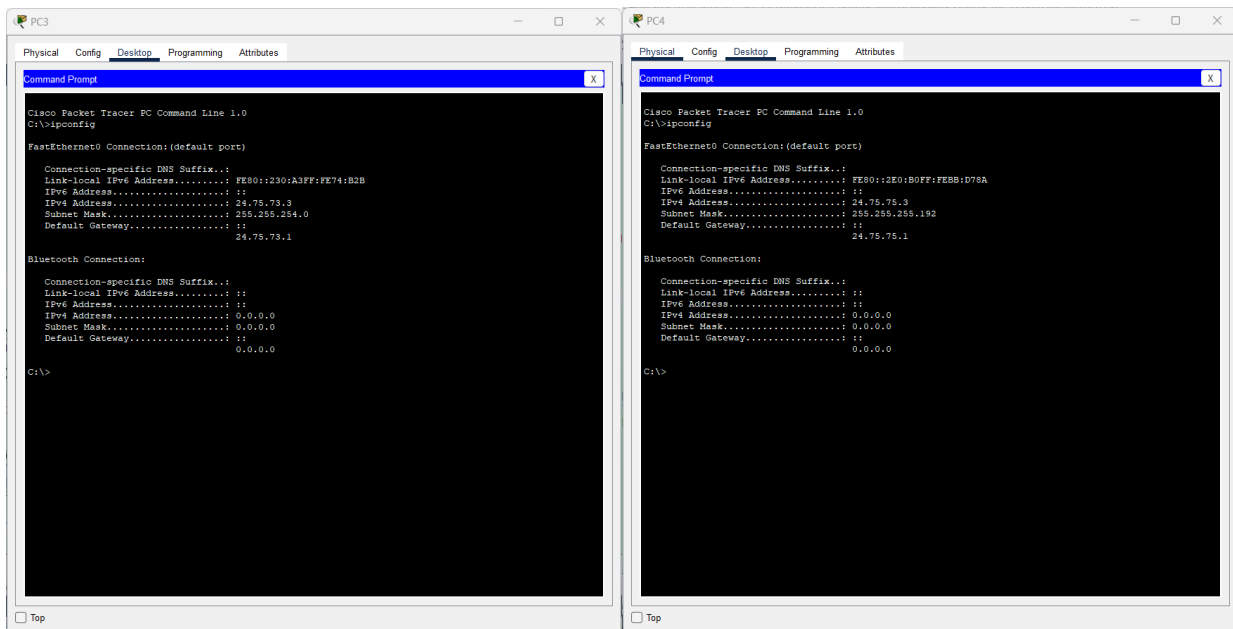
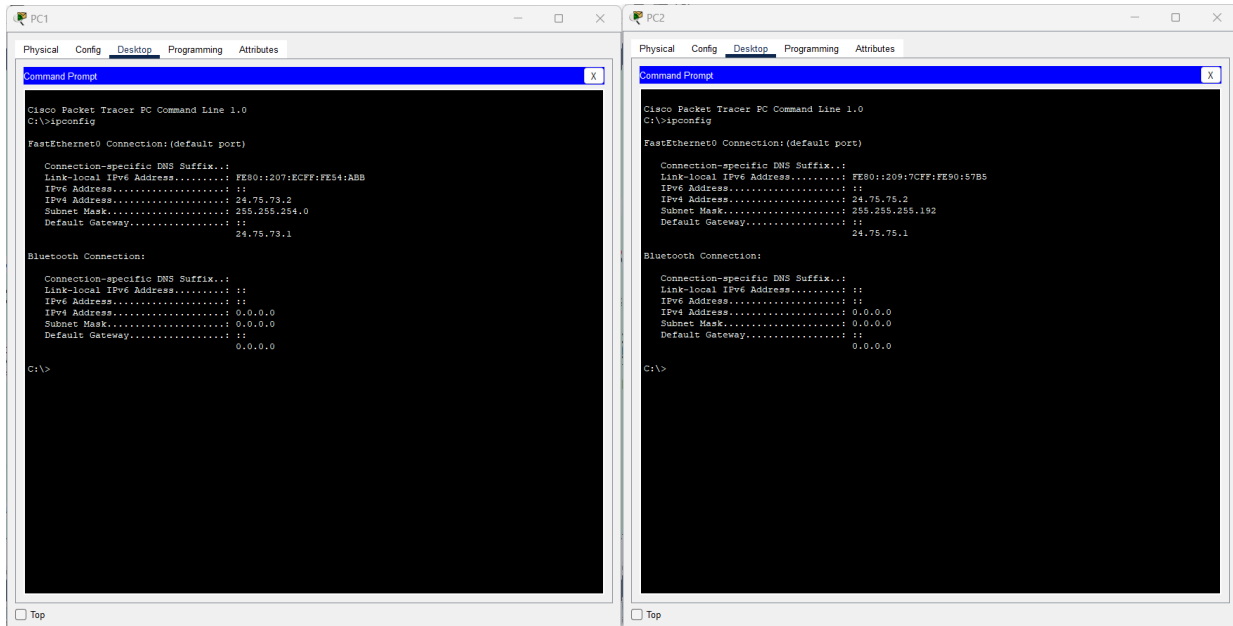
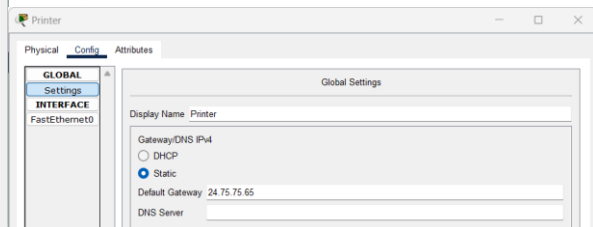
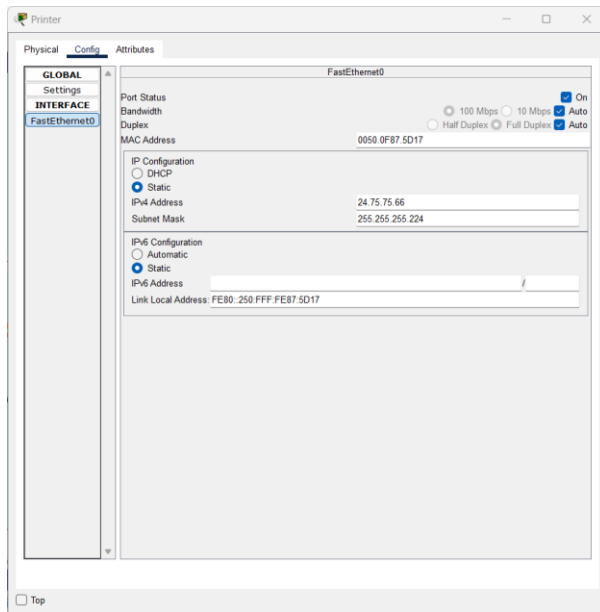
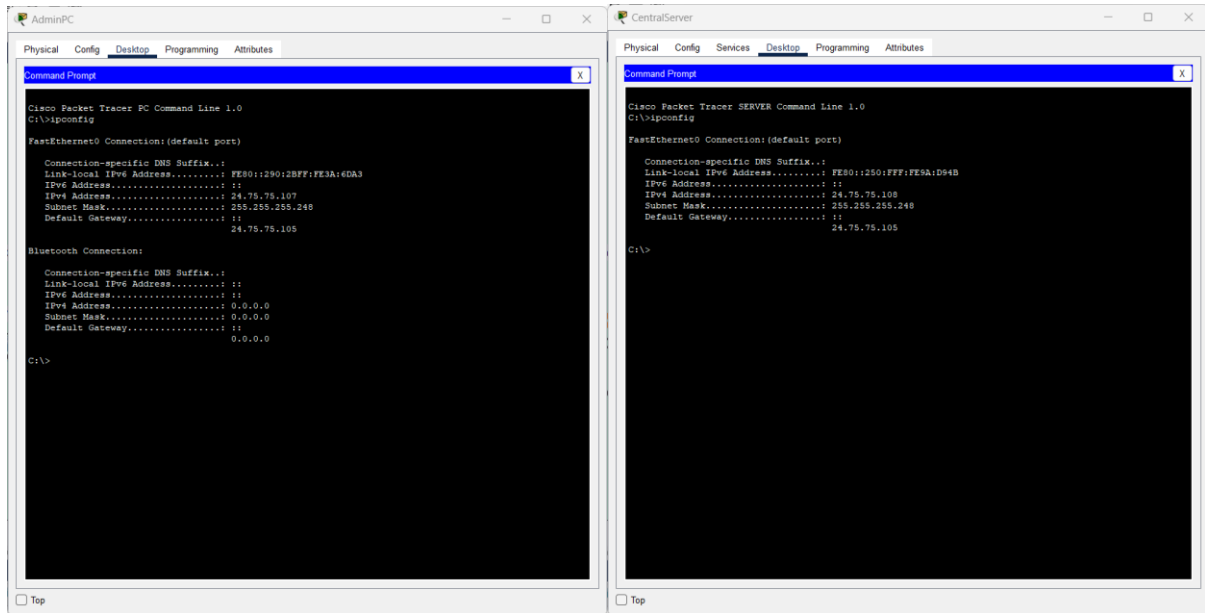


Project 470





Task 4: Configure device basic settings.

Configure Switches and Routers with the basic configuration,

```
Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#no ip domain-lookup
Switch(config)#hostname S4
S4(config)#service password-encryption
S4(config)#enable password class
S4(config)#enable secret class
The enable secret you have chosen is the same as your enable password.
This is not recommended. Re-enter the enable secret.
S4(config)#banner motd # Unauthorized access is strictly prohibited. #
S4(config)#exit
S4#clock set 12:00:00 5 December 2024
S4#
%SYS-5-CONFIG_I: Configured from console by console
S4#
```

```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#no ip domain-lookup
Router(config)#hostname R2
R2(config)#service password-encryption
R2(config)#enable password class
R2(config)#enable secret class
The enable secret you have chosen is the same as your enable password.
This is not recommended. Re-enter the enable secret.
R2(config)#banner motd # Unauthorized access is strictly prohibited. #
R2(config)#exit
R2#clock set 12:00:00 5 December 2024
R2#
%SYS-5-CONFIG_I: Configured from console by console
R2#
```

Config the IP address and default gateway on switches,

```
S1(config)#interface vlan 99
S1(config-if)#ip address 24.75.75.113 255.255.255.248
S1(config-if)#no shutdown
S1(config-if)#exit
S1(config)#ip default-gateway 24.75.75.115
S1(config)#
```

```
MS1(config)#interface vlan 10
MS1(config-if)#ip address 24.75.75.65 255.255.255.224
MS1(config-if)#no shutdown
MS1(config-if)#exit
MS1(config)#interface vlan 30
MS1(config-if)#ip address 24.75.73.1 255.255.254.0
MS1(config-if)#no shutdown
MS1(config-if)#exit
MS1(config)#interface vlan 40
MS1(config-if)#ip address 24.75.75.1 255.255.255.192
MS1(config-if)#no shutdown
MS1(config-if)#exit
MS1(config)#interface vlan 99
MS1(config-if)#ip address 24.75.75.115 255.255.255.248
MS1(config-if)#no shutdown
MS1(config-if)#exit
MS1(config)#
```

```

R2>en
Password:
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#interface g0/0
R2(config-if)#ip address 24.75.75.99 255.255.255.248
R2(config-if)#no shutdown

R2(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

R2(config-if)#exit
R2(config)#interface g0/1
R2(config-if)#ip address 24.75.75.105 255.255.255.248
R2(config-if)#no shutdown
^
% Invalid input detected at '^' marker.

R2(config-if)#no shutdown

R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

R2(config-if)#exit
R2(config)#

```

```

S2(config)#
S2(config)#interface range f0/1 - f0/10
S2(config-if-range)#switchport mode access
S2(config-if-range)#switchport access vlan 99
% Access VLAN does not exist. Creating vlan 99
S2(config-if-range)#exit
S2(config)#interface range f0/11 - f0/15
S2(config-if-range)#switchport mode access
S2(config-if-range)#switchport access vlan 10
% Access VLAN does not exist. Creating vlan 10
S2(config-if-range)#exit
S2(config)#interface range f0/16 - f0/20
S2(config-if-range)#switchport mode access
S2(config-if-range)#switchport access vlan 30
% Access VLAN does not exist. Creating vlan 30
S2(config-if-range)#exit
S2(config)#interface range f0/21 - f0/24
S2(config-if-range)#switchport mode access
S2(config-if-range)#switchport access vlan 40
%LINK-5-CHANGED: Interface Vlan99, changed state to up

```

```

MS1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
MS1(config)#ip routing
MS1(config)#interface g0/1
MS1(config-if)#no switchport
MS1(config-if)#
%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

MS1(config-if)#ip address 24.75.75.97 255.255.255.248
MS1(config-if)#no shutdown

```

Task 5: create Vlans.

```
S1(config)#vlan 10
S1(config-vlan)#name Vlan10
S1(config-vlan)#exit
S1(config)#vlan 30
S1(config-vlan)#name Vlan30
S1(config-vlan)#exit
S1(config)#vlan 40
S1(config-vlan)#name Vlan40
S1(config-vlan)#exit
S1(config)#vlan 99
S1(config-vlan)#name Vlan99
S1(config-vlan)#exit
S1(config)#
```

```
S1(config)#vlan 88
S1(config-vlan)#name Vlan88
S1(config-vlan)#
```

```
S3(config)#
S3(config)#vlan 88
S3(config-vlan)#name Vlan88
S3(config-vlan)#exit
S3(config)#
```

Task 6: config access/trunk ports on switches.

```
S2(config)#
S2(config)#interface range fa0/1 - fa0/4
S2(config-if-range)#switchport mode trunk

S2(config-if-range)#switchport trunk allowed vlan 10,30,40,99
S2(config-if-range)#no shutdown
S2(config-if-range)#exit
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up
S2(config)#
```

```
S1(config)#interface f0/16
S1(config-if)#switchport mode access
S1(config-if)#switchport access vlan 30
S1(config-if)#no shutdown
S1(config-if)#exit
S1(config)#
```

```

S2(config)#
S2(config)#interface f0/21
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 40
S2(config-if)#no shutdown
S2(config-if)#exit
S2(config)#
S2(config)#interface f0/16
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 30
S2(config-if)#no shutdown
S2(config-if)#exit
S2(config)#
S2(config)#interface f0/10
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 10
S2(config-if)#no shutdown
S2(config-if)#exit
S2(config)#

S3(config)#interface range f0/1 - f0/2
S3(config-if-range)#switchport mode access
S3(config-if-range)#switchport access vlan 88
S3(config-if-range)#no shutdown
S3(config-if-range)#exit
S3(config)#

```

Shutting down all unused ports:

```

S1(config)#interface range f0/5 - f0/15
S1(config-if-range)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/6, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/7, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/8, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/9, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/10, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/11, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/12, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/13, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/14, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/15, changed state to administratively down
S1(config-if-range)#exit
S1(config)#interface range f0/17 - f0/20
S1(config-if-range)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/17, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/18, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/19, changed state to administratively down
%LINK-5-CHANGED: Interface FastEthernet0/20, changed state to administratively down
S1(config-if-range)#exit
S1(config)#interface range f0/22 - f0/24
S1(config-if-range)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/22, changed state to administratively down

```

```
S2(config)#interface range f0/5 - f0/10
S2(config-if-range)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/6, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/7, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/8, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/9, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/10, changed state to administratively down
S2(config-if-range)#exit
S2(config)#interface range f0/12 - f0/15
S2(config-if-range)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/12, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/13, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/14, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/15, changed state to administratively down
S2(config-if-range)#exit
S2(config)#interface range f0/17 - f0/20
S2(config-if-range)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/17, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/18, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/19, changed state to administratively down

%LINK-5-CHANGED: Interface FastEthernet0/20, changed state to administratively down
S2(config-if-range)#exit
S2(config)#interface range f0/22 - f0/24
S2(config-if-range)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/22, changed state to administratively down
```

```
R2(config)#interface g0/1.88
R2(config-subif)#encapsulation dot1Q 88
R2(config-subif)#ip address 24.75.75.114 255.255.255.248
R2(config-subif)#no shutdown
R2(config-subif)#exit
```


Task 8: Verify connectivity.

between different VLANs

```
C:\>ping 24.75.75.66

Pinging 24.75.75.66 with 32 bytes of data:

Reply from 24.75.75.66: bytes=32 time<lms TTL=127
Reply from 24.75.75.66: bytes=32 time<lms TTL=127
Reply from 24.75.75.66: bytes=32 time<lms TTL=127
Reply from 24.75.75.66: bytes=32 time<lms TTL=127

Ping statistics for 24.75.75.66:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 24.75.75.2

Pinging 24.75.75.2 with 32 bytes of data:

Reply from 24.75.75.2: bytes=32 time<lms TTL=127
Reply from 24.75.75.2: bytes=32 time=10ms TTL=127
Reply from 24.75.75.2: bytes=32 time<lms TTL=127
Reply from 24.75.75.2: bytes=32 time<lms TTL=127

Ping statistics for 24.75.75.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 2ms

C:\>
```

between Same VLANs

```
C:\>ping 24.75.73.3

Pinging 24.75.73.3 with 32 bytes of data:

Reply from 24.75.73.3: bytes=32 time<lms TTL=128
Reply from 24.75.73.3: bytes=32 time<lms TTL=128
Reply from 24.75.73.3: bytes=32 time<lms TTL=128
Reply from 24.75.73.3: bytes=32 time=6ms TTL=128

Ping statistics for 24.75.73.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 6ms, Average = 1ms

C:\>
```

```

C:\>ping 24.75.75.108

Pinging 24.75.75.108 with 32 bytes of data:

Reply from 24.75.75.108: bytes=32 time<1ms TTL=128
Reply from 24.75.75.108: bytes=32 time<1ms TTL=128
Reply from 24.75.75.108: bytes=32 time<1ms TTL=128
Reply from 24.75.75.108: bytes=32 time<1ms TTL=128

Ping statistics for 24.75.75.108:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>

```

Task 9: Configure EtherChannel.

```

Unauthorized access is strictly prohibited.

S1>en
Password:
S1#config t
Enter configuration commands, one per line. End with CNTL/Z.
S1(config)#interface range f0/1 - 2
S1(config-if-range)#switchport mode trunk
S1(config-if-range)#channel-group 1 mode desirable
S1(config-if-range)#
Creating a port-channel interface Port-channel 1

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

S1(config-if-range)#exit
S1(config)#interface range f0/3 - 4
S1(config-if-range)#switchport mode trunk
S1(config-if-range)#channel-group 3 mode desirable
S1(config-if-range)#
Creating a port-channel interface Port-channel 3

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up

%LINK-5-CHANGED: Interface Port-channel3, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Port-channel3, changed state to up

S1(config-if-range)#exit
S1(config)#

```

```

S2>en
Password:
S2#config t
Enter configuration commands, one per line. End with CNTL/Z.
S2(config)#interface range f0/3 - 4
S2(config-if-range)#switchport mode trunk
S2(config-if-range)#channel-group 3 mode desirable
S2(config-if-range)#
Creating a port-channel interface Port-channel 3

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up

S2(config-if-range)#exit
S2(config)#
%LINK-5-CHANGED: Interface Port-channel3, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Port-channel3, changed state to up

S2(config)#interface range f0/1 - 2
S2(config-if-range)#switchport mode trunk
S2(config-if-range)#channel-group 2 mode desirable
S2(config-if-range)#
Creating a port-channel interface Port-channel 2

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

S2(config-if-range)#exit
S2(config)#

```

Task 10: Config default static static route between R1 and ISP

```

R1>en
Password:
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#interface s0/0/0
R1(config-if)#ip address 209.165.200.241 255.255.255.252
R1(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
R1(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

R1(config-if)#ip route 0.0.0.0 0.0.0.0 209.165.200.242
R1(config)#

```

```
ISP>en
Password:
ISP#config t
Enter configuration commands, one per line. End with CNTL/Z.
ISP(config)#interface s0/0/0
ISP(config-if)#ip address 209.165.200.242 255.255.255.252
ISP(config-if)#no shutdown

ISP(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up

ISP(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
```

R1 OSPF Configuration

```
R1#
R1#en
R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#router ospf 10
R1(config-router)#network 24.75.73.0 0.0.1.255 area 0
R1(config-router)#network 24.75.75.96 0.0.0.7 area 0
R1(config-router)#network 209.165.200.240 0.0.0.3 area 0
R1(config-router)#default-information originate
R1(config-router)#
R1(config-router)#
```

Copy

Paste

☐ Top

R2 OSPF Configuration

```
R2#config t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#router ospf 10
R2(config-router)#network 24.75.75.99 0.0.0.7 area 0
R2(config-router)#network 24.75.75.105 0.0.0.7 area 0
R2(config-router)#passive-interface default
R2(config-router)#
R2(config-router)#
```

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Ping test:

The image displays four screenshots of Cisco Packet Tracer command-line interfaces (CLI) for different devices, showing the results of ping tests. Each screenshot includes a 'Top' button at the bottom left.

PC2 Screenshot 1: Shows ping tests to 24.75.75.113 and 24.75.75.114. Both tests show 4 packets sent, 4 received, 0 lost, and an average round-trip time of 0ms.

PC2 Screenshot 2: Shows ping tests to 24.75.75.65 and 24.75.73.1. Both tests show 4 packets sent, 4 received, 0 lost, and an average round-trip time of 0ms.

PC3 Screenshot: Shows ping tests to 24.75.75.115 and 24.75.75.2. The test to 24.75.75.115 shows 4 packets sent, 4 received, 0 lost, and an average round-trip time of 0ms. The test to 24.75.75.2 shows 4 packets sent, 4 received, 0 lost, and an average round-trip time of 0ms.

R2 Screenshot: Shows the IOS Command Line Interface for R2. It displays the configuration for the GigabitEthernet0/1 and GigabitEthernet0/188 interfaces, and the results of ping tests to 24.75.75.108, 24.75.75.98, and 24.75.75.100. The test to 24.75.75.108 shows a success rate of 80 percent (4/5). The test to 24.75.75.98 shows a success rate of 80 percent (4/5). The test to 24.75.75.100 shows a success rate of 60 percent (3/5).