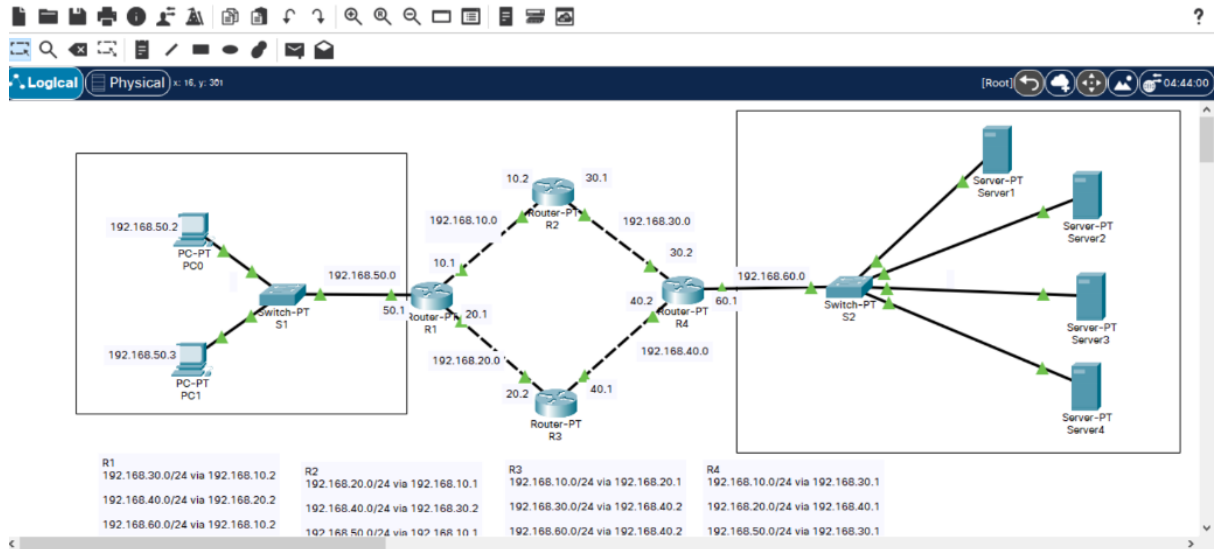**Atividade 09 - Sistemas Operacionais de Redes 2**
Nome: Kelvin de Lima Rodrigues
Turma: P8 de Informática
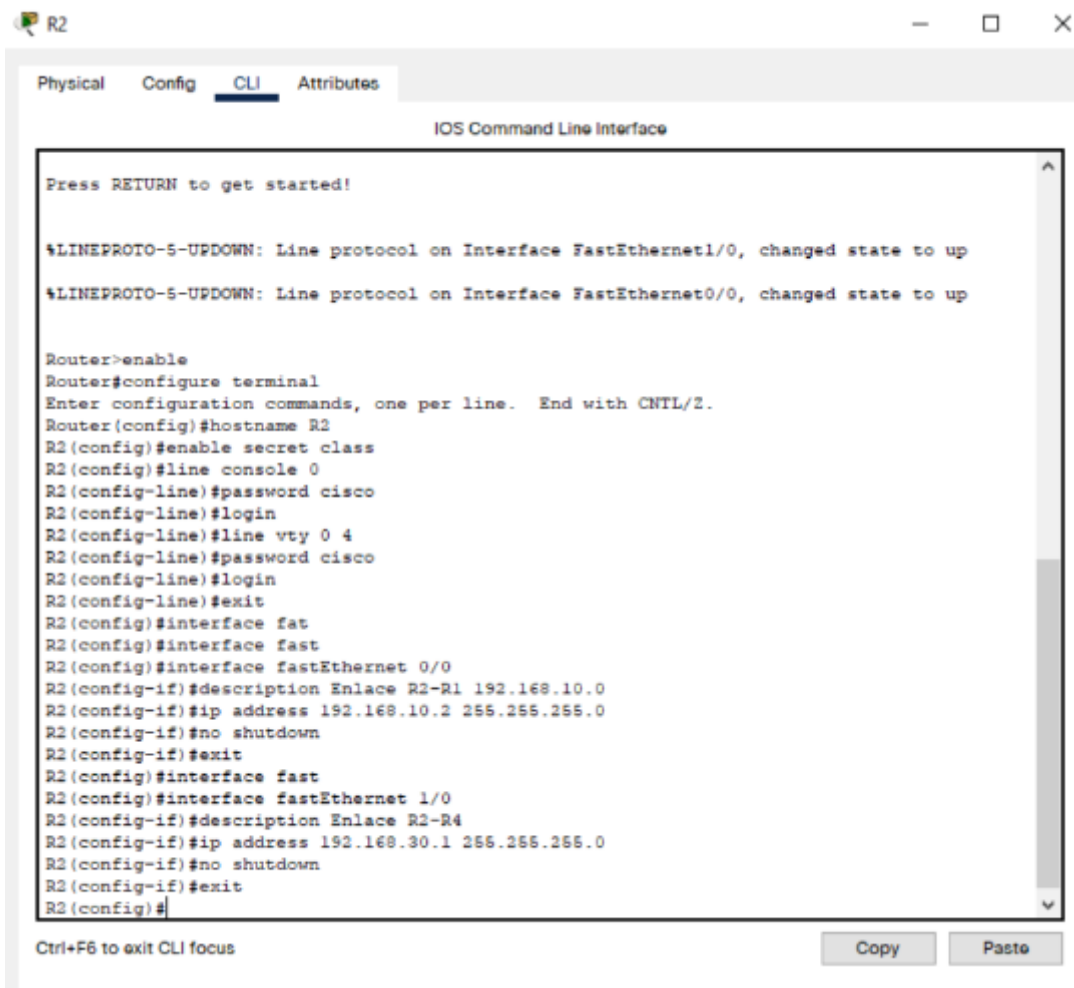
Etapa 1

Etapa 2 - Configurando interface dos roteadores
R1

R2

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
Press RETURN to get started!


%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up


Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R2
R2(config)#enable secret class
R2(config)#line console 0
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#line vty 0 4
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#exit
R2(config)#interface fat
R2(config)#interface fast
R2(config)#interface fastEthernet 0/0
R2(config-if)#description Enlace R2-R1 192.168.10.0
R2(config-if)#ip address 192.168.10.2 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#interface fast
R2(config)#interface fastEthernet 1/0
R2(config-if)#description Enlace R2-R4
R2(config-if)#ip address 192.168.30.1 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#
```

Ctrl+F6 to exit CLI focus   Copy   Paste

R3 — □ ✕

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

Press RETURN to get started!


%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up


Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R3
R3(config)#enable secret class
R3(config)#line console 0
R3(config-line)#password cisco
R3(config-line)#login
R3(config-line)#line vty 0 4
R3(config-line)#password cisco
R3(config-line)#login
R3(config-line)#exit
R3(config)#interface fast
R3(config)#interface fastEthernet 0/0
R3(config-if)#description Enlace R3-R1 192.168.20.0
R3(config-if)#ip address 192.168.20.2 255.255.255.0
R3(config-if)#no shutdown
R3(config-if)#exit
R3(config)#interface fastEthernet 1/0
R3(config-if)#description Enlace R3-R4
R3(config-if)#ip address 192.168.40.1 255.255.255.0
R3(config-if)#no shutdown
R3(config-if)#exit
R3(config)#
```
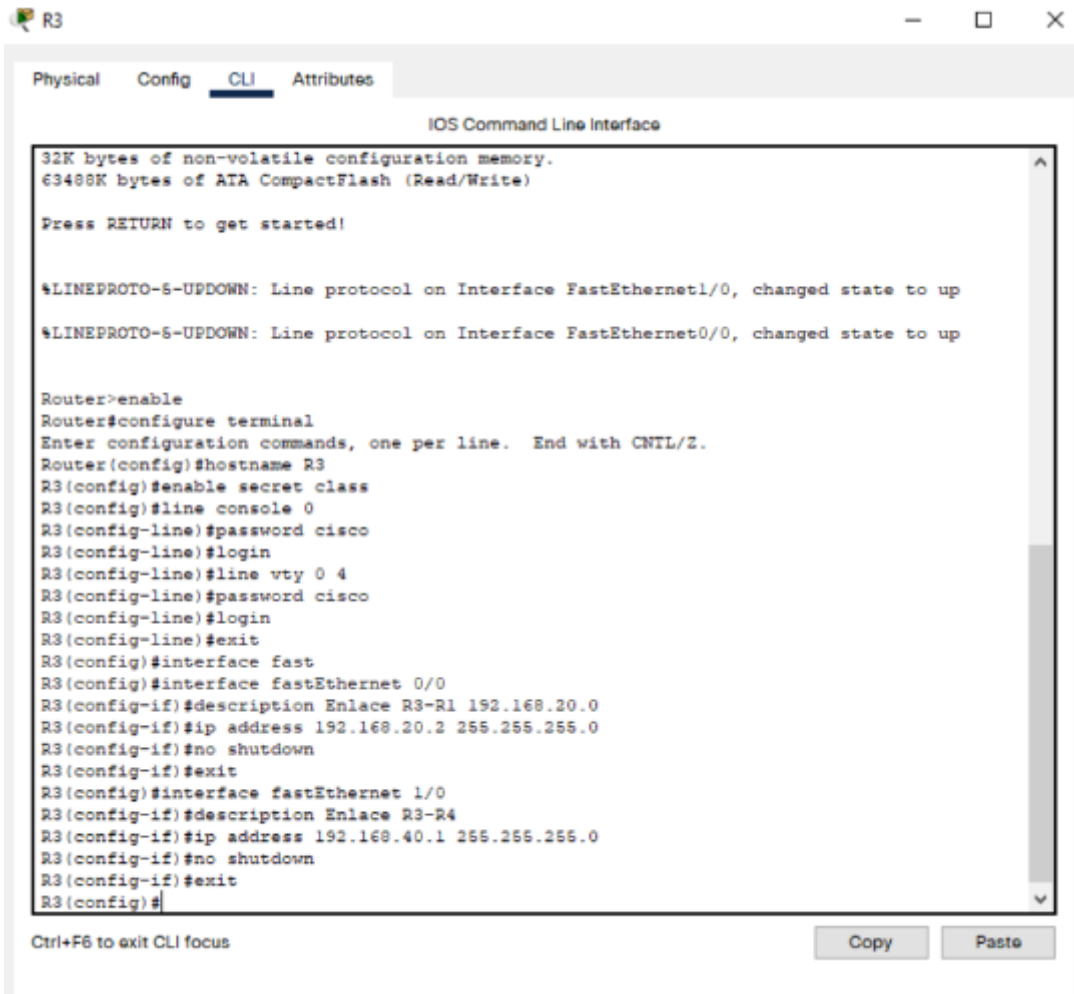
Ctrl+F6 to exit CLI focus   Copy   Paste

R4

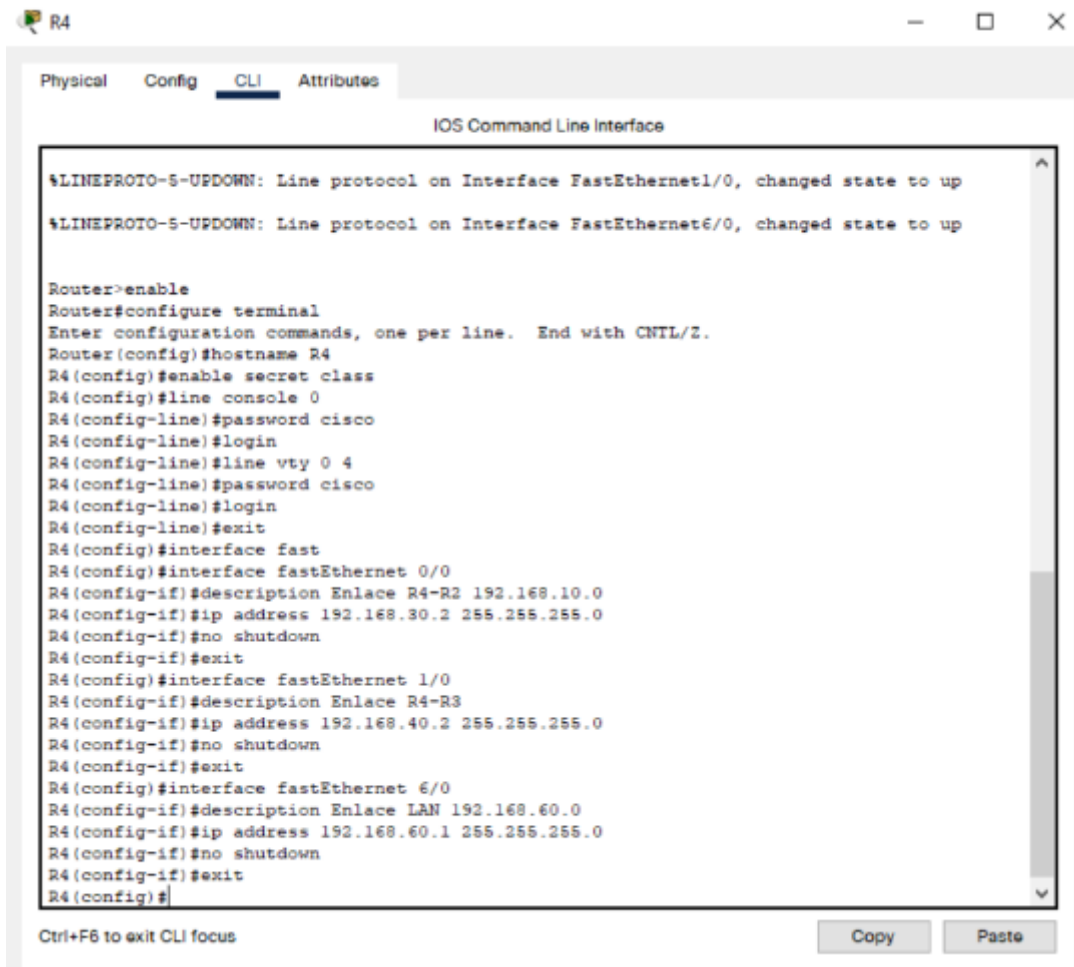Physical   Config   CLI   Attributes

IOS Command Line Interface

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet6/0, changed state to up


Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R4
R4(config)#enable secret class
R4(config)#line console 0
R4(config-line)#password cisco
R4(config-line)#login
R4(config-line)#line vty 0 4
R4(config-line)#password cisco
R4(config-line)#login
R4(config-line)#exit
R4(config)#interface fast
R4(config)#interface fastEthernet 0/0
R4(config-if)#description Enlace R4-R2 192.168.10.0
R4(config-if)#ip address 192.168.30.2 255.255.255.0
R4(config-if)#no shutdown
R4(config-if)#exit
R4(config)#interface fastEthernet 1/0
R4(config-if)#description Enlace R4-R3
R4(config-if)#ip address 192.168.40.2 255.255.255.0
R4(config-if)#no shutdown
R4(config-if)#exit
R4(config)#interface fastEthernet 6/0
R4(config-if)#description Enlace LAN 192.168.60.0
R4(config-if)#ip address 192.168.60.1 255.255.255.0
R4(config-if)#no shutdown
R4(config-if)#exit
R4(config)#
```

Ctrl+F6 to exit CLI focus   Copy   Paste
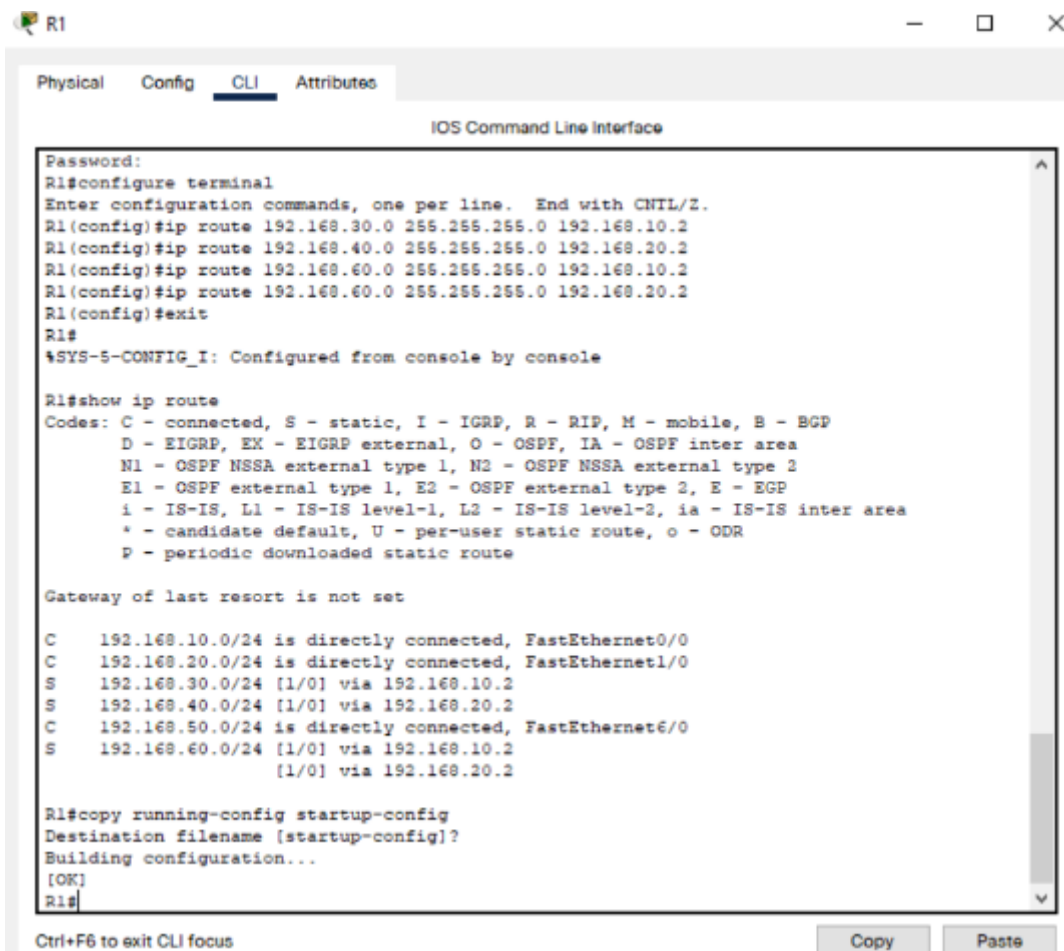
Etapa 3 - Configurando as rotas dos roteadores
R1


```
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#ip route 192.168.30.0 255.255.255.0 192.168.10.2
R1(config)#ip route 192.168.40.0 255.255.255.0 192.168.20.2
R1(config)#ip route 192.168.60.0 255.255.255.0 192.168.10.2
R1(config)#ip route 192.168.60.0 255.255.255.0 192.168.20.2
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.10.0/24 is directly connected, FastEthernet0/0
C    192.168.20.0/24 is directly connected, FastEthernet1/0
S    192.168.30.0/24 [1/0] via 192.168.10.2
S    192.168.40.0/24 [1/0] via 192.168.20.2
C    192.168.50.0/24 is directly connected, FastEthernet6/0
S    192.168.60.0/24 [1/0] via 192.168.10.2
                     [1/0] via 192.168.20.2

R1#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R1#
```

R2

Physical Config CLI Attributes

IOS Command Line Interface

```
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#ip route 192.168.20.0 255.255.255.0 192.168.10.1
R2(config)#ip route 192.168.40.0 255.255.255.0 192.168.30.2
R2(config)#ip route 192.168.50.0 255.255.255.0 192.168.10.1
R2(config)#ip route 192.168.60.0 255.255.255.0 192.168.30.2
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.10.0/24 is directly connected, FastEthernet0/0
S    192.168.20.0/24 [1/0] via 192.168.10.1
C    192.168.30.0/24 is directly connected, FastEthernet1/0
S    192.168.40.0/24 [1/0] via 192.168.30.2
S    192.168.50.0/24 [1/0] via 192.168.10.1
S    192.168.60.0/24 [1/0] via 192.168.30.2

R2#copy running-config startuo-config
                              ^
% Invalid input detected at '^' marker.

R2#
R2#copy running-config startup-config
Destination filename [startup-config]?
Building configuration
```

Ctrl+F6 to exit CLI focus   Copy   Paste

R3 — □ ×

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
R3>enable
Password:
R3#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#ip route 192.168.10.0 255.255.255.0 192.168.20.1
R3(config)#ip route 192.168.30.0 255.255.255.0 192.168.40.2
R3(config)#ip route 192.168.50.0 255.255.255.0 192.168.20.1
R3(config)#ip route 192.168.60.0 255.255.255.0 192.168.40.2
R3(config)#exit
R3#
%SYS-5-CONFIG_I: Configured from console by console

R3#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

S    192.168.10.0/24 [1/0] via 192.168.20.1
C    192.168.20.0/24 is directly connected, FastEthernet0/0
S    192.168.30.0/24 [1/0] via 192.168.40.2
C    192.168.40.0/24 is directly connected, FastEthernet1/0
S    192.168.50.0/24 [1/0] via 192.168.20.1
S    192.168.60.0/24 [1/0] via 192.168.40.2

R3#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R3#
```
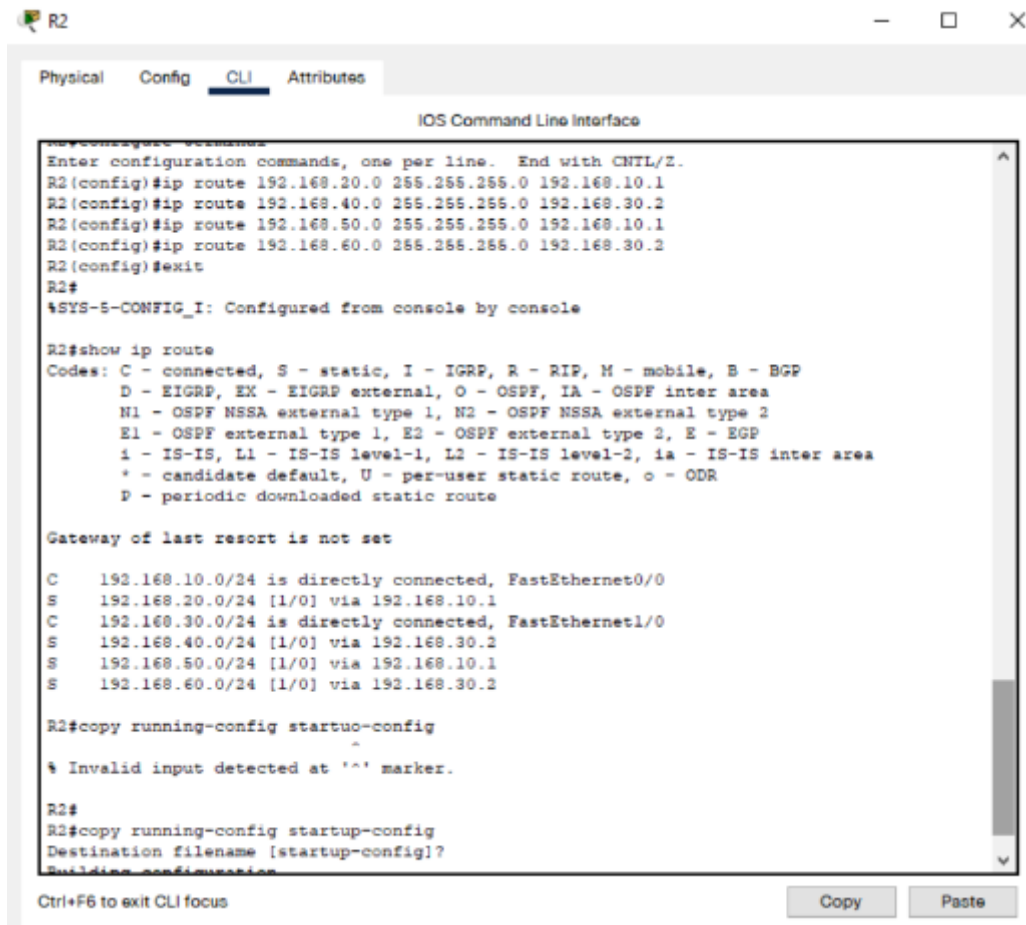
Ctrl+F6 to exit CLI focus   Copy   Paste

R4

R4 — □ ✕

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
Password:
R4#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R4(config)#ip route 192.168.10.0 255.255.255.0 192.168.30.1
R4(config)#ip route 192.168.20.0 255.255.255.0 192.168.40.1
R4(config)#ip route 192.168.50.0 255.255.255.0 192.168.30.1
R4(config)#ip route 192.168.50.0 255.255.255.0 192.168.40.1
R4(config)#exit
R4#
%SYS-5-CONFIG_I: Configured from console by console

R4#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

S    192.168.10.0/24 [1/0] via 192.168.30.1
S    192.168.20.0/24 [1/0] via 192.168.40.1
C    192.168.30.0/24 is directly connected, FastEthernet0/0
C    192.168.40.0/24 is directly connected, FastEthernet1/0
S    192.168.50.0/24 [1/0] via 192.168.30.1
                     [1/0] via 192.168.40.1
C    192.168.60.0/24 is directly connected, FastEthernet6/0

R4#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R4#
```

Ctrl+F6 to exit CLI focus   Copy   Paste

Testando a conexão

```
C:\>ping 192.168.40.2

Pinging 192.168.40.2 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.40.2: bytes=32 time=17ms TTL=253
Reply from 192.168.40.2: bytes=32 time=16ms TTL=253

Ping statistics for 192.168.40.2:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
Approximate round trip times in milli-seconds:
    Minimum = 16ms, Maximum = 17ms, Average = 16ms

C:\>ping 192.168.30.2

Pinging 192.168.30.2 with 32 bytes of data:

Reply from 192.168.30.2: bytes=32 time=22ms TTL=253
Reply from 192.168.30.2: bytes=32 time=13ms TTL=253
Reply from 192.168.30.2: bytes=32 time=10ms TTL=253
Reply from 192.168.30.2: bytes=32 time=10ms TTL=253

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 10ms, Maximum = 22ms, Average = 13ms

C:\>ping 192.168.60.2

Pinging 192.168.60.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.60.2: bytes=32 time=22ms TTL=125
Reply from 192.168.60.2: bytes=32 time=11ms TTL=125
Reply from 192.168.60.2: bytes=32 time=14ms TTL=125

Ping statistics for 192.168.60.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 11ms, Maximum = 22ms, Average = 15ms
```

```
C:\>ping 192.168.60.3

Pinging 192.168.60.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.60.3: bytes=32 time=13ms TTL=125
Reply from 192.168.60.3: bytes=32 time=14ms TTL=125
Reply from 192.168.60.3: bytes=32 time=14ms TTL=125

Ping statistics for 192.168.60.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 13ms, Maximum = 14ms, Average = 13ms

C:\>ping 192.168.60.4

Pinging 192.168.60.4 with 32 bytes of data:

Request timed out.
Reply from 192.168.60.4: bytes=32 time=14ms TTL=125
Reply from 192.168.60.4: bytes=32 time=14ms TTL=125
Reply from 192.168.60.4: bytes=32 time=14ms TTL=125

Ping statistics for 192.168.60.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 14ms, Maximum = 14ms, Average = 14ms
```

```
C:\>ping 192.168.60.5

Pinging 192.168.60.5 with 32 bytes of data:

Request timed out.
Reply from 192.168.60.5: bytes=32 time=22ms TTL=125
Reply from 192.168.60.5: bytes=32 time=15ms TTL=125
Reply from 192.168.60.5: bytes=32 time=16ms TTL=125

Ping statistics for 192.168.60.5:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 15ms, Maximum = 22ms, Average = 17ms
```

Etapa 4
Configurando DNS
PC0

| Physical | Config | Desktop | Programming | Attributes |

IP Configuration

| Interface | FastEthernet0 |

IP Configuration

○ DHCP   ◉ Static

IPv4 Address   192.168.50.2
Subnet Mask   255.255.255.0
Default Gateway   192.168.50.1
DNS Server   192.168.60.5

IPv6 Configuration

○ Automatic   ◉ Static

IPv6 Address
Link Local Address   FE80::230:F2FF:FEE0:666
Default Gateway
DNS Server

802.1X

☐ Use 802.1X Security

Authentication   MD5
Username
Password

PC1

Server4 — □ ×

Physical   Config   Services   Desktop   Programming   Attributes

SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP

DNS

DNS Service   ● On   ○ Off

Resource Records

Name   [   ]   Type [A Record   ▼]

Address [   ]

Add	Save	Remove

No.	Name	Type	Detail
0	dhcp.lambda.com	A Record	192.168.60.3
1	ftp.lambda.com	A Record	192.168.60.4
2	www.lambda.com	A Record	192.168.60.2

[DNS Cache]

```
Command Prompt

C:\>ping ftp.lambda.com

Pinging 192.168.60.4 with 32 bytes of data:

Reply from 192.168.60.4: bytes=32 time=11ms TTL=125
Reply from 192.168.60.4: bytes=32 time=12ms TTL=125
Reply from 192.168.60.4: bytes=32 time=12ms TTL=125
Reply from 192.168.60.4: bytes=32 time=13ms TTL=125

Ping statistics for 192.168.60.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 11ms, Maximum = 13ms, Average = 12ms

C:\>ping dhcp.lambda.com

Pinging 192.168.60.3 with 32 bytes of data:

Reply from 192.168.60.3: bytes=32 time=17ms TTL=125
Reply from 192.168.60.3: bytes=32 time=13ms TTL=125
Reply from 192.168.60.3: bytes=32 time=18ms TTL=125
Reply from 192.168.60.3: bytes=32 time=10ms TTL=125

Ping statistics for 192.168.60.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 10ms, Maximum = 18ms, Average = 14ms

C:\>ping www.lambda.com

Pinging 192.168.60.2 with 32 bytes of data:

Reply from 192.168.60.2: bytes=32 time=33ms TTL=125
Reply from 192.168.60.2: bytes=32 time=14ms TTL=125
Reply from 192.168.60.2: bytes=32 time=12ms TTL=125
Reply from 192.168.60.2: bytes=32 time=38ms TTL=125

Ping statistics for 192.168.60.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 12ms, Maximum = 38ms, Average = 24ms
```

Configurando HTTP

Physical Config Desktop Programming Attributes

Web Browser   X

< | > | URL http://192.168.60.2 | Go | Stop

Cisco Packet Tracer

Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.

Quick Links:
A small page
Copyrights
Image page
Image

Physical Config Desktop Programming Attributes

Web Browser   X

< | > | URL http://www.lambda.com | Go | Stop

Cisco Packet Tracer

Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.

Quick Links:
A small page
Copyrights
Image page
Image

Configurando DCHP

Server2 — □ ✕

Physical | Config | Services | Desktop | Programming | Attributes

SERVICES
- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Field	Value
Interface	FastEthernet0 — Service ● On ○ Off
Pool Name	serverPool2
Default Gateway	192.168.50.1
DNS Server	192.168.60.5
Start IP Address :	192	168	50	3
Subnet Mask:	255	255	255	0
Maximum Number of Users :	252
TFTP Server:	0.0.0.0
WLC Address:	0.0.0.0

Add | Save | Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool2	192.168...	192.168...	192.168...	255.255...	252	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	192.168...	255.255...	512	0.0.0.0	0.0.0.0

```
User Access Verification

Password:

R1>enable
Password:
R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#interface fast
R1(config)#interface fastEthernet 6/0
R1(config-if)#ip helper-address 192.168.60.3
R1(config-if)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#interface fast
R1(config)#interface fastEthernet 6/0
R1(config-if)#ip helper-address 192.168.60.3
R1(config-if)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#
```

PC1

Physical   Config   **Desktop**   Programming   Attributes

IP Configuration   X

Interface   FastEthernet0   ⌄

IP Configuration

● DHCP   ○ Static

IPv4 Address   192.168.50.3

Subnet Mask   255.255.255.0

Default Gateway   192.168.50.1

DNS Server   192.168.60.5

IPv6 Configuration

○ Automatic   ● Static

IPv6 Address   [   ] / [   ]

Link Local Address   FE80::20C:CFFF:FEBD:A301

Default Gateway   [   ]

DNS Server   [   ]

802.1X

☐ Use 802.1X Security

Authentication   MD5   ⌄

Username   [   ]

Password   [   ]

```
C:\>ping 192.168.60.2

Pinging 192.168.60.2 with 32 bytes of data:

Reply from 192.168.60.2: bytes=32 time=27ms TTL=125
Reply from 192.168.60.2: bytes=32 time=19ms TTL=125
Reply from 192.168.60.2: bytes=32 time=14ms TTL=125
Reply from 192.168.60.2: bytes=32 time=13ms TTL=125

Ping statistics for 192.168.60.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 13ms, Maximum = 27ms, Average = 18ms
```
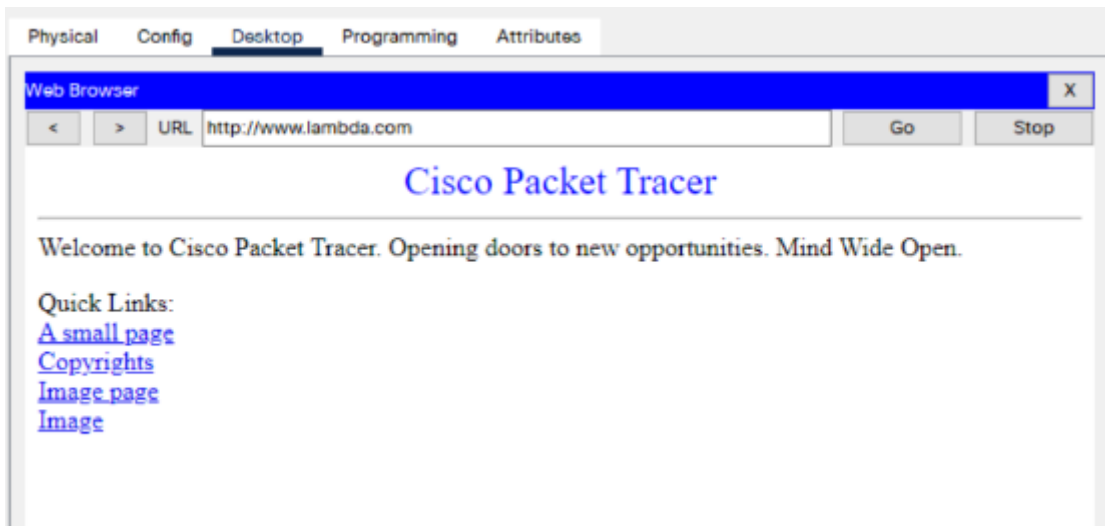
Configurando FTP

Server3 — □ ✕

Physical   Config   Services   Desktop   Programming   Attributes

SERVICES	
HTTP	
DHCP	
DHCPv6	
TFTP	
DNS	
SYSLOG	
AAA	
NTP	
EMAIL	
FTP	
IoT	
VM Management	
Radius EAP	

FTP

Service   ◉ On   ○ Off

User Setup

Username [   ]   Password [   ]
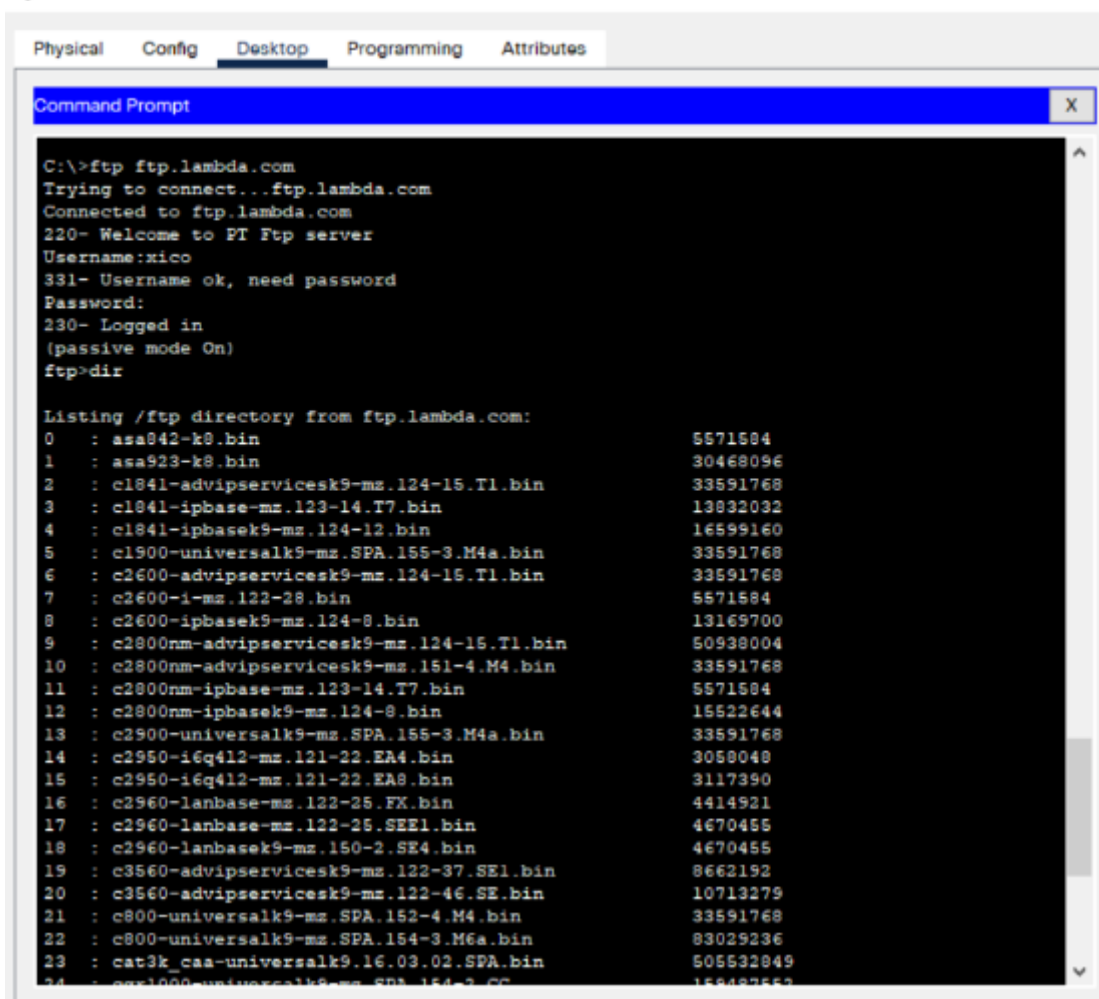
☐ Write   ☐ Read   ☐ Delete   ☐ Rename   ☐ List

	Username	Password	Permission	
1	cisco	cisco	RWDNL	Add
2	xico	1234	RWDNL	Save
				Remove

	File
1	asa842-k8.bin
2	asa923-k8.bin
3	c1841-advipservicesk9-mz.124-15.T1.bin
4	c1841-ipbase-mz.123-14.T7.bin
5	c1841-ipbasek9-mz.124-12.bin

Remove

PC1 — ☐ ☐ ✕

Physical   Config   **Desktop**   Programming   Attributes

Command Prompt   ✕

```
C:\>ftp ftp.lambda.com
Trying to connect...ftp.lambda.com
Connected to ftp.lambda.com
220- Welcome to PT Ftp server
Username:xico
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>dir

Listing /ftp directory from ftp.lambda.com:
0   : asa842-k8.bin                                5571584
1   : asa923-k8.bin                                30468096
2   : c1841-advipservicesk9-mz.124-15.T1.bin       33591768
3   : c1841-ipbase-mz.123-14.T7.bin                13832032
4   : c1841-ipbasek9-mz.124-12.bin                 16599160
5   : c1900-universalk9-mz.SPA.155-3.M4a.bin        33591768
6   : c2600-advipservicesk9-mz.124-15.T1.bin       33591768
7   : c2600-i-mz.122-28.bin                        5571584
8   : c2600-ipbasek9-mz.124-8.bin                  13169700
9   : c2800nm-advipservicesk9-mz.124-15.T1.bin     50938004
10  : c2800nm-advipservicesk9-mz.151-4.M4.bin      33591768
11  : c2800nm-ipbase-mz.123-14.T7.bin              5571584
12  : c2800nm-ipbasek9-mz.124-8.bin                15522644
13  : c2900-universalk9-mz.SPA.155-3.M4a.bin        33591768
14  : c2950-i6q412-mz.121-22.EA4.bin               3058048
15  : c2950-i6q412-mz.121-22.EA8.bin               3117390
16  : c2960-lanbase-mz.122-25.FX.bin               4414921
17  : c2960-lanbase-mz.122-25.SEE1.bin             4670455
18  : c2960-lanbasek9-mz.150-2.SE4.bin             4670455
19  : c3560-advipservicesk9-mz.122-37.SE1.bin      8662192
20  : c3560-advipservicesk9-mz.122-46.SE.bin       10713279
21  : c800-universalk9-mz.SPA.152-4.M4.bin         33591768
22  : c800-universalk9-mz.SPA.154-3.M6a.bin        83029236
23  : cat3k_caa-universalk9.16.03.02.SPA.bin       505532849
24  : aor1000-universalk9-mz.SPA.154-2.CC          159487552
```
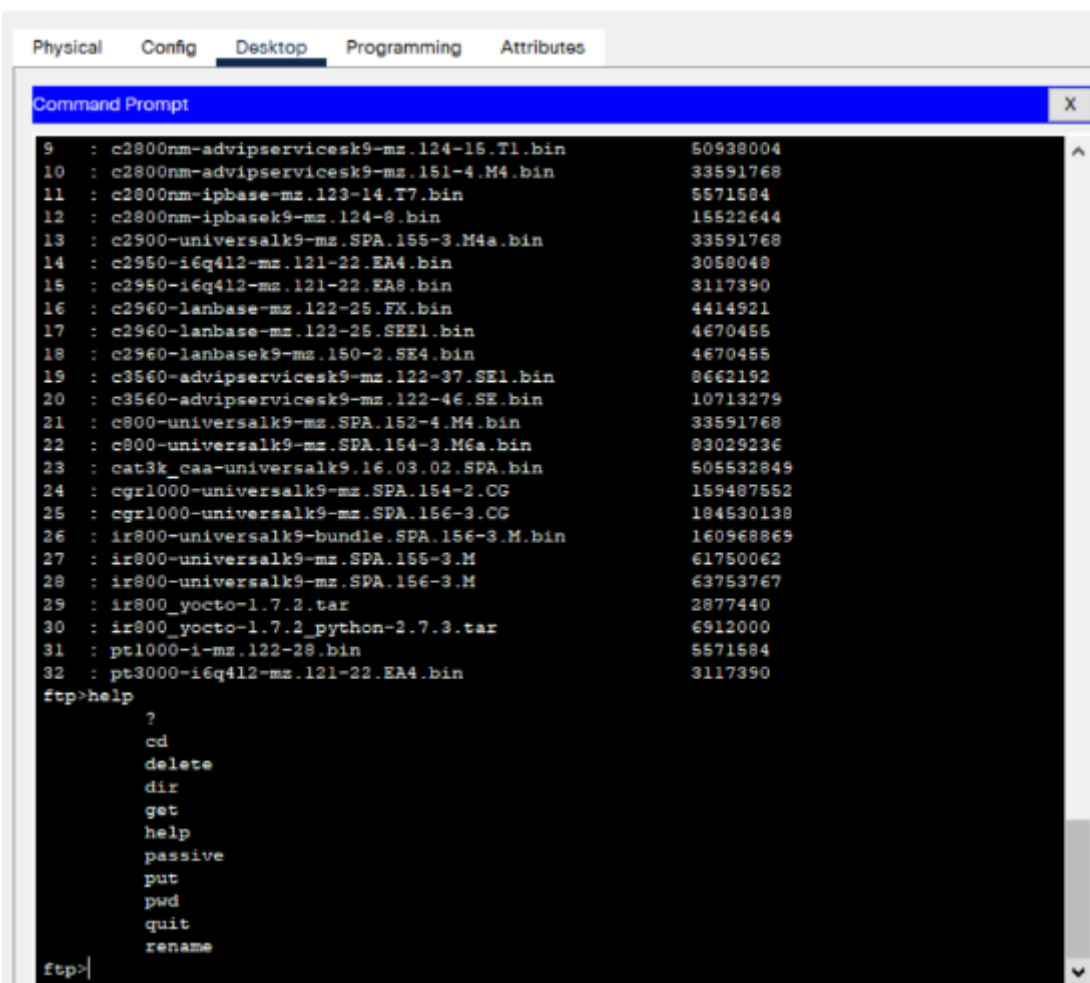
Physical   Config   Desktop   Programming   Attributes

Command Prompt X

```
9   : c2800nm-advipservicesk9-mz.124-15.T1.bin          50938004
10  : c2800nm-advipservicesk9-mz.151-4.M4.bin           33591768
11  : c2800nm-ipbase-mz.123-14.T7.bin                   5571584
12  : c2800nm-ipbasek9-mz.124-8.bin                     15522644
13  : c2900-universalk9-mz.SPA.155-3.M4a.bin            33591768
14  : c2950-i6q412-mz.121-22.EA4.bin                    3058048
15  : c2950-i6q412-mz.121-22.EA8.bin                    3117390
16  : c2960-lanbase-mz.122-25.FX.bin                    4414921
17  : c2960-lanbase-mz.122-25.SEE1.bin                  4670455
18  : c2960-lanbasek9-mz.150-2.SE4.bin                  4670455
19  : c3560-advipservicesk9-mz.122-37.SE1.bin           8662192
20  : c3560-advipservicesk9-mz.122-46.SE.bin            10713279
21  : c800-universalk9-mz.SPA.152-4.M4.bin              33591768
22  : c800-universalk9-mz.SPA.154-3.M6a.bin             83029236
23  : cat3k_caa-universalk9.16.03.02.SPA.bin            505532849
24  : cgr1000-universalk9-mz.SPA.154-2.CG               159487552
25  : cgr1000-universalk9-mz.SPA.156-3.CG               184530138
26  : ir800-universalk9-bundle.SPA.156-3.M.bin          160968869
27  : ir800-universalk9-mz.SPA.155-3.M                  61750062
28  : ir800-universalk9-mz.SPA.156-3.M                  63753767
29  : ir800_yocto-1.7.2.tar                             2877440
30  : ir800_yocto-1.7.2_python-2.7.3.tar               6912000
31  : pt1000-i-mz.122-28.bin                            5571584
32  : pt3000-i6q412-mz.121-22.EA4.bin                   3117390
ftp>help
        ?
        cd
        delete
        dir
        get
        help
        passive
        put
        pwd
        quit
        rename
ftp>
```