Lab Activity

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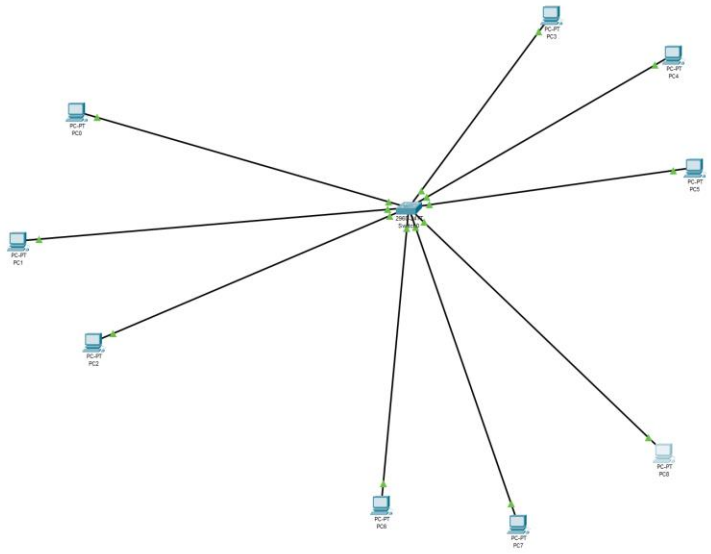
Course: Computer Networks

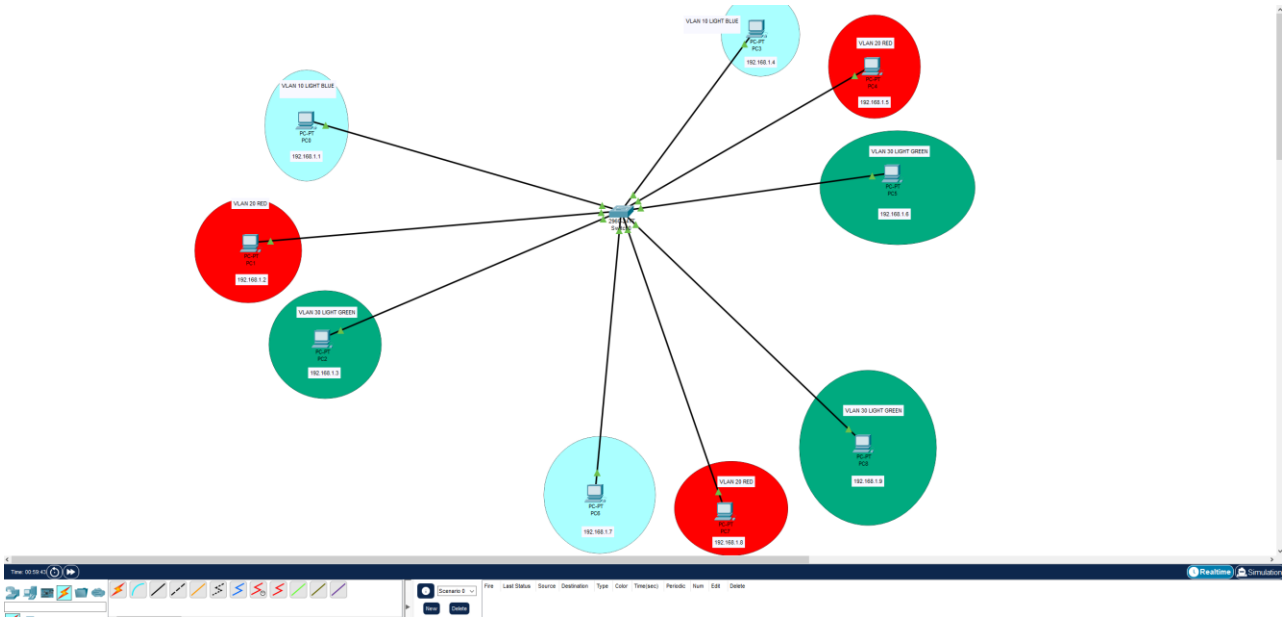
Lab activity:

Create three different VLANs using a single switch and 3 nodes in each broadcast domain.
i-e vlan10, vlan20 and vlan30
Configure the above scenario using the command line interface. (No GUI)

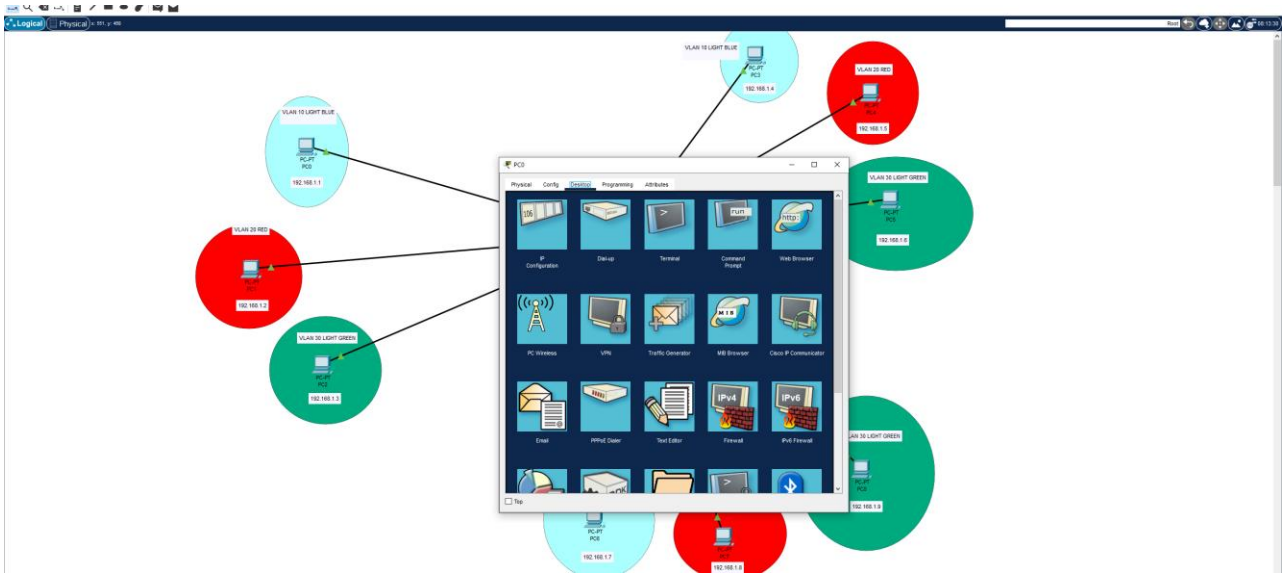
Step 1: Set up the activity structure with one switch and nine PCs.

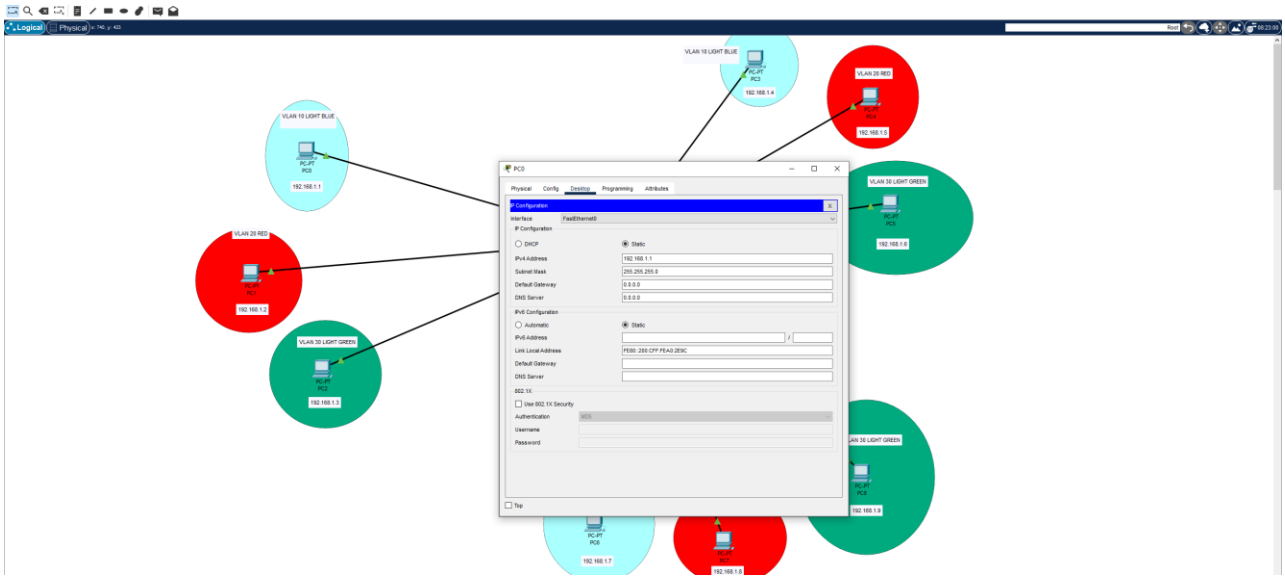


Step 2: Add colors through draw ellipse and Notes to label the devices with their IPs and VLANs.

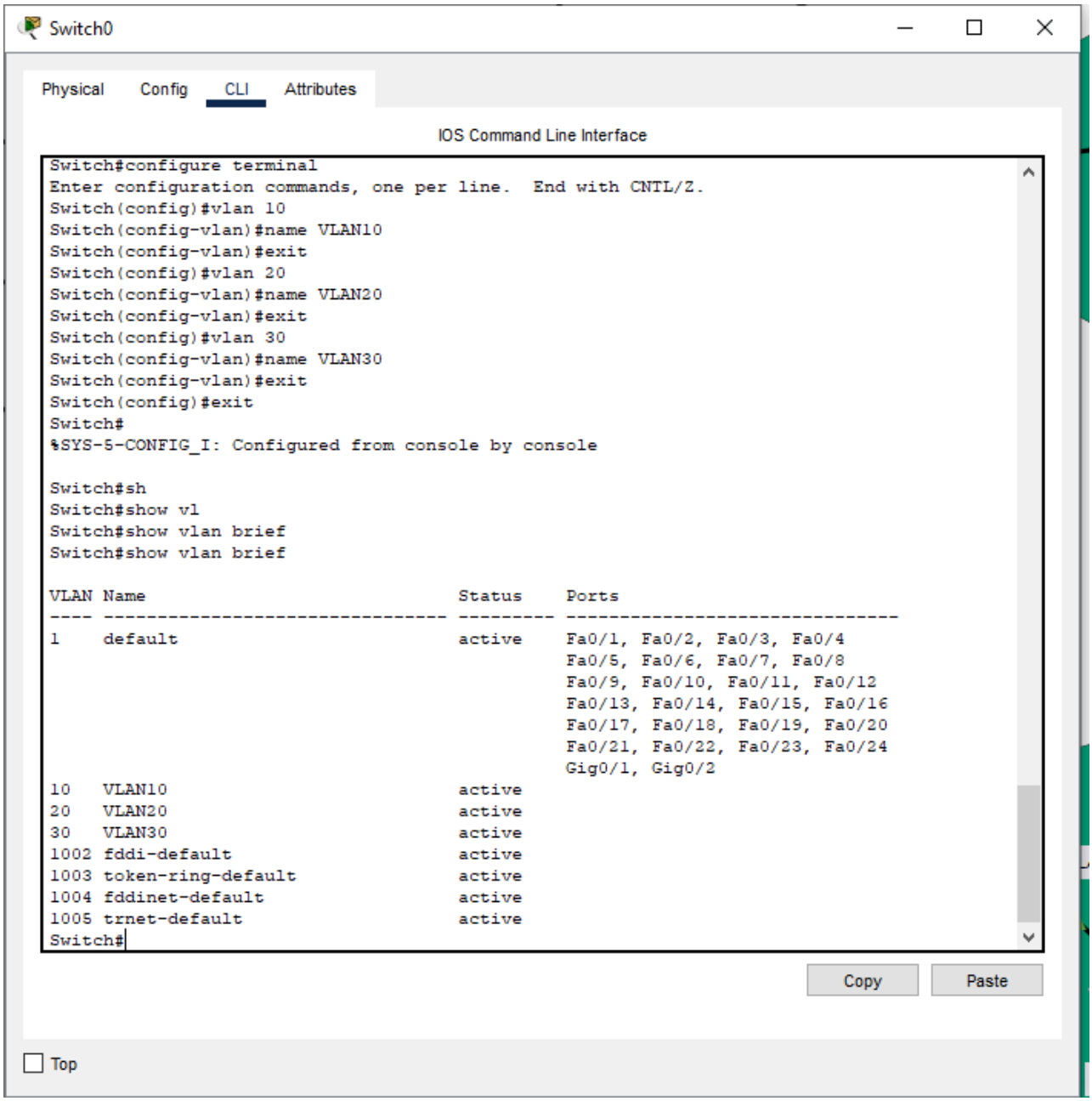

VLAN 10 LIGHT BLUE
PC-PT
PC3
192.168.1.4
VLAN 20 RED
PC-PT
PC4
192.168.1.5
VLAN 10 LIGHT BLUE
PC-PT
PC0
192.168.1.1
VLAN 30 LIGHT GREEN
PC-PT
PC5
192.168.1.6
VLAN 20 RED
PC-PT
PC1
192.168.1.2
VLAN 30 LIGHT GREEN
PC-PT
PC2
192.168.1.3
VLAN 30 LIGHT GREEN
PC-PT
PC8
192.168.1.9
PC-PT
PC6
192.168.1.7
VLAN 20 RED
PC-PT
PC7
192.168.1.8
Realtime
Simulation
Scenario 0
New
Delete
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete

Step 3: Assign IPs to each of the nine PCs, for example, PC0 to 192.168.1.1, PC1 to 192.168.1.2, and so on. Access PC0, go to IP configuration, and set the IP address.



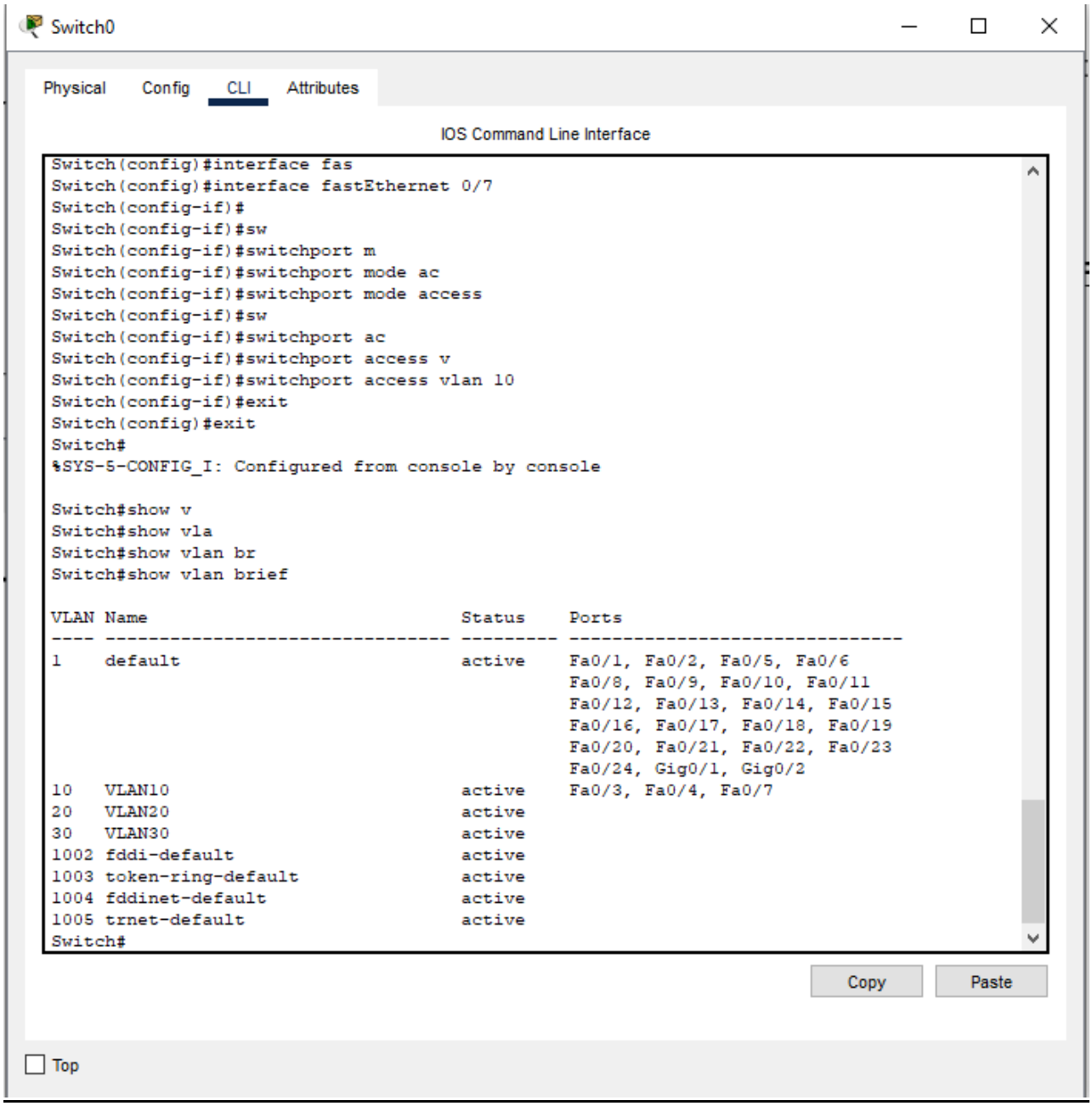


Step 4: Enter global configuration mode, create VLANs, and assign names (e.g., VLAN 10, VLAN 20, VLAN 30). Click the switch, open the CLI, enter the commands, and verify with the command show vlan brief.

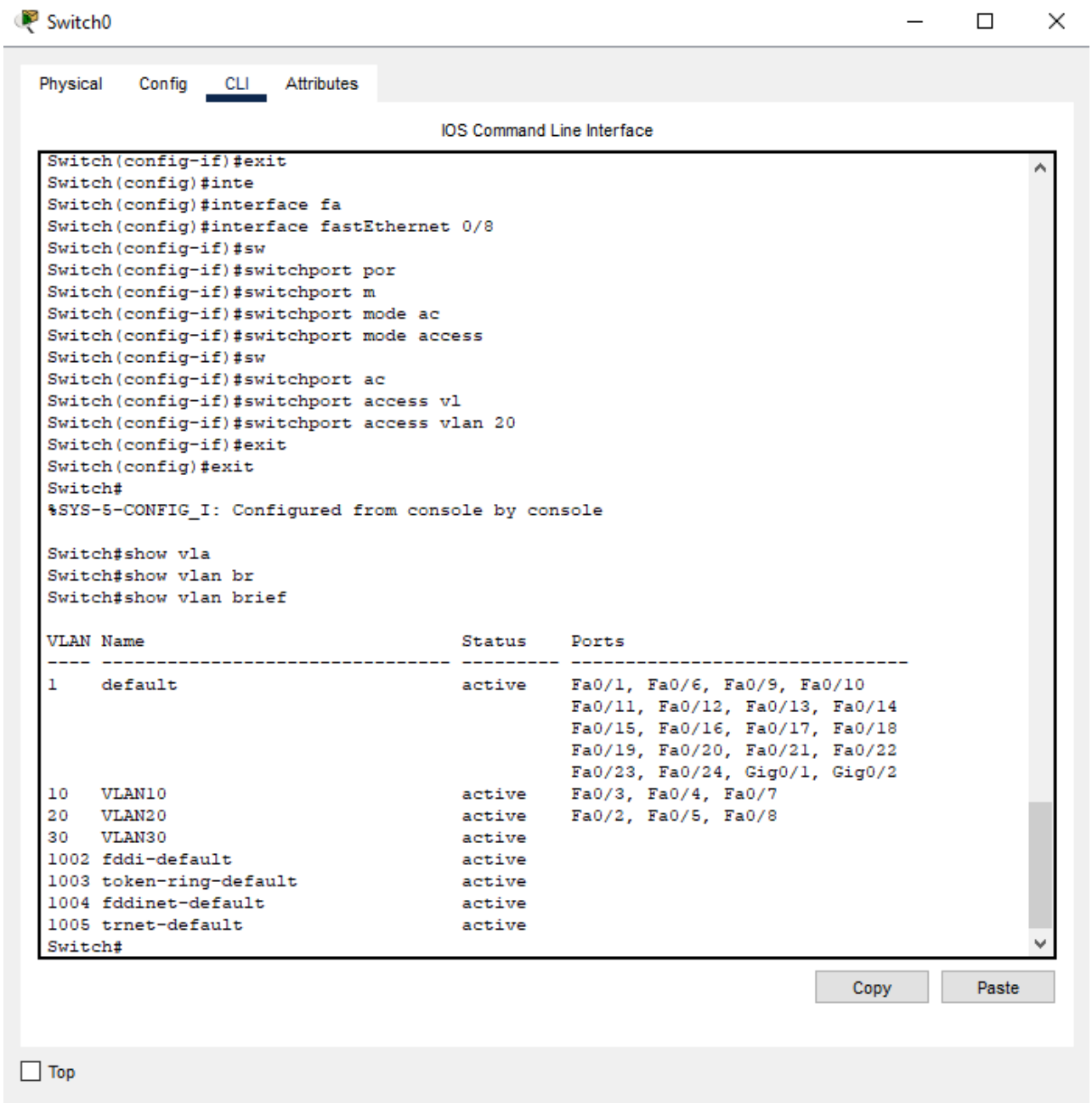


Step 5: Assign the switch ports to their respective VLANs.

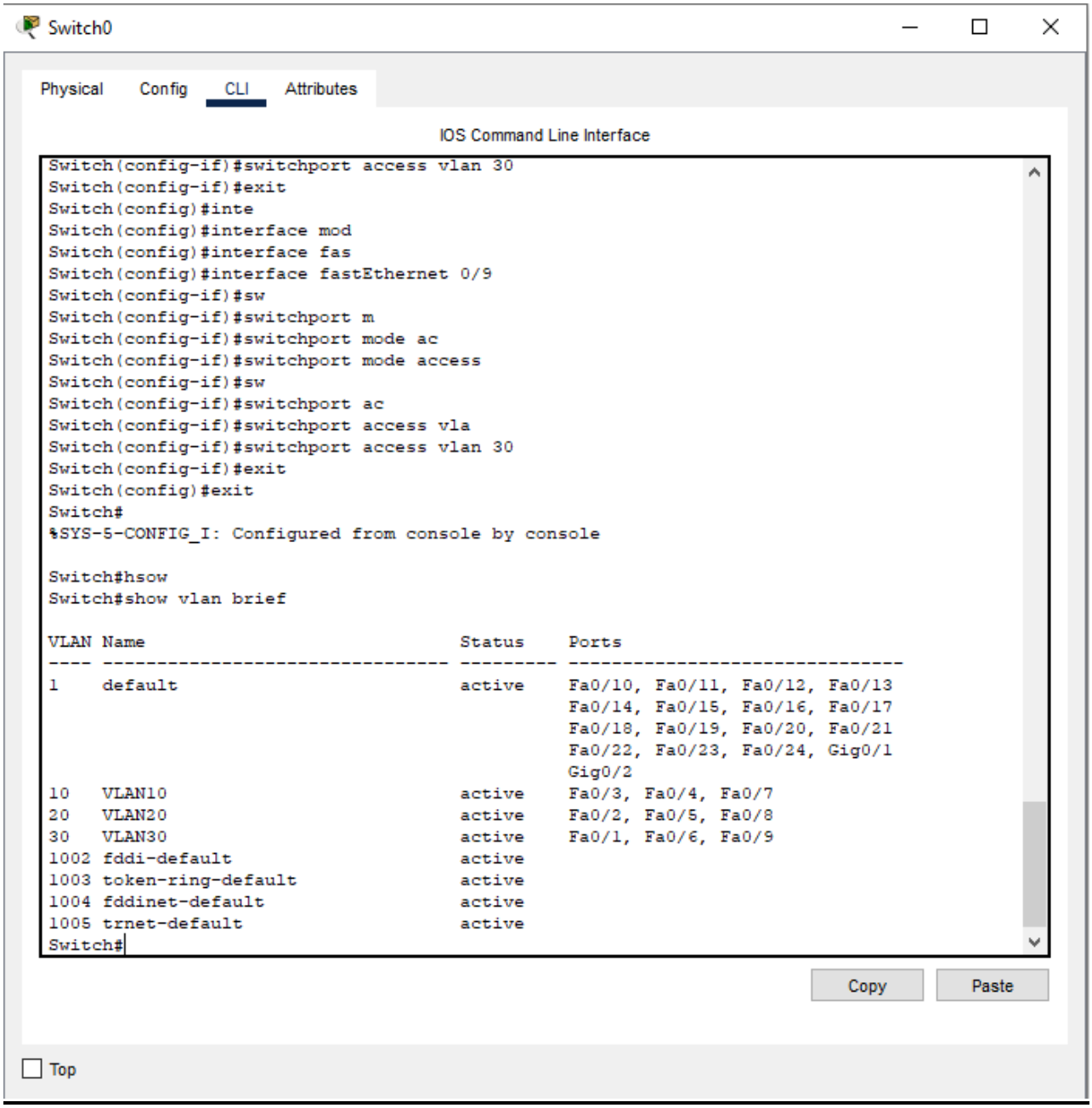
<u>For VLAN 10 (VLAN10), assign Fast Ethernet ports 0/3, 0/4, and 0/7 to the VLAN.</u>



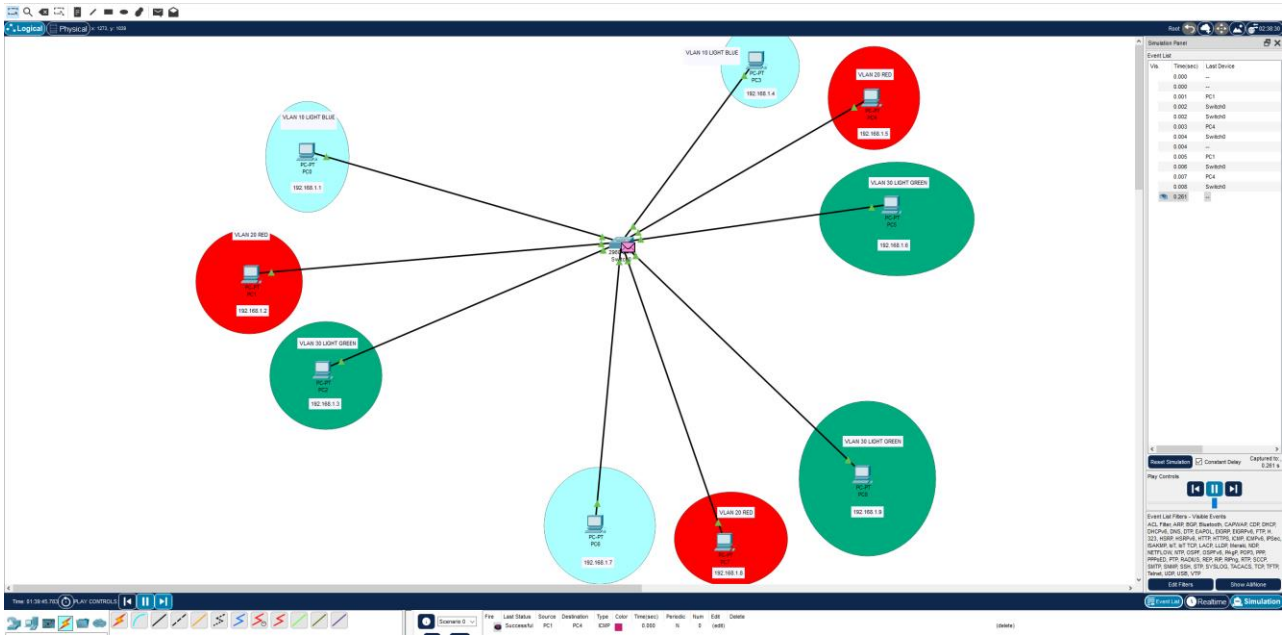
For VLAN 20 (VLAN20), assign Fast Ethernet ports 0/2, 0/5, and 0/8 to the VLAN.



For VLAN 30 (VLAN30), assign Fast Ethernet ports 0/1, 0/6, and 0/9 to the VLAN.



Step 6: Verify the setup by sending some packets to test connectivity.



As you can see, the packet was successfully sent, confirming the setup is correct.