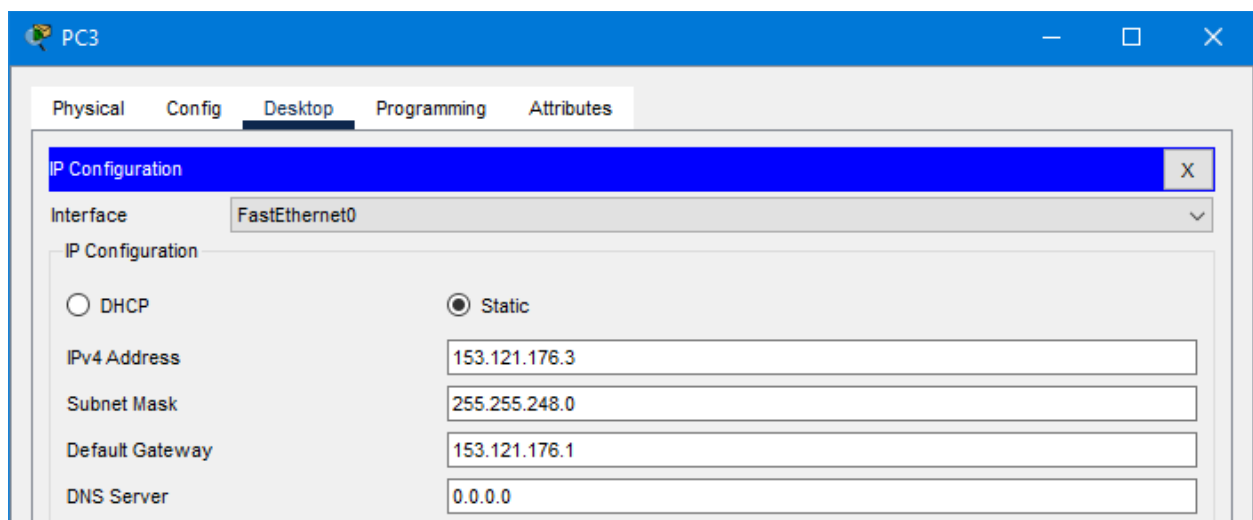
IPv4 Address: 162.120.128.2

Subnet Mask: 255.255.128.0

Default Gateway: 162.120.128.1

DNS Server: 0.0.0.0

PC3



PC3

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

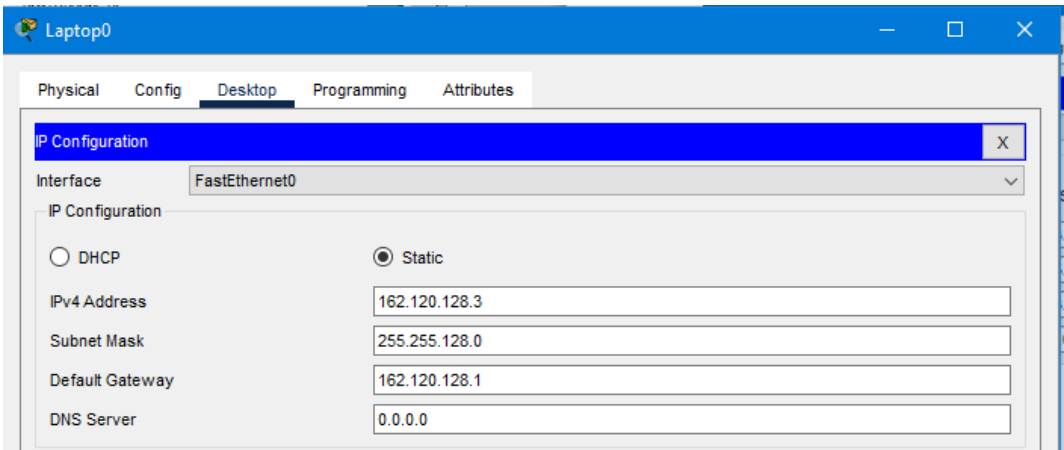
IPv4 Address: 153.121.176.3

Subnet Mask: 255.255.248.0

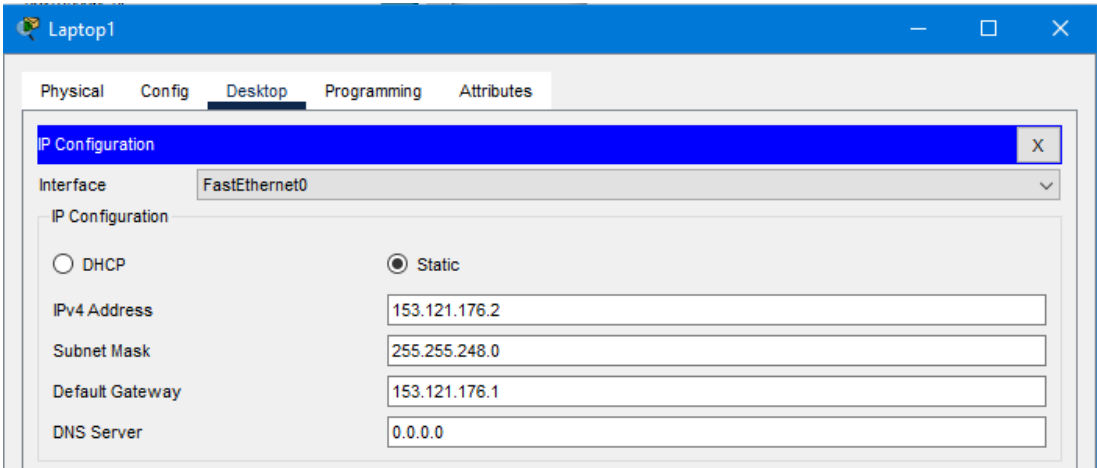
Default Gateway: 153.121.176.1

DNS Server: 0.0.0.0

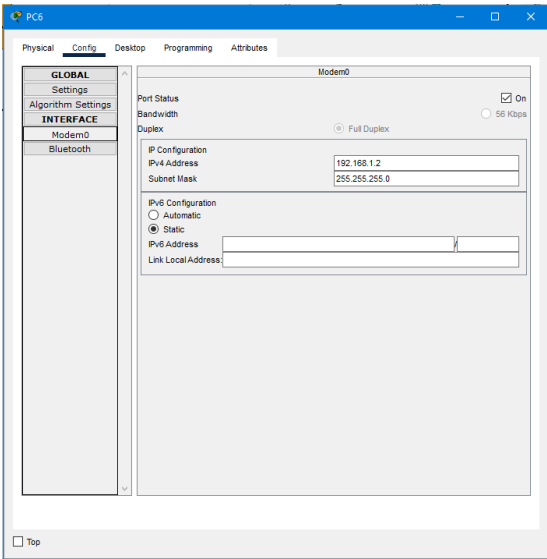
Laptop0



Laptop1



PC6



Smartphone0

Smartphone0

PhysicalConfigDesktopProgrammingAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Wireless0

3G/4G Cell1

Bluetooth

Wireless0

Port Status

On

Bandwidth

300 Mbps

MAC Address

00D0.9754.8A0C

SSID

net

Authentication

Disabled

WPA-PSK

WPA

802.1X

WEP

WPA2-PSK

WPA2

Method:

WEP Key

PSK Pass Phrase

User ID

u0

Password

u0

Method

MD5

User Name

Password

Encryption Type

AES

IP Configuration

DHCP

Static

IPv4 Address

198.75.9.141

Subnet Mask

255.255.255.192

IPv6 Configuration

Automatic

Static

IPv6 Address

Link Local Address

FE80::2D0:97FF:FE54:8A0C

Top

Smartphone1

Smartphone1

PhysicalConfigDesktopProgrammingAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

Wireless0

3G/4G Cell1

Bluetooth

Wireless0

Port Status

On

Bandwidth

300 Mbps

MAC Address

000B.BE98.946E

SSID

net

Authentication

Disabled

WPA-PSK

WPA

802.1X

WEP

WPA2-PSK

WPA2

Method:

WEP Key

PSK Pass Phrase

User ID

u1

Password

u1

Method

MD5

User Name

Password

Encryption Type

AES

IP Configuration

DHCP

Static

IPv4 Address

198.75.9.144

Subnet Mask

255.255.255.192

IPv6 Configuration

Automatic

Static

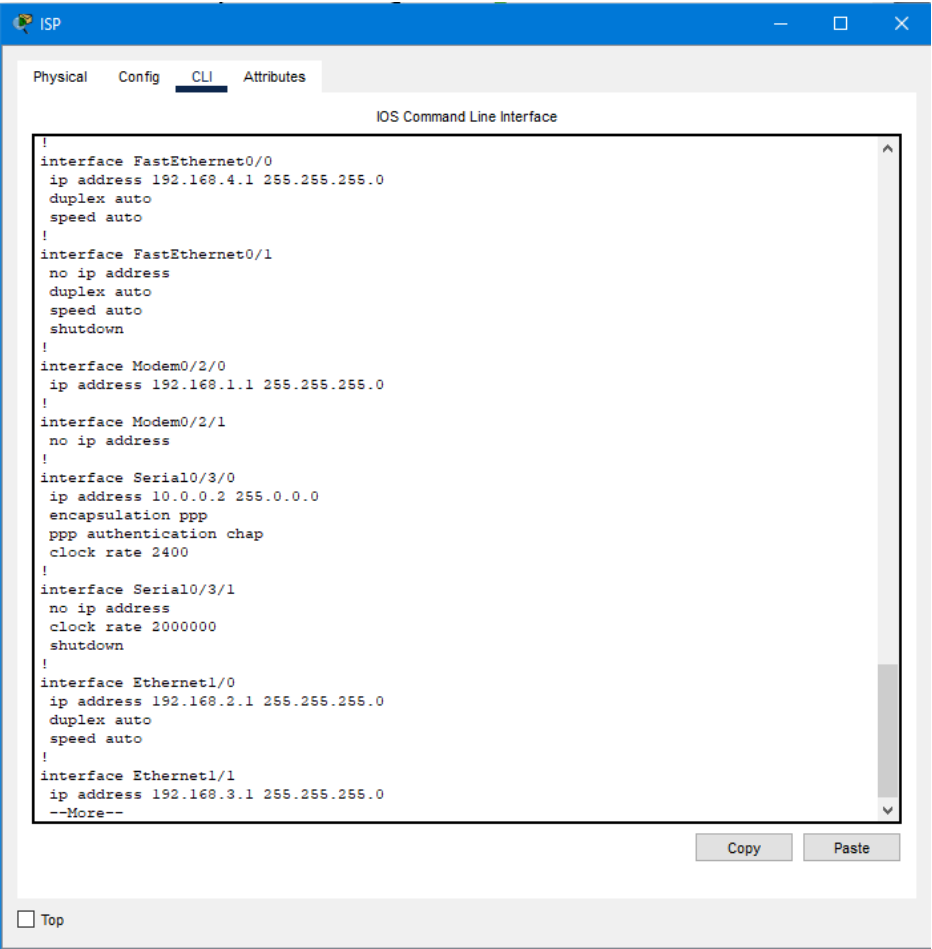
IPv6 Address

Link Local Address

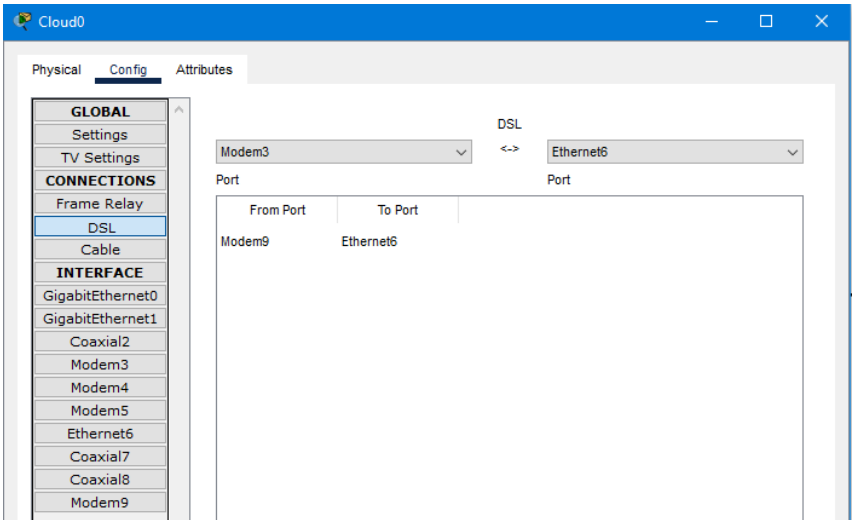
FE80::20B:BEFF:FE98:946E

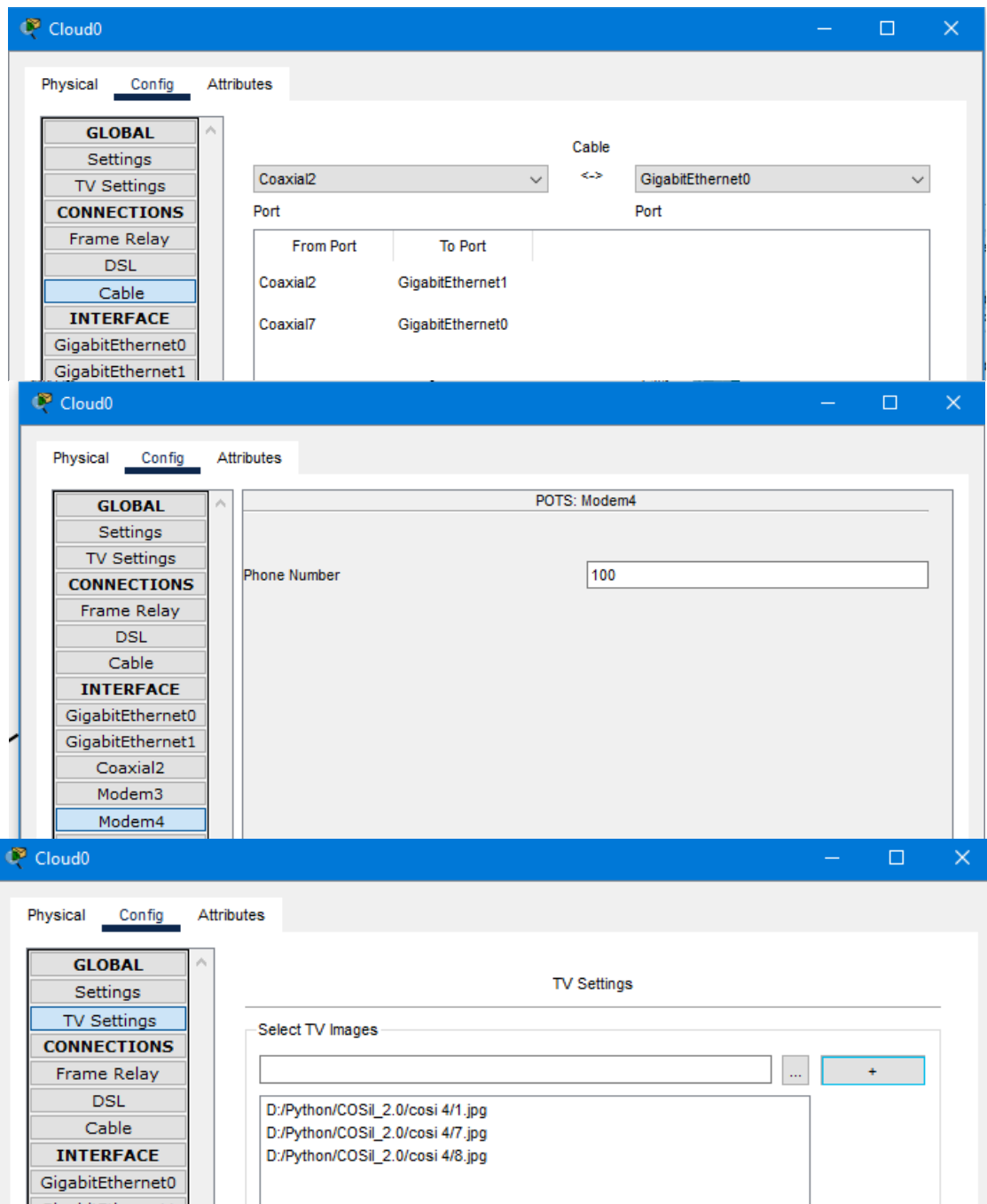
Top

ISP

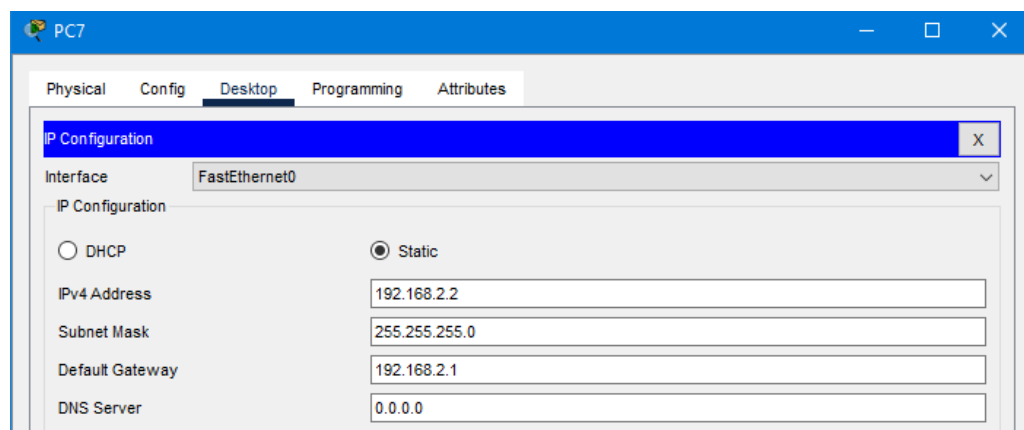


Cloud0

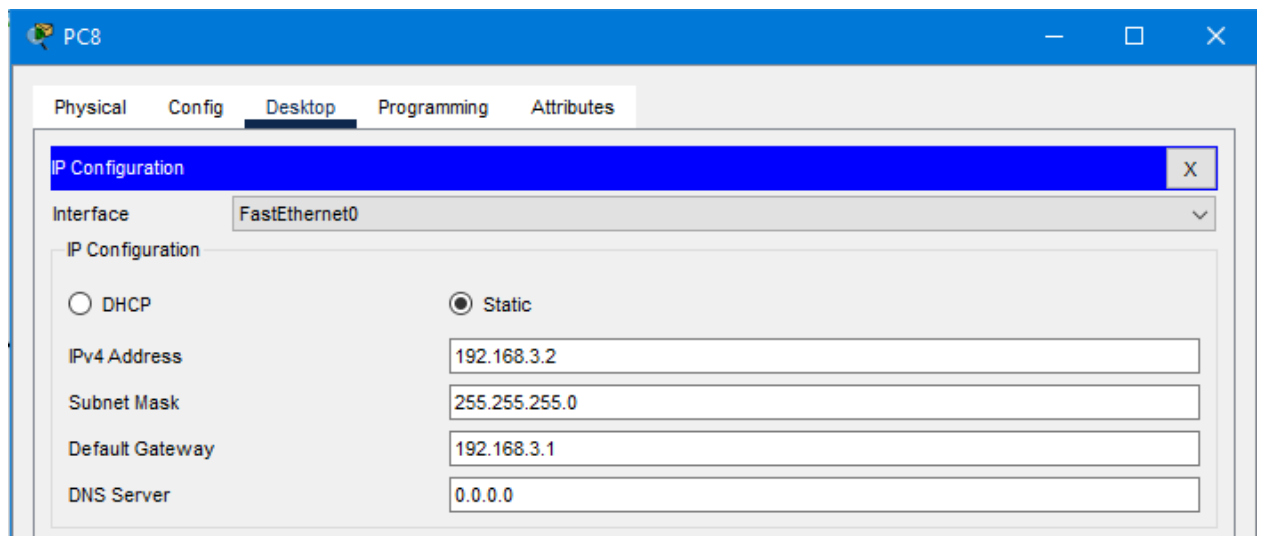




PC7



PC8



TV0

