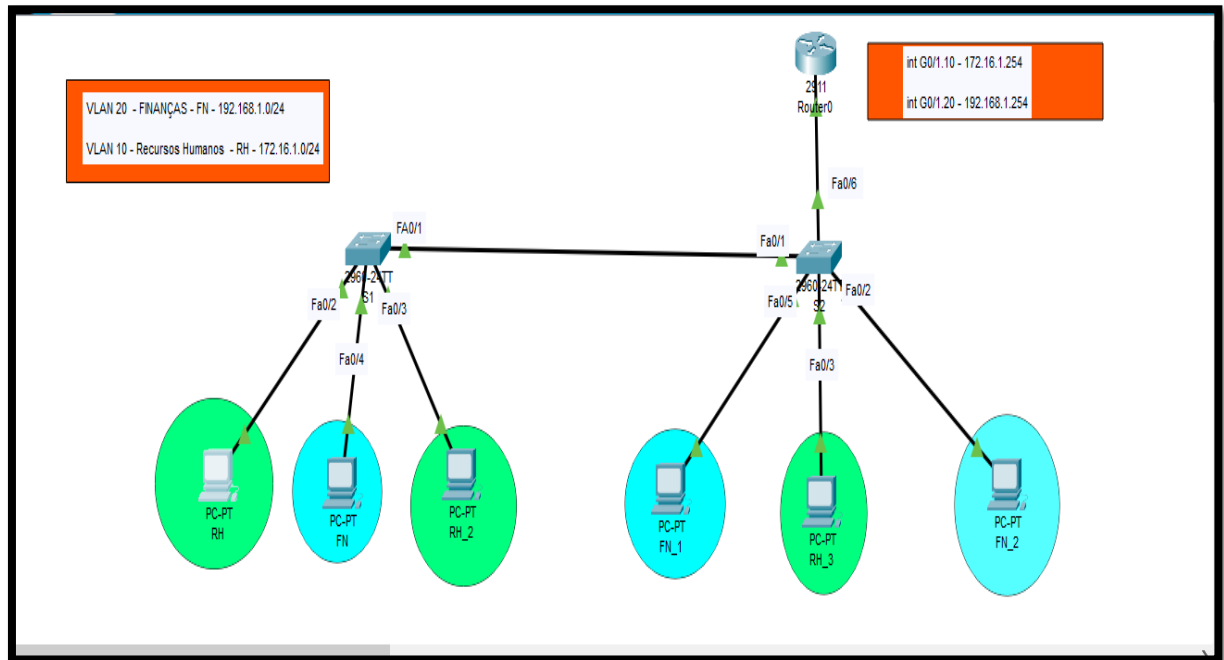


Roteamento inter-vlan nos dispositivos **cisco** e **Huawei**

CISCO



1.- Criar as vlans no primeiro switch

```
S1(config)#vlan 10  
S1(config-vlan)#name RH  
S1(config-vlan)#exit  
S1(config)#vlan 20  
S1(config-vlan)#name FN
```

1.1 – Visualizar as vlans

S1#show vlan

```
S1#show vlan
```

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	RH	active	
20	FN	active	

2 – Associar as portas a vlan

S1(config)#int fa0/2

S1(config-if)#switchport mode access

S1(config-if)#switchport access vlan 10

S1(config-if)#exit

S1(config-if)#int fa0/3

S1(config-if)#switchport mode access

S1(config-if)#switchport access vlan 10

S1(config-if)#exit

S1(config)#int fa0/4

S1(config-if)#switchport mode access

S1(config-if)#switchport access vlan 20

2.1 – Visualizar as vlans

S1#show vlan

```
S1#show vlan
```

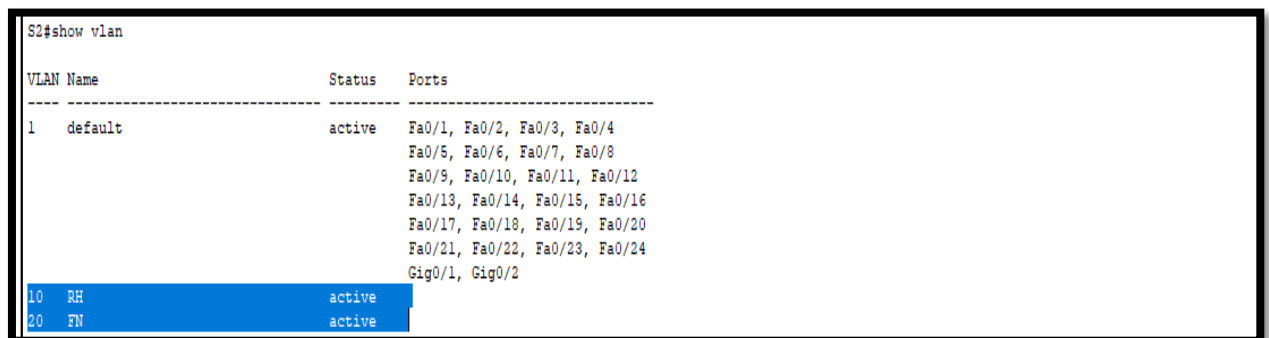
VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/5, Fa0/6, Fa0/7 Fa0/8, Fa0/9, Fa0/10, Fa0/11 Fa0/12, Fa0/13, Fa0/14, Fa0/15 Fa0/16, Fa0/17, Fa0/18, Fa0/19 Fa0/20, Fa0/21, Fa0/22, Fa0/23 Fa0/24, Gig0/1, Gig0/2
10	RH	active	Fa0/2, Fa0/3
20	FN	active	Fa0/4

1- Criar as vlans no segundo switch

```
S2(config-vlan)#vlan 10
S2(config-vlan)#name RH
S2(config-vlan)#exit
S2(config)#vlan 20
S2(config-vlan)#name FN
```

1.1 – Visualizar as vlans

S2#show vlan



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	RH	active	
20	FN	active	

2 – Associar as portas a vlan

```
S2(config)#int fa0/5
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 20
S2(config-if)#exit
```

```
S2(config)#int fa0/3
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 10
S2(config-if)#exit
```

```
S2(config)#int fa0/2
S2(config-if)#switchport mode access
S2(config-if)#switchport access vlan 20
S2(config-if)#exit
```

2.1 – Visualizar se as portas foram associadas as vlans

S1#show vlan

S2#show vlan		
VLAN Name	Status	Ports
1 default	active	Fa0/1, Fa0/4, 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 RH	active	Fa0/3
20 FN	active	Fa0/2, Fa0/5

3– Habilitar a porta trunk nos switches

S1(config)#int fa0/1

S1(config-if)#switchport mode trunk

S1(config-if)#switchport trunk allowed vlan 10,20

S2(config)#int fa0/1

S2(config-if)#switchport mode trunk

S2(config-if)#switchport trunk allowed vlan 10,20

Obs ; a porta do switch 2 ligado ao roteador também deve estar no modo trunk

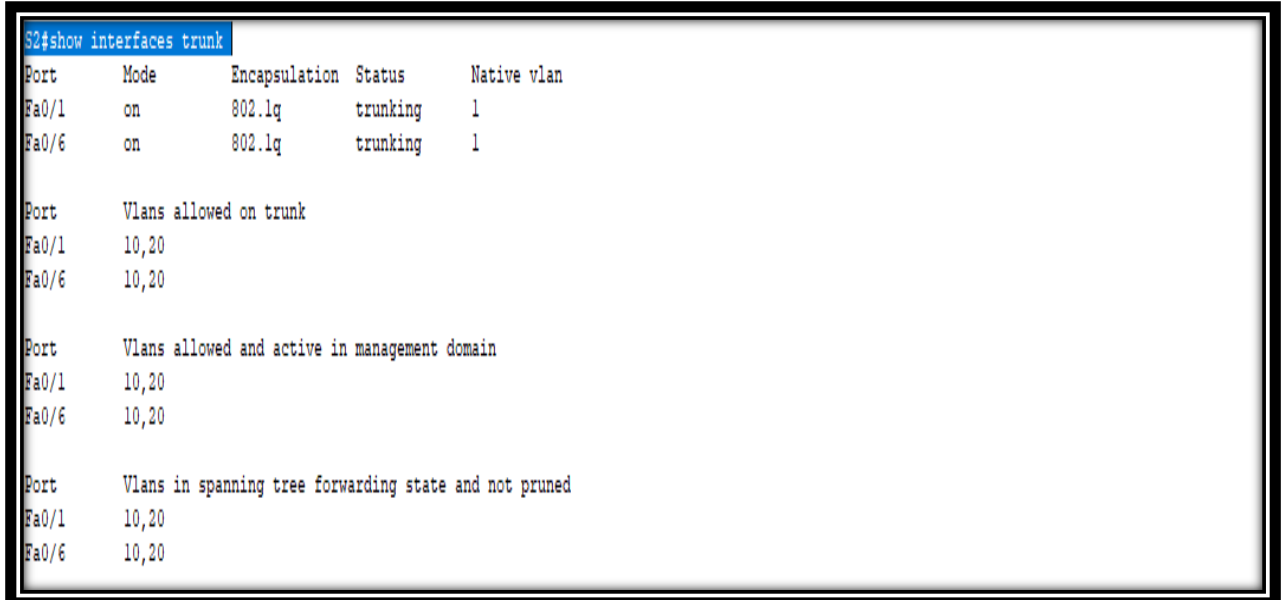
S2(config-if)#int fa0/6

S2(config-if)#switchport mode trunk

S2(config-if)#switchport trunk allowed vlan 10,20

3.1 – Visualizar as portas trunk

S2#show interfaces trunk



```
S2#show interfaces trunk
```

Port	Mode	Encapsulation	Status	Native vlan
Fa0/1	on	802.1q	trunking	1
Fa0/6	on	802.1q	trunking	1

Port	Vlans allowed on trunk
Fa0/1	10,20
Fa0/6	10,20

Port	Vlans allowed and active in management domain
Fa0/1	10,20
Fa0/6	10,20

Port	Vlans in spanning tree forwarding state and not pruned
Fa0/1	10,20
Fa0/6	10,20

4. Configurando o roteador

Router(config)#int g0/1

Router(config-if)#no shutdown

4. 1 – Configurando as sub-interfaces no roteador

Router(config)#int g0/1.20

Router(config-subif)#encapsulation dot1Q 20

Router(config-subif)#ip add 192.168.1.254 255.255.255.0

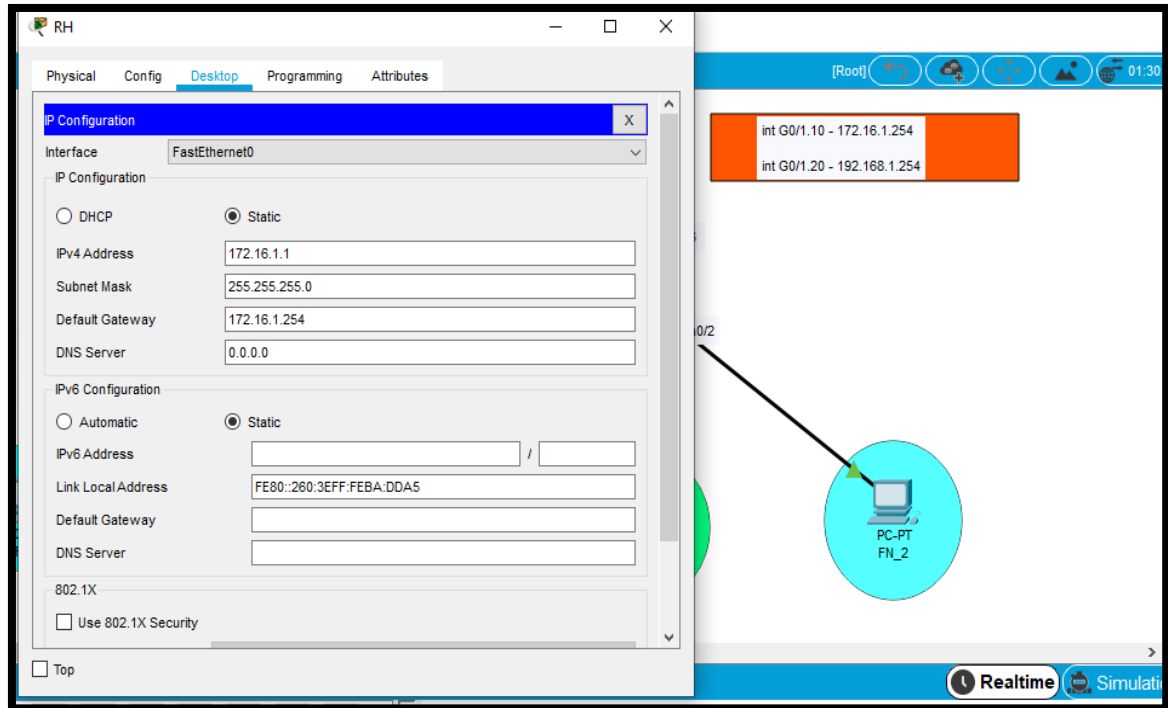
Router(config)#int g0/1.10

Router(config-subif)#encapsulation dot1Q 10

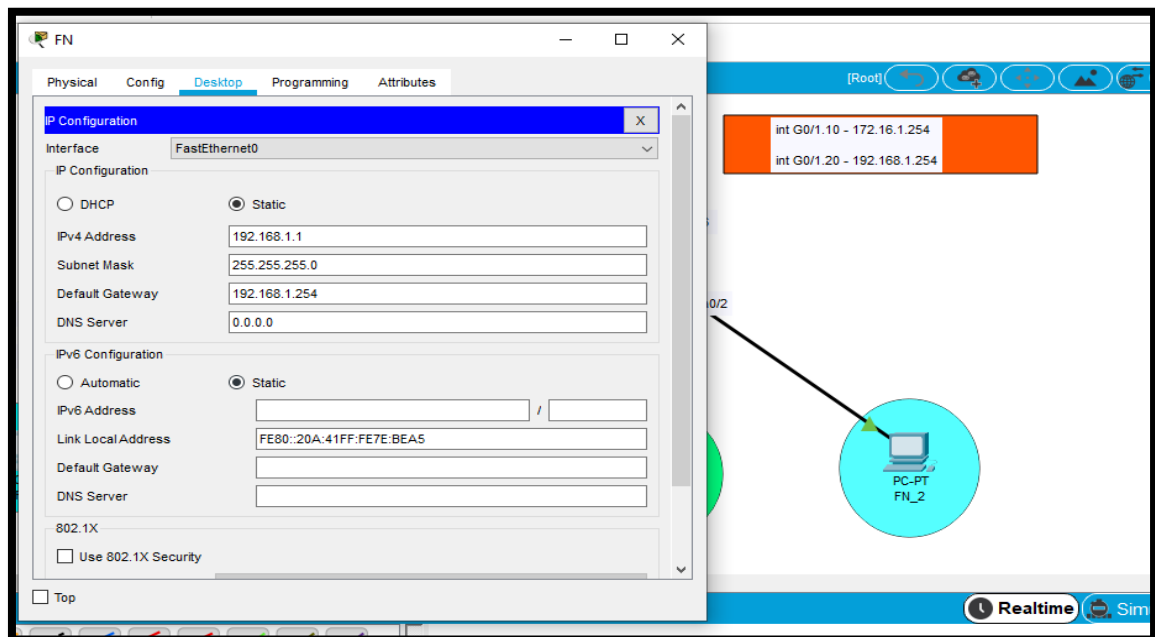
Router(config-subif)#ip add 172.16.1.254 255.255.255.0

Verificar a conexão entre os dispositivos

PC RH

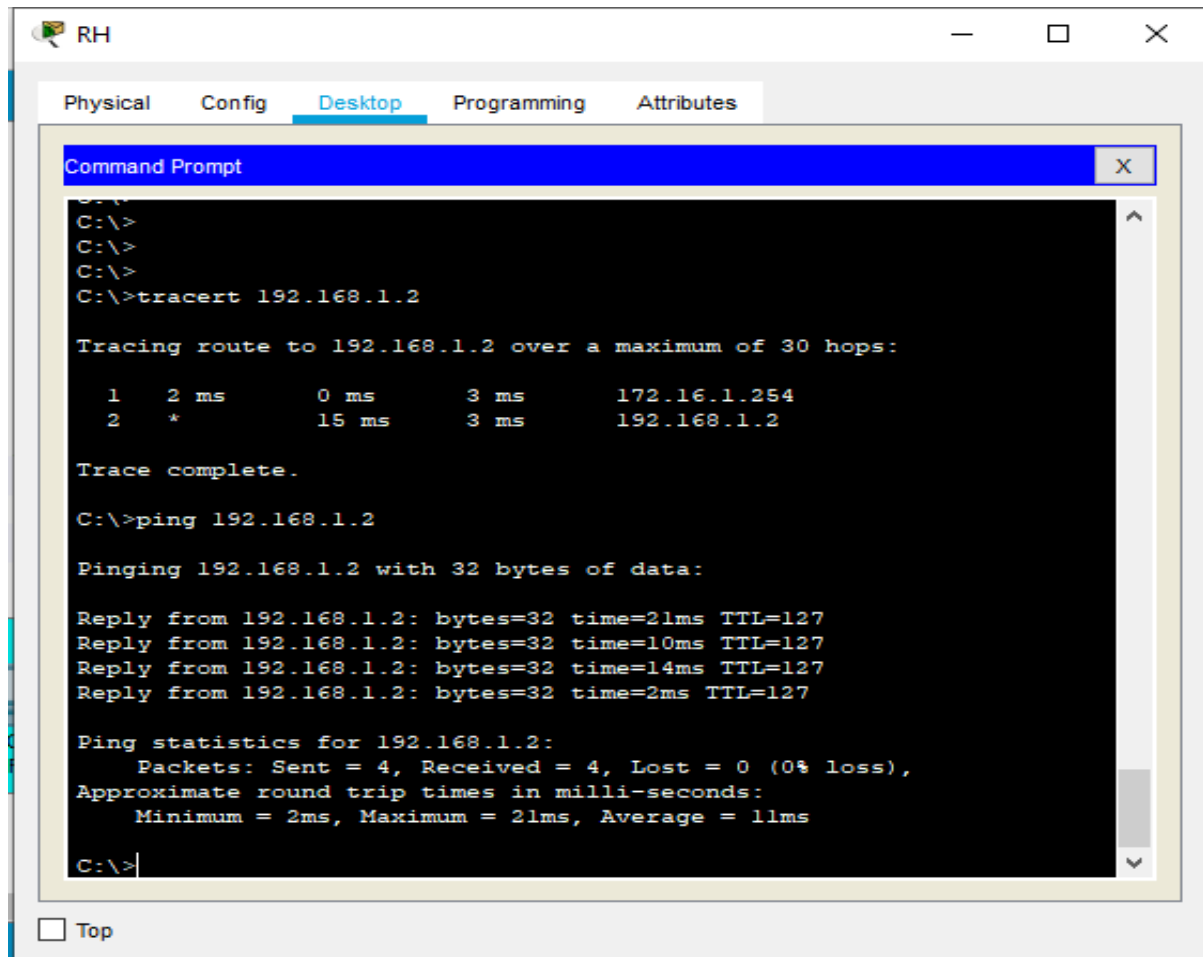


PC FN



Tracert de 172.16.1.1 para 192.168.1.2

Ping de 172.16.1.1 para 192.168.1.2



The screenshot shows a Packet Tracer window titled 'RH' with tabs for Physical, Config, Desktop, Programming, and Attributes. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The Command Prompt shows the execution of 'tracert 192.168.1.2' and 'ping 192.168.1.2' commands. The tracert output shows a two-hop route from 172.16.1.254 to 192.168.1.2. The ping output shows four successful replies with varying round-trip times and a 0% loss rate.

```
C:\>tracert 192.168.1.2

Tracing route to 192.168.1.2 over a maximum of 30 hops:

  0  0 ms    0 ms    0 ms    172.16.1.254
  1  2 ms    0 ms    3 ms    172.16.1.254
  2  *      15 ms   3 ms    192.168.1.2
    Trace complete.

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

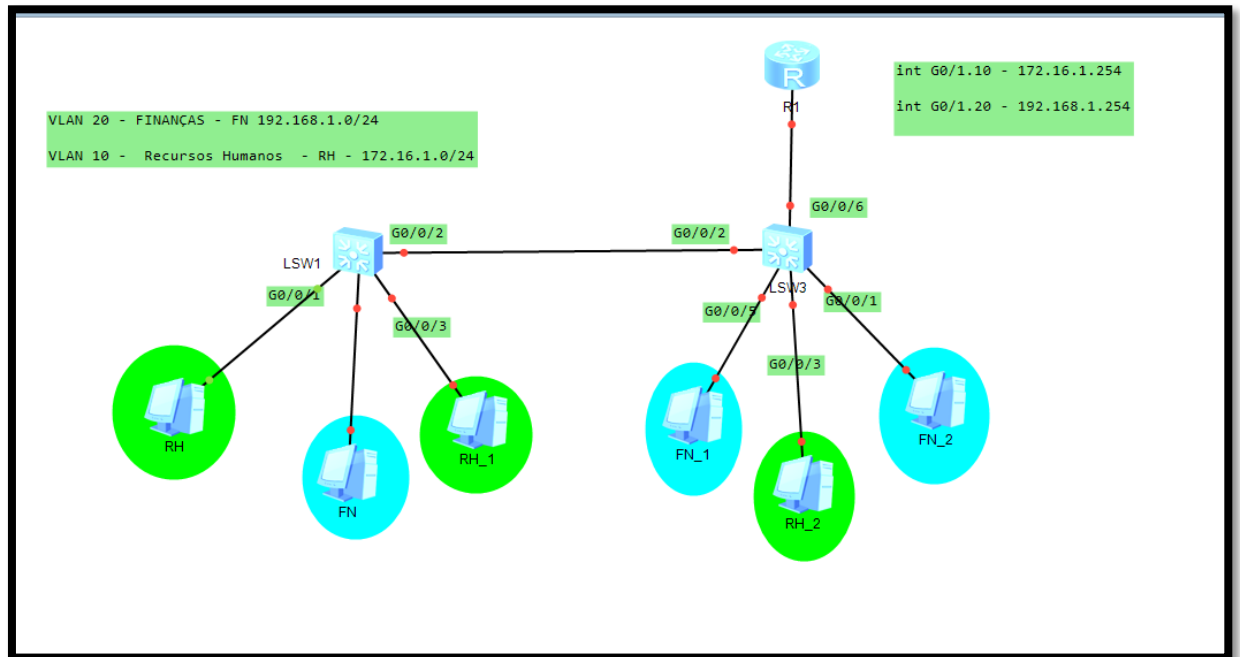
Reply from 192.168.1.2: bytes=32 time=21ms TTL=127
Reply from 192.168.1.2: bytes=32 time=10ms TTL=127
Reply from 192.168.1.2: bytes=32 time=14ms TTL=127
Reply from 192.168.1.2: bytes=32 time=2ms TTL=127

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 21ms, Average = 11ms

C:\>
```

☐ Top

HUAWEI



1.- Criar as vlans no primeiro switch

```
[S1]vlan 10  
[S1-vlan10]description RH  
[S1-vlan10]quit
```

```
[S1]vlan 20  
[S1-vlan20]description FN  
[S1-vlan20]quit
```


1.1 – Visualizar as vlans

```
[S1]display vlan
```

```
[S1]display vlan
The total number of vlans is : 3

-----
U: Up;          D: Down;      TG: Tagged;     UT: Untagged;
MP: Vlan-mapping; ST: Vlan-stacking;
#: ProtocolTransparent-vlan; *: Management-vlan;
-----

VID  Type  Ports
-----
1    common  UT:GE0/0/1(U)  GE0/0/2(U)  GE0/0/3(U)  GE0/0/4(U)
      GE0/0/5(D)  GE0/0/6(D)  GE0/0/7(D)  GE0/0/8(D)
      GE0/0/9(D)  GE0/0/10(D) GE0/0/11(D) GE0/0/12(D)
      GE0/0/13(D) GE0/0/14(D) GE0/0/15(D) GE0/0/16(D)
      GE0/0/17(D) GE0/0/18(D) GE0/0/19(D) GE0/0/20(D)
      GE0/0/21(D) GE0/0/22(D) GE0/0/23(D) GE0/0/24(D)
10   common
20   common

VID  Status  Property  MAC-LRN  Statistics  Description
-----
1    enable  default  enable  disable  VLAN 0001
10   enable  default  enable  disable  FN
20   enable  default  enable  disable  RH
[S1]
```

2 – Associar as portas a vlan

```
[S1]int g0/0/1
[S1-GigabitEthernet0/0/1]port link-type access
[S1-GigabitEthernet0/0/1]port default vlan 10
[S1-GigabitEthernet0/0/1]quit
```

```
[S1]int g0/0/4
[S1-GigabitEthernet0/0/4]port link-type access
[S1-GigabitEthernet0/0/4]port default vlan 20
[S1-GigabitEthernet0/0/4]quit
```

```
[S1]int g0/0/3
[S1-GigabitEthernet0/0/3]port link-type access
[S1-GigabitEthernet0/0/3]port default vlan 10
[S1-GigabitEthernet0/0/3]quit
```

2 – Visualizar se as foram portas associadas a vlans

```
[S1]display vlan
The total number of vlans is : 3
-----
U: Up;          D: Down;          TG: Tagged;      UT: Untagged;
MP: Vlan-mapping; ST: Vlan-stacking;
#: ProtocolTransparent-vlan; *: Management-vlan;
-----

VID  Type    Ports
-----
1    common  UT:GE0/0/2 (U)    GE0/0/5 (D)    GE0/0/6 (D)    GE0/0/7 (D)
                        GE0/0/8 (D)    GE0/0/9 (D)    GE0/0/10 (D)   GE0/0/11 (D)
                        GE0/0/12 (D)   GE0/0/13 (D)   GE0/0/14 (D)   GE0/0/15 (D)
                        GE0/0/16 (D)   GE0/0/17 (D)   GE0/0/18 (D)   GE0/0/19 (D)
                        GE0/0/20 (D)   GE0/0/21 (D)   GE0/0/22 (D)   GE0/0/23 (D)
                        GE0/0/24 (D)
10   common  UT:GE0/0/1 (U)    GE0/0/3 (U)
20   common  UT:GE0/0/4 (U)
```

1.- Criar as vlans no segundo switch

```
[S2]vlan 10
[S2-vlan10]description RH
[S2-vlan10]quit
```

```
[S2]vlan 20
[S2-vlan20]description FN
[S2-vlan20]quit
```

1.1 – Visualizar se as vlans Foram Criadas

```
[S1]display vlan

[S1]display vlan
The total number of vlans is : 3
-----
U: Up;          D: Down;          TG: Tagged;      UT: Untagged;
MP: Vlan-mapping; ST: Vlan-stacking;
#: ProtocolTransparent-vlan; *: Management-vlan;
-----

VID  Type    Ports
-----
1    common  UT:GE0/0/1 (U)    GE0/0/2 (U)    GE0/0/3 (U)    GE0/0/4 (U)
                        GE0/0/5 (D)    GE0/0/6 (D)    GE0/0/7 (D)    GE0/0/8 (D)
                        GE0/0/9 (D)    GE0/0/10 (D)   GE0/0/11 (D)   GE0/0/12 (D)
                        GE0/0/13 (D)   GE0/0/14 (D)   GE0/0/15 (D)   GE0/0/16 (D)
                        GE0/0/17 (D)   GE0/0/18 (D)   GE0/0/19 (D)   GE0/0/20 (D)
                        GE0/0/21 (D)   GE0/0/22 (D)   GE0/0/23 (D)   GE0/0/24 (D)
10   common
20   common

VID  Status  Property  MAC-LRN Statistics Description
-----
1    enable  default  enable  disable  VLAN 0001
10   enable  default  enable  disable  FN
20   enable  default  enable  disable  RH
[S1]
```

2 – Associar as portas a vlan

```
[S2]int g0/0/5
[S2-GigabitEthernet0/0/5]port link-type access
[S2-GigabitEthernet0/0/5]port default vlan 20
[S2-GigabitEthernet0/0/5]quit
```

```
[S2-GigabitEthernet0/0/3]int g0/0/3
[S2-GigabitEthernet0/0/3]port link-type access
[S2-GigabitEthernet0/0/3]port default vlan 10
```

```
[S2-GigabitEthernet0/0/1]int g0/0/1
[S2-GigabitEthernet0/0/1]port link-type access
[S2-GigabitEthernet0/0/1]port default vlan 20
```

2.1 – Visualizar se as foram portas associadas a vlans

```
[S1]display vlan
```

```
[S2]display vlan
The total number of vlans is : 3

-----
U: Up;          D: Down;          TG: Tagged;      UT: Untagged;
MP: Vlan-mapping; ST: Vlan-stacking;
#: ProtocolTransparent-vlan; *: Management-vlan;
-----

VID  Type  Ports
-----
1    common  UT:GE0/0/2 (U)   GE0/0/4 (D)   GE0/0/6 (U)   GE0/0/7 (D)
                GE0/0/8 (D)   GE0/0/9 (D)   GE0/0/10 (D)  GE0/0/11 (D)
                GE0/0/12 (D)  GE0/0/13 (D)  GE0/0/14 (D)  GE0/0/15 (D)
                GE0/0/16 (D)  GE0/0/17 (D)  GE0/0/18 (D)  GE0/0/19 (D)
                GE0/0/20 (D)  GE0/0/21 (D)  GE0/0/22 (D)  GE0/0/23 (D)
                GE0/0/24 (D)
10   common  UT:GE0/0/3 (U)
20   common  UT:GE0/0/1 (U)   GE0/0/5 (U)
```

3– Habilitar a porta trunk nos switches

```
[S1]int g0/0/2
[S1-GigabitEthernet0/0/2]port link-type trunk
[S1-GigabitEthernet0/0/2]port trunk allow-pass vlan 10 20
```

```
[S2]int g0/0/2
[S2-GigabitEthernet0/0/2]port link-type trunk
[S2-GigabitEthernet0/0/2]port trunk allow-pass vlan 10 20
```

Obs -- a porta do switch 2 ligado ao roteador também deve estar no modo trunk

```
[S2]int g0/0/6
[S2-GigabitEthernet0/0/6]port link-type trunk
[S2-GigabitEthernet0/0/6]port trunk allow-pass vlan 10 20
```

3.1 – Visualizar as portas trunk

```
[S2]display vlan
```

```
[S2]display vlan
[S2]display vlan
The total number of vlans is : 3
-----
U: Up;          D: Down;          TG: Tagged;      UT: Untagged;
MP: Vlan-mapping;  ST: Vlan-stacking;
#: ProtocolTransparent-vlan;  *: Management-vlan;
-----

VID  Type    Ports
-----
1    common  UT:GE0/0/2 (U)   GE0/0/4 (D)   GE0/0/6 (U)   GE0/0/7 (D)
                        GE0/0/8 (D)   GE0/0/9 (D)   GE0/0/10 (D)  GE0/0/11 (D)
                        GE0/0/12 (D)  GE0/0/13 (D)  GE0/0/14 (D)  GE0/0/15 (D)
                        GE0/0/16 (D)  GE0/0/17 (D)  GE0/0/18 (D)  GE0/0/19 (D)
                        GE0/0/20 (D)  GE0/0/21 (D)  GE0/0/22 (D)  GE0/0/23 (D)
                        GE0/0/24 (D)

10   common  UT:GE0/0/3 (U)
                        TG:GE0/0/2 (U)   GE0/0/6 (U)

20   common  UT:GE0/0/1 (U)   GE0/0/5 (U)
                        TG:GE0/0/2 (U)   GE0/0/6 (U)
```

4. - Configurando o roteador

```
[Router-GigabitEthernet0/0/1]int g0/0/1  
[Router-GigabitEthernet0/0/1]undo shutdown
```

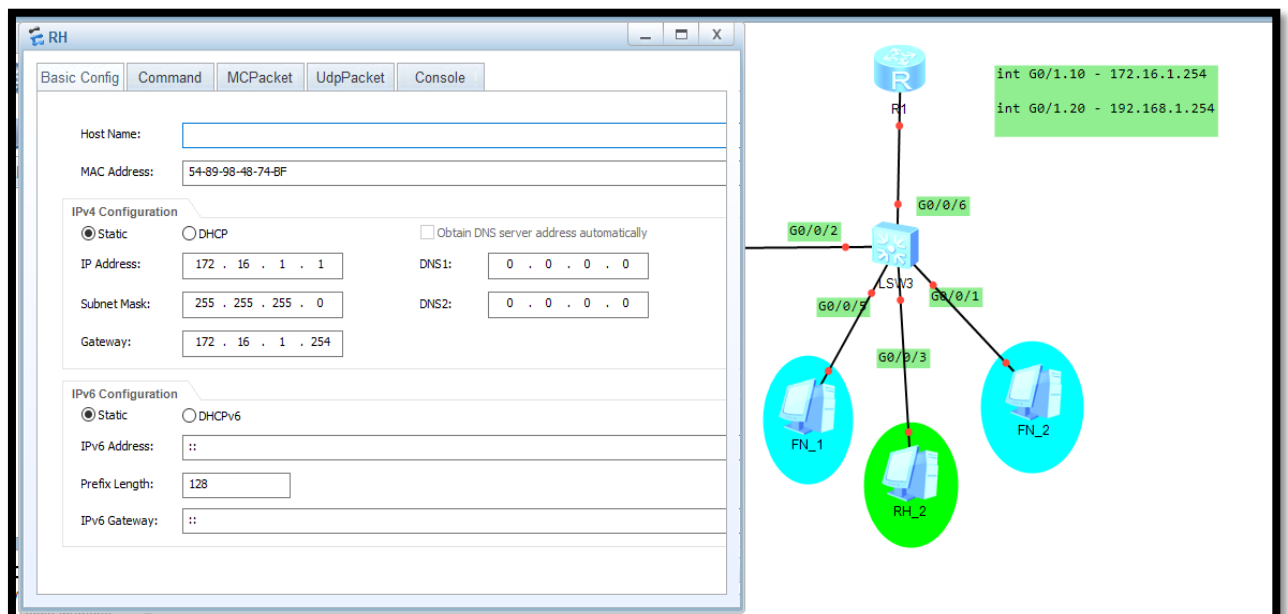
4. 1 – Configurando as sub-interfaces no roteador

```
[Router]int g0/0/1.10  
[Router-GigabitEthernet0/0/1.10]vlan-type dot1 10  
[Router-GigabitEthernet0/0/1.10]vlan-type dot1 10  
[Router-GigabitEthernet0/0/1.10]ip address 172.16.1.254 255.255.255.0  
[Router]quit
```

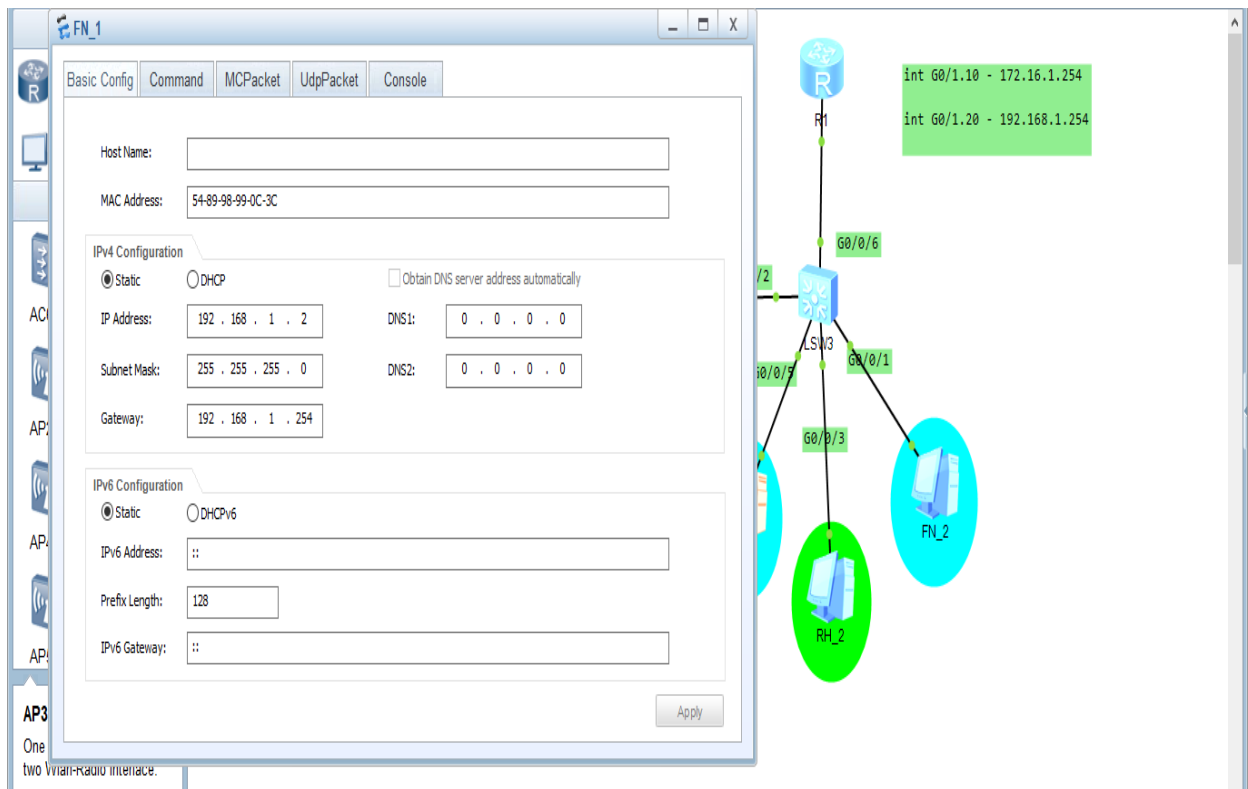
```
[Router]int g0/0/1.20  
[Router-GigabitEthernet0/0/1.20]vlan-type dot1 20  
[Router-GigabitEthernet0/0/1.20]ip address 192.168.1.254 255.255.255.0
```

Verificar a conexão entre os dispositivos

PC RH



PC FN



Tracert de 172.16.1.1 para 192.168.1.2

Ping de 172.16.1.1 para 192.168.1.2

