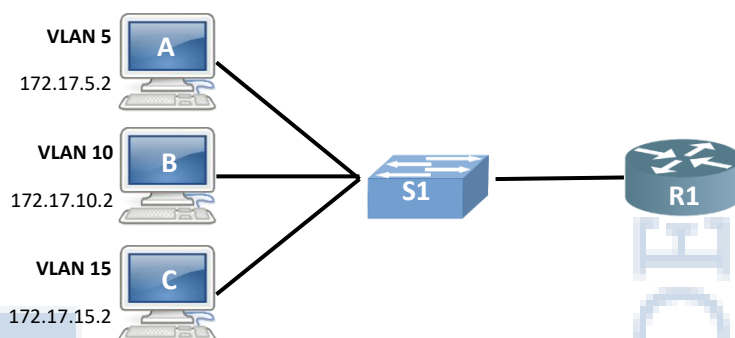


## Laboratório 4 – DHCP e VLANs

### CORREÇÃO

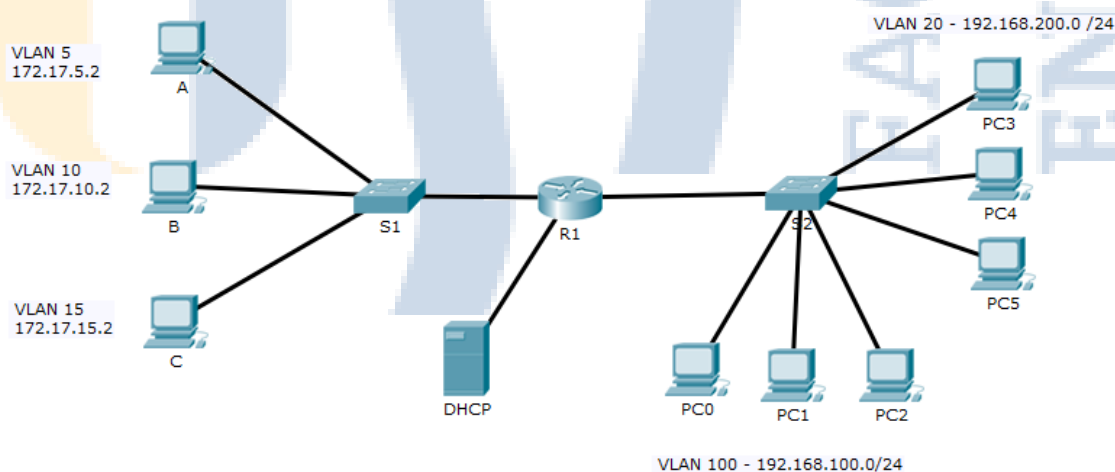
#### 1. Utilizando a topologia criada no Laboratório 4.



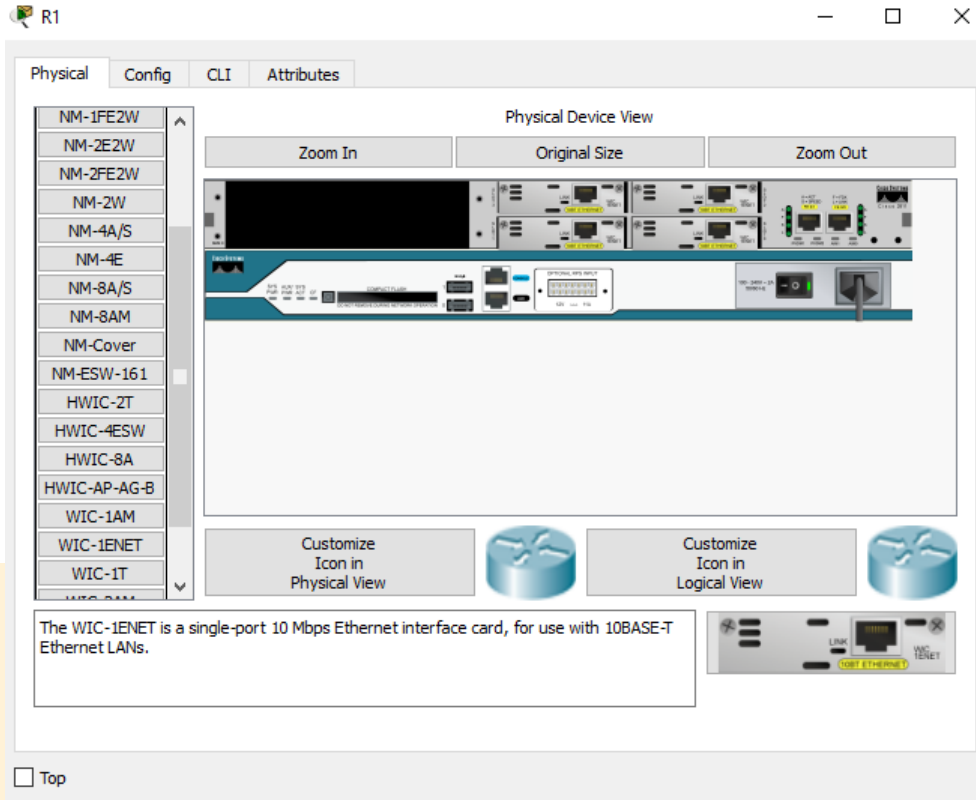
**Nota:** Para criar a topologia anterior utilize os seguintes modelos dos equipamentos: Router -> 2811 e Switch -> 2960-24TT

| Dispositivo | Interface         | Endereço IP | Máscara de Rede | VLAN |
|-------------|-------------------|-------------|-----------------|------|
| A           | FastEthernet 0/5  | 172.17.5.1  | 255.255.255.0   | 10   |
| B           | FastEthernet 0/10 | 172.17.10.1 | 255.255.255.0   | 20   |
| C           | FastEthernet 0/15 | 172.17.15.1 | 255.255.255.0   | 30   |

#### 2. Adicione os devidos equipamentos, até prefazer a seguinte topologia.



3. Poderá ter que adicionar novas portas Ethernet ou FastEthernet ao Router, como na imagem a baixo



#### 4. Configure o Router.

##### 4.1. Ative a interface ligada ao Switch S2

```
R1(config)#interface fa0/1
R1(config-if)#no shut
```

##### 4.2. Configure a interface do router directamente ligada ao Switch S2 para que faça a correcta gestão dos pacotes.

##### VLAN 100

```
R1(config)#int fa0/1.100
R1(config-subif)#encapsulation dot1Q 100
R1(config-subif)#ip address 192.168.100.1 255.255.255.0
```

## VLAN 200

```
R1(config)#int fa0/1.200  
R1(config-subif)#encapsulation dot1Q 200  
R1(config-subif)#ip address 192.168.200.1 255.255.255.0
```

### 5. Configure o Switch S2

#### 5.1. Configure o nome do Switch para S2

```
Switch(config)#hostname S2
```

#### 5.2. Verifique a configuração atual do Switch relativamente a VLANs

```
S2#show vlan brief
```

#### 5.3. Qual o comando utilizado para visualizar as configurações das VLANs presentes do Switch? show vlan brief

### 6. Configure a porta trunk no Switch S1

#### 6.1. Configure a porta ligada do Switch ao router por forma a permitir a comunicação entre VLANs, tendo como exemplo a VLAN 10.

```
S1(config)#interface fa0/1  
S1(config-if)#switchport mode trunk  
S1(config-if)#switchport trunk allowed vlan 100  
S1(config-if)#switchport trunk allowed vlan add 200
```

### 7. Configure o intervalo de interfaces para as respectivas VLANs, sabendo que das interface fa0/2 a fa0/8 pertencem a VLAN 100 e da interface fa0/12 a fa0/18 pertencem a VLAN 200.

```
S2(config)#int range fa0/2 - fa0/8  
S2(config-if-range)#switchport mode access  
S2(config-if-range)#switchport access vlan 100  
  
S2(config)#int range fa0/12 - fa0/18  
S2(config-if-range)#switchport mode access  
S2(config-if-range)#switchport access vlan 200
```

### 8. Configure o Servidor DHCP

#### 8.1. Configure o endereço IP do Servidor de forma a que pertença a este endereço 192.168.99.0/24

DHCP

Physical Config Services Desktop Attributes Software/Services

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address: 192.168.99.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.99.1

DNS Server:

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::2E0:F9FF:FE52:100D

IPv6 Gateway:

IPv6 DNS Server:

Top

## 8.2. Configure as DHCP Pools para cada VLAN.

DHCP

Physical Config Services Desktop Attributes Software/Services

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoE

VM Management

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: VLAN100

Default Gateway: 192.168.100.1

DNS Server: 0.0.0.0

Start IP Address : 192 168 100 1

Subnet Mask: 255 255 255 0

Maximum number of Users : 512

TFTP Server: 0.0.0.0

Add Save Remove

| Pool Name  | Default Gateway | DNS Server | Start IP Address | Subnet Mask | Max User | TFTP Server |
|------------|-----------------|------------|------------------|-------------|----------|-------------|
| serverPool | 0.0.0.0         | 0.0.0.0    | 0.0.0.0          | 0.0.0.0     | 512      | 0.0.0.0     |

Top

Physical Config Services Desktop Attributes Software/Services

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoE
- VM Management

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: VLAN200

Default Gateway: 192.168.200.1

DNS Server: 0.0.0.0

Start IP Address: 192 168 200 1

Subnet Mask: 255 255 255 0

Maximum number of Users: 255

TFTP Server: 0.0.0.0

Add Save Remove

| Pool Name | Default Gateway | DNS Server | Start IP Address | Subnet Mask   | Max User | TFTP Server |
|-----------|-----------------|------------|------------------|---------------|----------|-------------|
| VLAN200   | 192.168.200.1   | 0.0.0.0    | 192.168.200.1    | 255.255.255.0 | 255      | 0.0.0.0     |
| VLAN100   | 192.168.100.1   | 0.0.0.0    | 192.168.100.1    | 255.255.255.0 | 255      | 0.0.0.0     |

☐ Top

## 9. Configure o Router

### 9.1. Configure o endereço da interface Ethernet 0/0/0 com o de default gateway definido anteriormente na configuração do servidor.

```
R1(config)#interface Ethernet0/0/0
R1(config-if)#ip address 192.168.99.1 255.255.255.0
R1(config-if)#no shut
```

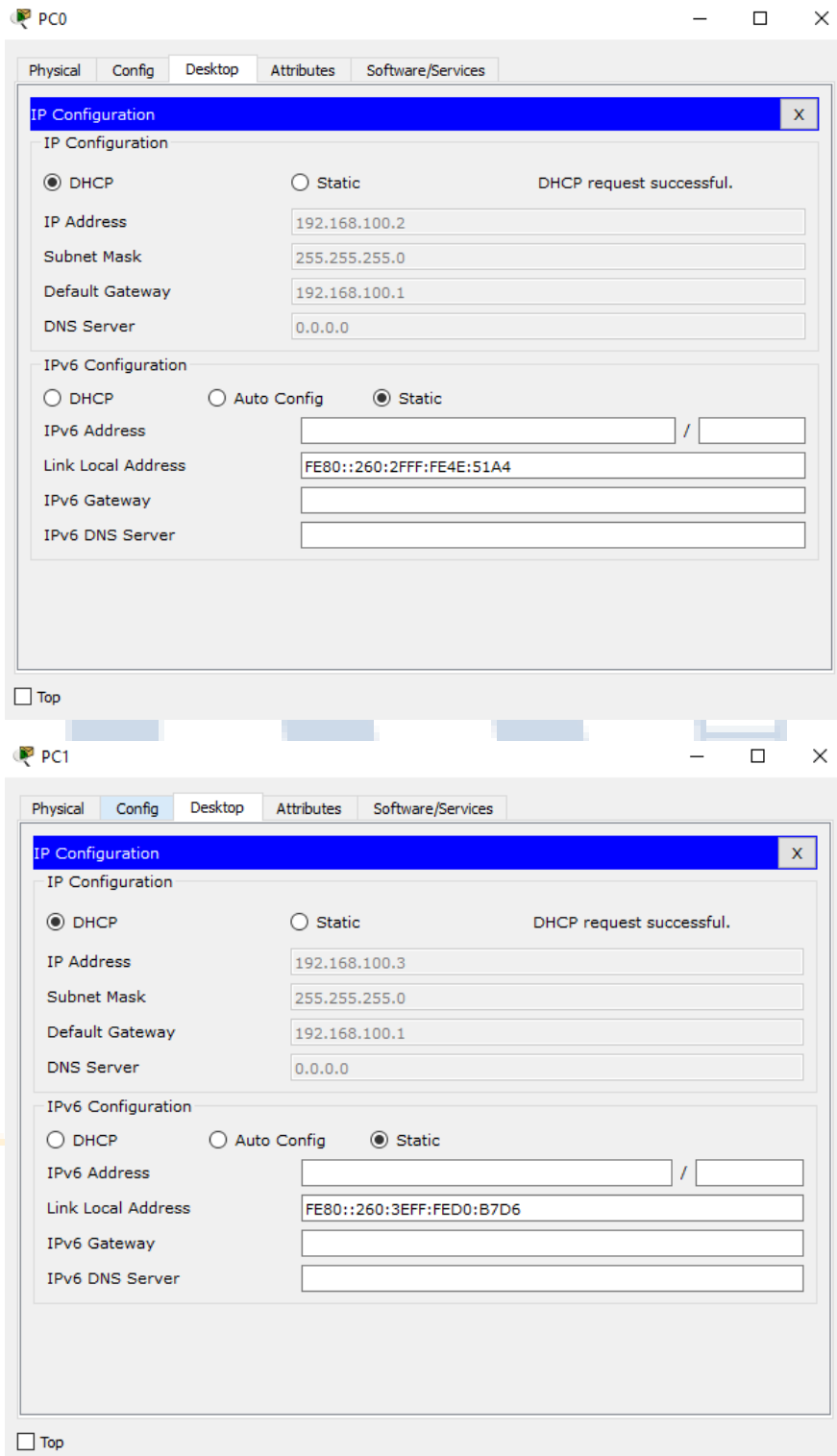
### 9.2. Configure a interface FastEthernet 0/1 (a que se encontra ligada ao S2) com o comando helper-address.

```
R1(config-subif)#interface fa0/1.100
R1(config-subif)#ip helper-address 192.168.99.2

R1(config-subif)#interface fa0/1.200
R1(config-subif)#ip helper-address 192.168.99.2
```

### 9.3. Qual a funcionalidade do comando ip helper-address? \_\_\_\_\_

## 10. Verifique se os computadores conseguem receber o endereço IP por DHCP.



PC2

Physical Config Desktop Attributes Software/Services

IP Configuration

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IP Address 192.168.100.4

Subnet Mask 255.255.255.0

Default Gateway 192.168.100.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::230:F2FF:FE54:2B79

IPv6 Gateway

IPv6 DNS Server

Top

PC3

Physical Config Desktop Attributes Software/Services

IP Configuration

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IP Address 192.168.200.4

Subnet Mask 255.255.255.0

Default Gateway 192.168.200.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::201:C7FF:FE59:928B

IPv6 Gateway

IPv6 DNS Server

Top

