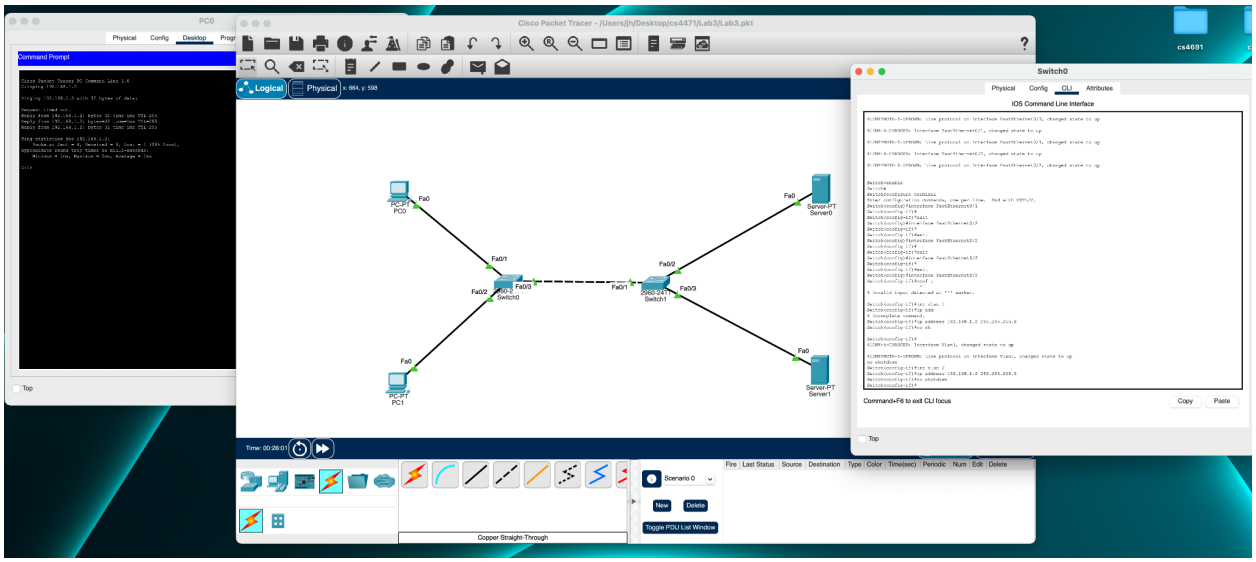
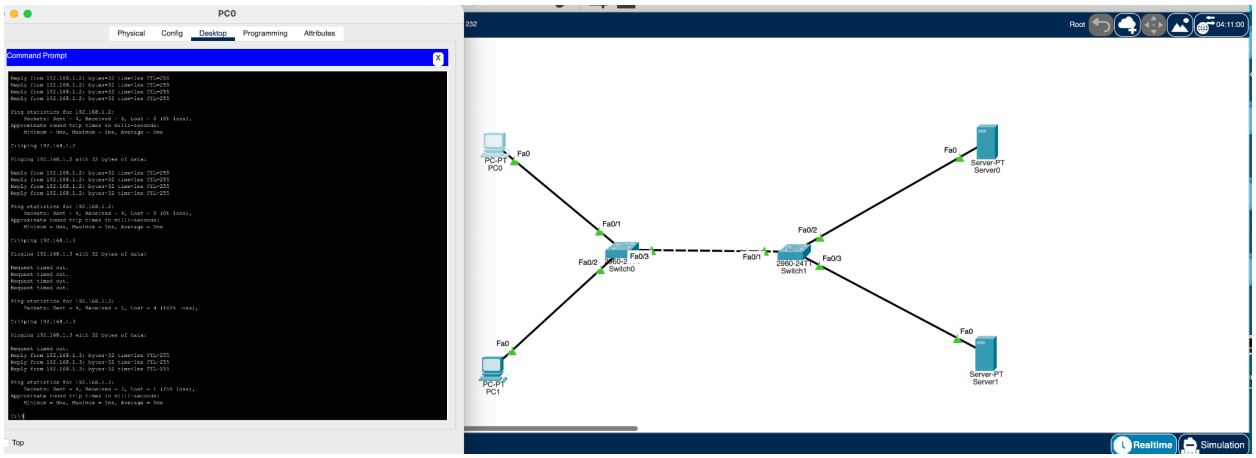
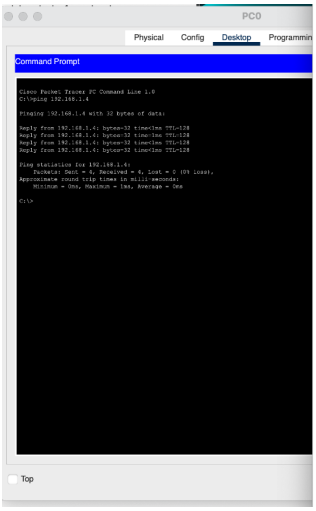
1. (1 pt) Verify that PC0 can successfully ping Switch0. From command prompt of PC0, submit output of “ping 192.168.1.2”

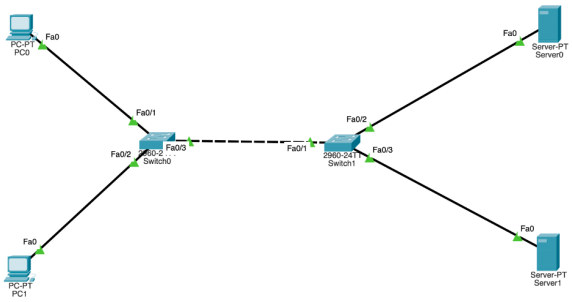


2. (1 pt) Create vlan2 on the switches. Configure the link between Switch0 and Switch1 as a trunk. Verify that PC0 can successfully ping Switch1. From command prompt of PC0, submit output of “ping 192.168.1.3”



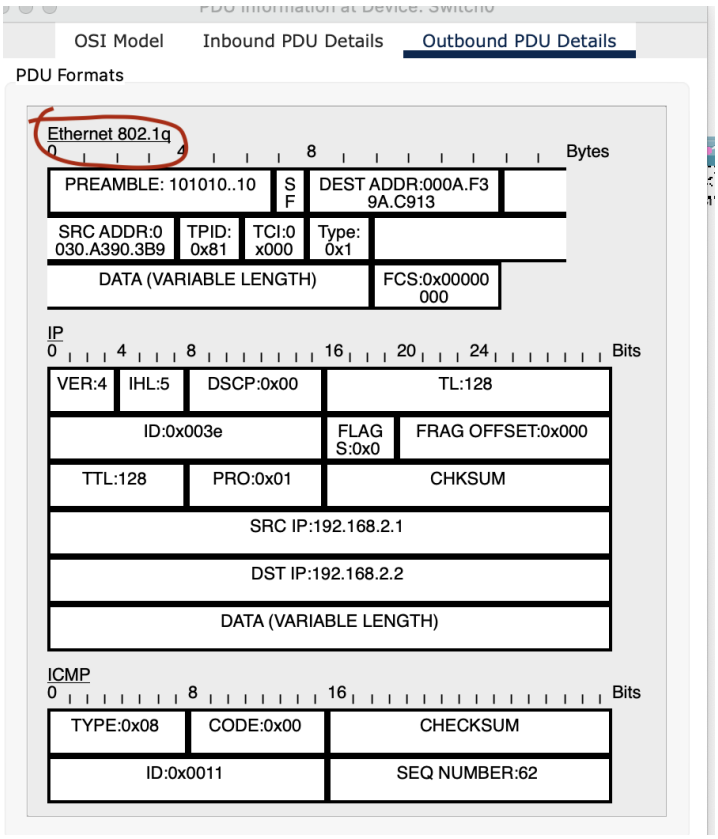
3. (1 pt) . Verify that PC0 can successfully ping Server0. From command prompt of PC0, submit output of “ping 192.168.1.4”





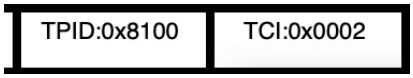
4. (3 pts) Verify that PC1 and Server1 are on vlan2. From command prompt of PC1, verify that you can continuously ping Server1(192.168.2.2). In Simulation mode, capture and decode the frame header of one of these ping packets as they traverse the trunk link.

a. Submit a screenshot of this frame header with the 802.1q field circled.

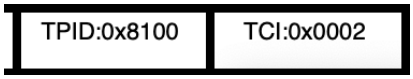


b. What is the value of the tag protocol identifier (TPID)? What does this value signify?

The value for the TPID is 0X8100 meaning it was forwarded if it is not tagged with this it will be discarded.

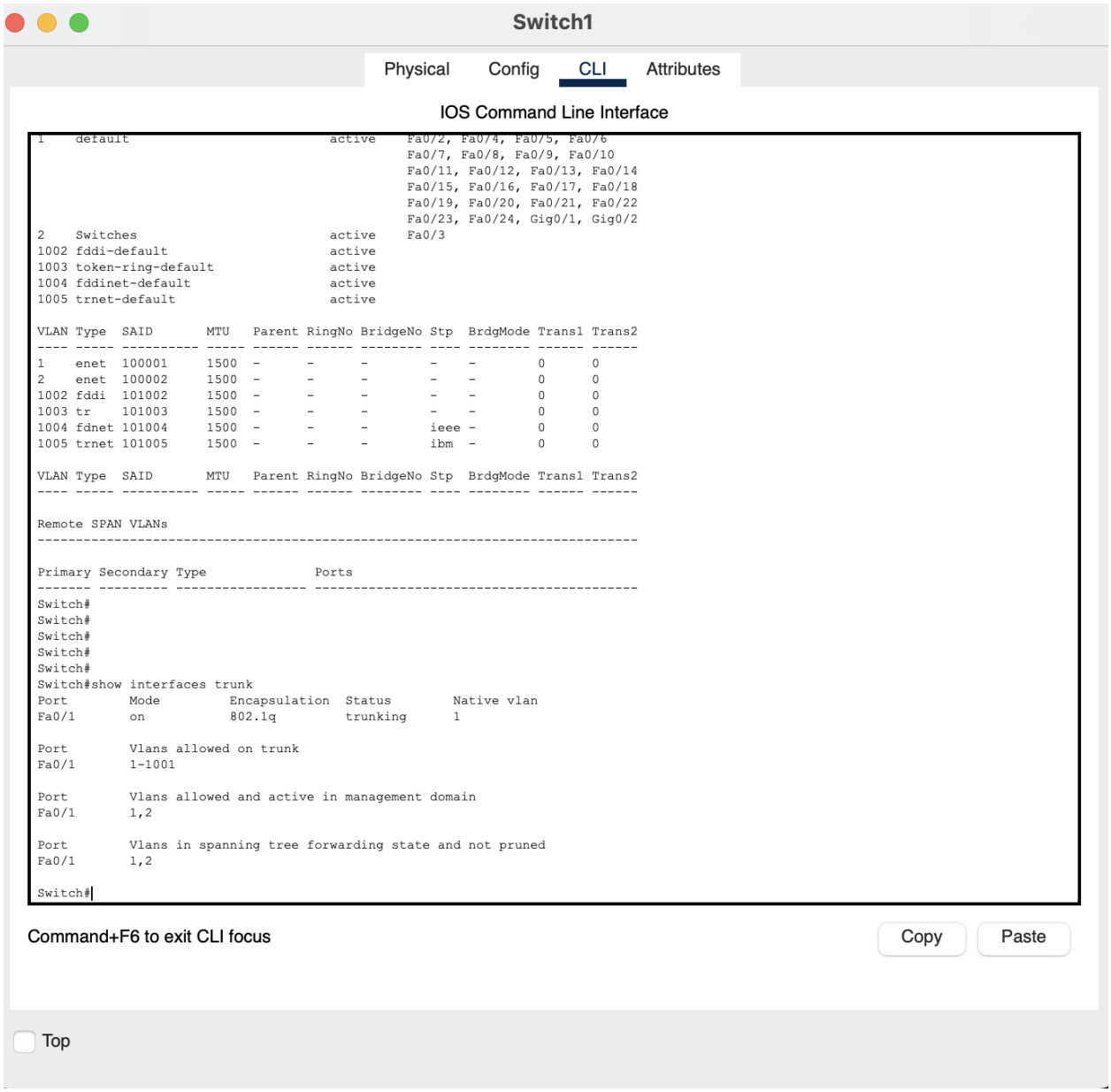


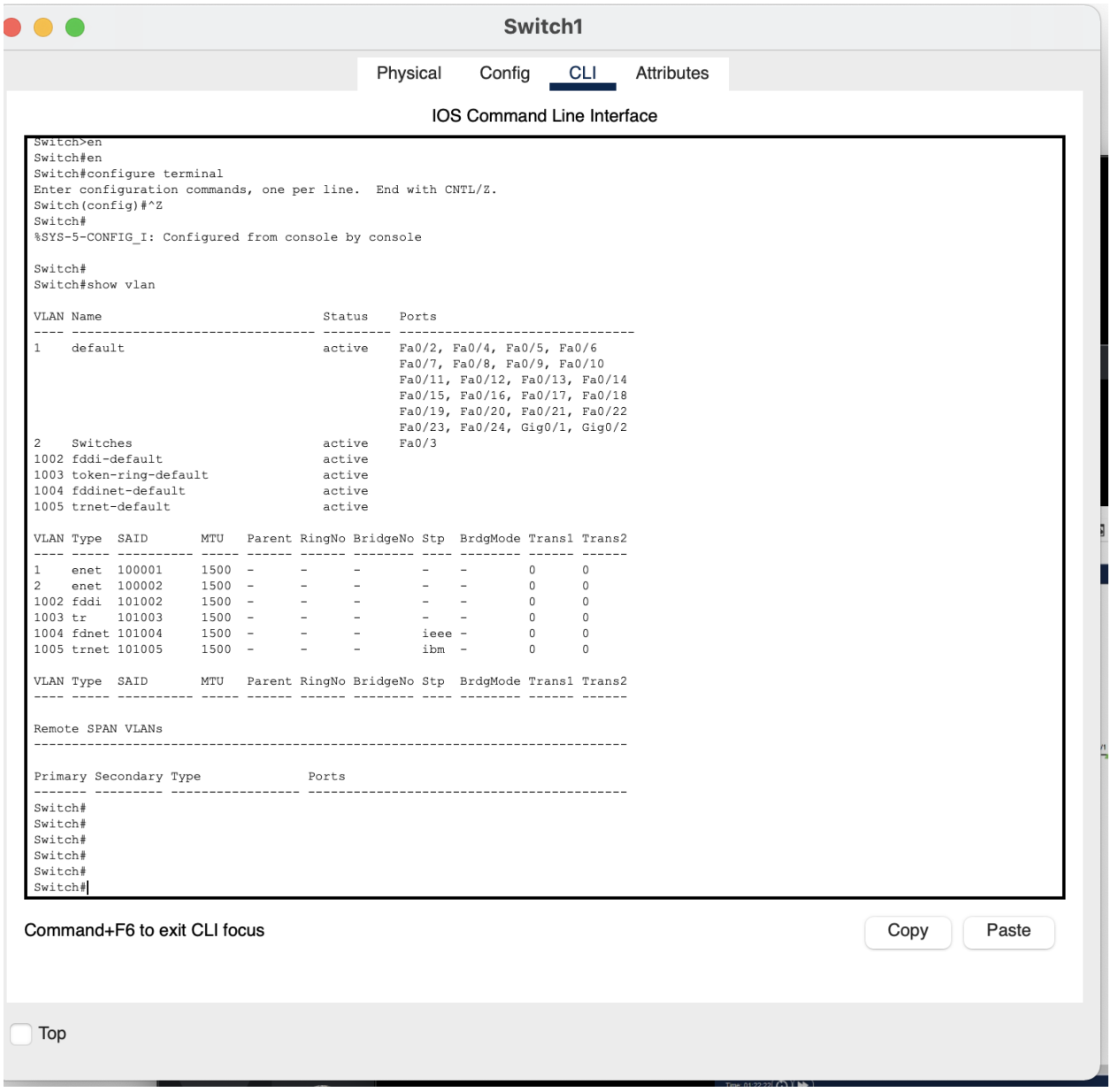
c. What is the value of the tag control information (TCI)? What does this value signify?

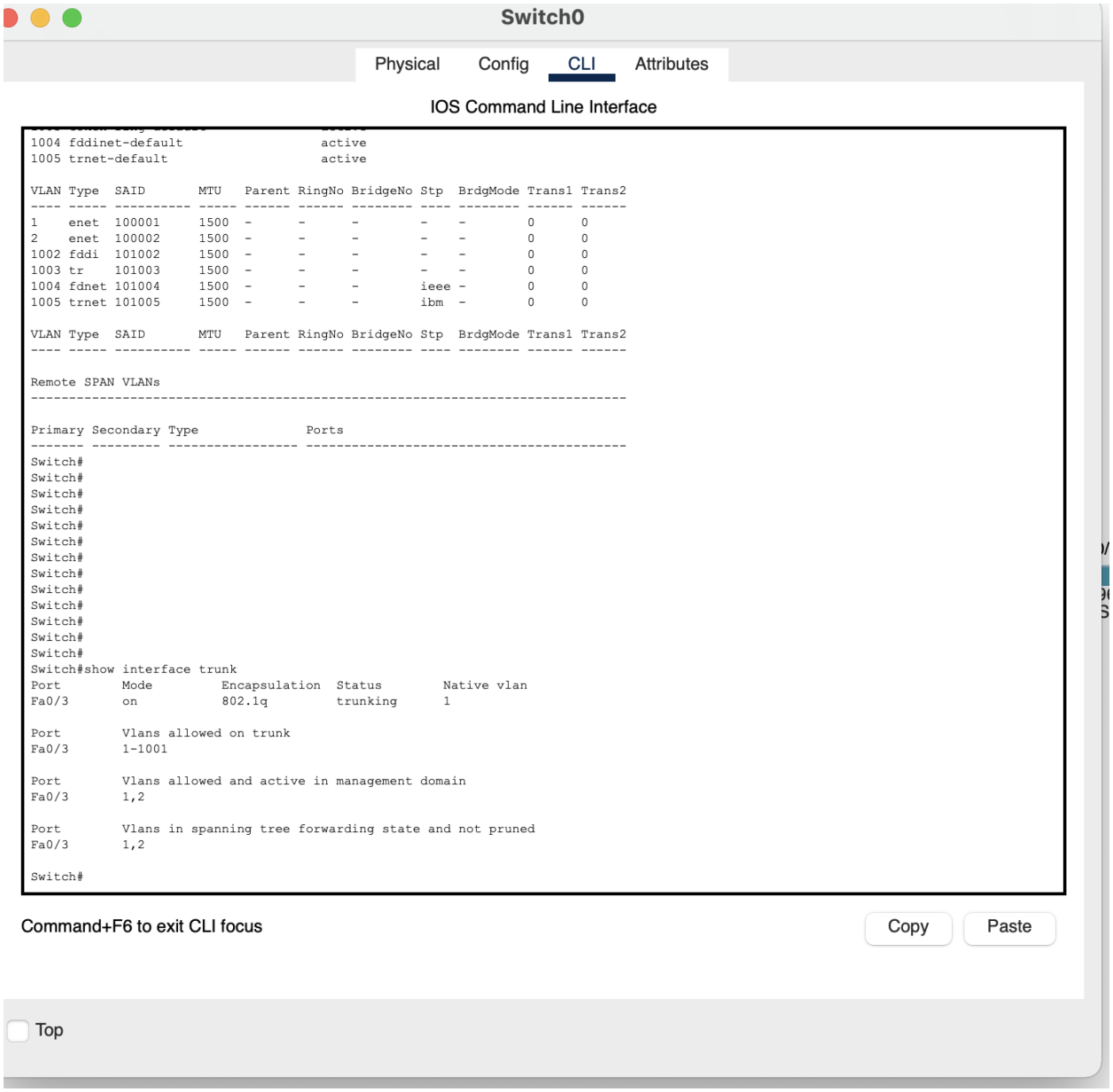


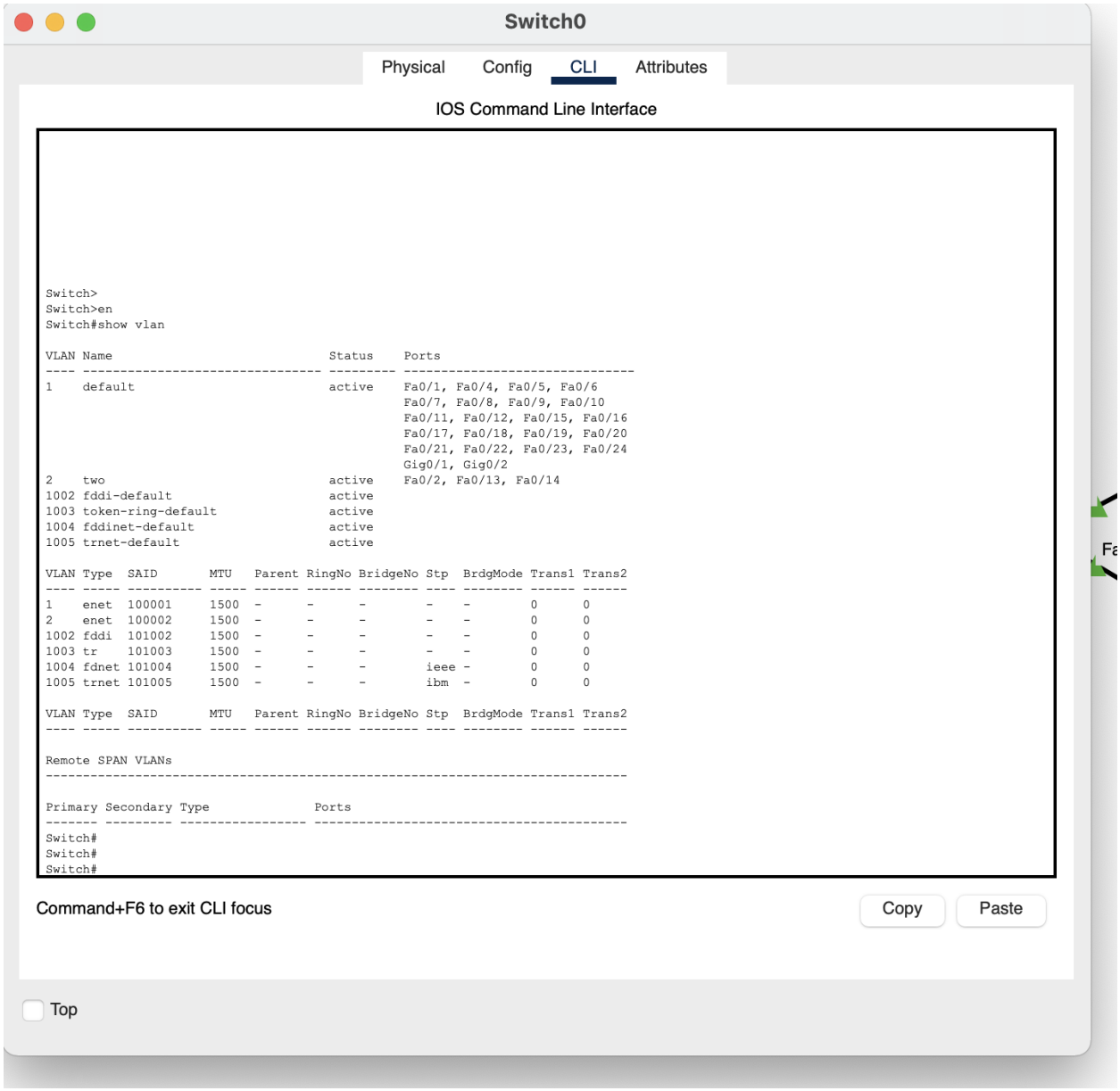
The value 0x0002 signifies the tag provider

5. (2 pts) On switch0 and switch1,
a. submit output of “show vlan” and “show interfaces trunk”


Switch1
Physical
Config
CLI
Attributes
IOS Command Line Interface
1 default active 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, Gig0/1, Gig0/2
2 Switches active Fa0/3
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
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
1005 trnet 101005 1500 - - - ibm - 0 0
VLAN Type SAID MTU Parent RingNo BridgeNo Stp BrdgMode Trans1 Trans2
Remote SPAN VLANs
Primary Secondary Type Ports
Switch#
Switch#
Switch#
Switch#
Switch#
Switch#show interfaces trunk
Port Mode Encapsulation Status Native vlan
Fa0/1 on 802.1q trunking 1
Port Vlans allowed on trunk
Fa0/1 1-1001
Port Vlans allowed and active in management domain
Fa0/1 1,2
Port Vlans in spanning tree forwarding state and not pruned
Fa0/1 1,2
Switch#
Command+F6 to exit CLI focus
Copy
Paste
Top


Switch1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Switch>en
Switch#en
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#^Z
Switch#
%SYS-5-CONFIG_I: Configured from console by console
Switch#
Switch#show vlan
VLAN Name Status Ports
---- -------------------------------- --------- -------------------------------
1 default active 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, Gig0/1, Gig0/2
2 Switches active Fa0/3
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
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
1005 trnet 101005 1500 - - - ibm - 0 0
VLAN Type SAID MTU Parent RingNo BridgeNo Stp BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
Remote SPAN VLANs
Primary Secondary Type Ports
Switch#
Switch#
Switch#
Switch#
Switch#
Switch#
Command+F6 to exit CLI focus
Copy
Paste
Top


Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
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
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
1005 trnet 101005 1500 - - - ibm - 0 0
VLAN Type SAID MTU Parent RingNo BridgeNo Stp BrdgMode Trans1 Trans2
Remote SPAN VLANs
Primary Secondary Type Ports
Switch#
Switch#show interface trunk
Port Mode Encapsulation Status Native vlan
Fa0/3 on 802.1q trunking 1
Port Vlans allowed on trunk
Fa0/3 1-1001
Port Vlans allowed and active in management domain
Fa0/3 1,2
Port Vlans in spanning tree forwarding state and not pruned
Fa0/3 1,2
Switch#
Command+F6 to exit CLI focus
Copy
Paste
Top

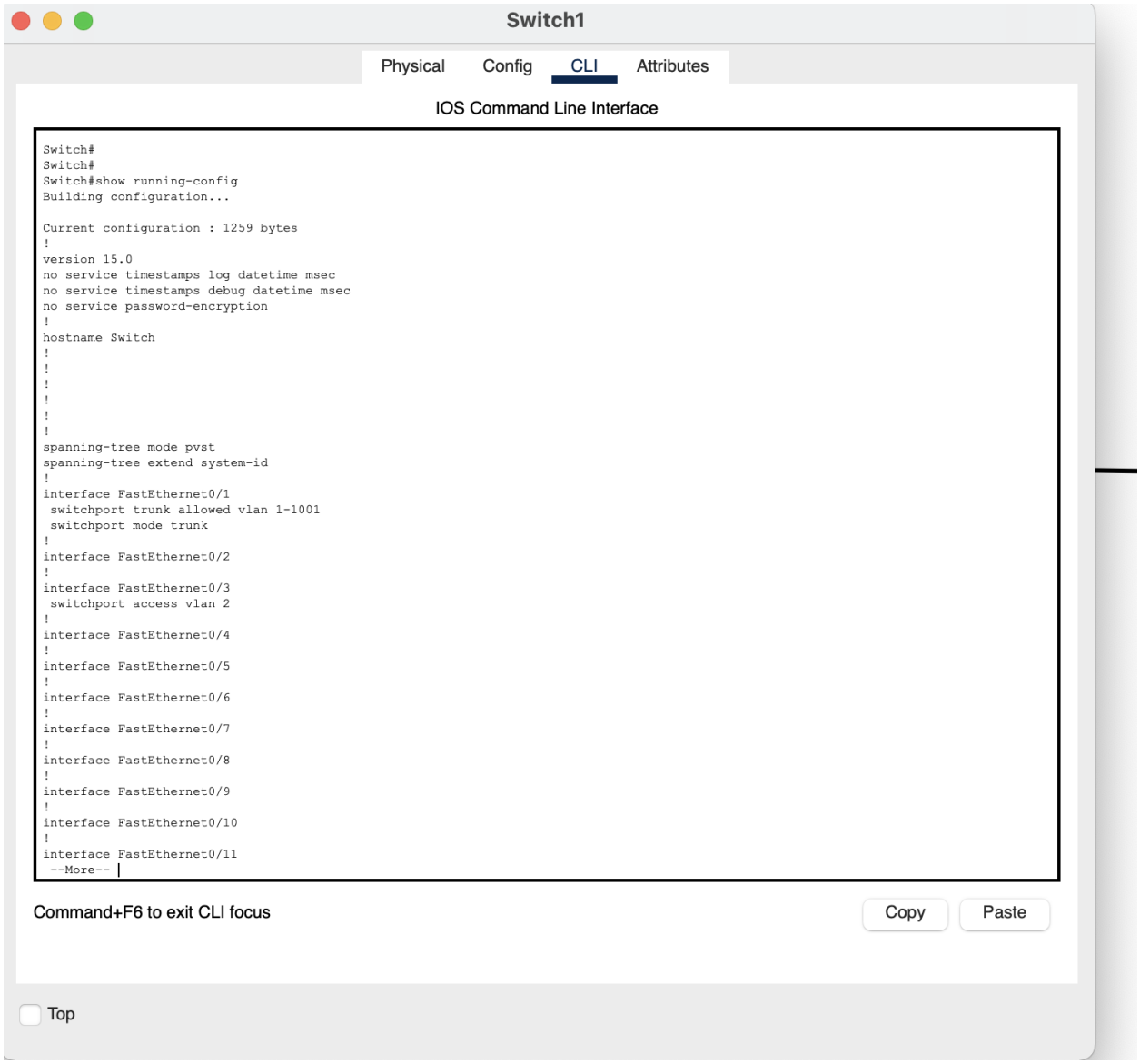


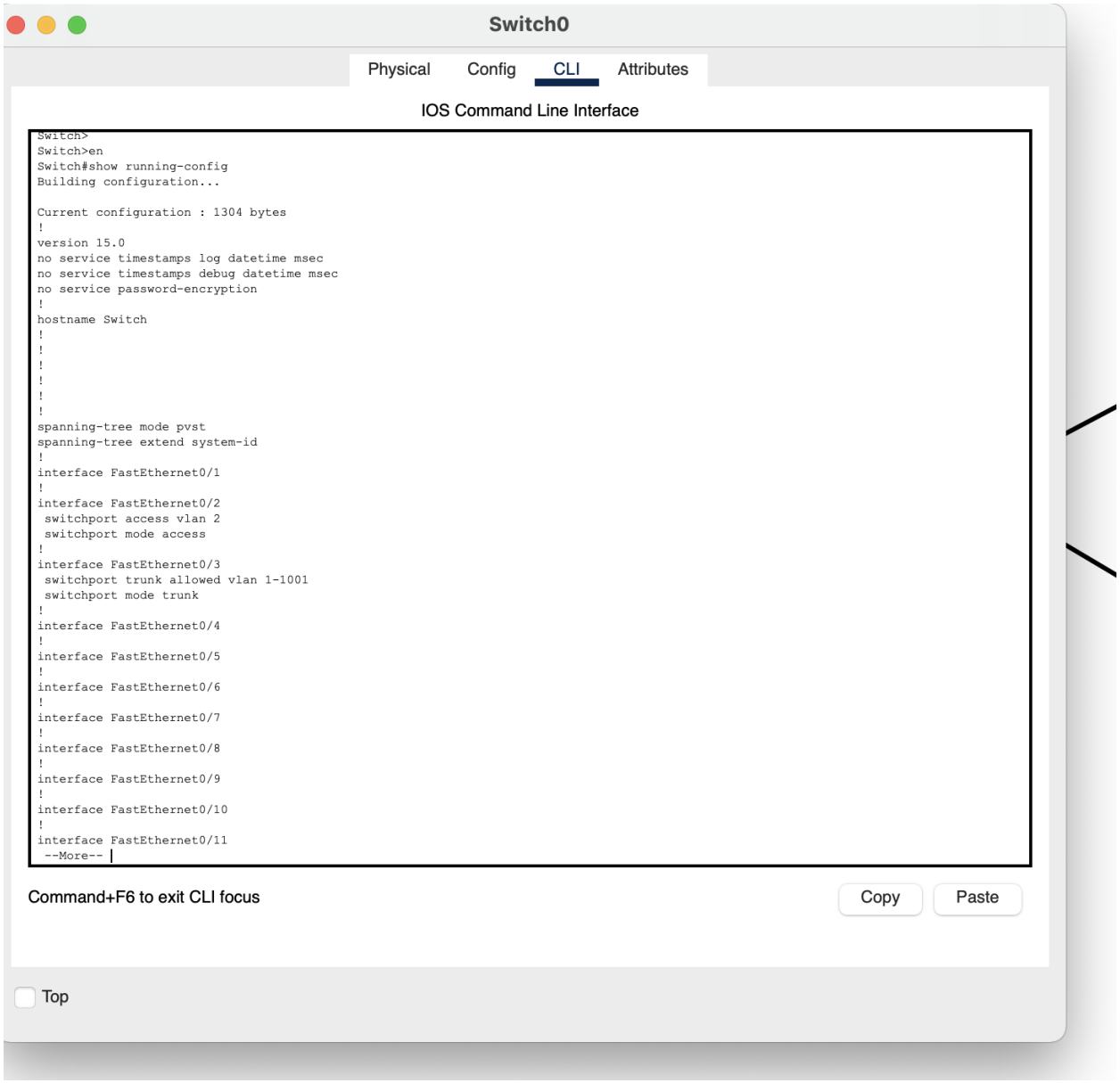
b. What is the value of the native vlan on the two switches? What does this mean?
The native vlan 1 on the two switches and it supports untagged traffic while passing from one switch to another

6. (1 pt) From command prompt of PC1, try to ping Server0 (192.168.1.4). Explain why the ping packets fail. Suggest what modification is needed to the network in order that PC1 can ping Server0 (192.168.1.4) .

The reason why it might not be able to ping server0 is because it cannot reach it because its connected on a different vlan. Where pc1 and server1 are both connected to vlan 2 and the other pc0 and server0 are both on vlan 1.

7. (1 pt) Submit entire output of “show running-config” on Switch0 and Switch1




Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Switch>
Switch>en
Switch#show running-config
Building configuration...
Current configuration : 1304 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
switchport access vlan 2
switchport mode access
!
interface FastEthernet0/3
switchport trunk allowed vlan 1-1001
switchport mode trunk
!
interface FastEthernet0/4
!
interface FastEthernet0/5
!
interface FastEthernet0/6
!
interface FastEthernet0/7
!
interface FastEthernet0/8
!
interface FastEthernet0/9
!
interface FastEthernet0/10
!
interface FastEthernet0/11
--More--
Command+F6 to exit CLI focus
Copy
Paste
Top