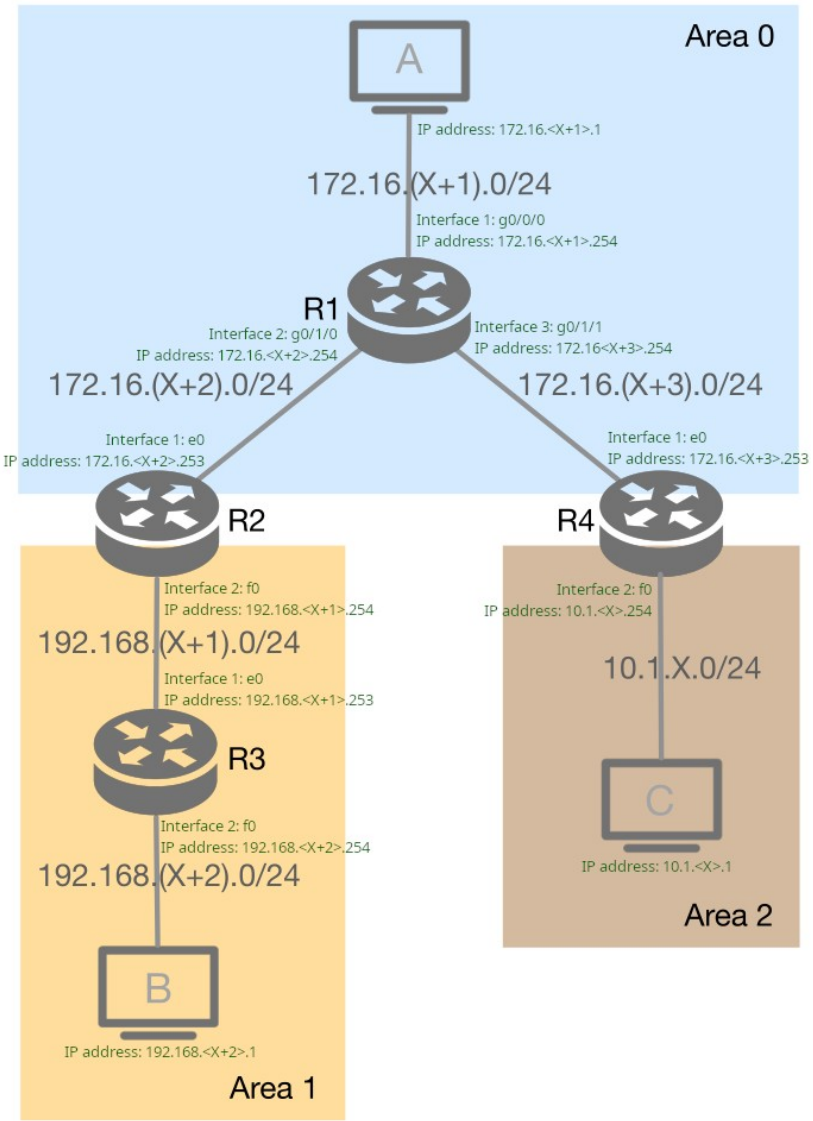
Ficha 4 - OSPF

Passos básicos gerais

1. Ligar computador e preencher password em minúsculas.
2. Iniciar sessão no Hyperterminal. Escolher nome para a sessão, selecionar o porto COM1 e utilizar os parâmetros de configuração seguintes:
   - 9600 bits per second
   - 8 Data bits
   - No parity
   - 1 Stop bits
   - No flow control
3. Ligar router e esperar que complete o processo de arranque. Modo de configuração **DESATIVADO**.
4. Router: Ethernet – espaço de cima
5. Router: Fast Ethernet – espaço de baixo



Exercício 1

Configuração do Router 1

R1> enable

R1# config t

!Interface 1

R1(config)# int g0/0/0

R1(config-if)# ip address 172.16.<X+1>.254 255.255.255.0

R1(config-if)# no shut

R1(config-if)# exit

!Interface 2

R1(config)# int g0/1/0

R1(config-if)# switchport mode access

R1(config-if)# switchport access vlan 10

R1(config-if)# no shut

R1(config-if)# exit

R1(config)# int vlan 10

R1(config-if)# ip address 172.16.<X+2>.254 255.255.255.0

R1(config-if)# no shut

R1(config-if)# exit

!Interface 3

R1(config)# int g0/1/1

R1(config-if)# switchport mode access

R1(config-if)# switchport access vlan 20

R1(config-if)# no shut

R1(config-if)# exit

R1(config)# int vlan 20

R1(config-if)# ip address 172.16.<X+3>.254 255.255.255.0

R1(config-if)# no shut

R1(config-if)# exit

!OSPF

R1(config)# router ospf 100

R1(config-router)# network 172.16.<X+1>.0 0.0.0.255 area 0

R1(config-router)# network 172.16.<X+2>.0 0.0.0.255 area 0

R1(config-router)# network 172.16.<X+3>.0 0.0.0.255 area 0

R1(config-router)# end

Configuração do Router 2

R2> enable

R2# config t

!Interface 1

R2(config)# int e0

R2(config-if)# ip address 172.16.<X+2>.253 255.255.255.0

R2(config-if)# no shut

R2(config-if)# exit

!Interface 2

R2(config)# int f0

R2(config-if)# ip address 192.168.<X+1>.254 255.255.255.0

R2(config-if)# no shut

R2(config-if)# exit

!OSPF

R2(config)# router ospf 100

R2(config-router)# network 172.16.<X+2>.0 0.0.0.255 area 0

R2(config-router)# network 192.168.<X+1>.0 0.0.0.255 area 1

R2(config-router)# end

Configuração do Router 3

R3> enable

R3# config t

!Interface 1

R3(config)# int e0

R3(config-if)# ip address 192.168.<X+1>.253 255.255.255.0

R3(config-if)# no shut

R3(config-if)# exit

!Interface 2

R3(config)# int f0

R3(config-if)# ip address 192.168.<X+2>.254 255.255.255.0

R3(config-if)# no shut

R3(config-if)# exit

!OSPF

R3(config)# router ospf 100

R3(config-router)# network 192.168.<X+1>.0 0.0.0.255 area 1

R3(config-router)# network 192.168.<X+2>.0 0.0.0.255 area 1

R3(config-router)# end

Configuração do Router 4

R4> enable

R4# config t

!Interface 1

R4(config)# int e0

R4(config-if)# ip address 172.16.<X+3>.253 255.255.255.0

R4(config-if)# no shut

R4(config-if)# exit

!Interface 2

R4(config)# int f0

R4(config-if)# ip address 10.1.<X>.254 255.255.255.0

R4(config-if)# no shut

R4(config-if)# exit

!OSPF

R4(config)# router ospf 100

R4(config-router)# network 172.16.<X+3>.0 0.0.0.255 area 0

R4(config-router)# network 10.1.<X>.0 0.0.0.255 area 2

R4(config-router)# end

Configuração do Host A

1. Abrir Control Panel → Network & Internet → Network & Sharing Center
2. Carregar em **Change adapter settings**
3. Clique direito na rede → Properties
4. Selecionar TCP/IPv4
5. Carregar em Properties
6. Selecionar **Use the following IP address** e preencher os detalhes do endereço IP
    - IP address: 172.16.<X+1>.1
    - Subnet mask: 255.255.255.0
    - Default gateway: 172.16.<X+1>.254
7. Carregar em OK e fechar
8. Ver a configuração de rede no terminal com ipconfig /all

Configuração do Host B

Seguir os passos do Host A com os seguintes detalhes do endereço IP:

- IP address: 192.168.<X+2>.1
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.<X+2>.254

Configuração do Host C

Seguir os passos do Host A com os seguintes detalhes do endereço IP:

- IP address: 10.1.<X>.1
- Subnet mask: 255.255.255.0
- Default gateway: 10.1.<X>.254

Verificação dos resultados

Nos routers:

Rx# show ip route

Rx# show ip ospf neighbor

E verificar a conexão da rede por ping (entre hosts).

Exercício 2

R2# config t

R2(config)# router ospf 100

R2(config-router)# area 1 range 192.168.0.0 255.255.0.0

R2(config-router)# end

Ver novamente e comparar as tabelas de todos os routers com:

Rx# show ip route

Exercício 3

Configuração do Router 2

R2# config t

R2(config)# router ospf 100

R2(config-router)# area 1 nssa

R2(config-router)# end

Configuração do Router 3

R3# config t

R3(config)# router rip

R3(config-router)# version 2

R3(config-router)# network 192.168.<X+2>.0

R3(config-router)# exit

R3(config)# router ospf 100

R3(config-router)# redistribute rip subnets

R3(config-router)# no network 192.168.<X+2>.0 0.0.0.255 area 1

R3(config-router)# area 1 nssa

R3(config-router)# end