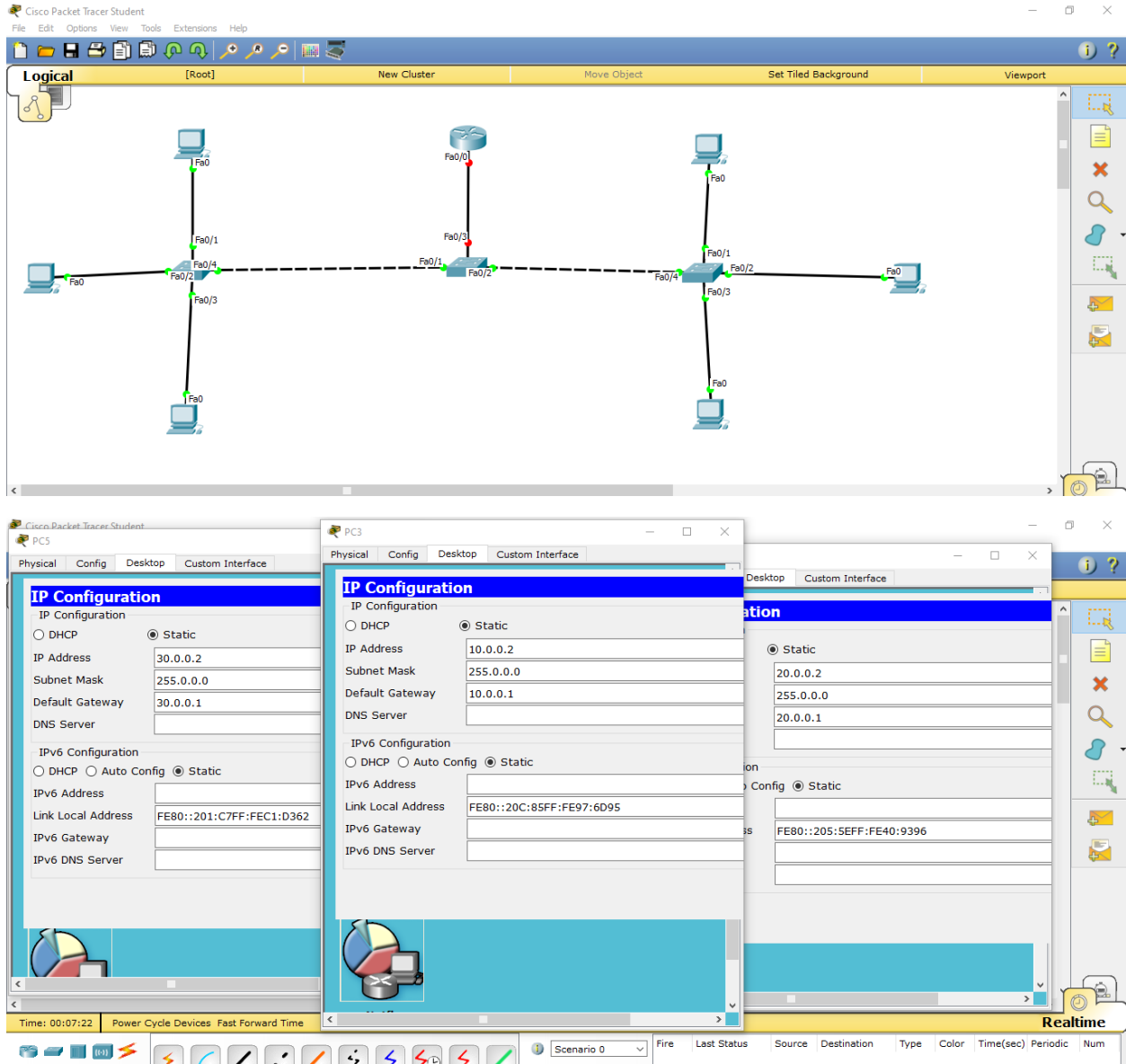


## COMPUTER NETWORKS LAB 12

**QUESTION # 1:**



The image displays the Cisco Packet Tracer Student interface, showing a network topology and configuration windows for three devices: PC1, PC2, and two switches (Switch1 and Switch2).

**Network Topology:** A central switch (Switch2) is connected to three PCs (PC1, PC2, and a third PC) via FastEthernet interfaces. The switch is also connected to two other switches (Switch1 and Switch2) via FastEthernet interfaces.

**PC1 Configuration:**

- IP Configuration: Static IP Address: 20.0.0.3, Subnet Mask: 255.0.0.0, Default Gateway: 20.0.0.1, DNS Server: (empty)
- IPv6 Configuration: Static IPv6 Address: (empty), Link Local Address: FE80::201:63FF:FEC9:64B7, IPv6 Gateway: (empty), IPv6 DNS Server: (empty)

**PC2 Configuration:**

- IP Configuration: Static IP Address: 30.0.0.3, Subnet Mask: 255.0.0.0, Default Gateway: 30.0.0.1, DNS Server: (empty)
- IPv6 Configuration: Static IPv6 Address: (empty), Link Local Address: FE80::201:63FF:FEC9:64B7, IPv6 Gateway: (empty), IPv6 DNS Server: (empty)

**Switch1 Configuration (CLI):**

```
Switch>en
Switch>conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 2
Switch(config-vlan)#name EE
Switch(config-vlan)#vlan 3
Switch(config-vlan)#name CS
Switch(config-vlan)#vlan 4
Switch(config-vlan)#name ACD
Switch(config-vlan)#exit
Switch(config)#int fa0/0
%Invalid interface type and number
Switch(config)#int fa0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 2
Switch(config-if)#int fa0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 3
Switch(config-if)#int fa0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 4
Switch(config-if)#int fa0/4
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up
```

**Switch2 Configuration (CLI):**

```
Switch2>en
Switch2>conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch2(config)#vlan 2
Switch2(config-vlan)#name EE
Switch2(config-vlan)#vlan 3
Switch2(config-vlan)#name CS
Switch2(config-vlan)#vlan 4
Switch2(config-vlan)#name ACD
Switch2(config-vlan)#exit
Switch2(config)#int fa0/0
%Invalid interface type and number
Switch2(config)#int fa0/1
Switch2(config-if)#switchport mode access
Switch2(config-if)#switchport access vlan 2
Switch2(config-if)#int fa0/2
Switch2(config-if)#switchport mode access
Switch2(config-if)#switchport access vlan 3
Switch2(config-if)#int fa0/3
Switch2(config-if)#switchport mode access
Switch2(config-if)#switchport access vlan 4
Switch2(config-if)#int fa0/4
Switch2(config-if)#switchport mode trunk

Switch2(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up
```

The interface includes a bottom toolbar with various tools like Connections, Connections, and a Realtime button.

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Switch5

Physical Config CLI

### IOS Command Line Interface

```
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

Switch>
Switch#en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa 0/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#int fa 0/2
Switch(config-if)#switchport mode trunk
Switch(config-if)#int fa 0/3
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk allowed vlan 2,3,4
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#vlan 2
Switch(config-vlan)#name EE
Switch(config-vlan)#exit
Switch(config)#vlan 3
Switch(config-vlan)#name CS
Switch(config-vlan)#exit
Switch(config)#vlan 4
Switch(config-vlan)#name ACD
Switch(config-vlan)#exit
Switch(config)#vlan 4
Switch(config-vlan)#name ACD
```

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Router4

Physical Config CLI

### IOS Command Line Interface

```
Press RETURN to get started!

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#no shutdown

Router(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

Router(config-if)#int fa0/0.10
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.10, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.10, changed state to up

Router(config-subif)#encapsulation dot1q 3
Router(config-subif)#ip addr 10.0.0.1 255.0.0.0
Router(config-subif)#int fa0/0.20
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.20, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.20, changed state to up

Router(config-subif)#encapsulation dot1q 3
Router(config-subif)#ip addr 20.0.0.1 255.0.0.0
Router(config-subif)#int fa0/0.30
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.30, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.30, changed state to up

Router(config-subif)#encapsulation dot1q 4
Router(config-subif)#ip addr 30.0.0.1 255.0.0.0
Router(config-subif)#
```

Copy Paste

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Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport

PC5

Physical Config Desktop Custom Interface

Command Prompt

```
PC>ping 30.0.0.3

Pinging 30.0.0.3 with 32 bytes of data:

Reply from 30.0.0.3: bytes=32 time=0ms TTL=128
Reply from 30.0.0.3: bytes=32 time=0ms TTL=128
Reply from 30.0.0.3: bytes=32 time=0ms TTL=128
Reply from 30.0.0.3: bytes=32 time=1ms TTL=128

Ping statistics for 30.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>ping 20.0.0.3

Pinging 20.0.0.3 with 32 bytes of data:

Request timed out.
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127
Reply from 20.0.0.3: bytes=32 time=0ms TTL=127

Ping statistics for 20.0.0.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```

Time: 01:51:39 Power Cycle Devices Fast Forward Time

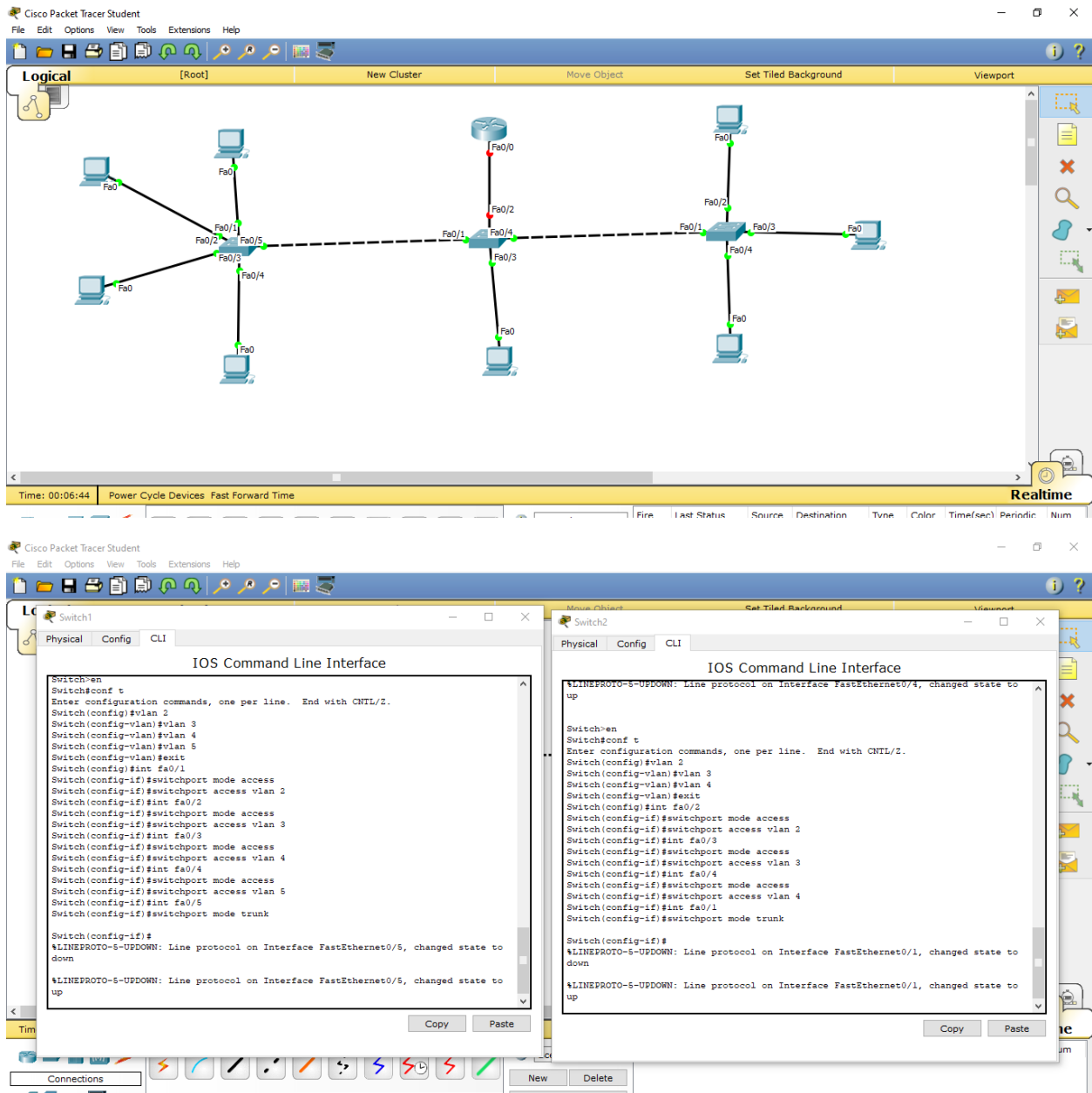
Connections

Toggle PDU List Window

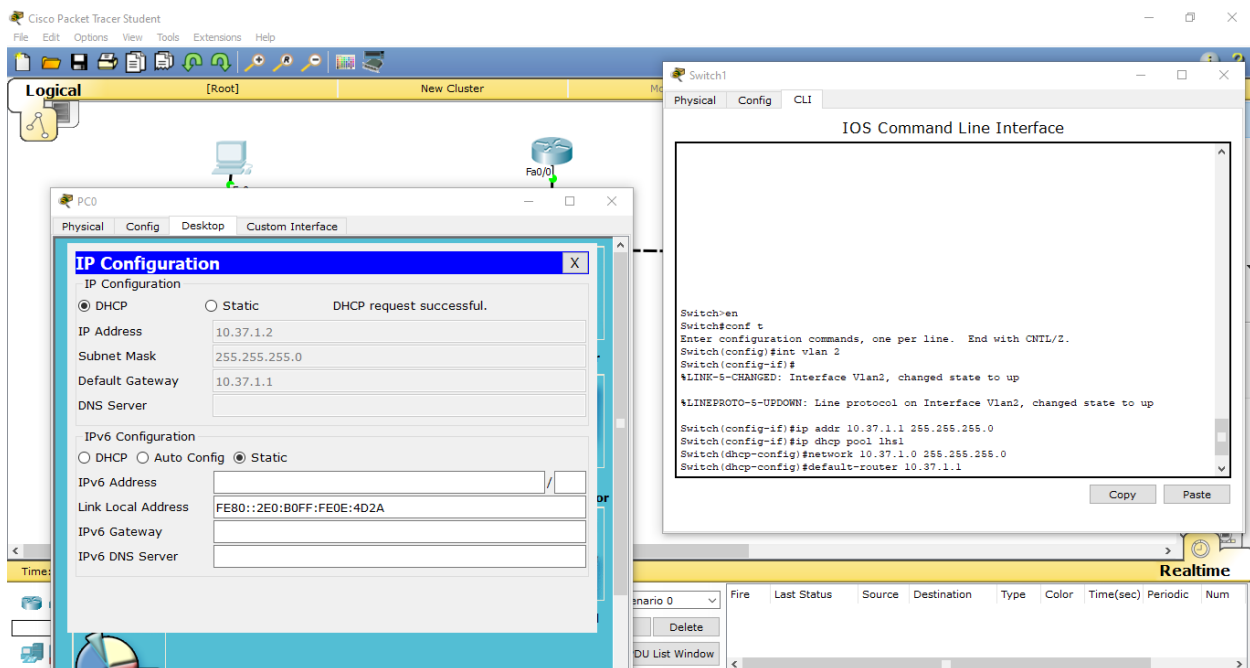
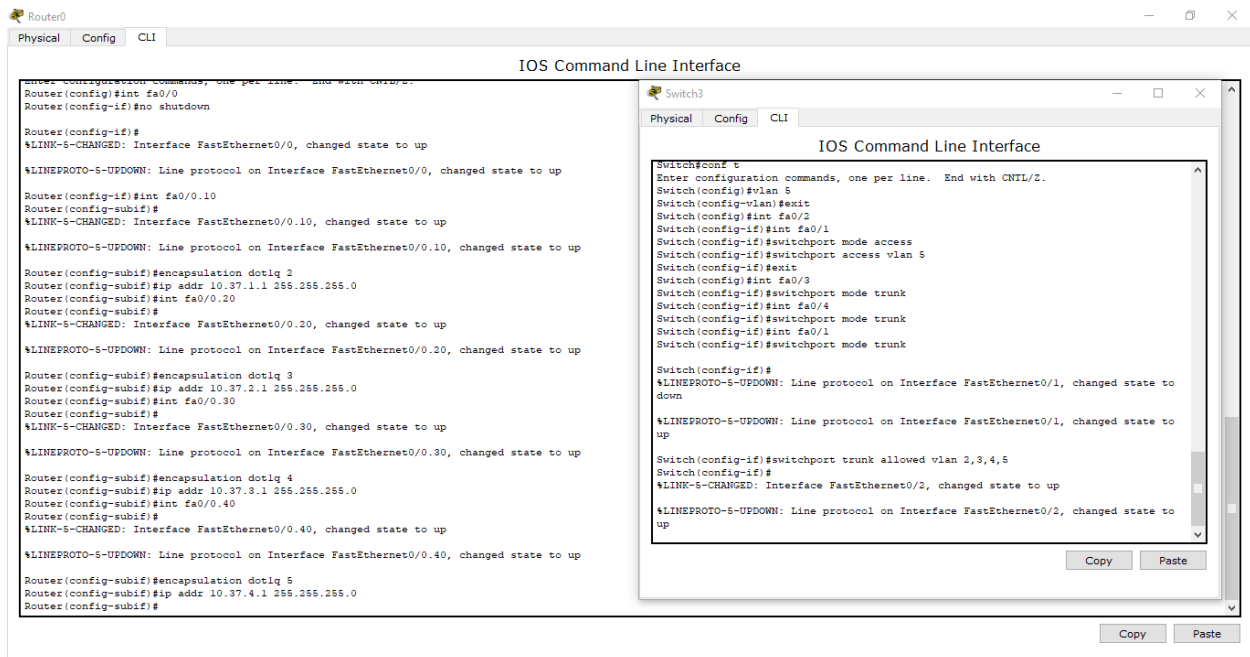
Realtime

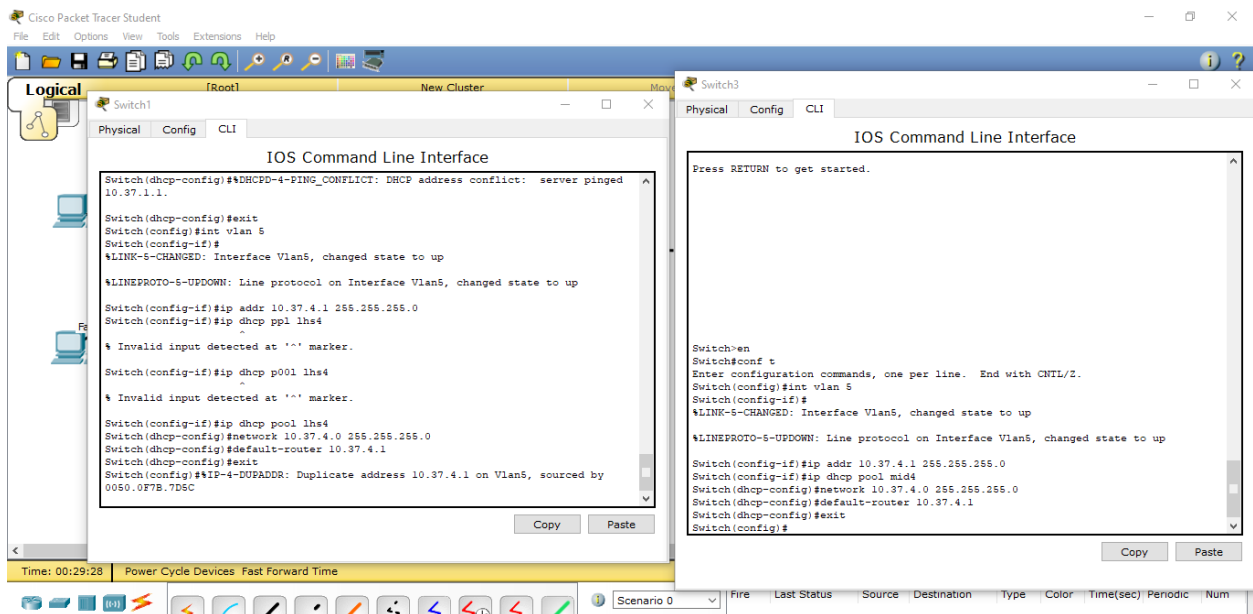
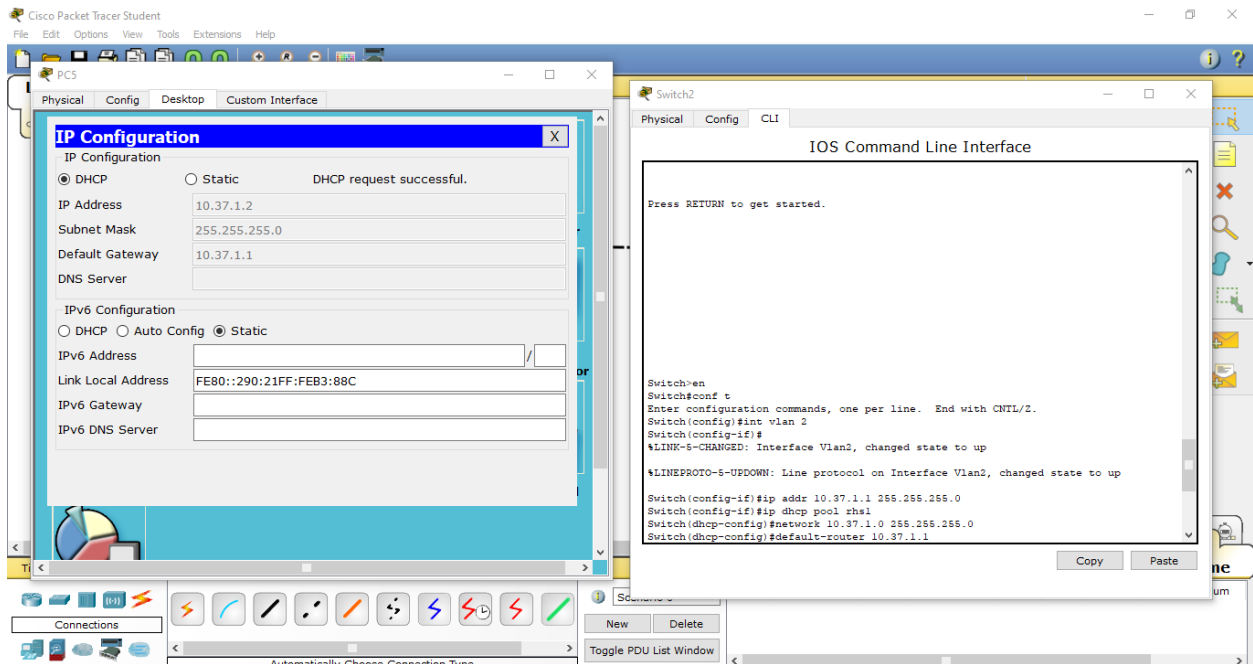
Destination	Type	Color	Time(sec)	Periodic	Num
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## QUESTION # 2:



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