TP Réseau
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Inge4 - groupe 4

part 1 :

Q1.1) yes
Q1.2)

```
Router(config)#hostname R1
R1(config)#
```

Q1.3)

```
R1>show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/0        unassigned      YES unset  administratively down down
FastEthernet1/0        unassigned      YES unset  administratively down down
Serial2/0              unassigned      YES unset  administratively down down
Serial3/0              unassigned      YES unset  administratively down down
FastEthernet4/0        unassigned      YES unset  administratively down down
FastEthernet5/0        unassigned      YES unset  administratively down down
```

6 interfaces and no ip address assign to any

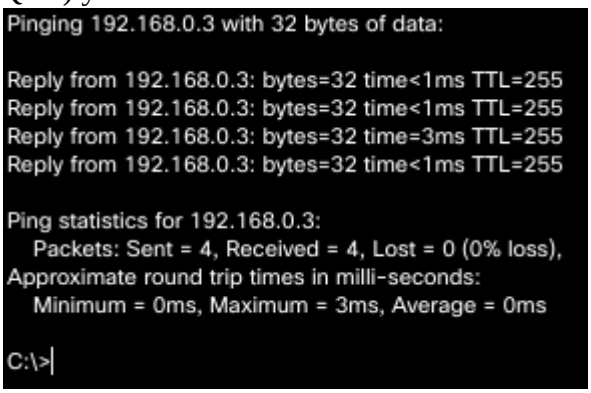
Q1.4)
en
config t
line console 0
password cisco

```
Press RETURN to get started!


User Access Verification

Password:
```

Q1.5)
en
sh running-config

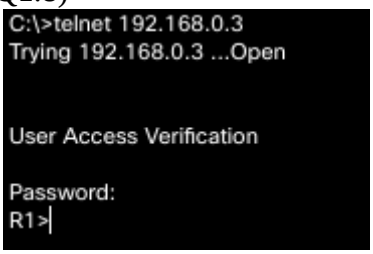
```
!
!
line con 0
 password cisco
 login
!
line aux 0
!
line vty 0
 password cisco
 login
line vty 1 4
 login
!
!
!
end

 --More--
```

Q1.6) yes

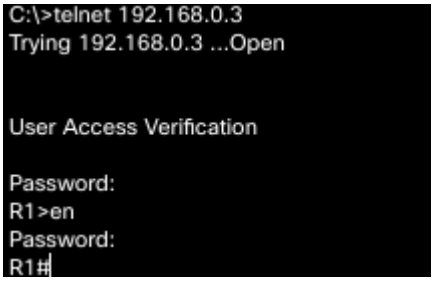


Q1.7) we sould enter the password set for the line vty

Q1.8)



Q1.9) in router cli
en
config t
enable password mypassword



part 2 :

Q2.1) for a /8 mask : 8bit at 1 so 24 bit at 0, there is 2^24 – 2, so 16777214 possible ip address
for a /26 mask : 62

Q2.2)
to atribute the address 10.0.0.1 to the interface FastEthernet0/0 :
#enable
#configure terminal
#interface FastEthernet0/0
#ip address 10.0.0.1 255.0.0.0
#no shutdown

```
Router0#show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/0        10.0.0.1        YES manual up                    up
FastEthernet1/0        unassigned      YES unset  administratively down down
Serial2/0              200.200.200.1   YES manual up                    up
Serial3/0              unassigned      YES unset  administratively down down
FastEthernet4/0        unassigned      YES unset  administratively down down
FastEthernet5/0        unassigned      YES unset  administratively down down
```

Q2.3)

```
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

C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    200.200.200.0/24 is directly connected, Serial2/0
```

Q2.4) we get a reply

```
Pinging 10.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Q2.5) we get a reply

```
Pinging 200.200.200.2 with 32 bytes of data:

Reply from 200.200.200.2: bytes=32 time<1ms TTL=255
Reply from 200.200.200.2: bytes=32 time<1ms TTL=255
Reply from 200.200.200.2: bytes=32 time<1ms TTL=255
Reply from 200.200.200.2: bytes=32 time<1ms TTL=255

Ping statistics for 200.200.200.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Q2.6) we get a reply because Router 1 is directly connected to router 0, through the network y.

```
C:\>ping 200.200.200.1

Pinging 200.200.200.1 with 32 bytes of data:

Reply from 200.200.200.1: bytes=32 time=1ms TTL=254
Reply from 200.200.200.1: bytes=32 time=1ms TTL=254
Reply from 200.200.200.1: bytes=32 time=6ms TTL=254
Reply from 200.200.200.1: bytes=32 time=1ms TTL=254

Ping statistics for 200.200.200.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 6ms, Average = 2ms

C:\>
```

Q2.7) in order to comunicate from the network x to the network z, we have to specify to the router 0 that ip like 156.12.0.0 /26 has to be send to the router 1 at the address 200.200.200.2. the router 1 has a direct access to network z.
we can do this with the following command :
#en
#config t
#ip route 156.12.0.0 255.255.0.0 200.200.200.2

```
Router>sh ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/0        10.0.0.1        YES manual up                    up
FastEthernet1/0        unassigned      YES unset  administratively down down
Serial2/0              200.200.200.1   YES manual up                    up
Serial3/0              unassigned      YES unset  administratively down down
FastEthernet4/0        unassigned      YES unset  administratively down down
FastEthernet5/0        unassigned      YES unset  administratively down down
Router>
```

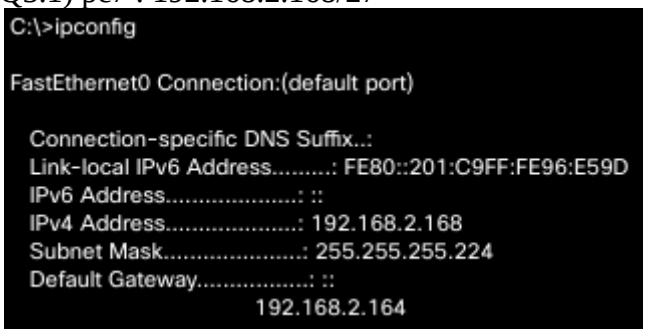
Q2.8) we get a reply. Pc 0 send data to the address 156.12.0.10. It goes by default to the router 0 by the address 10.0.0.1 (default gateway). The router 0 search in its routing table, and see that for address like 156.12.0.0/16, it has to send it to the router 1 with the address 200.200.200.2. Then the router 1 recive the data, and because it’s directly connected to the pc 1, it can send it the data.

Q2.9) it work, because switch has no influence on ip address. It just take and redirect directly the data. No routing table.

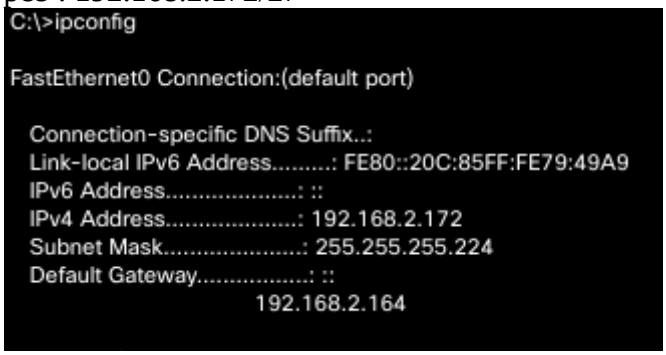
Q2.10) pc on the same network can already comunicate to each other. The router 0 don’t need update because he has a hand on the ne network and network x. the routing table is already set to communicate with the network z. On the other side, we have to add a static route on the router 1, so the network z can communicate with the new network.

Part 3 :

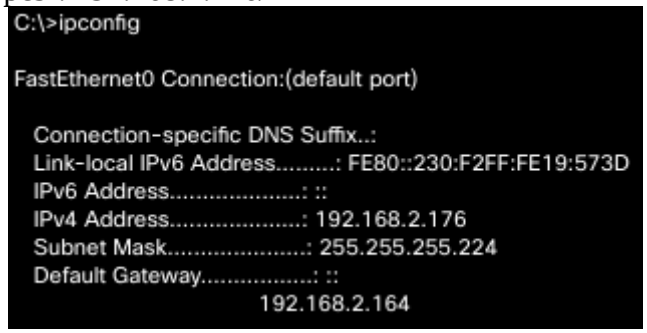
Q3.1) pc7 : 192.168.2.168/27



pc8 : 192.168.2.172/27



pc9 : 192.168.2.176/27



Q3.2)router 1

```
    192.168.2.0/24 is variably subnetted, 5 subnets, 2 masks
C       192.168.2.32/27 is directly connected, FastEthernet0/0
C       192.168.2.64/27 is directly connected, Serial2/0
S       192.168.2.96/27 [1/0] via 192.168.2.64
C       192.168.2.128/25 is directly connected, FastEthernet1/0
S       192.168.2.160/27 [1/0] via 192.168.2.64
```

router 2

```
    192.168.2.0/24 is variably subnetted, 5 subnets, 2 masks
S       192.168.2.32/27 [1/0] via 192.168.2.70
C       192.168.2.64/27 is directly connected, Serial2/0
C       192.168.2.96/27 is directly connected, FastEthernet1/0
S       192.168.2.128/25 [1/0] via 192.168.2.70
C       192.168.2.160/27 is directly connected, FastEthernet0/0
```

Q3.3)

```
C:\>ping 192.168.2.48

Pinging 192.168.2.48 with 32 bytes of data:

Reply from 192.168.2.48: bytes=32 time=2ms TTL=126
Reply from 192.168.2.48: bytes=32 time=1ms TTL=126
Reply from 192.168.2.48: bytes=32 time=2ms TTL=126
Reply from 192.168.2.48: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.48:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

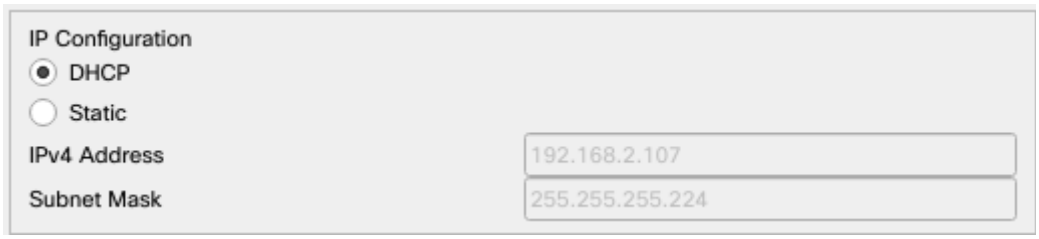
Q3.4)

```
C:\>ping 192.168.2.109

Pinging 192.168.2.109 with 32 bytes of data:

Reply from 192.168.2.109: bytes=32 time=1ms TTL=126
Reply from 192.168.2.109: bytes=32 time=1ms TTL=126
Reply from 192.168.2.109: bytes=32 time=2ms TTL=126
Reply from 192.168.2.109: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.109:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

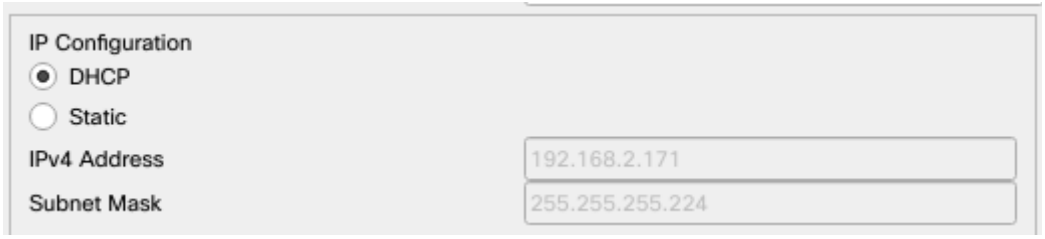
Q3.5)

```
Router>sh ip dhcp binding
IP address      Client-ID/              Lease expiration        Type
                Hardware address
```

Q3.6)



Q3.7)



Q3.8)

```
Router>sh ip dhcp binding
IP address      Client-ID/              Lease expiration        Type
                Hardware address
192.168.2.107   0005.5EE8.B044          --                      Automatic
192.168.2.171   0001.C996.E59D          --                      Automatic
```