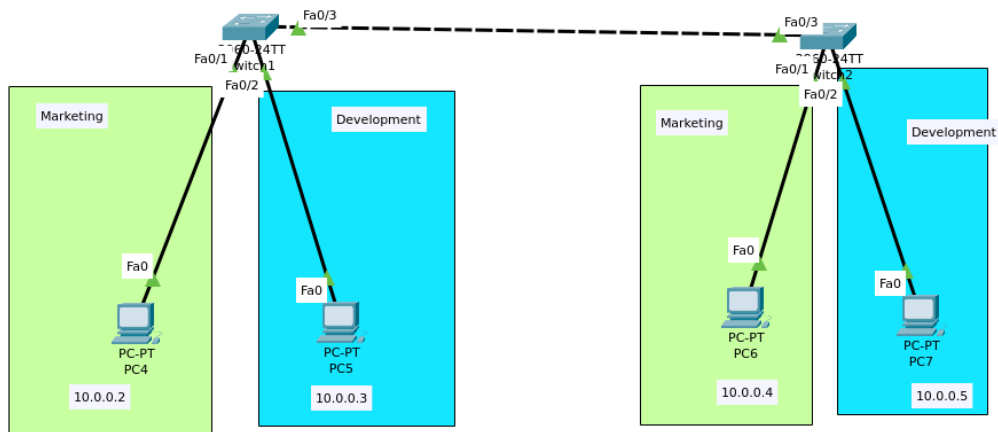


Q5) Setting up VLAN in Cisco Packet Tracer:

The following is the simulated VLAN network:



VLAN 2 is Marketing and VLAN 3 is Development

Note that we do not have VLAN 1 mentioned. This is because VLAN 1 is Switch Default VLAN.

There are two PC connected to each switch, each PC are part of a separate VLAN. Each switch has a pc part of a VLAN which has another PC in another switch, part of the same VLAN.

Switch 1:

```
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 2
Switch(config-vlan)#name Marketing
Switch(config-vlan)#exit
Switch(config)#vlan 3
Switch(config-vlan)#name Development
Switch(config-vlan)#exit
Switch(config)#
```

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Switch 2:

```
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 2
Switch(config-vlan)#name Marketing
Switch(config-vlan)#exit
Switch(config)#vlan 3
Switch(config-vlan)#name Development
Switch(config-vlan)#exit
Switch(config)#
```

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Now, we will assign each pc to a VLAN in each switch.

```
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 2
Switch(config-vlan)#name Marketing
Switch(config-vlan)#exit
Switch(config)#vlan 3
Switch(config-vlan)#name Development
Switch(config-vlan)#exit
Switch(config)#int fa
Switch(config)#int fastEthernet 0/1
Switch(config)#int fastEthernet 0/1
Switch(config-if)#switchport access vlan 2
Switch(config-if)#switchport access vlan 2
Switch(config-if)#exit
Switch(config)#int fa
Switch(config)#int fastEthernet 0/2
Switch(config-if)#switchport access vlan 3
Switch(config-if)#exit
Switch(config)#
```

Same process for the other switch.

Using the CLI menu of the switch, i create 2 vlans: VLAN 2 named Marketing and VLAN 3 named Development. I then assign FastEthernet 0/1 for VLAN 2 and 0/2 for VLAN 3.

VLAN Database in Switch.

```
Switch(config)#do sh vlan br
```

VLAN	Name	Status	Ports
1	default	active	Fa0/3, Fa0/4, Fa0/5, Fa0/6 Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15, Fa0/16, Fa0/17, Fa0/18 Fa0/19, Fa0/20, Fa0/21, Fa0/22 Fa0/23, Fa0/24, Gig0/1, Gig0/2
2	Marketing	active	Fa0/1
3	Development	active	Fa0/2
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

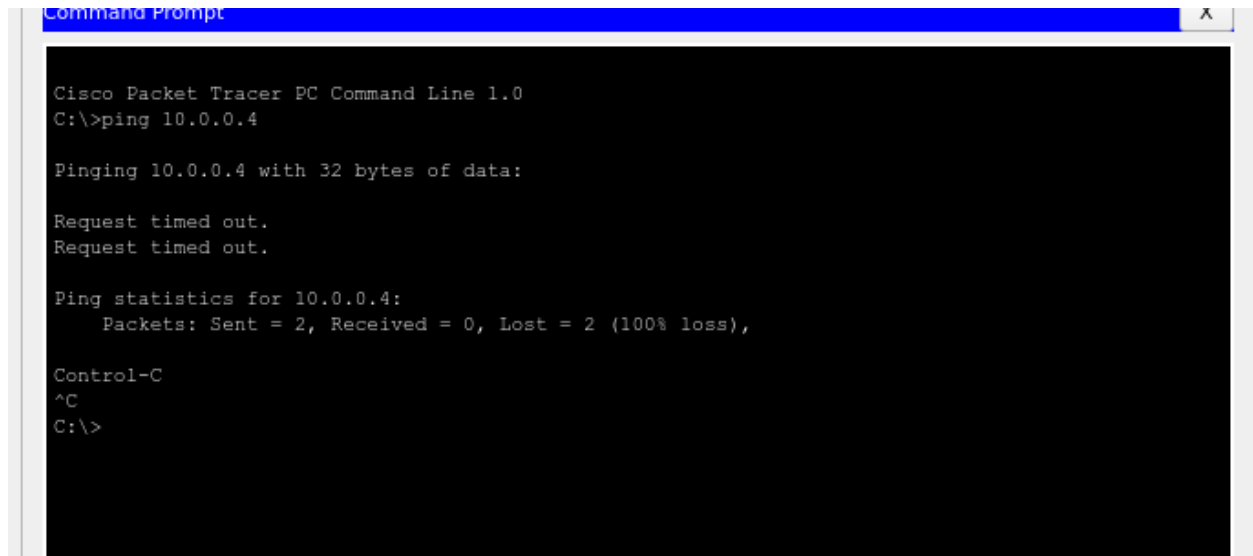
```
Switch(config)#
```

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Same for the other switch.

PING CHECK:



```
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

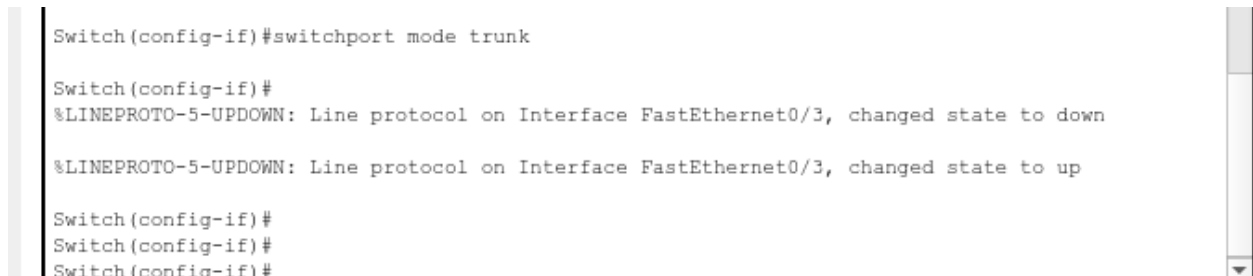
Request timed out.
Request timed out.

Ping statistics for 10.0.0.4:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>
```

Even after assigning VLAN, we can see that we cannot ping to another pc in same VLAN. This is because both the switch are not having trunk ports. So, we have to assign trunk ports.

ASSIGNING TRUNK PORT:



```
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

Switch(config-if)#
Switch(config-if)#
Switch(config-if)#
```

Same for the other switch.

PING CHECK:

```
C:\>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time<1ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128
Reply from 10.0.0.4: bytes=32 time=7ms TTL=128
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 7ms, Average = 1ms

C:\>ping 10.0.0.5

Pinging 10.0.0.5 with 32 bytes of data:

Request timed out.

Ping statistics for 10.0.0.5:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>
```

After assigning trunk port, we can access the other pc in same VLAN. We also cannot access the pc from other VLANs. Thus, we have successfully assigned VLANs and Trunks