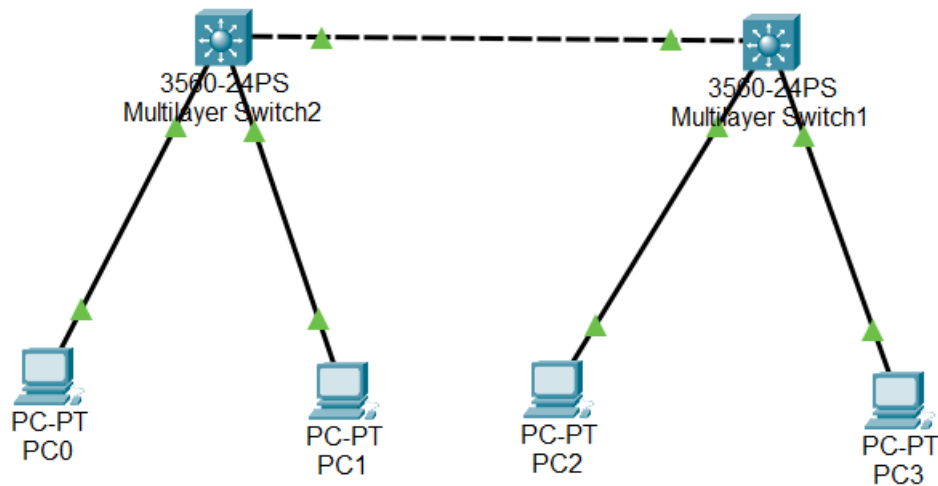


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Experiment 5 Configuration of Encapsulation dot 1Q using cisco packet tracer



To configure VLANs and trunking with IEEE 802.1Q encapsulation on a Cisco Catalyst 3560-24TT switch, follow these steps:

Step-by-Step Configuration

Step 1: Set Up Your Network

1. **Open Cisco Packet Tracer** and create a new workspace.
2. **Add Devices:**
 - Drag and drop a 3560 switch and at least two PCs into the workspace.
 - Connect the PCs to the switch using copper straight-through cables.

Step 2: Configure VLANs on the Switch

1. Access the Switch CLI:

- Click on the switch.
- Go to the CLI tab.

1. Enter Global Configuration Mode:

```
enable
configure terminal
```

2. Create VLANs:

```
vlan 10
name Sales
exit
vlan 20
name Product
exit
```

3. Assign Ports to VLANs:

- Assign FastEthernet 0/1 to VLAN 10:

```
plaintext
Copy code
interface FastEthernet0/1
switchport mode access
switchport access vlan 10
exit
```

- Assign FastEthernet 0/2 to VLAN 20:

```
interface FastEthernet0/2
switchport mode access
switchport access vlan 20
exit
```

Step 3: Configure Trunk Port on the Switch

1. Configure Trunk on the Switch:

```
interface FastEthernet0/3
switchport trunk encapsulation dot1q
switchport mode trunk
exit
```

Step 4: Assign IP Addresses to PCs

1. Configure IP Address on PC1:

- Click on PC1.
- Go to the Desktop tab and click on IP Configuration.
- Assign IP Address: 192.168.10.2

- Subnet Mask: 255.255.255.0
 - Gateway (if needed): 192.168.10.1
2. **Configure IP Address on PC2:**
- Click on PC2.
 - Go to the Desktop tab and click on IP Configuration.
 - Assign IP Address: 192.168.20.2
 - Subnet Mask: 255.255.255.0
 - Gateway (if needed): 192.168.20.1

Step 5: Verify Configuration

1. Check VLANs on the Switch:

```
show vlan brief
```

```
Switch>show vlan brief
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, 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
10	sales	active	
20	product	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

2. Check Trunk Ports:

```
show interfaces trunk
```

```
Switch>show interfaces trunk
Port      Mode      Encapsulation  Status        Native
vlan
Fa0/10    on        802.1q         trunking      1

Port      Vlans allowed on trunk
Fa0/10    1-1005

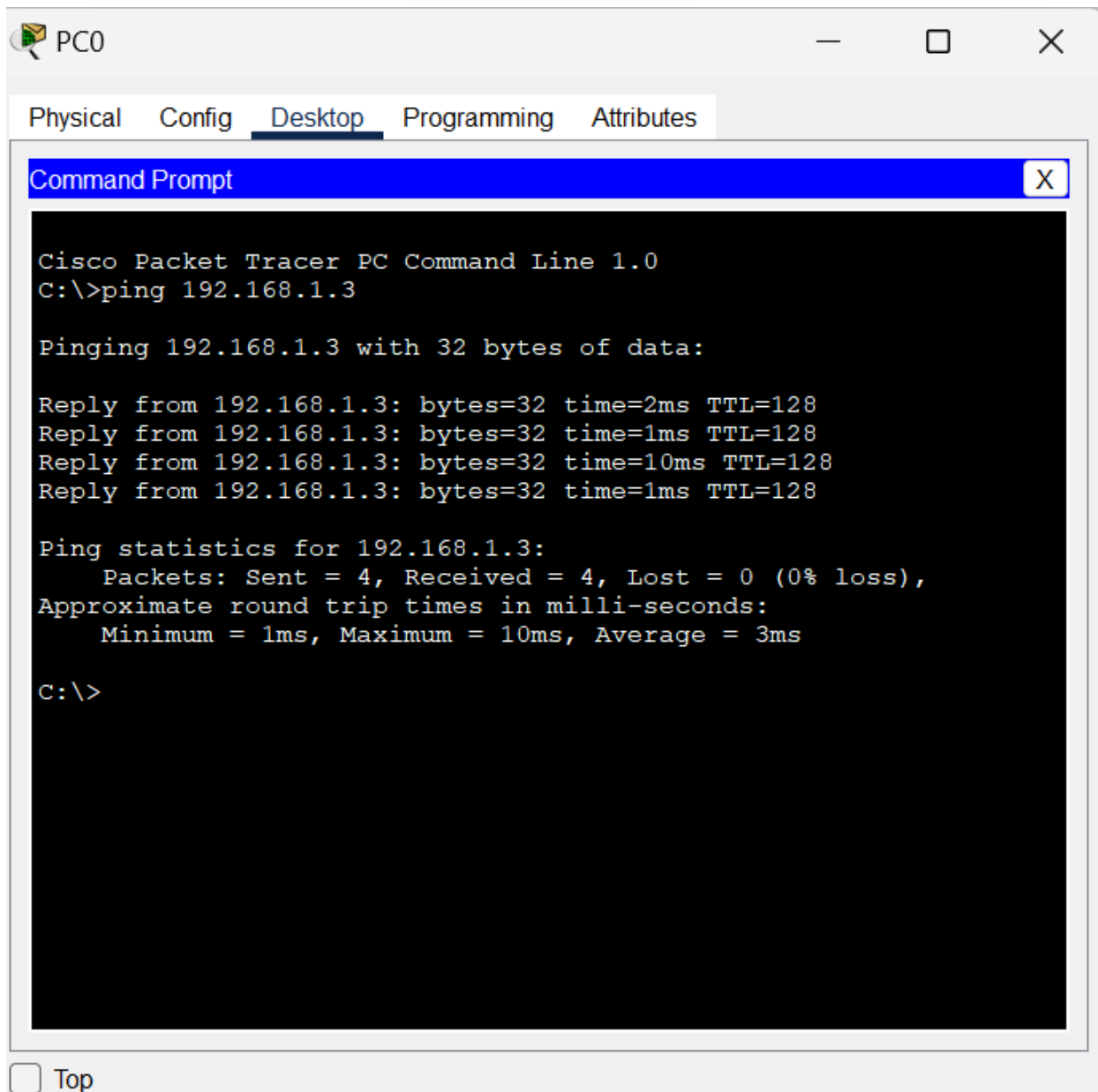
Port      Vlans allowed and active in management domain
Fa0/10    1,2

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/10    1,2

Switch>
```

3. Test Connectivity:

- Go to the command prompt on PC1 and ping PC2 to ensure they can communicate if routing is correctly set up.



1. Ping 192.168.1.2 to 192.168.12.2
2. Ping 192.168.1.3 to 192.168.2.3
3. Ping 192.168.2.2 to 192.168.2.3