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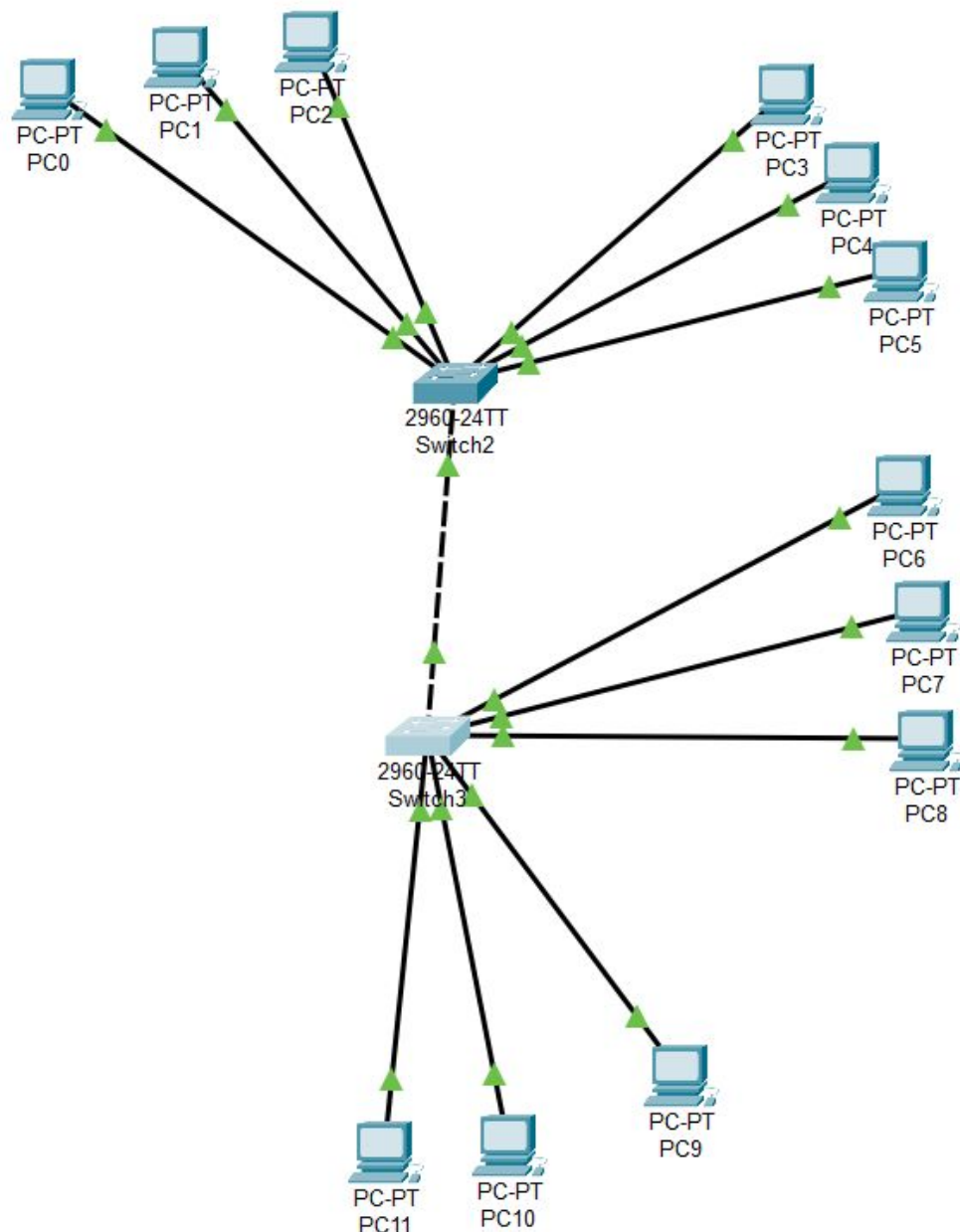
**BBM 453 Computer Networks Lab**

**VLAN Lab Assignment**

**Group ID: 1**

**IP Address: 10.1.xx.x**

This is the topology we used. PC0 to PC2 belongs to VLAN1, PC3 to PC8 belongs to VLAN2 and PC9 to PC11 belongs to VLAN3. Those two switches connected to each other, we understand that by looking at the green arrows on the cable. We used copper-crossover cable for connecting the switches and we used copper straight-through wires to connect each device to switch.



PC4

Physical Config Desktop Programming Attributes

**GLOBAL**

Settings

Algorithm Settings

**INTERFACE**

FastEthernet0

Bluetooth

FastEthernet0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0060.5C82.8642

IP Configuration

☐ DHCP

☒ Static

IPv4 Address 10.1.10.5

Subnet Mask 255.255.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local Address: FE80::260:5CFF:FE82:8642

☐ Top

PC6

Physical Config Desktop Programming Attributes

**GLOBAL**

Settings

Algorithm Settings

**INTERFACE**

FastEthernet0

Bluetooth

FastEthernet0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 00D0.58E9.19CA

IP Configuration

☐ DHCP

☒ Static

IPv4 Address 10.1.20.1

Subnet Mask 255.255.0.0

IPv6 Configuration

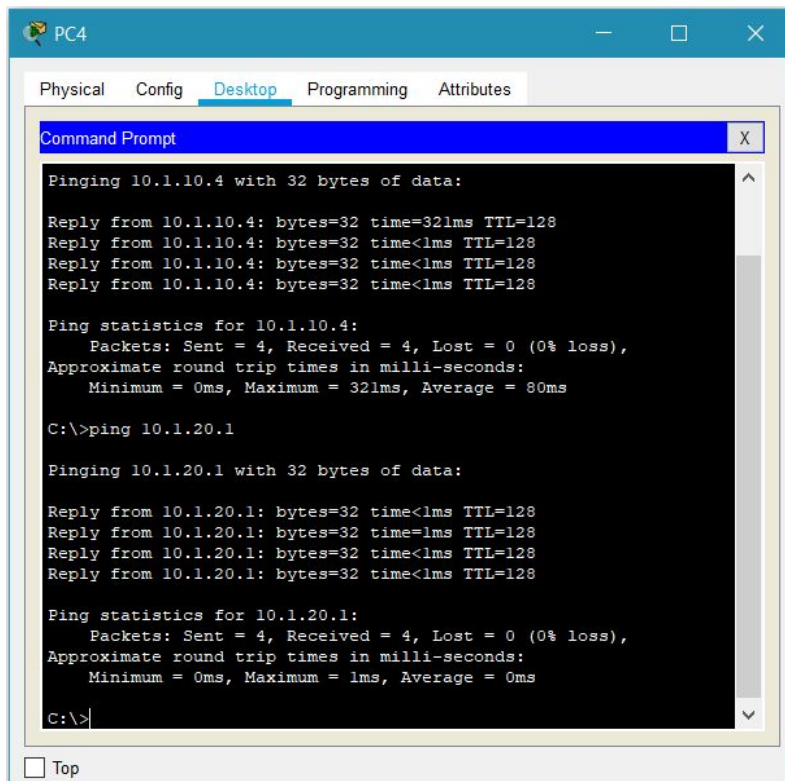
☐ Automatic

☒ Static

IPv6 Address

Link Local Address: FE80::2D0:58FF:FEE9:19CA

☐ Top



The screenshot shows a window titled "PC4" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the results of two ping commands. The first command is "ping 10.1.10.4", which returns four successful replies with 32 bytes of data, a time of 321ms, and a TTL of 128. The statistics for 10.1.10.4 show 4 packets sent, 4 received, 0 lost (0% loss), and an average round trip time of 80ms. The second command is "ping 10.1.20.1", which also returns four successful replies with 32 bytes of data, a time of 1ms, and a TTL of 128. The statistics for 10.1.20.1 show 4 packets sent, 4 received, 0 lost (0% loss), and an average round trip time of 0ms. The Command Prompt window has a "Top" button at the bottom left.

```
PC4
Physical Config Desktop Programming Attributes
Command Prompt
X
Pinging 10.1.10.4 with 32 bytes of data:

Reply from 10.1.10.4: bytes=32 time=321ms TTL=128
Reply from 10.1.10.4: bytes=32 time<1ms TTL=128
Reply from 10.1.10.4: bytes=32 time<1ms TTL=128
Reply from 10.1.10.4: bytes=32 time<1ms TTL=128

Ping statistics for 10.1.10.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 321ms, Average = 80ms

C:\>ping 10.1.20.1

Pinging 10.1.20.1 with 32 bytes of data:

Reply from 10.1.20.1: bytes=32 time<1ms TTL=128
Reply from 10.1.20.1: bytes=32 time<1ms TTL=128
Reply from 10.1.20.1: bytes=32 time<1ms TTL=128
Reply from 10.1.20.1: bytes=32 time<1ms TTL=128

Ping statistics for 10.1.20.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

We pinged from **PC4(10.1.10.5)** to **PC6(10.1.20.1)**. The ping result is successful. By looking at the result we can say even if they are connected to different switches they can ping each other because they belong to the same VLAN which is VLAN2 in our case.

PC0

PhysicalConfigDesktopProgrammingAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

☒ On

Bandwidth

☒ 100 Mbps

☐ 10 Mbps

☒ Auto

Duplex

☐ Half Duplex

☒ Full Duplex

☒ Auto

MAC Address

000B.BE12.8293

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

10.1.10.1

Subnet Mask

255.255.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local Address

FE80::20B:BEFF:FE12:8293

☐ Top

PC3

PhysicalConfigDesktopProgrammingAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

☒ On

Bandwidth

☒ 100 Mbps

☐ 10 Mbps

☒ Auto

Duplex

☐ Half Duplex

☒ Full Duplex

☒ Auto

MAC Address

0005.5E87.8B15

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

10.1.10.4

Subnet Mask

255.255.0.0

IPv6 Configuration

☐ Automatic

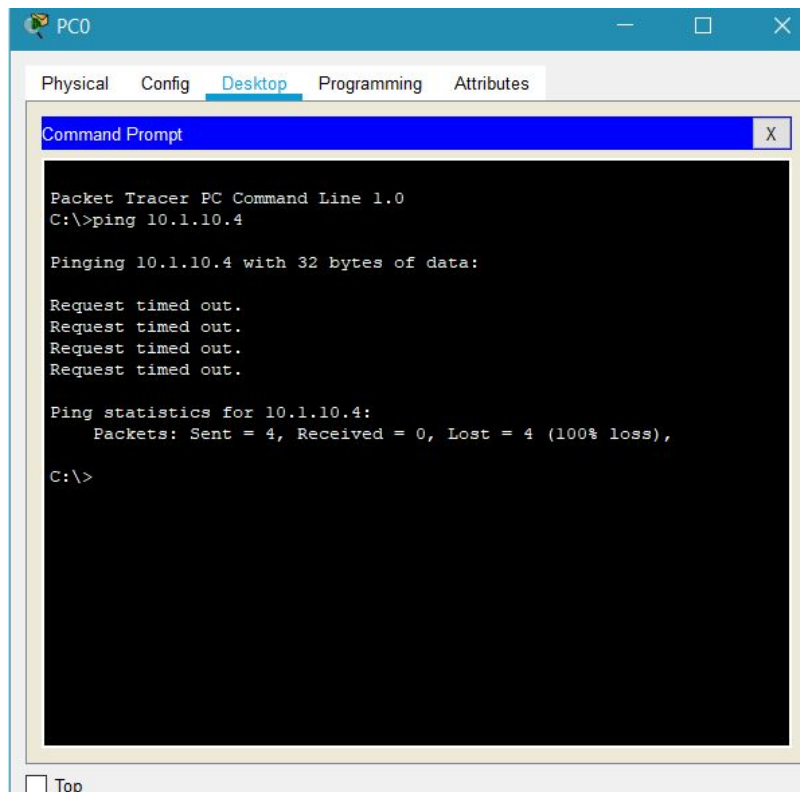
☒ Static

IPv6 Address

Link Local Address

FE80::205:5EFF:FE87:8B15

☐ Top



We pinged from **PC0(10.1.10.1)** to **PC3(10.1.10.4)**. The result of the ping command is unsuccessful, because, although they are connected to the same switch, they are in different VLAN. That's why they cannot communicate with each other.



We use the `show vlan` command in the above pictures to see our VLAN topology. Our vlan names are default which is VLAN1 and VLAN2 which is VLAN2 in our case. Their ids are 1 and 2. This command is for Switch 2.

```
Switch2>show vlan
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, 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, Gig0/1 Gig0/2
2	VLAN2	active	Fa0/4, Fa0/5, Fa0/6, Fa0/7
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Transl	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	-	0	0
1004	fdnet	101004	1500	-	-	-	ieee	-	0	0

--More--

We use the `show vlan` command in the above pictures to see our VLAN topology. Our vlan names are VLAN2 which is VLAN2 and VLAN3 which is VLAN3 in our case. Their ids are 2 and 3. This command is for Switch 3.

```
Switch3>show vlan
```

VLAN	Name	Status	Ports
1	default	active	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, Gig0/1, Gig0/2
2	VLAN2	active	Fa0/1, Fa0/2, Fa0/3
3	VLAN3	active	Fa0/4, Fa0/5, Fa0/6
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Transl	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0
3	enet	100003	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	-	0	0

--More--

NOTE: We did not use the CLI tab while executing the commands due to getting % **Invalid input detected at '^' marker.** error.  
That's why we used the Config part. In fact, they both do the same configuration so that we manage to achieve our goals in this experiment.