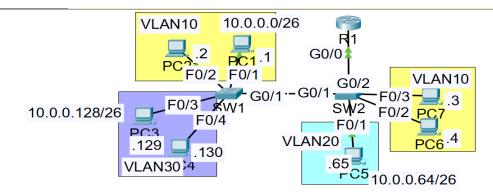
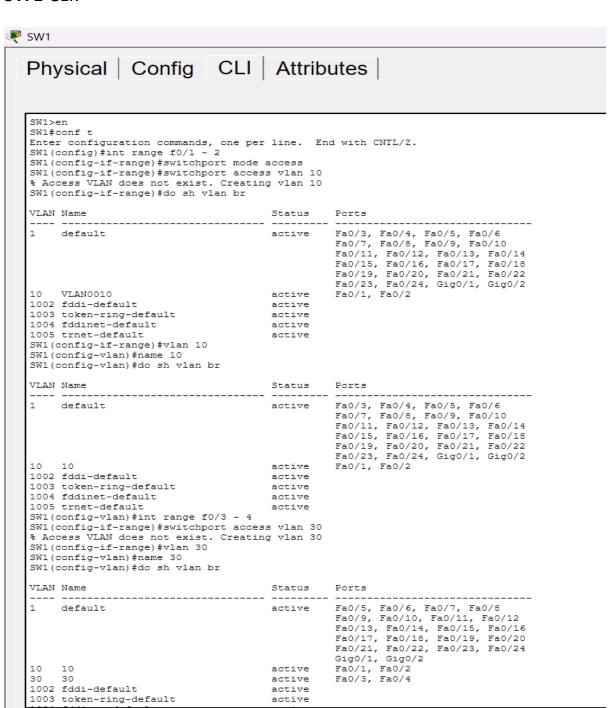
VLANs - Network Topology:



SW1 CLI:



SW1

```
Physical | Config | CLI | Attributes |
                                                                                                          IOS Command Line
1002 iddi-default
1003 token-ring-default
1004 fddinet-default
1005 trnet-default
                                           active
SW1(config-vlan)#exit
SW1(config) #int g0/1
SW1(config-if) #switchport mode trunk
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
SW1(config-if) #switchport trunk allowed vlan 10,30
SW1(config-if) #do sh int trunk
Port Mode Encapsulation Status
Gig0/1 on 802.1q trunking
                                                         Native vlan
             Vlans allowed on trunk
         Vians
10,30
Gia0/1
        Vlans allowed and active in management domain 10,30
Port
Port
            Vlans in spanning tree forwarding state and not pruned
Gig0/1
            10,30
SW1(config-if) #switchport trunk native vlan 1001 SW1(config-if) #do sh int trunk
         Mode Encapsulation Status
on 802.1q trunkin
                                                        Native vlan
1001
Port
Gig0/1
                                            trunking
Port Vlans allowed on trunk Gig0/1 10,30
Port
            Vlans allowed and active in management domain
         10,30
Gig0/1
Port
         Vlans in spanning tree forwarding state and not pruned 10,30
Gig0/1
SW1(config-if) # %CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on GigabitEthernet0/1 (1001), with SW2 GigabitEthernet0/1 (1).
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on GigabitEthernetO/1 (1001), with SW2 GigabitEthernetO/1 (1).
```

SW1 con0 is now available

SW2 CII:

№ SW2

```
Physical | Config | CLI | Attributes |
                                                                                                                                                                                                                                                                                           IOS Command
SW2>en
SW2#conf t
SW2#conf t
Enter configuration commands, one per line. End with CNTL/2.
SW2(config)#int f0/1
SW2(config-if)#switchport mode access
SW2(config-if)#switchport access vlan 20
% Access VLAN does not exist. Creating vlan 20
SW2(config-if)#vlan 20
SW2(config-vlan)#name 20
SW2(config-vlan)#do sh vlan br

Status Ports
                                     Status
                                                                                                                                                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
           default
                                                                                                                 active
20 20 active
1002 fddi-default active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active
1005 trnet-default active
SW2 (config-vlan) $\frac{1}{2}$th range $f0/2 - 3$
SW2 (config-if-range) $\frac{1}{2}$switchport access vlan 10
$\frac{1}{2}$Access VLAN does not exist. Creating vlan 10
SW2 (config-vlan) $\frac{1}{2}$than 10
SW2 (config-vlan) $\frac{1}{2}$than 10
SW2 (config-vlan) $\frac{1}{2}$than br
 VLAN Name
                                                                                                                  Status
                                                                                                                                                Ports
                                                                                                                                                Fa0/4, Fa0/5, Fa0/6, Fa0/7
Fa0/8, Fa0/9, Fa0/10, Fa0/11
Fa0/8, 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
Fa0/2, Fa0/3
Fa0/1
              default
                                                                                                                   active
 10 10 active Fa0/2, Fa0/3
20 20 active Fa0/1
1002 fddi-default active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active
SW2(config-vlan) #
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down
 %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
 SW2 (config-vlan) #exit
SW2 (config-Vlan) #exit
SW2 (config-#int g0/1
SW2 (config-#int g0/1
SW2 (config-if) #switchport mode trunk
SW2 (config-if) #switchport trunk allowed vlan 10,30
SW2 (config-if) #do sh int tru
$COP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on GigabitEthernet0/1 (1), with SW1 GigabitEtherne
SW2 (config-if) #do sh int trunk
```

Physical | Config | CLI | Attributes |

```
SW2(config-if) #switchport trunk allowed vlan 10,20,30 SW2(config-if) #do sh vlan br
VLAN Name
   default
                                                                                                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
                                                                            active
                                                                                                 Fa0/2, Fa0/3
10
          10
                                                                            active
10 10
20 20
30 VLAN0030
1002 fddi-default
1003 token-ring-default
1004 fddinet-default
1005 trnet-default
SW2(config-if)#vlan 30
SW2(config-vlan)#name 30
SW2(config-vlan)#do sh vlan br
                                                                            active
                                                                                                 Fa0/1
                                                                            active
active
active
                                                                            active
VLAN Name
                                                                           Status
                                                                                               Ports
 1 default
                                                                                                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
                                                                            active
                                                                                                 Fa0/2, Fa0/3
10
          10
                                                                            active
20 20
30 30
1002 fddi-default
                                                                                                 Fa0/1
1003 token-ring-default
1004 fddinet-default
1005 trnet-default
                                                                            active
                                                                            active
                                                                            active
SW2(config-vlan)#do sh int trunk
Port Mode Encapsul
Gig0/1 on 802.1q
Gig0/2 on 802.1q
                                   Encapsulation Status
802.1q trunking
802.1q trunking
                                                                                                            Native vlan
               on
Vlans allowed on trunk
10,30
10,20,30
Gig0/1
Gig0/2
                     Vlans allowed and active in management domain
Port
                    10,30
10,20,30
Gia0/1
Gig0/2
                     Vlans in spanning tree forwarding state and not pruned 10,30 10,20,30
Gig0/1
Gig0/2
SW2 (config-vlan) #
```

R1 CLI:

🤎 R1

Physical | Config | CLI | Attributes |

```
R1>en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int g0/0
R1(config-if)#no shutdown
R1(config-if)#{LINK-5-CHANGED}: Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
R1(config-if) #do sh ip int br
Interface IP-Address
                                                             OK? Method Status
                                                                                                                 Protocol
Interface IP-Address
GigabitEthernet0/0 unassigned
GigabitEthernet0/1 unassigned
GigabitEthernet0/2 unassigned
                                                            YES unset up up
YES unset administratively down down
YES unset administratively down down
YES unset administratively down down
GigabitEthernet0/1
GigabitEthernet0/2
Vlan1
                                    unassigned
R1(config-if)#int g0/0.10
R1(config-subif)#
%LINK-3-UPDOWN: Interface GigabitEthernet0/0.10, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.10, changed state to up
R1(config-subif)#encapsulation dot1g 10
$LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.20, changed state to up
R1(config-subif) #encapsulation dot1q 20
R1(config-subif) #ip address 10.0.0.126 255.255.255.192
R1(config-subif) #int g0/0.30
R1(config-subif) #
%LINK-3-UPDOWN: Interface GigabitEthernet0/0.30, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.30, changed state to up
R1(config-subif) #encapsulation dot1q 30
R1(config-subif) #ip address 10.0.0.190 255.255.255.192
R1(config-subif) #do sh ip int br
Interface IP-Address OK? Method Statu
                                                        OK? Method Status
                                                                                                                 Protocol
GigabitEthernet0/0
                                    unassigned
                                                             YES unset
                                                                              up
                                                      YES unset up up
YES manual up up
YES manual up up
YES manual up up
YES unset administratively down down
YES unset administratively down down
YES unset administratively down down
GigabitEthernet0/0.10 10.0.0.62
GigabitEthernet0/0.20 10.0.0.126
GigabitEthernet0/0.30 10.00.129
GigabitEthernet0/1 unassigned
GigabitEthernet0/1 unassigned
GigabitEthernet0/2 unassigned
unassigned
R1(config-subif)#
```



Physical | Config | Desktop | Programming | Attributes

Command Prompt

```
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round trip times in milli-seconds:
      Minimum = Oms, Maximum = Oms, Average = Oms
C:\>ping 10.0.0.129
Pinging 10.0.0.129 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 10.0.0.129:
      Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 10.0.0.129
Pinging 10.0.0.129 with 32 bytes of data:
Request timed out.
Reply from 10.0.0.129: bytes=32 time=1ms TTL=127 Reply from 10.0.0.129: bytes=32 time=1ms TTL=127 Reply from 10.0.0.129: bytes=32 time<1ms TTL=127
Ping statistics for 10.0.0.129:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss), Approximate round trip times in milli-seconds:
      Minimum = Oms, Maximum = 1ms, Average = Oms
C:\>ping 10.0.0.65
Pinging 10.0.0.65 with 32 bytes of data:
Request timed out.
Reply from 10.0.0.65: bytes=32 time<1ms TTL=127 Reply from 10.0.0.65: bytes=32 time<1ms TTL=127 Reply from 10.0.0.65: bytes=32 time<1ms TTL=127
Ping statistics for 10.0.0.65:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 10.0.0.4
Pinging 10.0.0.4 with 32 bytes of data:
Reply from 10.0.0.4: bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```