

Data Communication & Computer Networks Lab (CS-354-A)



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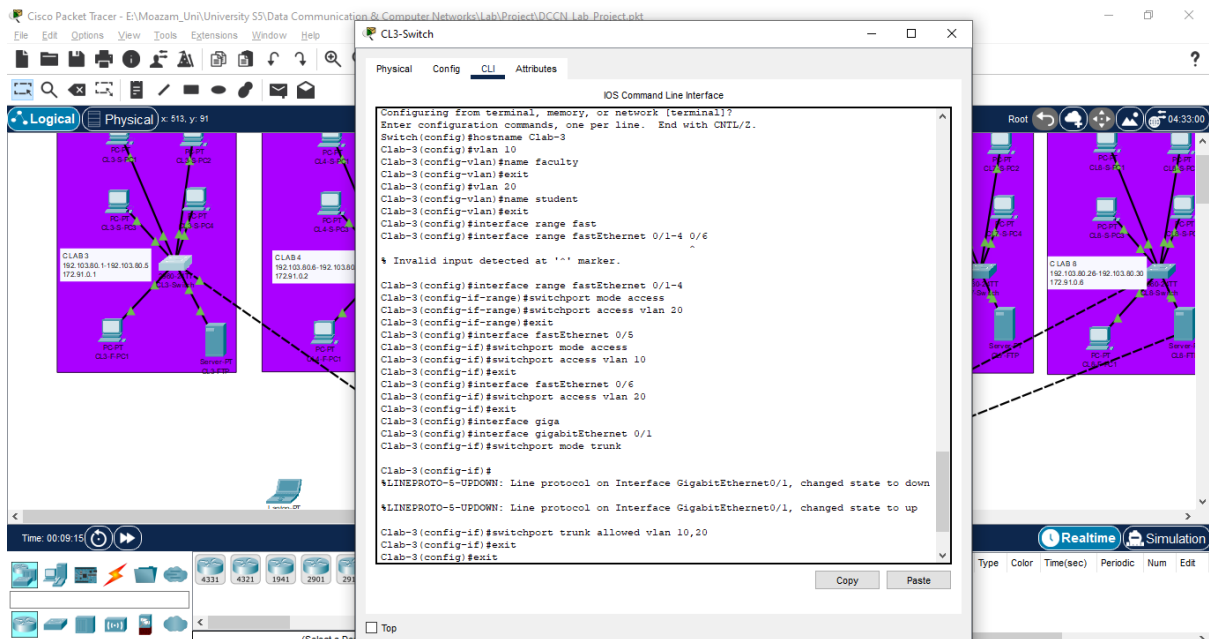
Topic:

Project

BS Software Engineering (V)

GIFT University, Gujranwala

C-Lab 3 Switch:



The screenshot shows the Cisco Packet Tracer interface with the CL3-Switch configuration window open. The CLI tab is active, displaying the following configuration commands:

```
Switch(config)#hostname Clab-3
Clab-3(config)#vlan 10
Clab-3(config-vlan)#name faculty
Clab-3(config-vlan)#exit
Clab-3(config)#vlan 20
Clab-3(config-vlan)#name student
Clab-3(config-vlan)#exit
Clab-3(config)#interface range fast
Clab-3(config)#interface range fastEthernet 0/1-4 0/6
^
Invalid input detected at '^' marker.

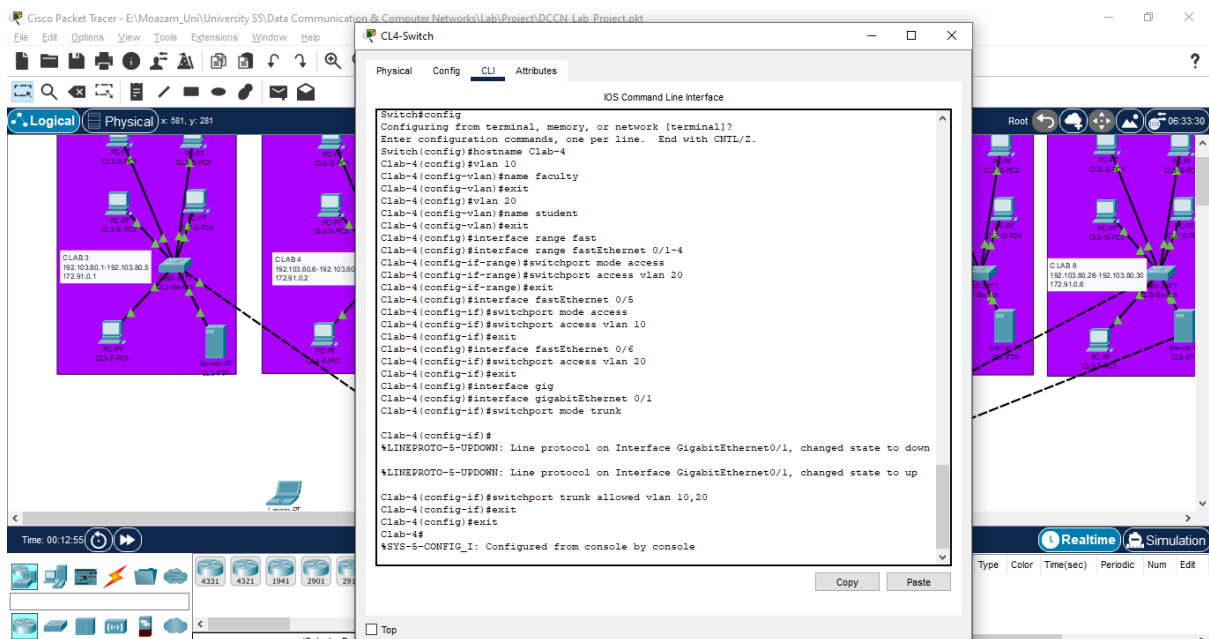
Clab-3(config)#interface range fastEthernet 0/1-4
Clab-3(config-if-range)#switchport mode access
Clab-3(config-if-range)#switchport access vlan 20
Clab-3(config-if-range)#exit
Clab-3(config)#interface fastEthernet 0/5
Clab-3(config-if)#switchport mode access
Clab-3(config-if)#switchport access vlan 10
Clab-3(config-if)#exit
Clab-3(config)#interface fastEthernet 0/6
Clab-3(config-if)#switchport access vlan 20
Clab-3(config-if)#exit
Clab-3(config)#interface gig
Clab-3(config)#interface gigabitEthernet 0/1
Clab-3(config-if)#switchport mode trunk

Clab-3(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

Clab-3(config-if)#switchport trunk allowed vlan 10,20
Clab-3(config-if)#exit
Clab-3(config)#exit
```

C-Lab 4 Switch:



The screenshot shows the Cisco Packet Tracer interface with the CL4-Switch configuration window open. The CLI tab is active, displaying the following configuration commands:

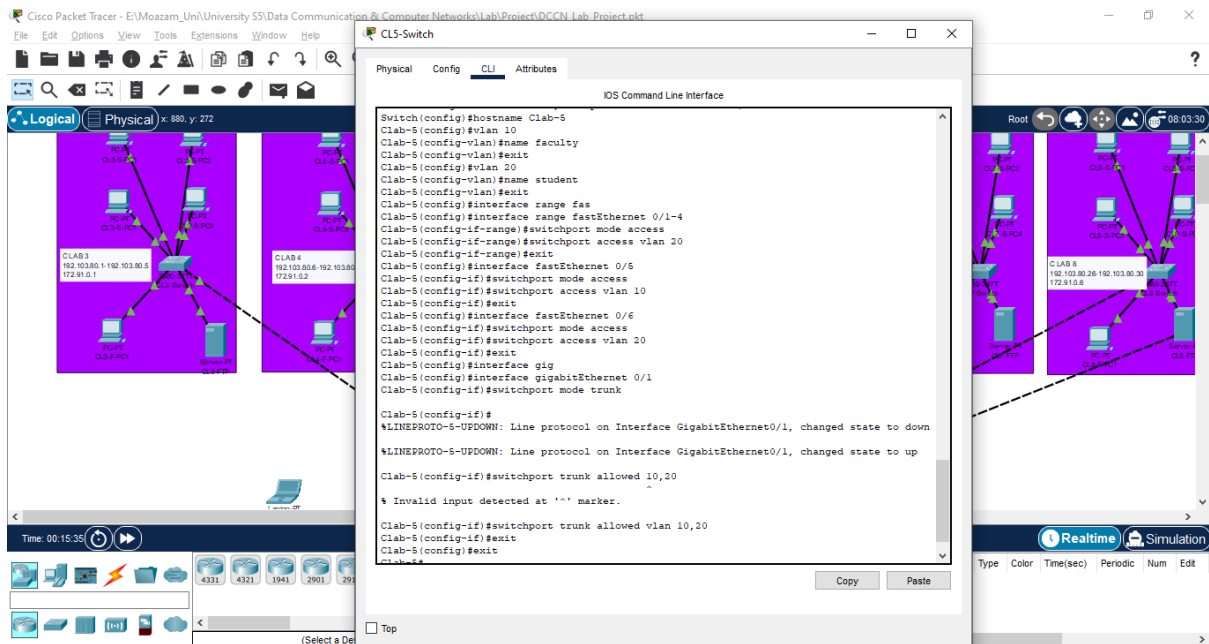
```
Switch#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname Clab-4
Clab-4(config)#vlan 10
Clab-4(config-vlan)#name faculty
Clab-4(config-vlan)#exit
Clab-4(config)#vlan 20
Clab-4(config-vlan)#name student
Clab-4(config-vlan)#exit
Clab-4(config)#interface range fast
Clab-4(config)#interface range fastEthernet 0/1-4
Clab-4(config-if-range)#switchport mode access
Clab-4(config-if-range)#switchport access vlan 20
Clab-4(config-if-range)#exit
Clab-4(config)#interface fastEthernet 0/5
Clab-4(config-if)#switchport mode access
Clab-4(config-if)#switchport access vlan 10
Clab-4(config-if)#exit
Clab-4(config)#interface fastEthernet 0/6
Clab-4(config-if)#switchport access vlan 20
Clab-4(config-if)#exit
Clab-4(config)#interface gig
Clab-4(config)#interface gigabitEthernet 0/1
Clab-4(config-if)#switchport mode trunk

Clab-4(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down

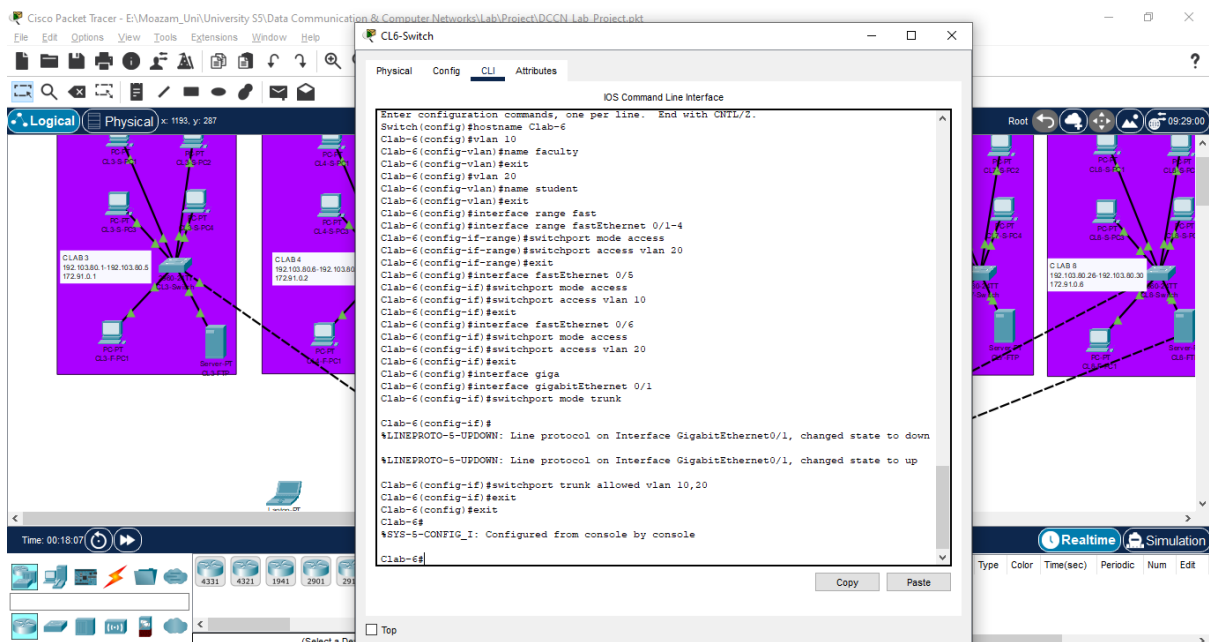
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

Clab-4(config-if)#switchport trunk allowed vlan 10,20
Clab-4(config-if)#exit
Clab-4#
*SYS-6-CONFIG_I: Configured from console by console
```

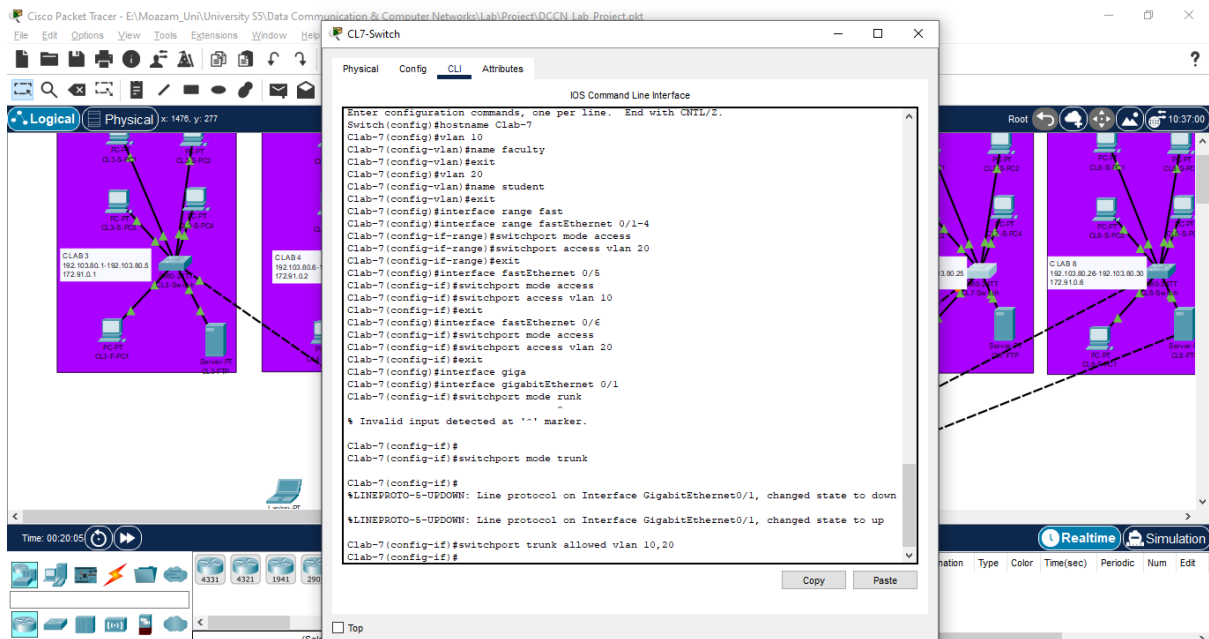
C-Lab 5 Switch:



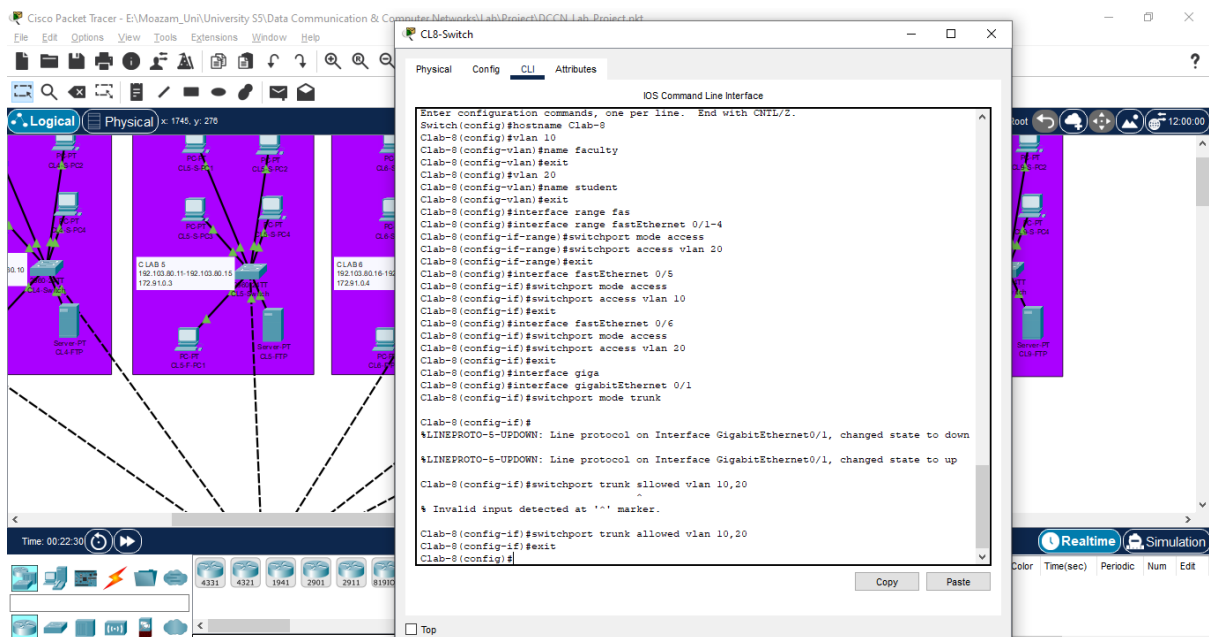
C-Lab 6 Switch:



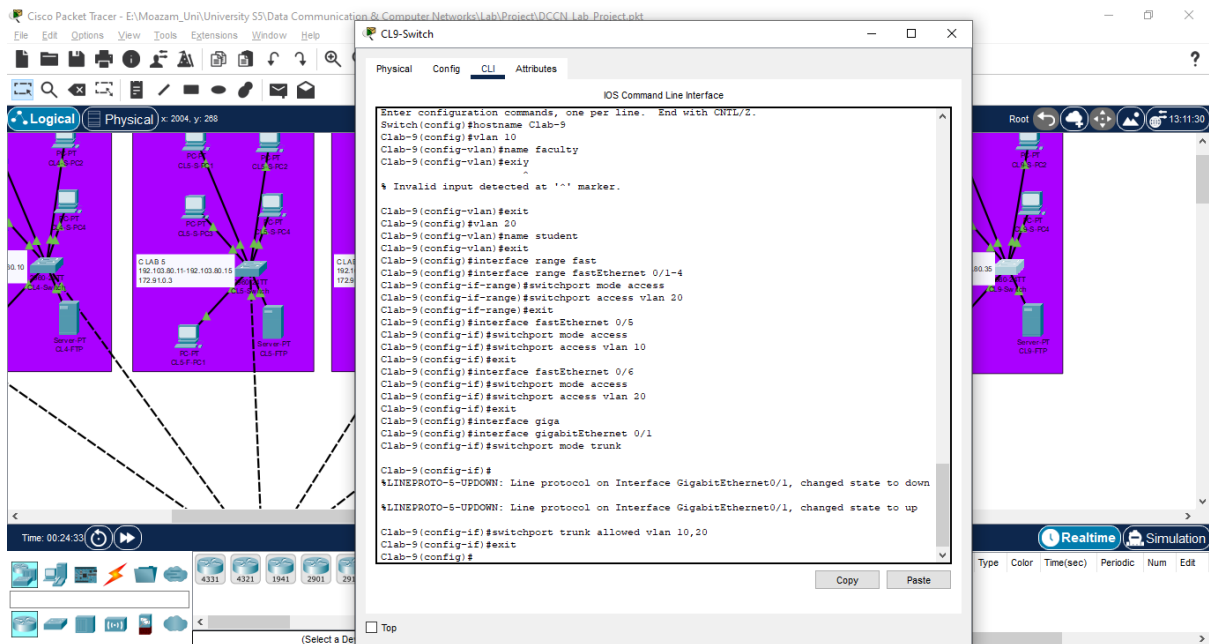
C-Lab 7 Switch:



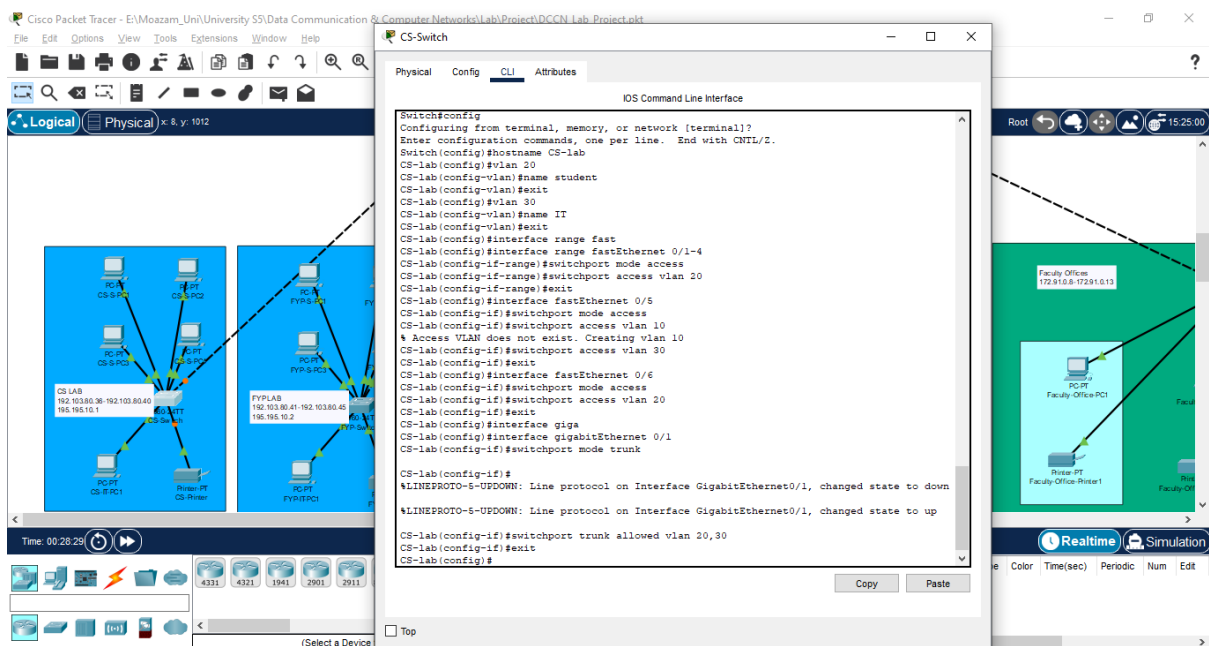
C-Lab 8 Switch:



C-Lab 9 Switch:



CS Lab Switch:



FYP Lab Switch:

The image shows a Cisco Packet Tracer simulation of a network switch configuration. The main window displays the 'FYP-Switch' configuration interface. The 'CLI' tab is active, showing the following configuration commands:

```
Switch#config
Switch(config)#hostname FYP-Lab
FYP-Lab(config)#vlan 20
FYP-Lab(config-vlan)#name student
FYP-Lab(config-vlan)#exit
FYP-Lab(config)#vlan 30
FYP-Lab(config-vlan)#name IT
FYP-Lab(config-vlan)#exit
FYP-Lab(config)#interface range fast
FYP-Lab(config)#interface range fastEthernet 0/1-4
FYP-Lab(config-if-range)#switchport mode access
FYP-Lab(config-if-range)#switchport access vlan 20
FYP-Lab(config-if-range)#exit
FYP-Lab(config)#interface fastEthernet 0/5
FYP-Lab(config-if)#switchport mode access
FYP-Lab(config-if)#switchport access vlan 30
FYP-Lab(config-if)#exit
FYP-Lab(config)#interface fastEthernet 0/6
FYP-Lab(config-if)#switchport mode access
FYP-Lab(config-if)#switchport access vlan 20
FYP-Lab(config-if)#exit
FYP-Lab(config)#interface giga
FYP-Lab(config)#interface gigabitEthernet 0/1
FYP-Lab(config-if)#switchport mode trunk

FYP-Lab(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

FYP-Lab(config-if)#switchport trunk allowed vlan 20,30
FYP-Lab(config-if)#exit
FYP-Lab(config)#
```

The background shows a network diagram with two main sections: 'CS LAB' and 'FYP LAB'. The 'CS LAB' section includes a switch (CS-SW1) connected to several PCs (CS-PC1 to CS-PC5) and a printer (CS-Printer). The 'FYP LAB' section includes a switch (FYP-SW1) connected to several PCs (FYP-PC1 to FYP-PC5) and a printer (FYP-Printer). The 'FYP-SW1' switch is highlighted in the diagram, indicating it is the active device being configured.

Masscom Lab Switch:

The image shows a Cisco Packet Tracer simulation of a network switch configuration. The main window displays the 'MC-Switch' configuration interface. The 'CLI' tab is active, showing the following configuration commands:

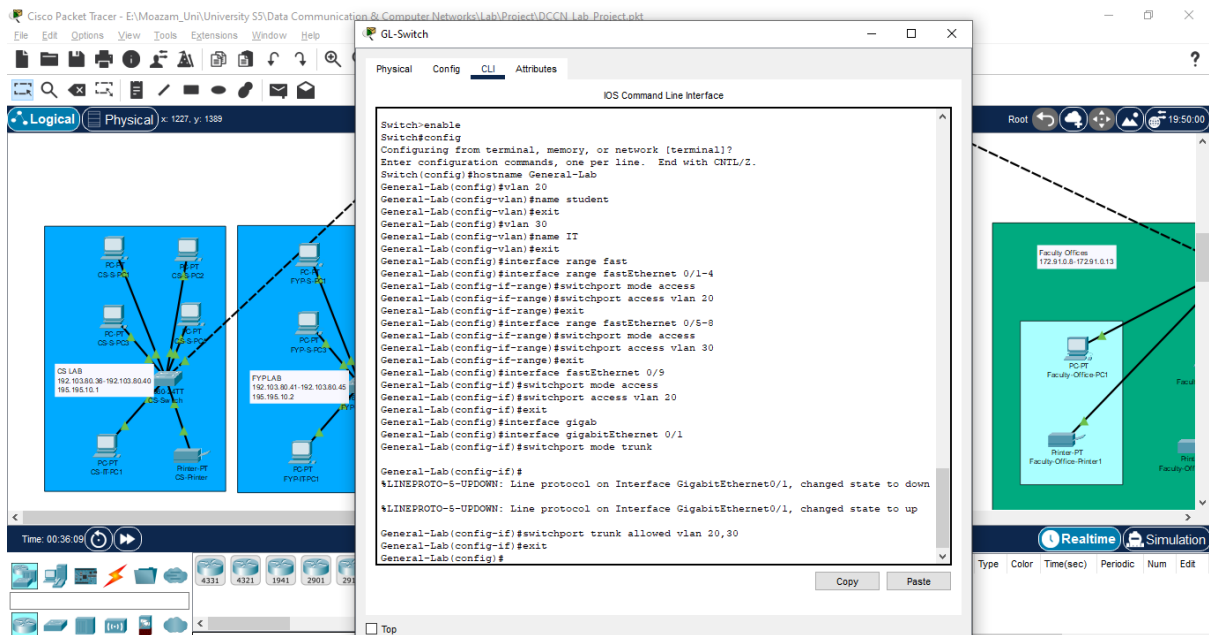
```
Switch>enable
Switch#config
Switch(config)#hostname Masscom-Lab
Masscom-Lab(config)#vlan 20
Masscom-Lab(config-vlan)#name student
Masscom-Lab(config-vlan)#exit
Masscom-Lab(config)#vlan 30
Masscom-Lab(config-vlan)#name IT
Masscom-Lab(config-vlan)#exit
Masscom-Lab(config)#interface range fast
Masscom-Lab(config)#interface range fastEthernet 0/1-4
Masscom-Lab(config-if-range)#switchport mode access
Masscom-Lab(config-if-range)#switchport access vlan 20
Masscom-Lab(config-if-range)#exit
Masscom-Lab(config)#interface fastEthernet 0/5
Masscom-Lab(config-if)#switchport mode access
Masscom-Lab(config-if)#switchport access vlan 30
Masscom-Lab(config-if)#exit
Masscom-Lab(config)#interface fastEthernet 0/6
Masscom-Lab(config-if)#switchport mode access
Masscom-Lab(config-if)#switchport access vlan 20
Masscom-Lab(config-if)#exit
Masscom-Lab(config)#interface giga
Masscom-Lab(config)#interface gigabitEthernet 0/1
Masscom-Lab(config-if)#switchport mode trunk

Masscom-Lab(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

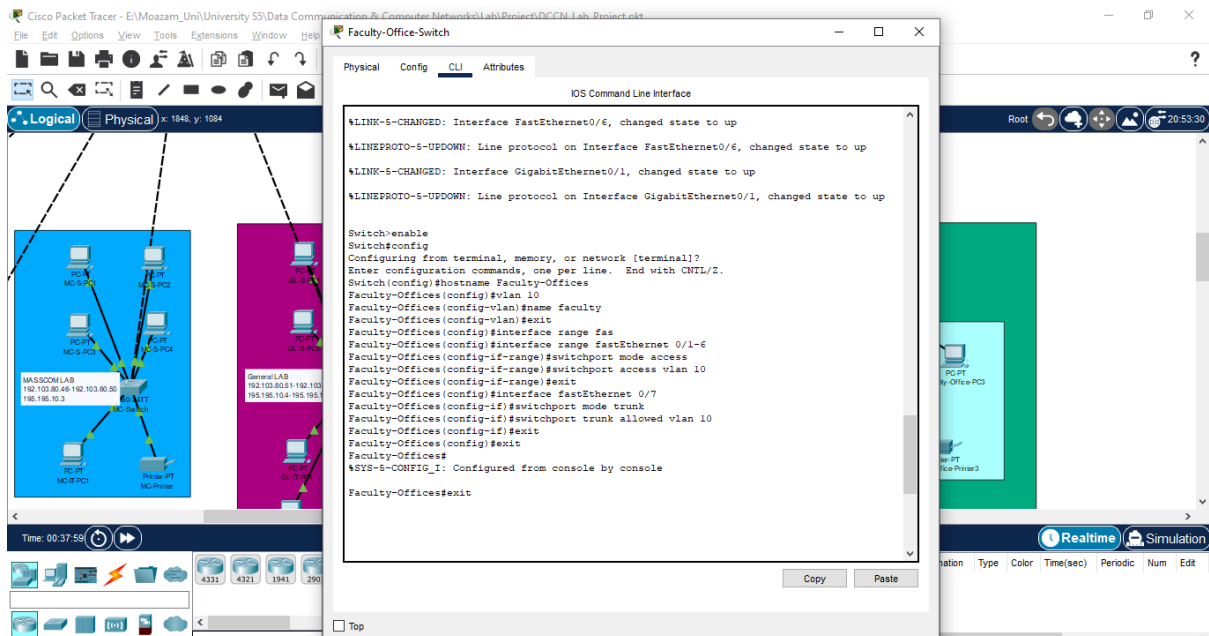
Masscom-Lab(config-if)#switchport trunk allowed vlan 20,30
Masscom-Lab(config-if)#exit
Masscom-Lab(config)#
```

The background shows a network diagram with two main sections: 'CS LAB' and 'FYP LAB'. The 'CS LAB' section includes a switch (CS-SW1) connected to several PCs (CS-PC1 to CS-PC5) and a printer (CS-Printer). The 'FYP LAB' section includes a switch (FYP-SW1) connected to several PCs (FYP-PC1 to FYP-PC5) and a printer (FYP-Printer). The 'FYP-SW1' switch is highlighted in the diagram, indicating it is the active device being configured.

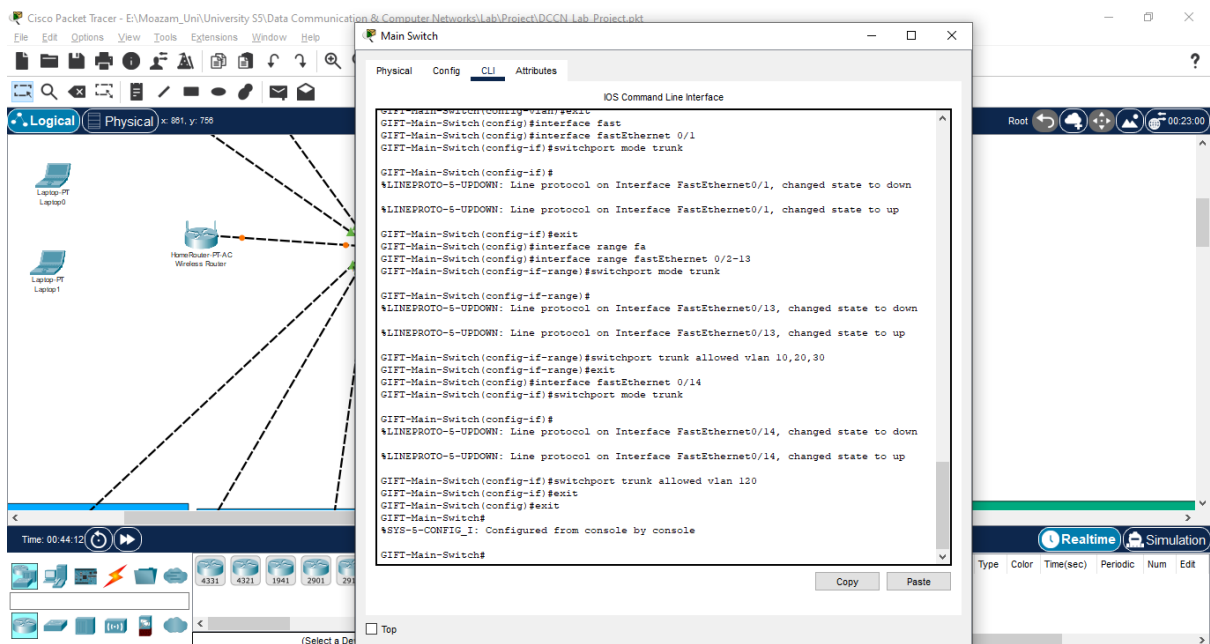
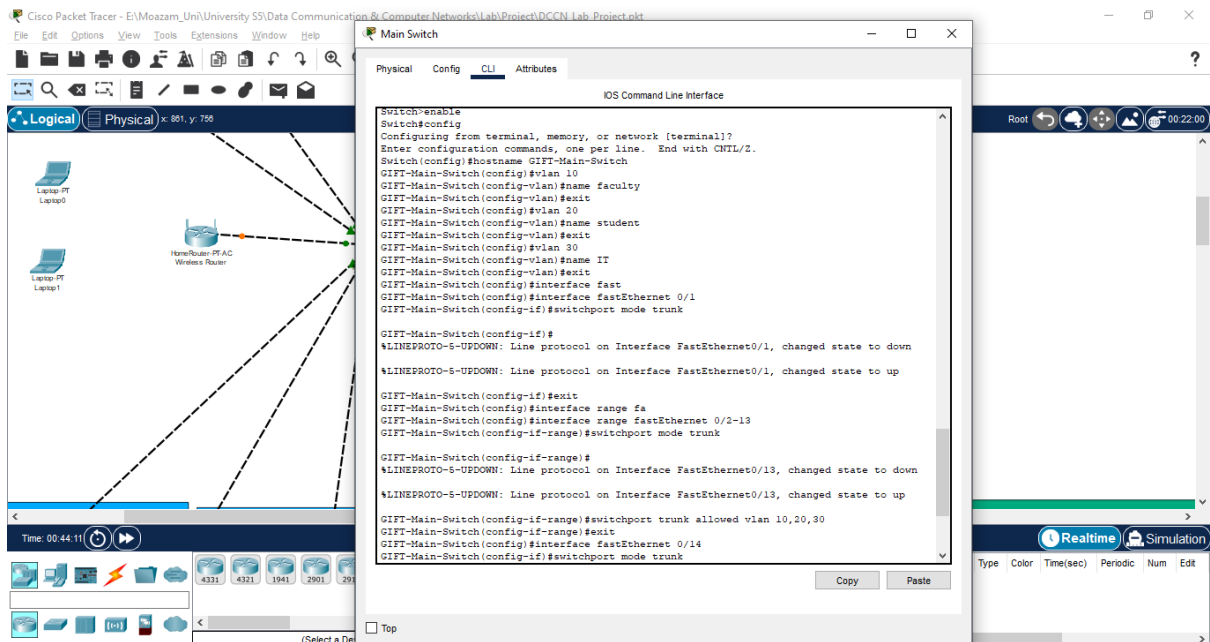
General Lab Switch:



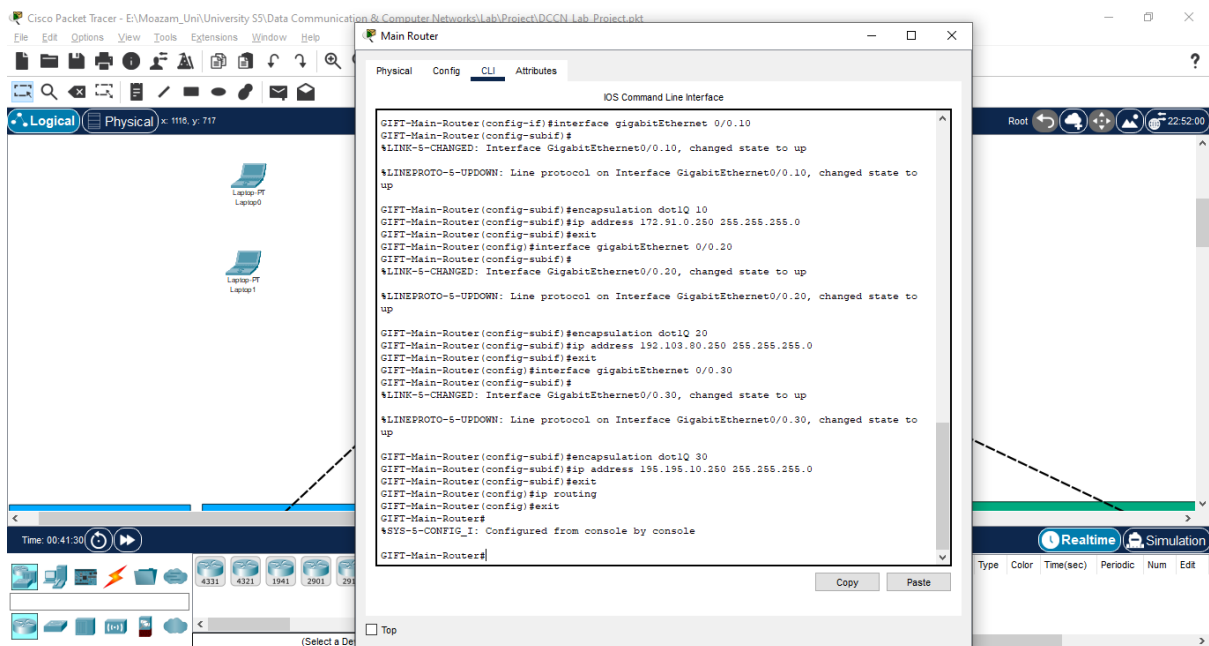
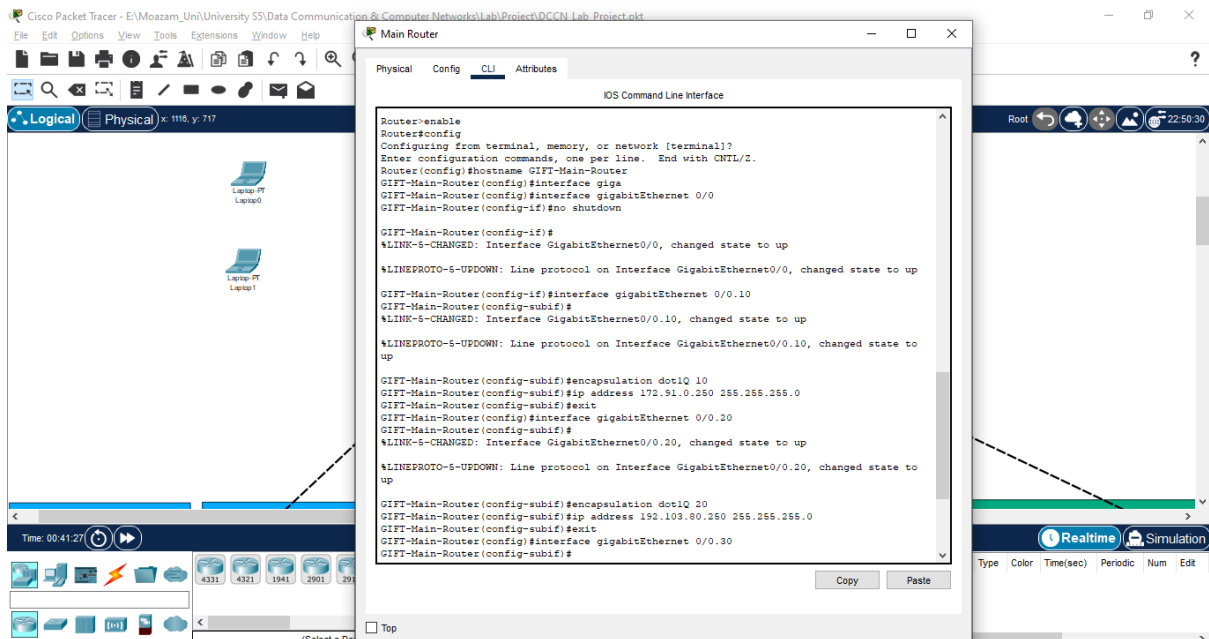
Faculty Offices Switch:



Main Switch:



Main Router (GIFT University):



FTP Server (C-Lab 3):

The screenshot shows the Cisco Packet Tracer interface with a network diagram on the left and the configuration window for a CL3-FTP router on the right. The configuration window is set to the 'Services' tab.

SERVICES

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

FTP Service Configuration:

- Service: ☒ On
- User Setup:

Username	Password	Permission
1 student1	221400003	W
2 student2	221400091	W
3 student3	221400095	W
4 student4	221400070	W
5 faculty	21400003	RWDNL
- File:

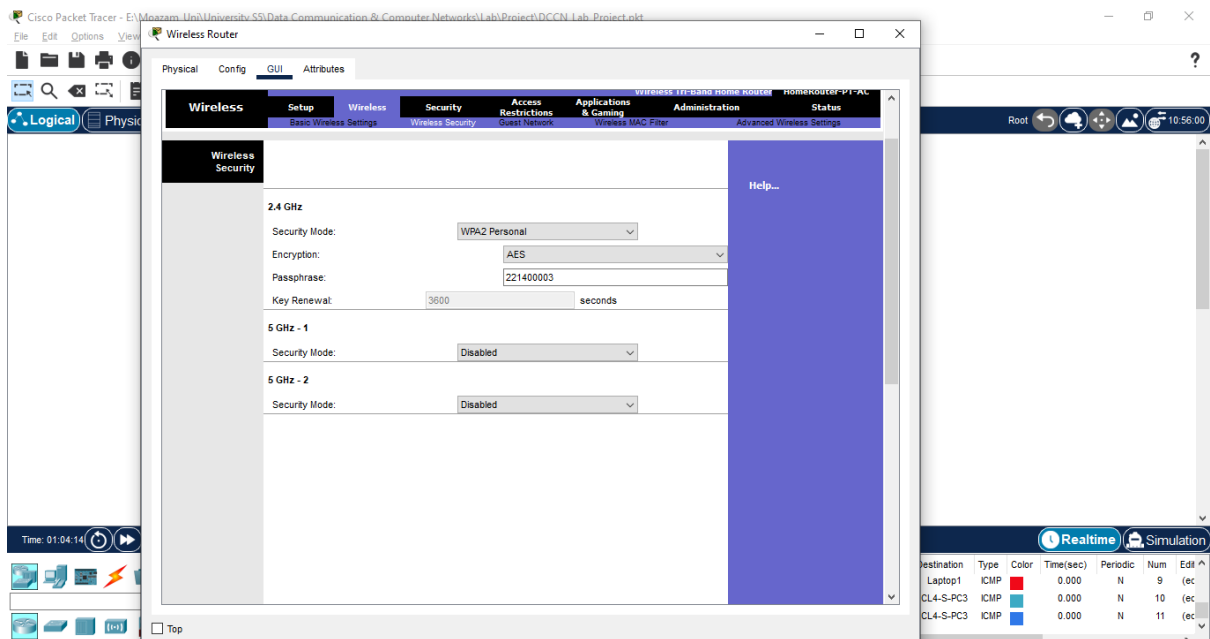
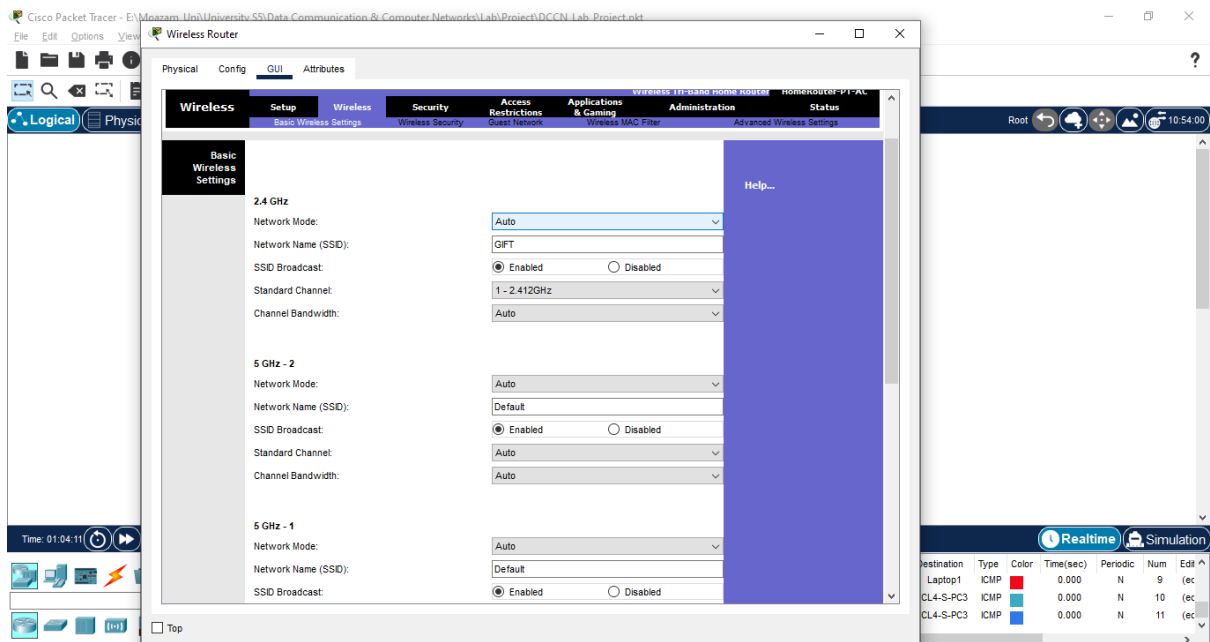
1	asa842-k8.bin
2	asa923-k8.bin
3	c1841-adviservicesk9-mz.124-15.T1.bin
4	c1841-ipbase-mz.123-14.T7.bin
5	c1841-ipbasek9-mz.124-12.bin
6	c1900-universalk9-mz.SPA.155-3.M4a.bin

Wireless Router:

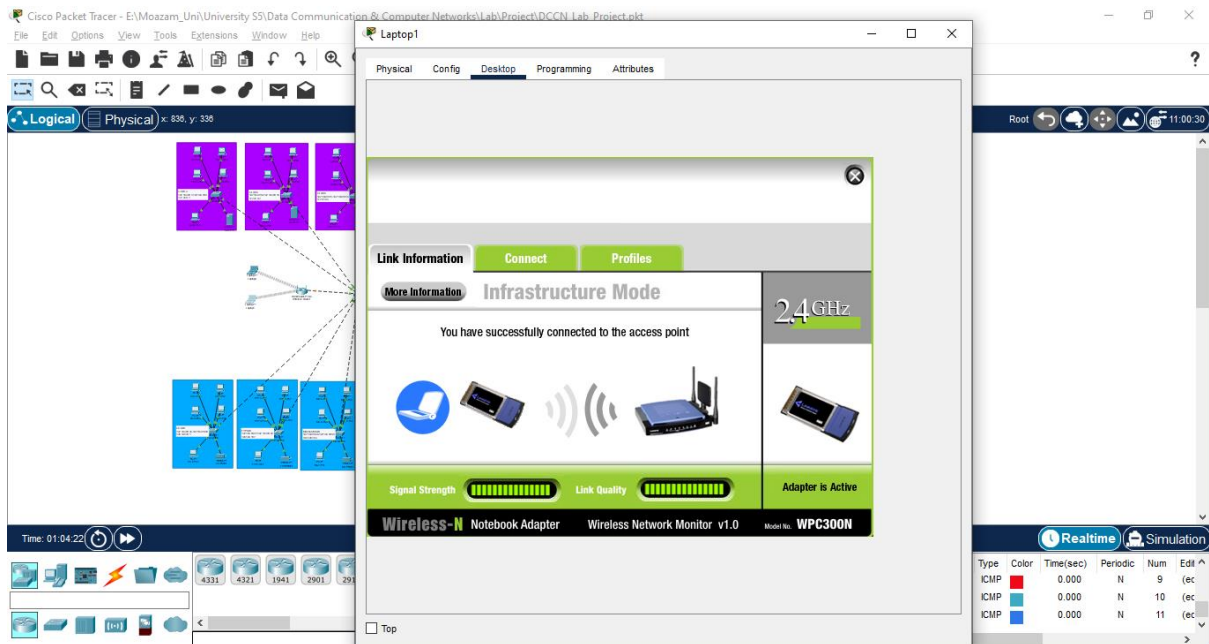
The screenshot shows the Cisco Packet Tracer interface with a network diagram on the left and the configuration window for a Wireless Router on the right. The configuration window is set to the 'Setup' tab.

Wireless Router Setup Configuration:

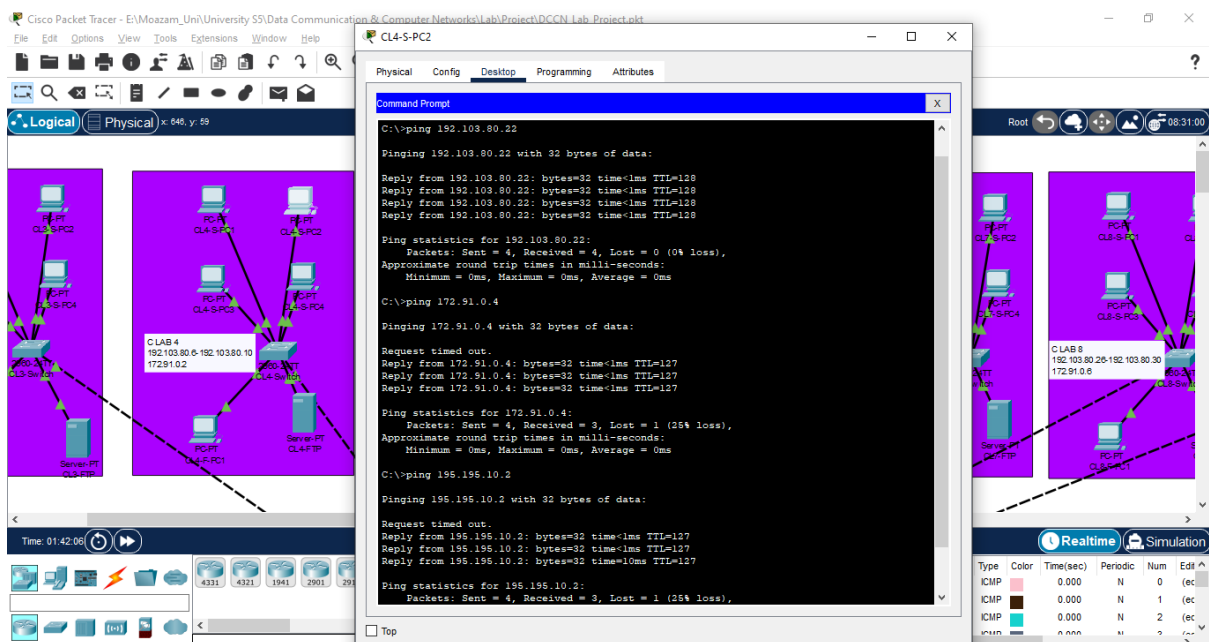
- Internet Setup:**
 - Internet Connection type: Automatic Configuration - DHCP
 - Optional Settings (required by some internet service providers):
 - Host Name:
 - Domain Name:
 - MTU: Size: 1500
- Network Setup:**
 - Router IP:
 - IP Address: 192.103.80.250
 - Subnet Mask: 255.255.255.0
 - DHCP Server Settings:
 - DHCP Server: ☒ Enabled
 - Start IP Address: 192.103.80.101
 - Maximum number of Users: 50



Laptop connect to Wireless Router:



Ping from a Student PC to another Student PC, Faculty PC & IT PC:



Ping from Faculty PC to IT PC & accessing ftp server (vlan 20):

The screenshot displays a Cisco Packet Tracer network simulation. The network diagram on the left shows a central switch (CLAB 4) connected to several PCs (CL4-S-PC1, CL4-S-PC2, CL4-S-PC3, CL4-S-PC4) and a server (Server-FT CL4-S-FTP). The command prompt window for CL7-F-PC1 shows the following commands and output:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ftp 192.103.80.25
Trying to connect... 192.103.80.25
Connected to 192.103.80.25
220- Welcome to FT Ftp server
Username:faculty
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>quit

221- Service closing control connection.
C:\>ping 192.195.10.7

Pinging 192.195.10.7 with 32 bytes of data:

Request timed out.
Reply from 192.195.10.7: bytes=32 time=1ms TTL=127
Reply from 192.195.10.7: bytes=32 time=1ms TTL=127
Reply from 192.195.10.7: bytes=32 time=1ms TTL=127

Ping statistics for 192.195.10.7:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>
```

Ping from an IT PC to another IT PC & Student PC:

The screenshot displays a Cisco Packet Tracer network simulation. The network diagram on the left shows a central switch (CS LAB) connected to several PCs (CS-S-PC1, CS-S-PC2, CS-S-PC3, CS-S-PC4) and a server (Server-FT CL4-S-FTP). The command prompt window for MC-IT-PC1 shows the following commands and output:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.195.10.3

Pinging 192.195.10.3 with 32 bytes of data:

Reply from 192.195.10.3: bytes=32 time=10ms TTL=128
Reply from 192.195.10.3: bytes=32 time=1ms TTL=128
Reply from 192.195.10.3: bytes=32 time=1ms TTL=128
Reply from 192.195.10.3: bytes=32 time=1ms TTL=128

Ping statistics for 192.195.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 3ms
C:\>ping 192.103.80.50

Pinging 192.103.80.50 with 32 bytes of data:

Request timed out.
Reply from 192.103.80.50: bytes=32 time<1ms TTL=127
Reply from 192.103.80.50: bytes=32 time<1ms TTL=127
Reply from 192.103.80.50: bytes=32 time<1ms TTL=127

Ping statistics for 192.103.80.50:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

Complete Topology View:

