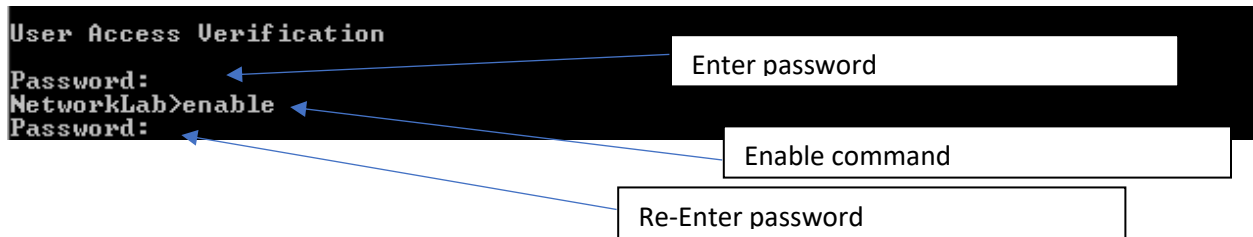


Procedure:

First, we will divide our Vlan on computer science and computer engineer majors, and since they won't share the same Vlan they won't be able to directly communicate with one another.

We start by connecting to the telnet, using 'telnet ip' command to connect to the switch, then type the password and finally use the 'enable' command to be able to configure as follows:



```
User Access Verification
Password:
NetworkLab>enable
Password:
```

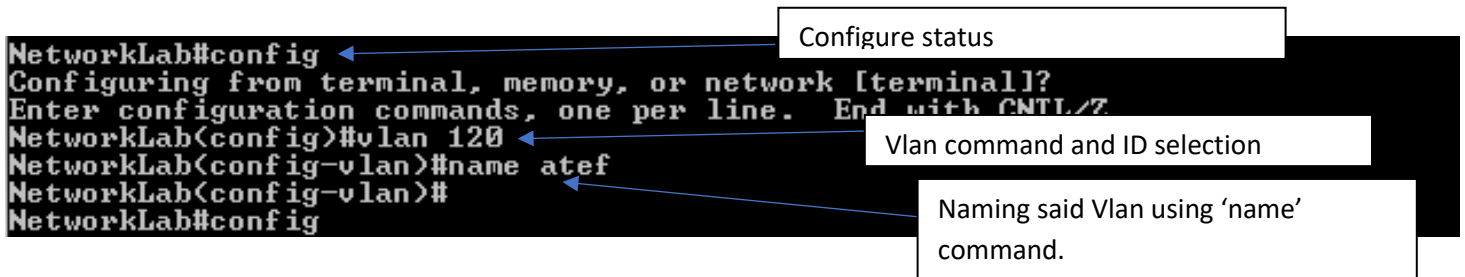
Enter password

Enable command

Re-Enter password

This terminal screenshot shows the initial login process. The prompt 'User Access Verification' is followed by 'Password:'. A callout 'Enter password' points to this prompt. The user enters the password and the prompt changes to 'NetworkLab>'. A callout 'Enable command' points to the 'enable' command. The user enters 'enable', and the prompt changes to 'NetworkLab#'. A callout 'Re-Enter password' points to the second 'Password:' prompt.

Following up we create our Vlan by accessing the configuring status ('config' command), then we create said Vlan by giving it an ID and a Name as follow:



```
NetworkLab#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z
NetworkLab(config)#vlan 120
NetworkLab(config-vlan)#name atef
NetworkLab(config-vlan)#
NetworkLab#config
```

Configure status

Vlan command and ID selection

Naming said Vlan using 'name' command.

This terminal screenshot shows the configuration steps. The prompt 'NetworkLab#' is followed by 'config'. A callout 'Configure status' points to this command. The prompt changes to 'NetworkLab(config)#'. A callout 'Vlan command and ID selection' points to the 'vlan 120' command. The prompt changes to 'NetworkLab(config-vlan)#'. A callout 'Naming said Vlan using 'name' command.' points to the 'name atef' command. The prompt changes to 'NetworkLab(config-vlan)#'. The user enters an empty line, and the prompt changes to 'NetworkLab#'. The user enters 'config', and the prompt changes to 'NetworkLab(config)#'.

We set required interfaces through the following commands and exit configuration status to check the Vlan status:

```

NetworkLab(config)#interface fastEthernet 0/8
NetworkLab(config-if)#s
NetworkLab(config-if)#sswitch
NetworkLab(config-if)#switch
NetworkLab(config-if)#switchport access vlan 120
% Access VLAN does not exist. Creating vlan 120
NetworkLab(config-if)#switchport access vlan 120
NetworkLab(config-if)#^Z
NetworkLab#show vlan

```

Annotations:

- 'Interface fastEthernet intNumb' command to specify the needed interface
- Associate the interface with created vlan using vlan ID
- To check vlan status
- Vlan name
- Interface status and name

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4, Fa0/5, Fa0/6, Fa0/7, Fa0/9, Fa0/10, Fa0/11, Fa0/12, Fa0/13, Fa0/14, Fa0/17, Fa0/18, Fa0/19, Fa0/20, Fa0/21, Fa0/22, Fa0/23, Fa0/24, Gi0/1, Gi0/2
22	ULAN0022	active	
24	fahad	active	
77	mohdce	active	
78	mohdcs	active	
100	meera	active	
120	ULAN0120	active	Fa0/8
200	Test	active	

For other interfaces we do the same:

```

NetworkLab(config)#interface fastEthernet 0/24
NetworkLab(config-if)#sw
NetworkLab(config-if)#switchport access vlan 420
% Access VLAN does not exist. Creating vlan 420
NetworkLab(config-if)#sw
NetworkLab(config-if)#switchport a
NetworkLab(config-if)#switchport access vlan 420

```

101	mahra	active	
120	ULAN0120	active	Fa0/8
200	Test	active	
222	group1	active	Fa0/15, Fa0/16
300	Computer	active	
333	group2	active	Fa0/17
420	ULAN0420	active	Fa0/24

We connect our PC to switch and ping the PCs on the same vlan and get the following:

```
-----
NetworkLab#
Connection to host lost.
C:\Users\Lab>ping 140.30.20.7

Pinging 140.30.20.7 with 32 bytes of data:
Reply from 140.30.20.7: bytes=32 time=1ms TTL=128
Reply from 140.30.20.7: bytes=32 time<1ms TTL=128
Reply from 140.30.20.7: bytes=32 time<1ms TTL=128
Reply from 140.30.20.7: bytes=32 time<1ms TTL=128

Ping statistics for 140.30.20.7:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\Users\Lab>
```

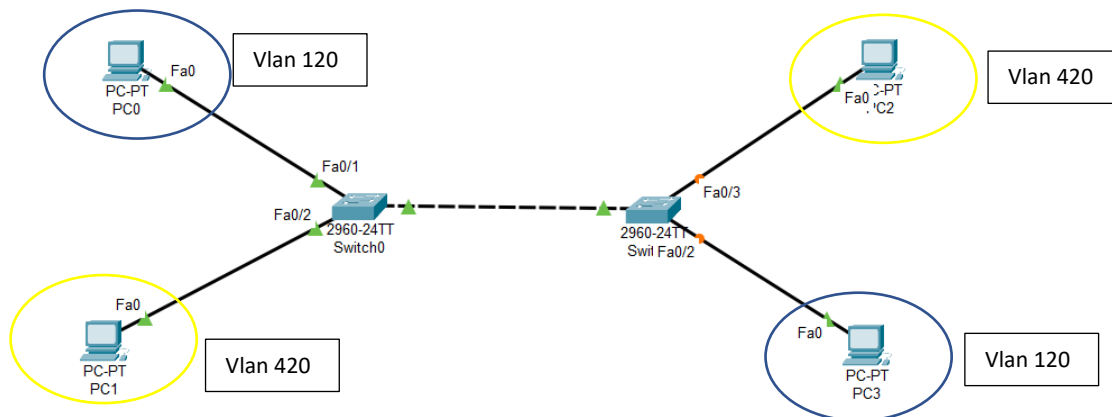
If not in the same Vlan we get the following:

```
Pinging 140.30.20.8 with 32 bytes of data:
Request timed out.
```

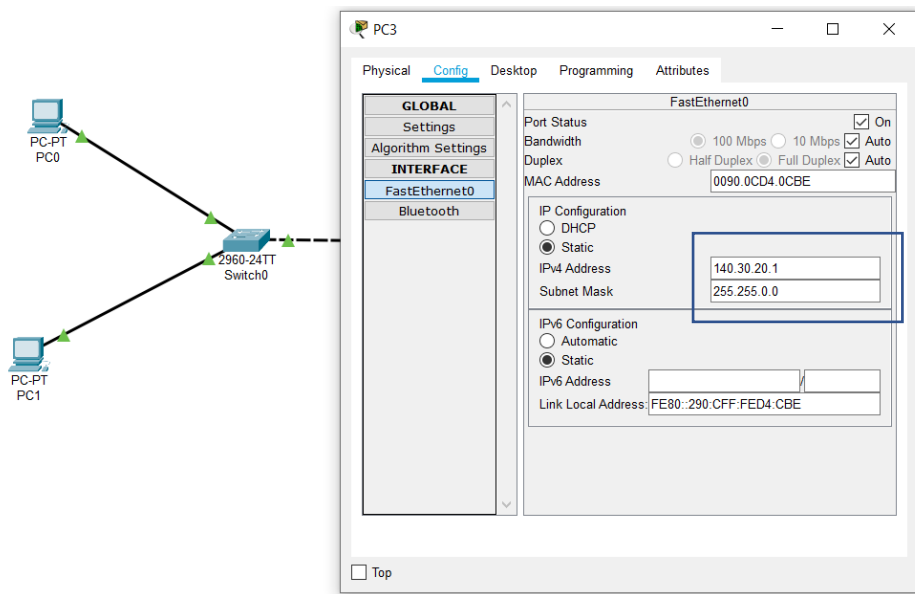
Finally, we will demonstrate Vlan trunking through packet tracer:

We will have 4 PC's all connected to two different switches, PC0 and PC3 to Vlan 120 and PC1 and PC2 to Vlan 420.

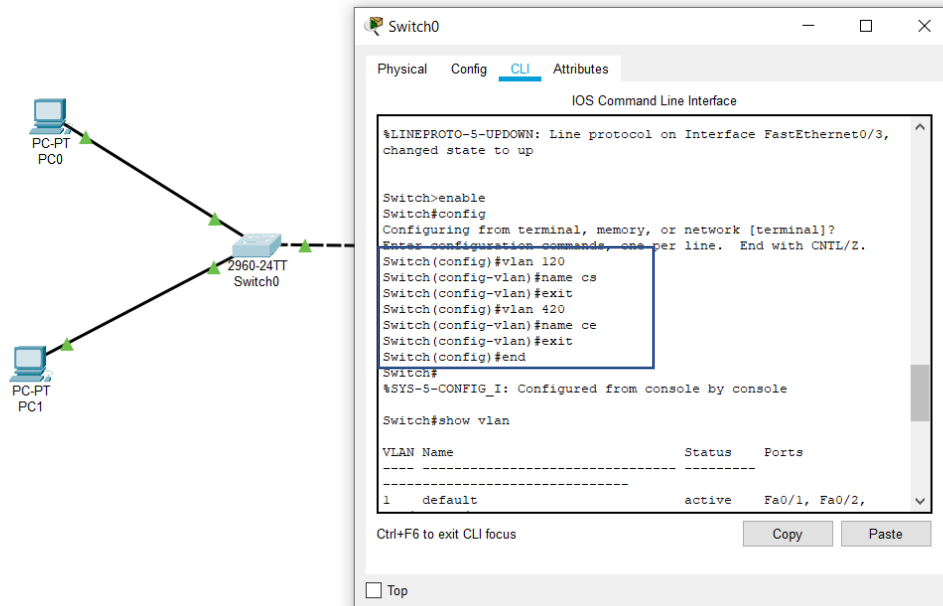
1. Create network and connect PCs to the switch's ports(Cross connection for same devices):



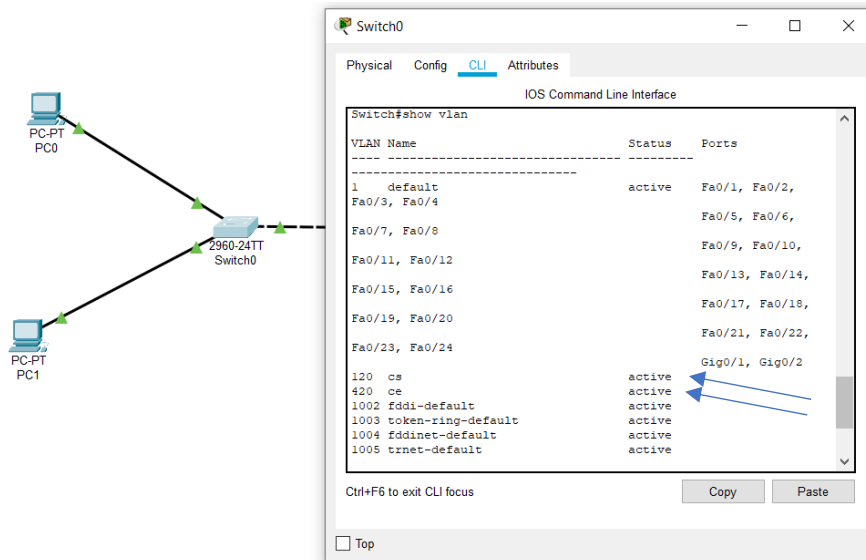
2. Configure the IP of each of the PC's:



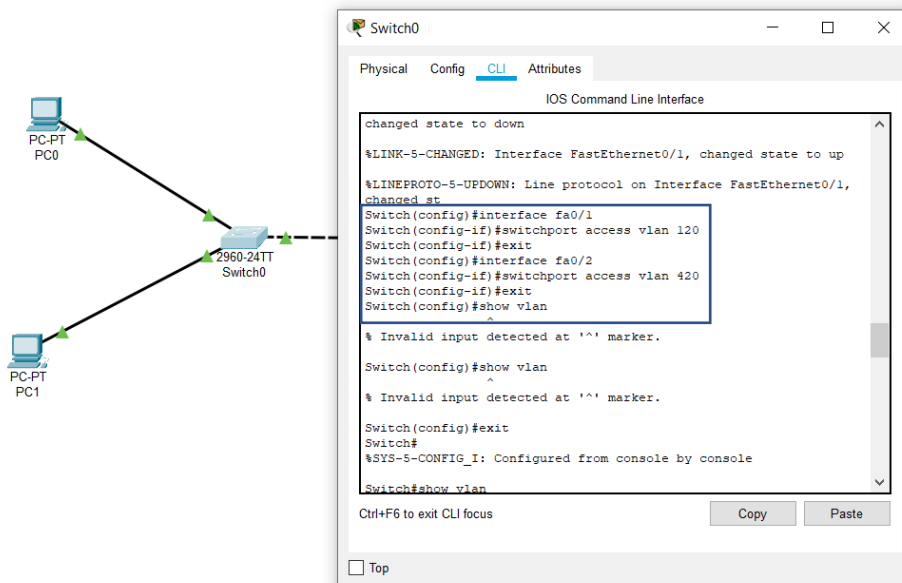
3. Start creating Vlan's, we enter config status and create Vlan's and ID's for both we are using, here it's one for computer science and other for computer engineering:



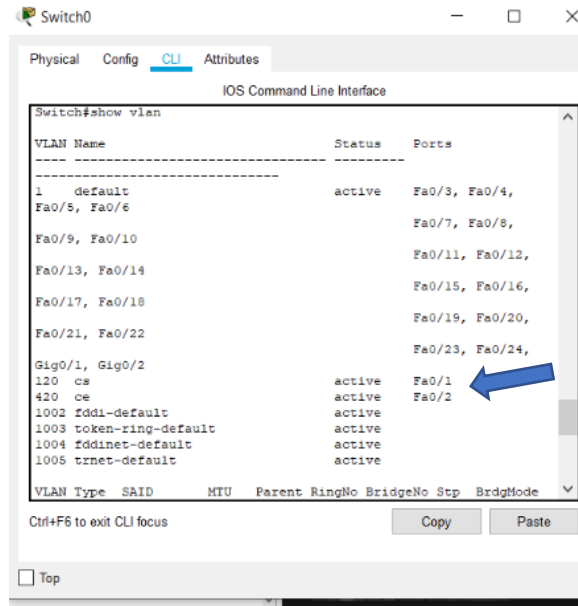
4. Show status and names of created Vlan's:



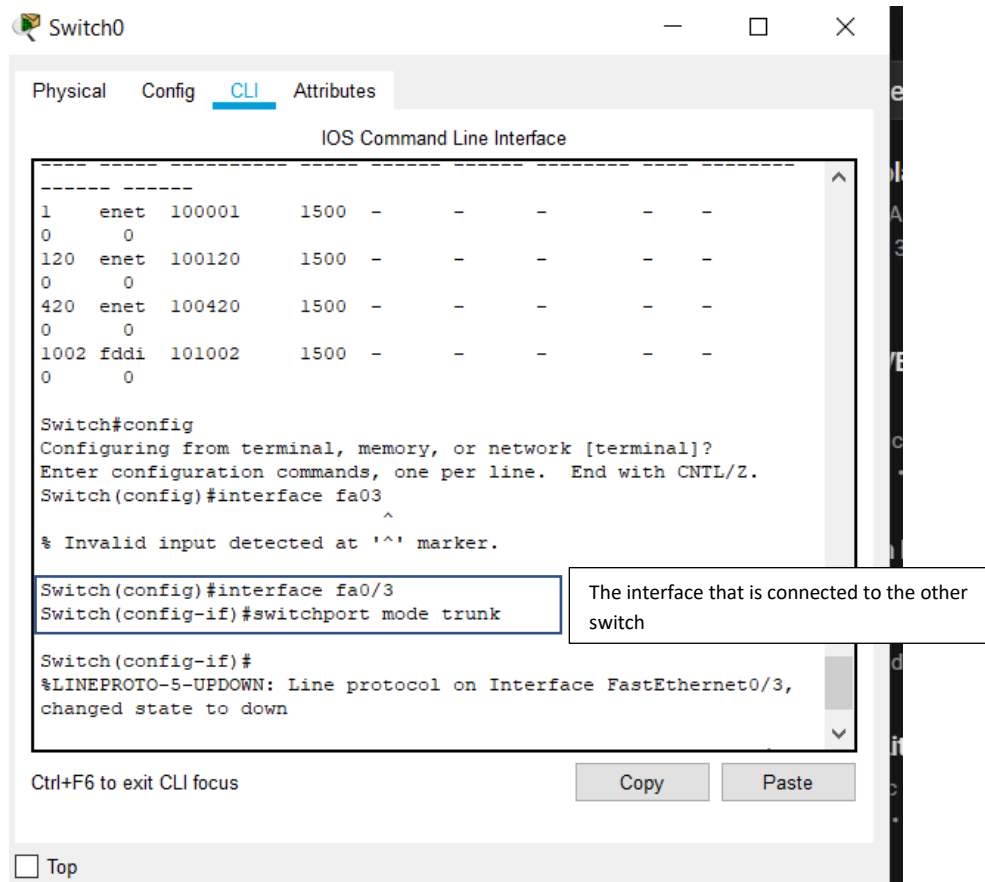
5. Add each PC to correct Vlan through the right known interface from connecting to the switch:



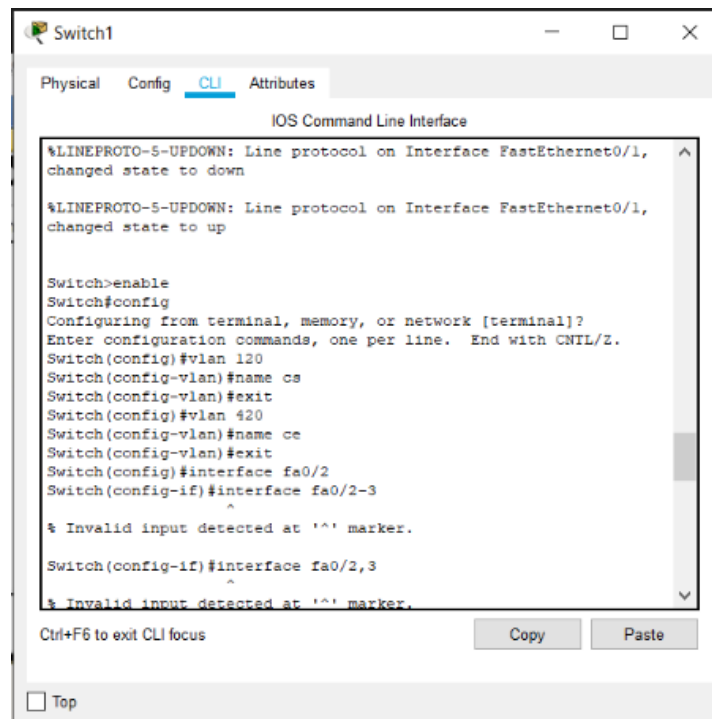
6. Showing connected interfaces and status on each Vlan:



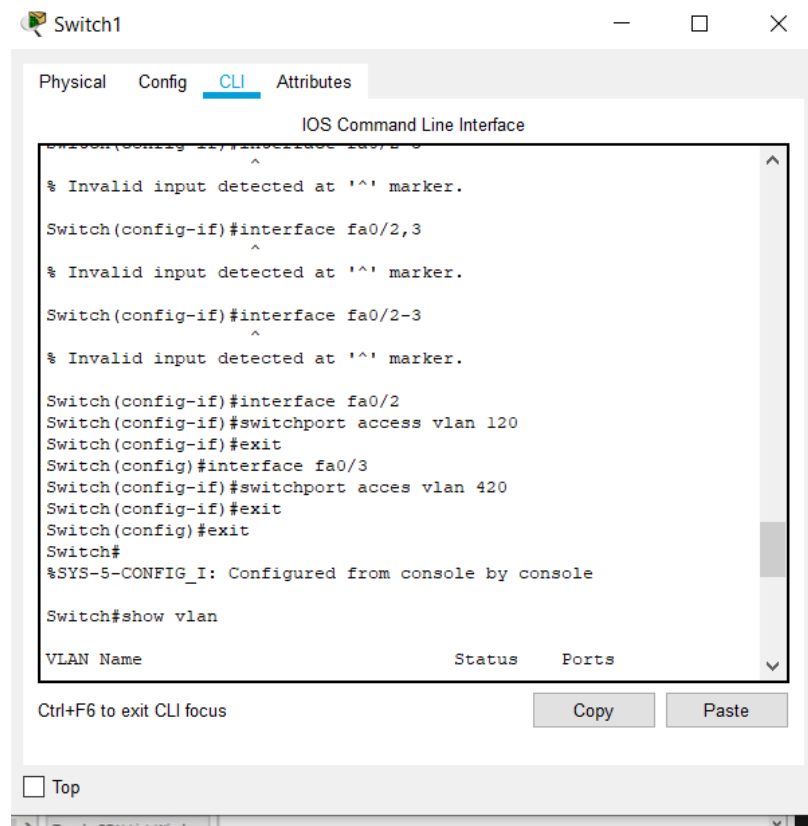
- Thorough the following command we will trunk the switch port to be able to communicate with similar Vlan's on another switch, using the command (switchport mode trunk) to switch mode to trunk:



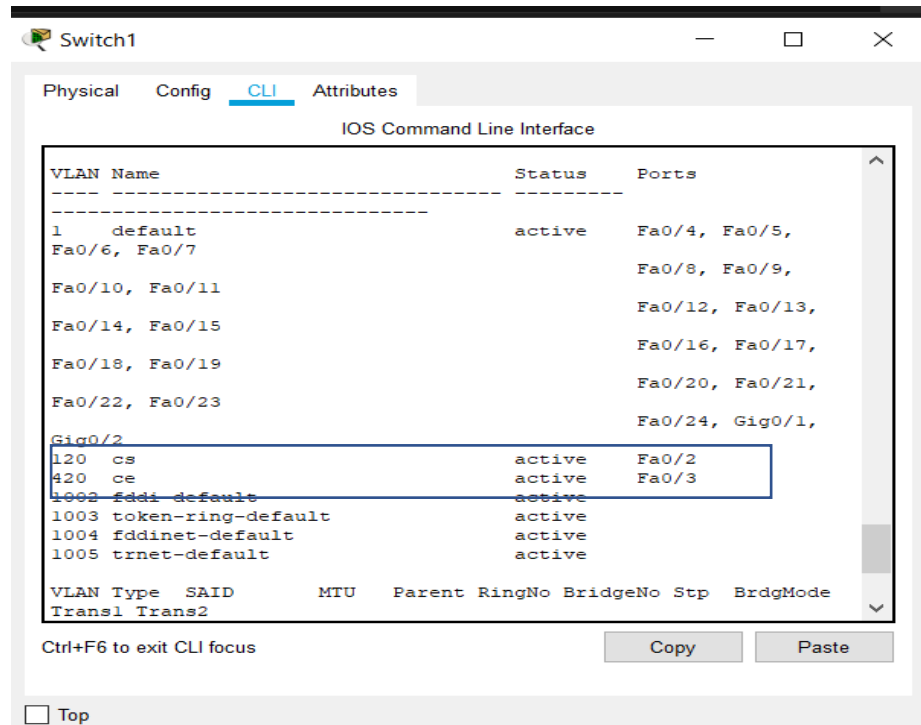
8. Do the same with the other switch and PC's:



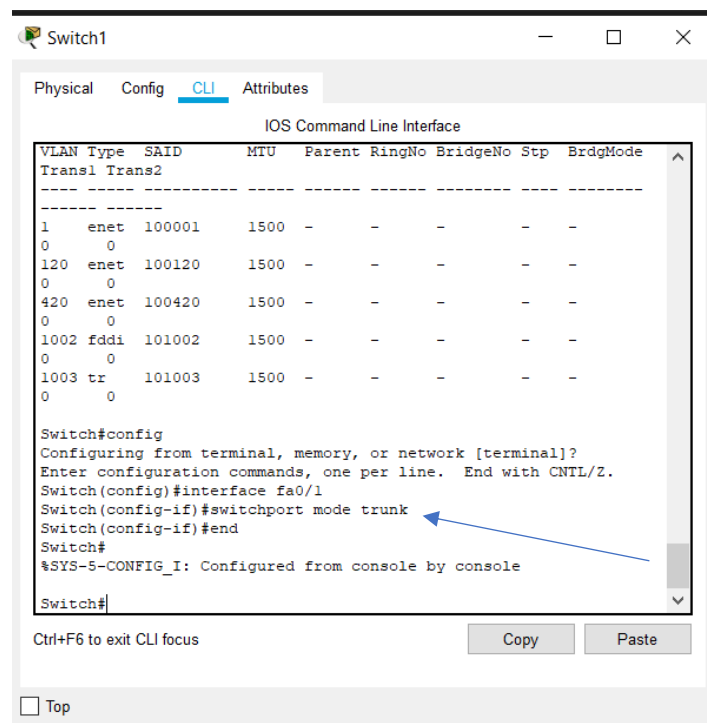
- ## 9. Configure the interfaces:



10. Show the connected interfaces to right Vlan:



11. Trunk the switches port that is connected with other switch to trunk both networks and for the PC's on the same Vlan to communicate:



12. At the End we ping through PC0 and PC3 and find a successful ping on Vlan 120, also a successful ping on Vlan 420 PC's, but a ping failed between PC0 and PC1 because they are not on the same Vlan.

