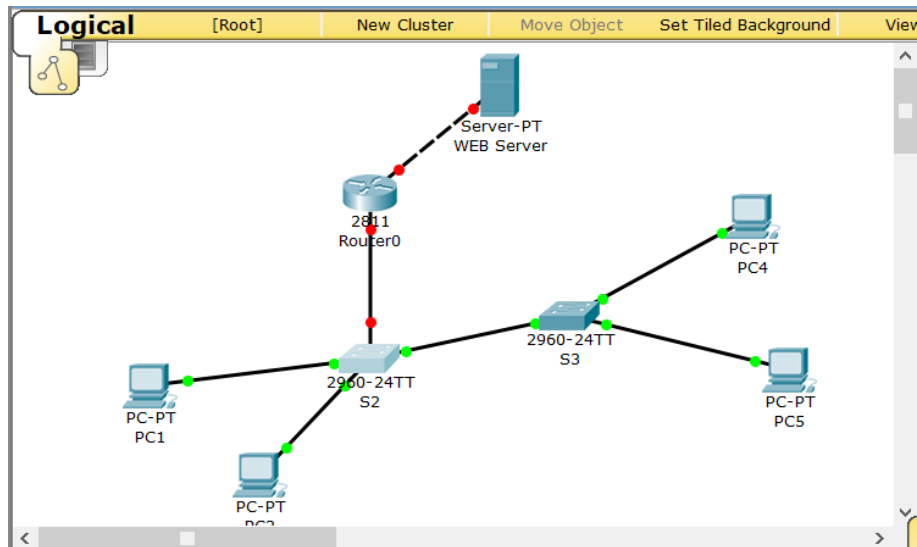


LAB 12 Practice

Task 1



Task 3

```
S2
Physical Config CLI
IOS Command Line Interface
S2(config-vlan)#name Management
S2(config-vlan)#end
S2#
%SYS-5-CONFIG_I: Configured from console by console
show vlan brief

VLAN Name                Status    Ports
-----
1    default                active    Fa0/1, 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, Gig0/2
10   Sales                  active
20   Marketing              active
99   Management              active
1002 fddi-default          active
1003 token-ring-default    active
1004 fddinet-default       active
1005 trnet-default         active
S2#
```

Copy Paste

Switch 2 VLAN

S3		
Physical Config CLI		
IOS Command Line Interface		
VLAN	Name	Status Ports
1	default	active Fa0/1, 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, Gig0/2
10	Sales	active
20	Marketing	active
99	Management	active
1002	fddi-default	active
1003	token-ring-default	active
1004	fddinet-default	active
1005	trnet-default	active
S3#		

Switch 3 VLAN

What ports are currently assigned to the three VLANs you have created?

- No ports has been assigned yet on the VLANs.

S2

Physical Config CLI

IOS Command Line Interface

```
FastEthernet0/1 (99), with S3 FastEthernet0/1 (1).
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on
FastEthernet0/1 (99), with S3 FastEthernet0/1 (1).
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on
FastEthernet0/1 (99), with S3 FastEthernet0/1 (1).
S2#
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on
FastEthernet0/1 (99), with S3 FastEthernet0/1 (1).

S2#show interface trunk
Port      Mode      Encapsulation  Status      Native vlan
Fa0/1     on        802.1q         trunking    99

Port      Vlans allowed on trunk
Fa0/1     1-1005

Port      Vlans allowed and active in management domain
Fa0/1     1,10,20,99

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/1     1,10,20,99
S2#
```

Copy Paste

Trunk ports on switch 2

S3

Physical Config CLI

IOS Command Line Interface

```
FastEthernet0/1 (1), with S2 FastEthernet0/1 (99).
conf ter
Enter configuration commands, one per line.  End with CNTL/Z.
S3(config)#interface range fa0/1-5
S3(config-if-range)#swi
S3(config-if-range)#switchport mode trunk
S3(config-if-range)#swi trunk native vlan 99
S3(config-if-range)#no shut
S3(config-if-range)#end
S3#
%SYS-5-CONFIG_I: Configured from console by console
show inter tru
S3#show inter trunk
Port      Mode      Encapsulation  Status      Native vlan
Fa0/1     on        802.1q         trunking    99

Port      Vlans allowed on trunk
Fa0/1     1-1005

Port      Vlans allowed and active in management domain
Fa0/1     1,10,20,99

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/1     1,10,20,99
S3#
```

Copy Paste

Trunk ports on switch 3

Verify that the PCs can communicate. Ping several hosts from PC2.

Ping from host PC2 to host PC5. Is the ping attempt successful?

- Yes

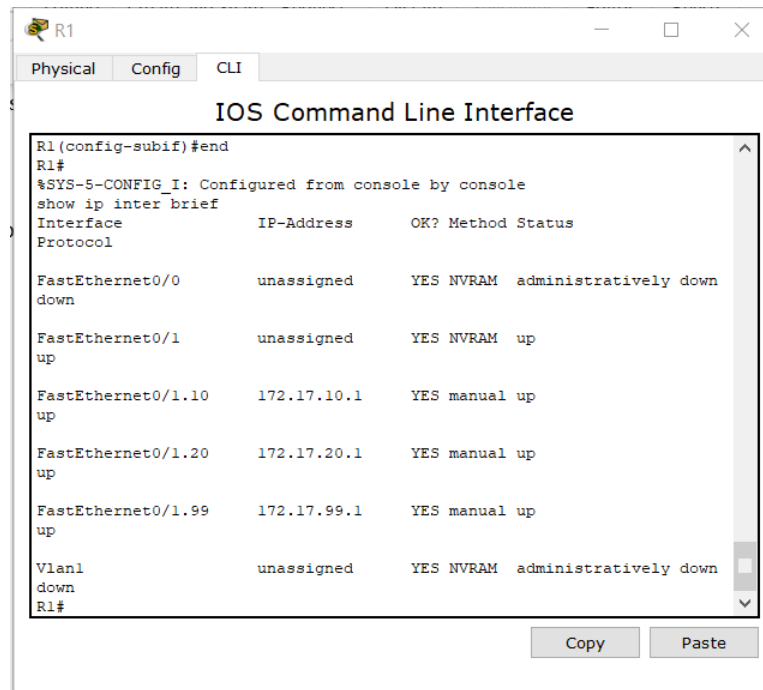
Because PC2 is in the same VLAN and the same subnet as PC5, the ping is successful

Ping from host PC2 to host PC1 (172.17.10.21). Is the ping attempt successful?

- No

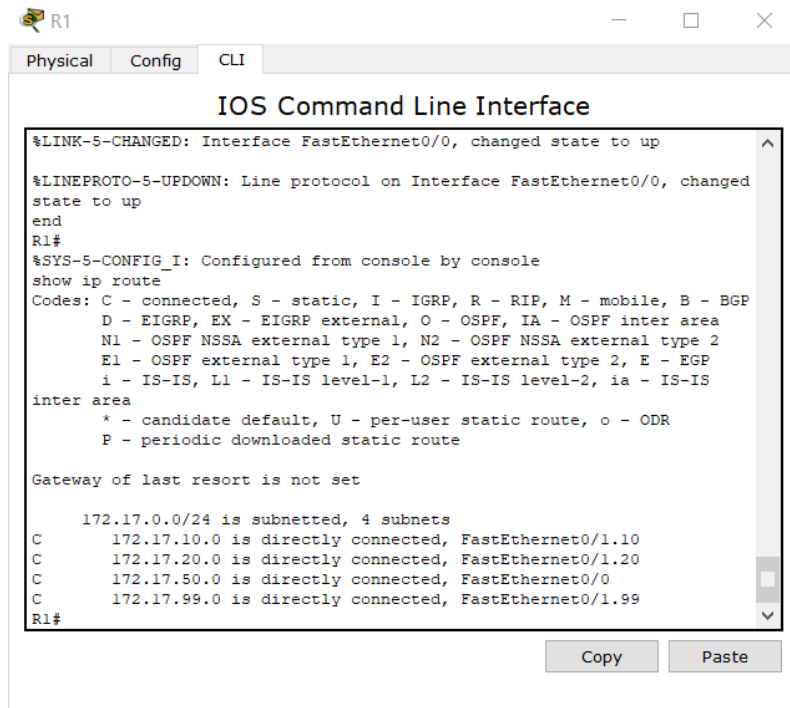
Because these hosts are on different subnets and in different VLANs, they cannot communicate without a Layer 3 device to route between the separate subnetworks.

Task 4

A screenshot of a network device's CLI window titled 'R1'. The window has tabs for 'Physical', 'Config', and 'CLI', with 'CLI' selected. The main area is titled 'IOS Command Line Interface'. It shows the command 'show ip inter brief' being executed, resulting in a table of interface configurations. The table has columns for 'Interface', 'IP-Address', 'OK?', 'Method', and 'Status'. The interfaces listed are FastEthernet0/0, FastEthernet0/1, FastEthernet0/1.10, FastEthernet0/1.20, FastEthernet0/1.99, and Vlan1. FastEthernet0/0 and Vlan1 are administratively down, while the others are up. FastEthernet0/1.10, FastEthernet0/1.20, and FastEthernet0/1.99 have IP addresses 172.17.10.1, 172.17.20.1, and 172.17.99.1 respectively. At the bottom right, there are 'Copy' and 'Paste' buttons.

```
R1(config-subif)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console
show ip inter brief
Interface      IP-Address      OK? Method Status
Protocol
FastEthernet0/0 unassigned      YES NVRAM  administratively down
down
FastEthernet0/1 unassigned      YES NVRAM  up
up
FastEthernet0/1.10 172.17.10.1    YES manual up
up
FastEthernet0/1.20 172.17.20.1    YES manual up
up
FastEthernet0/1.99 172.17.99.1    YES manual up
up
Vlan1           unassigned      YES NVRAM  administratively down
down
R1#
```

R1 IP configuration



The screenshot shows the CLI of a Cisco router (R1) with the 'Config' tab selected. The command 'show ip route' has been executed, displaying the following output:

```
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed
state to up
end
R1#
%SYS-5-CONFIG I: Configured from console by console
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

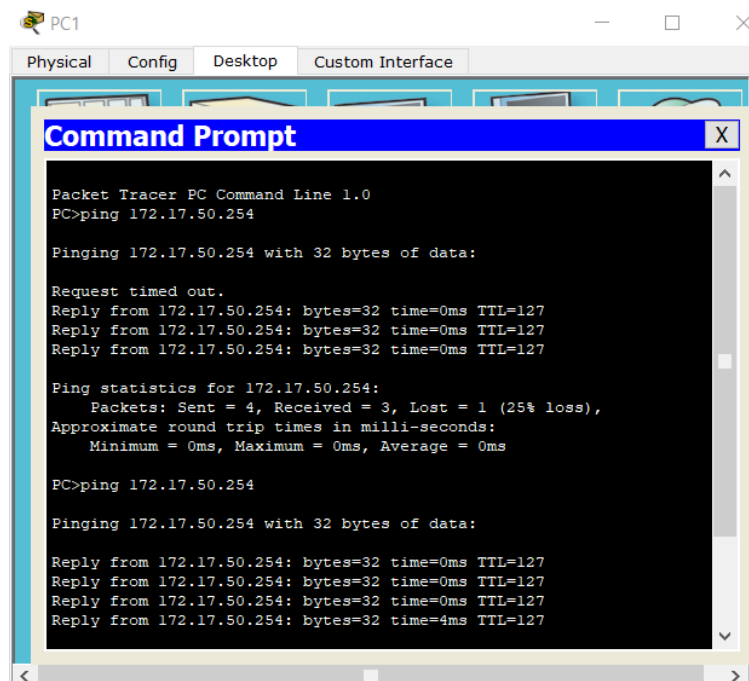
Gateway of last resort is not set

      172.17.0.0/24 is subnetted, 4 subnets
C      172.17.10.0 is directly connected, FastEthernet0/1.10
C      172.17.20.0 is directly connected, FastEthernet0/1.20
C      172.17.50.0 is directly connected, FastEthernet0/0
C      172.17.99.0 is directly connected, FastEthernet0/1.99
R1#
```

Buttons for 'Copy' and 'Paste' are visible at the bottom right of the CLI window.

R1 IP Route

Verify Inter-VLAN routing



The screenshot shows the 'Custom Interface' tab of PC1 in Packet Tracer. A 'Command Prompt' window is open, displaying the following output:

```
Packet Tracer PC Command Line 1.0
PC>ping 172.17.50.254

Pinging 172.17.50.254 with 32 bytes of data:

Request timed out.
Reply from 172.17.50.254: bytes=32 time=0ms TTL=127
Reply from 172.17.50.254: bytes=32 time=0ms TTL=127
Reply from 172.17.50.254: bytes=32 time=0ms TTL=127

Ping statistics for 172.17.50.254:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>ping 172.17.50.254

Pinging 172.17.50.254 with 32 bytes of data:

Reply from 172.17.50.254: bytes=32 time=0ms TTL=127
Reply from 172.17.50.254: bytes=32 time=0ms TTL=127
Reply from 172.17.50.254: bytes=32 time=0ms TTL=127
Reply from 172.17.50.254: bytes=32 time=4ms TTL=127
```

PC1 pinging 172.17.50.254

```
PC>ping 172.17.20.22

Pinging 172.17.20.22 with 32 bytes of data:

Request timed out.
Reply from 172.17.20.22: bytes=32 time=0ms TTL=127
Reply from 172.17.20.22: bytes=32 time=0ms TTL=127
Reply from 172.17.20.22: bytes=32 time=0ms TTL=127

Ping statistics for 172.17.20.22:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```

PC1 pinging 172.17.20.22

```
Pinging 172.17.10.24 with 32 bytes of data:

Reply from 172.17.10.24: bytes=32 time=0ms TTL=128
Reply from 172.17.10.24: bytes=32 time=0ms TTL=128
Reply from 172.17.10.24: bytes=32 time=0ms TTL=128
Reply from 172.17.10.24: bytes=32 time=0ms TTL=128

Ping statistics for 172.17.10.24:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```

PC1 pinging 172.17.10.24

Are the pings successful?

- Yes, all the pings are successful