ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN

KHOA CÔNG NGHỆ THÔNG TIN

MÔN:THỰC TẬP MẠNG MÁY TÍNH

BÁO CÁO BÀI TẬP TUẦN 4 + 5

VLAN VÀ VTP

Lớp: 09HCA

Họ tên : Võ Huỳnh Đan

MSSV : 0941037

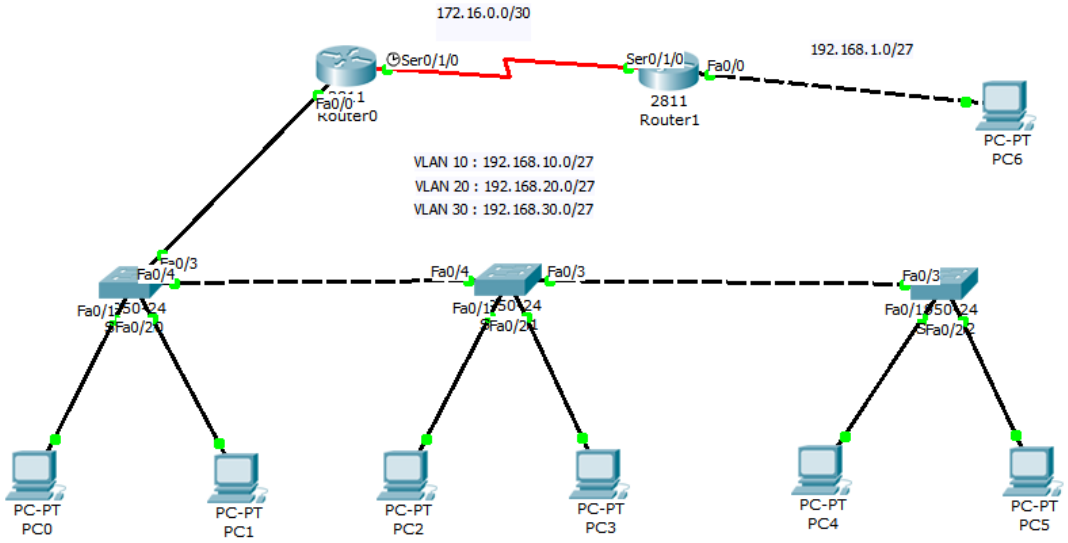
Phần 1: VLAN

Yêu cầu :

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

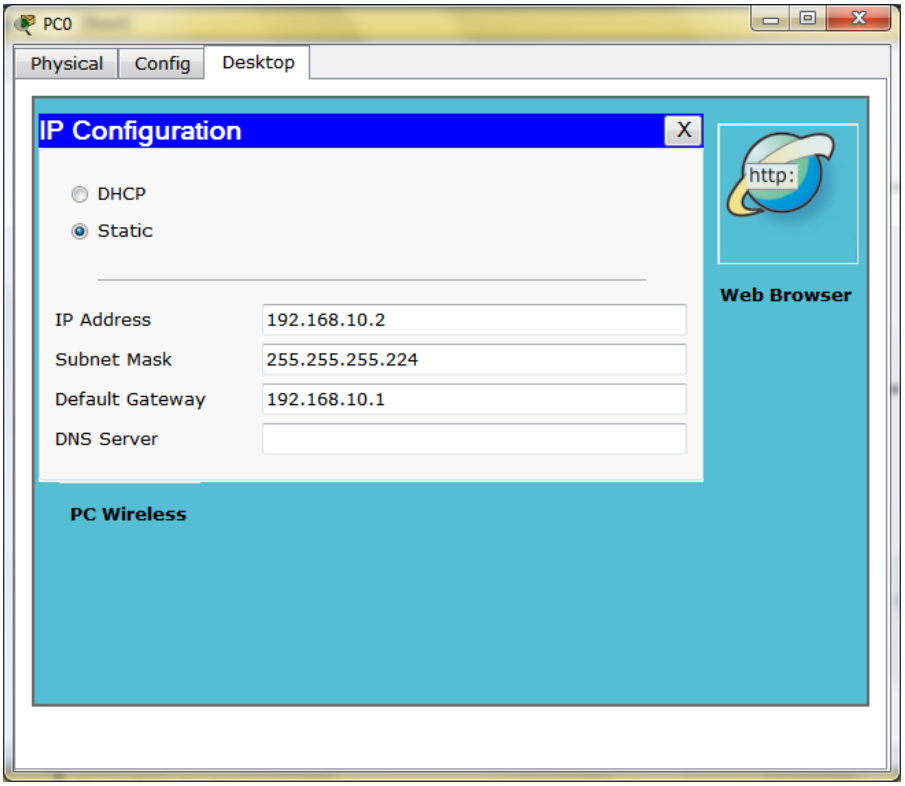
Bài làm:

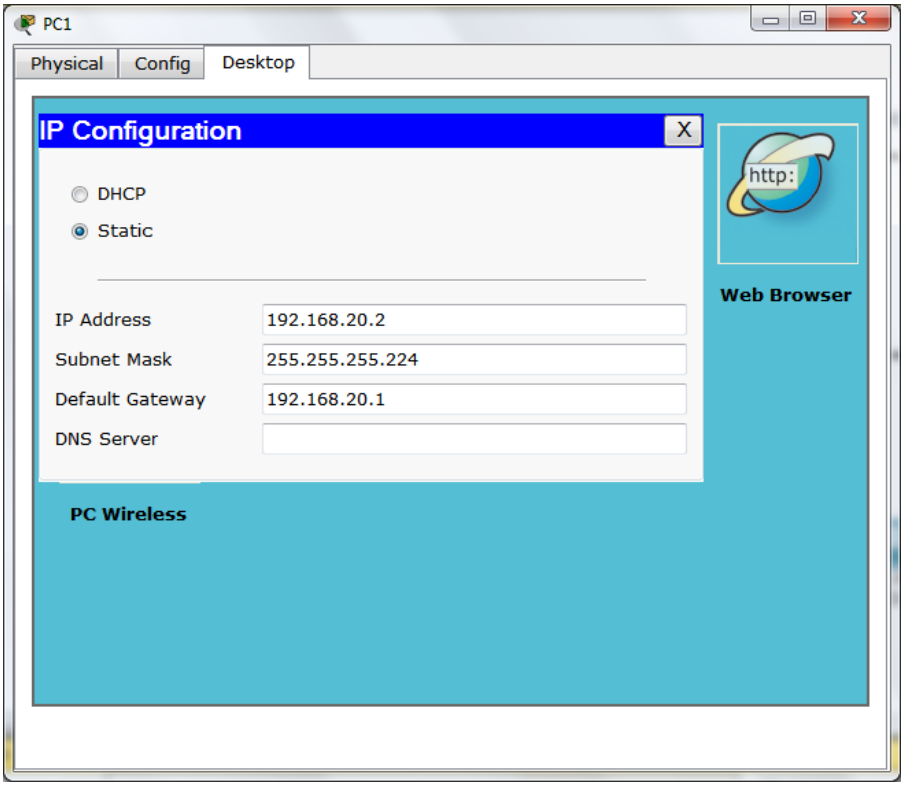
1. **Mô hình thực hiện .**

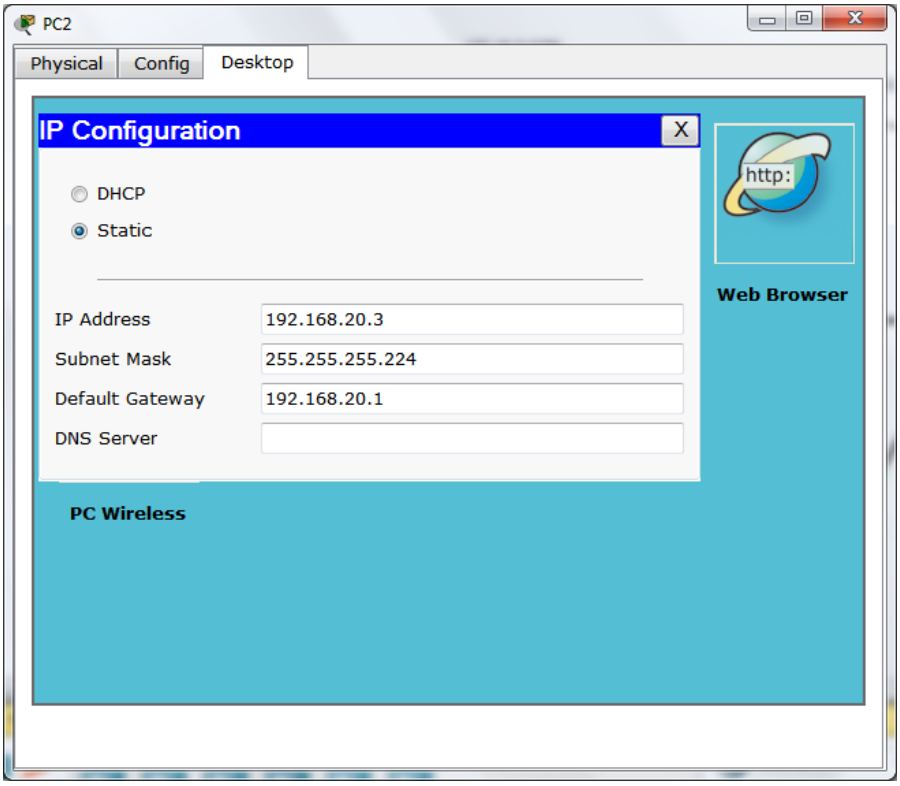


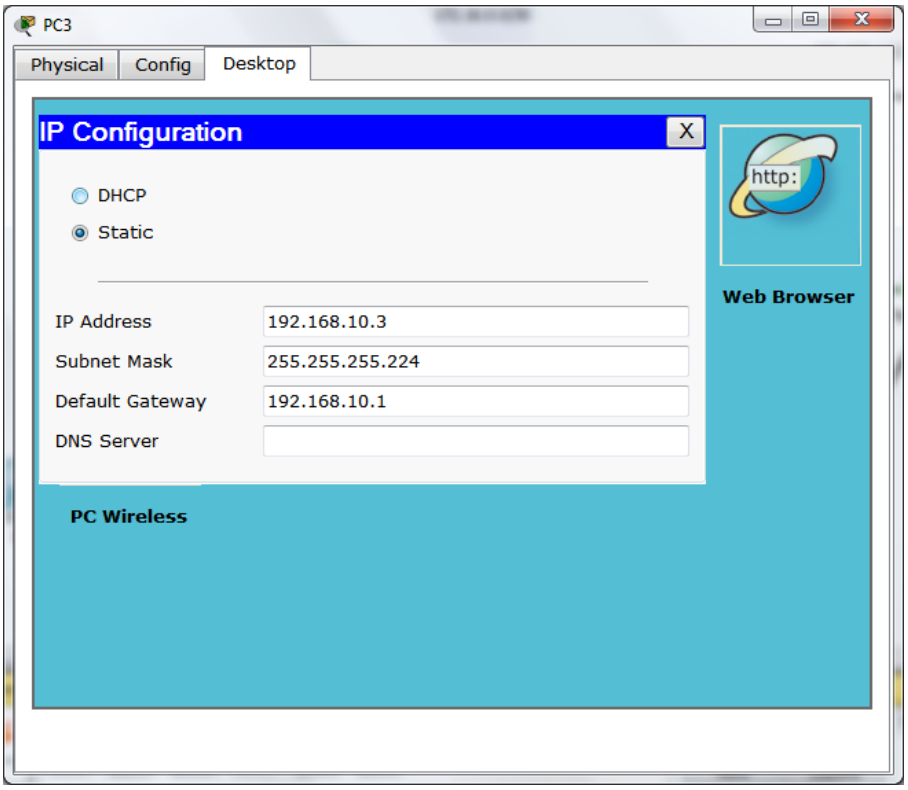
2. **Cấu hình tại switch và router cho phép các máy tính thuộc các VLAN khác nhau có thể liên lạc với nhau.Thêm R1, cấu hình định tuyến cho phép tất cả các PC có thể liên lạc được với nhau.**

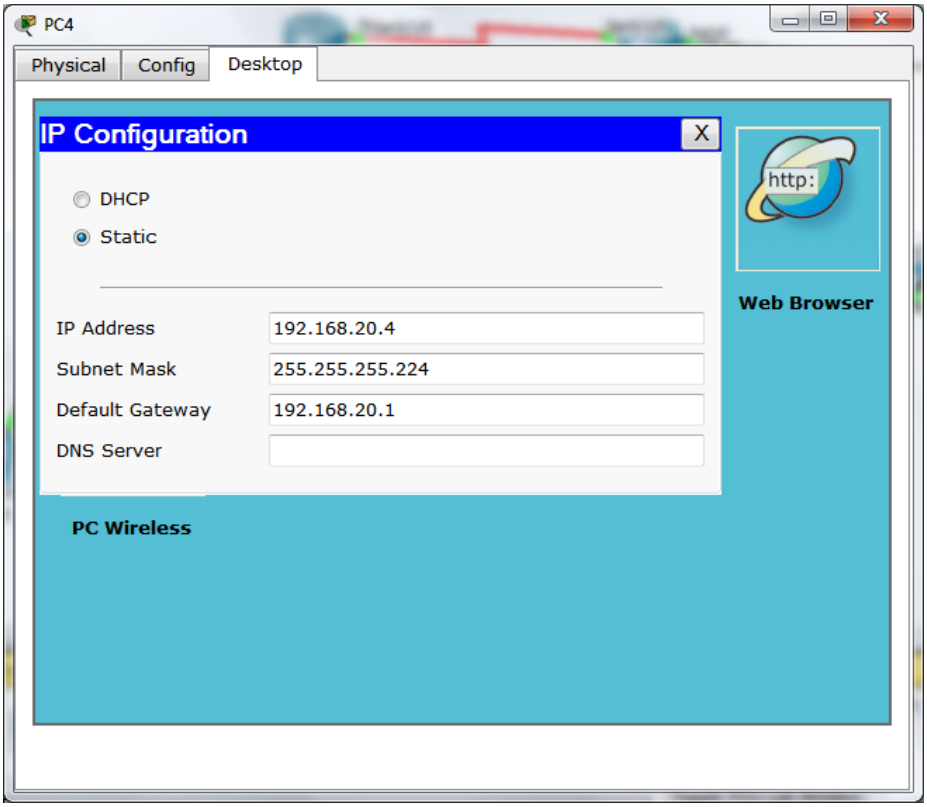
Cấu hình các PC như trong hình :

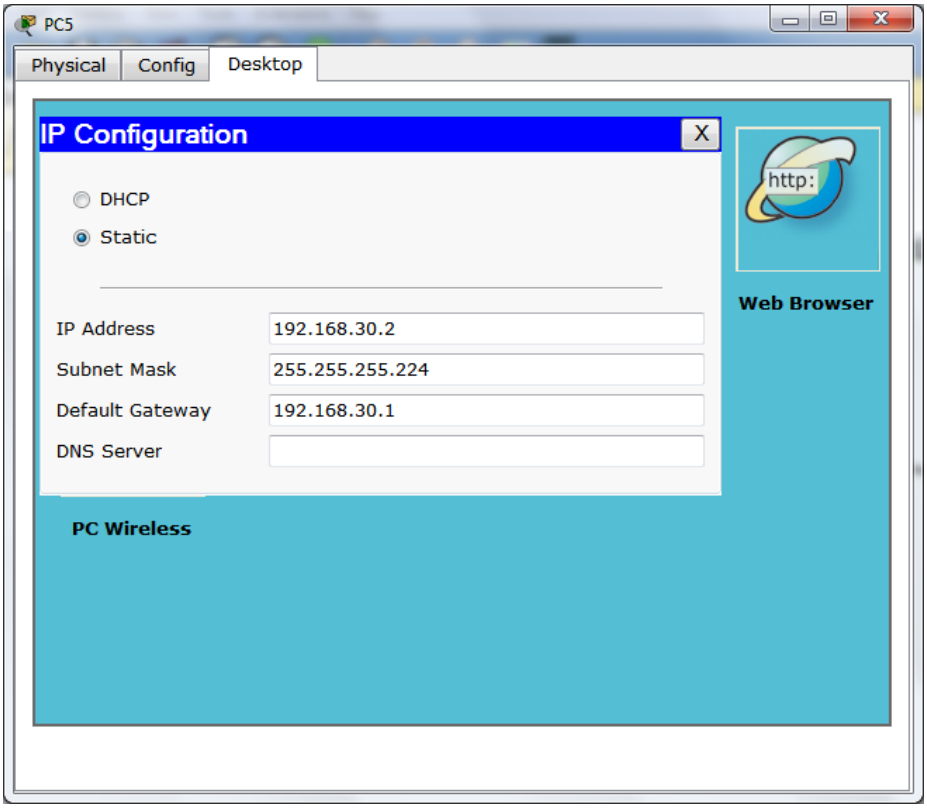

PC0
Physical
Config
Desktop
IP Configuration
X
DHCP
Static
IP Address
192.168.10.2
Subnet Mask
255.255.255.224
Default Gateway
192.168.10.1
DNS Server
http:
Web Browser
PC Wireless

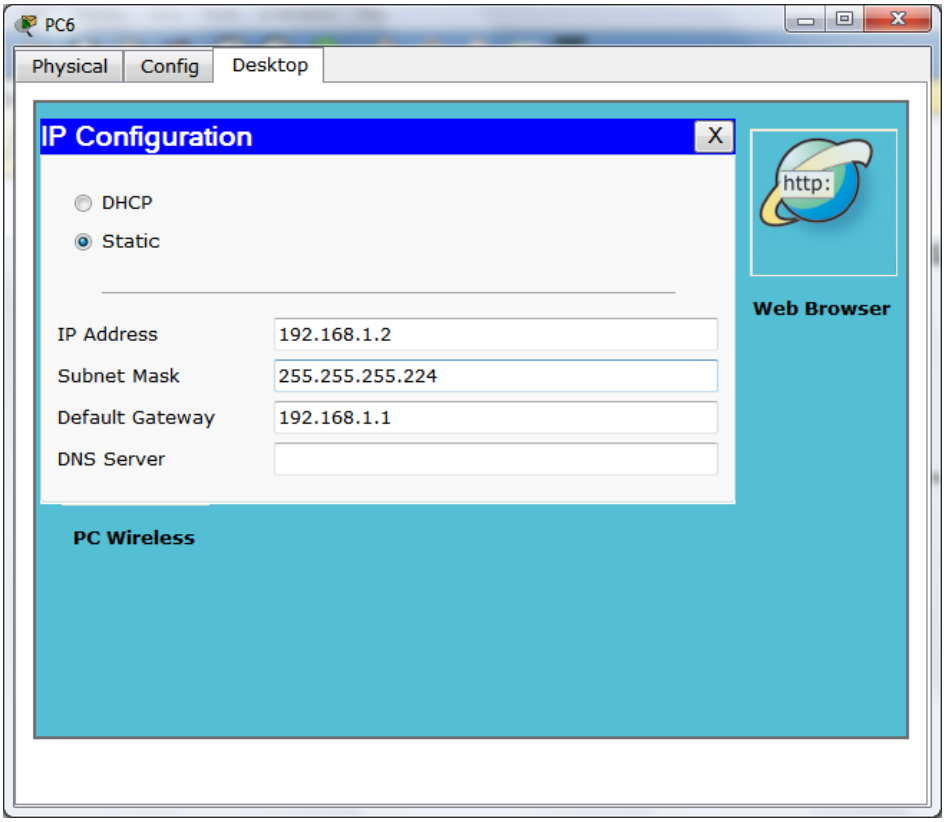

PC1
Physical
Config
Desktop
IP Configuration
X
DHCP
Static
IP Address
192.168.20.2
Subnet Mask
255.255.255.224
Default Gateway
192.168.20.1
DNS Server
http:
Web Browser
PC Wireless


PC2
Physical
Config
Desktop
IP Configuration
X
DHCP
Static
IP Address
192.168.20.3
Subnet Mask
255.255.255.224
Default Gateway
192.168.20.1
DNS Server
http:
Web Browser
PC Wireless

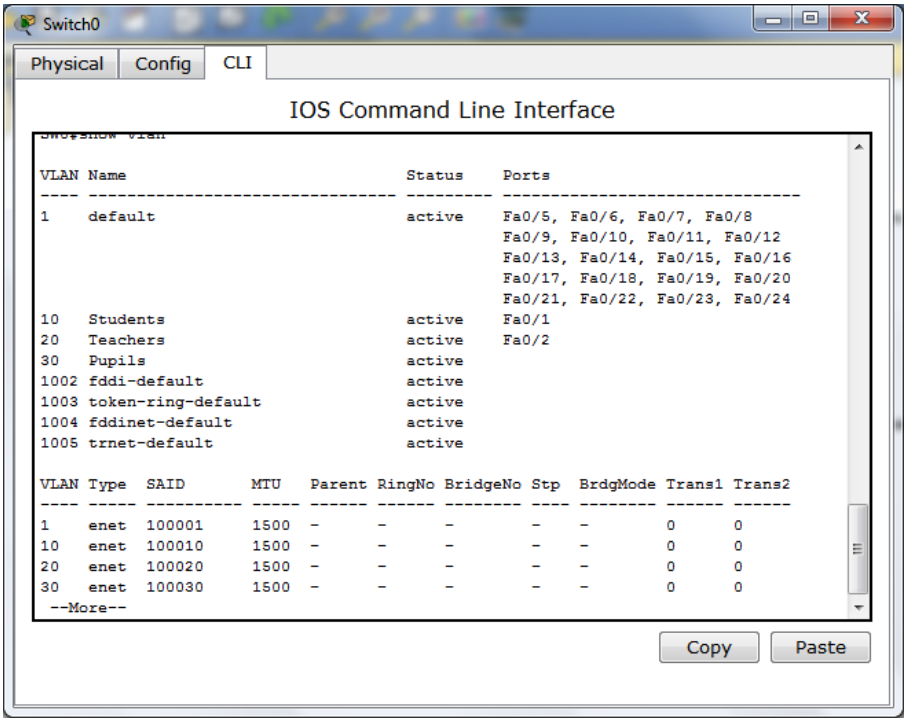

PC3
Physical
Config
Desktop
IP Configuration
X
DHCP
Static
IP Address
192.168.10.3
Subnet Mask
255.255.255.224
Default Gateway
192.168.10.1
DNS Server
http:
Web Browser
PC Wireless

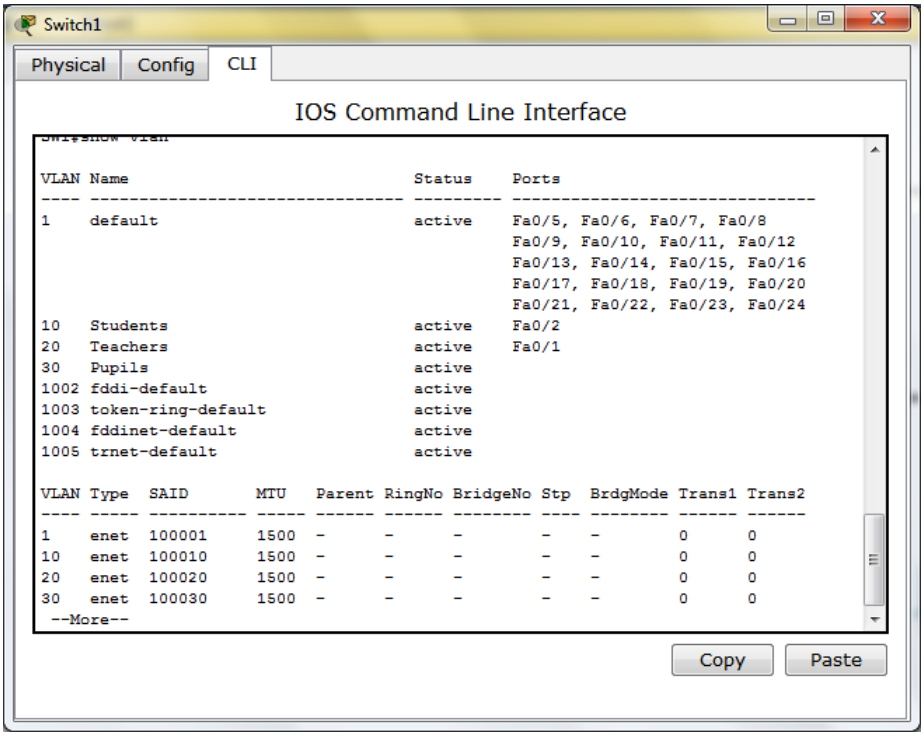

PC4
Physical
Config
Desktop
IP Configuration
X
DHCP
Static
IP Address
192.168.20.4
Subnet Mask
255.255.255.224
Default Gateway
192.168.20.1
DNS Server
http:
Web Browser
PC Wireless

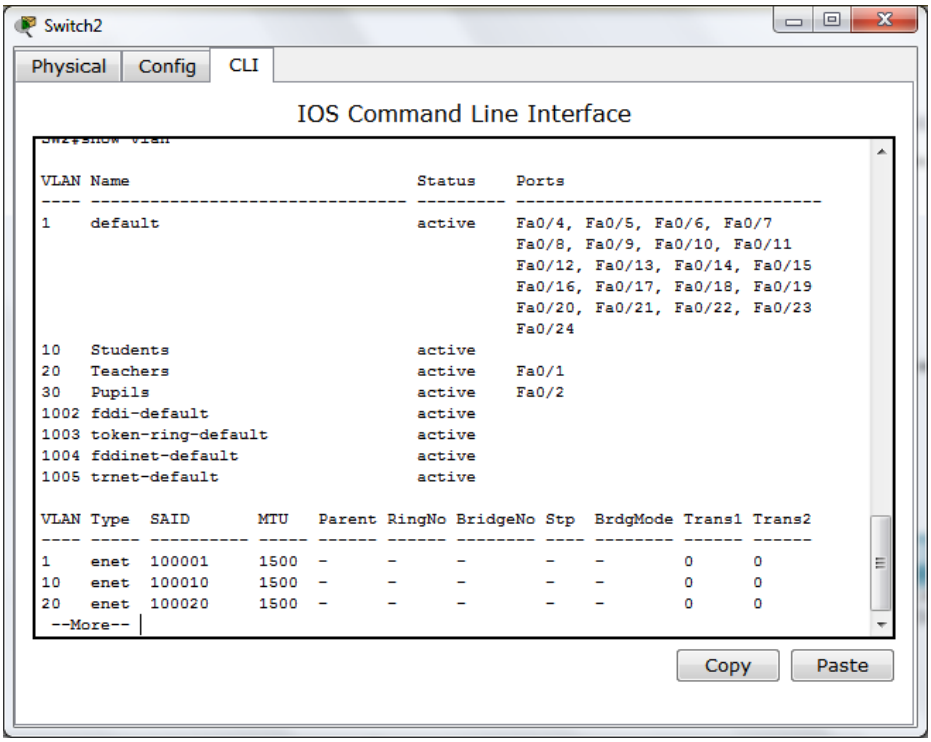

PC5
Physical
Config
Desktop
IP Configuration
X
DHCP
Static
IP Address
192.168.30.2
Subnet Mask
255.255.255.224
Default Gateway
192.168.30.1
DNS Server
http:
Web Browser
PC Wireless



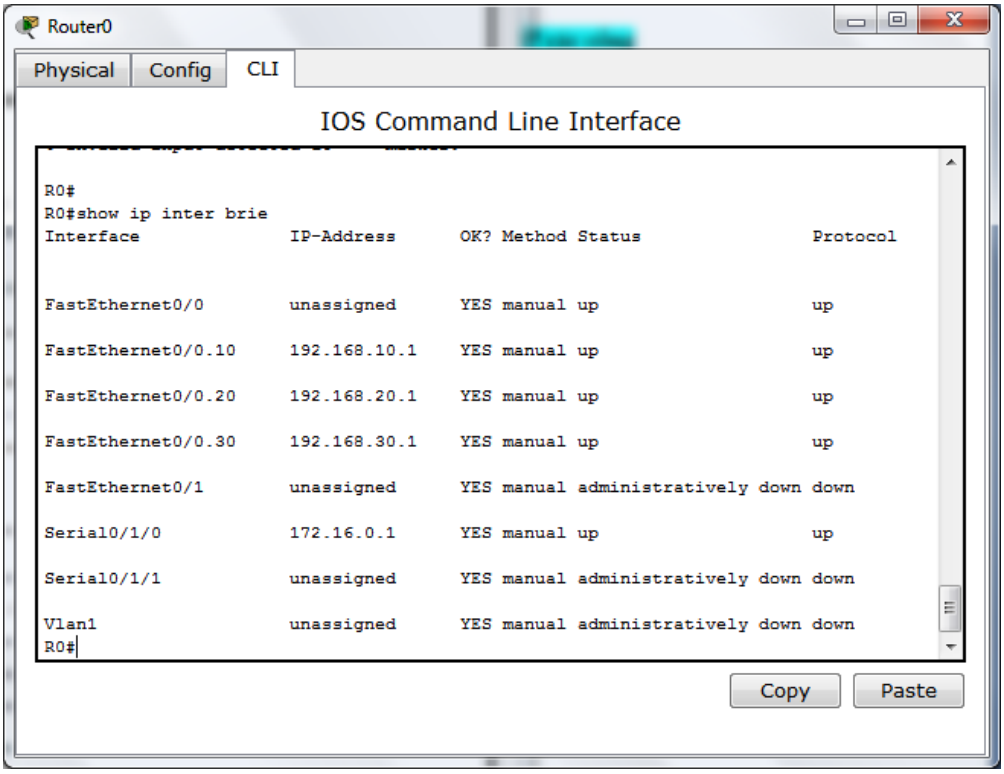
Cấu hình các Switch :

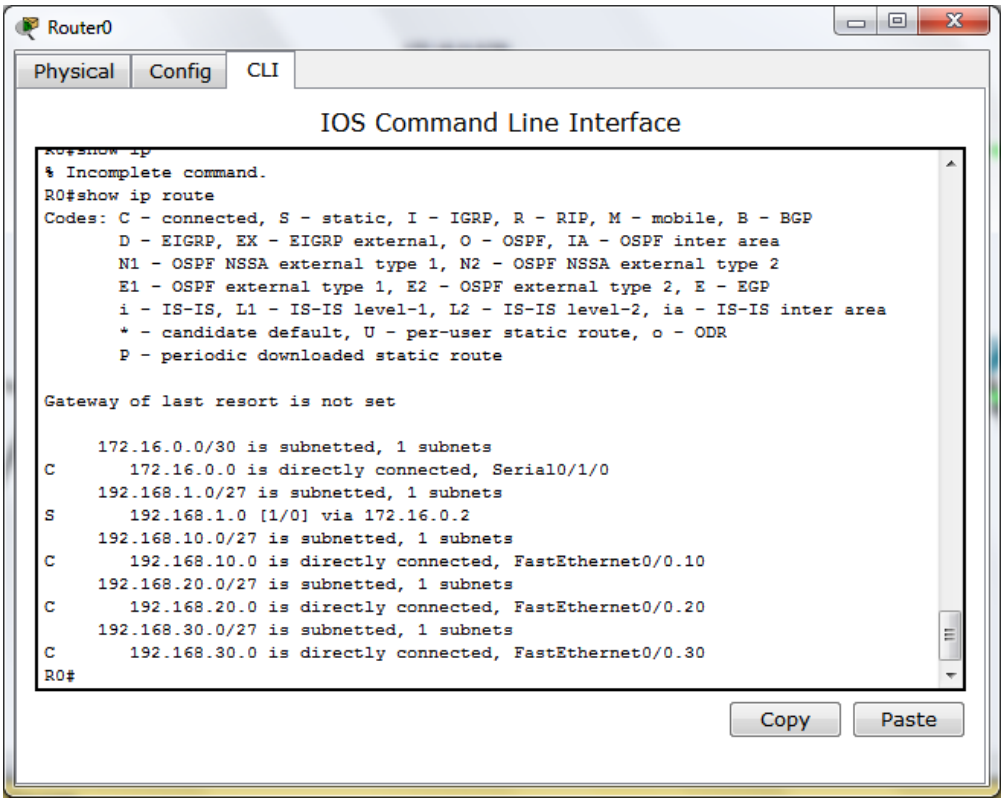


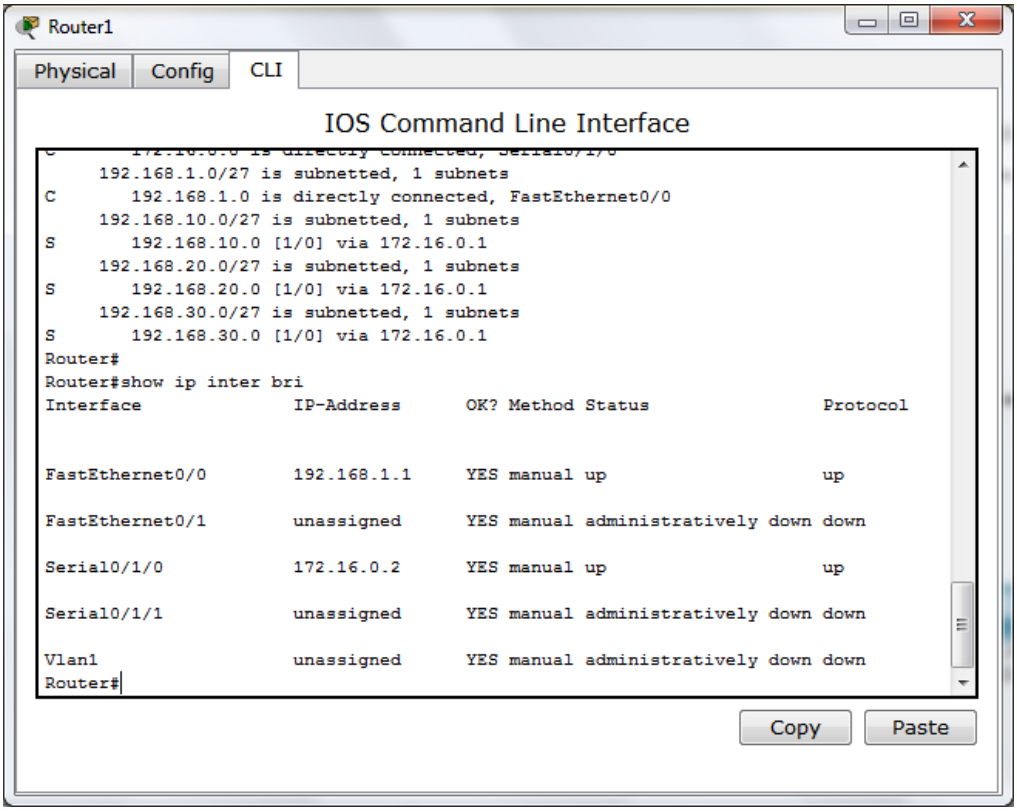

Switch1
Physical
Config
CLI
IOS Command Line Interface
VLAN Name Status Ports
1 default active Fa0/5, Fa0/6, Fa0/7, Fa0/8
Fa0/9, Fa0/10, Fa0/11, Fa0/12
Fa0/13, Fa0/14, Fa0/15, Fa0/16
Fa0/17, Fa0/18, Fa0/19, Fa0/20
Fa0/21, Fa0/22, Fa0/23, Fa0/24
10 Students active Fa0/2
20 Teachers active Fa0/1
30 Pupils 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

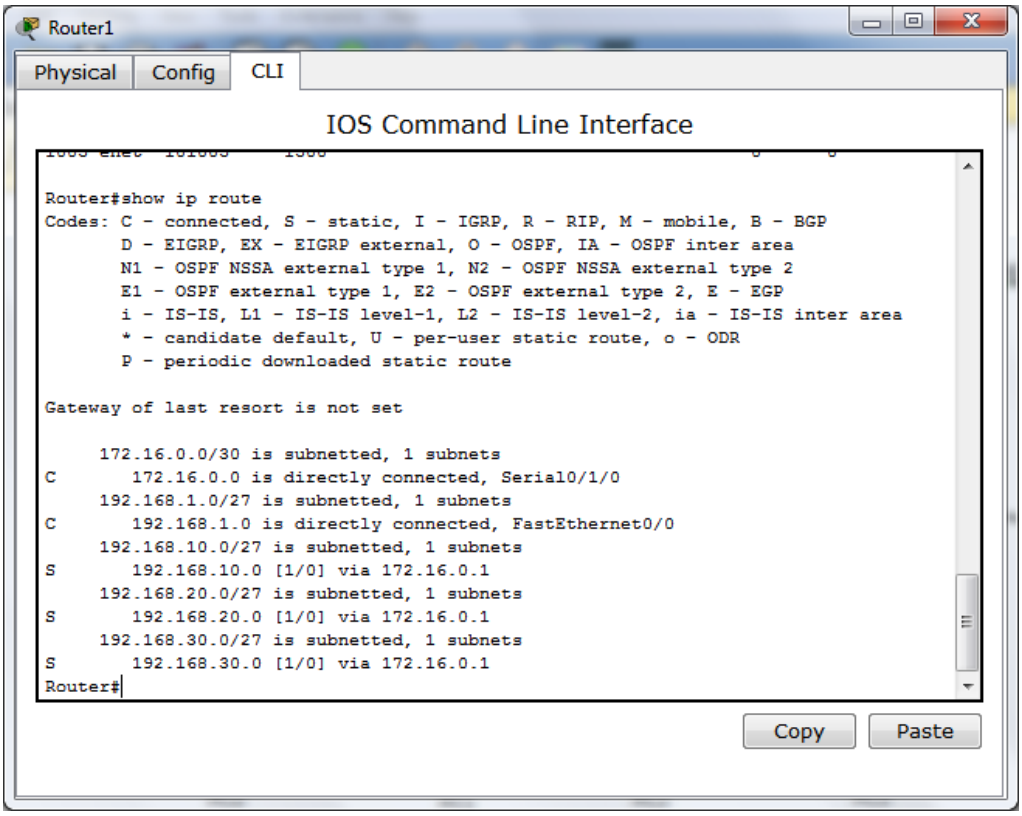

Switch2
Physical
Config
CLI
IOS Command Line Interface
VLAN Name Status Ports
1 default active Fa0/4, Fa0/5, Fa0/6, Fa0/7
Fa0/8, Fa0/9, Fa0/10, Fa0/11
Fa0/12, Fa0/13, Fa0/14, Fa0/15
Fa0/16, Fa0/17, Fa0/18, Fa0/19
Fa0/20, Fa0/21, Fa0/22, Fa0/23
Fa0/24
10 Students active
20 Teachers active Fa0/1
30 Pupils active Fa0/2
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
--More--
Copy
Paste

Cấu hình Satic Router và địa chỉ IP các cổng



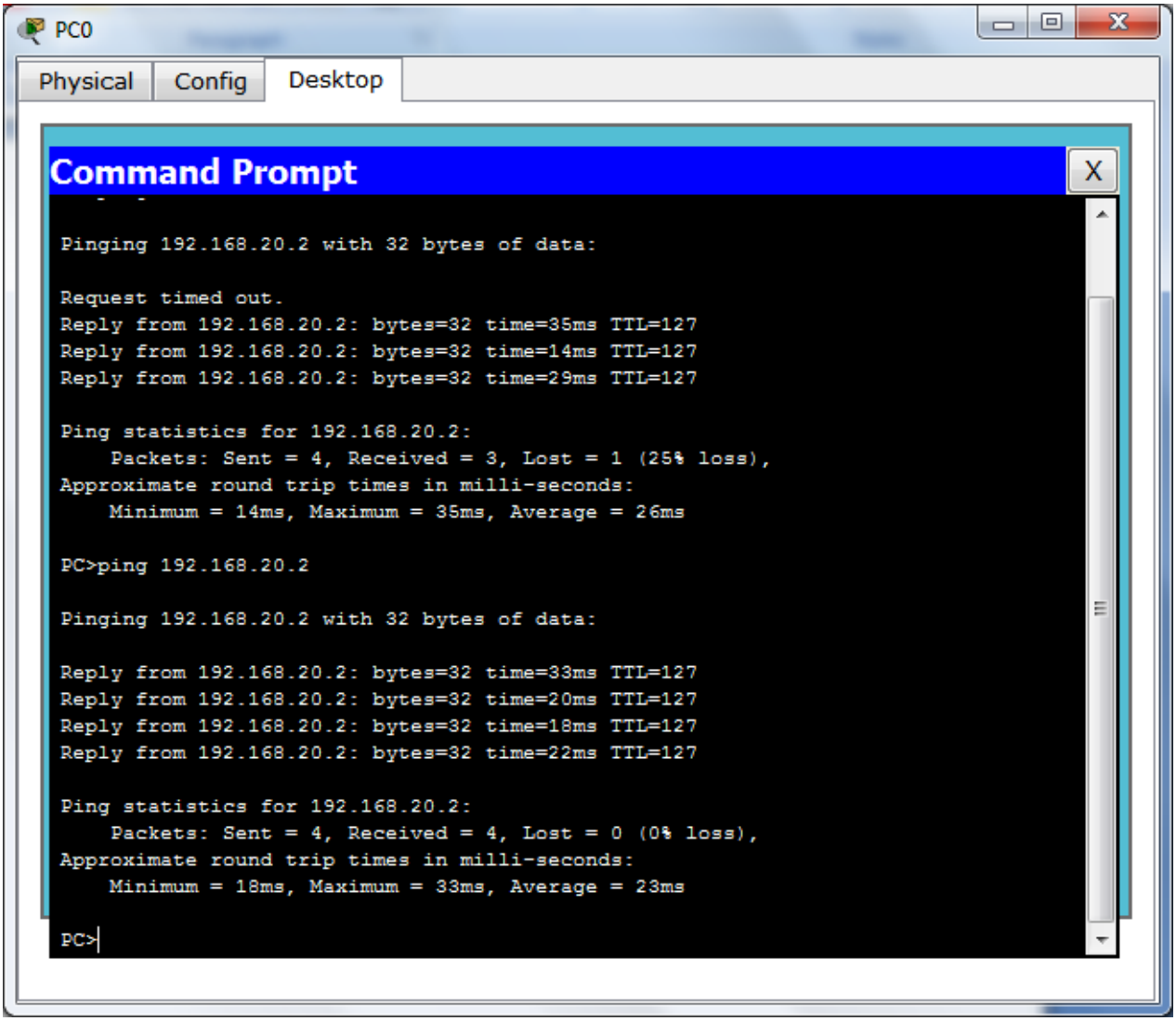



Router1
Physical
Config
CLI
IOS Command Line Interface
192.168.1.0/27 is subnetted, 1 subnets
C 192.168.1.0 is directly connected, FastEthernet0/0
192.168.10.0/27 is subnetted, 1 subnets
S 192.168.10.0 [1/0] via 172.16.0.1
192.168.20.0/27 is subnetted, 1 subnets
S 192.168.20.0 [1/0] via 172.16.0.1
192.168.30.0/27 is subnetted, 1 subnets
S 192.168.30.0 [1/0] via 172.16.0.1
Router#
Router#show ip inter bri
Interface IP-Address OK? Method Status Protocol
FastEthernet0/0 192.168.1.1 YES manual up up
FastEthernet0/1 unassigned YES manual administratively down down
Serial0/1/0 172.16.0.2 YES manual up up
Serial0/1/1 unassigned YES manual administratively down down
Vlan1 unassigned YES manual administratively down down
Router#
Copy
Paste

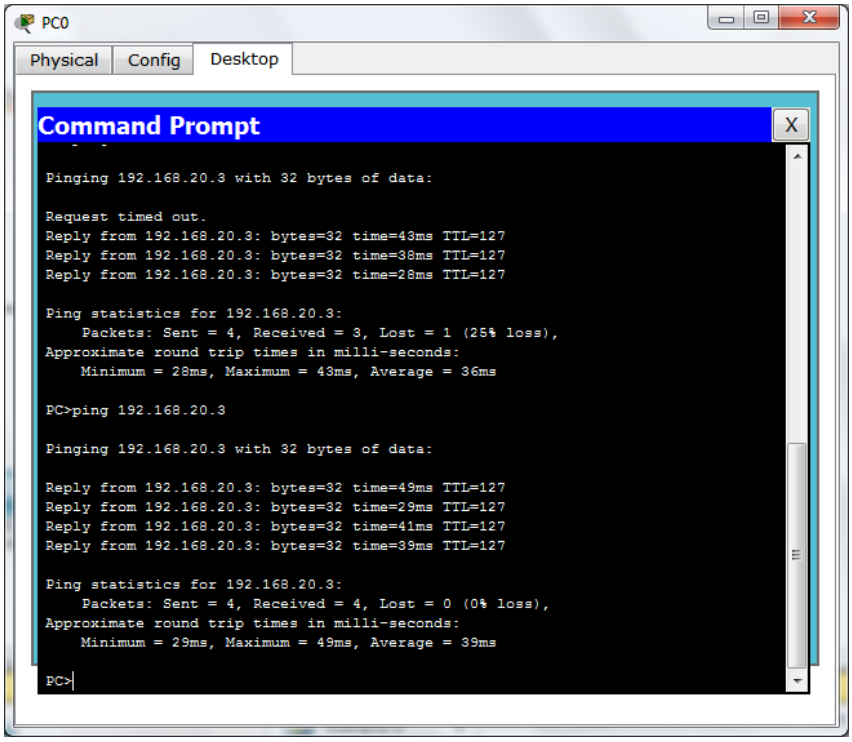

Router1
Physical
Config
CLI
IOS Command Line Interface
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is not set
172.16.0.0/30 is subnetted, 1 subnets
C 172.16.0.0 is directly connected, Serial0/1/0
192.168.1.0/27 is subnetted, 1 subnets
C 192.168.1.0 is directly connected, FastEthernet0/0
192.168.10.0/27 is subnetted, 1 subnets
S 192.168.10.0 [1/0] via 172.16.0.1
192.168.20.0/27 is subnetted, 1 subnets
S 192.168.20.0 [1/0] via 172.16.0.1
192.168.30.0/27 is subnetted, 1 subnets
S 192.168.30.0 [1/0] via 172.16.0.1
Router#
Copy
Paste

Màn hình ping của các PC

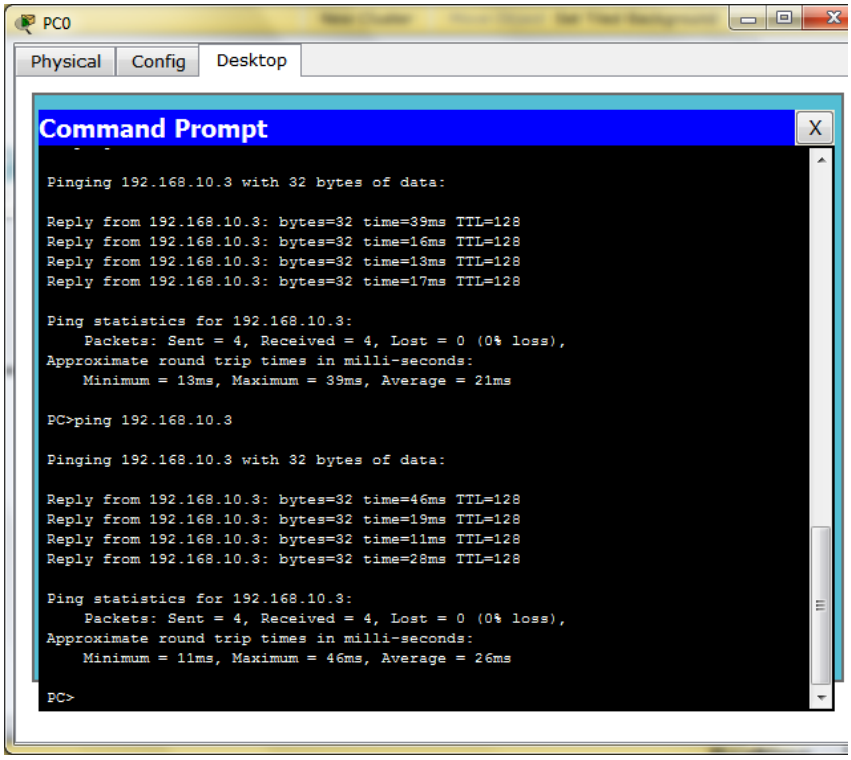
PC0 Ping PC1



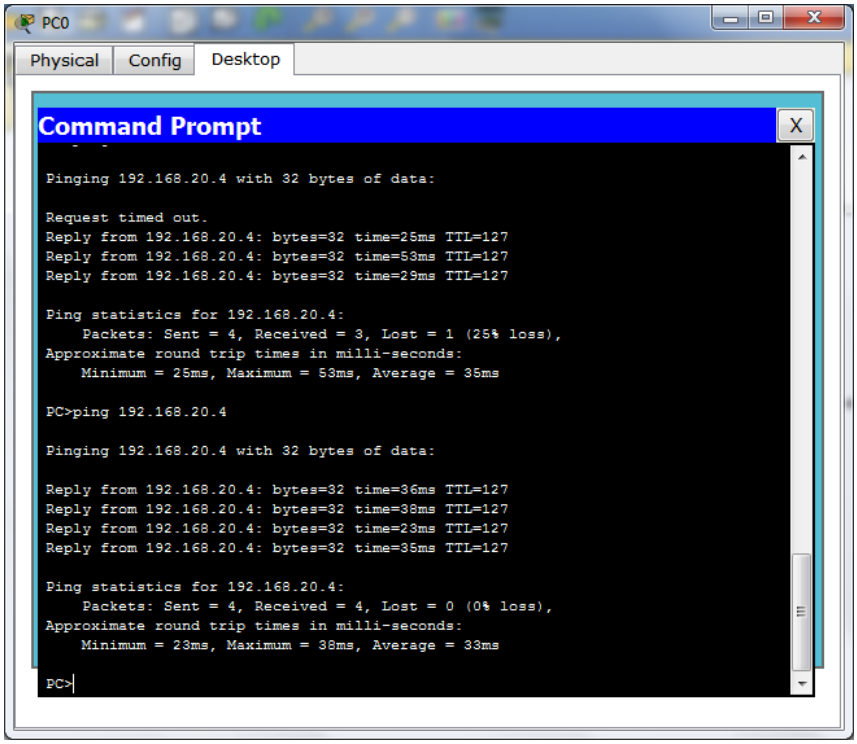
PC0 Ping PC2



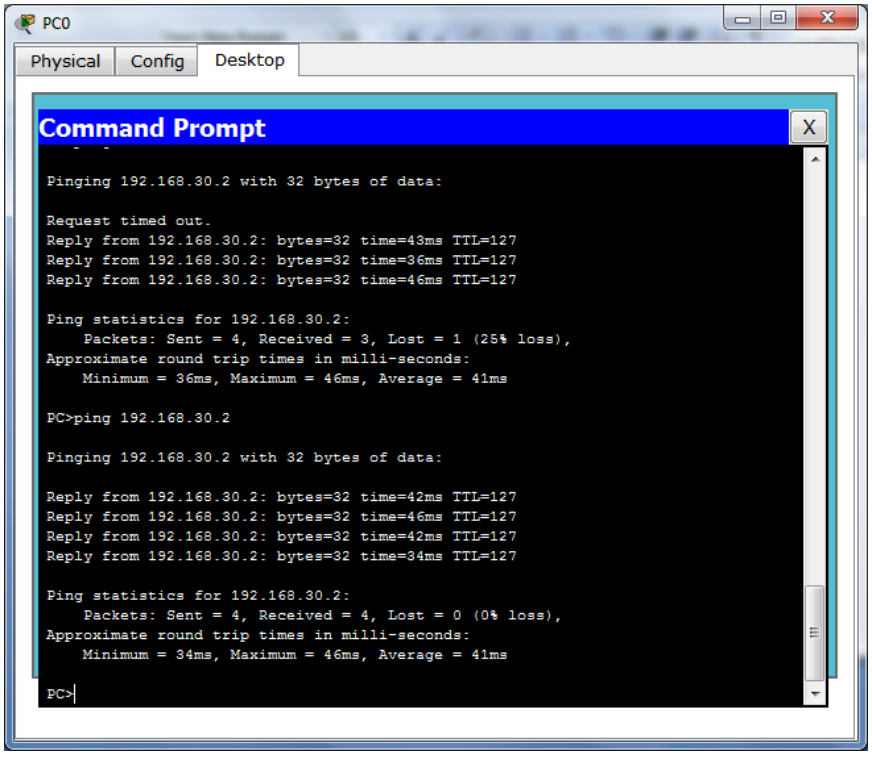
PC0 Ping PC3



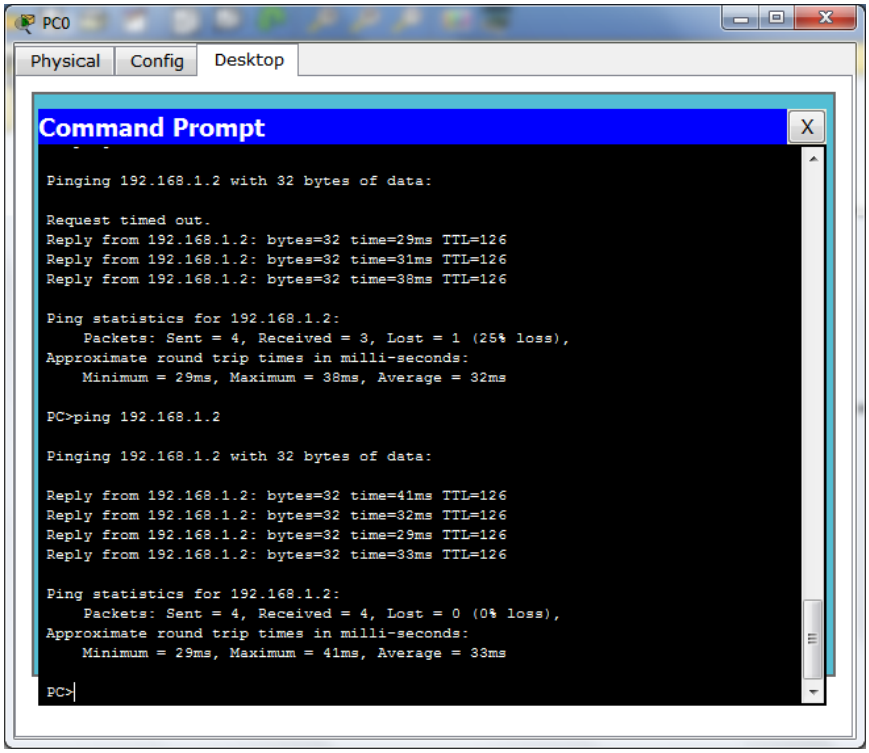
PC0 Ping PC4



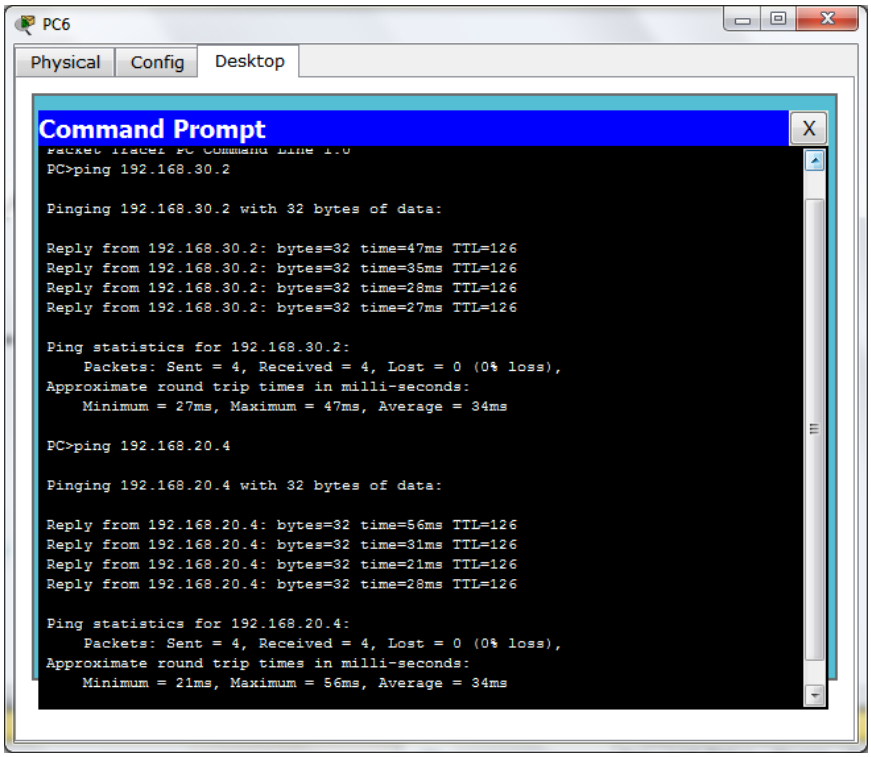
PC0 Ping PC5



PC0 Ping PC6



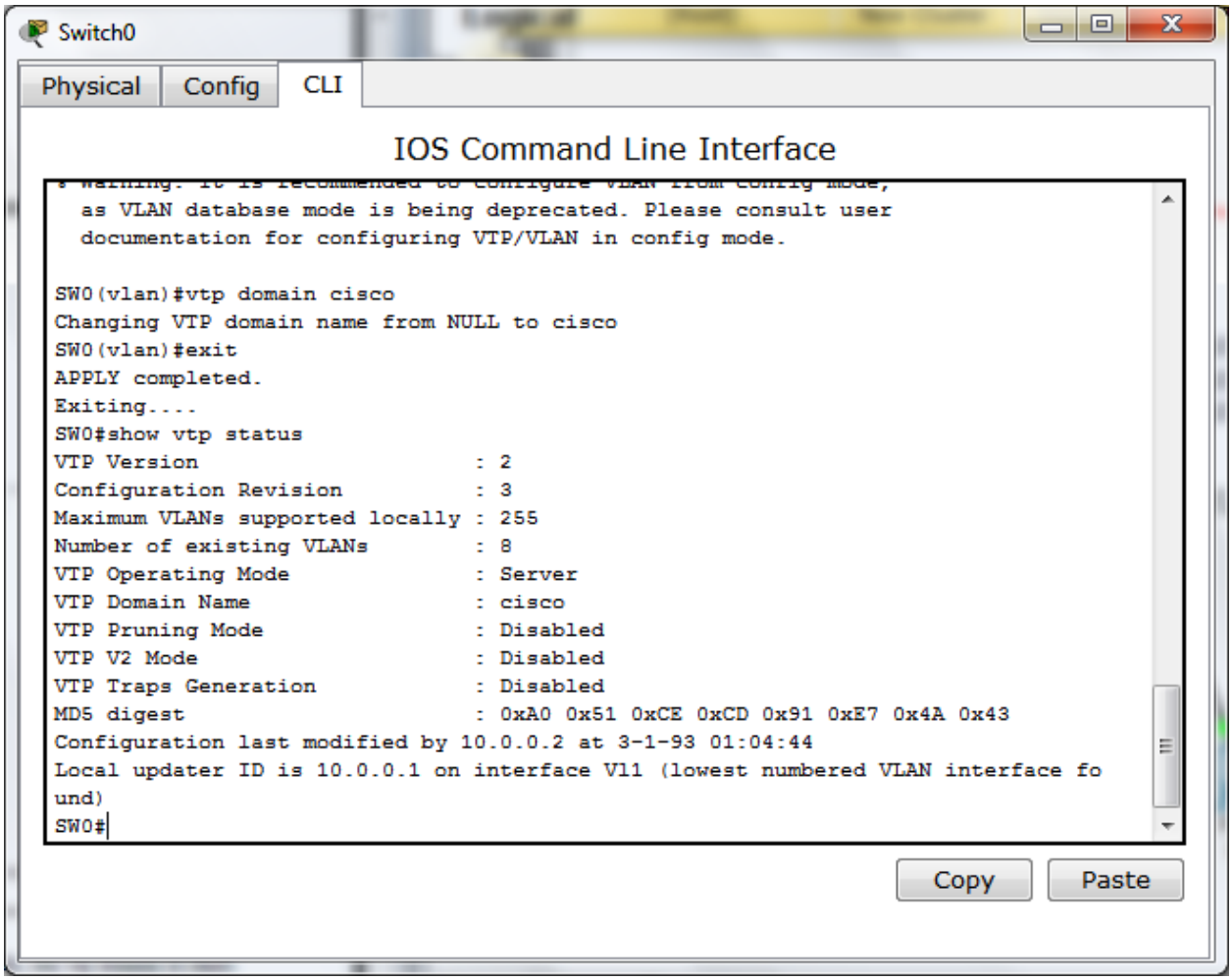
PC6 Ping PC5 và PC4



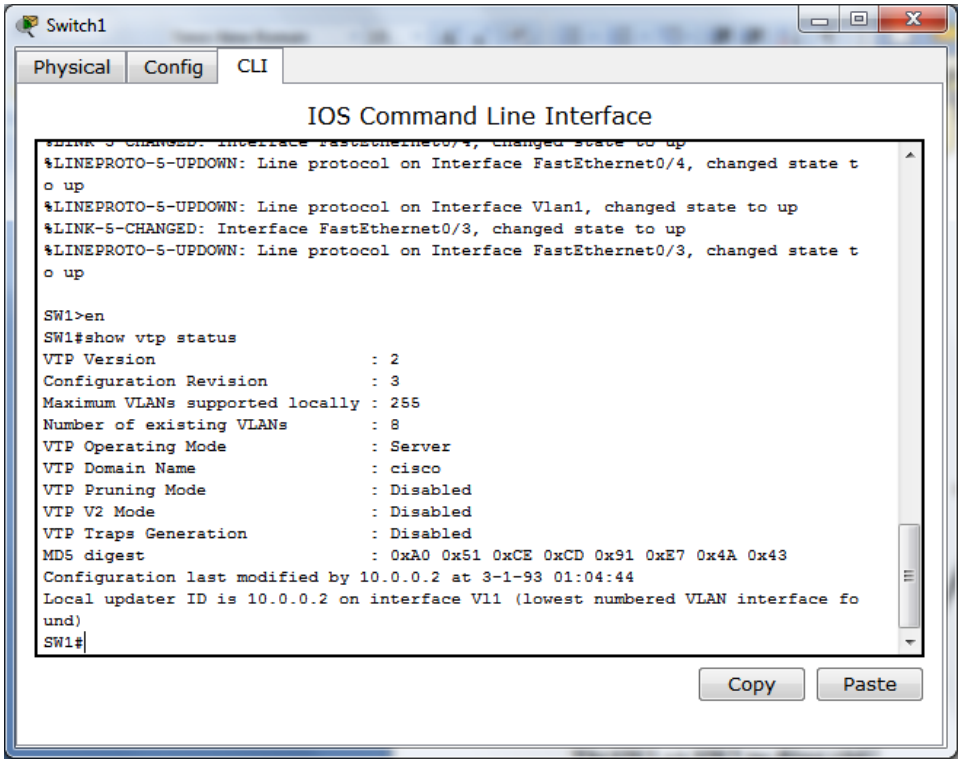
Tương tự với các PC còn lại đều ping được cho nhau hết

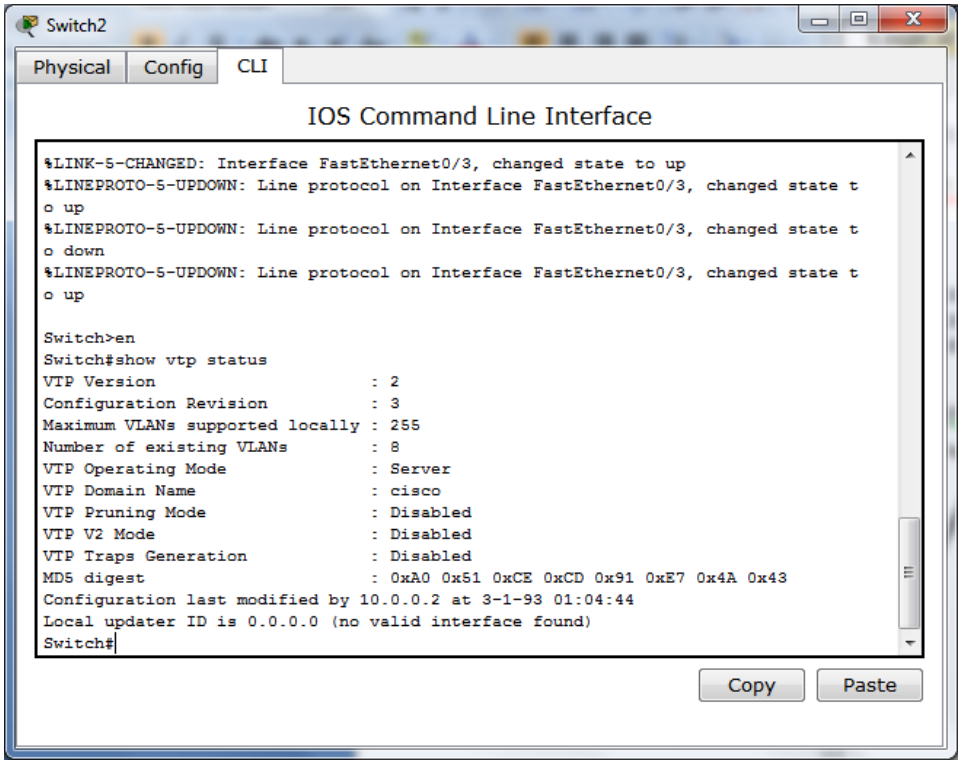
Phần 2: Trunking Protocol (VTP)

Đổi tên Domain SW0 sang Cisco

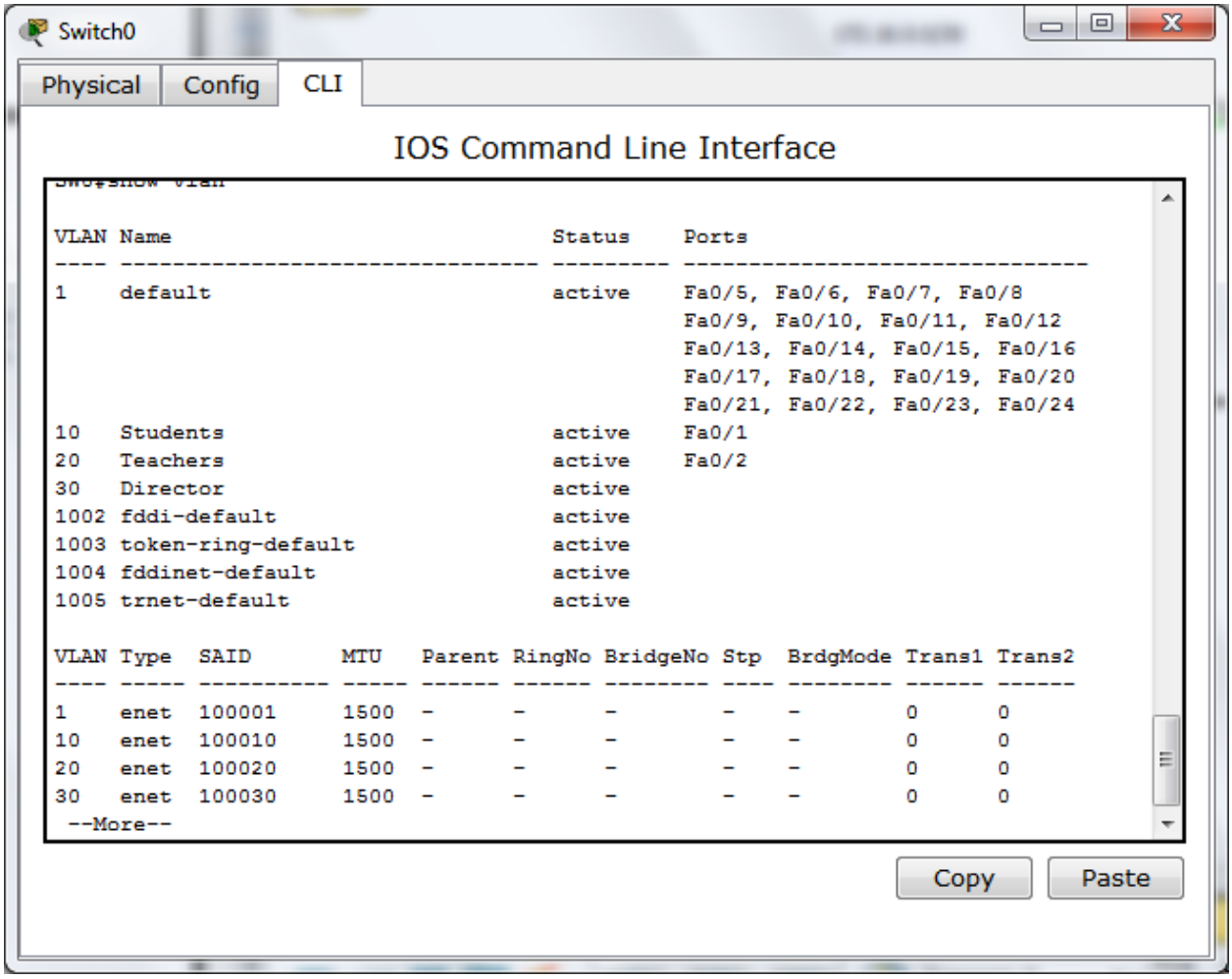


Thì SW1 và SW2 tự động cập nhật thông tin như hình

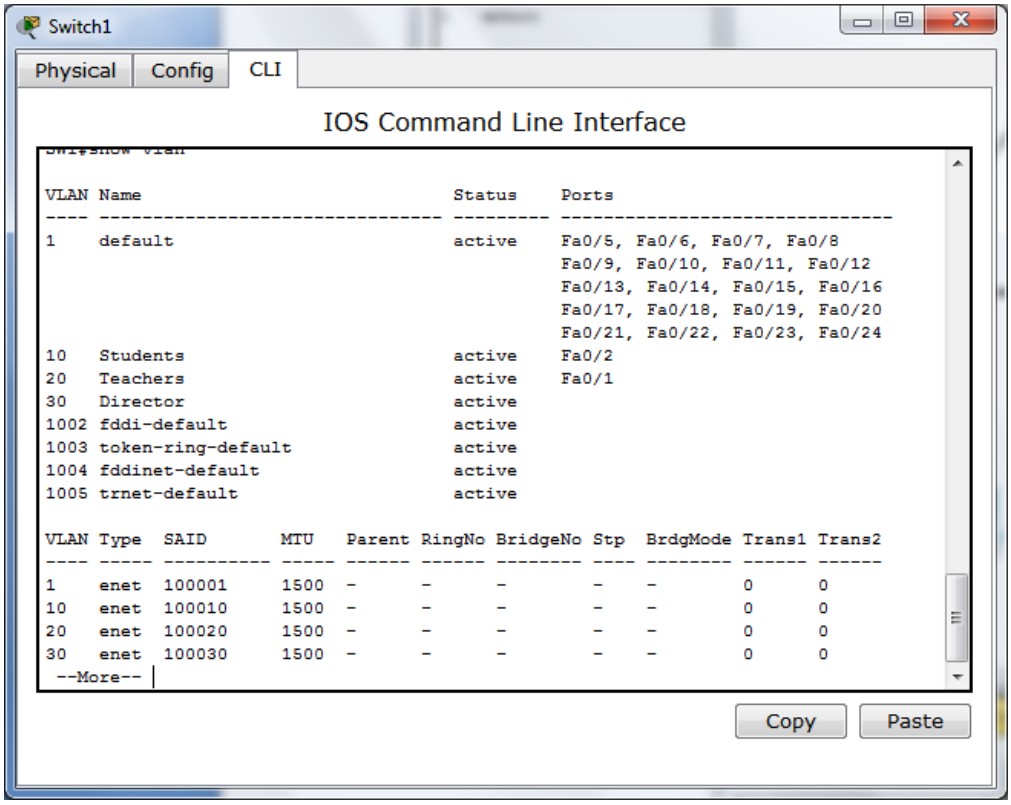

Switch1
Physical
Config
CLI
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state t
o up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state t
o up
SW1>en
SW1#show vtp status
VTP Version : 2
Configuration Revision : 3
Maximum VLANs supported locally : 255
Number of existing VLANs : 8
VTP Operating Mode : Server
VTP Domain Name : cisco
VTP Pruning Mode : Disabled
VTP V2 Mode : Disabled
VTP Traps Generation : Disabled
MD5 digest : 0xA0 0x51 0xCE 0xCD 0x91 0xE7 0x4A 0x43
Configuration last modified by 10.0.0.2 at 3-1-93 01:04:44
Local updater ID is 10.0.0.2 on interface Vl1 (lowest numbered VLAN interface fo
und)
SW1#
Copy
Paste

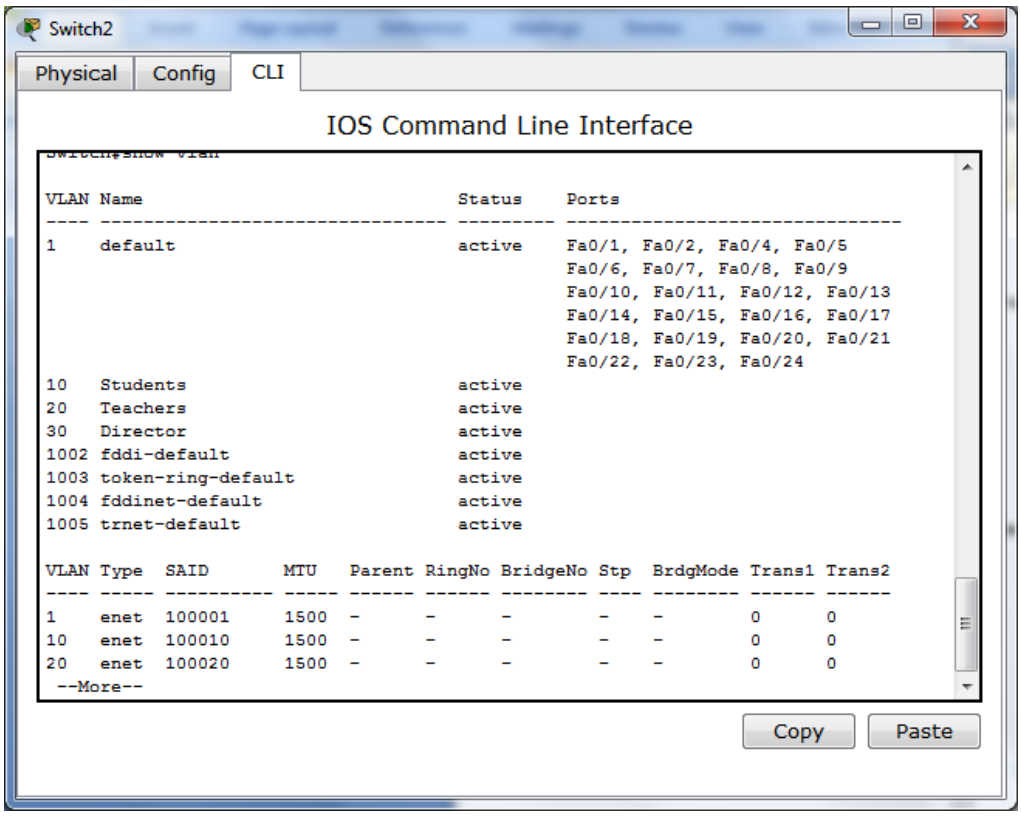

Switch2
Physical
Config
CLI
IOS Command Line Interface
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state t
o up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state t
o down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state t
o up
Switch>en
Switch#show vtp status
VTP Version : 2
Configuration Revision : 3
Maximum VLANs supported locally : 255
Number of existing VLANs : 8
VTP Operating Mode : Server
VTP Domain Name : cisco
VTP Pruning Mode : Disabled
VTP V2 Mode : Disabled
VTP Traps Generation : Disabled
MD5 digest : 0xA0 0x51 0xCE 0xCD 0x91 0xE7 0x4A 0x43
Configuration last modified by 10.0.0.2 at 3-1-93 01:04:44
Local updater ID is 0.0.0.0 (no valid interface found)
Switch#
Copy
Paste

Cập nhật VLAN 30 cho SW0

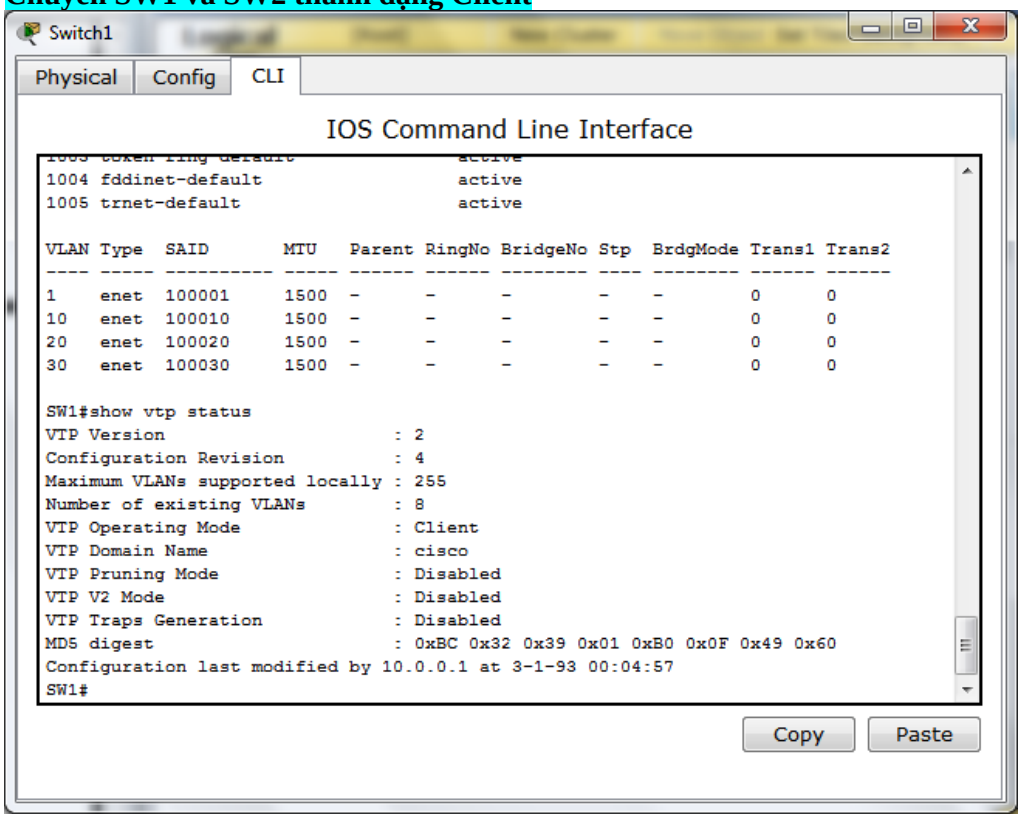


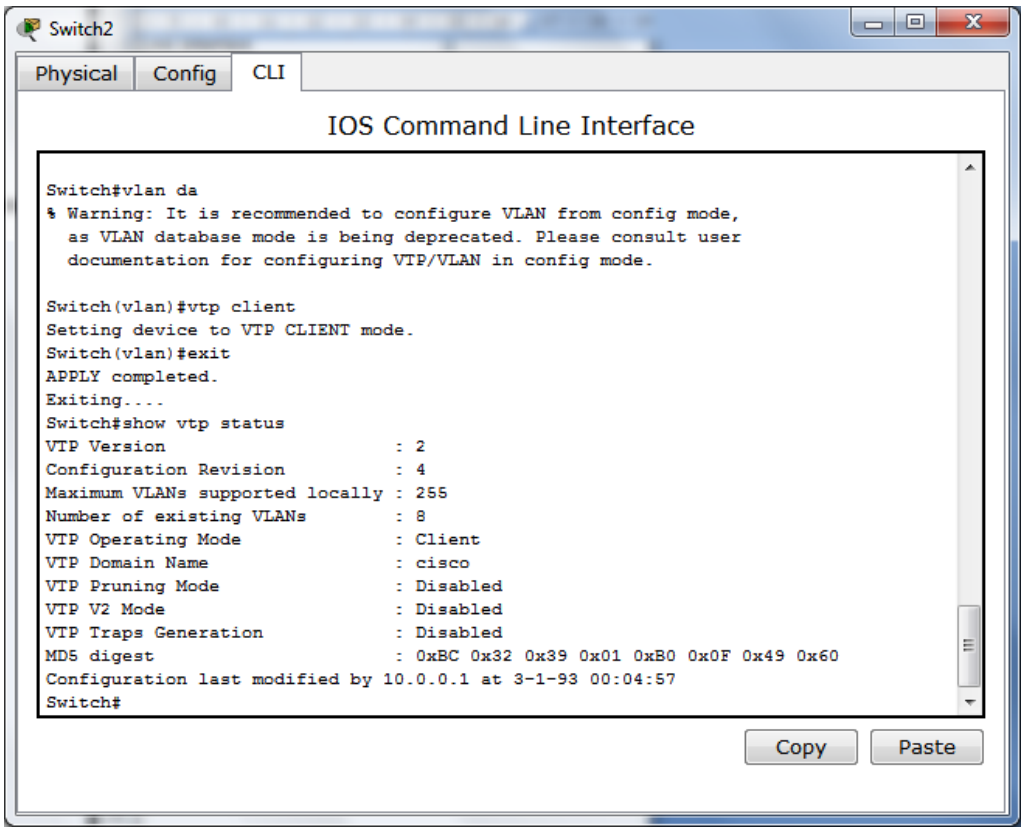
Ta thấy SW1 và SW2 cũng tự cập nhật thông tin VLAN 30 vào


Switch1
Physical
Config
CLI
IOS Command Line Interface
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 Fa0/2
20 Teachers active Fa0/1
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


Switch2
Physical
Config
CLI
IOS Command Line Interface
VLAN Name Status Ports
1 default active Fa0/1, Fa0/2, 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
10 Students active
20 Teachers active
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
--More--
Copy
Paste

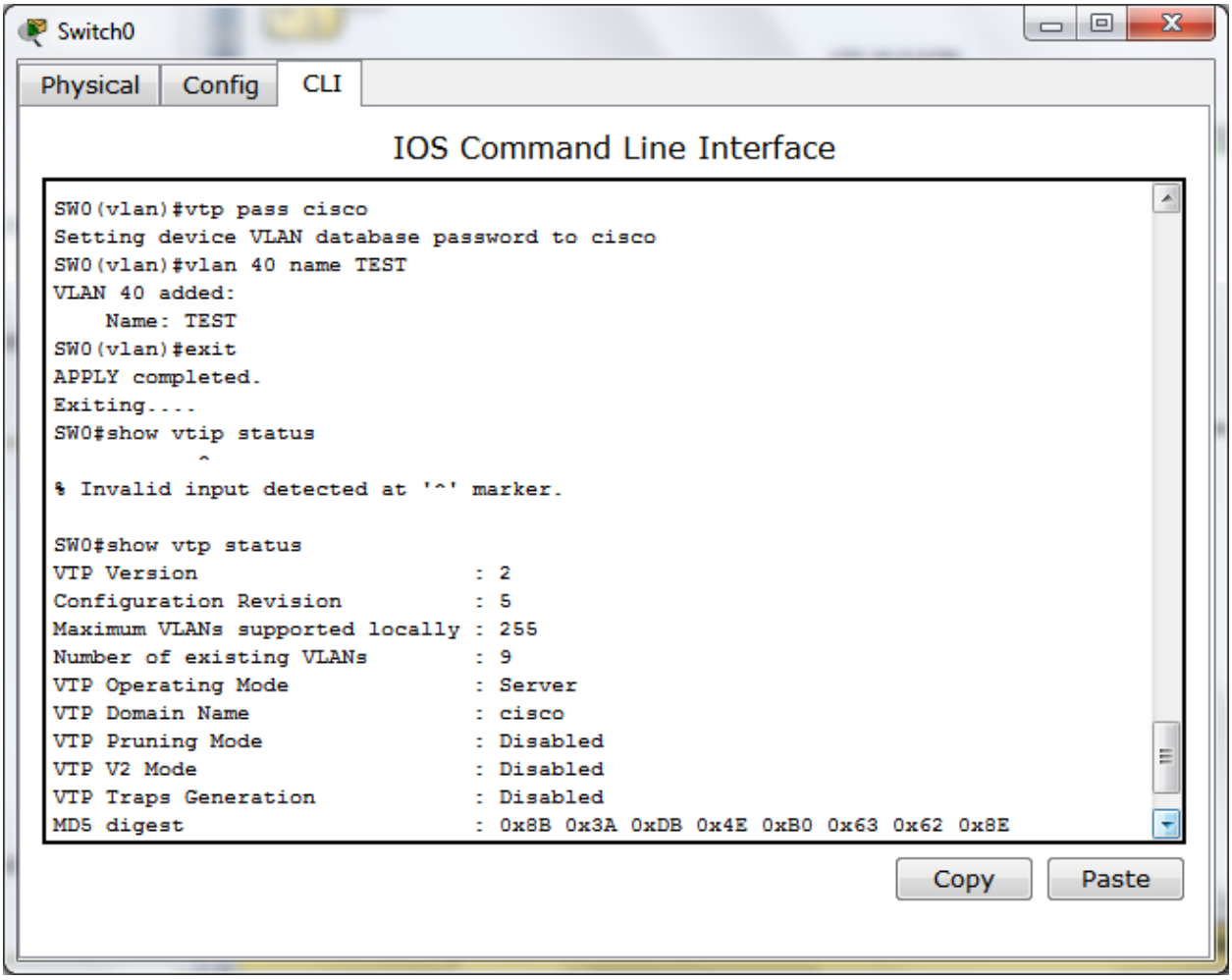
Chuyển SW1 và SW2 thành dạng Client



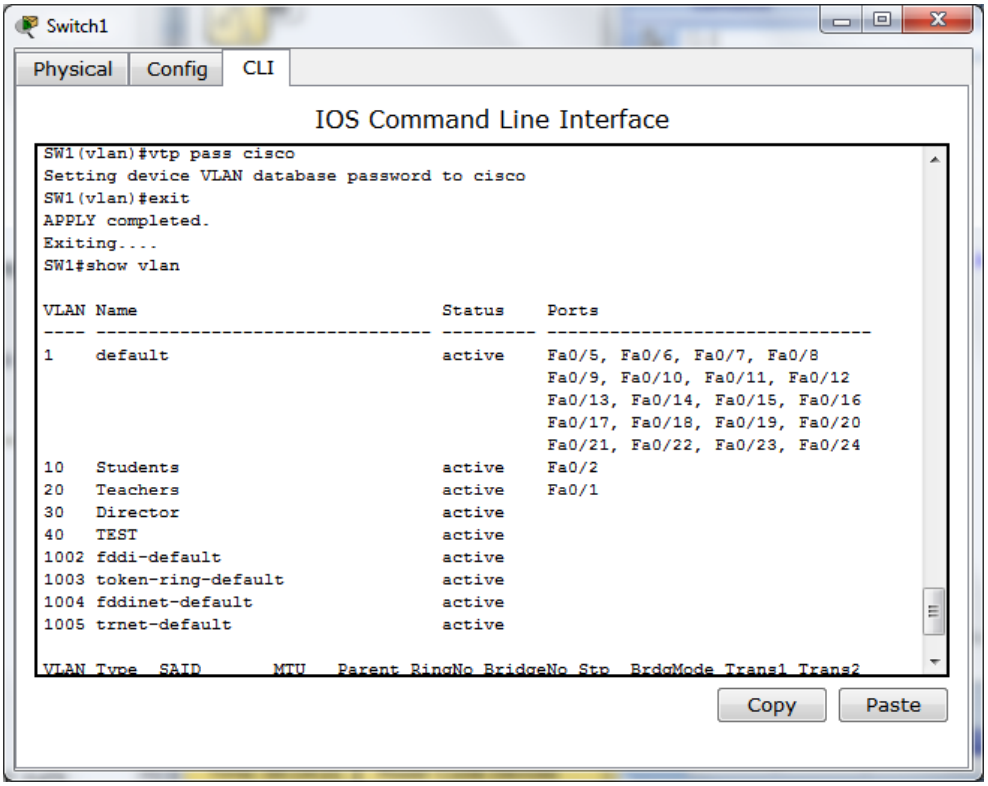


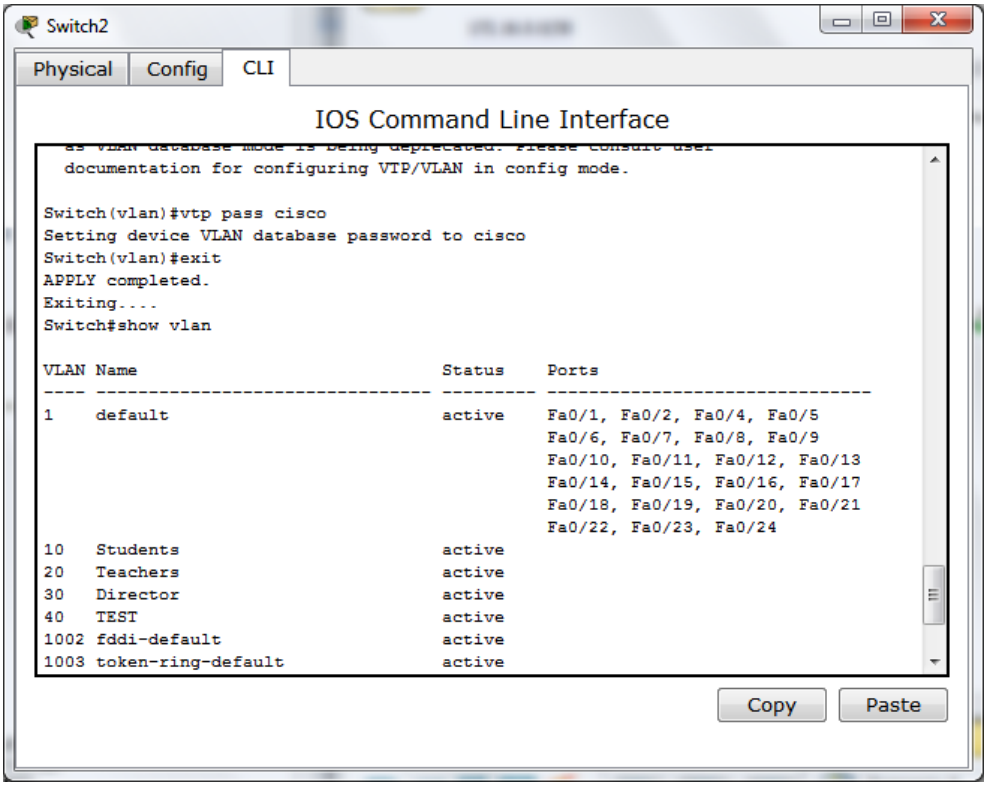
Đặt VPT Password

Ta đổi password trên SW0 và tạo VLAN 40.



Đổi password SW1 và SW2 thì cập nhật thông tin của VLAN4

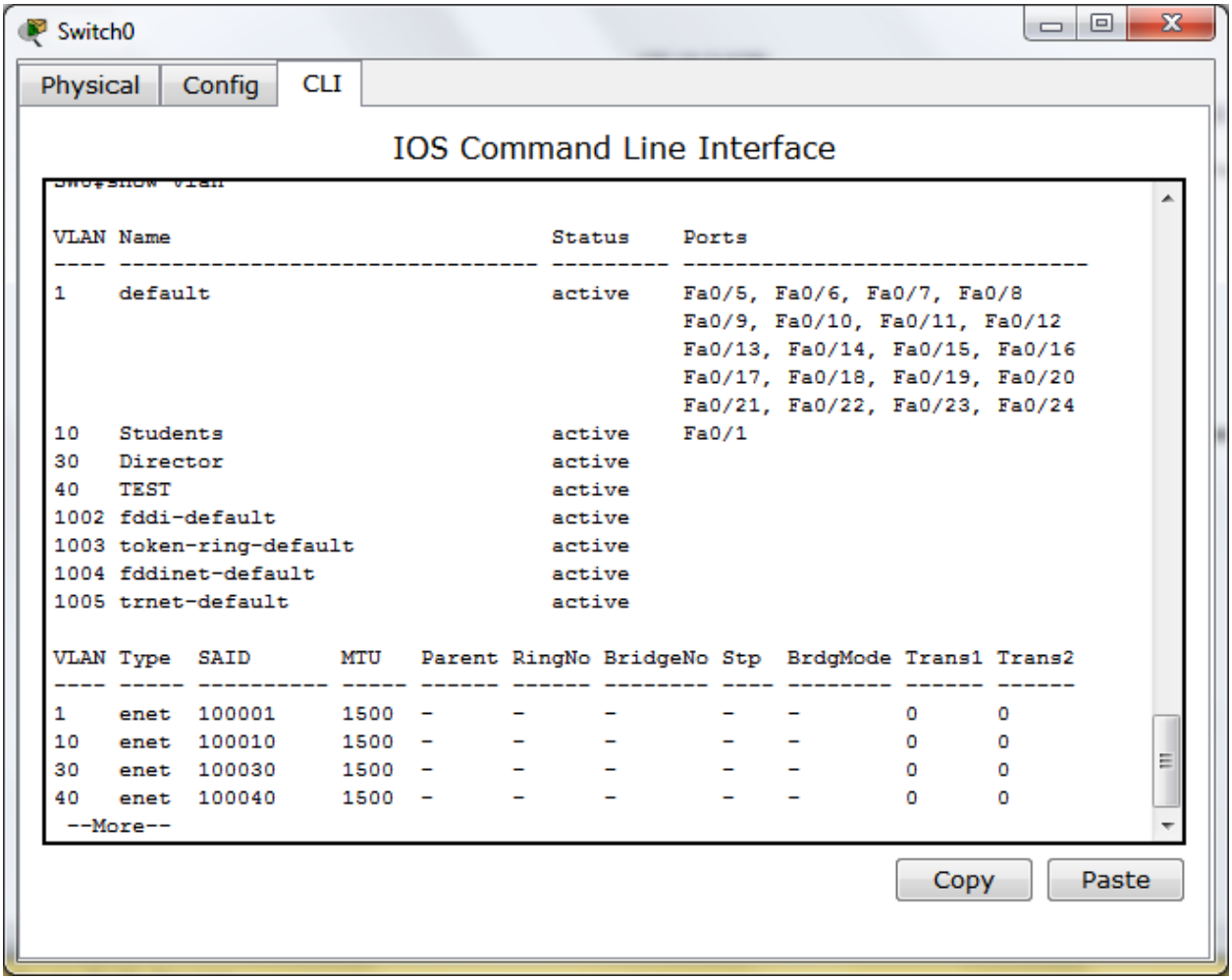

Switch1
Physical
Config
CLI
IOS Command Line Interface
SW1(vlan)#vtp pass cisco
Setting device VLAN database password to cisco
SW1(vlan)#exit
APPLY completed.
Exiting....
SW1#show vlan
VLAN Name Status Ports
1 default active Fa0/5, Fa0/6, Fa0/7, Fa0/8
Fa0/9, Fa0/10, Fa0/11, Fa0/12
Fa0/13, Fa0/14, Fa0/15, Fa0/16
Fa0/17, Fa0/18, Fa0/19, Fa0/20
Fa0/21, Fa0/22, Fa0/23, Fa0/24
10 Students active Fa0/2
20 Teachers 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
Copy
Paste

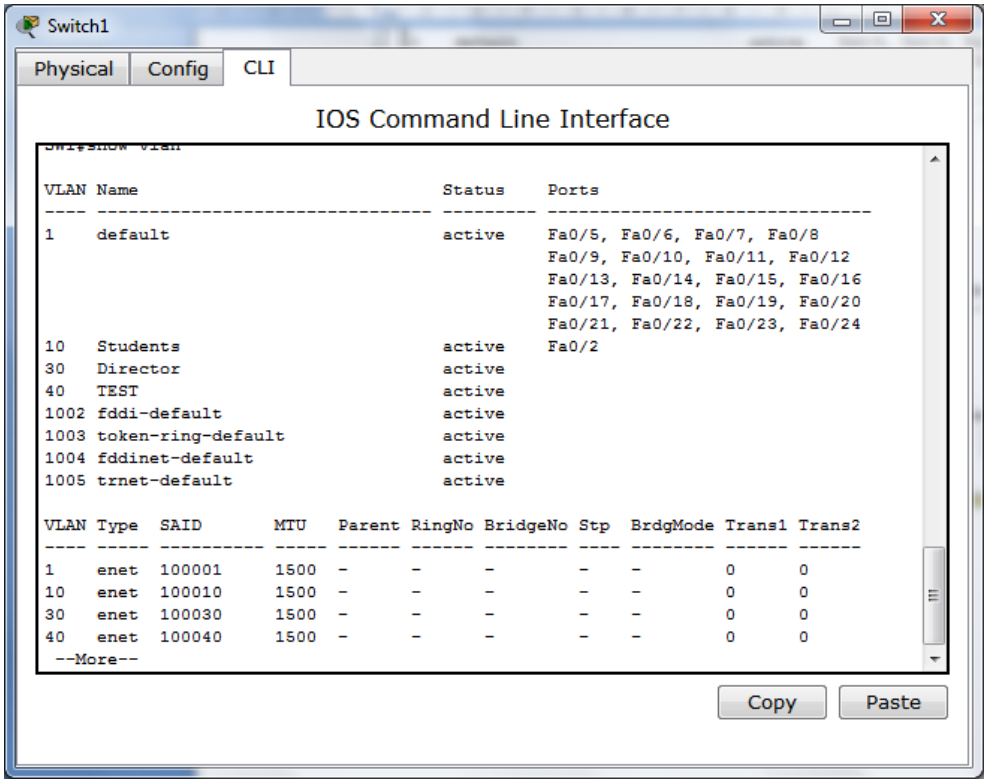

Switch2
Physical
Config
CLI
IOS Command Line Interface
documentation for configuring VTP/VLAN in config mode.
Switch(vlan)#vtp pass cisco
Setting device VLAN database password to cisco
Switch(vlan)#exit
APPLY completed.
Exiting....
Switch#show vlan
VLAN Name Status Ports
1 default active Fa0/1, Fa0/2, 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
10 Students active
20 Teachers active
30 Director active
40 TEST active
1002 fddi-default active
1003 token-ring-default active
Copy
Paste

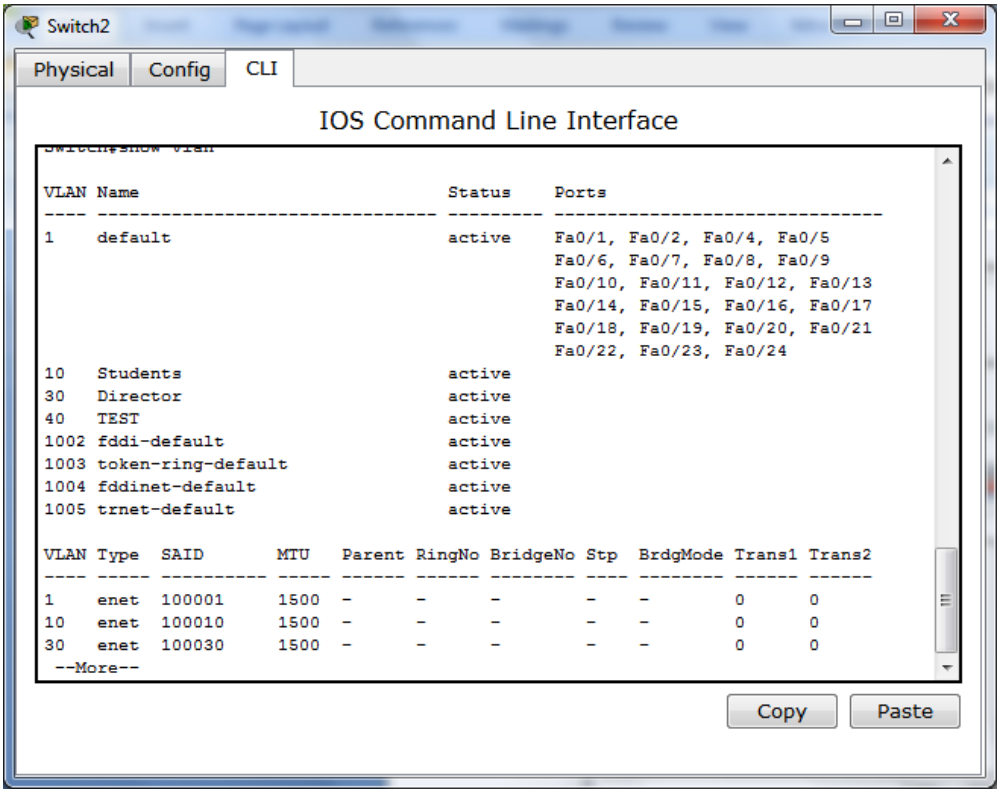
Xoá VLAN trên SW server và kiểm tra các client

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

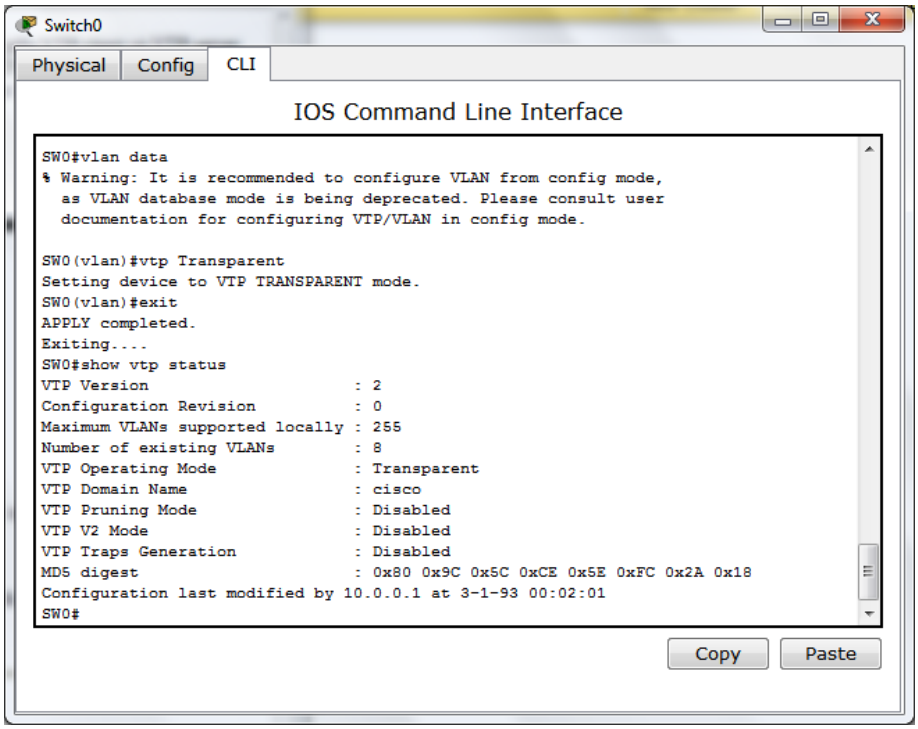
Kiểm tra cả 2 SW1, SW2 thì thông tin về VLAN lập tức được cập nhật lại

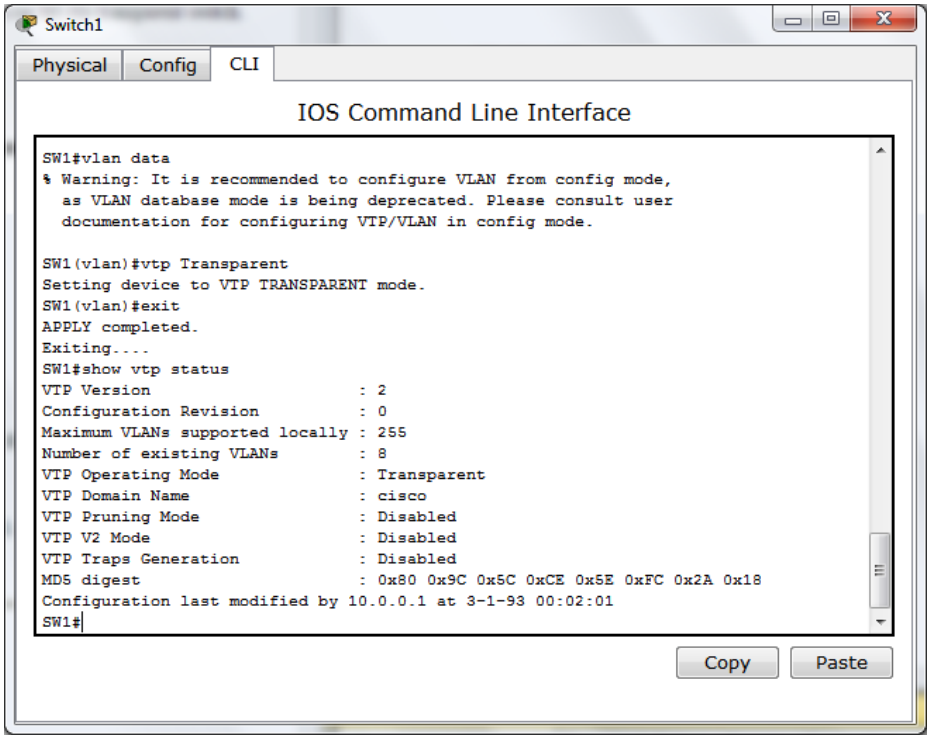


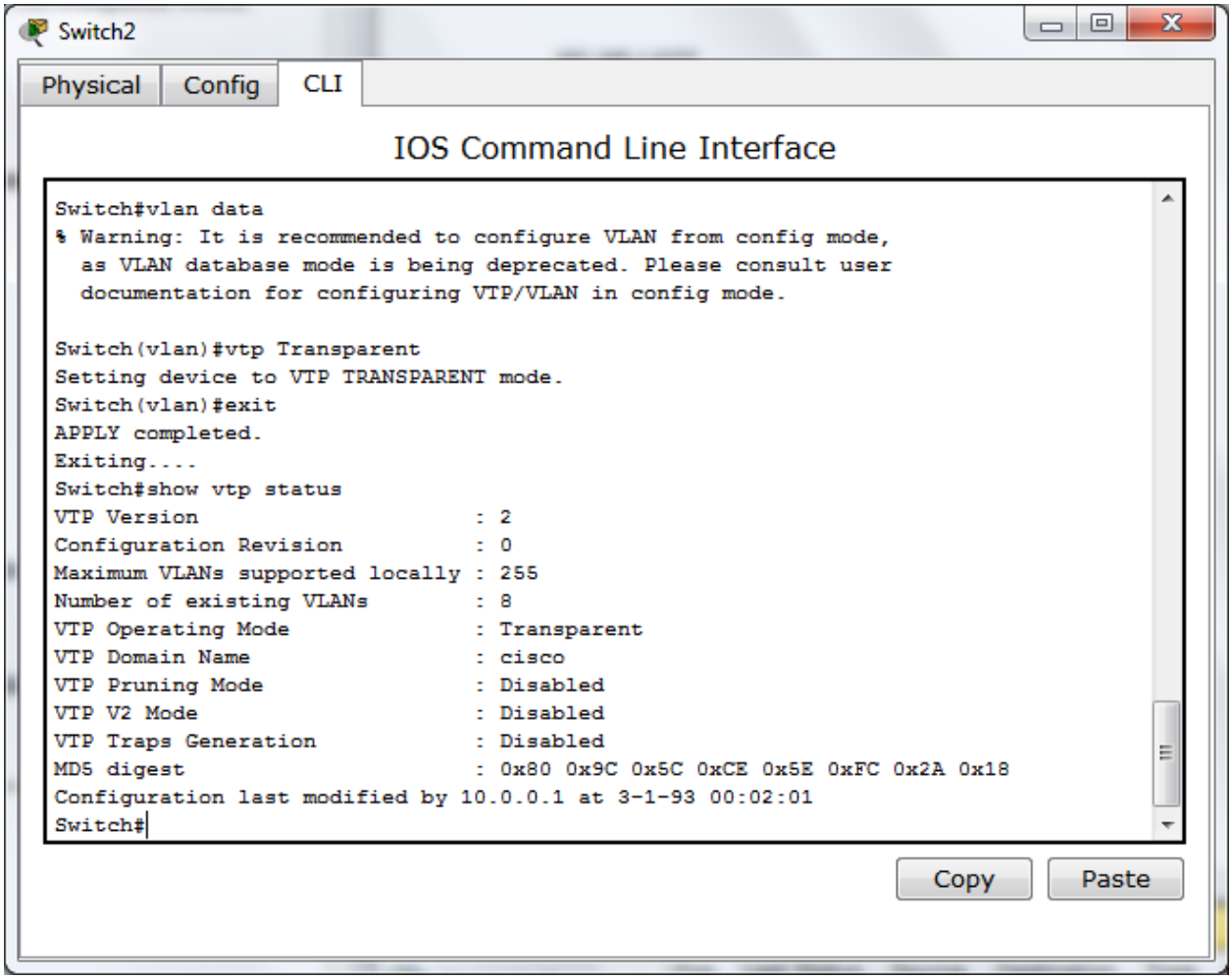

Switch1
Physical
Config
CLI
IOS Command Line Interface
VLAN Name Status Ports
1 default active Fa0/5, Fa0/6, Fa0/7, Fa0/8
Fa0/9, Fa0/10, Fa0/11, Fa0/12
Fa0/13, Fa0/14, Fa0/15, Fa0/16
Fa0/17, Fa0/18, Fa0/19, Fa0/20
Fa0/21, Fa0/22, Fa0/23, Fa0/24
10 Students active Fa0/2
30 Director active
40 TEST active
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


Switch2
Physical
Config
CLI
IOS Command Line Interface
VLAN Name Status Ports
1 default active Fa0/1, Fa0/2, 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
10 Students active
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
--More--
Copy
Paste

Mode Transparent trên các switch






Switch2
Physical
Config
CLI
IOS Command Line Interface
Switch#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.
Switch(vlan)#vtp Transparent
Setting device to VTP TRANSPARENT mode.
Switch(vlan)#exit
APPLY completed.
Exiting....
Switch#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
Switch#
Copy
Paste

--- HẾT ---