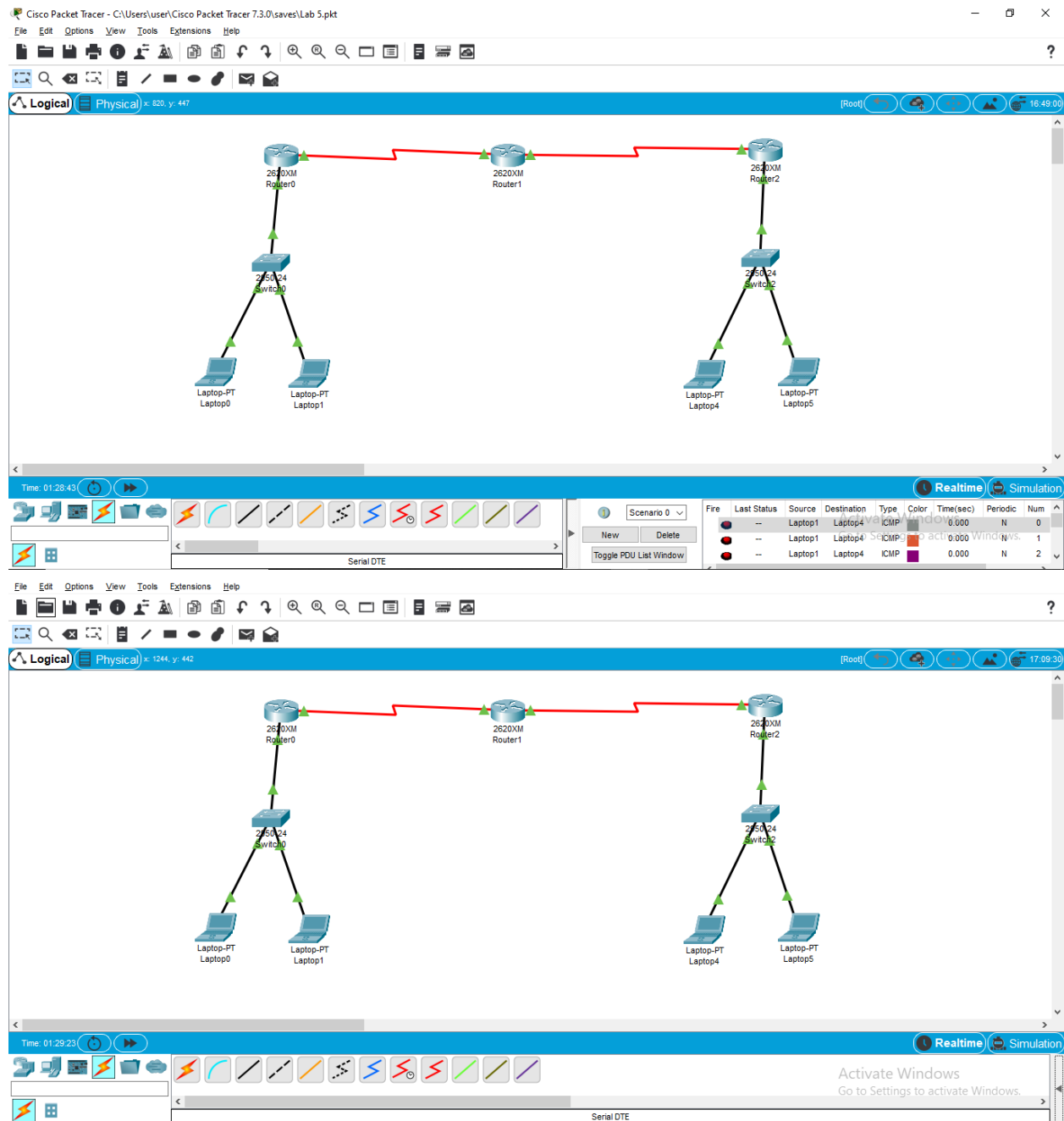


Lab No:5

RIP Version 1:



Cisco Packet Tracer - C:\Users\user\Cisco Packet Tracer 7.3.0\saves\Lab 5.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 620, y: 447 [Root] 16:49:00

Time: 01:28:43 Realtime Simulation

Scenario 0

New Delete

Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
●	--	Laptop1	Laptop4	ICMP	red	0.000	N	0
●	--	Laptop1	Laptop4	ICMP	red	0.000	N	1
●	--	Laptop1	Laptop4	ICMP	red	0.000	N	2

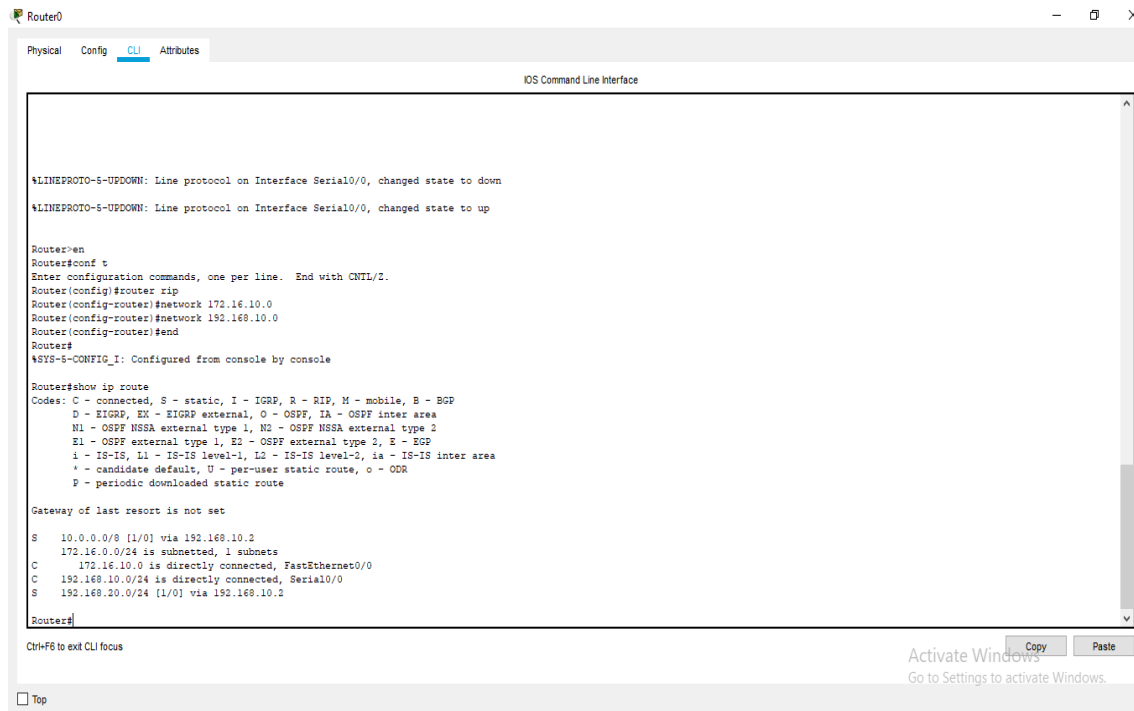
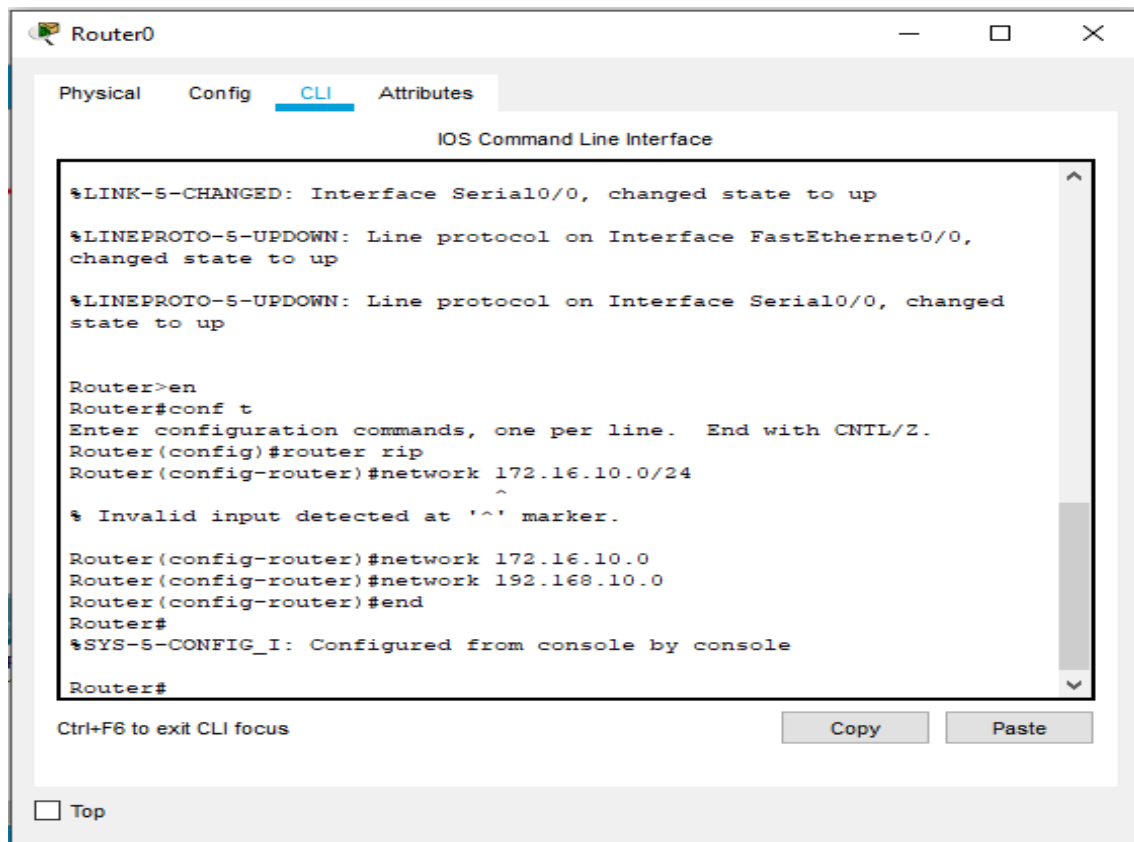
Logical Physical x: 1244, y: 442 [Root] 17:09:30

Time: 01:29:23 Realtime Simulation

Activate Windows
Go to Settings to activate Windows.

Serial DTE

For Router 0:



Router0

Physical Config CLI Attributes

IOS Command Line Interface

Router#show ip rip database
10.0.0.0/8 auto-summary
10.0.0.0/8
[2] via 192.168.10.2, 00:00:17, Serial0/0
192.168.10.0/24 auto-summary
192.168.10.0/24 directly connected, Serial0/0
192.168.20.0/24 auto-summary
192.168.20.0/24
[1] via 192.168.10.2, 00:00:17, Serial0/0
Router#show ip ri?
rip
Router#show ip ri
% Incomplete command.
Router#show ip rip ?
database IP RIP database
Router#show ip pro?
protocols
Router#show ip pro
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 6 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 1, receive any version
Interface Send Recv Triggered RIP Key-chain
FastEthernet0/0 1 2 1
Serial0/0 1 2 1
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
172.16.0.0
192.168.10.0
Passive Interface(s):
Routing Information Sources:
Gateway Distance Last Update
192.168.10.2 120 00:00:20
Distance: (default is 120)
Router#show ip pro?

Copy Paste

Activate Windows
Go to Settings to activate Windows.

Top

Router0

Physical Config CLI Attributes

IOS Command Line Interface

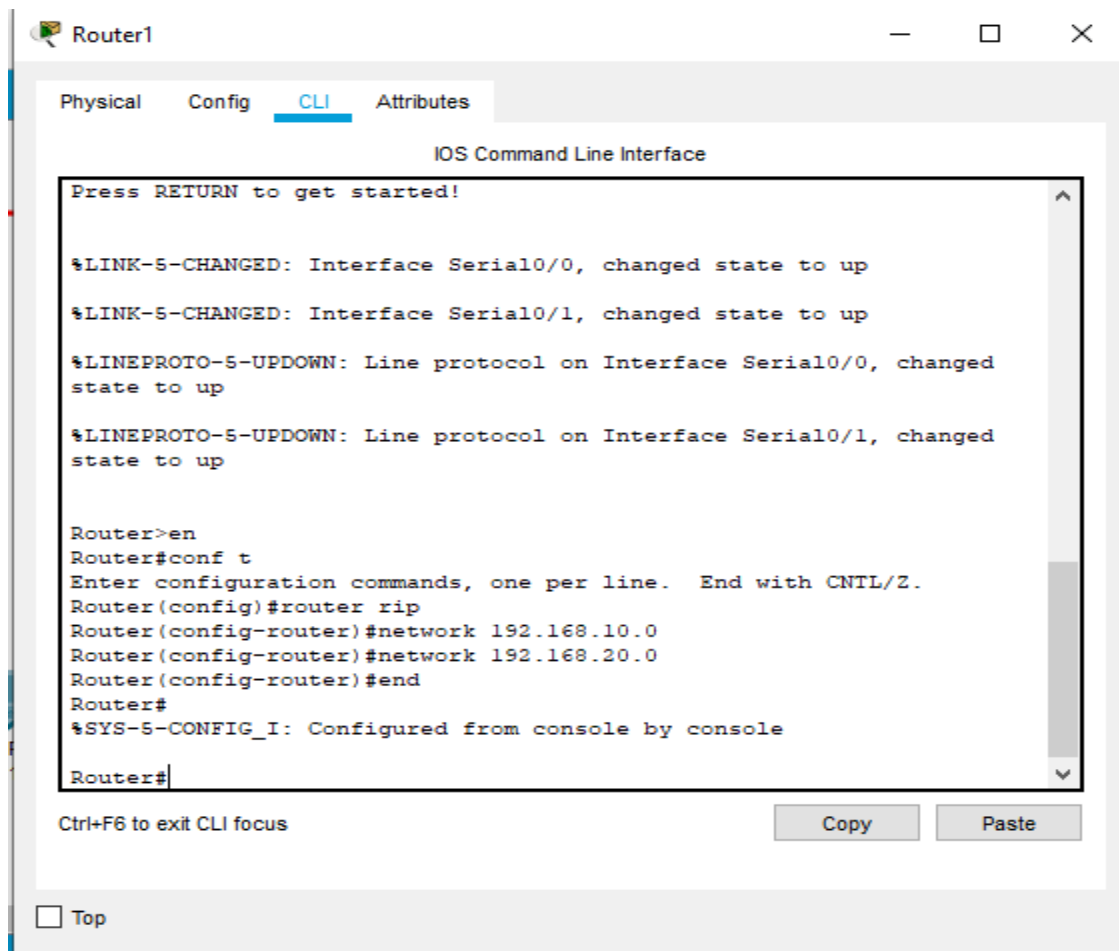
FastEthernet0/0 1 2 1
Serial0/0 1 2 1
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
172.16.0.0
192.168.10.0
Passive Interface(s):
Routing Information Sources:
Gateway Distance Last Update
192.168.10.2 120 00:00:20
Distance: (default is 120)
Router#show ip pro?
protocols
Router#show ip protocols
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 11 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 1, receive any version
Interface Send Recv Triggered RIP Key-chain
FastEthernet0/0 1 2 1
Serial0/0 1 2 1
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
172.16.0.0
192.168.10.0
Passive Interface(s):
Routing Information Sources:
Gateway Distance Last Update
192.168.10.2 120 00:00:12
Distance: (default is 120)
Router#wr
Building configuration...
[OK]
Router#

Copy Paste

Activate Windows
Go to Settings to activate Windows.

Top

For Router 1:



The screenshot shows a window titled "Router1" with a tabbed interface. The "CLI" tab is selected, displaying the "IOS Command Line Interface". The interface shows a series of commands and system messages:

```
Press RETURN to get started!

%LINK-S-CHANGED: Interface Serial0/0, changed state to up
%LINK-S-CHANGED: Interface Serial0/1, changed state to up
%LINEPROTO-S-UPDOWN: Line protocol on Interface Serial0/0, changed
state to up
%LINEPROTO-S-UPDOWN: Line protocol on Interface Serial0/1, changed
state to up

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 192.168.10.0
Router(config-router)#network 192.168.20.0
Router(config-router)#end
Router#
%SYS-S-CONFIG_I: Configured from console by console
Router#
```

Below the CLI window, there is a "Ctrl+F6 to exit CLI focus" message and two buttons: "Copy" and "Paste". At the bottom left, there is a "Top" link.

Router1

Physical Config CLI Attributes

IOS Command Line Interface

```
$LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to down
$LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1, changed state to down
$LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
$LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1, changed state to up

Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 192.168.10.0
Router(config-router)#network 192.168.20.0
Router(config-router)#end
Router#
$SYS-5-CONFIG_I: Configured from console by console

Router#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    10.0.0.0/8 [1/0] via 192.168.20.2
S    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
R    172.16.0.0/16 is possibly down, routing via 192.168.10.1, Serial0/0
S    172.16.10.0/24 [1/0] via 192.168.10.1
C    192.168.10.0/24 is directly connected, Serial0/0
C    192.168.20.0/24 is directly connected, Serial0/1

Router#
```

Ctrl+F6 to exit CLI focus

Copy Paste

Activate Windows
Go to Settings to activate Windows.

Top

Router1

Physical Config CLI Attributes

IOS Command Line Interface

```
Router#show ip rip database
10.0.0.0/8      auto-summary
10.0.0.0/8
    [1] via 192.168.20.2, 00:00:21, Serial0/1
192.168.10.0/24 auto-summary
192.168.10.0/24 directly connected, Serial0/0
192.168.20.0/24 auto-summary
192.168.20.0/24 directly connected, Serial0/1
Router#show ip protocols
Routing Protocol is "rip"
  Sending updates every 30 seconds, next due in 12 seconds
  Invalid after 180 seconds, hold down 180, flushed after 340
  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 1, receive any version
  Interface          Send Recv Triggered RIP  Key-chain
    Serial0/0         1      2  1
    Serial0/1         1      2  1
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
  192.168.10.0
  192.168.20.0
Passive Interface(s):
Routing Information Sources:
  Gateway         Distance    Last Update
  192.168.20.2    120        00:00:25
Distance: (default is 120)
Router>vr
Translating "vr"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address
Router>vr
Translating "vr"...domain server (255.255.255.255)
```

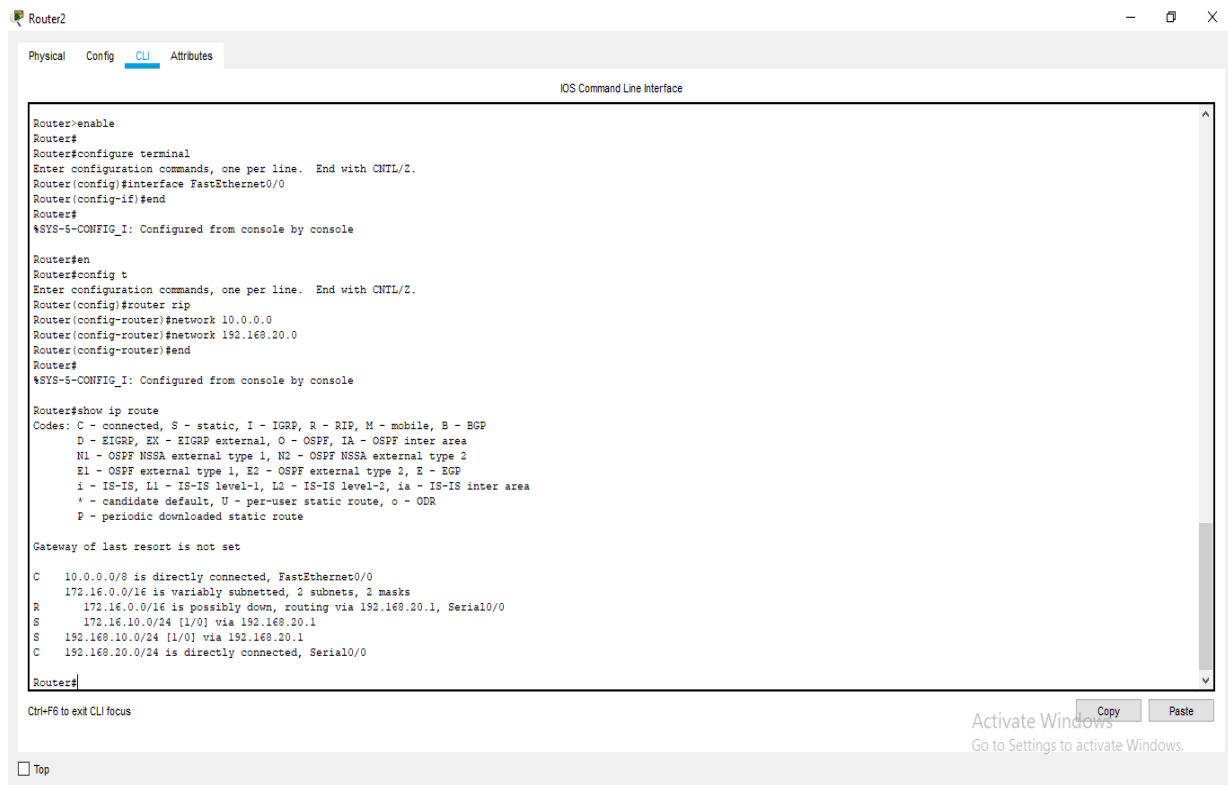
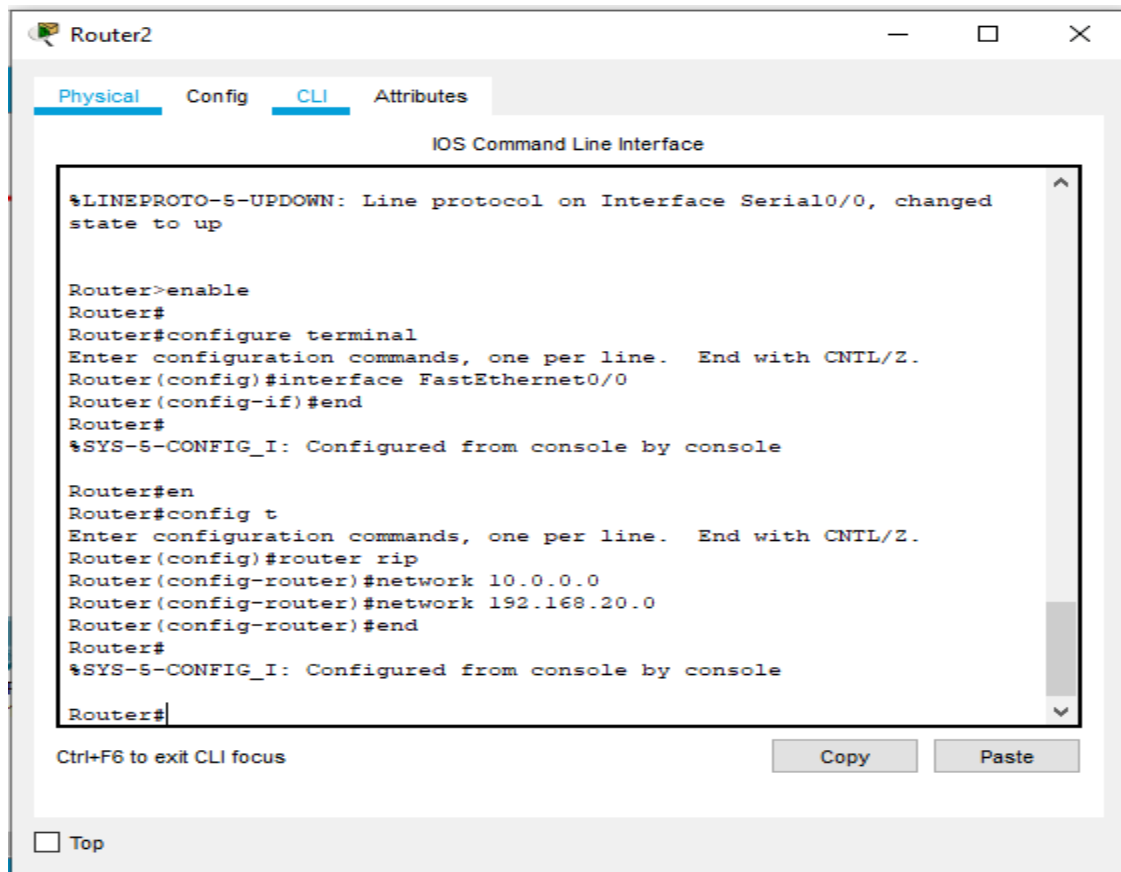
Ctrl+F6 to exit CLI focus

Copy Paste

Activate Windows
Go to Settings to activate Windows.

Top

For Router 2:



Router2

PhysicalConfigCLIAttributes

IOS Command Line Interface

Router>show ip rip database

10.0.0.0/8 auto-summary

10.0.0.0/8 directly connected, FastEthernet0/0

192.168.10.0/24 auto-summary

192.168.10.0/24

[1] via 192.168.20.1, 00:00:22, Serial0/0

192.168.20.0/24 auto-summary

192.168.20.0/24 directly connected, Serial0/0

Router>show ip protocols

Routing Protocol is "rip"

Sending updates every 30 seconds, next due in 24 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 1, receive any version

Interface	Send	Recv	Triggered RIP	Key-chain
FastEthernet0/0	1	2	1	
Serial0/0	1	2	1	

Automatic network summarization is in effect

Maximum path: 4

Routing for Networks:

10.0.0.0
192.168.20.0

Passive Interface(s):

Routing Information Sources:

Gateway	Distance	Last Update
192.168.20.1	120	00:00:26

Distance: (default is 120)

Router>vr

Translating "vr"...domain server (255.255.255.255)

* Unknown command or computer name, or unable to find computer address

Router>vr

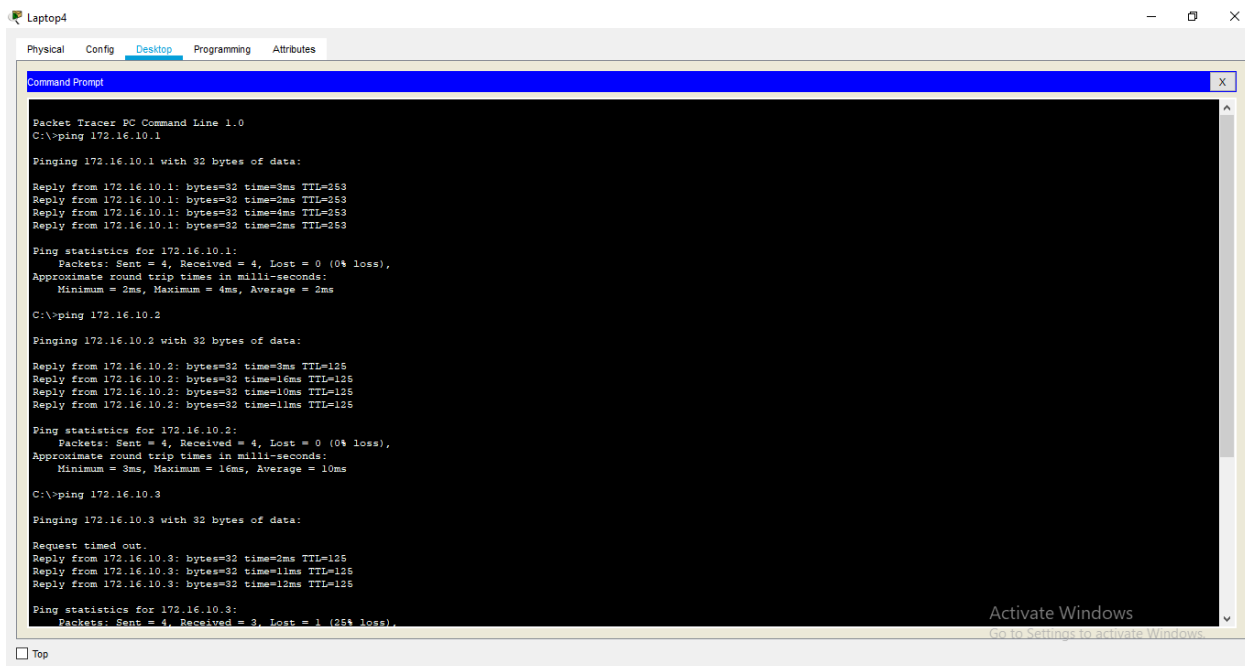
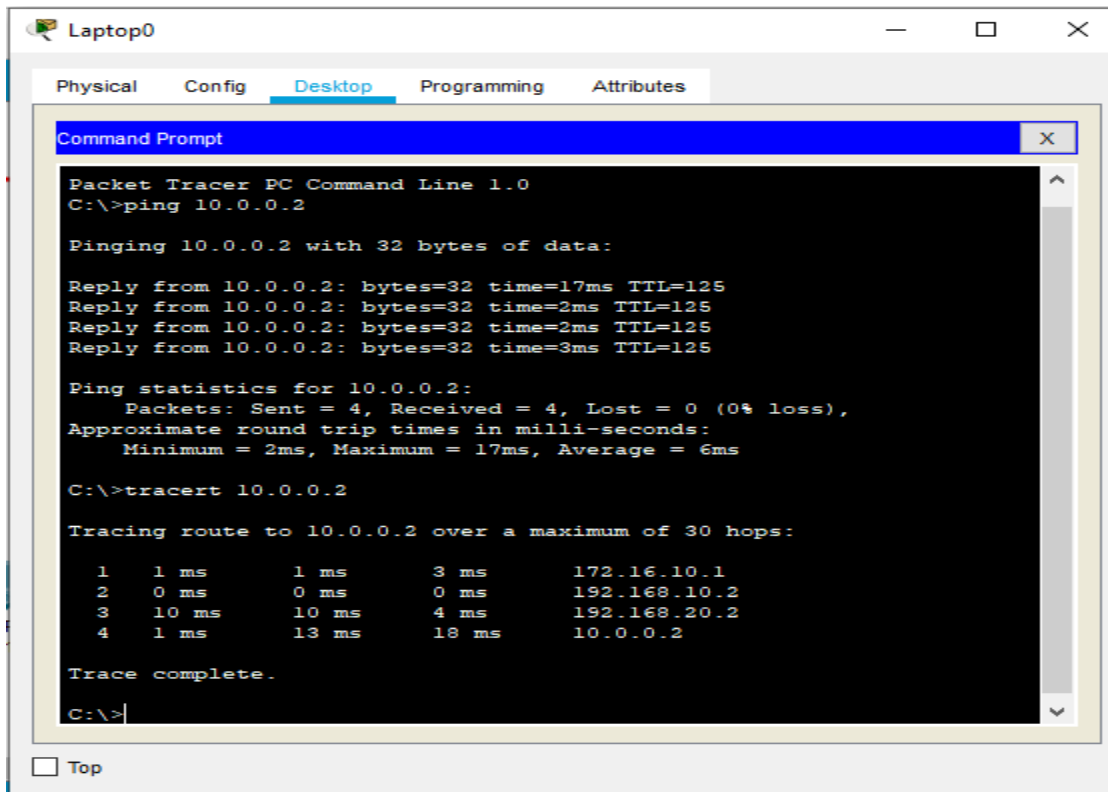
Translating "vr"...domain server (255.255.255.255)

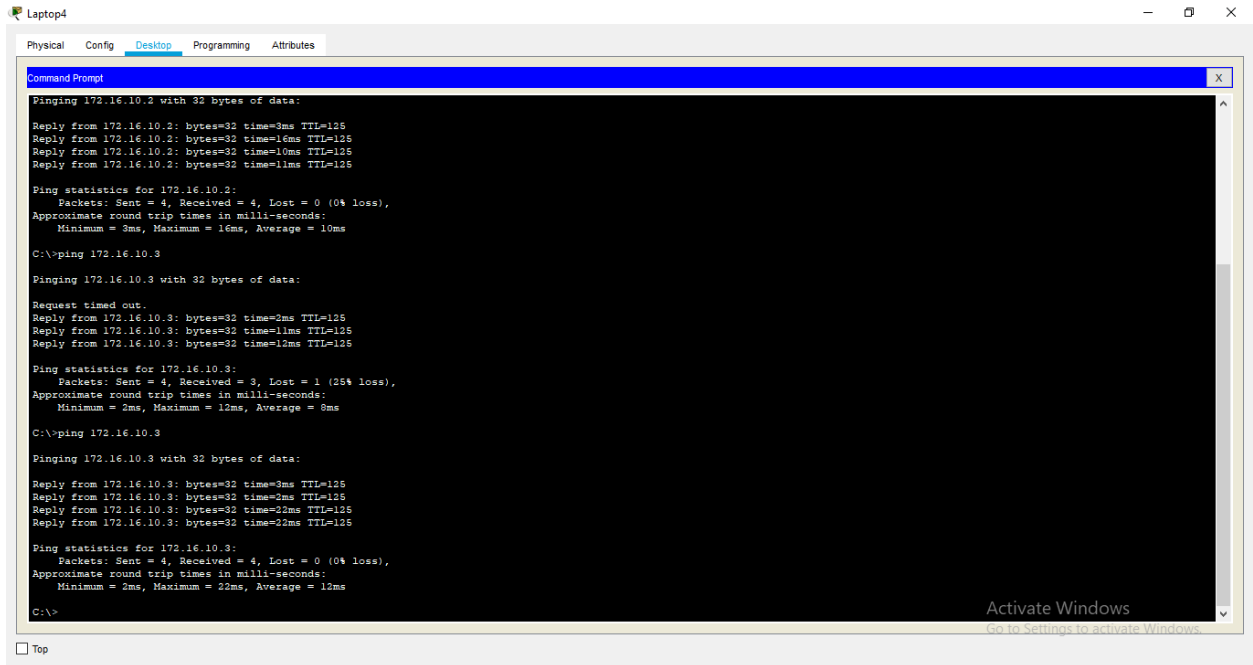
Ctrl-F6 to exit CLI focus

CopyPaste

Activate Windows
Go to Settings to activate Windows.

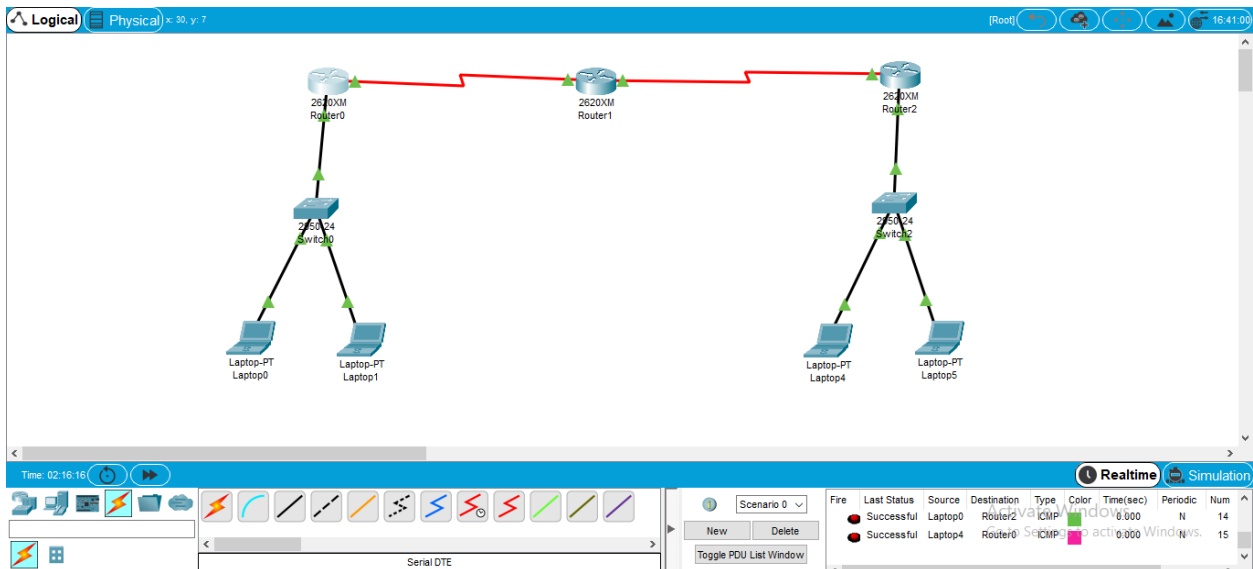
☐ Top



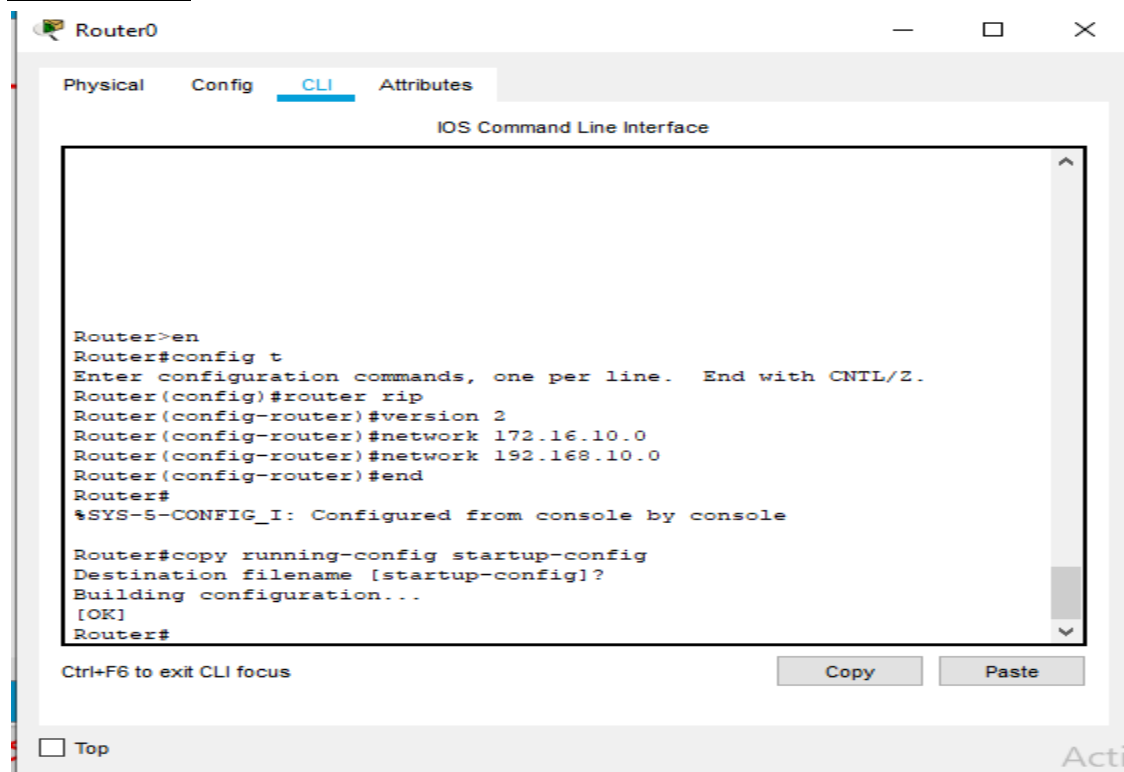


Lab No:5

RIP Version 2:



For Router 0:

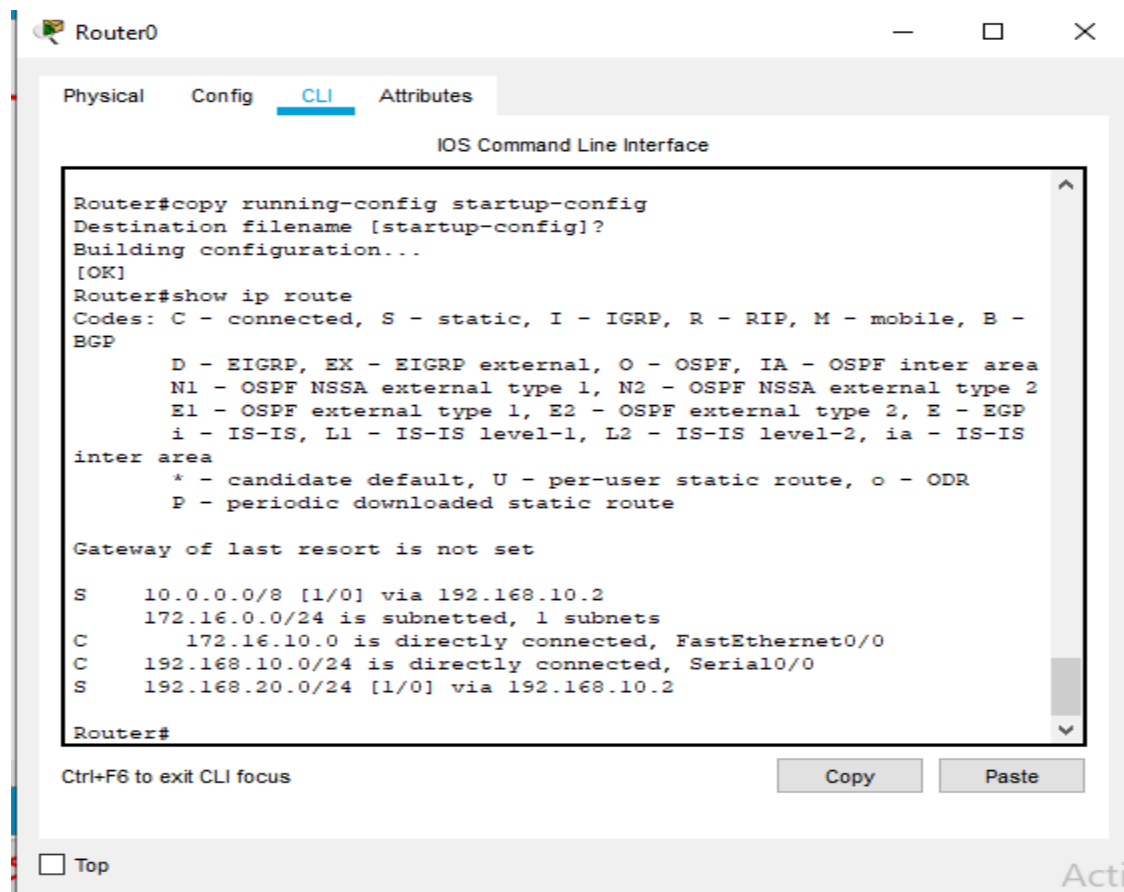


The screenshot shows the 'Router0' window with the 'CLI' tab selected. The 'IOS Command Line Interface' text area contains the following commands and output:

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#network 172.16.10.0
Router(config-router)#network 192.168.10.0
Router(config-router)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

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

Below the text area, there is a 'Ctrl+F6 to exit CLI focus' label and 'Copy' and 'Paste' buttons. At the bottom left, there is a 'Top' button.



The screenshot shows the 'Router0' window with the 'CLI' tab selected. The 'IOS Command Line Interface' text area contains the following commands and output:

```
Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router#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    10.0.0.0/8 [1/0] via 192.168.10.2
     172.16.0.0/24 is subnetted, 1 subnets
C      172.16.10.0 is directly connected, FastEthernet0/0
C    192.168.10.0/24 is directly connected, Serial0/0
S    192.168.20.0/24 [1/0] via 192.168.10.2

Router#
```

Below the text area, there is a 'Ctrl+F6 to exit CLI focus' label and 'Copy' and 'Paste' buttons. At the bottom left, there is a 'Top' button.

Router0

Physical

Config

CLI

Attributes

IOS Command Line Interface

```
Router(config)#interface FastEthernet0/0
Router(config-if)#end
Router#
*SYS-5-CONFIG_I: Configured from console by console

Router#show ip rip database
10.0.0.0/8      auto-summary
10.0.0.0/8
    [2] via 192.168.10.2, 00:00:14, Serial0/0
192.168.10.0/24  auto-summary
192.168.10.0/24  directly connected, Serial0/0
192.168.20.0/24  auto-summary
192.168.20.0/24
    [1] via 192.168.10.2, 00:00:14, Serial0/0
Router#show ip protocols
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 11 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
  FastEthernet0/0      2    2
  Serial0/0            2    2
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
  172.16.0.0
  192.168.10.0
Passive Interface(s):
Routing Information Sources:
  Gateway         Distance    Last Update
  192.168.10.2      120        00:00:16
Distance: (default is 120)
Router#wr
Building configuration...
[OK]
Router#
```

Ctrl+F8 to exit CLI focus

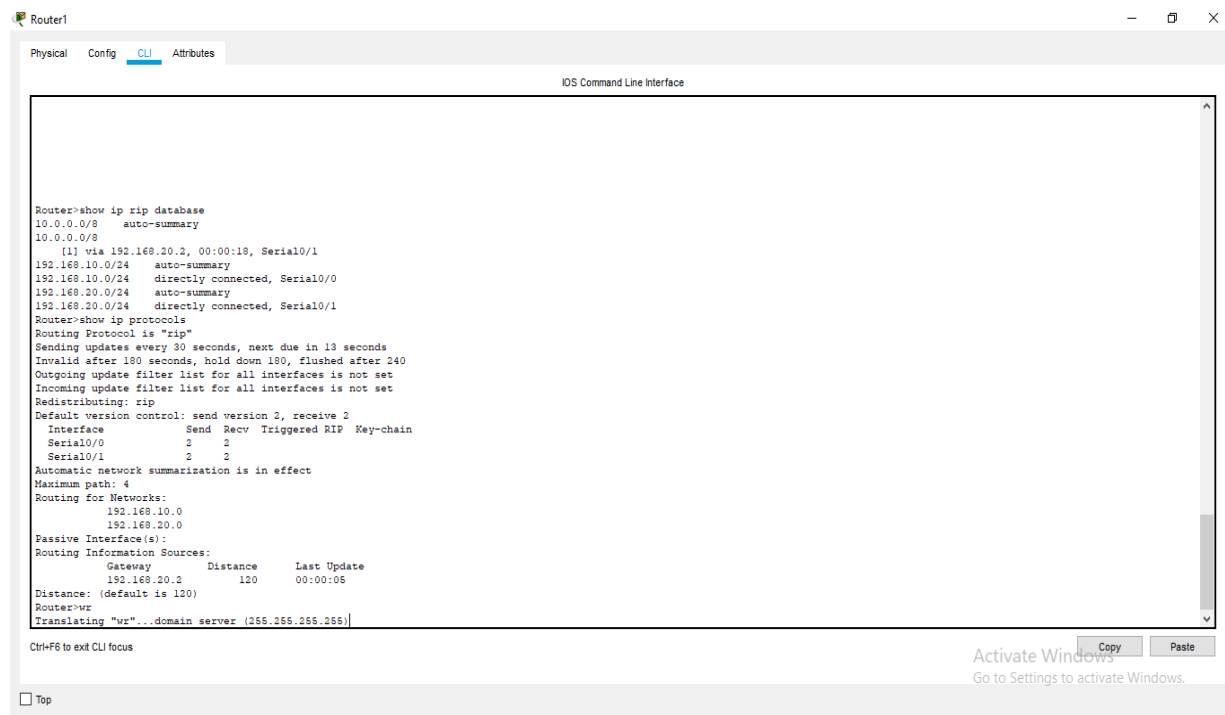
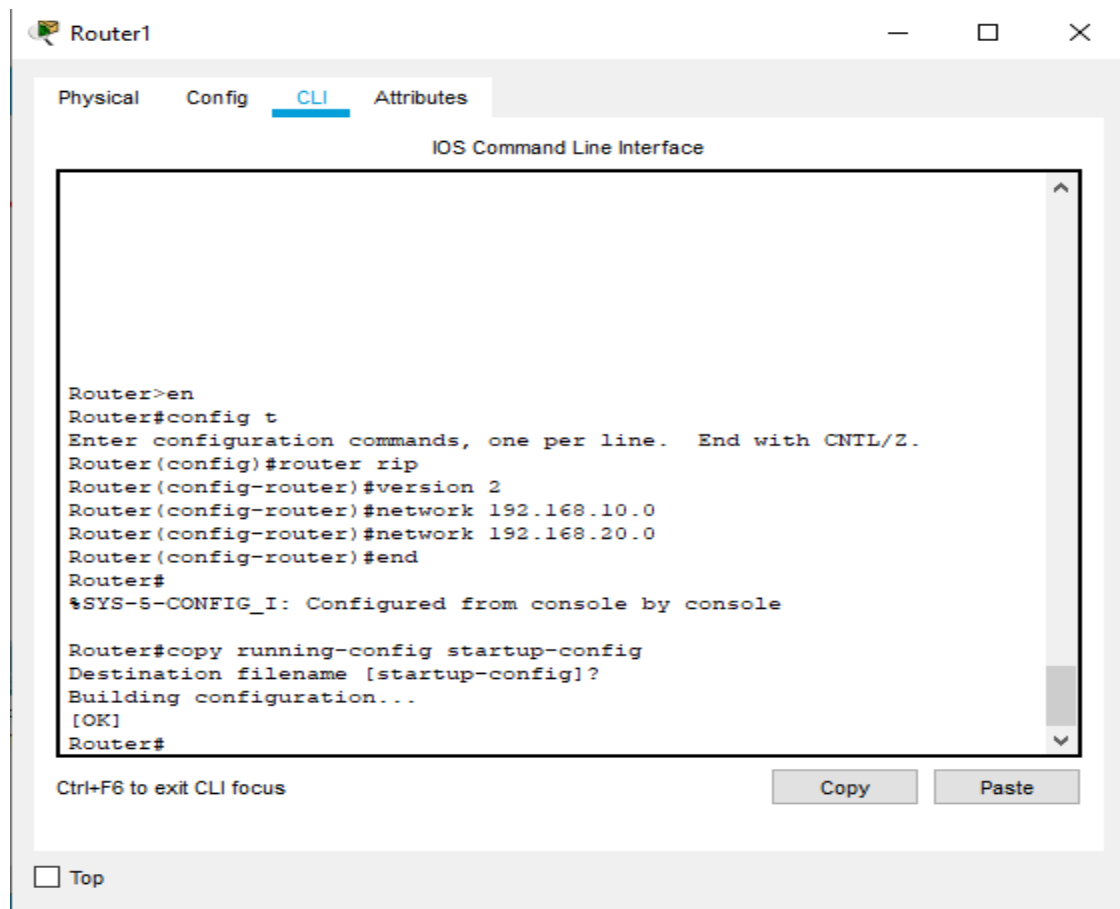
Copy

Paste

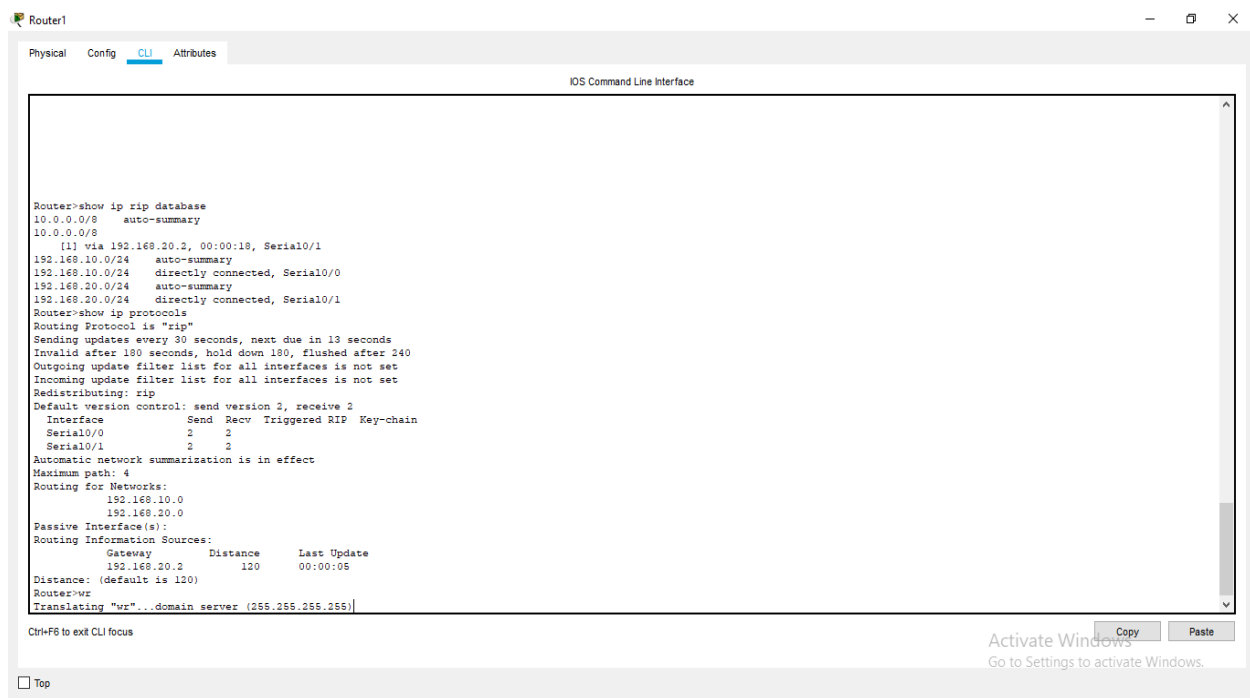
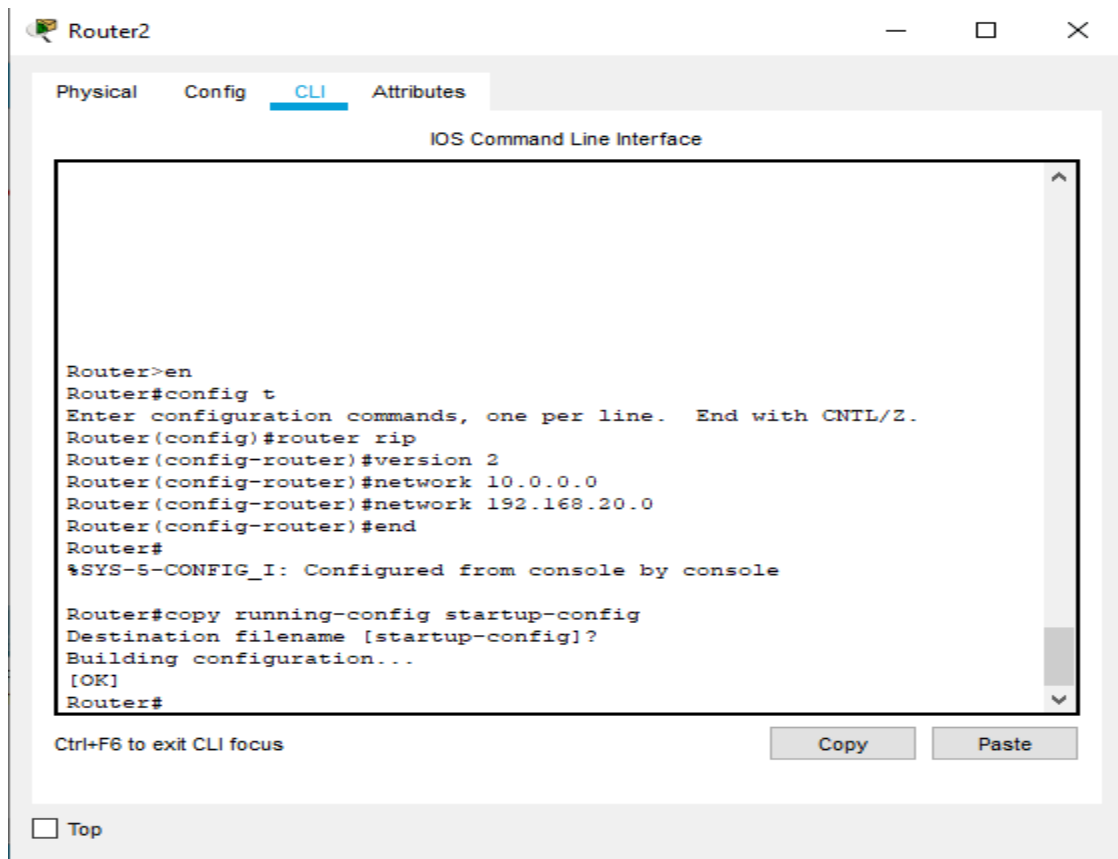
Activate Windows
Go to Settings to activate Windows.

☐ Top

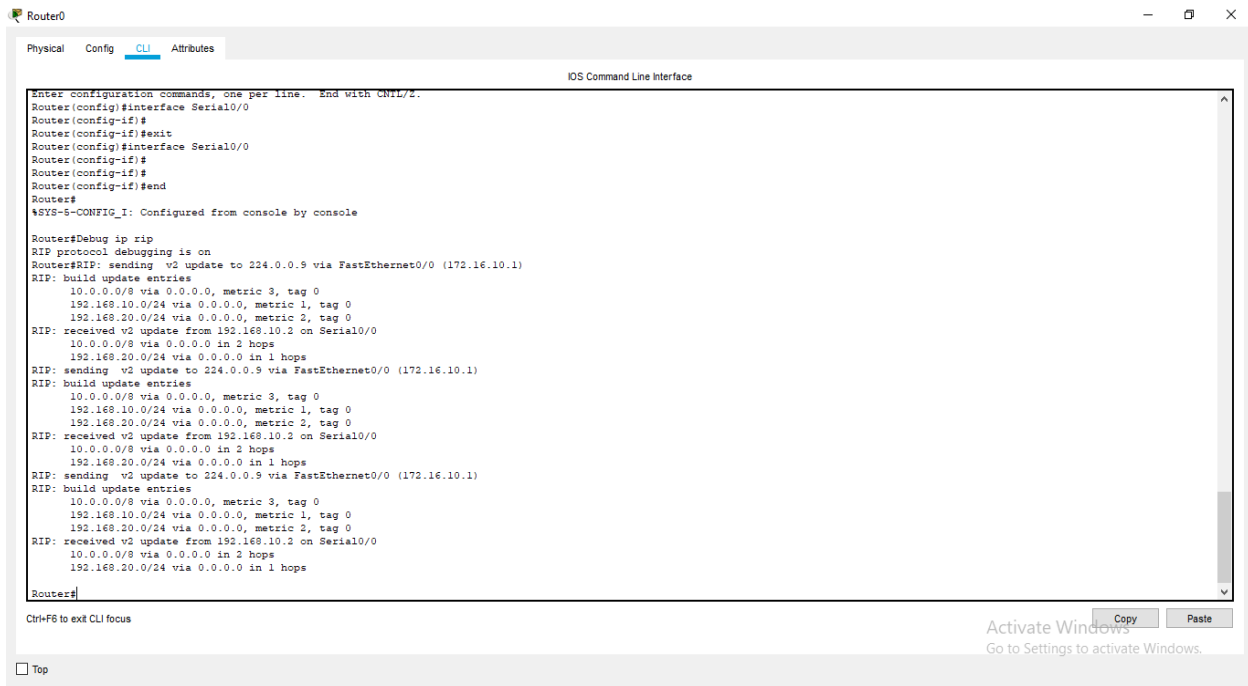
For Router 1:



For Router 2:



Debug ip route:



The screenshot shows the CLI of Router0. The configuration includes interfaces Serial0/0 and FastEthernet0/0. The output shows the router sending and receiving updates from 192.168.10.2 on Serial0/0 and 172.16.10.1 on FastEthernet0/0. The output also shows the router building update entries for 10.0.0.0/8, 192.168.10.0/24, and 192.168.20.0/24.

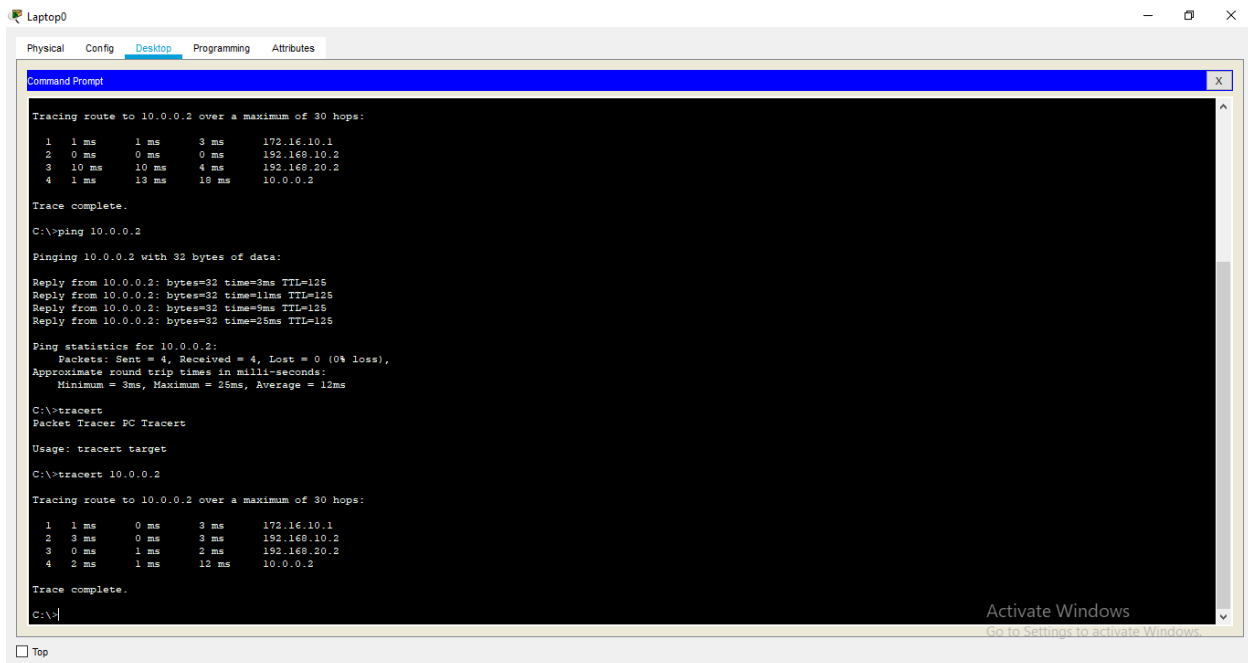
```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0
Router(config-if)#
Router(config-if)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#Debug ip rip
RIP protocol debugging is on
Router#RIP: sending v2 update to 224.0.0.9 via FastEthernet0/0 (172.16.10.1)
RIP: build update entries
  10.0.0.0/8 via 0.0.0.0, metric 3, tag 0
  192.168.10.0/24 via 0.0.0.0, metric 1, tag 0
  192.168.20.0/24 via 0.0.0.0, metric 2, tag 0
RIP: received v2 update from 192.168.10.2 on Serial0/0
  10.0.0.0/8 via 0.0.0.0 in 2 hops
  192.168.20.0/24 via 0.0.0.0 in 1 hops
RIP: sending v2 update to 224.0.0.9 via FastEthernet0/0 (172.16.10.1)
RIP: build update entries
  10.0.0.0/8 via 0.0.0.0, metric 3, tag 0
  192.168.10.0/24 via 0.0.0.0, metric 1, tag 0
  192.168.20.0/24 via 0.0.0.0, metric 2, tag 0
RIP: received v2 update from 192.168.10.2 on Serial0/0
  10.0.0.0/8 via 0.0.0.0 in 2 hops
  192.168.20.0/24 via 0.0.0.0 in 1 hops
RIP: sending v2 update to 224.0.0.9 via FastEthernet0/0 (172.16.10.1)
RIP: build update entries
  10.0.0.0/8 via 0.0.0.0, metric 3, tag 0
  192.168.10.0/24 via 0.0.0.0, metric 1, tag 0
  192.168.20.0/24 via 0.0.0.0, metric 2, tag 0
RIP: received v2 update from 192.168.10.2 on Serial0/0
  10.0.0.0/8 via 0.0.0.0 in 2 hops
  192.168.20.0/24 via 0.0.0.0 in 1 hops
Router#
```

Ctrl-F6 to exit CLI focus

Copy Paste

Top



The screenshot shows the Command Prompt on Laptop0. It displays the output of the 'tracert' command to 10.0.0.2, showing the path from 172.16.10.1 to 192.168.20.2 to 10.0.0.2. It also shows the output of the 'ping' command to 10.0.0.2, which is successful with 4 packets received and 0% loss.

```
Laptop0
Physical Config Desktop Programming Attributes
Command Prompt
Tracing route to 10.0.0.2 over a maximum of 30 hops:
  0  1 ms    1 ms    3 ms    172.16.10.1
  1  0 ms    0 ms    0 ms    192.168.10.2
  2 10 ms   10 ms   4 ms    192.168.20.2
  3  1 ms   13 ms  10 ms   10.0.0.2
Trace complete.
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=3ms TTL=125
Reply from 10.0.0.2: bytes=32 time=1ms TTL=125
Reply from 10.0.0.2: bytes=32 time=9ms TTL=125
Reply from 10.0.0.2: bytes=32 time=25ms TTL=125
Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 25ms, Average = 12ms
C:\>tracert
Packet Tracer PC Tracert
Usage: tracert target
C:\>tracert 10.0.0.2
Tracing route to 10.0.0.2 over a maximum of 30 hops:
  0  1 ms    0 ms    3 ms    172.16.10.1
  1  3 ms    0 ms    3 ms    192.168.10.2
  2  0 ms    1 ms    2 ms    192.168.20.2
  3  2 ms    1 ms   12 ms   10.0.0.2
Trace complete.
C:\>
```

Top