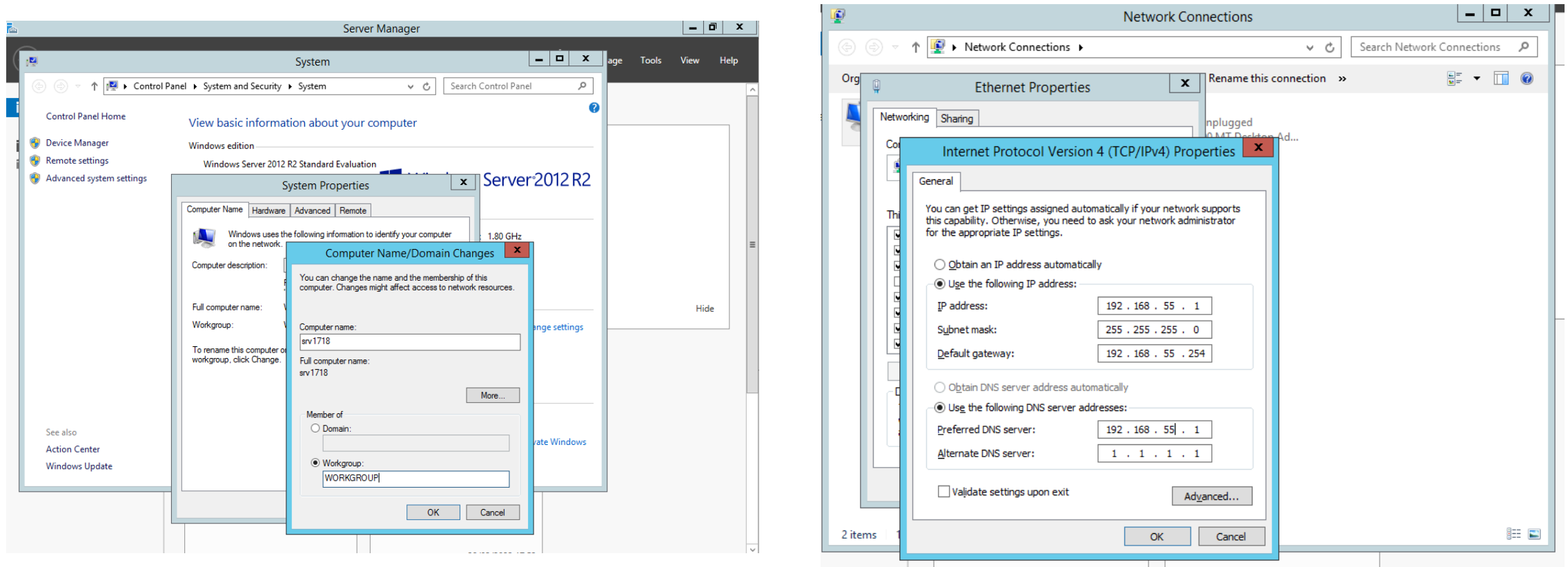
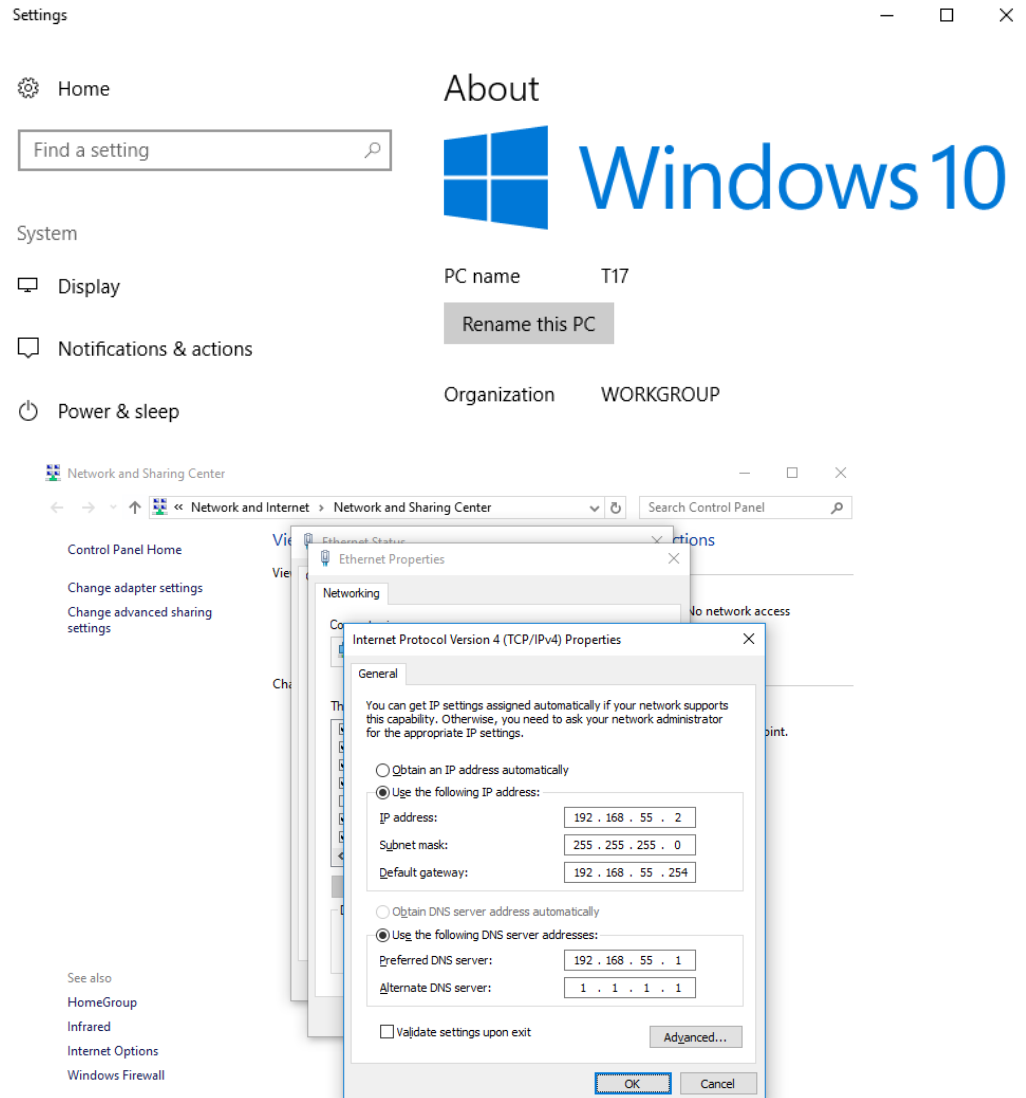


MIGUEL_ROMA_A202138955

PERGUNTA 1 – CONFIGURAÇÃO DO SERVIDOR



PERGUNTA 2 – CONFIGURAÇÃO DO CLIENTE



```
C:\Users\WK01>ping 192.168.55.1

Pinging 192.168.55.1 with 32 bytes of data:
Reply from 192.168.55.1: bytes=32 time<1ms TTL=128
Reply from 192.168.55.1: bytes=32 time=1ms TTL=128
Reply from 192.168.55.1: bytes=32 time<1ms TTL=128
Reply from 192.168.55.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.55.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

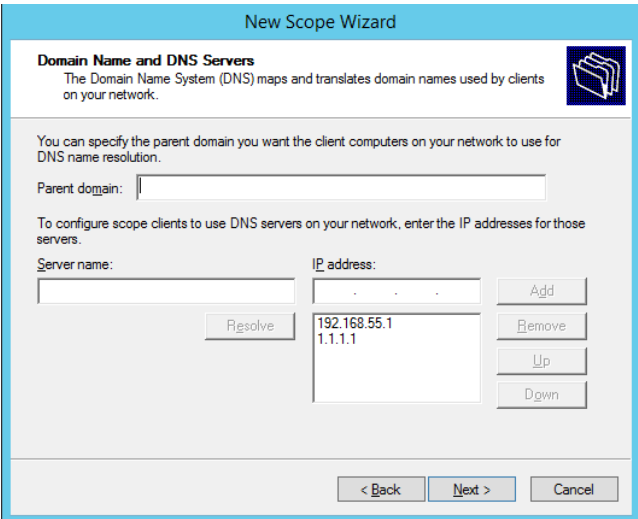
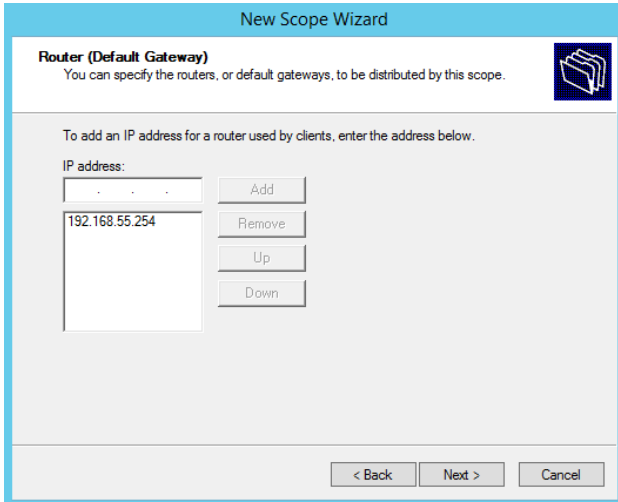
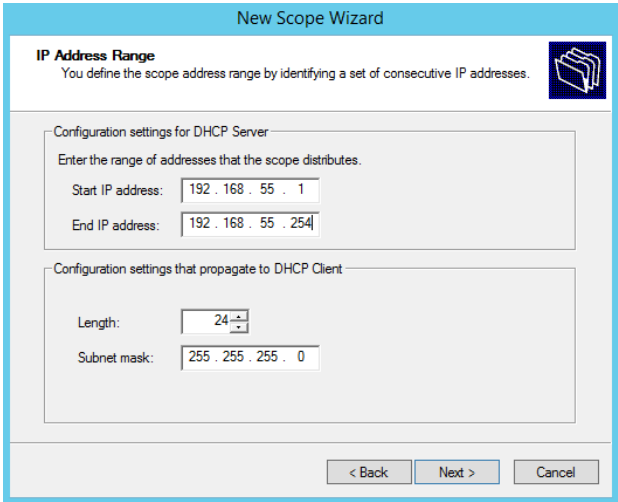
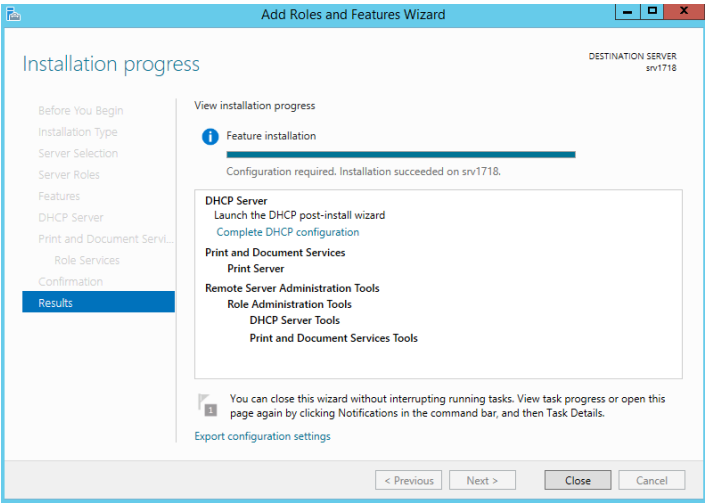
C:\Users\WK01>
```

```
C:\Users\Administrator>ping 192.168.55.2

Pinging 192.168.55.2 with 32 bytes of data:
Reply from 192.168.55.2: bytes=32 time<1ms TTL=128
Reply from 192.168.55.2: bytes=32 time<1ms TTL=128
Reply from 192.168.55.2: bytes=32 time=1ms TTL=128
Reply from 192.168.55.2: bytes=32 time=1ms TTL=128

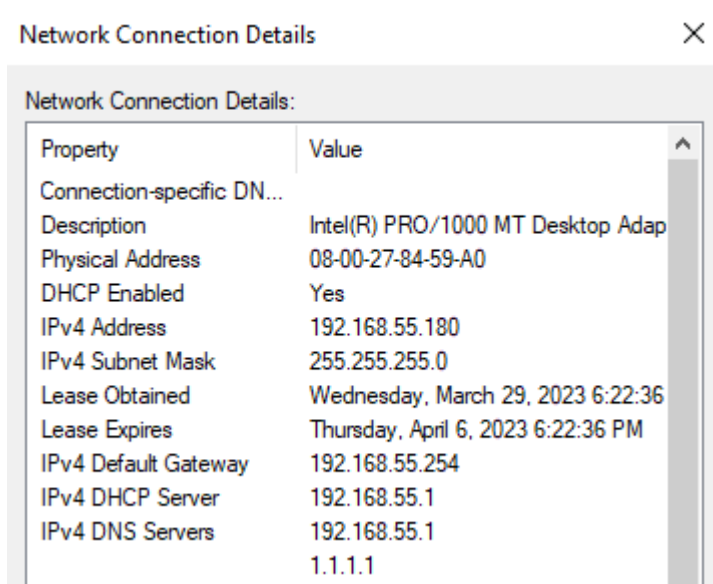
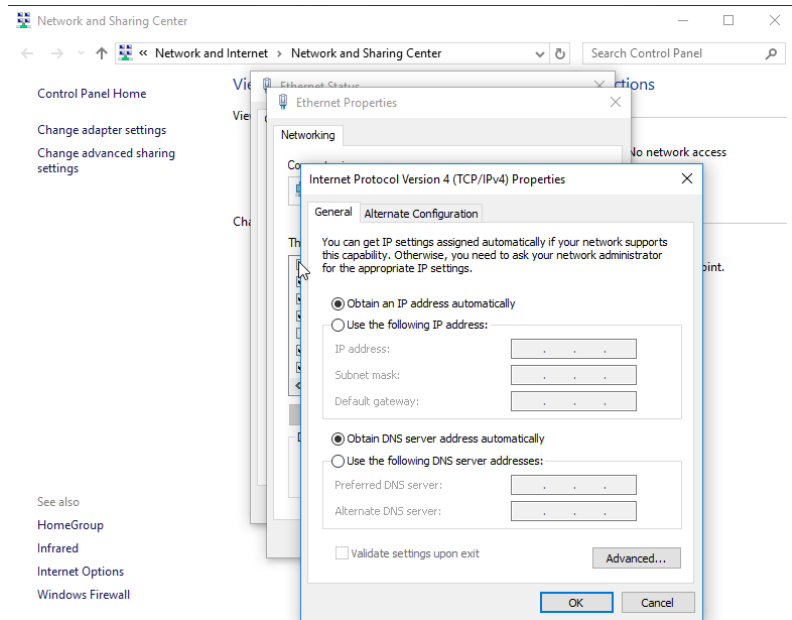
Ping statistics for 192.168.55.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

PERGUNTA 3 - DHCP BASICO



DHCP		Start IP Address	End IP Address	Description
srv1718	IPv4	192.168.55.1	192.168.55.254	Address range for distribution
	Scope [192.168.55.0] ScopeTeste	192.168.55.1	192.168.55.179	IP Addresses excluded from distribution
	Address Pool	192.168.55.201	192.168.55.254	IP Addresses excluded from distribution
	Address Leases			

PERGUNTA 3 – DHCP BASICO (CONTINUACAO)



```
Administrator: Command Prompt

Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ping 192.168.55.180

Pinging 192.168.55.180 with 32 bytes of data:
Reply from 192.168.55.180: bytes=32 time<1ms TTL=128
Reply from 192.168.55.180: bytes=32 time<1ms TTL=128
Reply from 192.168.55.180: bytes=32 time<1ms TTL=128
Reply from 192.168.55.180: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.55.180:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
Command Prompt

















Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.

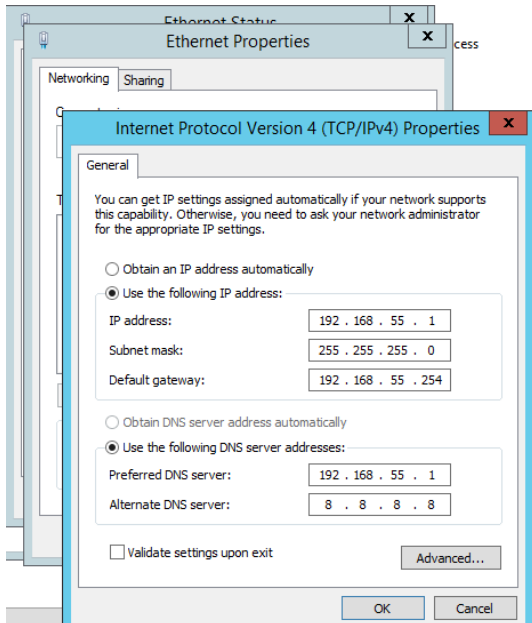
C:\Users\WK01>ping 192.168.55.1

Pinging 192.168.55.1 with 32 bytes of data:
Reply from 192.168.55.1: bytes=32 time<1ms TTL=128
Reply from 192.168.55.1: bytes=32 time=1ms TTL=128
Reply from 192.168.55.1: bytes=32 time<1ms TTL=128
Reply from 192.168.55.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.55.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

PERGUNTA 4 – DHCP AVANÇADO

<div><div> DHCP</div><div><div> srv1718</div><div><div> IPv4</div><div><div> Scope [192.168.55.0] ScopeTeste</div><div><div> Address Pool</div><div> Address Leases</div><div> Reservations</div></div></div></div></div></div>	<table><tr><th>Start IP Address</th><th>End IP Address</th><th>Description</th></tr><tr><td> 192.168.55.1</td><td>192.168.55.254</td><td>Address range for distribution</td></tr><tr><td> 192.168.55.1</td><td>192.168.55.139</td><td>IP Addresses excluded from distribution</td></tr><tr><td> 192.168.55.251</td><td>192.168.55.254</td><td>IP Addresses excluded from distribution</td></tr></table>	Start IP Address	End IP Address	Description	 192.168.55.1	192.168.55.254	Address range for distribution	 192.168.55.1	192.168.55.139	IP Addresses excluded from distribution	 192.168.55.251	192.168.55.254	IP Addresses excluded from distribution
Start IP Address	End IP Address	Description											
 192.168.55.1	192.168.55.254	Address range for distribution											
 192.168.55.1	192.168.55.139	IP Addresses excluded from distribution											
 192.168.55.251	192.168.55.254	IP Addresses excluded from distribution											



```
C:\Users\WK01>ipconfig /release

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix . : 
    Link-local IPv6 Address . . . . . : fe80::6817:ae92:46d7:d210%2
    Default Gateway . . . . . : 

C:\Users\WK01>ipconfig /renew

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix . : 
    Link-local IPv6 Address . . . . . : fe80::6817:ae92:46d7:d210%2
    IPv4 Address. . . . . : 192.168.55.180
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.55.254
```

PERGUNTA 4 – DHCP AVANÇADO (CONTINUAÇÃO)

New Reservation ? x

Provide information for a reserved client.

Reservation name:

IP address:

MAC address:

Description:

Supported types

☒ Both

☐ DHCP


☐ BOOTP


New Filter x

Provide MAC address of the client, that will not receive DHCP services.

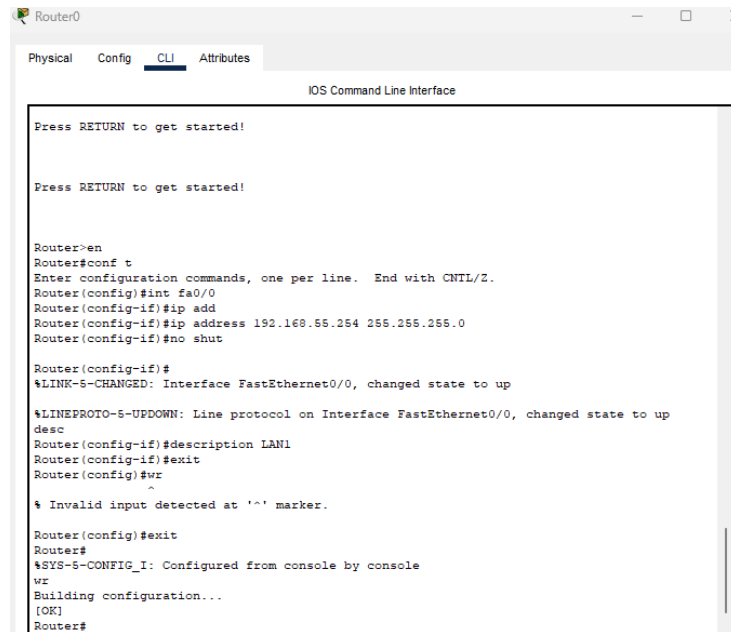
MAC address:

Description:

MAC Address	Description
 F8-E4-E3-ED-12-82	Portátil

Reservations
 [192.168.55.17] Impressora

PERGUNTA 5 – CONFIGURAÇÃO DO AMBIENTE DE SIMULAÇÃO



```
Router0
Physical Config CLI Attributes
IOS Command Line Interface

Press RETURN to get started!

Press RETURN to get started!

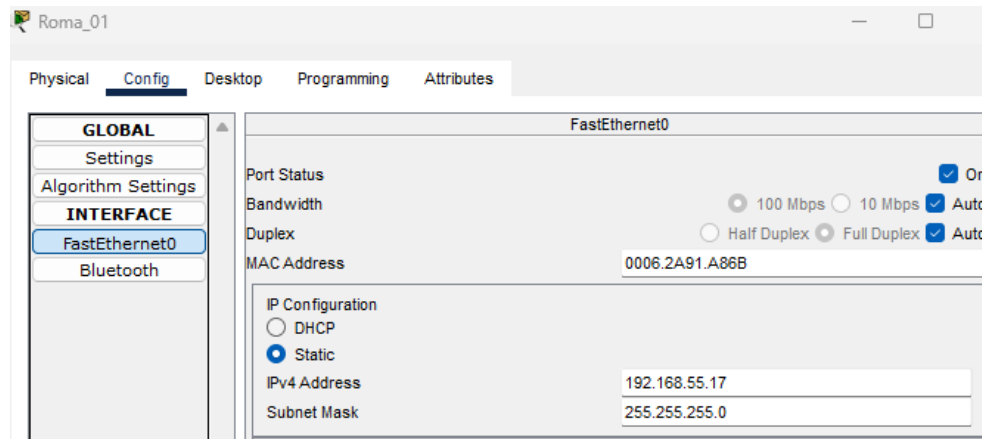
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add
Router(config-if)#ip address 192.168.85.254 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
desc
Router(config-if)#description LAN1
Router(config-if)#exit
Router(config)#wr

% Invalid input detected at '^' marker.

Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
Router#
```



Roma_01

Physical Config Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status ☒ On

Bandwidth ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0006.2A91.A86B

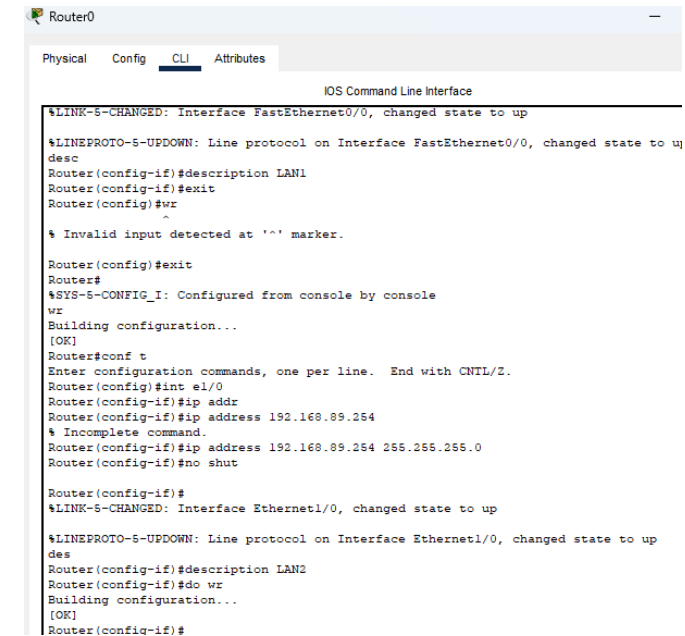
IP Configuration

☐ DHCP

☒ Static

IPv4 Address 192.168.55.17

Subnet Mask 255.255.255.0



```
Router0
Physical Config CLI Attributes
IOS Command Line Interface

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

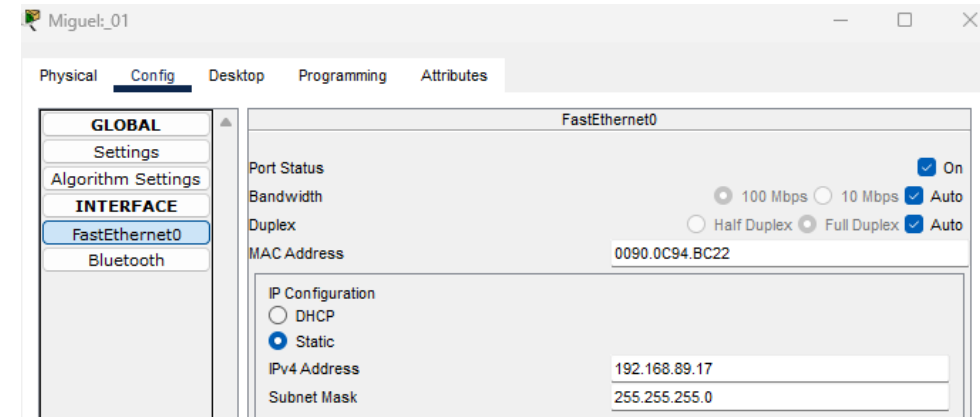
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to u
desc
Router(config-if)#description LAN1
Router(config-if)#exit
Router(config)#wr

% Invalid input detected at '^' marker.

Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int e1/0
Router(config-if)#ip addr
Router(config-if)#ip address 192.168.89.254
% Incomplete command.
Router(config-if)#ip address 192.168.89.254 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/0, changed state to up
des
Router(config-if)#description LAN2
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```



Miguel_01

Physical Config Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status ☒ On

Bandwidth ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0090.0C94.BC22

IP Configuration

☐ DHCP

☒ Static

IPv4 Address 192.168.89.17

Subnet Mask 255.255.255.0

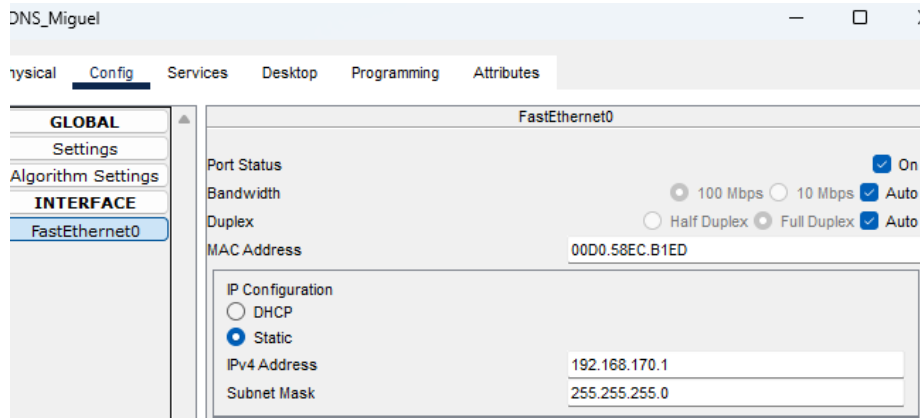
PERGUNTA 5 – (CONTINUAÇÃO)

```
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int e1/1
Router(config-if)#ip add
Router(config-if)#ip address 192.168.170.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet1/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/1, changed state to up

Router(config-if)#descrip
Router(config-if)#description Servidores
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#no ip address 192.168.170.1 255.255.255.0
Router(config-if)#ip address 192.168.170.254 255.255.255.0
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```

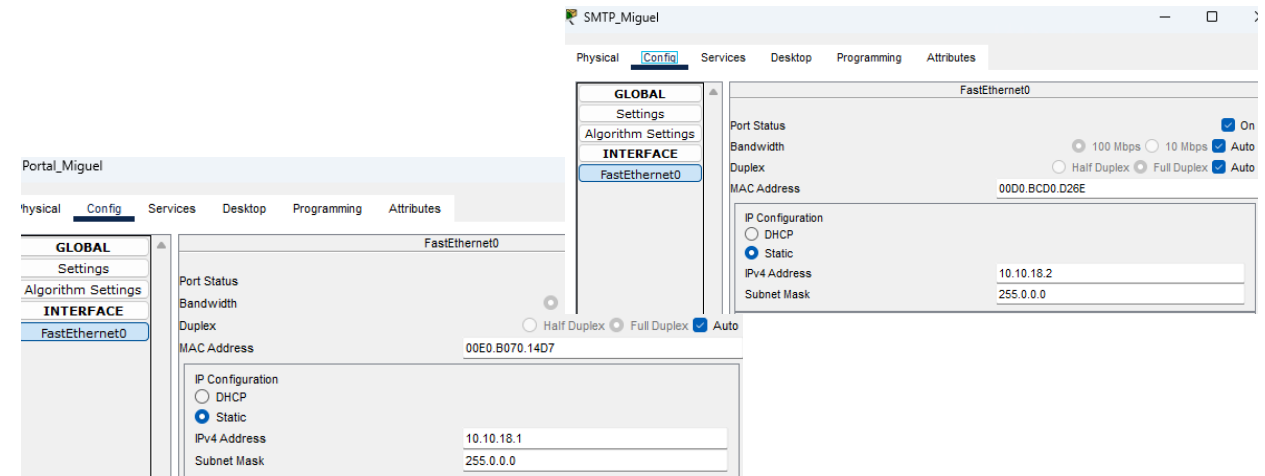


```
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int e1/2
Router(config-if)#ip add
Router(config-if)#ip address 10.10.18.254 255.255.255.0
Router(config-if)#desc
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet1/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/2, changed state to up

Router(config-if)#des
Router(config-if)#description DMZ
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```



```
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se0/1/0
Router(config-if)#ip add
Router(config-if)#ip address 192.168.50.1 255.255.255.252
Router(config-if)#no shut
```

```
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#description SedeL
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```

```
Router>
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int s0/0/0
Router(config-if)#ip add
Router(config-if)#ip address 192.168.50.2 255.255.255.252
Router(config-if)#no shut

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

Router(config-if)#desc
Router(config-if)#description LisboaS
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```

```
Router#
Router#
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int e1/3
Router(config-if)#ip add
Router(config-if)#ip address 192.168.60.1 255.255.255.252
Router(config-if)#no shut
```

```
Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet1/3, changed state to up
des
Router(config-if)#description RouterEmp
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```

```
Router>
Router>
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int e0/2/0
Router(config-if)#ip add
Router(config-if)#ip address 192.168.50.2 255.255.255.252
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet0/2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/2/0, changed state to up
de
Router(config-if)#desc
Router(config-if)#description EmpresaSede
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```

PERGUNTA 5 - CONTINUCAO

```
Router#
Router#
Router#
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se0/0/0
Router(config-if)#ip add
Router(config-if)#ip address 213.17.1.1 255.255.255.252
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
Router(config-if)#des
Router(config-if)#description EmpresaISP
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```

```
Router>
Router>
Router>
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se0/0/0
Router(config-if)#ip add
Router(config-if)#ip address 217.17.1.2 255.255.255.252
Router(config-if)#no shut

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

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

Router#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
Router#
```

```
Router#
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int e0/2/0
Router(config-if)#ip add
Router(config-if)#ip address 192.168.180.254 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet0/2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/2/0, changed state to up

Router(config-if)#des
Router(config-if)#description Lisboa
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```

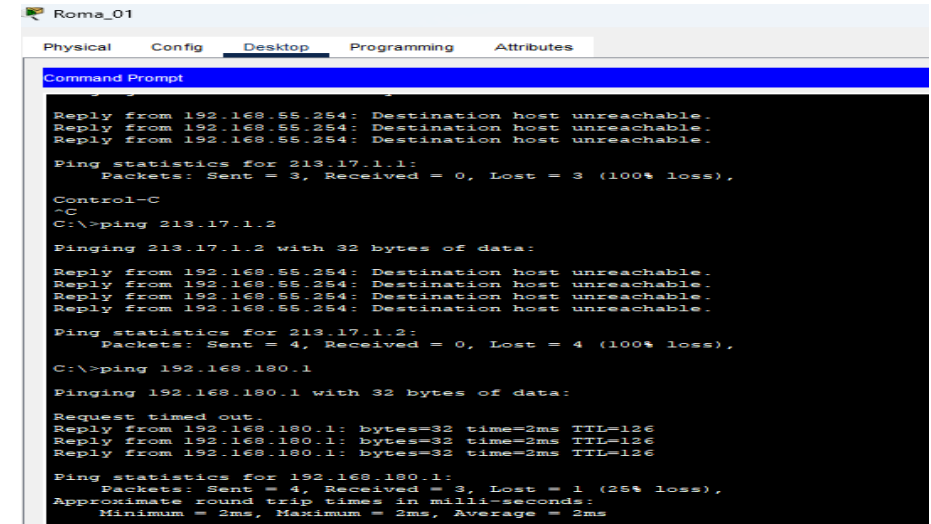
PERGUNTA 5 - CONTINUACAO

```
Router(config-if)#
%LINK-5-CHANGED: Interface Ethernet1/3, changed state to up
des
Router(config-if)#description RouterEmp
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/3, changed state to up

Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 192.168.180.0 255.255.255.0 192.168.50.2
Router(config)#do wr
Building configuration...
[OK]
Router(config)#
```

```
Router#
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 0.0.0.0 0.0.0.0 192.168.50.1
Router(config)#do wr
Building configuration...
[OK]
Router(config)#
```



```
Roma_01
Physical Config Desktop Programming Attributes
Command Prompt

Reply from 192.168.55.254: Destination host unreachable.
Reply from 192.168.55.254: Destination host unreachable.
Reply from 192.168.55.254: Destination host unreachable.

Ping statistics for 213.17.1.1:
    Packets: Sent = 3, Received = 0, Lost = 3 (100% loss),
    Control-C
C:\>ping 213.17.1.2

Pinging 213.17.1.2 with 32 bytes of data:

Reply from 192.168.55.254: Destination host unreachable.
Reply from 192.168.55.254: Destination host unreachable.
Reply from 192.168.55.254: Destination host unreachable.
Reply from 192.168.55.254: Destination host unreachable.

Ping statistics for 213.17.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 192.168.180.1

Pinging 192.168.180.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.180.1: bytes=32 time=2ms TTL=126
Reply from 192.168.180.1: bytes=32 time=2ms TTL=126
Reply from 192.168.180.1: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.180.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 2ms, Average = 2ms
```

```
C:\>ping 10.10.18.1

Pinging 10.10.18.1 with 32 bytes of data:

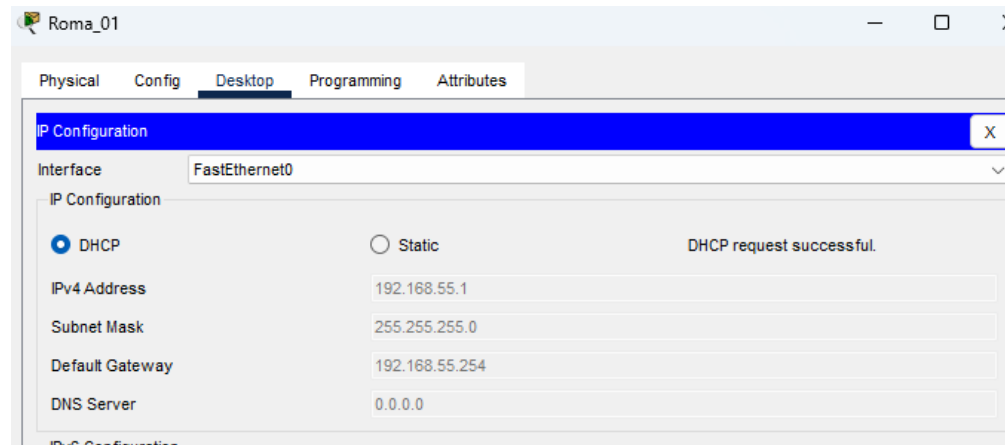
Request timed out.
Reply from 10.10.18.1: bytes=32 time<1ms TTL=127
Reply from 10.10.18.1: bytes=32 time=1ms TTL=127
Reply from 10.10.18.1: bytes=32 time<1ms TTL=127

Ping statistics for 10.10.18.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

PERGUNTA 6

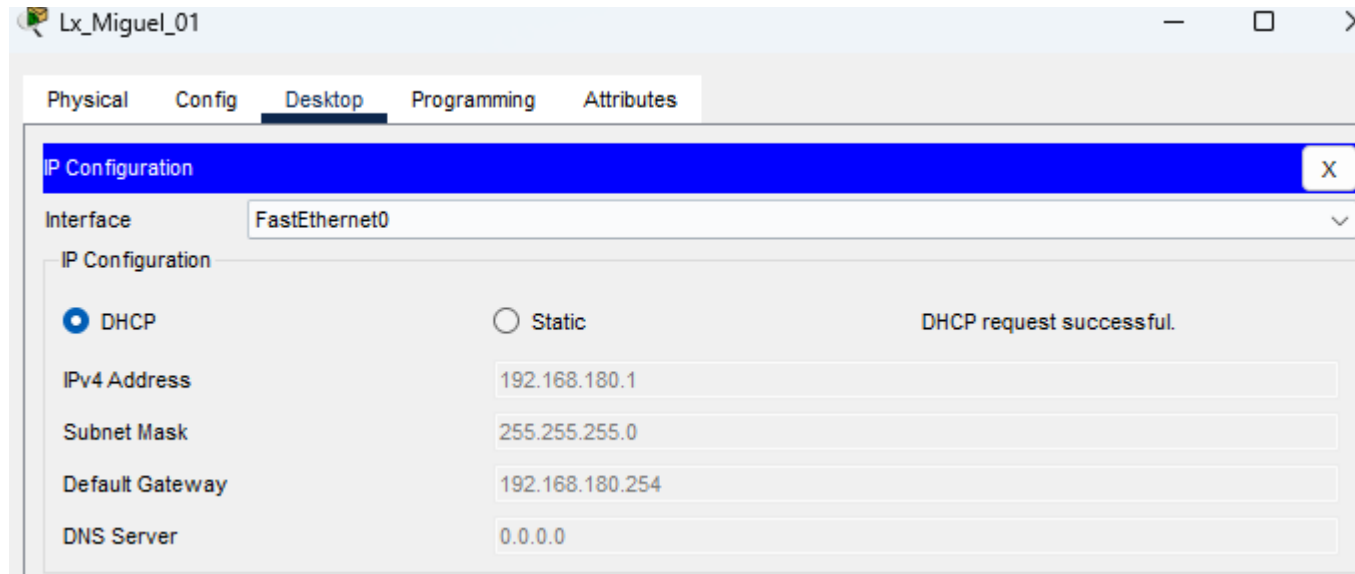
```
Router(config)#
Router(config)#
Router(config)#ip dh
Router(config)#ip dhcp pool LAN1
Router(dhcp-config)#netwo
Router(dhcp-config)#network 192.168.55.0 255.255.255.0
Router(dhcp-config)#def
Router(dhcp-config)#default-router 192.168.55.254
Router(dhcp-config)#do wr
Router(dhcp-config)#
```

```
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip dh
Router(config)#ip dhcp pool Lisboa
Router(dhcp-config)#net
Router(dhcp-config)#network 192.168.180.0 255.255.255.0
Router(dhcp-config)#def
Router(dhcp-config)#default-router 192.168.180.254
Router(dhcp-config)#do wr
Router(dhcp-config)#
```



```
Router#
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 0.0.0.0 0.0.0.0 192.168.50.1
Router(config)#do wr
Building configuration...
[OK]
Router(config)#int e0/2/0
Router(config-if)#ip help
Router(config-if)#ip helper-address 192.168.50.1
Router(config-if)#do wr
Building configuration...
[OK]
Router(config-if)#
```

PERGUNTA 6



The screenshot shows a window titled "Lx_Miguel_01" with a tabbed interface. The "Desktop" tab is selected. A blue "IP Configuration" dialog box is open, showing the configuration for the "FastEthernet0" interface. The "DHCP" option is selected, and a message states "DHCP request successful." Below this, the IPv4 Address is set to 192.168.180.1, the Subnet Mask to 255.255.255.0, the Default Gateway to 192.168.180.254, and the DNS Server to 0.0.0.0.

Interface	FastEthernet0
IP Configuration	
<input checked="" type="radio"/> DHCP	<input type="radio"/> Static
DHCP request successful.	
IPv4 Address	192.168.180.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.180.254
DNS Server	0.0.0.0

PERGUNTA 7

```
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip nat ins
Router(config)#ip nat inside sour
Router(config)#ip nat inside source sta
Router(config)#ip nat inside source static 10.10.18.1 213.17.2.1
Router(config)#do wr
Building configuration...
[OK]
Router(config)#ip nat inside source static 10.10.18.2 213.17.2.2
Router(config)#do wr
Building configuration...
[OK]
```