

Parcial 1

Presentado por:

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Profesor:

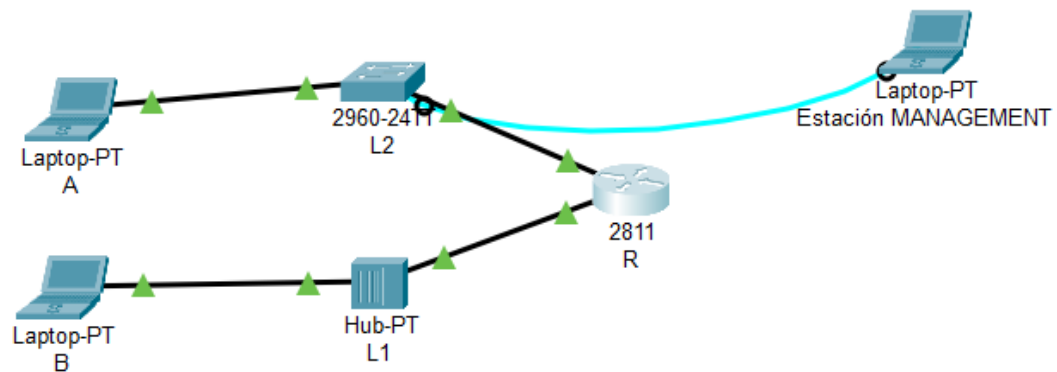
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Facultad de Ingeniería
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Antes de las preguntas primero el cableado de los dispositivos



1

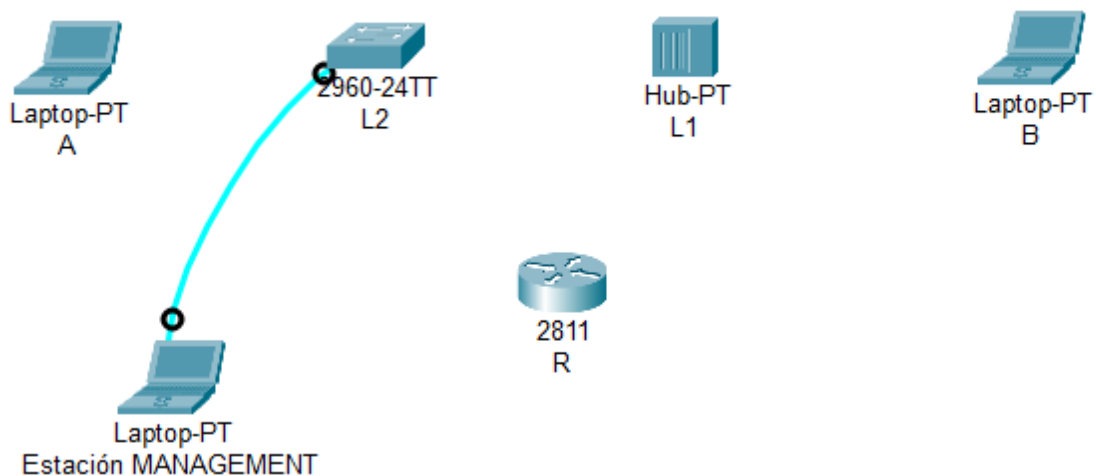
Hostname para el Router

```
Router>Enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#h
Router(config)#hostname R
R(config)#exit
```

Hostname para el switch

```
Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hos
Switch(config)#hostname L2
L2(config)#exit
L2#
```

Para todos los demás ya tiene el Hostname asignado



2

Direccionamiento ip para el pc A

A

PhysicalConfigDesktopProgrammingAttributes

IP ConfigurationX

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address10.0.0.100

Subnet Mask255.0.0.0

Default Gateway10.0.0.1

DNS Server0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address /

Link Local AddressFE80::2E0:B0FF:FE71:43EE

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

AuthenticationMD5

Username

Password

☐ Top

Para el pc B

B

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

▼

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

20.0.0.100

Subnet Mask

255.0.0.0

Default Gateway

20.0.0.1

DNS Server

0.0.0.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::2D0:97FF:FEA6:8C4C

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

MD5

▼

Username

Password

☐ Top

Para el switch L2

```
L2>enable
L2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
L2(config)#interf
L2(config)#interface vlan 1
L2(config-if)#ip addre
L2(config-if)#ip address 10.0.0.2 255.0.0.0
L2(config-if)#no shut
L2(config-if)#no shutdown

L2(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up

L2(config-if)#exit
L2(config)#ip d
L2(config)#ip def
L2(config)#ip default-gateway 10.0.0.1
L2(config)#exit
L2#
%SYS-5-CONFIG_I: Configured from console by console
```

```
L2#show ip interface b
L2#show ip interface brief
```

| Interface | IP-Address | OK? | Method | Status | Protocol |
|--------------------|------------|-----|--------|--------|----------|
| FastEthernet0/1 | unassigned | YES | manual | down | down |
| FastEthernet0/2 | unassigned | YES | manual | down | down |
| FastEthernet0/3 | unassigned | YES | manual | down | down |
| FastEthernet0/4 | unassigned | YES | manual | down | down |
| FastEthernet0/5 | unassigned | YES | manual | down | down |
| FastEthernet0/6 | unassigned | YES | manual | down | down |
| FastEthernet0/7 | unassigned | YES | manual | down | down |
| FastEthernet0/8 | unassigned | YES | manual | down | down |
| FastEthernet0/9 | unassigned | YES | manual | down | down |
| FastEthernet0/10 | unassigned | YES | manual | down | down |
| FastEthernet0/11 | unassigned | YES | manual | down | down |
| FastEthernet0/12 | unassigned | YES | manual | down | down |
| FastEthernet0/13 | unassigned | YES | manual | down | down |
| FastEthernet0/14 | unassigned | YES | manual | down | down |
| FastEthernet0/15 | unassigned | YES | manual | down | down |
| FastEthernet0/16 | unassigned | YES | manual | down | down |
| FastEthernet0/17 | unassigned | YES | manual | down | down |
| FastEthernet0/18 | unassigned | YES | manual | down | down |
| FastEthernet0/19 | unassigned | YES | manual | down | down |
| FastEthernet0/20 | unassigned | YES | manual | down | down |
| FastEthernet0/21 | unassigned | YES | manual | down | down |
| FastEthernet0/22 | unassigned | YES | manual | down | down |
| FastEthernet0/23 | unassigned | YES | manual | down | down |
| FastEthernet0/24 | unassigned | YES | manual | down | down |
| GigabitEthernet0/1 | unassigned | YES | manual | down | down |
| GigabitEthernet0/2 | unassigned | YES | manual | down | down |
| Vlan1 | 10.0.0.2 | YES | manual | up | down |

Para el Router R

```
R>enable
R#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R(config)#inter
R(config)#interface fa0/0
R(config-if)#ip ad
R(config-if)#ip address 10.0.0.1 255.0.0.0
R(config-if)#no shu
R(config-if)#no shutdown

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

R(config-if)#desc
R(config-if)#description LAN-1
R(config-if)#exit
R(config)#interfac
R(config)#interface fa0/1
R(config-if)#ip addre
R(config-if)#ip address 20.0.0.1 255.0.0.0
R(config-if)#no shu
R(config-if)#no shutdown

R(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

R(config-if)#des
R(config-if)#description LAN-2
R(config-if)#exit
R(config)#exit
R#
%SYS-5-CONFIG_I: Configured from console by console

R#
```

```
R#show ip interface brief
Interface                IP-Address      OK? Method Status          Protocol
FastEthernet0/0          10.0.0.1        YES manual up              down
FastEthernet0/1          20.0.0.1        YES manual up              down
Vlan1                    unassigned      YES unset  administratively down down
```

3 configuración de interfaces para el switch L2

```
L2>enable
L2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
L2(config)#interface
L2(config)#interface range fa0/15 , fa0/24
L2(config-if-range)#no shut
L2(config-if-range)#no shutdown
L2(config-if-range)#exit
L2(config)#interface
L2(config)#interface fa0/15
L2(config-if)#des
L2(config-if)#description Link a PC_A
L2(config-if)#exit
L2(config)#interface fa0/24
L2(config-if)#de
L2(config-if)#description LAN-1 (conexion a Router R)
L2(config-if)#exit
L2(config)#exit
L2#
%SYS-5-CONFIG_I: Configured from console by console
```

Para el Router R

```
R>enable
R#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R(config)#inter
R(config)#interface fa0/0
R(config-if)#de
R(config-if)#des
R(config-if)#description LAN-1 (conexion a Switch L2)
R(config-if)#no shu
R(config-if)#no shutdown
R(config-if)#exit
R(config)#inter
R(config)#interface fa0/1
R(config-if)#descrip
R(config-if)#description LAN-2 (conexion a Hub L1)
R(config-if)#no shu
R(config-if)#no shutdown
R(config-if)#exit
R(config)#exit
R#
%SYS-5-CONFIG_I: Configured from console by console
```

4. Banner

Para el Router R

```
R>enable
R#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R(config)#banner motd EQUIPO PROTEGIDO POR LA LEGISLACION COLOMBIANA!...
R(config)#exit
R#
%SYS-5-CONFIG_I: Configured from console by console
R#
```

para el switch

```
L2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
L2(config)#banner motd EQUIPO PROTEGIDO POR LA LEGISLACION COLOMBIANA!...
L2(config)#exit
L2#
%SYS-5-CONFIG_I: Configured from console by console
L2#
```

5 Passwords

Para el switch L2

```
L2>enable
L2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
L2(config)#! Enable y s
L2(config)#! Enable y secret
L2(config)#enable pass
L2(config)#enable password HFtr67*45RT4w
L2(config)#enable se
L2(config)#enable secret KHj45DFrW2
L2(config)# ! linea consola
L2(config)#line console 0
L2(config-line)#pas
L2(config-line)#password PMn2sd5BX4P
L2(config-line)#login
L2(config-line)#exit
L2(config)#! lineas VTY
L2(config)#line vty 0 4
L2(config-line)#pas
L2(config-line)#password Gt27LF4Wp25m
L2(config-line)#login
L2(config-line)#exit
L2(config)#exit
L2#
%SYS-5-CONFIG_I: Configured from console by console
```

Para el Router R

```
R>enable
R#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R(config)#enable pa
R(config)#enable password Tr24sf*4YPgn23W
R(config)#enable se
R(config)#enable secret Hd78+23kJ82R
R(config)#! Linea consola
R(config)#pass
R(config)#line console 0
R(config-line)#pass
R(config-line)#password mNRw45*9dfty
R(config-line)#login
R(config-line)#exit
R(config)#! Lineas VTY(Telnet/SSH)
R(config)#line vty 0 4
R(config-line)#pass
R(config-line)#password HW28qsp5*ERVnF
R(config-line)#login
R(config-line)#exit
R(config)#exit
R#
```


6 encriptación de password

Para el Router R

```
R#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R(config)#service password-encryption
R(config)#
```

Para el Switch L2

```
L2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
L2(config)#service password-encryption
L2(config)#
```

Ahora todas la pruebas de conectividad

1 Prueba de conectividad END TO END

Para el pc A

```
C:\>ping 10.0.0.2

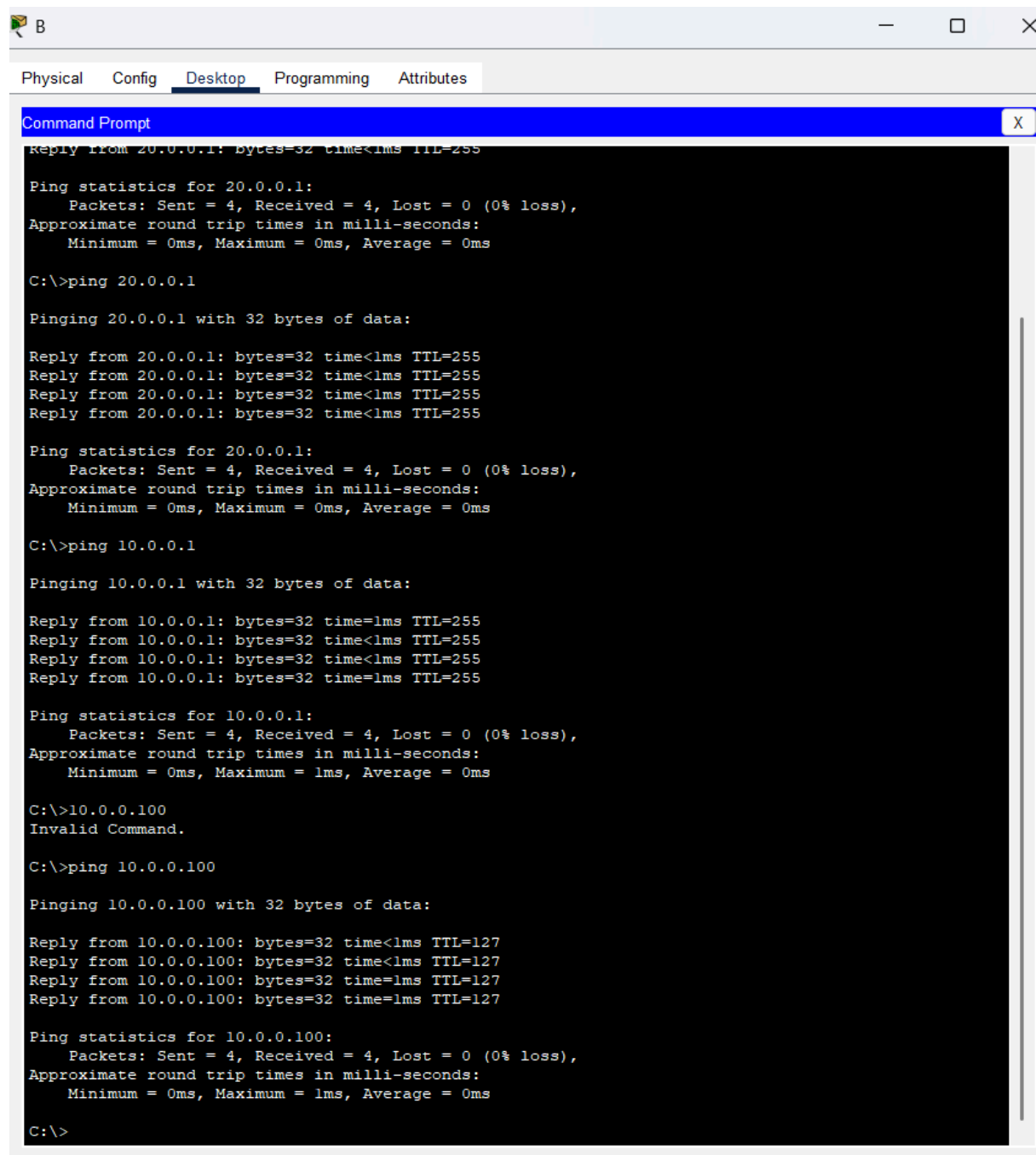
Pinging 10.0.0.2 with 32 bytes of data:

Request timed out.
Reply from 10.0.0.2: bytes=32 time<1ms TTL=255
Reply from 10.0.0.2: bytes=32 time<1ms TTL=255
Reply from 10.0.0.2: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Ahora pc B



The screenshot shows a Windows desktop environment with a window titled 'B'. The window has tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes', with 'Desktop' currently selected. Inside the window is a 'Command Prompt' application. The command prompt shows the following sequence of commands and outputs:

```
C:\>ping 20.0.0.1

Reply from 20.0.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

Reply from 20.0.0.1: bytes=32 time<1ms TTL=255
Reply from 20.0.0.1: bytes=32 time<1ms TTL=255
Reply from 20.0.0.1: bytes=32 time<1ms TTL=255
Reply from 20.0.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 20.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.0.0.1

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 = 1ms, Average = 0ms

C:\>10.0.0.100
Invalid Command.

C:\>ping 10.0.0.100

Pinging 10.0.0.100 with 32 bytes of data:

Reply from 10.0.0.100: bytes=32 time<1ms TTL=127
Reply from 10.0.0.100: bytes=32 time<1ms TTL=127
Reply from 10.0.0.100: bytes=32 time=1ms TTL=127
Reply from 10.0.0.100: bytes=32 time=1ms TTL=127

Ping statistics for 10.0.0.100:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

```
C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time<1ms TTL=254
Reply from 10.0.0.2: bytes=32 time<1ms TTL=254
Reply from 10.0.0.2: bytes=32 time=1ms TTL=254
Reply from 10.0.0.2: bytes=32 time=1ms TTL=254

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

y Router

```
R#ping 10.0.0.100

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.0.0.100, timeout is 2 seconds:
!!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/1 ms

R#ping 20.0.0.100

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 20.0.0.100, timeout is 2 seconds:
!!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/1 ms

R#ping 10.0.0.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.0.0.2, timeout is 2 seconds:
!!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms
```

2

pc A

| |
|---|
| <input checked="" type="radio"/> Static |
| 10.0.0.100 |
| 255.0.0.0 |
| 10.0.0.1 |
| 0.0.0.0 |

pc B

| |
|---|
| <input checked="" type="radio"/> Static |
| 20.0.0.100 |
| 255.0.0.0 |
| 20.0.0.1 |
| 0.0.0.0 |

3 pruebas del telnet

pc A

```
C:\>telnet 10.0.0.1
Trying 10.0.0.1 ...OpenEQUIPO PROTEGIDO POR LA LEGISLACION COLOMBIANA!

User Access Verification

Password:
R>
```

```
C:\>telnet 10.0.0.2
Trying 10.0.0.2 ...OpenQUIPO PROT

User Access Verification

Password:
Password:
Password:
L2>
```

PC B

```
C:\>telnet 20.0.0.1
Trying 20.0.0.1 ...OpenEQUIPO PROTEGIDO POR LA LEGISLACION COLOMBIANA!

User Access Verification

Password:
R>
```