

**I H C QU C GIA THÀNH PH H CHÍ MINH
TR NG I H C KHOA H C T NHIÊN**

**KHOA CÔNG NGH THÔNG TIN
MÔN:TH C T P M NG MÁY TÍNH**

BÁO CÁO BÀI T P TU N 4 + 5

VLAN VÀ VTP

L p: 09HCA

H tên : Võ Hu nh an

MSSV : 0941037

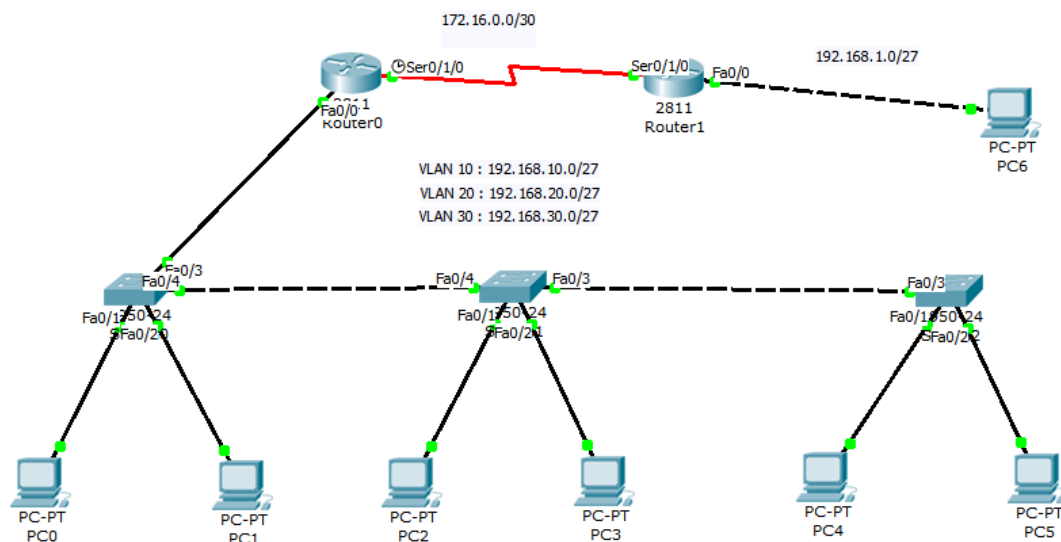
Phần 1: VLAN

Yêu cầu:

- Cấu hình tất cả switch và router cho phép các máy tính thuộc các VLAN khác nhau có thể liên lạc với nhau.
- Cấu hình tất cả switch và router cho phép các máy tính thuộc các VLAN khác nhau có thể liên lạc với nhau.
- Thêm R1, cấu hình như tùy chọn cho phép tất cả các PC có thể liên lạc được với nhau.

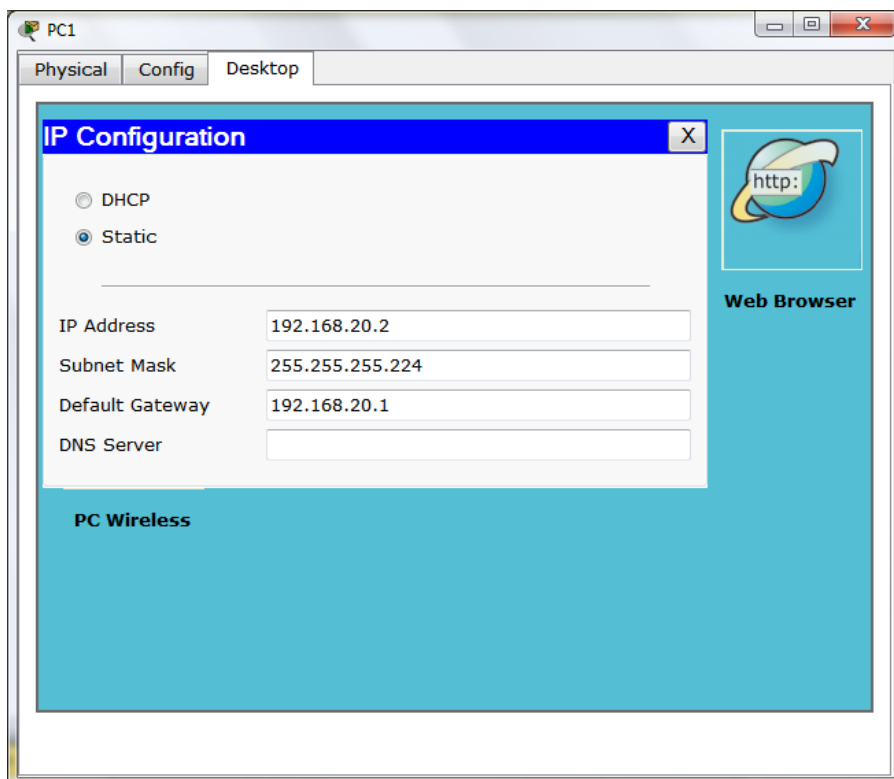
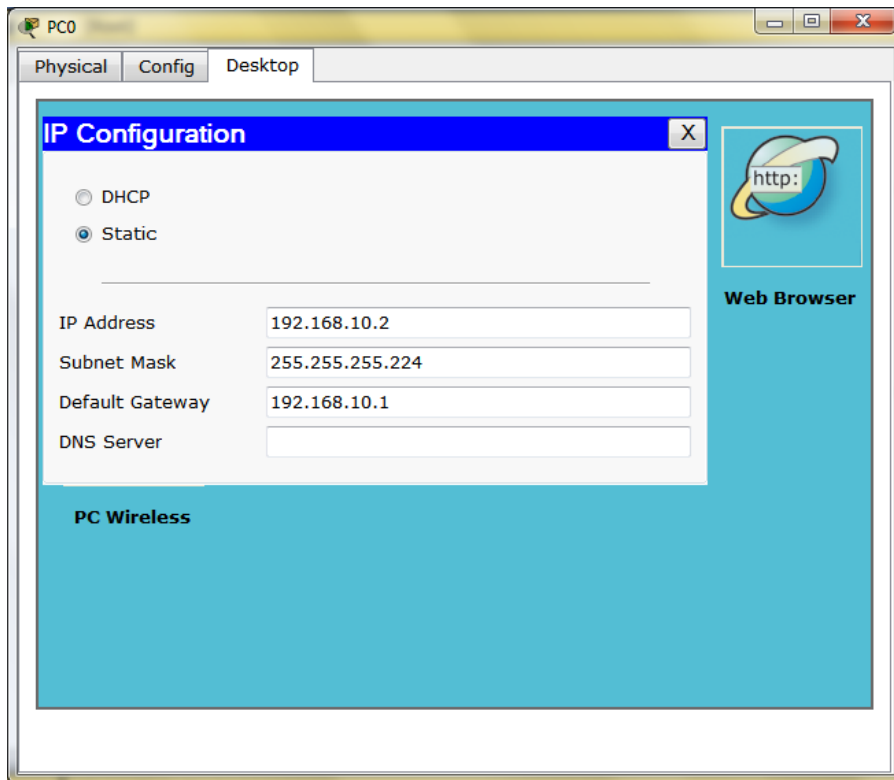
Bài làm:

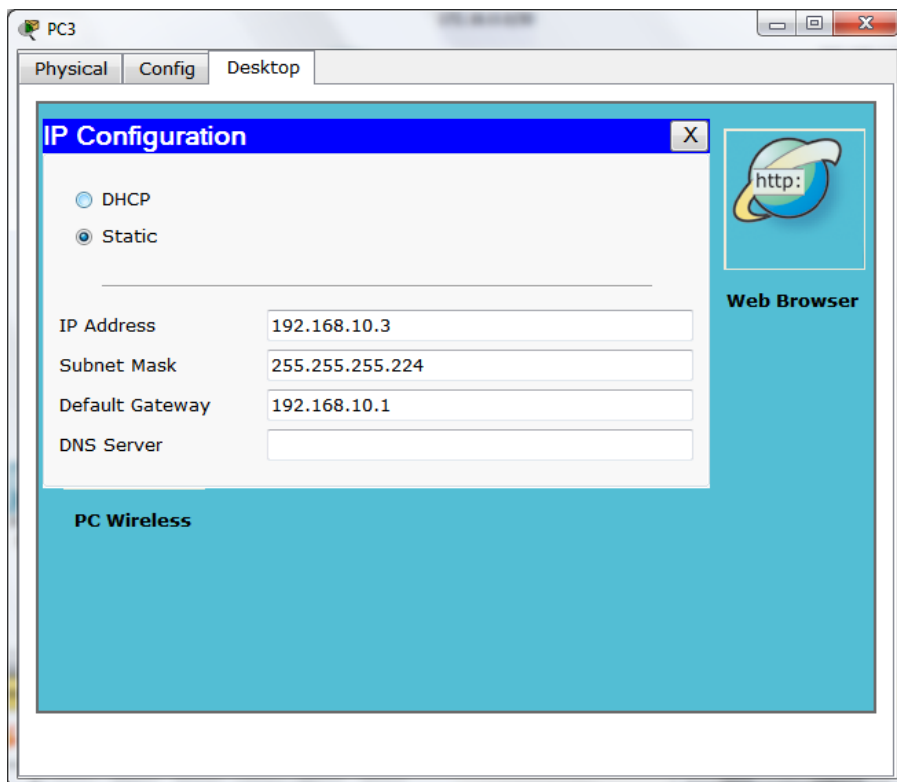
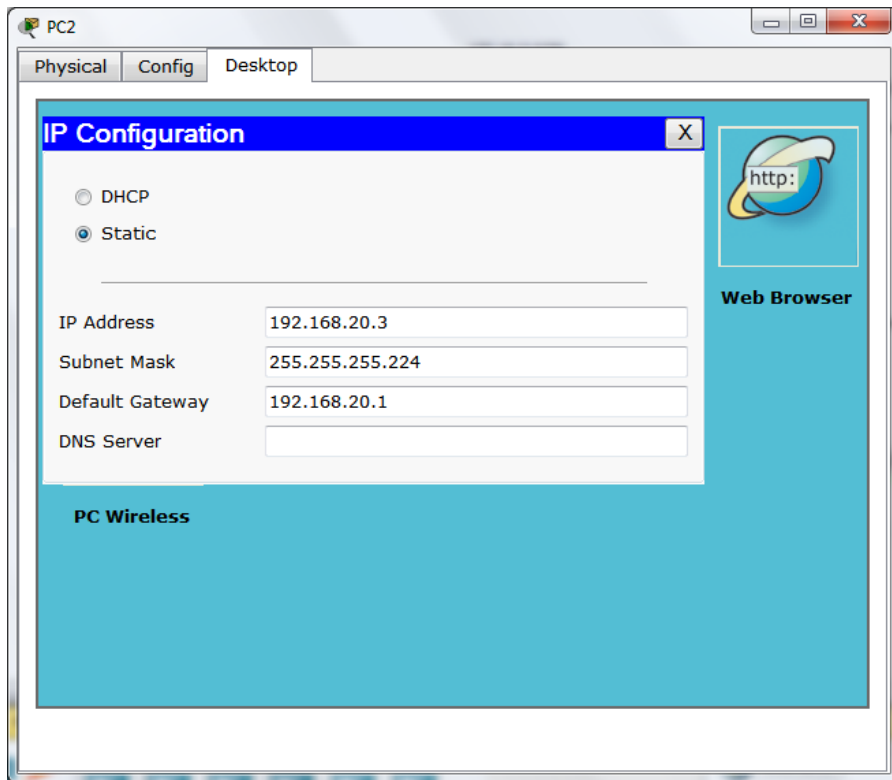
1. Mô hình thực hiện.

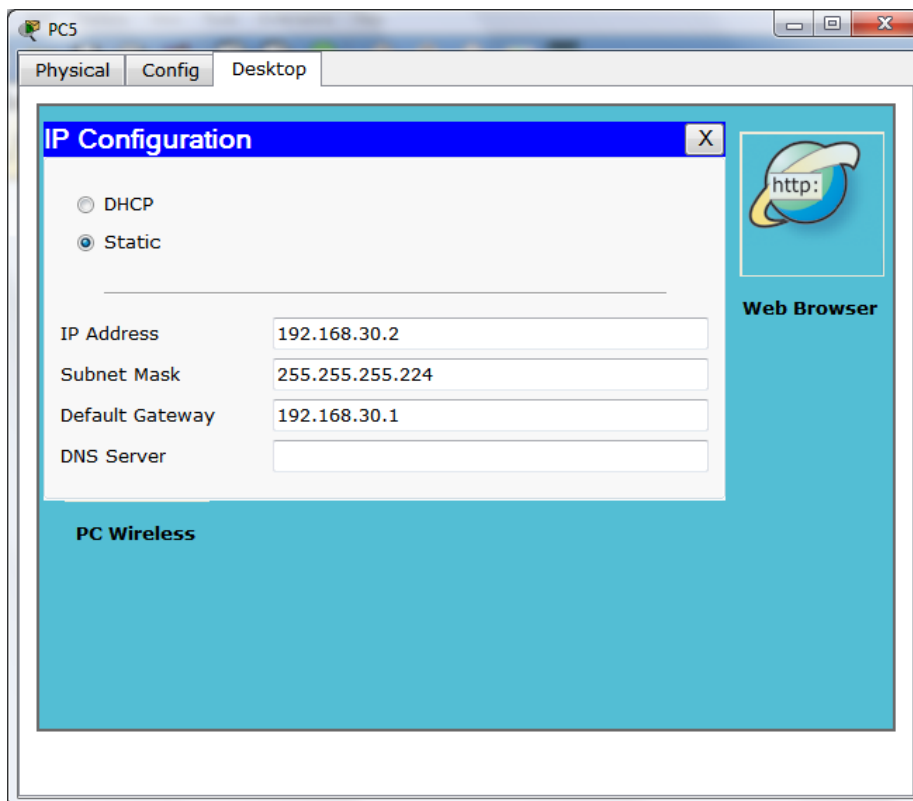
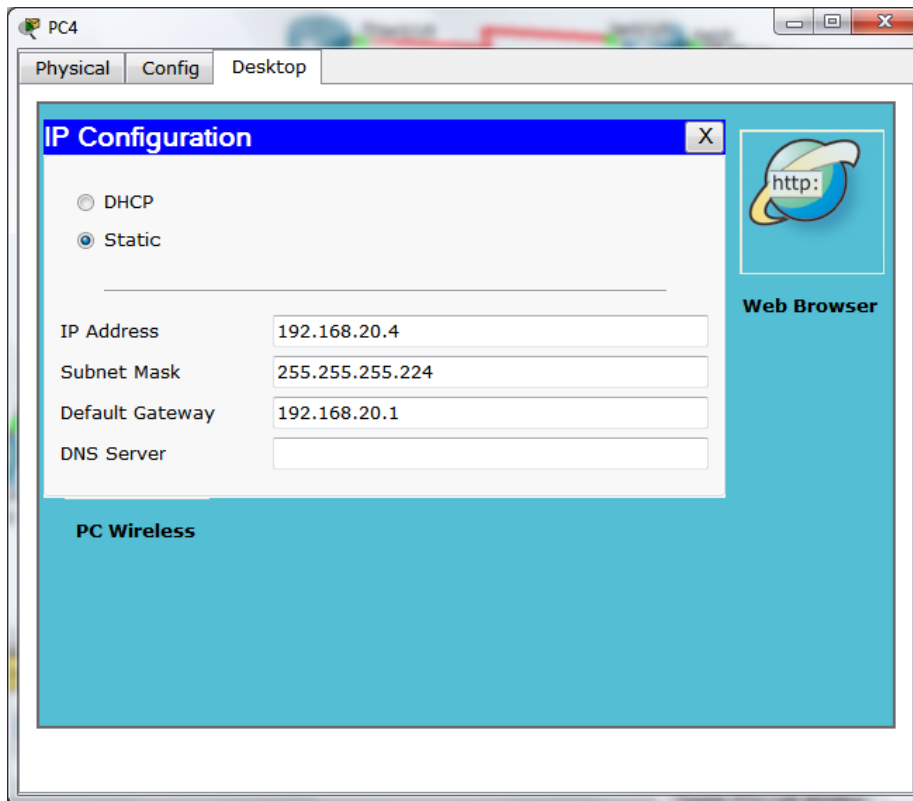


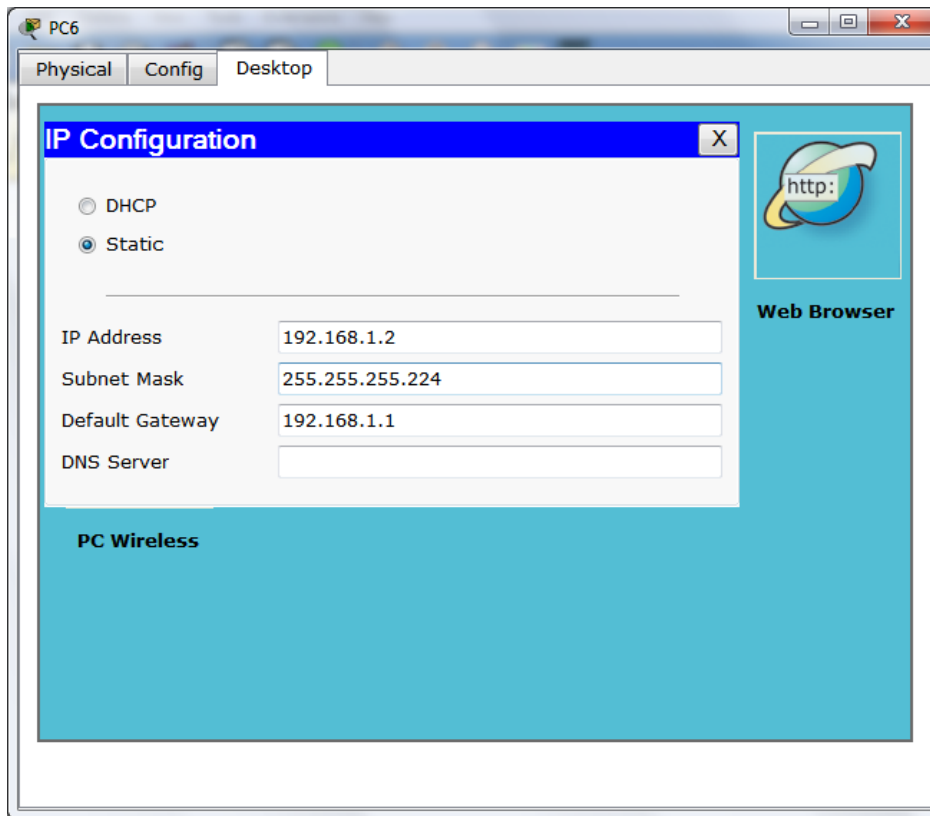
2. Cấu hình tất cả switch và router cho phép các máy tính thuộc các VLAN khác nhau có thể liên lạc với nhau. Thêm R1, cấu hình như tùy chọn cho phép tất cả các PC có thể liên lạc được với nhau.

Cấu hình các PC như trong hình:

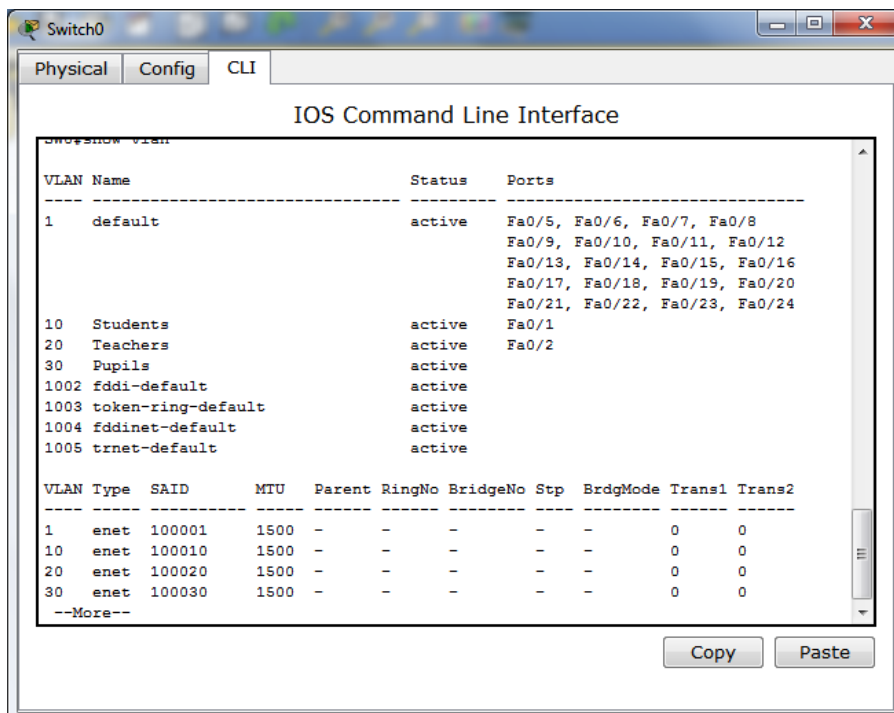


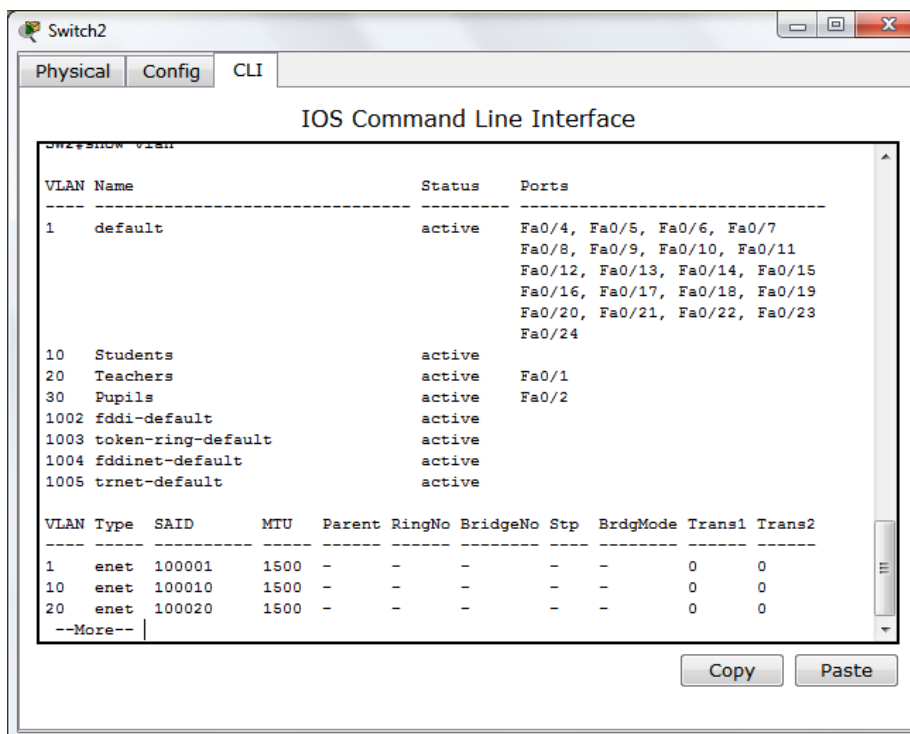
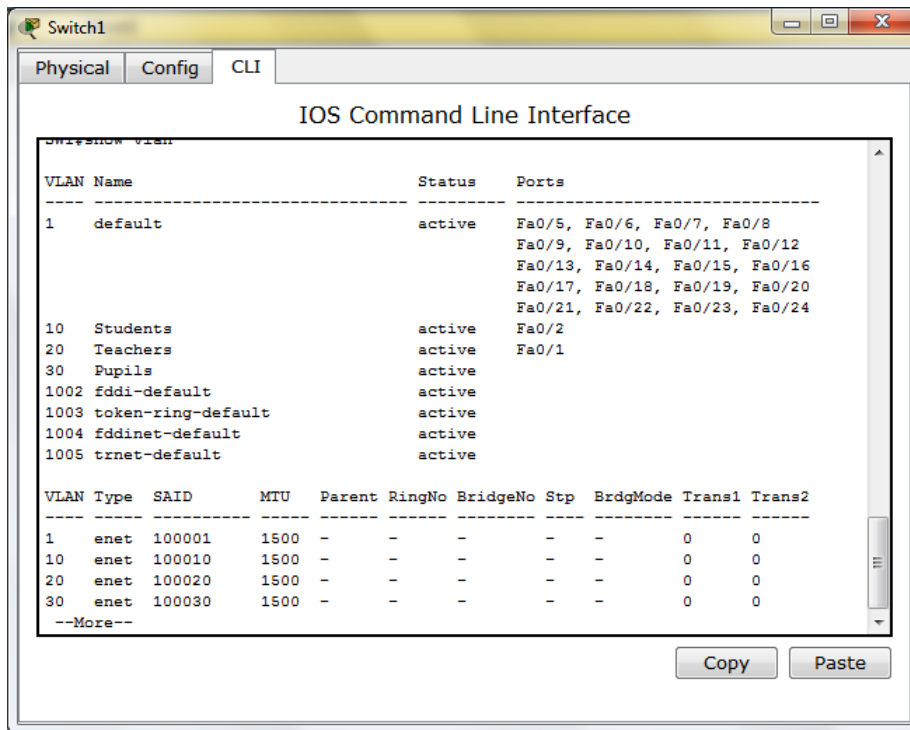




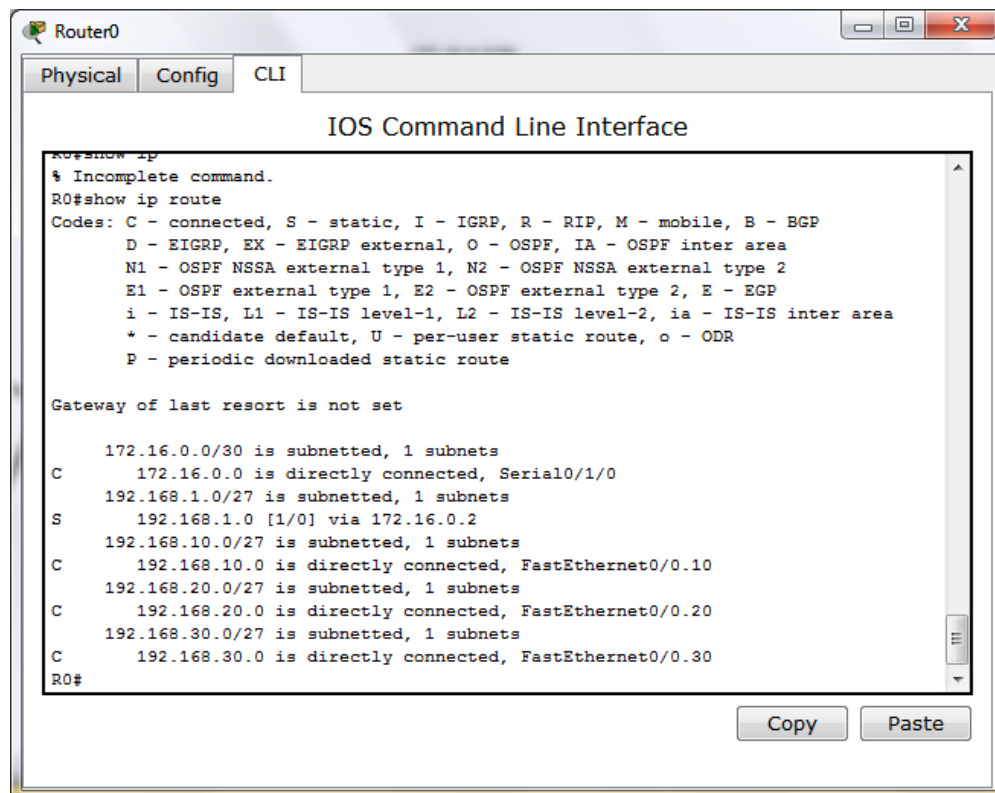
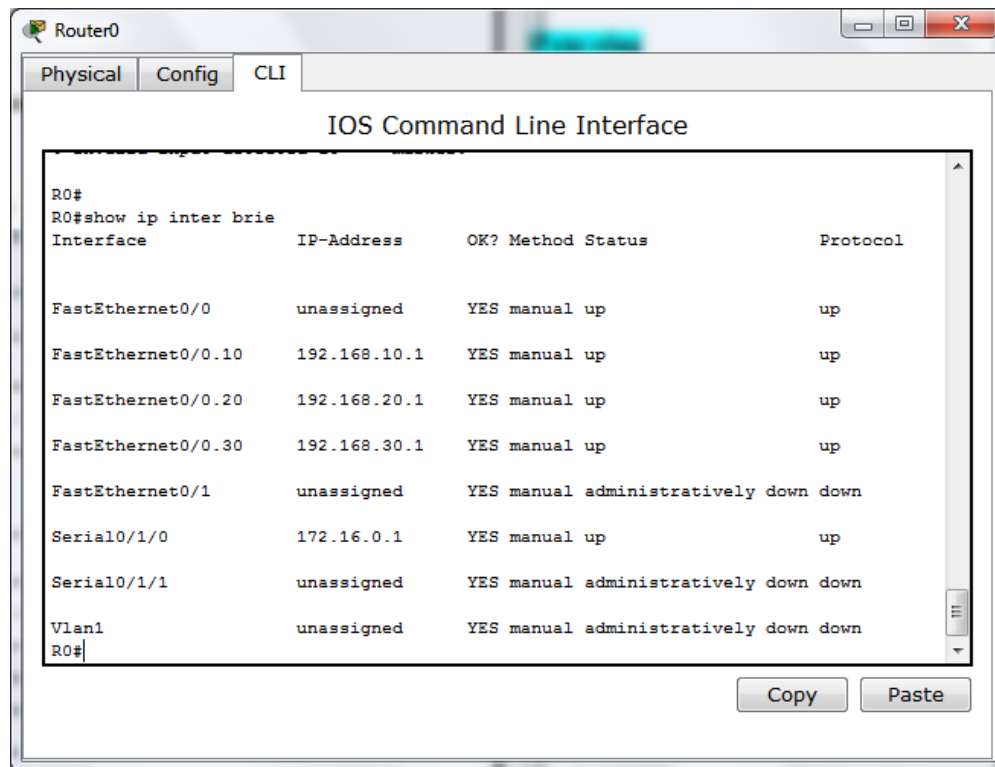


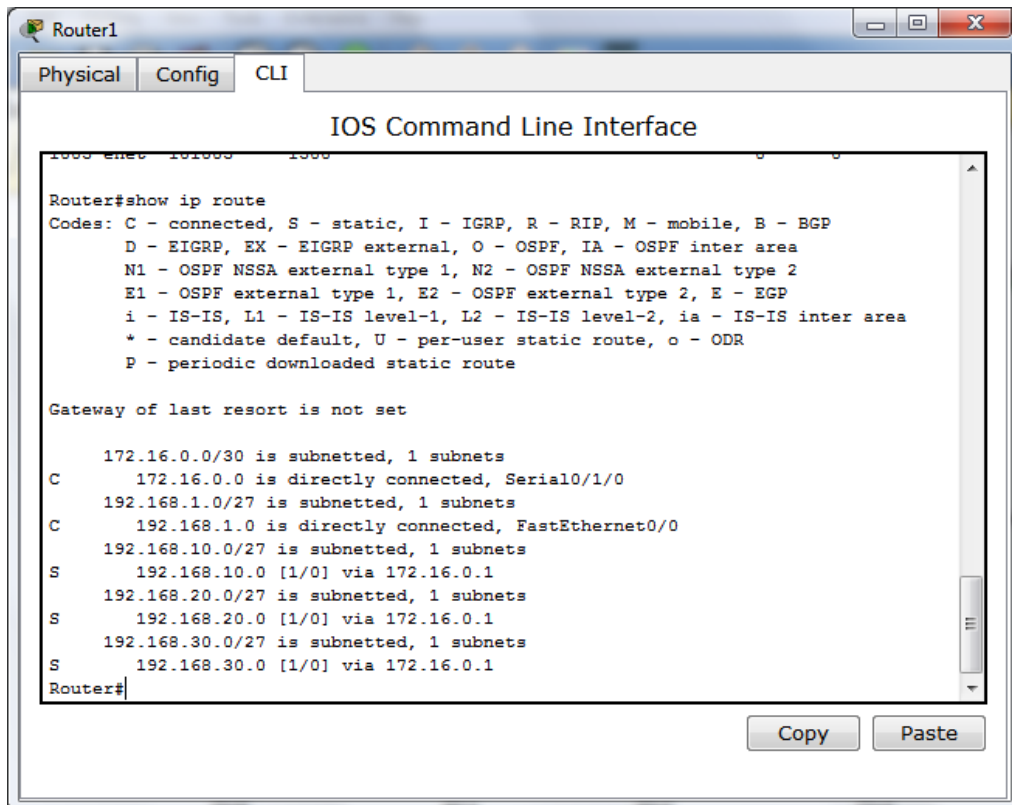
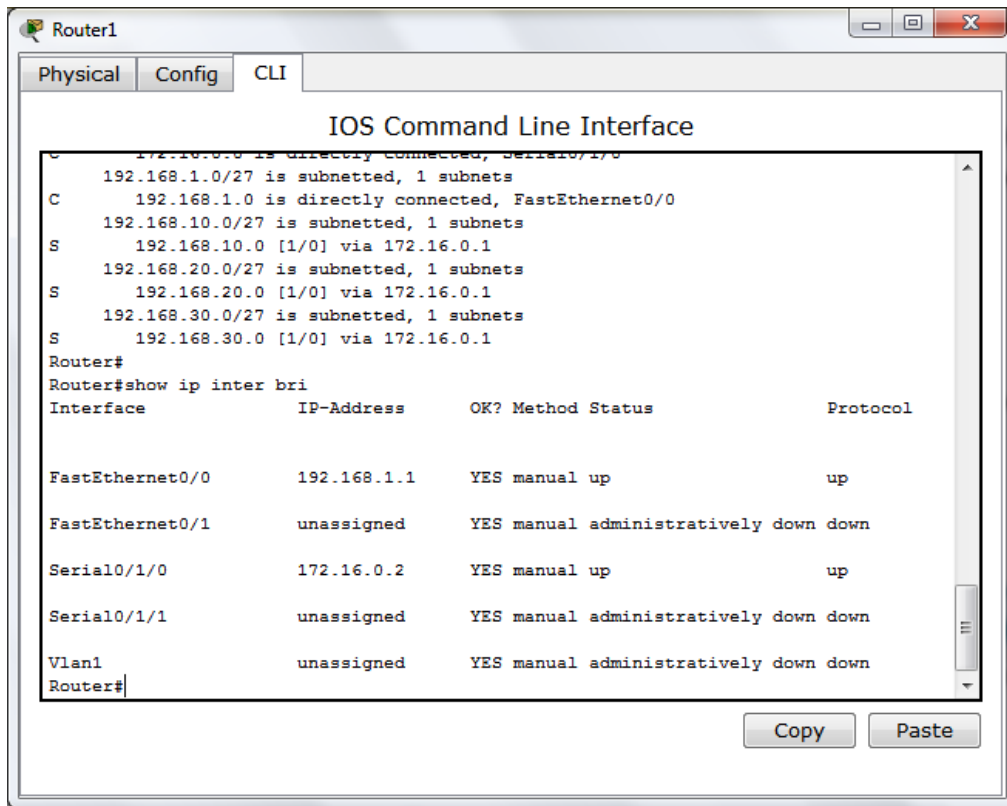
C u hình các Switch :





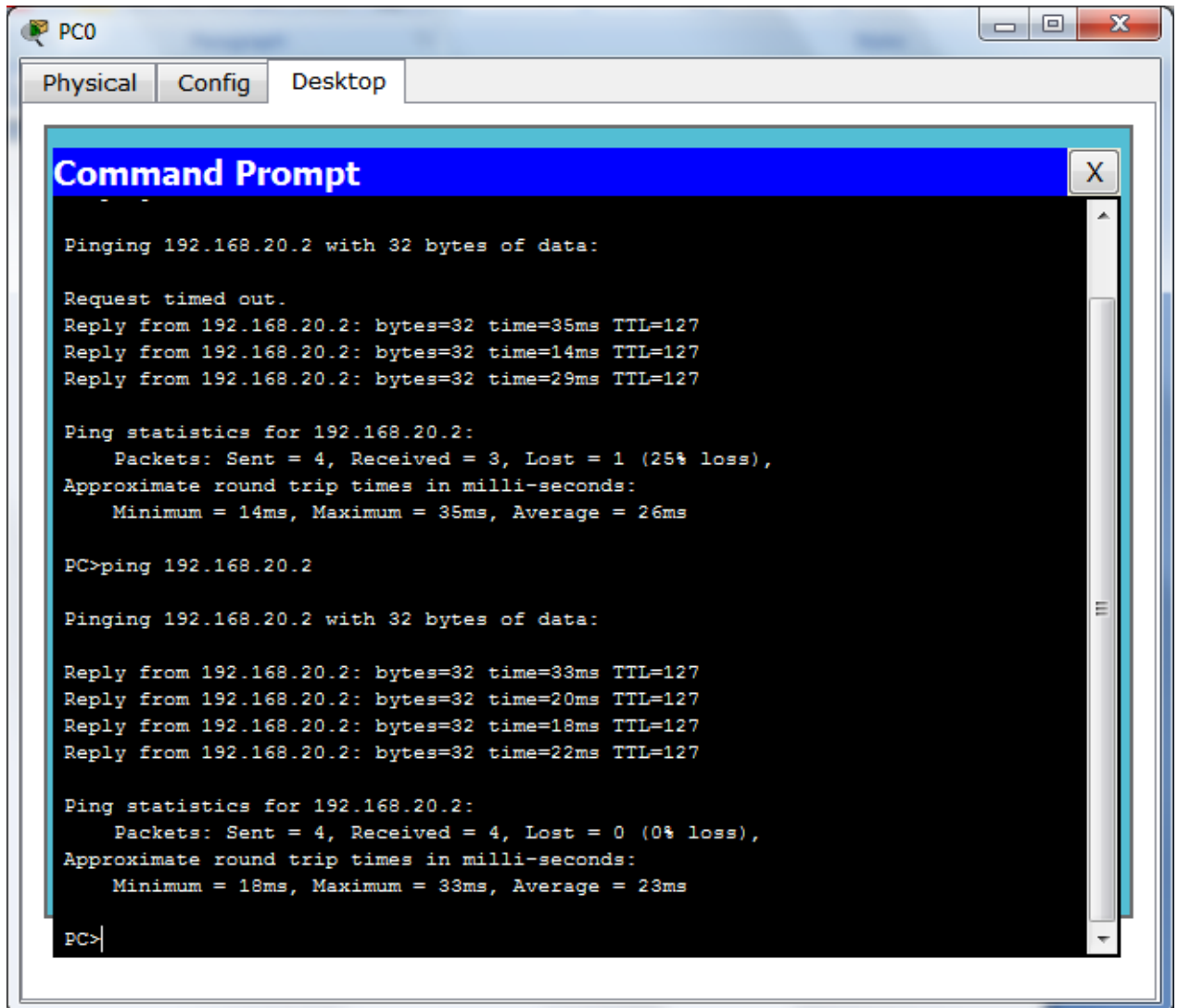
Cấu hình Static Router và địa chỉ IP các cổng





Màn hình ping c a các PC

PC0 Ping PC1



The screenshot shows a desktop window titled "PC0" with three tabs: "Physical", "Config", and "Desktop". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt has a blue title bar and a black background with white text. It shows the results of a ping command to the IP address 192.168.20.2. The first attempt shows a "Request timed out." followed by three successful replies. The second attempt shows four successful replies. The ping statistics for both attempts are displayed.

```
PC0
Physical Config Desktop
Command Prompt
Pinging 192.168.20.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.2: bytes=32 time=35ms TTL=127
Reply from 192.168.20.2: bytes=32 time=14ms TTL=127
Reply from 192.168.20.2: bytes=32 time=29ms TTL=127

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 14ms, Maximum = 35ms, Average = 26ms

PC>ping 192.168.20.2

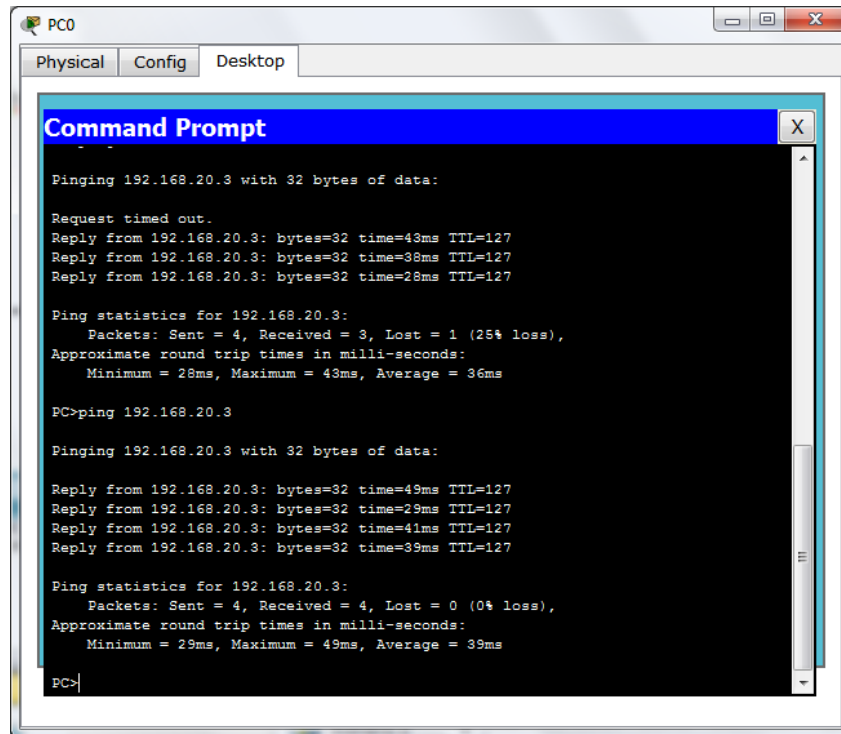
Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes=32 time=33ms TTL=127
Reply from 192.168.20.2: bytes=32 time=20ms TTL=127
Reply from 192.168.20.2: bytes=32 time=18ms TTL=127
Reply from 192.168.20.2: bytes=32 time=22ms TTL=127

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 18ms, Maximum = 33ms, Average = 23ms

PC>|
```

PC0 Ping PC2



The screenshot shows a Windows-style window titled 'PC0' with tabs for 'Physical', 'Config', and 'Desktop'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the execution of a ping command to 192.168.20.3. The first attempt shows a 'Request timed out' followed by three successful replies. The second attempt shows four successful replies. The statistics for both attempts indicate a 25% loss in the first and 0% loss in the second.

```
PC0
Physical Config Desktop
Command Prompt

Pinging 192.168.20.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.3: bytes=32 time=43ms TTL=127
Reply from 192.168.20.3: bytes=32 time=38ms TTL=127
Reply from 192.168.20.3: bytes=32 time=28ms TTL=127

Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 28ms, Maximum = 43ms, Average = 36ms

PC>ping 192.168.20.3

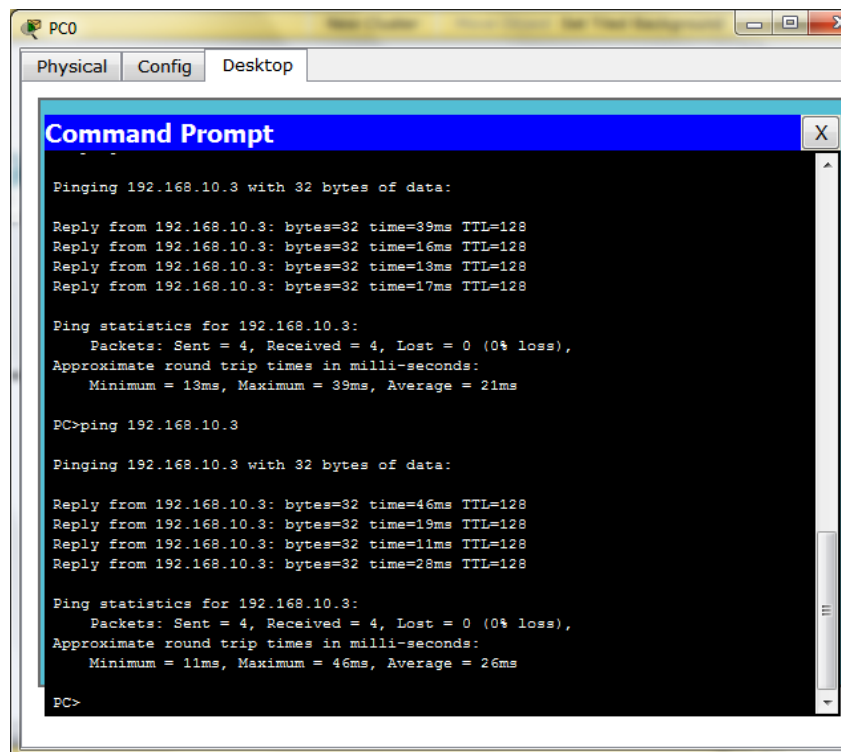
Pinging 192.168.20.3 with 32 bytes of data:

Reply from 192.168.20.3: bytes=32 time=49ms TTL=127
Reply from 192.168.20.3: bytes=32 time=29ms TTL=127
Reply from 192.168.20.3: bytes=32 time=41ms TTL=127
Reply from 192.168.20.3: bytes=32 time=39ms TTL=127

Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 29ms, Maximum = 49ms, Average = 39ms

PC>
```

PC0 Ping PC3



The screenshot shows a Windows-style window titled 'PC0' with tabs for 'Physical', 'Config', and 'Desktop'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the execution of a ping command to 192.168.10.3. The first attempt shows four successful replies. The second attempt shows four successful replies. The statistics for both attempts indicate 0% loss in both.

```
PC0
Physical Config Desktop
Command Prompt

Pinging 192.168.10.3 with 32 bytes of data:

Reply from 192.168.10.3: bytes=32 time=39ms TTL=128
Reply from 192.168.10.3: bytes=32 time=16ms TTL=128
Reply from 192.168.10.3: bytes=32 time=13ms TTL=128
Reply from 192.168.10.3: bytes=32 time=17ms TTL=128

Ping statistics for 192.168.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 13ms, Maximum = 39ms, Average = 21ms

PC>ping 192.168.10.3

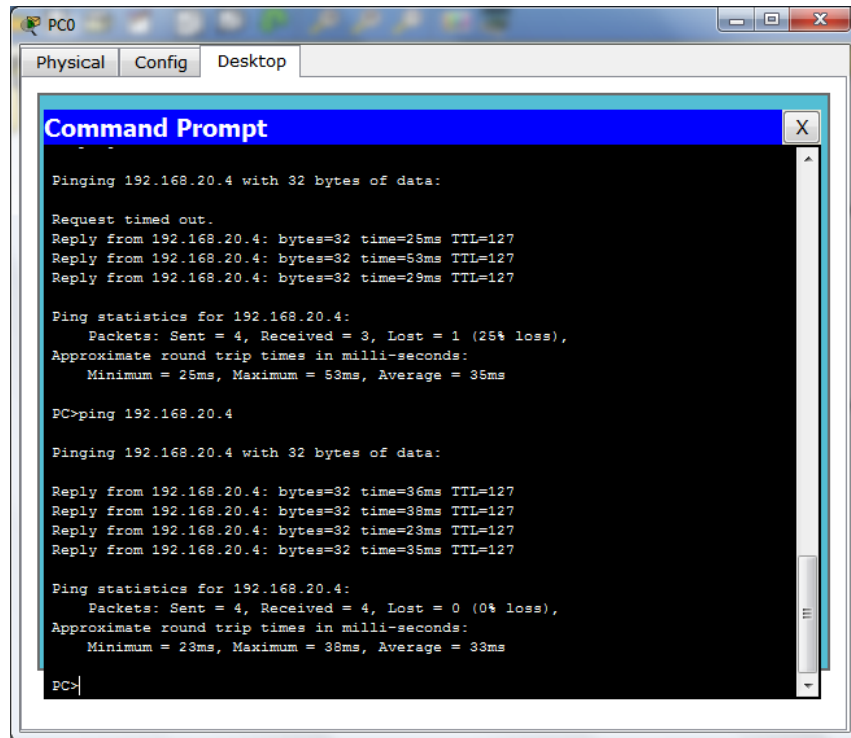
Pinging 192.168.10.3 with 32 bytes of data:

Reply from 192.168.10.3: bytes=32 time=46ms TTL=128
Reply from 192.168.10.3: bytes=32 time=19ms TTL=128
Reply from 192.168.10.3: bytes=32 time=11ms TTL=128
Reply from 192.168.10.3: bytes=32 time=28ms TTL=128

Ping statistics for 192.168.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 11ms, Maximum = 46ms, Average = 26ms

PC>
```

PC0 Ping PC4



The screenshot shows a Windows-style window titled 'PC0' with tabs for 'Physical', 'Config', and 'Desktop'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The Command Prompt shows the results of a ping command to 192.168.20.4. The first attempt shows a 25% packet loss (1 out of 4 packets received). The second attempt shows 0% packet loss (4 out of 4 packets received).

```
PC0
Physical Config Desktop

Command Prompt

Pinging 192.168.20.4 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.4: bytes=32 time=25ms TTL=127
Reply from 192.168.20.4: bytes=32 time=53ms TTL=127
Reply from 192.168.20.4: bytes=32 time=29ms TTL=127

Ping statistics for 192.168.20.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 25ms, Maximum = 53ms, Average = 35ms

PC>ping 192.168.20.4

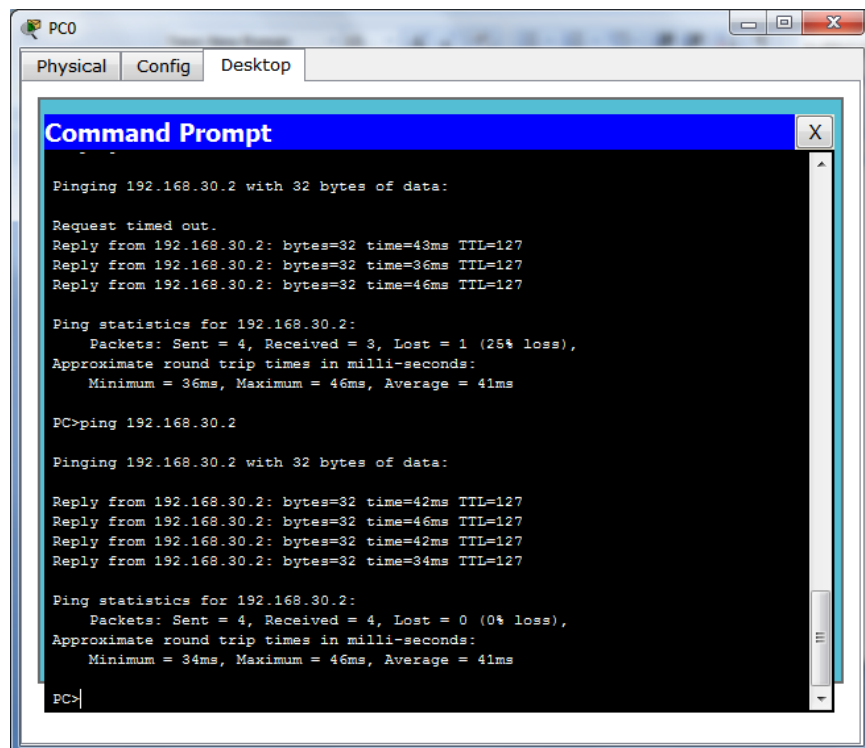
Pinging 192.168.20.4 with 32 bytes of data:

Reply from 192.168.20.4: bytes=32 time=36ms TTL=127
Reply from 192.168.20.4: bytes=32 time=38ms TTL=127
Reply from 192.168.20.4: bytes=32 time=23ms TTL=127
Reply from 192.168.20.4: bytes=32 time=35ms TTL=127

Ping statistics for 192.168.20.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 23ms, Maximum = 38ms, Average = 33ms

PC>
```

PC0 Ping PC5



The screenshot shows a Windows-style window titled 'PC0' with tabs for 'Physical', 'Config', and 'Desktop'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The Command Prompt shows the results of a ping command to 192.168.30.2. The first attempt shows a 25% packet loss (1 out of 4 packets received). The second attempt shows 0% packet loss (4 out of 4 packets received).

```
PC0
Physical Config Desktop

Command Prompt

Pinging 192.168.30.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.30.2: bytes=32 time=43ms TTL=127
Reply from 192.168.30.2: bytes=32 time=36ms TTL=127
Reply from 192.168.30.2: bytes=32 time=46ms TTL=127

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 36ms, Maximum = 46ms, Average = 41ms

PC>ping 192.168.30.2

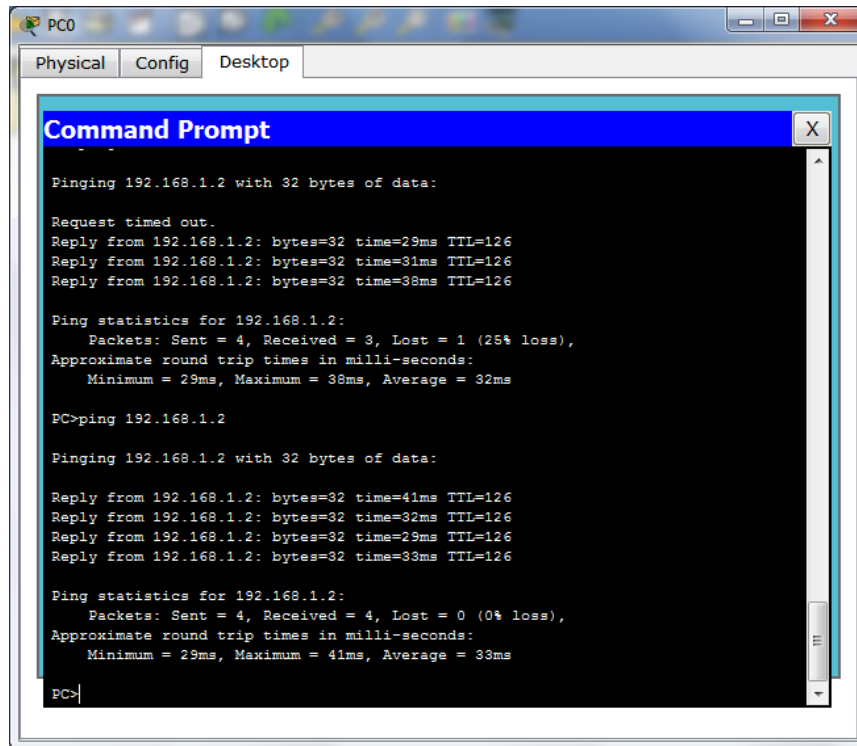
Pinging 192.168.30.2 with 32 bytes of data:

Reply from 192.168.30.2: bytes=32 time=42ms TTL=127
Reply from 192.168.30.2: bytes=32 time=46ms TTL=127
Reply from 192.168.30.2: bytes=32 time=42ms TTL=127
Reply from 192.168.30.2: bytes=32 time=34ms TTL=127

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 34ms, Maximum = 46ms, Average = 41ms

PC>
```

PC0 Ping PC6



The screenshot shows a Windows-style window titled 'PC0' with tabs for 'Physical', 'Config', and 'Desktop'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the execution of a ping command to 192.168.1.2. The first attempt results in a 'Request timed out.' followed by three successful replies with times of 29ms, 31ms, and 38ms. The statistics show 4 packets sent, 3 received, and 1 lost (25% loss). The second attempt, initiated by typing 'PC>ping 192.168.1.2', shows four successful replies with times of 41ms, 32ms, 29ms, and 33ms. The statistics show 4 packets sent, 4 received, and 0 lost (0% loss).

```
Pinging 192.168.1.2 with 32 bytes of data:
Request timed out.
Reply from 192.168.1.2: bytes=32 time=29ms TTL=126
Reply from 192.168.1.2: bytes=32 time=31ms TTL=126
Reply from 192.168.1.2: bytes=32 time=38ms TTL=126

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 29ms, Maximum = 38ms, Average = 32ms

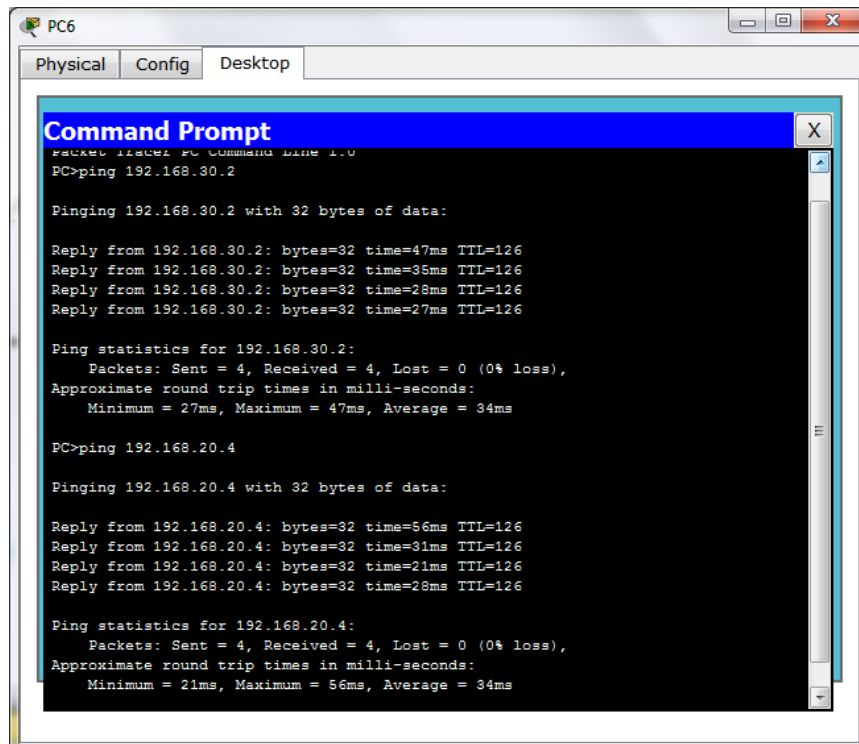
PC>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time=41ms TTL=126
Reply from 192.168.1.2: bytes=32 time=32ms TTL=126
Reply from 192.168.1.2: bytes=32 time=29ms TTL=126
Reply from 192.168.1.2: bytes=32 time=33ms TTL=126

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 29ms, Maximum = 41ms, Average = 33ms

PC>
```

PC6 Ping PC5 và PC4



The screenshot shows a Windows-style window titled 'PC6' with tabs for 'Physical', 'Config', and 'Desktop'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the execution of two ping commands. The first command is 'PC>ping 192.168.30.2', which results in four successful replies with times of 47ms, 35ms, 28ms, and 27ms. The statistics show 4 packets sent, 4 received, and 0 lost (0% loss). The second command is 'PC>ping 192.168.20.4', which results in four successful replies with times of 56ms, 31ms, 21ms, and 28ms. The statistics show 4 packets sent, 4 received, and 0 lost (0% loss).

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.30.2

Pinging 192.168.30.2 with 32 bytes of data:
Reply from 192.168.30.2: bytes=32 time=47ms TTL=126
Reply from 192.168.30.2: bytes=32 time=35ms TTL=126
Reply from 192.168.30.2: bytes=32 time=28ms TTL=126
Reply from 192.168.30.2: bytes=32 time=27ms TTL=126

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 27ms, Maximum = 47ms, Average = 34ms

PC>ping 192.168.20.4

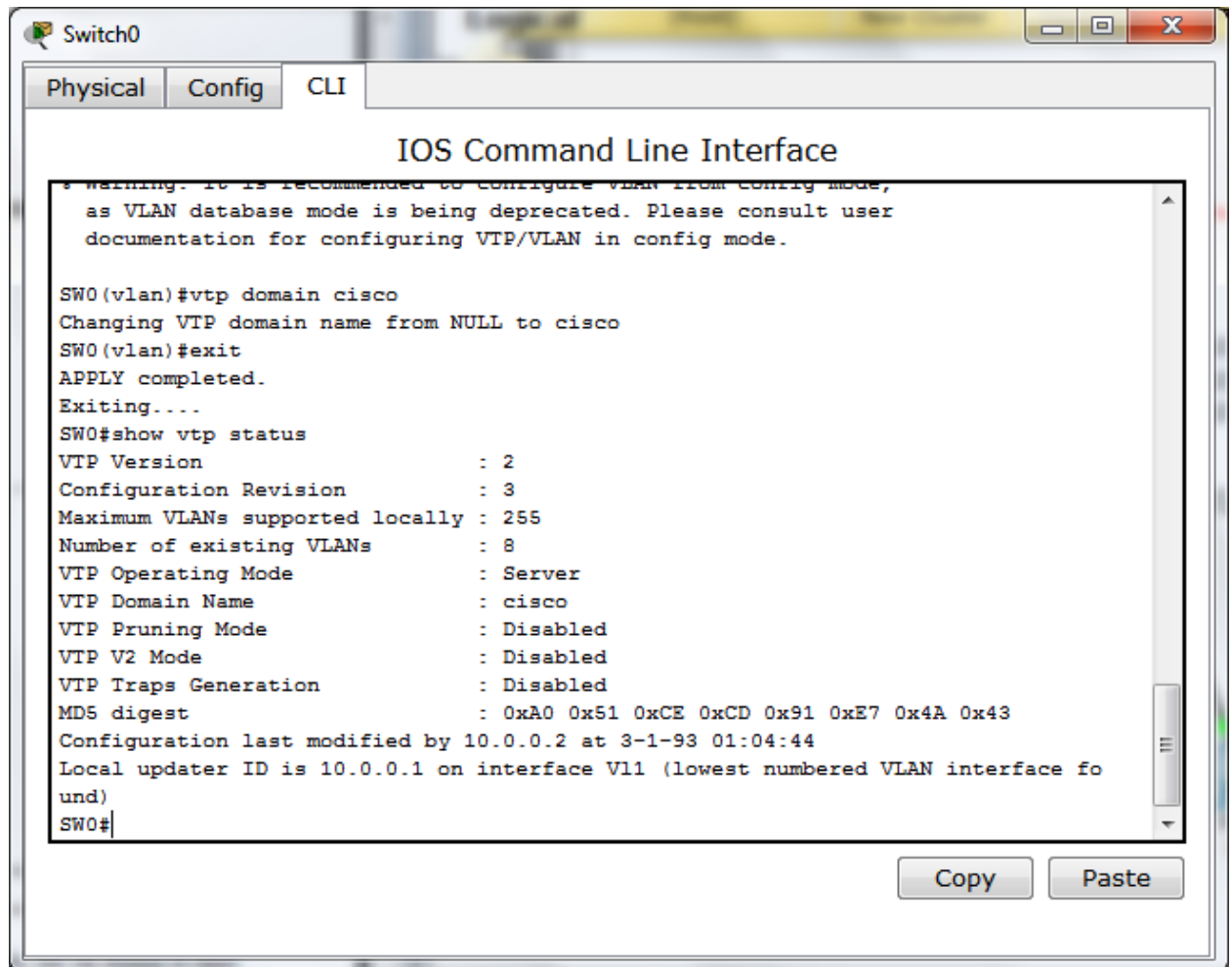
Pinging 192.168.20.4 with 32 bytes of data:
Reply from 192.168.20.4: bytes=32 time=56ms TTL=126
Reply from 192.168.20.4: bytes=32 time=31ms TTL=126
Reply from 192.168.20.4: bytes=32 time=21ms TTL=126
Reply from 192.168.20.4: bytes=32 time=28ms TTL=126

Ping statistics for 192.168.20.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 21ms, Maximum = 56ms, Average = 34ms
```

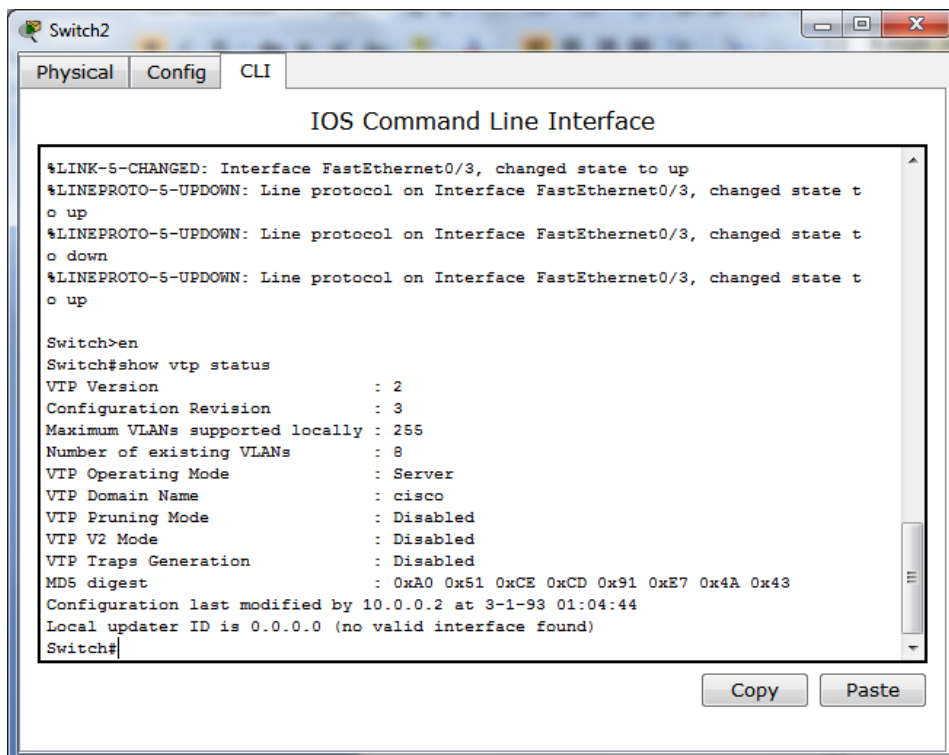
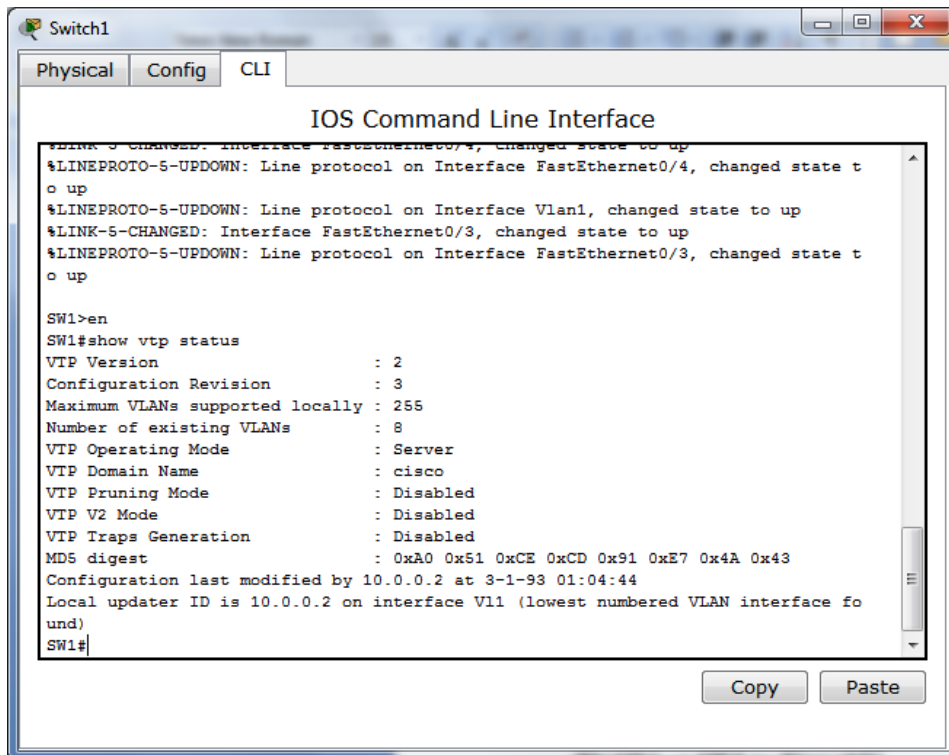
T ừng t ải v ề i các PC còn l ại u ỡ ping c ả cho nhau h ết

Ph ần 2: Trunking Protocol (VTP)

Đ ổi tên Domain SW0 sang Cisco



Thì SW1 và SW2 t ừng c ả p ả nh ập t ổng thông tin nh ư hình



C p nh t VLAN 30 cho SW0

Switch0

Physical Config CLI

IOS Command Line Interface

```
SW0#show vlan
```

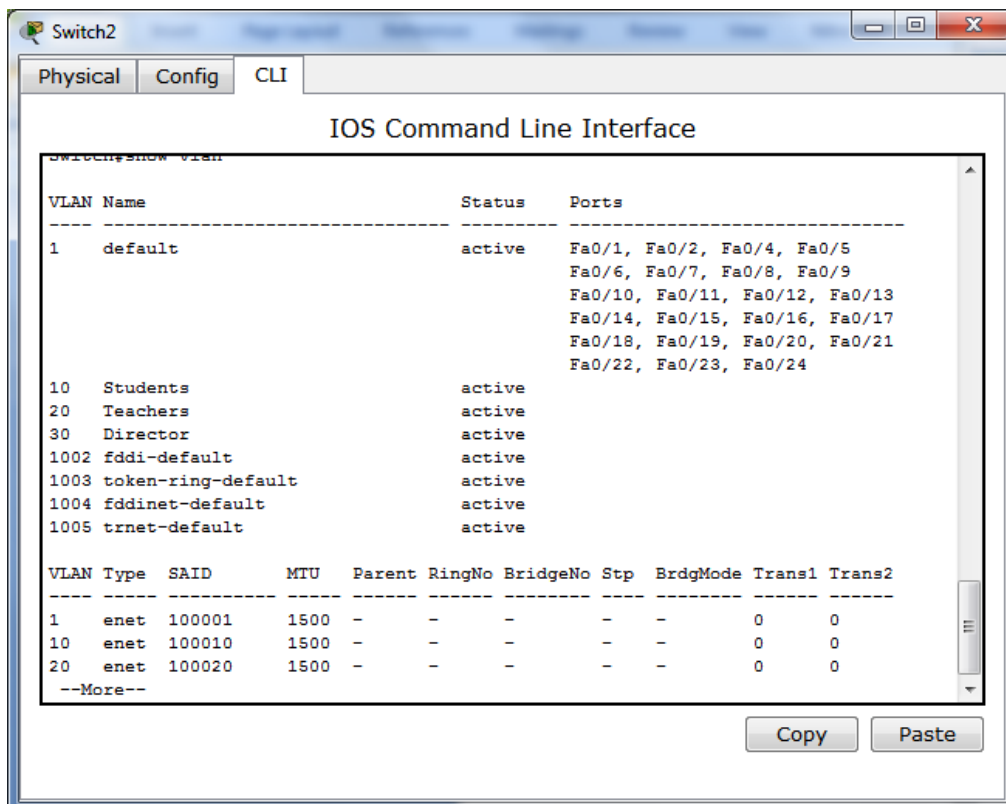
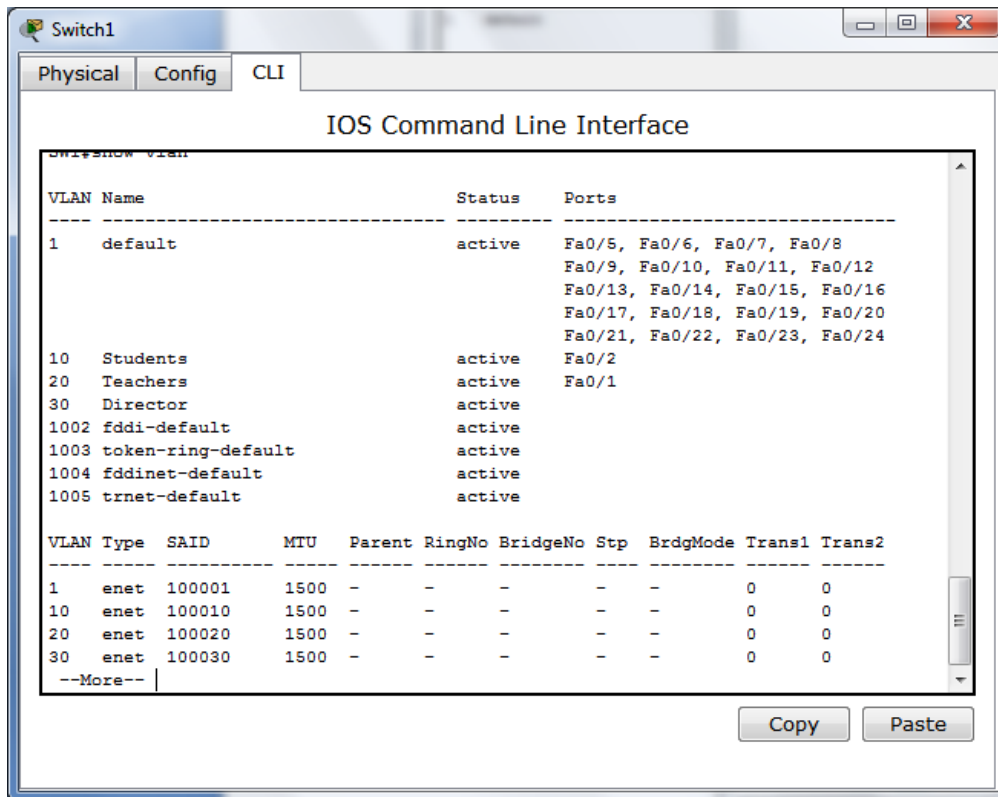
VLAN	Name	Status	Ports
1	default	active	Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24
10	Students	active	Fa0/1
20	Teachers	active	Fa0/2
30	Director	active	
1002	fddi-default	active	
1003	token-ring-default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

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	-	0	0
20	enet	100020	1500	-	-	-	-	-	0	0
30	enet	100030	1500	-	-	-	-	-	0	0

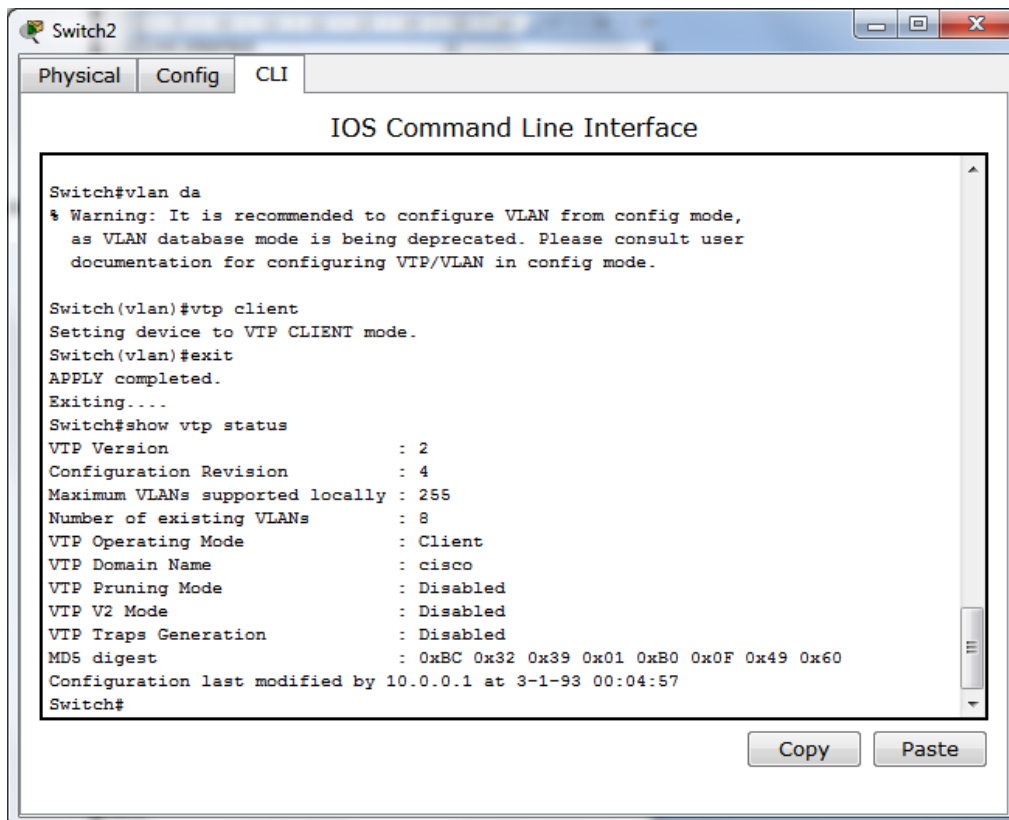
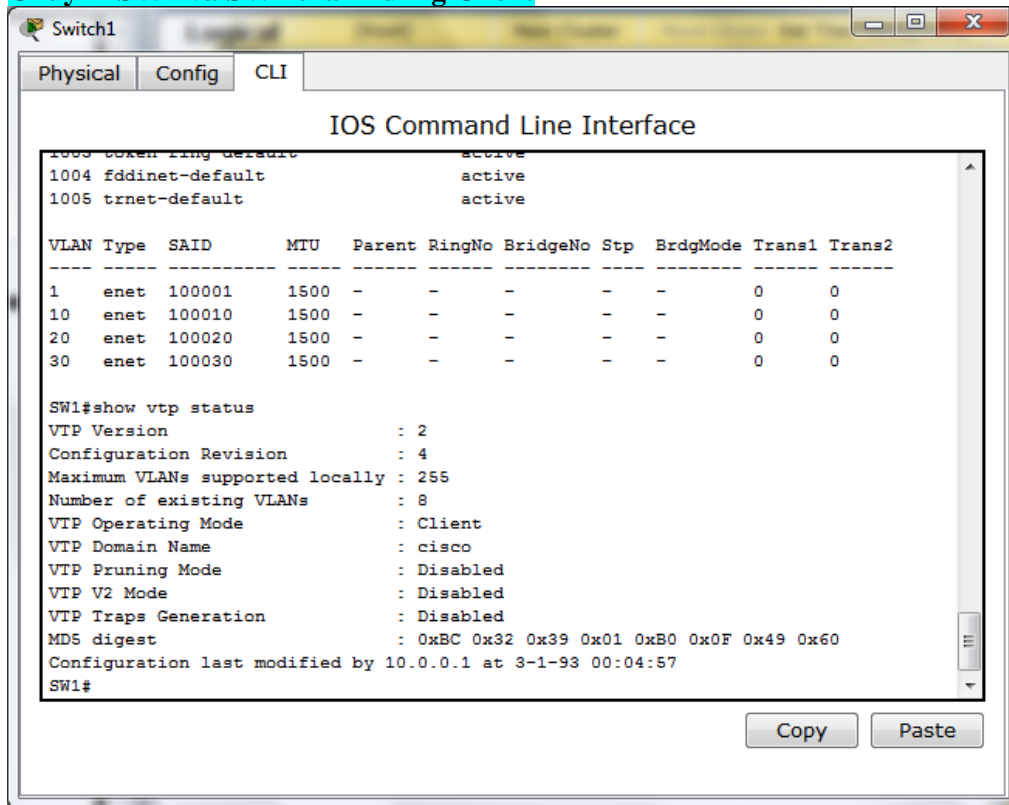
--More--

Copy Paste

Ta th y SW1 và SW2 c ng t c p nh t thông tin VLAN 30 vào

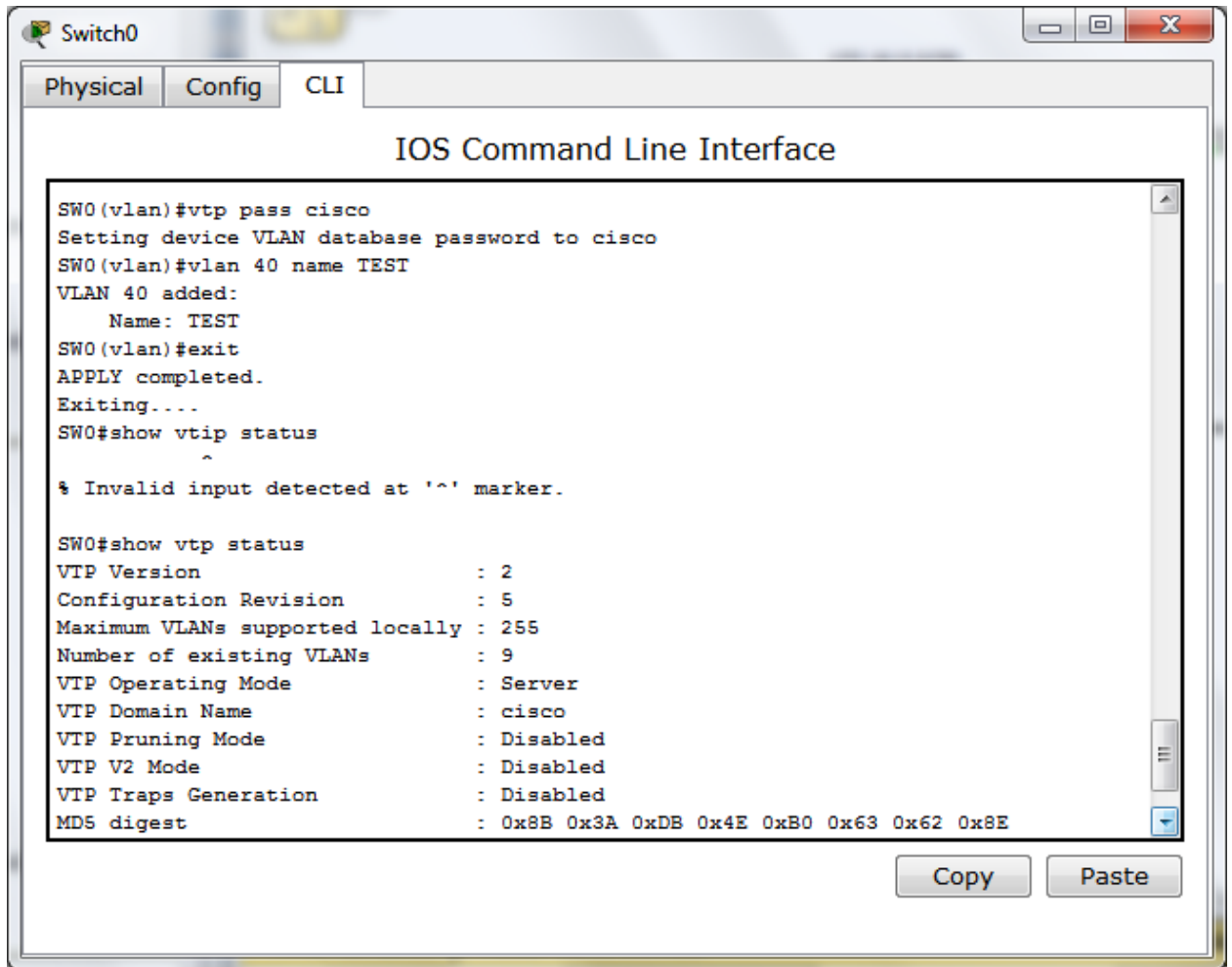


Chuyển SW1 và SW2 thành Client



t VPT Password

Ta i password trên SW0 và t o VLAN 40.

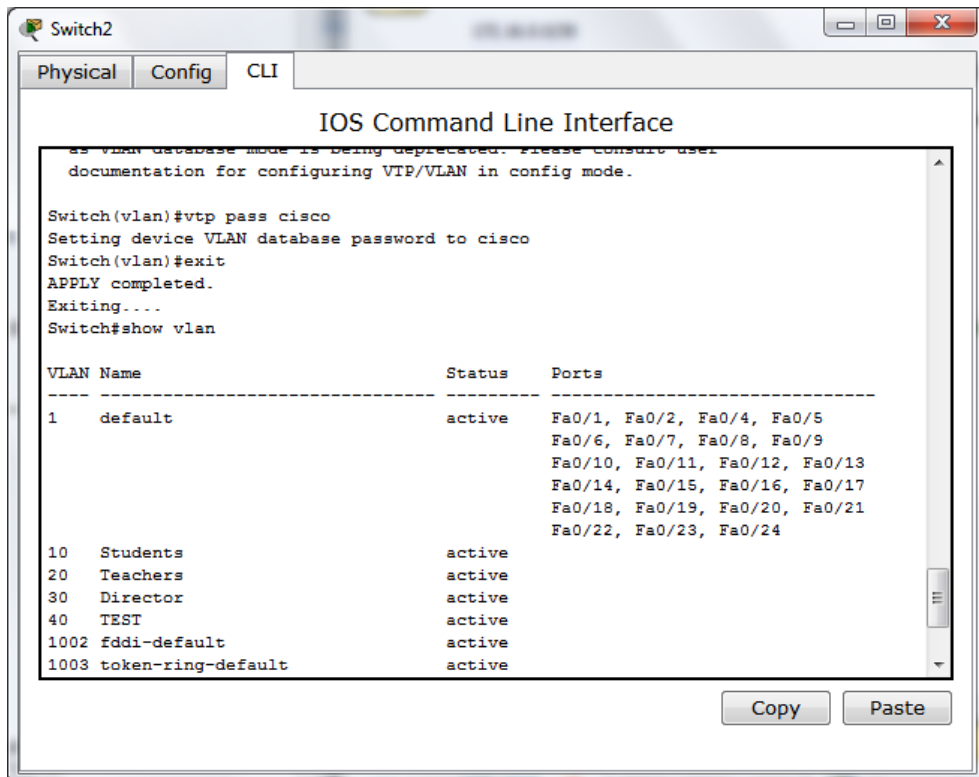
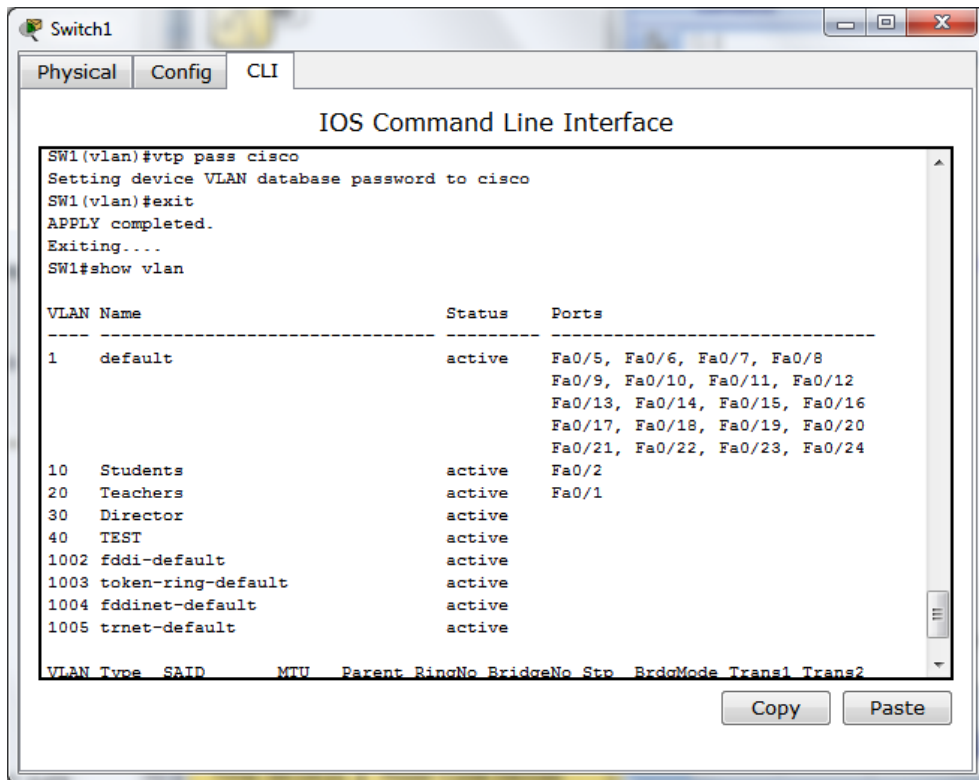


```
Switch0
Physical Config CLI
IOS Command Line Interface

SW0(vlan)#vtp pass cisco
Setting device VLAN database password to cisco
SW0(vlan)#vlan 40 name TEST
VLAN 40 added:
    Name: TEST
SW0(vlan)#exit
APPLY completed.
Exiting....
SW0#show vtip status
^
% Invalid input detected at '^' marker.

SW0#show vtp status
VTP Version                : 2
Configuration Revision      : 5
Maximum VLANs supported locally : 255
Number of existing VLANs    : 9
VTP Operating Mode          : Server
VTP Domain Name             : cisco
VTP Pruning Mode            : Disabled
VTP V2 Mode                 : Disabled
VTP Traps Generation        : Disabled
MD5 digest                  : 0x8B 0x3A 0xDB 0x4E 0xB0 0x63 0x62 0x8E
```

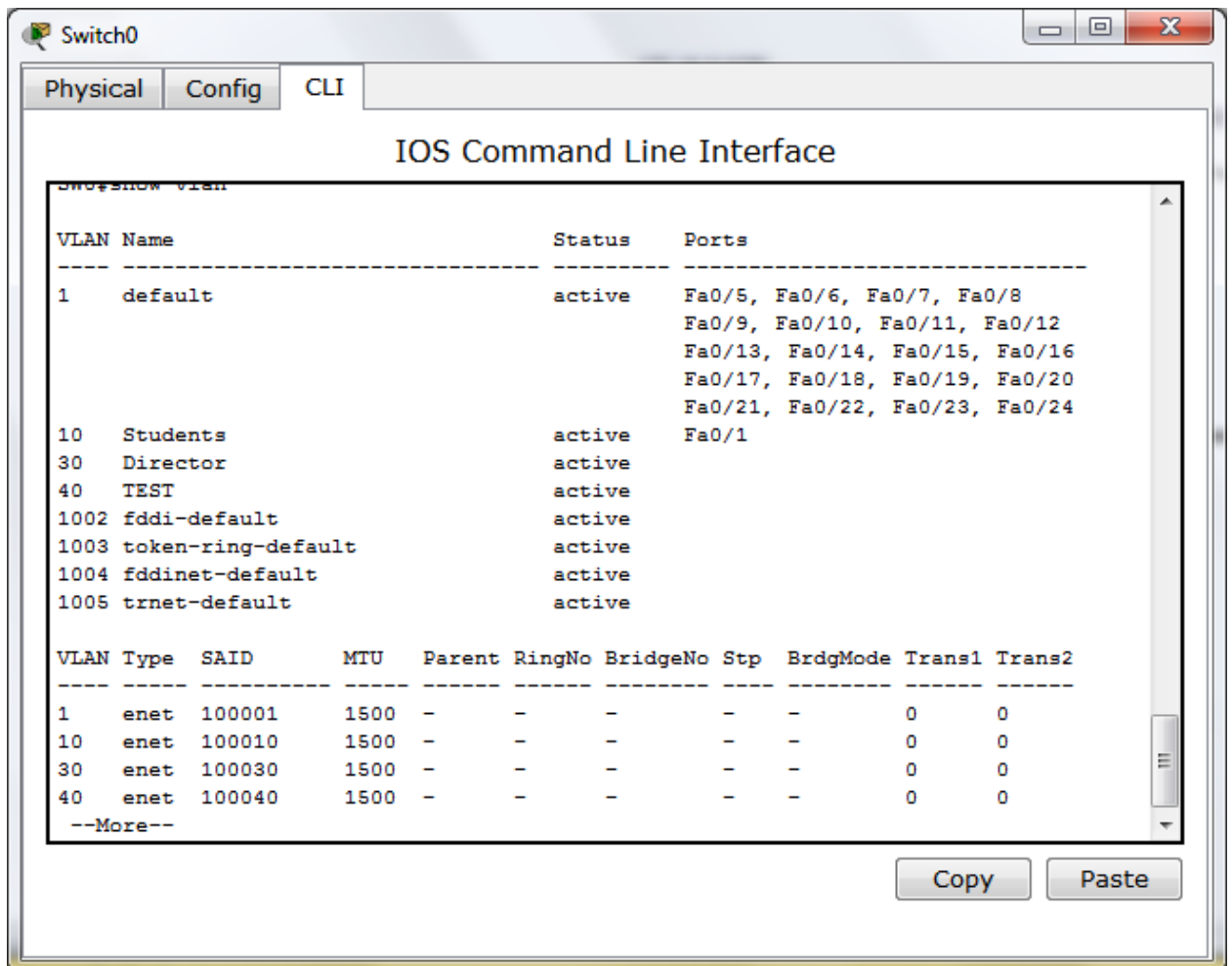
i password SW1 và SW2 thì c p nh t thông tin c a VLAN4



Xoá VLAN trên SW server và kiểm tra các client

Sau khi thực hiện lệnh xóa vlan **no vlan 20** trên SW0

Kiểm tra cả 2 SW1, SW2 thì thông tin về VLAN1 phải có
cập nhật lại



Switch0

Physical Config CLI

IOS Command Line Interface

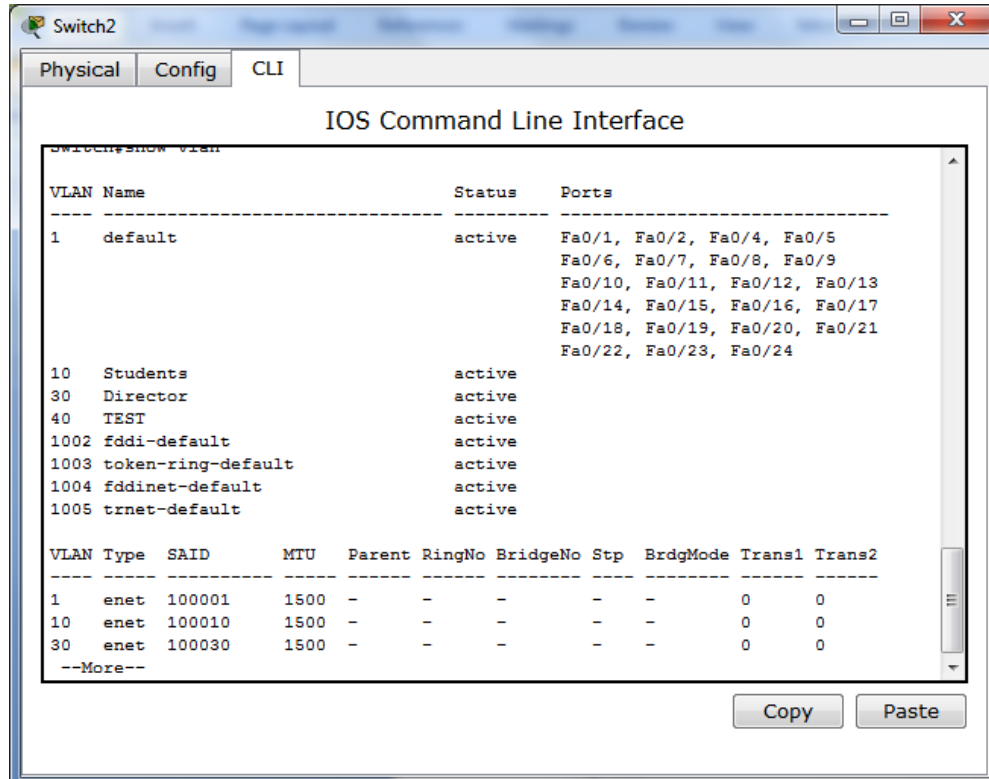
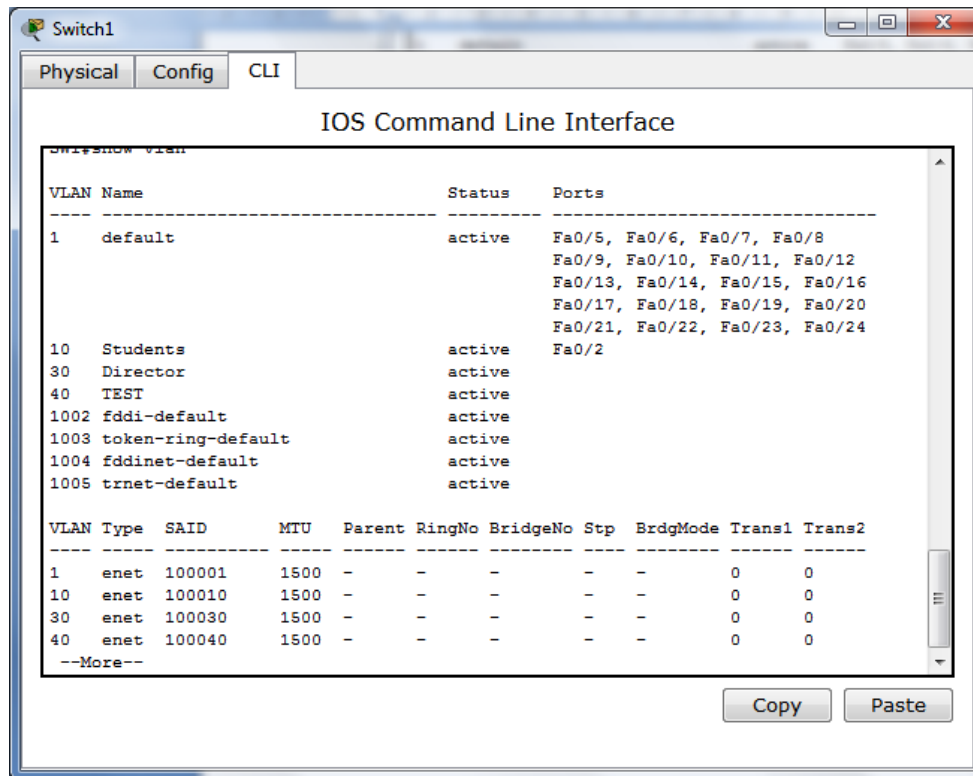
```
Switch0#show vlan
```

VLAN	Name	Status	Ports
1	default	active	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
10	Students	active	Fa0/1
30	Director	active	
40	TEST	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

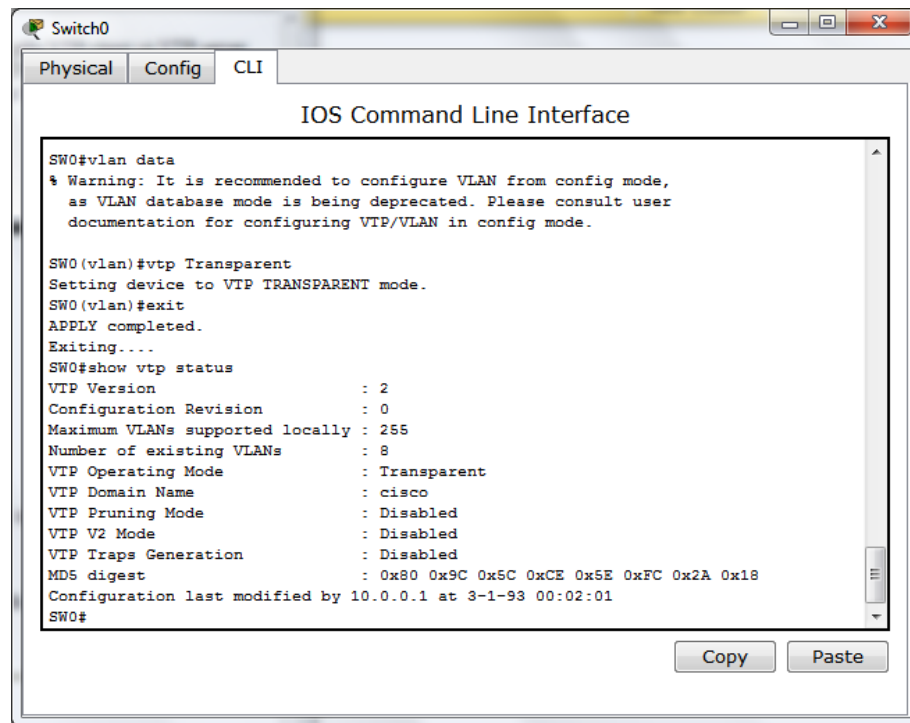
VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	-	0	0
30	enet	100030	1500	-	-	-	-	-	0	0
40	enet	100040	1500	-	-	-	-	-	0	0

--More--

Copy Paste



Mode Transparent trên các switch

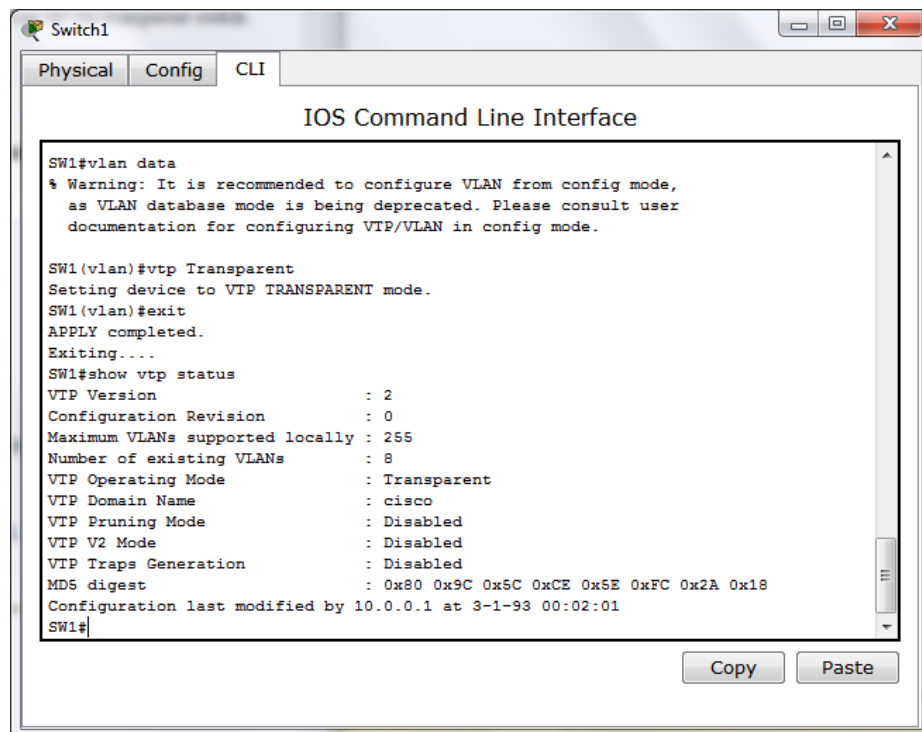


The screenshot shows the CLI of Switch0. The 'Config' tab is selected. The command history shows the following sequence: `SW0#vlan data`, a warning message, `SW0(vlan)#vtp Transparent`, `SW0(vlan)#exit`, and `APPLY completed.`. The `show vtp status` command output is displayed, showing VTP Version 2, Configuration Revision 0, Maximum VLANs supported locally 255, Number of existing VLANs 8, VTP Operating Mode Transparent, VTP Domain Name cisco, VTP Pruning Mode Disabled, VTP V2 Mode Disabled, VTP Traps Generation Disabled, MD5 digest 0x80 0x9C 0x5C 0xCE 0x5E 0xFC 0x2A 0x18, and Configuration last modified by 10.0.0.1 at 3-1-93 00:02:01. The prompt is `SW0#`.

```
Switch0
Physical Config CLI
IOS Command Line Interface

SW0#vlan data
% Warning: It is recommended to configure VLAN from config mode,
as VLAN database mode is being deprecated. Please consult user
documentation for configuring VTP/VLAN in config mode.

SW0(vlan)#vtp Transparent
Setting device to VTP TRANSPARENT mode.
SW0(vlan)#exit
APPLY completed.
Exiting....
SW0#show vtp status
VTP Version                : 2
Configuration Revision      : 0
Maximum VLANs supported locally : 255
Number of existing VLANs    : 8
VTP Operating Mode         : Transparent
VTP Domain Name            : cisco
VTP Pruning Mode           : Disabled
VTP V2 Mode                : Disabled
VTP Traps Generation       : Disabled
MD5 digest                 : 0x80 0x9C 0x5C 0xCE 0x5E 0xFC 0x2A 0x18
Configuration last modified by 10.0.0.1 at 3-1-93 00:02:01
SW0#
```

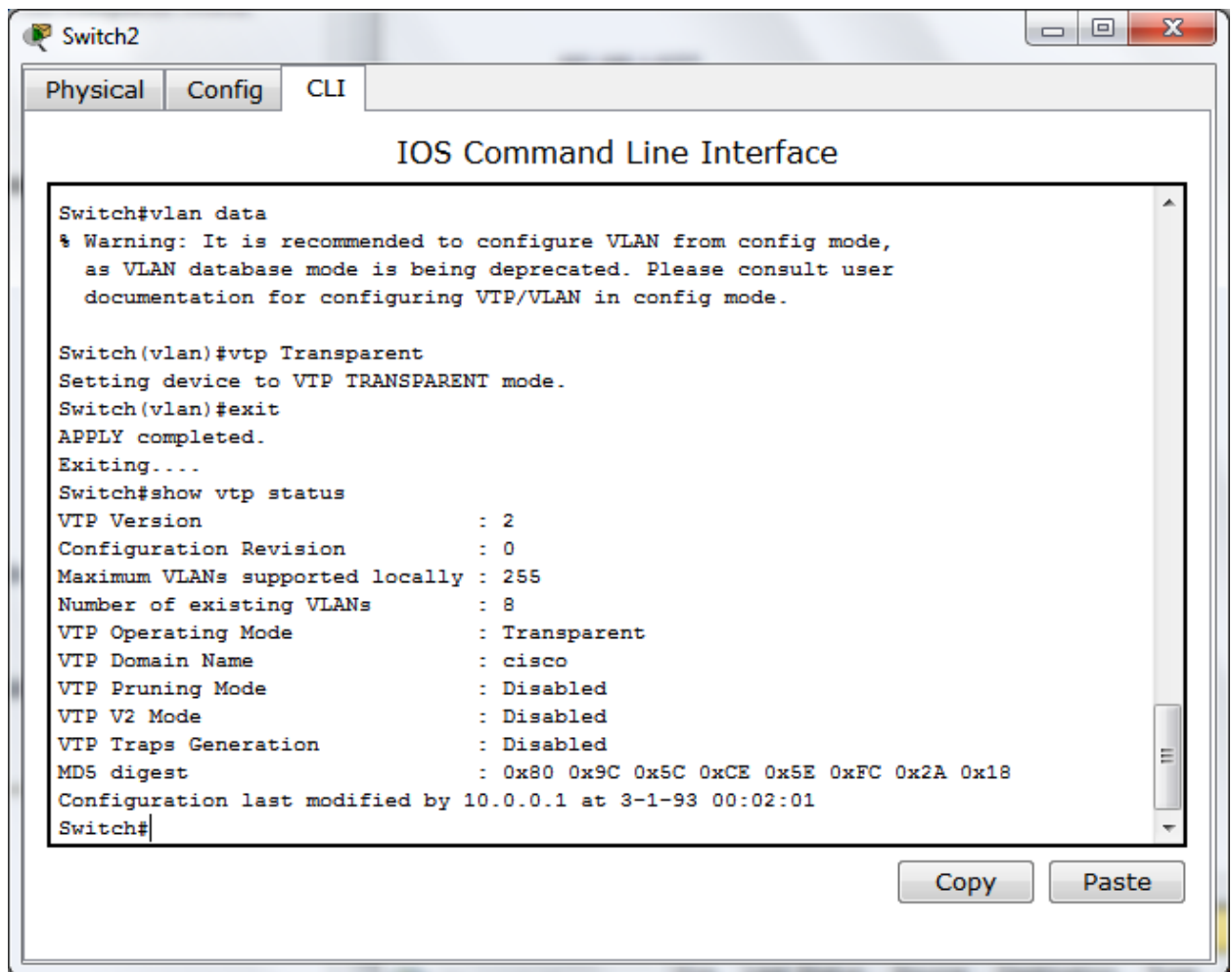


The screenshot shows the CLI of Switch1. The 'Config' tab is selected. The command history shows the following sequence: `SW1#vlan data`, a warning message, `SW1(vlan)#vtp Transparent`, `SW1(vlan)#exit`, and `APPLY completed.`. The `show vtp status` command output is displayed, showing VTP Version 2, Configuration Revision 0, Maximum VLANs supported locally 255, Number of existing VLANs 8, VTP Operating Mode Transparent, VTP Domain Name cisco, VTP Pruning Mode Disabled, VTP V2 Mode Disabled, VTP Traps Generation Disabled, MD5 digest 0x80 0x9C 0x5C 0xCE 0x5E 0xFC 0x2A 0x18, and Configuration last modified by 10.0.0.1 at 3-1-93 00:02:01. The prompt is `SW1#`.

```
Switch1
Physical Config CLI
IOS Command Line Interface

SW1#vlan data
% Warning: It is recommended to configure VLAN from config mode,
as VLAN database mode is being deprecated. Please consult user
documentation for configuring VTP/VLAN in config mode.

SW1(vlan)#vtp Transparent
Setting device to VTP TRANSPARENT mode.
SW1(vlan)#exit
APPLY completed.
Exiting....
SW1#show vtp status
VTP Version                : 2
Configuration Revision      : 0
Maximum VLANs supported locally : 255
Number of existing VLANs    : 8
VTP Operating Mode         : Transparent
VTP Domain Name            : cisco
VTP Pruning Mode           : Disabled
VTP V2 Mode                : Disabled
VTP Traps Generation       : Disabled
MD5 digest                 : 0x80 0x9C 0x5C 0xCE 0x5E 0xFC 0x2A 0x18
Configuration last modified by 10.0.0.1 at 3-1-93 00:02:01
SW1#
```



--- H T ---