UNAH
UNIVERSIDAD NACIONAL AUTÓNOMA DE HONDURAS

IS-611, REDES II
Primer Periodo 2020
Informe Proyecto1 de Clase

Elaborado por:

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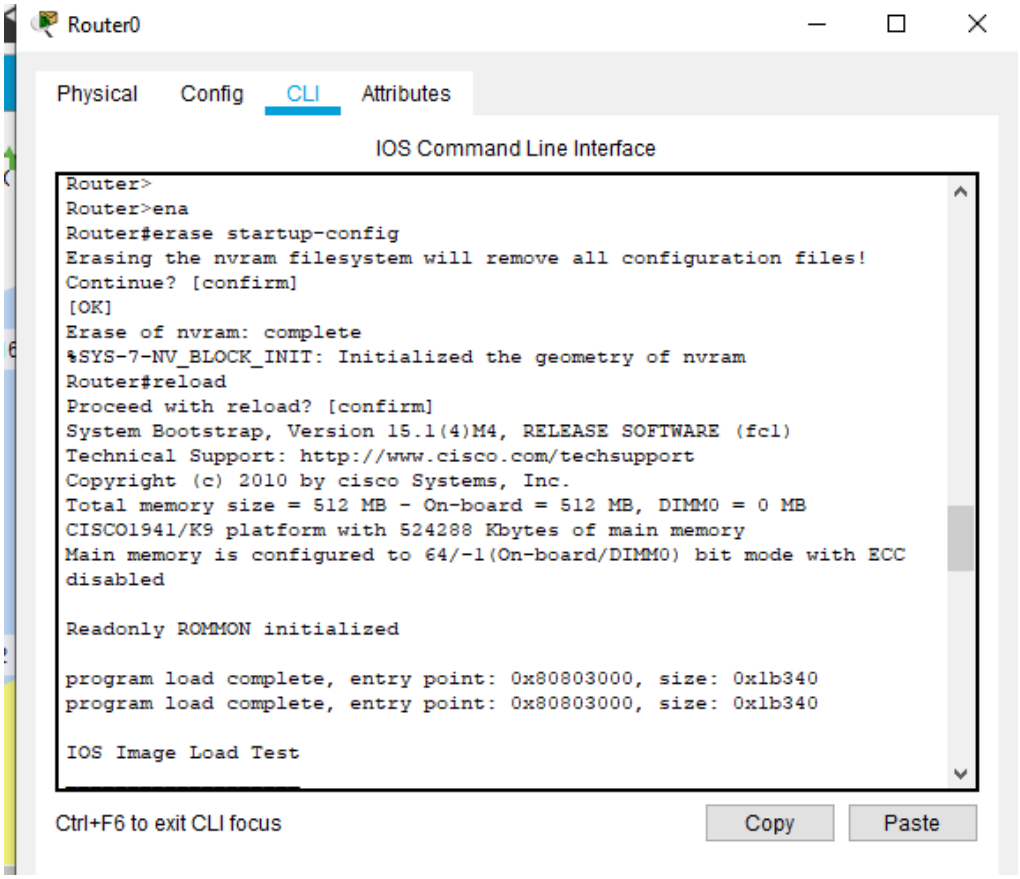
Sección: 13 00

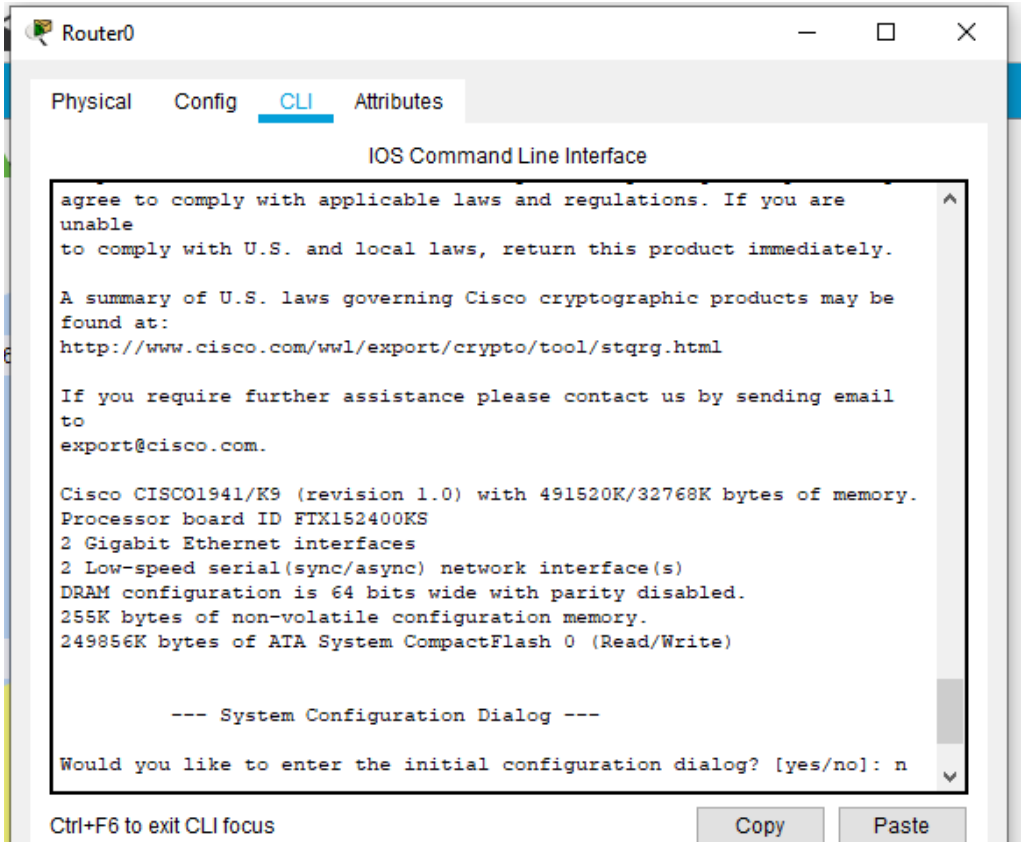
Fecha de Entrega: martes 7 de abril del 2020

Parte 1: Inicializar dispositivos

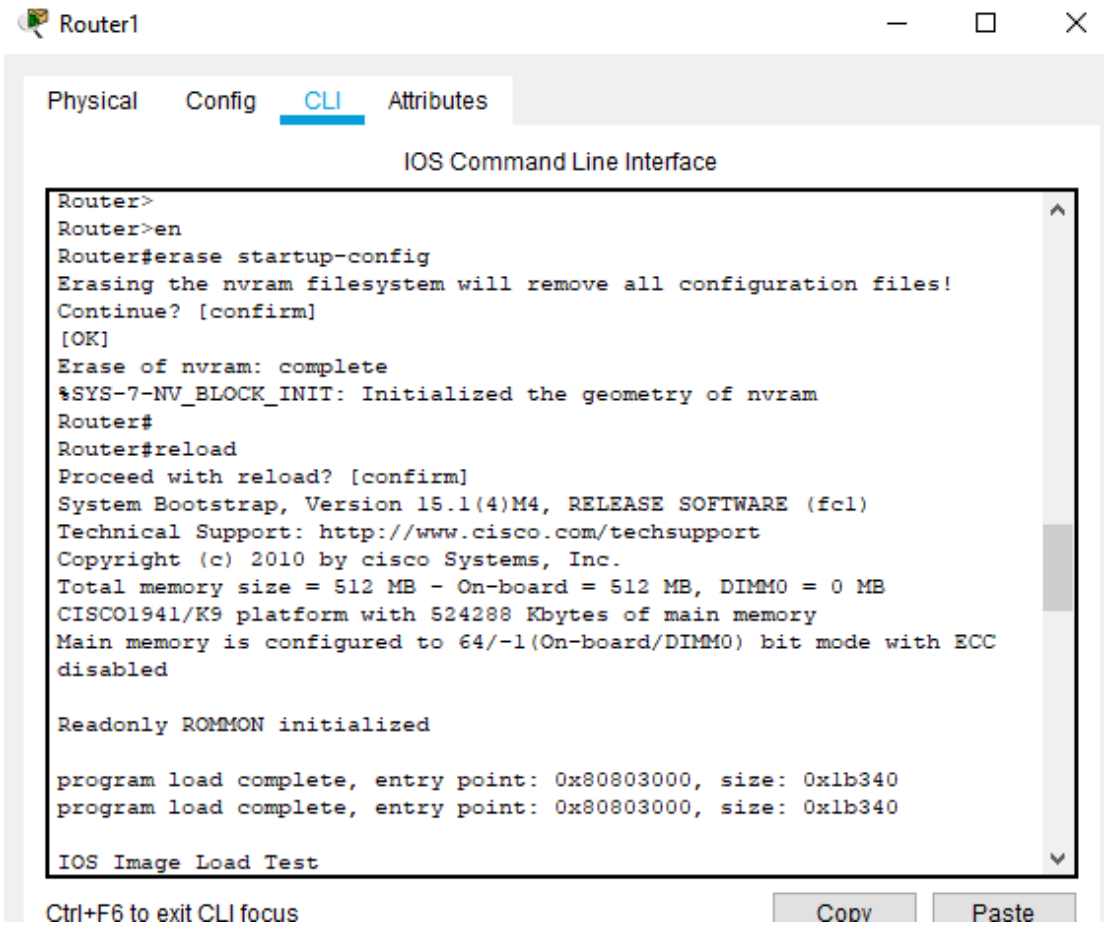
Inicializar y volver a cargar los routers y los switches

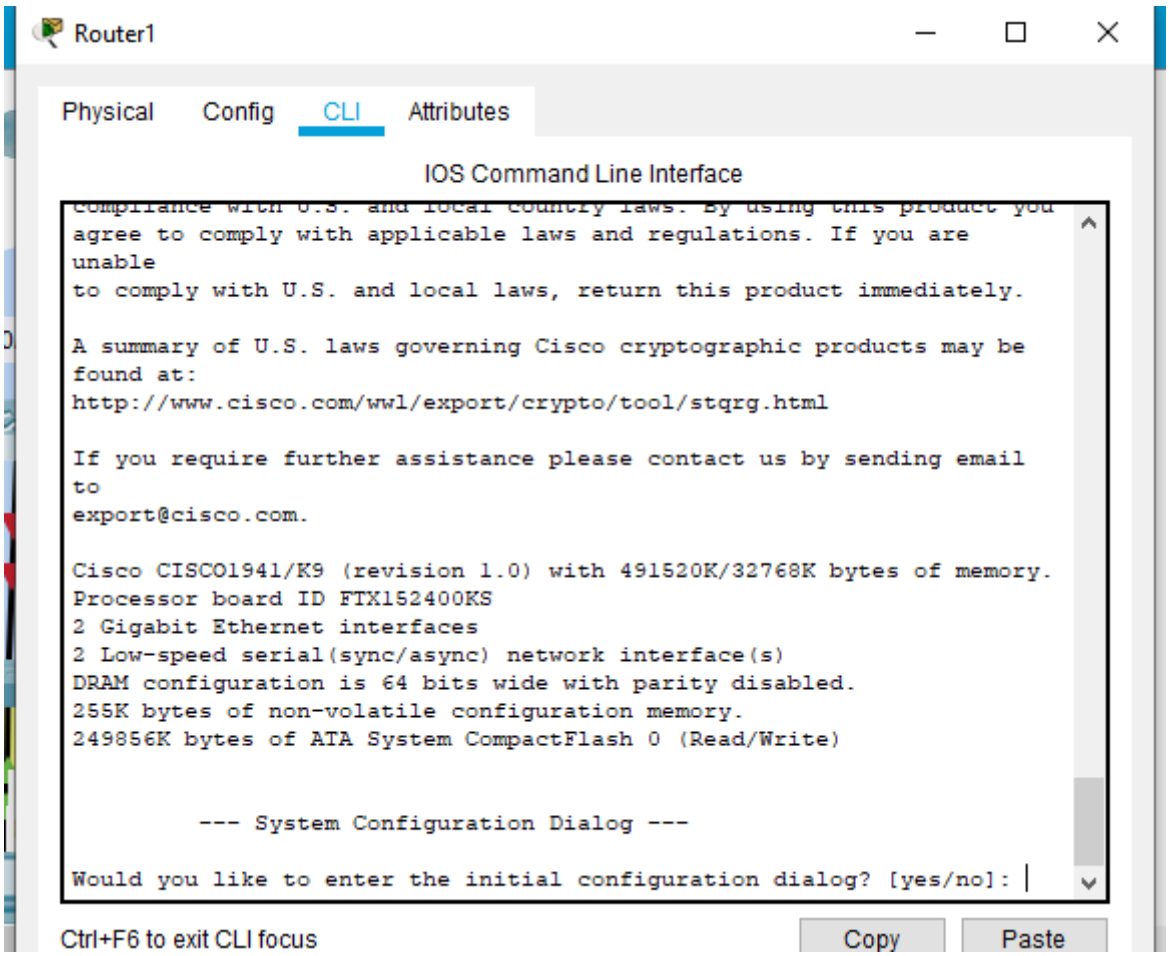
- Router 0



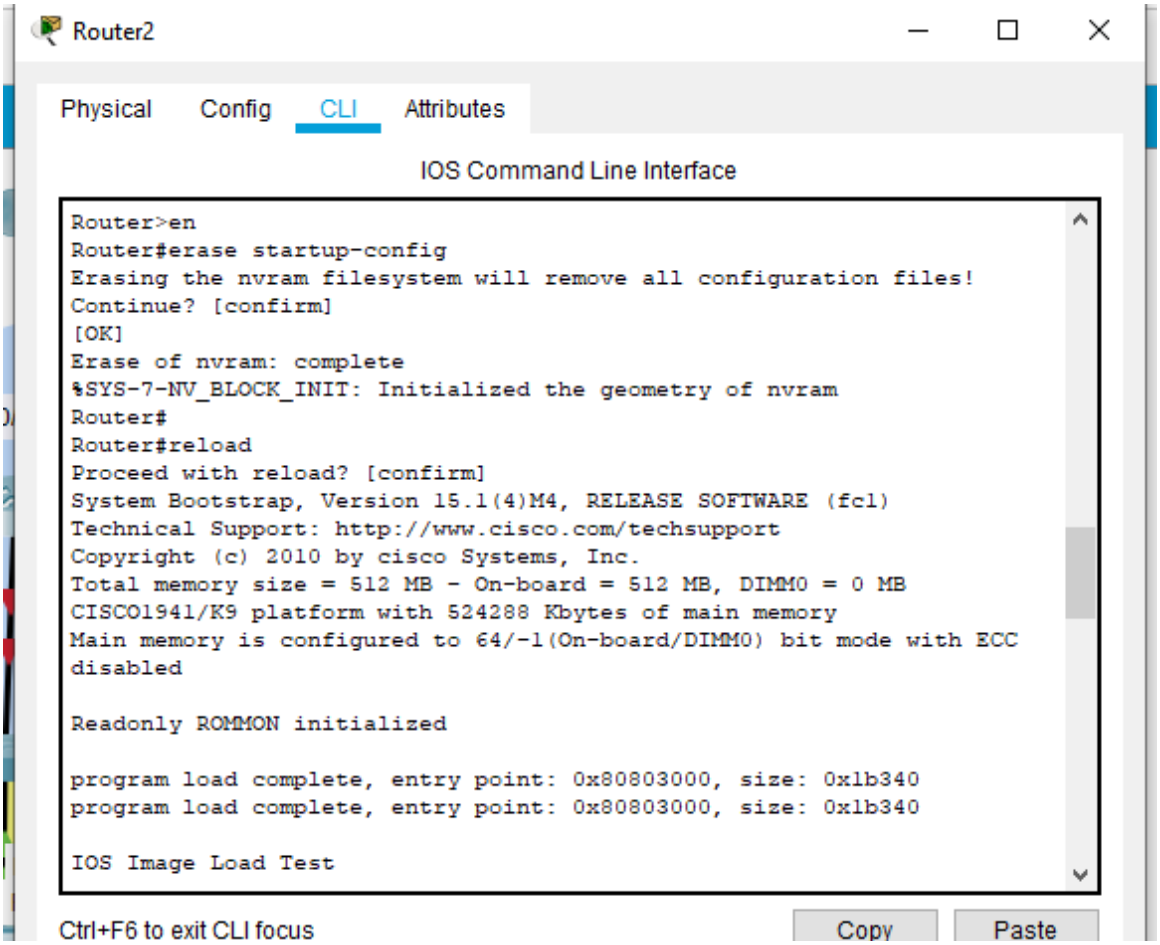


- Router 1


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>
Router>en
Router#erase startup-config
Erasing the nvram filesystem will remove all configuration files!
Continue? [confirm]
[OK]
Erase of nvram: complete
%SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram
Router#
Router#reload
Proceed with reload? [confirm]
System Bootstrap, Version 15.1(4)M4, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2010 by cisco Systems, Inc.
Total memory size = 512 MB - On-board = 512 MB, DIMM0 = 0 MB
CISCO1941/K9 platform with 524288 Kbytes of main memory
Main memory is configured to 64/-1(On-board/DIMM0) bit mode with ECC
disabled
Readonly ROMMON initialized
program load complete, entry point: 0x80803000, size: 0x1b340
program load complete, entry point: 0x80803000, size: 0x1b340
IOS Image Load Test
Ctrl+F6 to exit CLI focus
Copy
Paste


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
agree to comply with applicable laws and regulations. If you are
unable
to comply with U.S. and local laws, return this product immediately.
A summary of U.S. laws governing Cisco cryptographic products may be
found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email
to
export@cisco.com.
Cisco CISCO1941/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
2 Gigabit Ethernet interfaces
2 Low-speed serial(sync/async) network interface(s)
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]:
Ctrl+F6 to exit CLI focus
Copy
Paste

- Router 3


Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>en
Router#erase startup-config
Erasing the nvram filesystem will remove all configuration files!
Continue? [confirm]
[OK]
Erase of nvram: complete
%SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram
Router#
Router#reload
Proceed with reload? [confirm]
System Bootstrap, Version 15.1(4)M4, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2010 by cisco Systems, Inc.
Total memory size = 512 MB - On-board = 512 MB, DIMM0 = 0 MB
CISCO1941/K9 platform with 524288 Kbytes of main memory
Main memory is configured to 64/-1(On-board/DIMM0) bit mode with ECC
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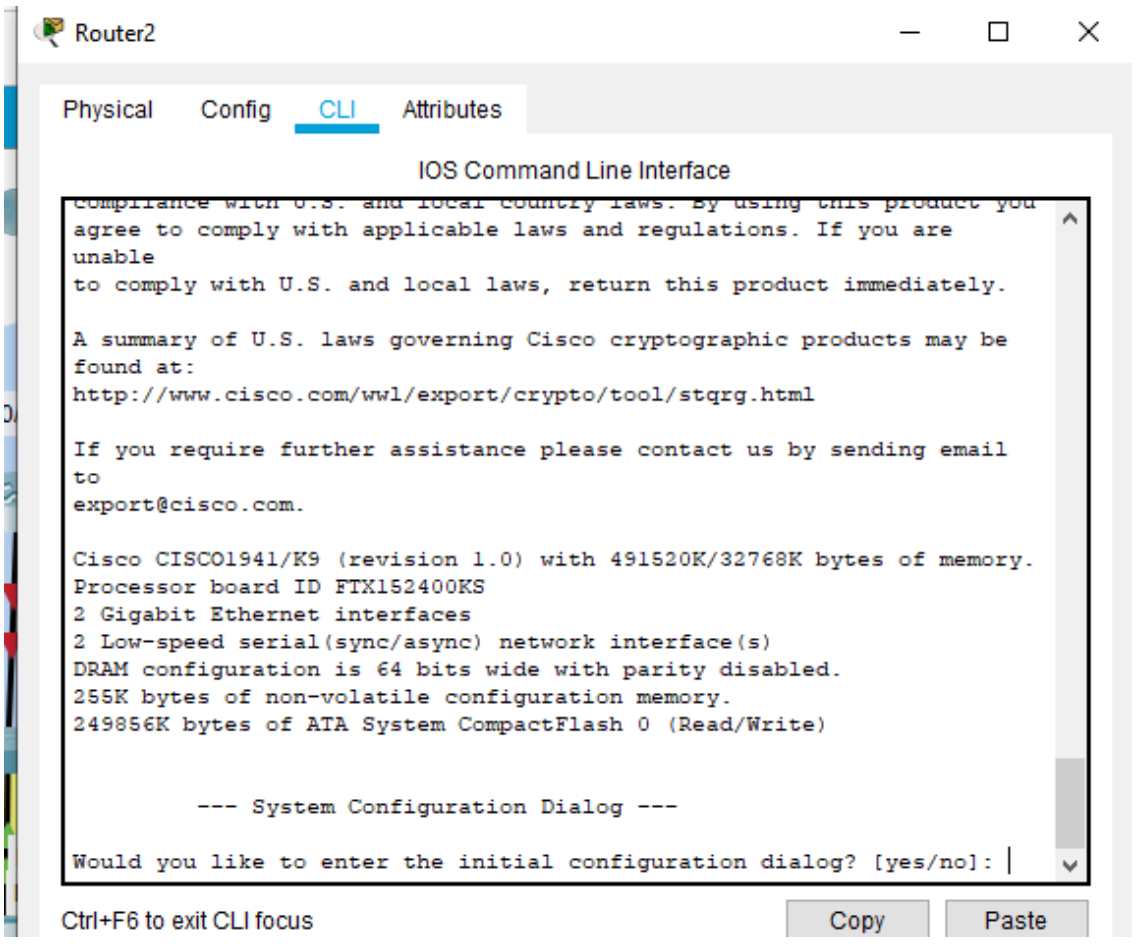
program load complete, entry point: 0x80803000, size: 0x1b340
program load complete, entry point: 0x80803000, size: 0x1b340
IOS Image Load Test
Ctrl+F6 to exit CLI focus
Copy
Paste


Router2
Physical
Config
CLI
Attributes
IOS Command Line Interface
agree to comply with applicable laws and regulations. If you are
unable
to comply with U.S. and local laws, return this product immediately.
A summary of U.S. laws governing Cisco cryptographic products may be
found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email
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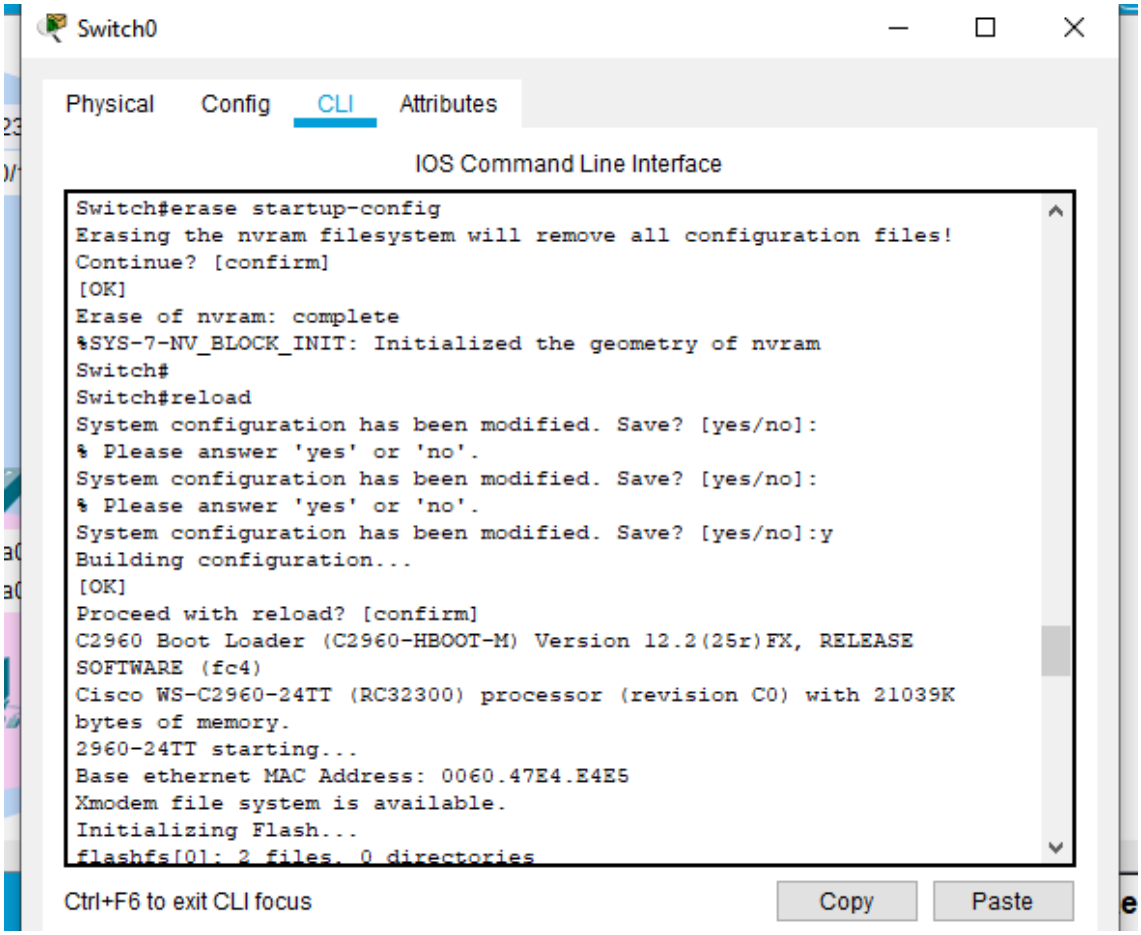
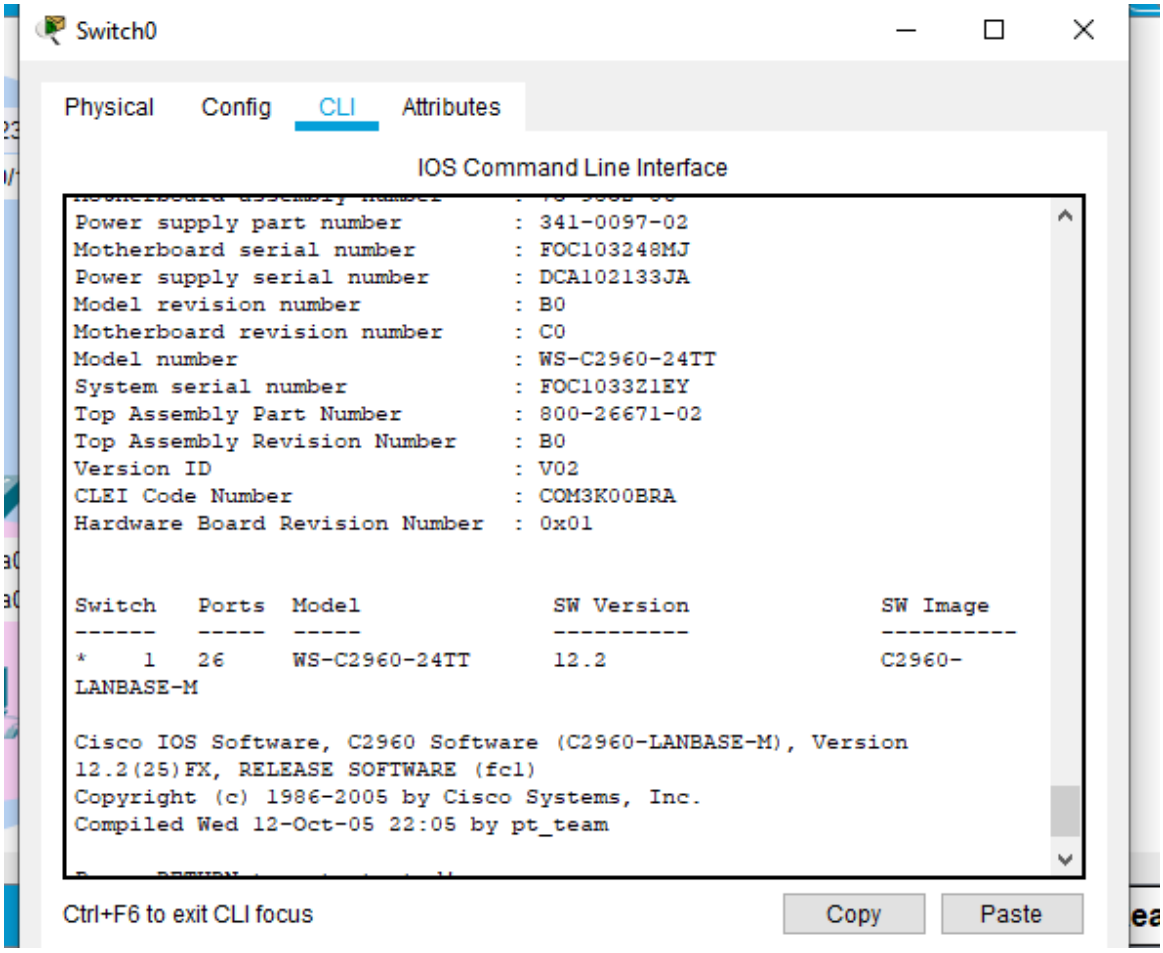
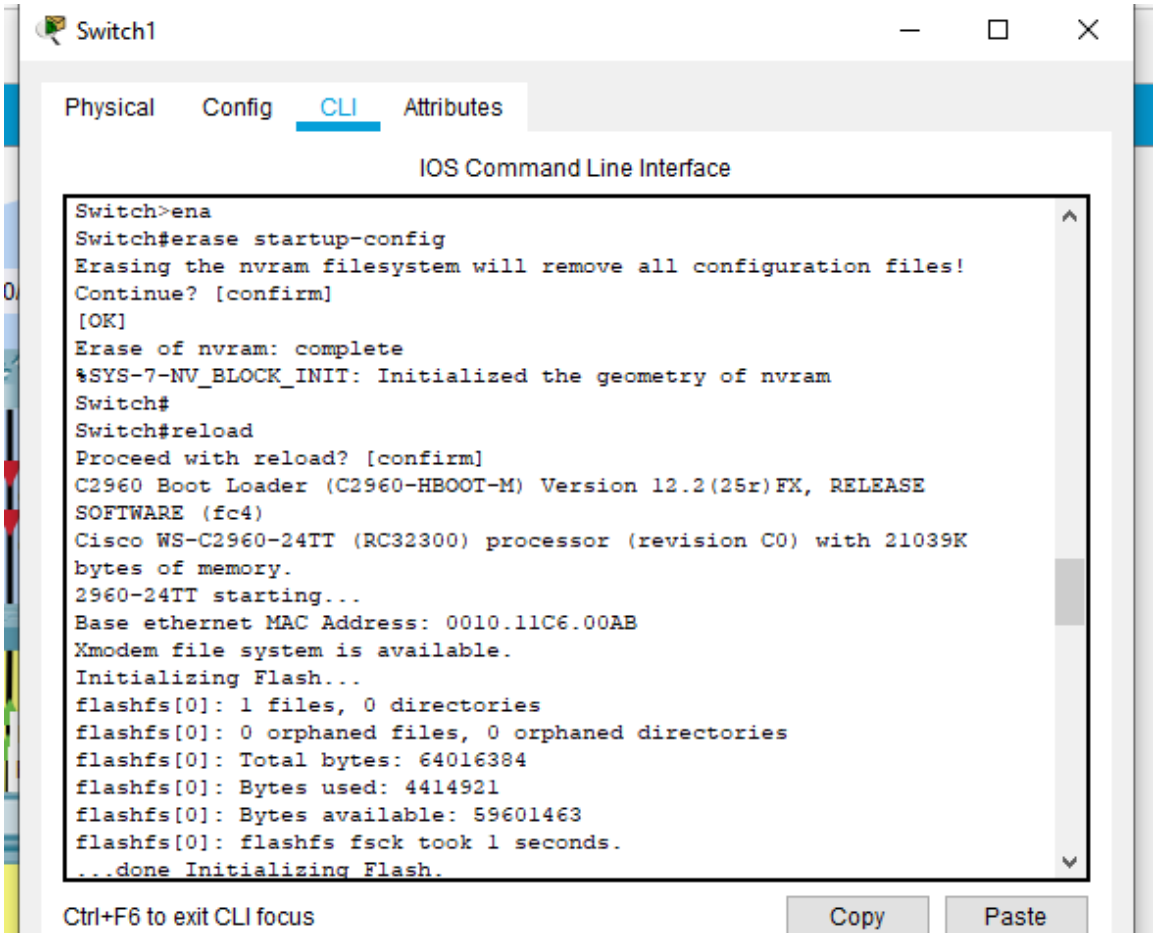
export@cisco.com.
Cisco CISCO1941/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
2 Gigabit Ethernet interfaces
2 Low-speed serial(sync/async) network interface(s)
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]:
Ctrl+F6 to exit CLI focus
Copy
Paste

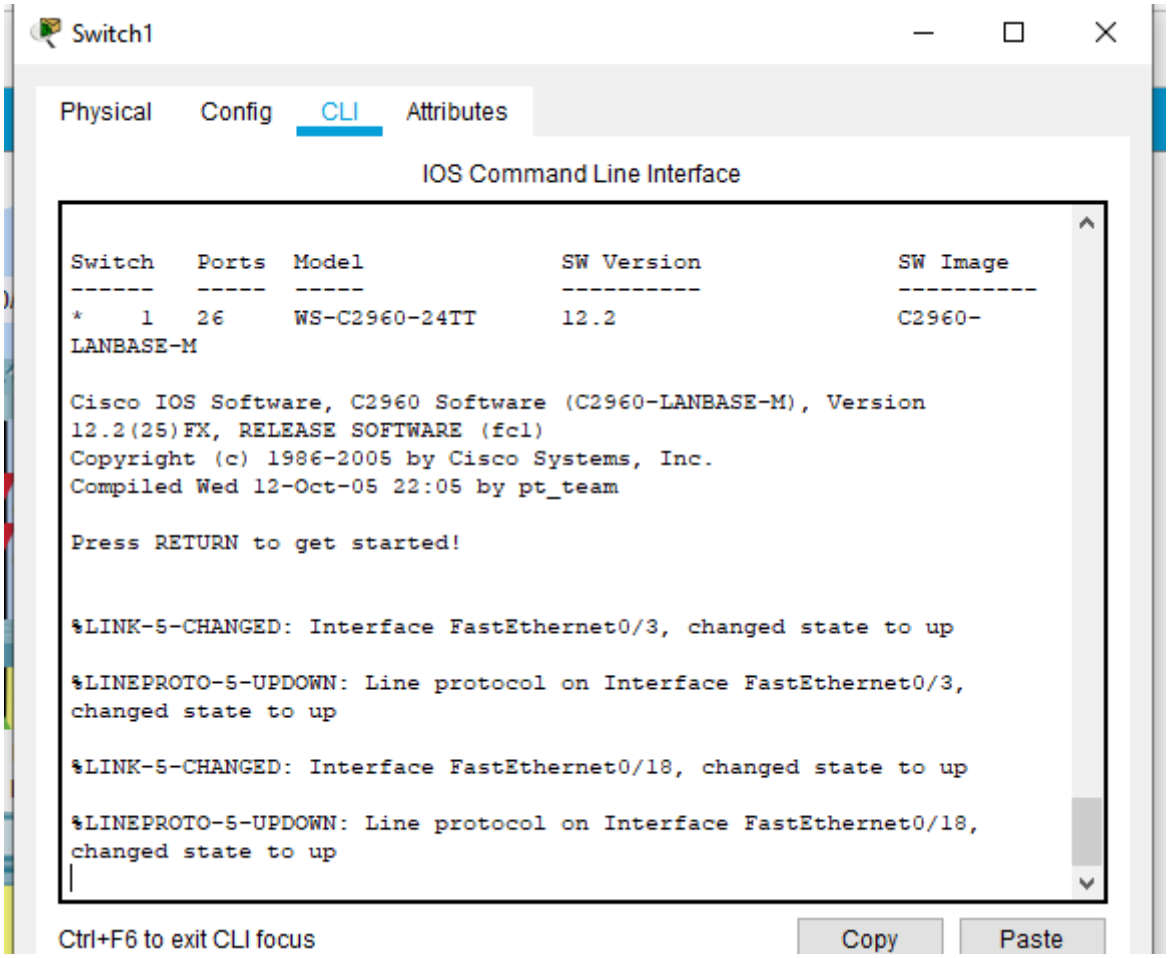
➢ Switch 0


Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Switch#erase startup-config
Erasing the nvram filesystem will remove all configuration files!
Continue? [confirm]
[OK]
Erase of nvram: complete
%SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram
Switch#
Switch#reload
System configuration has been modified. Save? [yes/no]:
% Please answer 'yes' or 'no'.
System configuration has been modified. Save? [yes/no]:
% Please answer 'yes' or 'no'.
System configuration has been modified. Save? [yes/no]:y
Building configuration...
[OK]
Proceed with reload? [confirm]
C2960 Boot Loader (C2960-HBOOT-M) Version 12.2(25r)FX, RELEASE
SOFTWARE (fc4)
Cisco WS-C2960-24TT (RC32300) processor (revision C0) with 21039K
bytes of memory.
2960-24TT starting...
Base ethernet MAC Address: 0060.47E4.E4E5
Xmodem file system is available.
Initializing Flash...
flashfs[0]: 2 files, 0 directories
Ctrl+F6 to exit CLI focus
Copy
Paste


Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Power supply part number : 341-0097-02
Motherboard serial number : FOC103248MJ
Power supply serial number : DCA102133JA
Model revision number : B0
Motherboard revision number : C0
Model number : WS-C2960-24TT
System serial number : FOC1033Z1EY
Top Assembly Part Number : 800-26671-02
Top Assembly Revision Number : B0
Version ID : V02
CLEI Code Number : COM3K00BRA
Hardware Board Revision Number : 0x01
Switch Ports Model SW Version SW Image
* 1 26 WS-C2960-24TT 12.2 C2960-LANBASE-M
Cisco IOS Software, C2960 Software (C2960-LANBASE-M), Version 12.2(25)FX, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 12-Oct-05 22:05 by pt_team
Ctrl+F6 to exit CLI focus
Copy
Paste

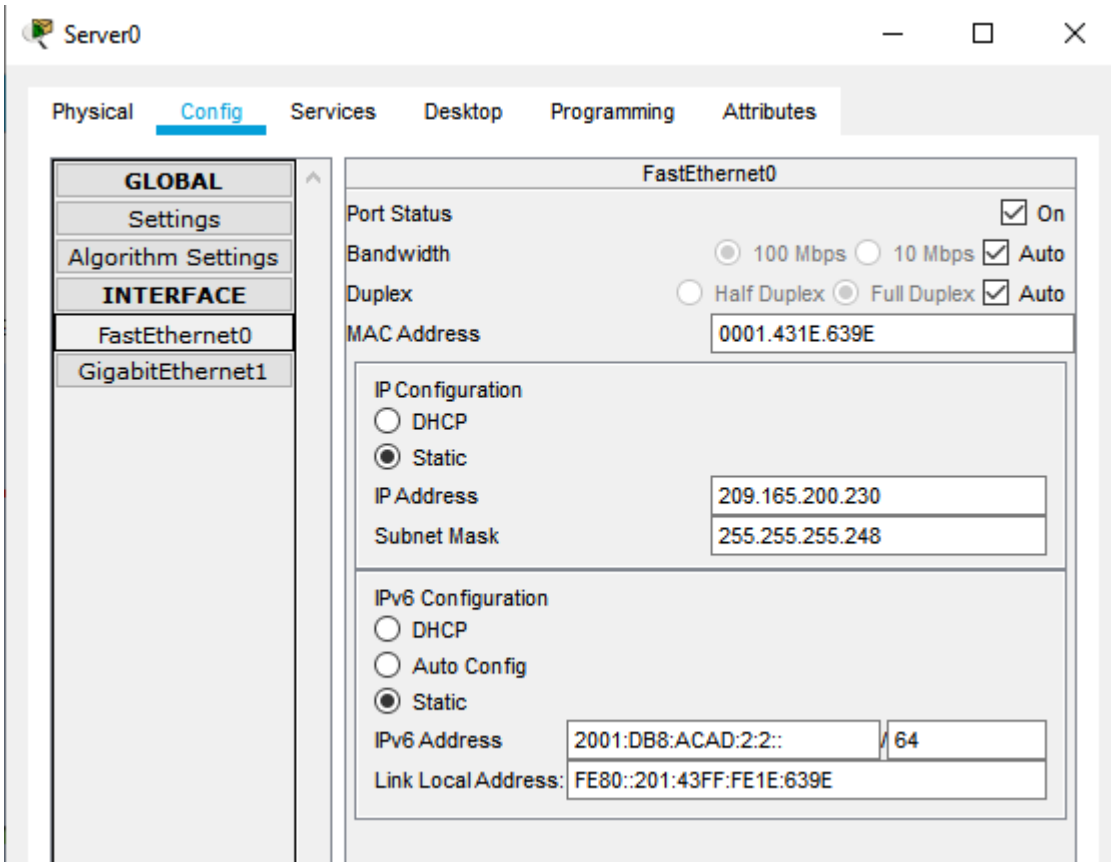
- Switch 1


Switch1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Switch>ena
Switch#erase startup-config
Erasing the nvram filesystem will remove all configuration files!
Continue? [confirm]
[OK]
Erase of nvram: complete
%SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram
Switch#
Switch#reload
Proceed with reload? [confirm]
C2960 Boot Loader (C2960-HBOOT-M) Version 12.2(25r)FX, RELEASE
SOFTWARE (fc4)
Cisco WS-C2960-24TT (RC32300) processor (revision C0) with 21039K
bytes of memory.
2960-24TT starting...
Base ethernet MAC Address: 0010.11C6.00AB
Xmodem file system is available.
Initializing Flash...
flashfs[0]: 1 files, 0 directories
flashfs[0]: 0 orphaned files, 0 orphaned directories
flashfs[0]: Total bytes: 64016384
flashfs[0]: Bytes used: 4414921
flashfs[0]: Bytes available: 59601463
flashfs[0]: flashfs fsck took 1 seconds.
...done Initializing Flash.
Ctrl+F6 to exit CLI focus
Copy
Paste

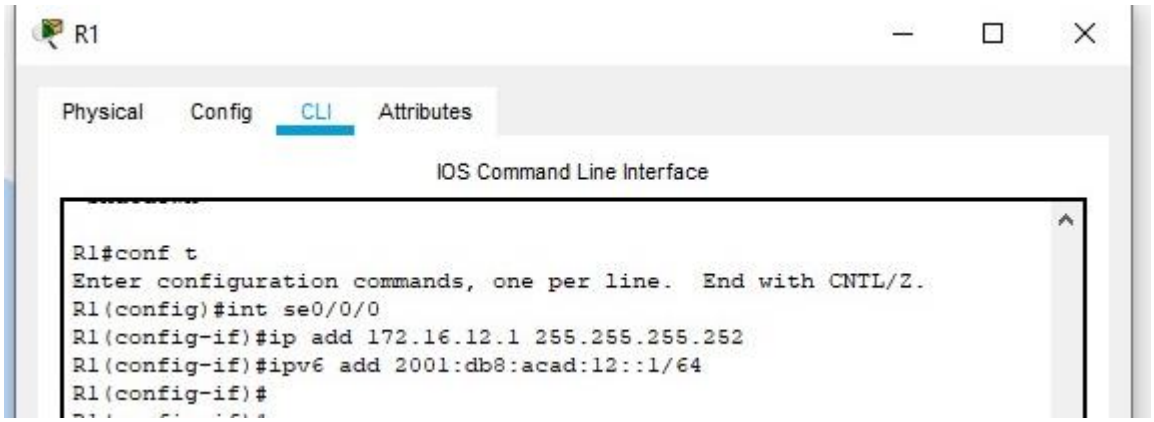

Switch1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Switch Ports Model SW Version SW Image
------ ----- ----- ---------- ----------
* 1 26 WS-C2960-24TT 12.2 C2960-
LANBASE-M
Cisco IOS Software, C2960 Software (C2960-LANBASE-M), Version
12.2(25)FX, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 12-Oct-05 22:05 by pt_team
Press RETURN to get started!
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/18, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/18,
changed state to up
Ctrl+F6 to exit CLI focus
Copy
Paste

Parte 2: Configurar los parámetros básicos de los dispositivos

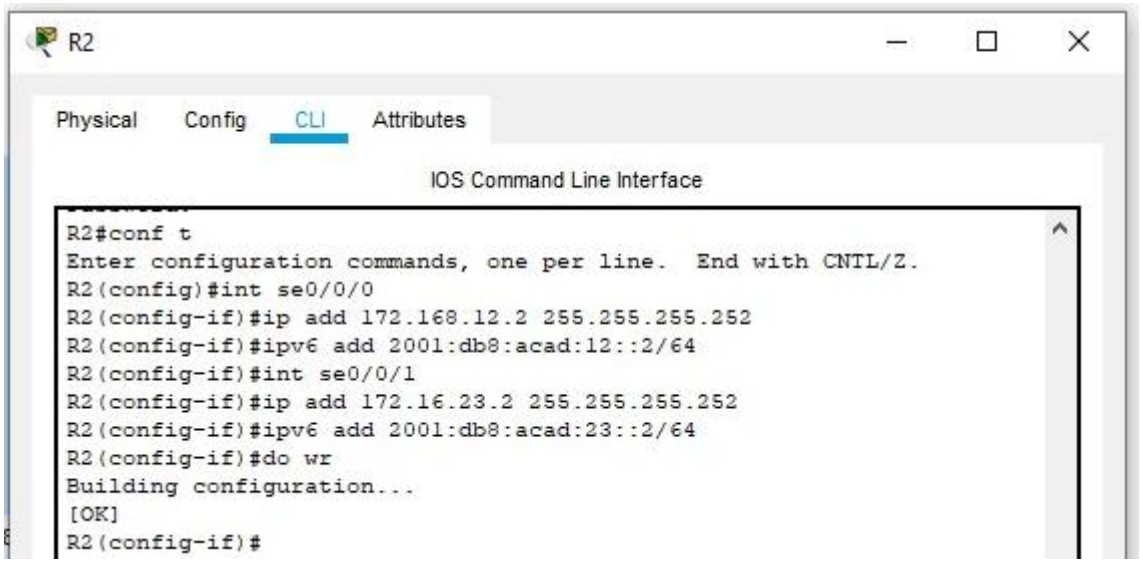
- Paso 1: Configurar el servidor de Internet



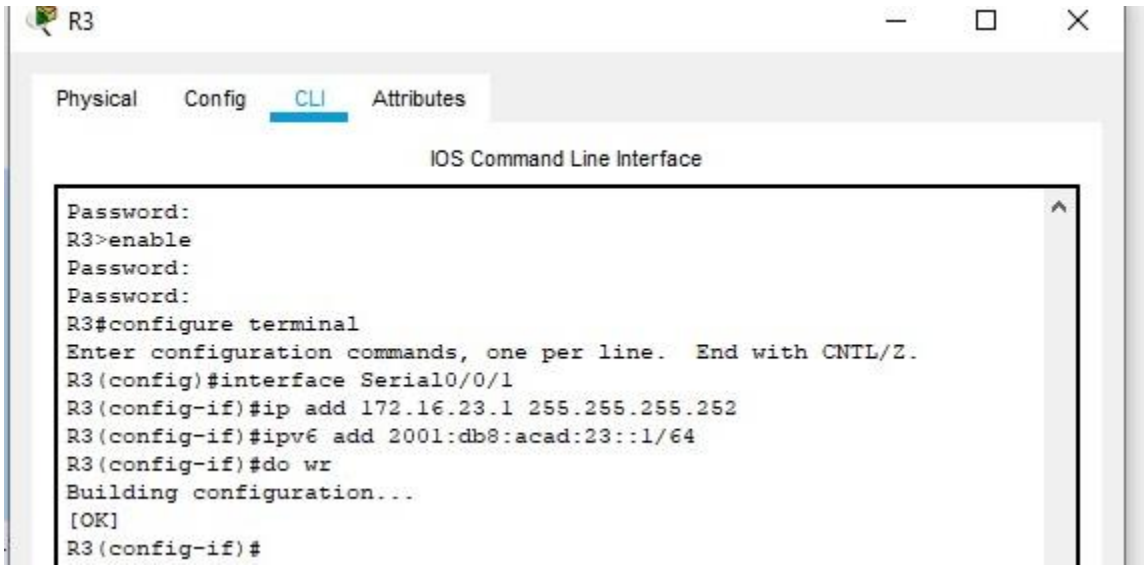
- Paso 2: Configurar R1



- Paso 3: Configurar R2

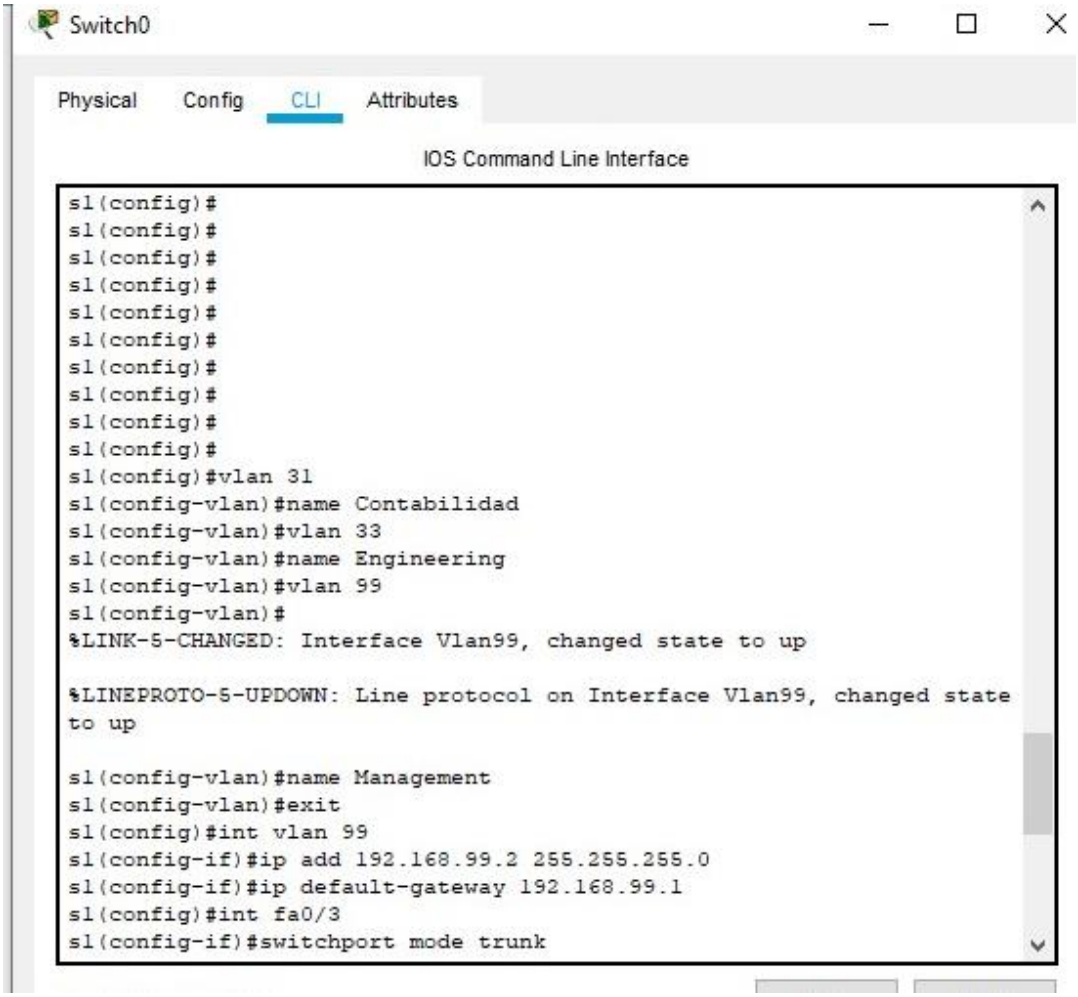


- Paso 4: Configure R3

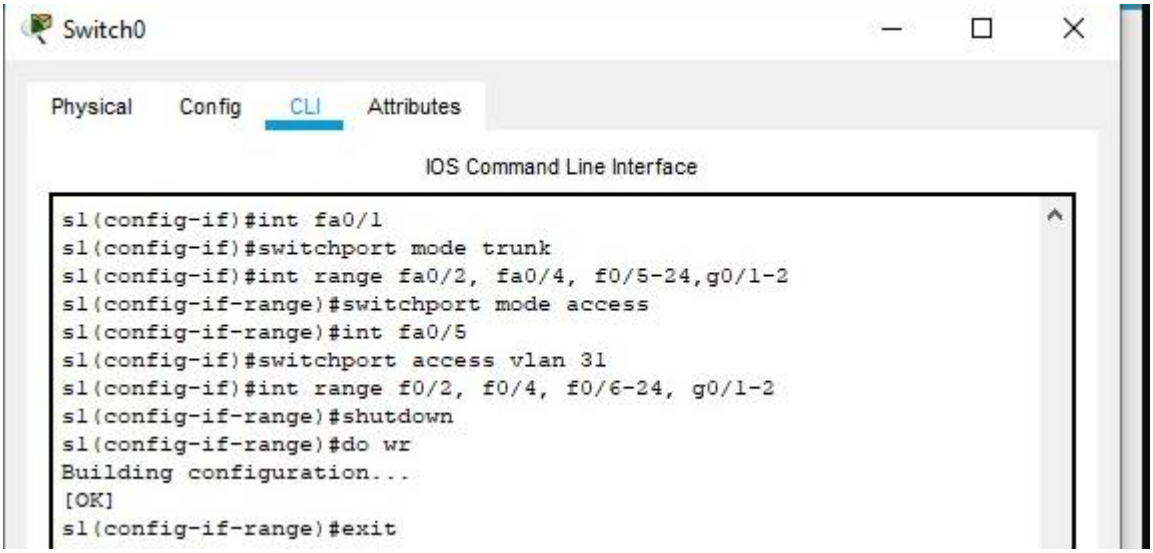


Parte 3: Configurar la seguridad del switch, las VLAN y el routing entre VLAN

- Paso 1: Configurar S1

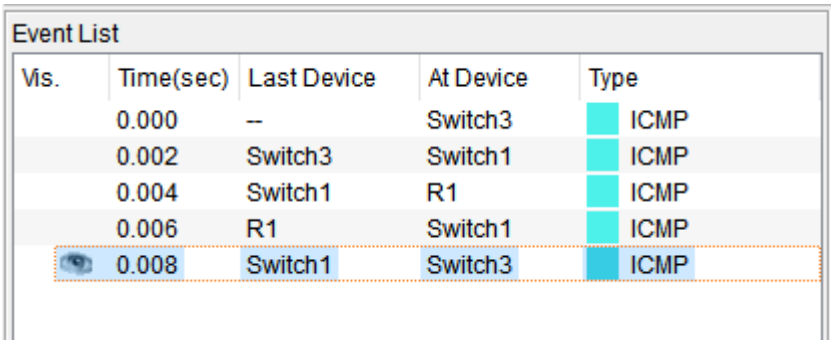


- Paso 2: Configurar el S3



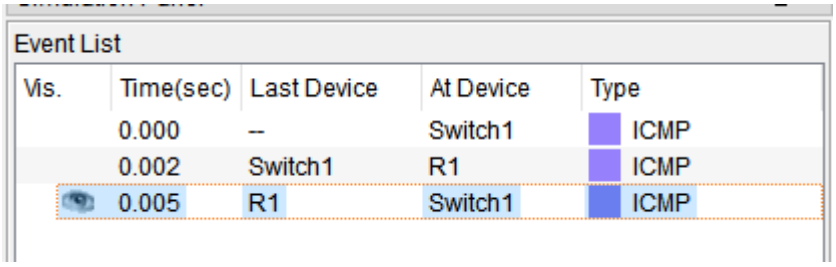
Paso 4: Verificar la conectividad de la red

- Utilice el comando ping para probar la conectividad entre los switches y el R1.



Event List

Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	Switch3	ICMP
	0.002	Switch3	Switch1	ICMP
	0.004	Switch1	R1	ICMP
	0.006	R1	Switch1	ICMP
	0.008	Switch1	Switch3	ICMP

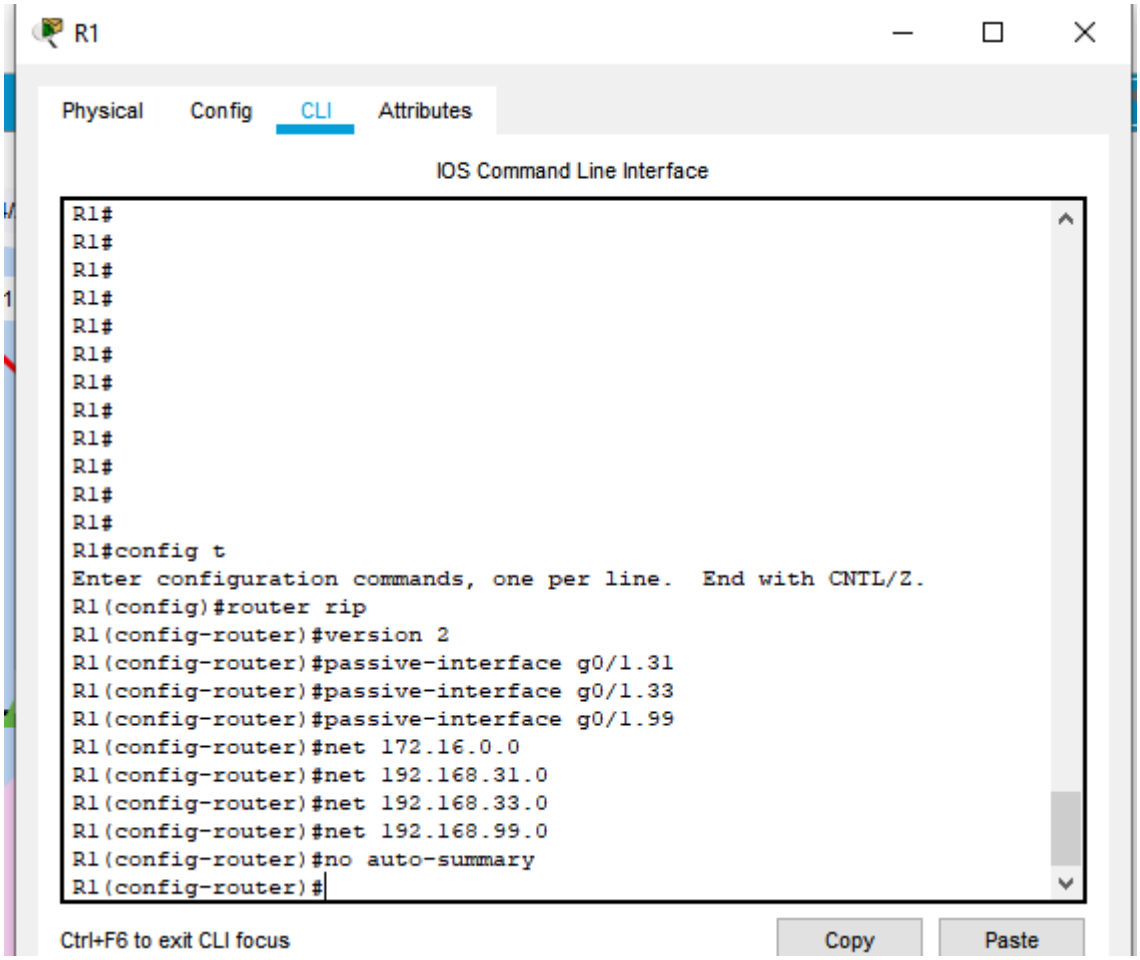


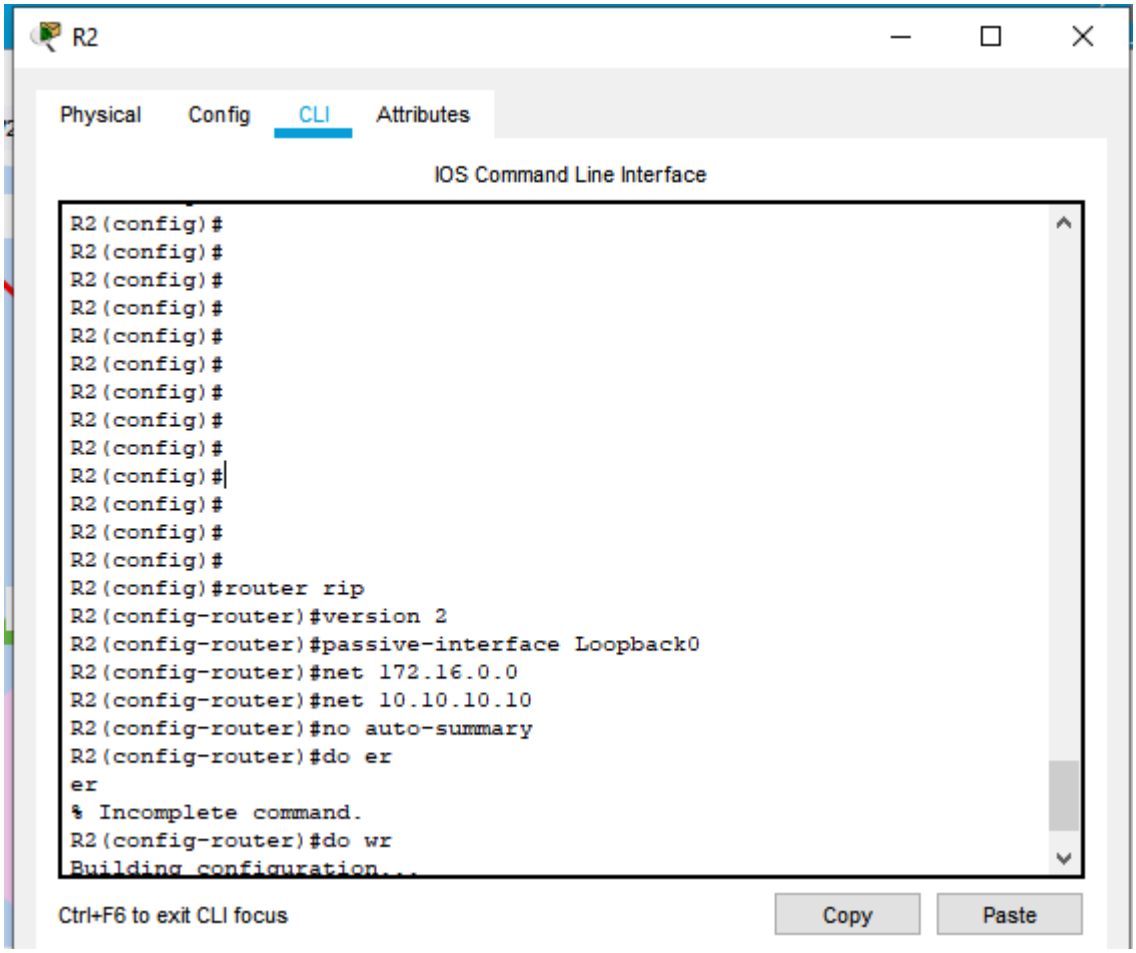
Event List

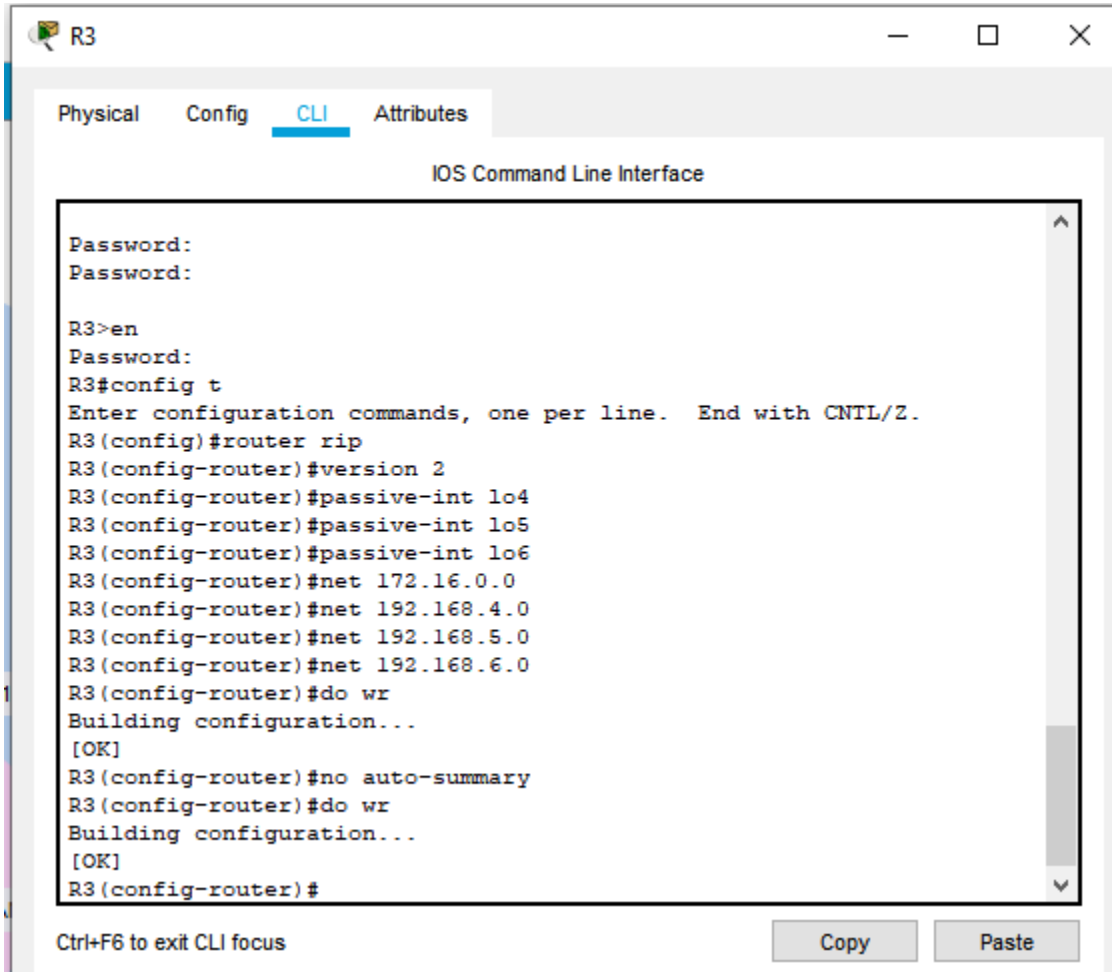
Vis.	Time(sec)	Last Device	At Device	Type
	0.000	--	Switch1	ICMP
	0.002	Switch1	R1	ICMP
	0.005	R1	Switch1	ICMP

Parte 4: Configurar el protocolo de routing dinámico RIPv2

- Configurar el protocolo de routing dinámico RIPv2

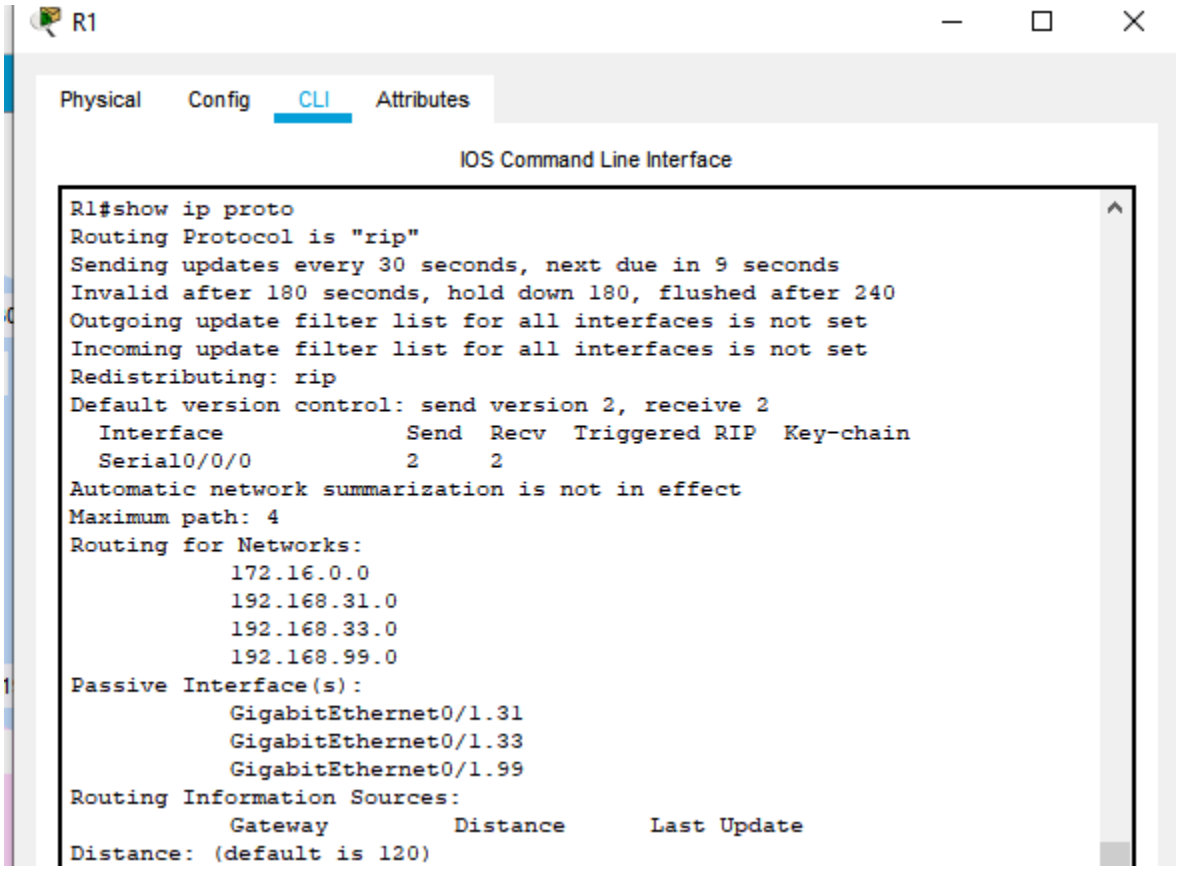


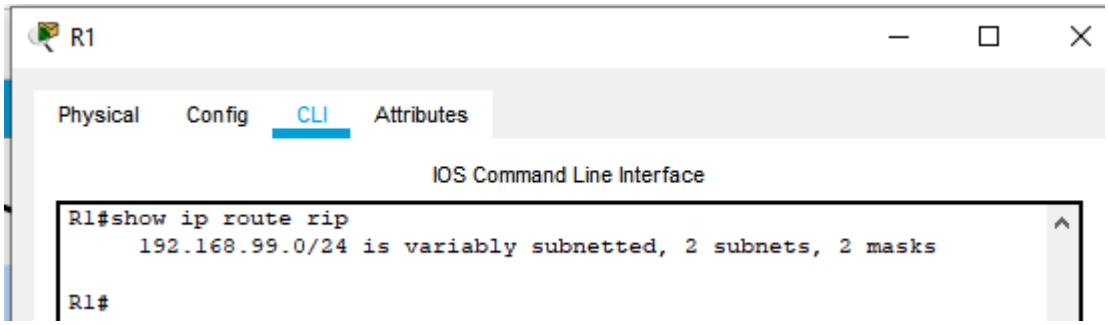

R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#router rip
R2(config-router)#version 2
R2(config-router)#passive-interface Loopback0
R2(config-router)#net 172.16.0.0
R2(config-router)#net 10.10.10.10
R2(config-router)#no auto-summary
R2(config-router)#do er
er
% Incomplete command.
R2(config-router)#do wr
Building configuration...
Ctrl+F6 to exit CLI focus
Copy
Paste


R3
Physical
Config
CLI
Attributes
IOS Command Line Interface
Password:
Password:
R3>en
Password:
R3#config t
Enter configuration commands, one per line. End with CNTL/Z.
R3(config)#router rip
R3(config-router)#version 2
R3(config-router)#passive-int lo4
R3(config-router)#passive-int lo5
R3(config-router)#passive-int lo6
R3(config-router)#net 172.16.0.0
R3(config-router)#net 192.168.4.0
R3(config-router)#net 192.168.5.0
R3(config-router)#net 192.168.6.0
R3(config-router)#do wr
Building configuration...
[OK]
R3(config-router)#no auto-summary
R3(config-router)#do wr
Building configuration...
[OK]
R3(config-router)#
Ctrl+F6 to exit CLI focus
Copy
Paste

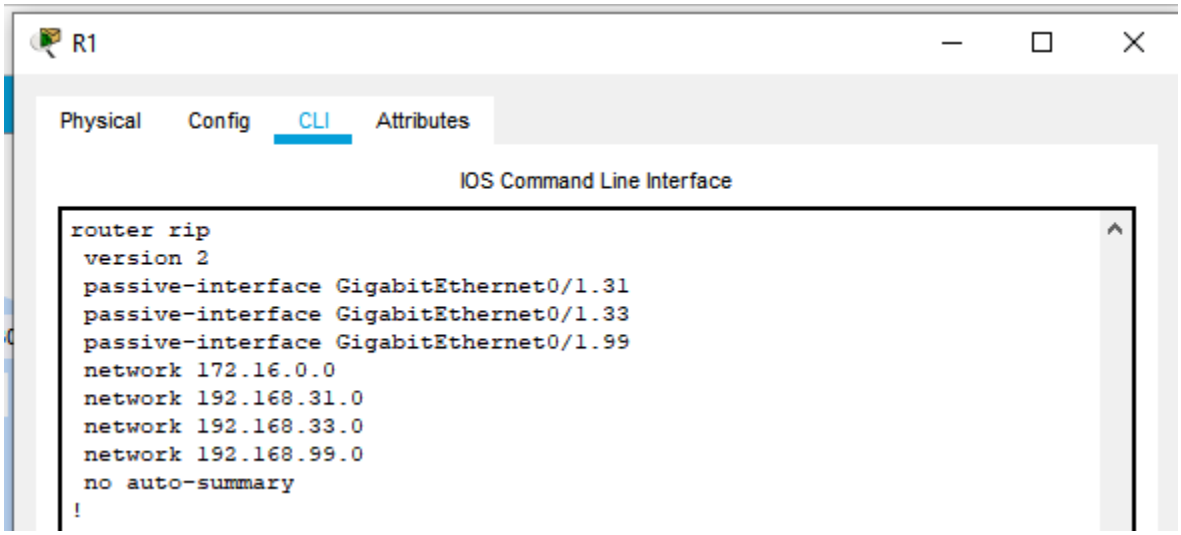
- Verifique la información de RIP

R1

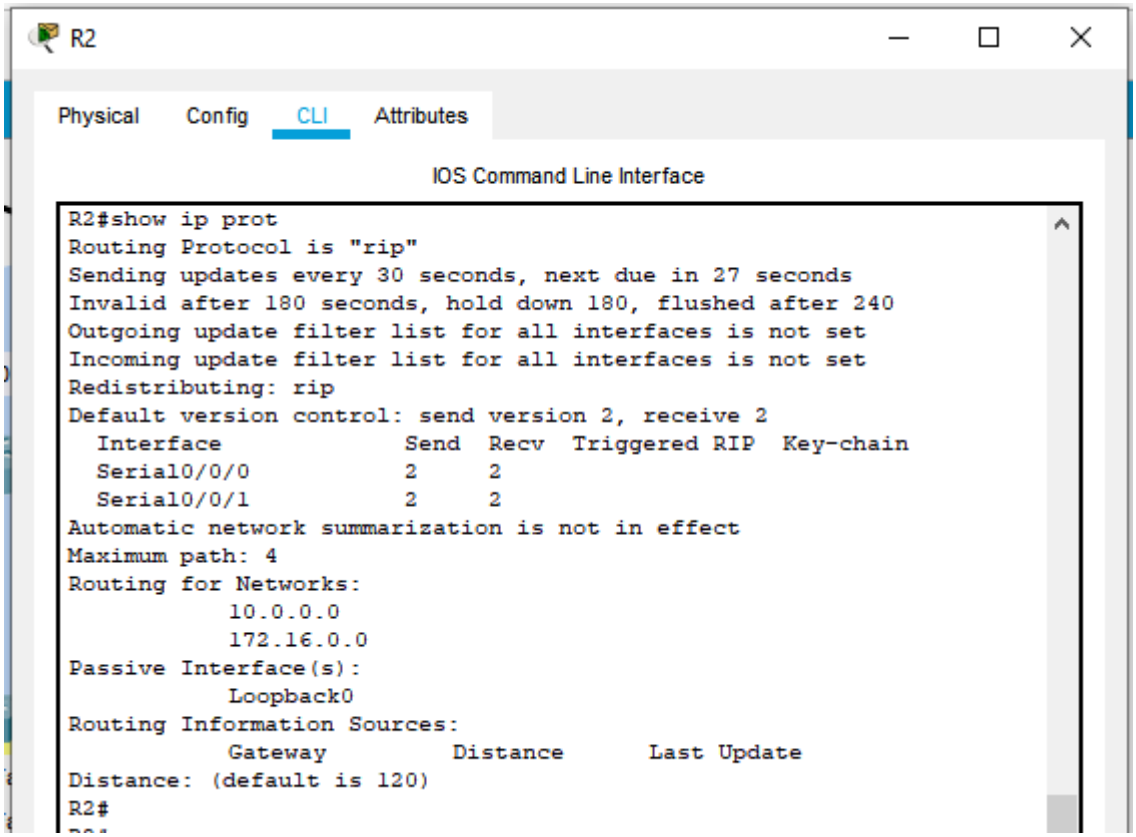


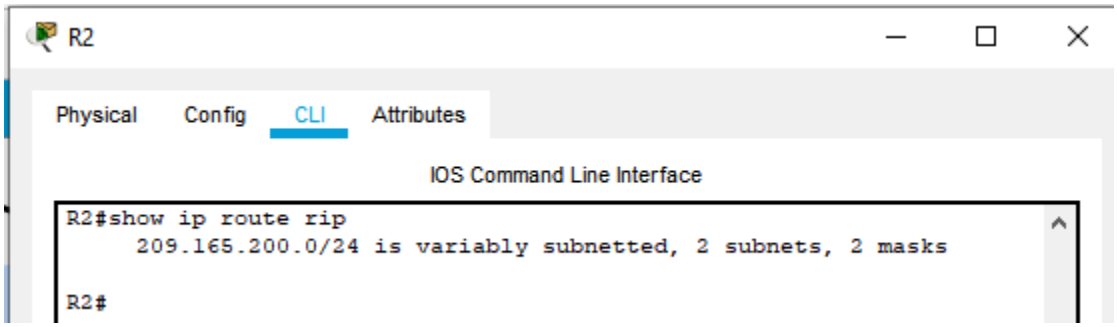


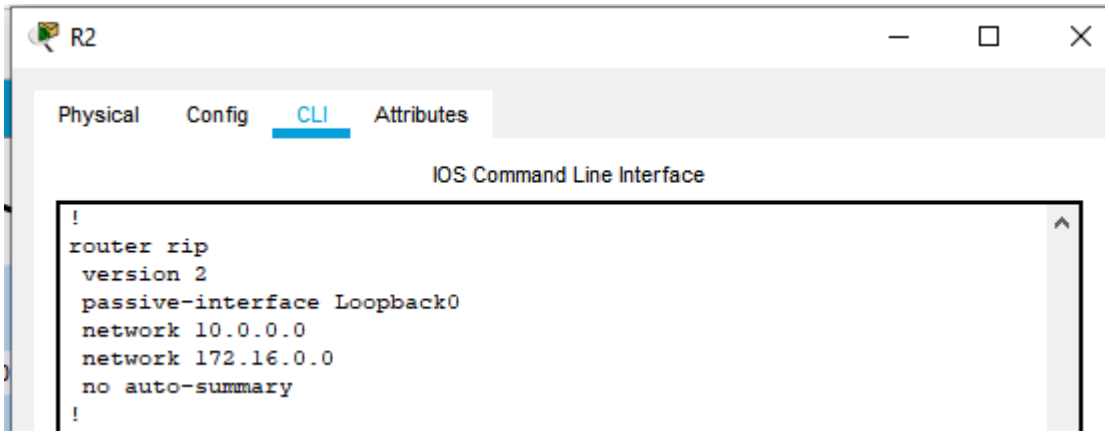
Show run


R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
router rip
 version 2
 passive-interface GigabitEthernet0/1.31
 passive-interface GigabitEthernet0/1.33
 passive-interface GigabitEthernet0/1.99
 network 172.16.0.0
 network 192.168.31.0
 network 192.168.33.0
 network 192.168.99.0
 no auto-summary
!

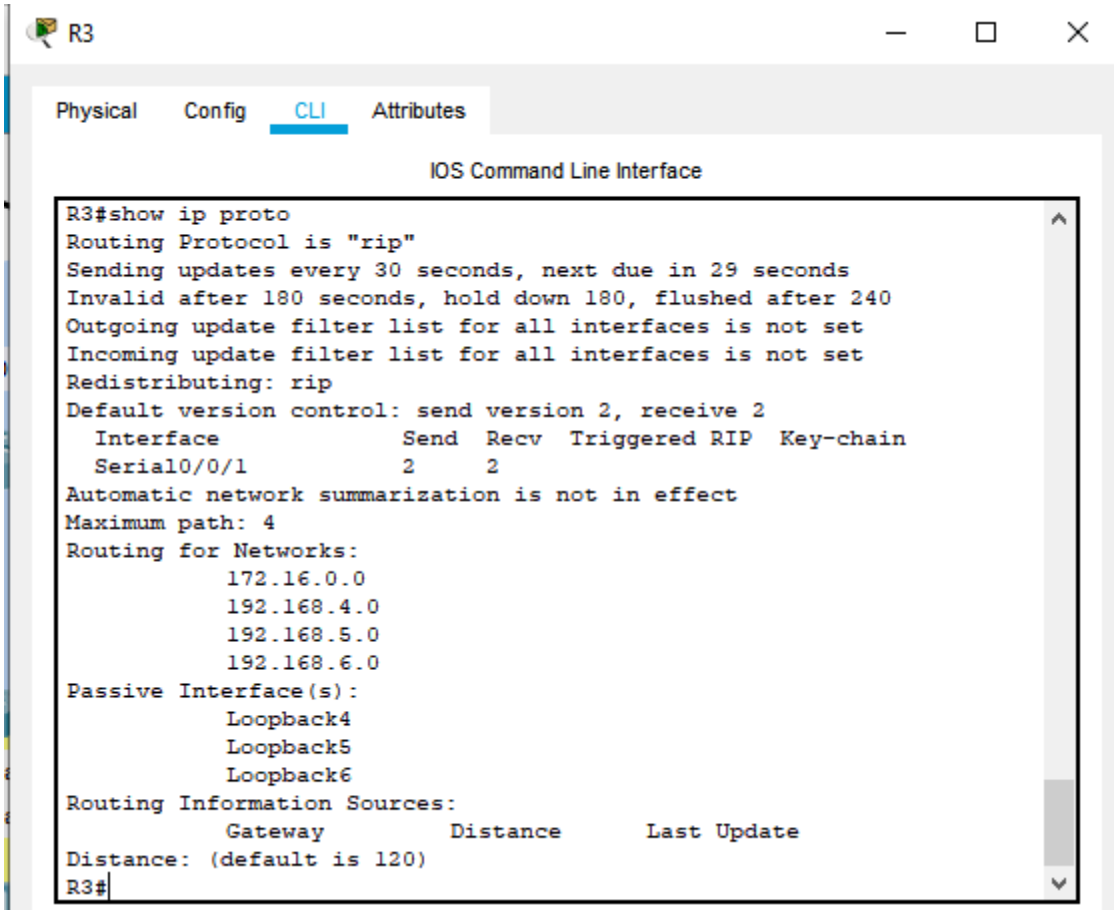
R2

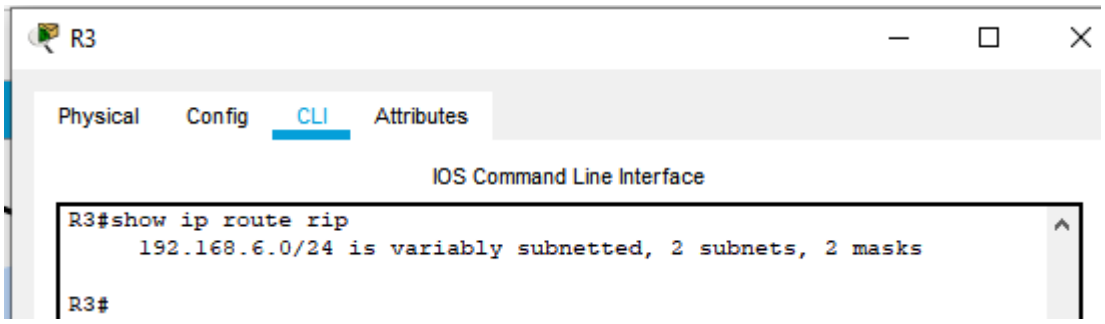

R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
R2#show ip prot
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 27 seconds
Invalid after 180 seconds, hold down 180, flushed after 240
Outgoing update filter list for all interfaces is not set
Incoming update filter list for all interfaces is not set
Redistributing: rip
Default version control: send version 2, receive 2
  Interface   Send Recv Triggered RIP Key-chain
  Serial0/0/0   2   2
  Serial0/0/1   2   2
Automatic network summarization is not in effect
Maximum path: 4
Routing for Networks:
            10.0.0.0
            172.16.0.0
Passive Interface(s):
            Loopback0
Routing Information Sources:
            Gateway   Distance   Last Update
Distance: (default is 120)
R2#


R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
R2#show ip route rip
     209.165.200.0/24 is variably subnetted, 2 subnets, 2 masks
R2#

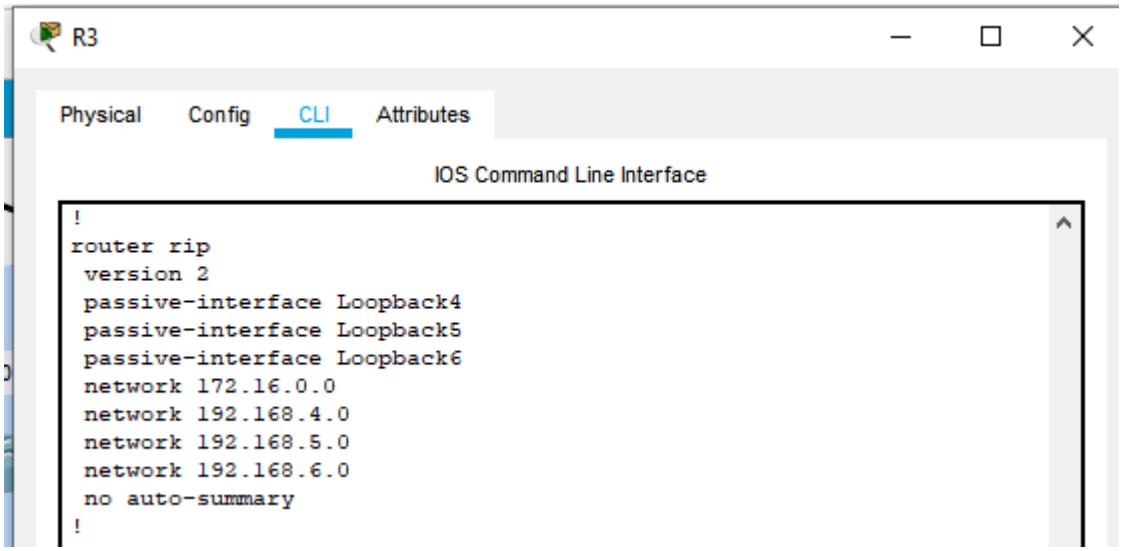

R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
router rip
 version 2
 passive-interface Loopback0
 network 10.0.0.0
 network 172.16.0.0
 no auto-summary
!

R3


R3
Physical
Config
CLI
Attributes
IOS Command Line Interface
R3#show ip proto
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 29 seconds
Invalid after 180 seconds, hold down 180, flushed after 240
Outgoing update filter list for all interfaces is not set
Incoming update filter list for all interfaces is not set
Redistributing: rip
Default version control: send version 2, receive 2
  Interface   Send Recv Triggered RIP Key-chain
  Serial0/0/1   2   2
Automatic network summarization is not in effect
Maximum path: 4
Routing for Networks:
            172.16.0.0
            192.168.4.0
            192.168.5.0
            192.168.6.0
Passive Interface(s):
            Loopback4
            Loopback5
            Loopback6
Routing Information Sources:
            Gateway   Distance   Last Update
Distance: (default is 120)
R3#

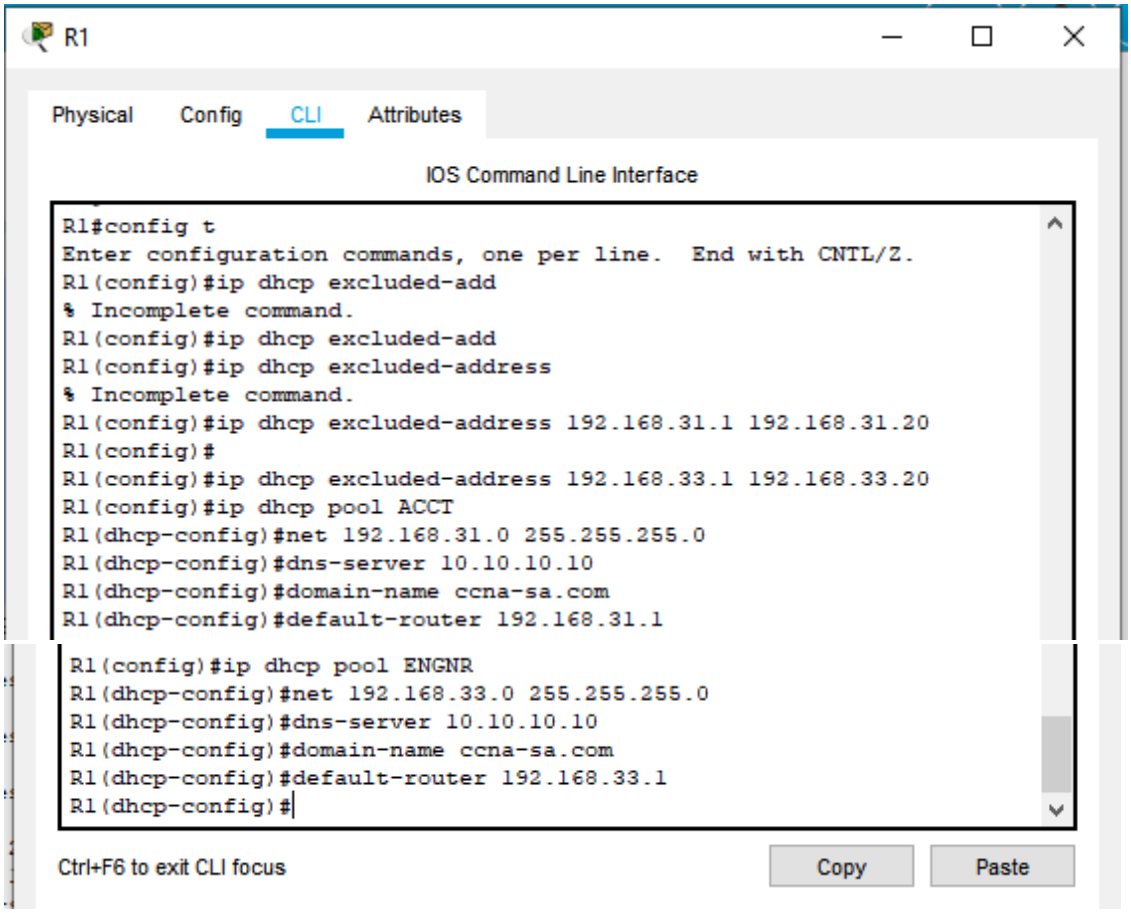

R3
Physical
Config
CLI
Attributes
IOS Command Line Interface
R3#show ip route rip
     192.168.6.0/24 is variably subnetted, 2 subnets, 2 masks
R3#

Show run R3

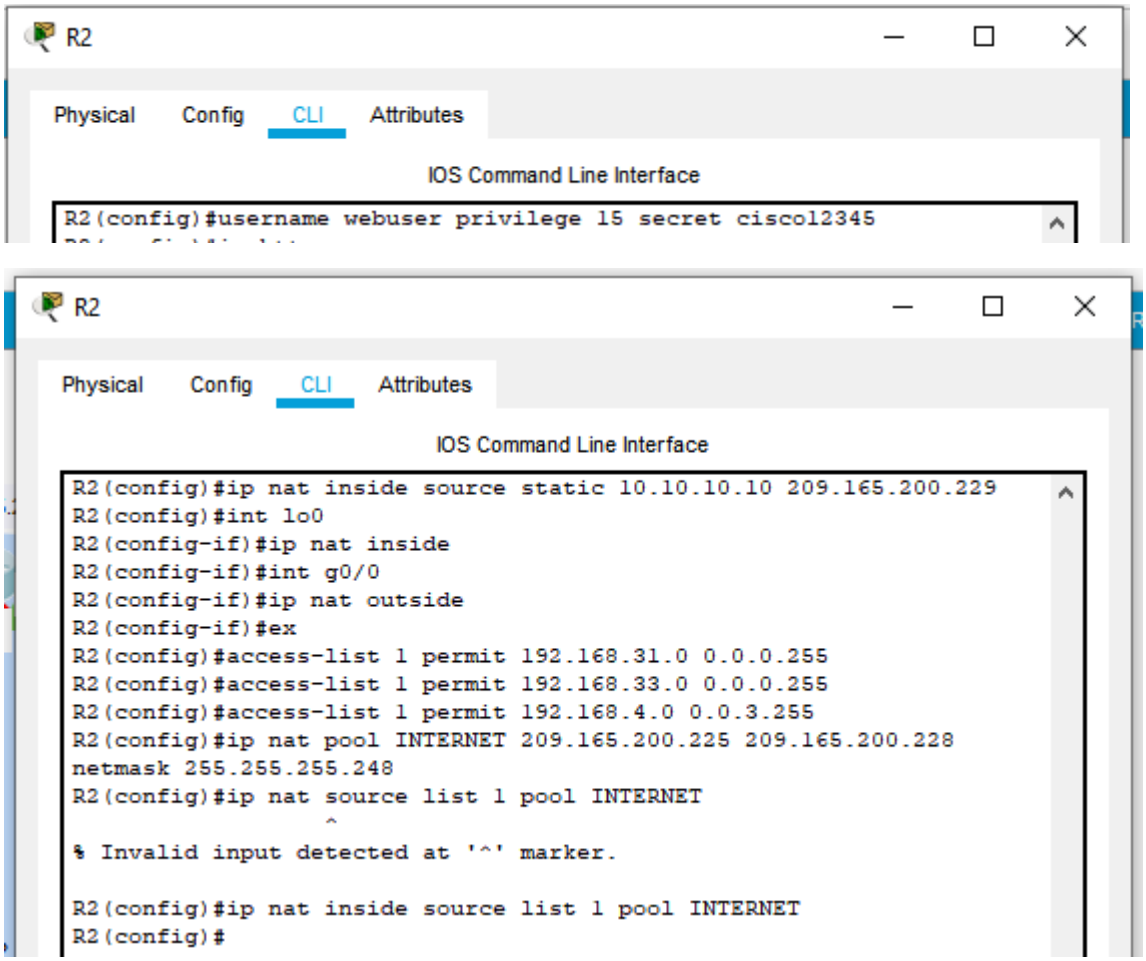


Parte 5: implementar DHCP y NAT para IPv4

Paso 1: Configurar el R1 como servidor de DHCP para las VLAN 31 y 33

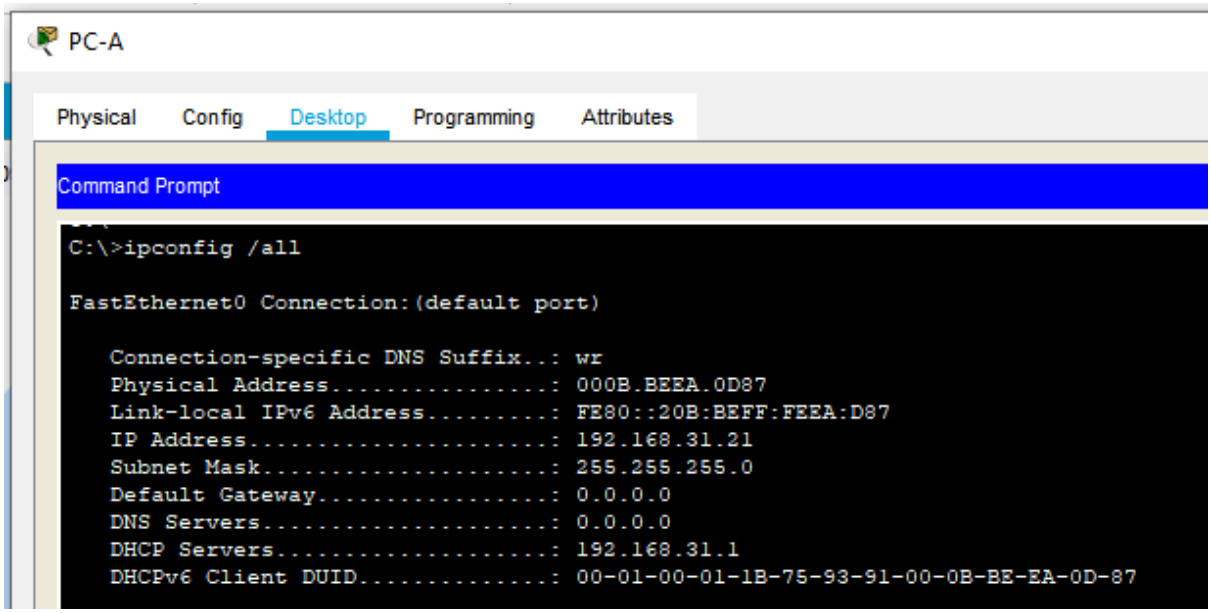


Paso 2: Configurar la NAT estática y dinámica en el R2

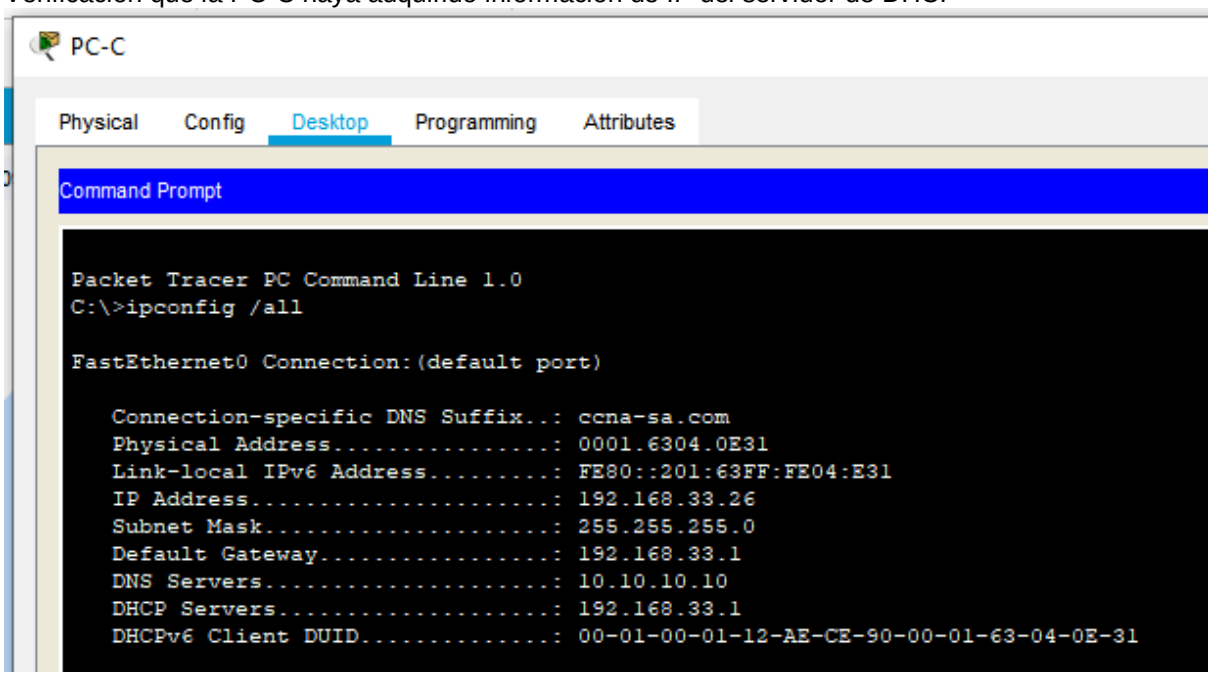


Paso 3: verificar el protocolo DHCP y la NAT estática.

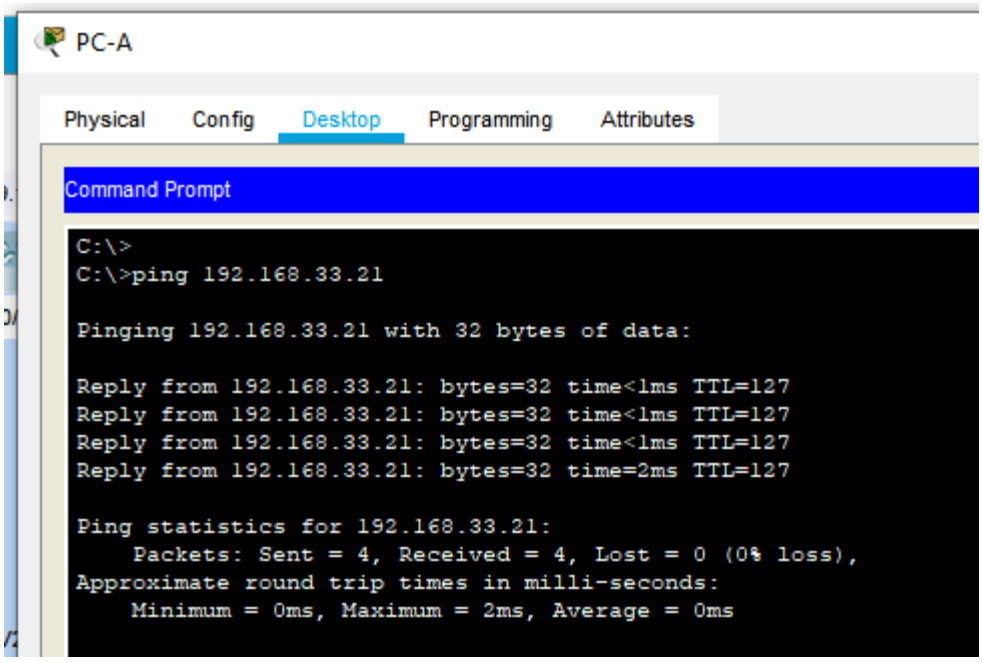
Verificación que la PC-A haya adquirido información de IP del servidor de DHCP



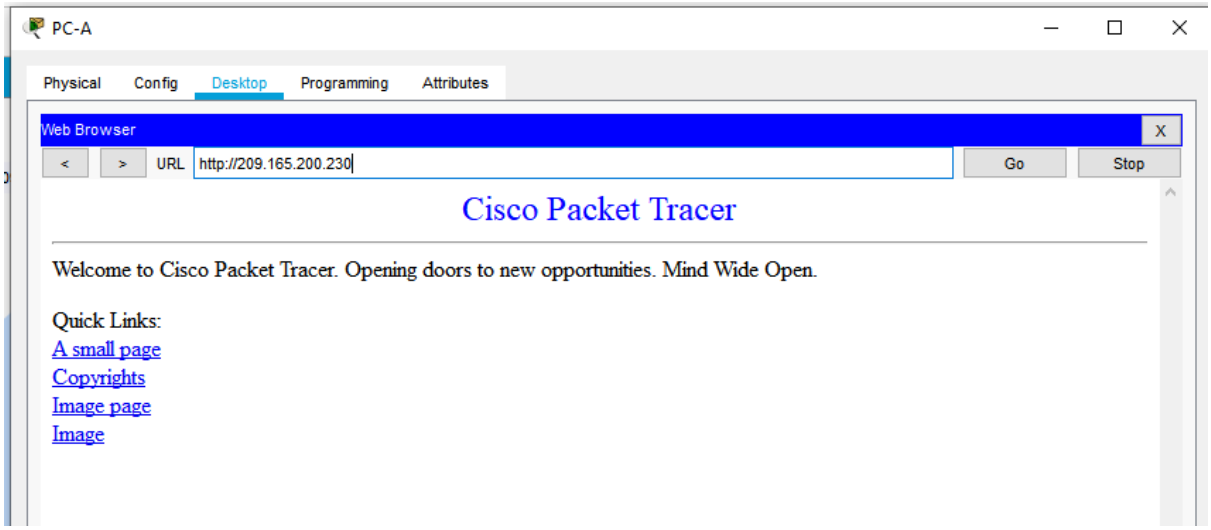
Verificación que la PC-C haya adquirido información de IP del servidor de DHCP



Verificación que la PC-A puede hacer ping a la PC-C

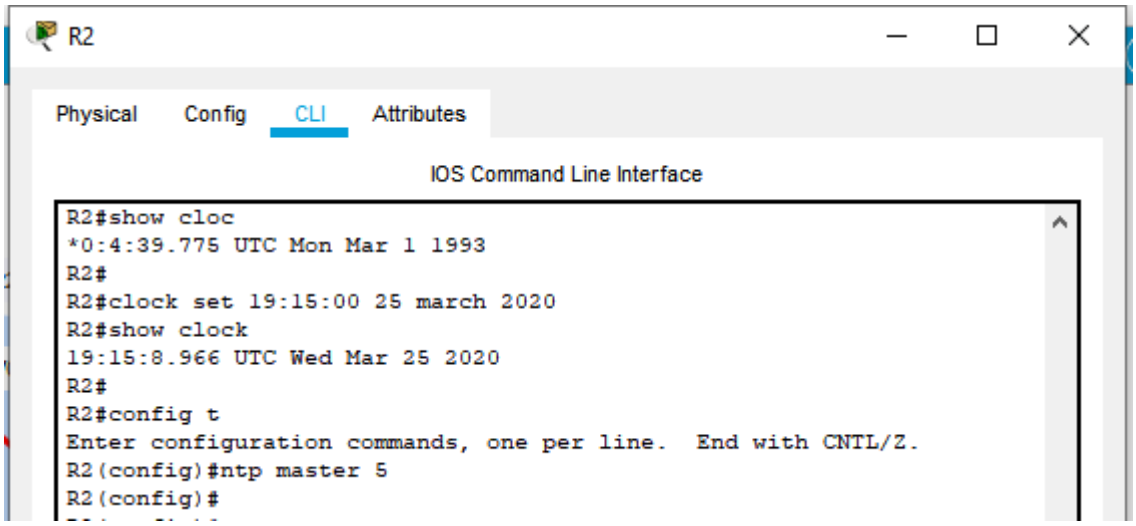


Utilizar un navegador web en la computadora de Internet para acceder al servidor web (209.165.200.229). Iniciar sesión con el nombre de usuario webuser y la contraseña cisco12345

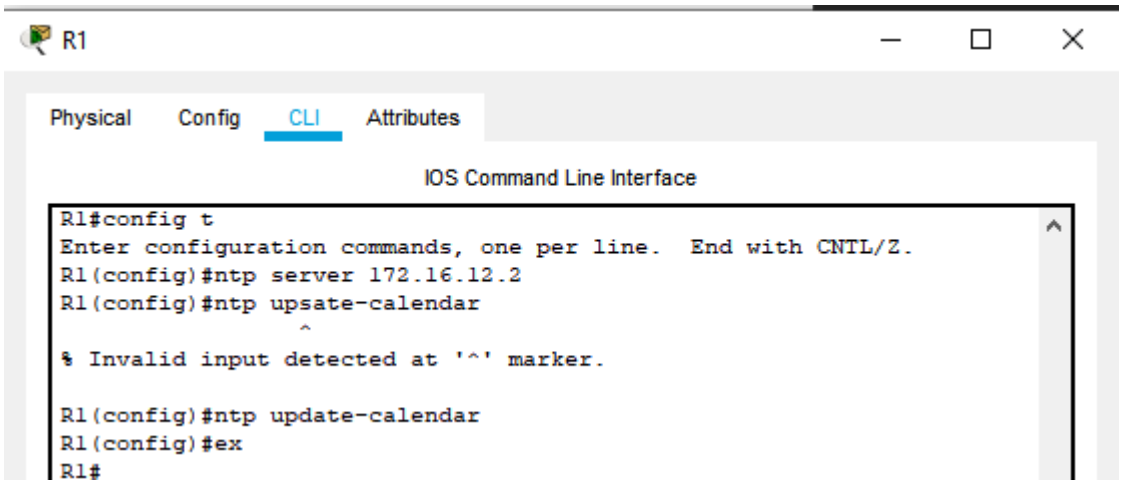


Parte 6: Configurar NTP

Ajustar la fecha y hora en R2, configurar R2 como un maestro NTP



Configurar R1 como un cliente NTP, configure R1 para actualizaciones de calendario periódicas con hora NTP, verifique la configuración de NTP en R1.



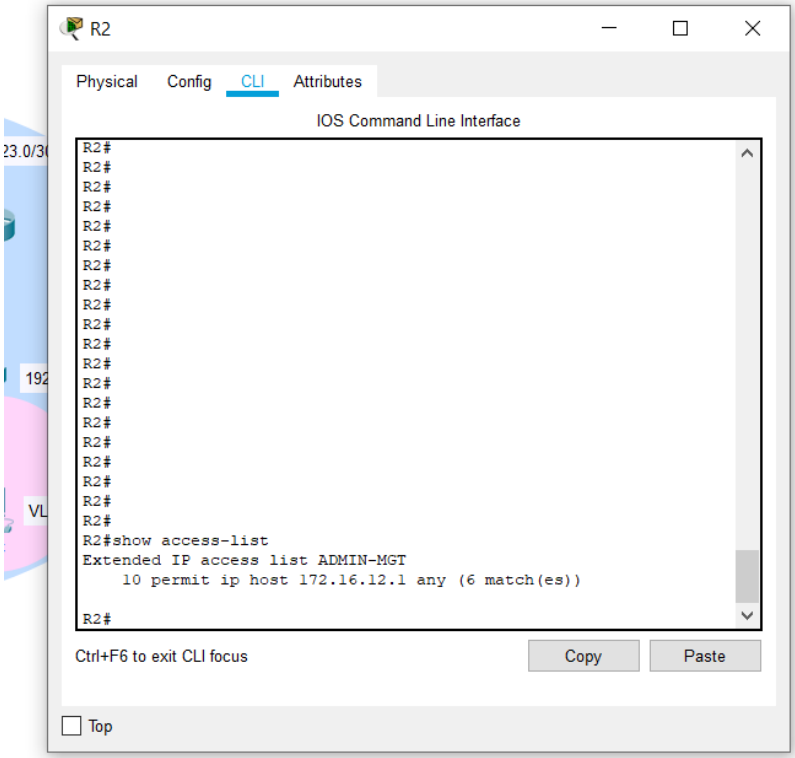
```
R1#show ntp associa

address         ref clock       st   when     poll    reach  delay
offset            disp
 ~172.16.12.2   127.127.1.1     5    14       16      7      2.00
854219276763.00   0.12
 * sys.peer, # selected, + candidate, - outlyer, x falseticker, ~
configured
R1#
```

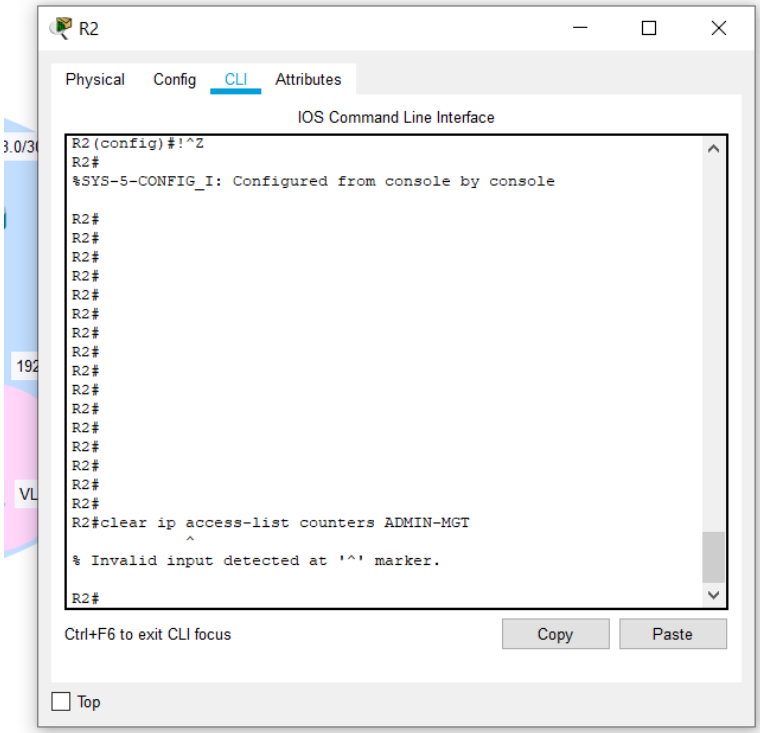
Ctrl+F6 to exit CLI focus Copy Paste

Parte 7: ejecución del los comandos:

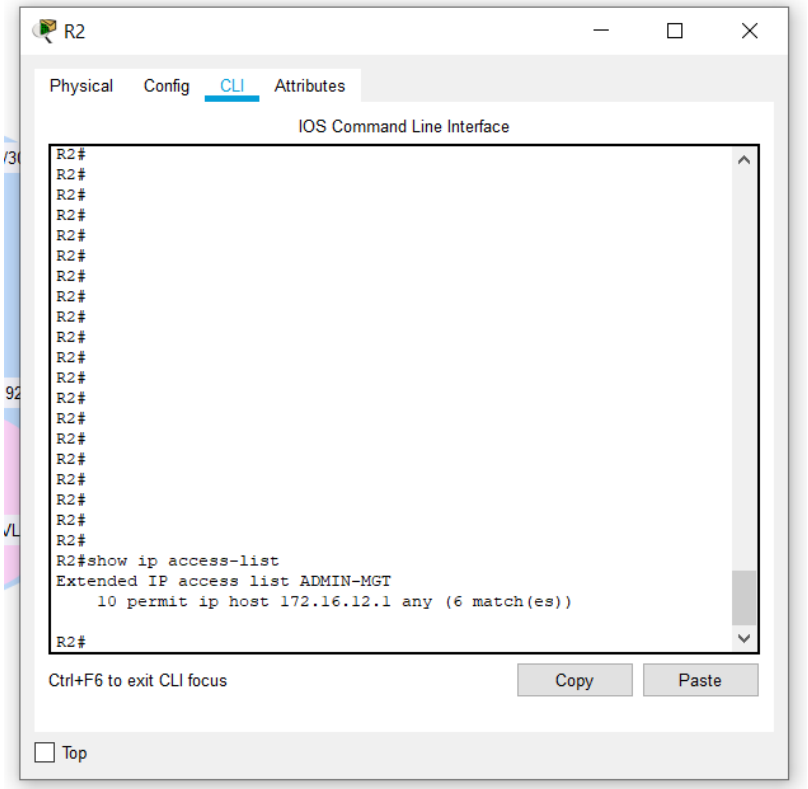
Show acces-list



Clear ip-access list counters ADMIN-MGT



Show ip access-list



Show ip nat translation