SRM INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

DEPT. Of Computer Science Engineering

SRM IST, Kattankulathur – 603 203

Sub Code & Name: 18CSS202J – COMPUTER COMMUNICATION

Experiment No	8
Title of Experiment	To make connections using Router info protocol RIP (V1 and V2)
Name of the candidate	Roehit Ranganathan
Register Number	RA1911033010017
Date of Experiment	05/04/2021 13/04/2021

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Oral Viva / Online Quiz	5	
2	Execution	10	
	Total	**15**	

Staff Signature with date

AIM: To perform RIP V1

PROCEDURE:

Step 1: Open cisco packet tracer and create a new file.

Step 2: Add all the components – PCs, Switches and Router and wire all the components.

Step 3: Click PC-> Desktop->IP Configuration, to assign IP address 10.0.0.2 and Default gateway as 10.0.0.1. and similarly assign IP address , Default gateway for other PCs.

Step 4: Click on Router0->Physical and attach NIM-2T module into the router and ON the switch similarly go for Router1.

Step 5: Now take Serial DCE wire to connect Router0 to Router1.

Step 6: Now Click on Router->CLI(Command Line Interface) to write the command for establishing a network connection.

Step 7: It will display "Continue with configuration dialog? [yes/no]:".Give "no" and Press enter which move on to user mode.

Step 8: Type "en" and press enter. Now you get into the Privileged Mode,

Step 9: Type "conf t" and press enter to get into global configuration mode.

Step 10: Now configure router interface by checking it through hovering it on red arrow and type “int Gig0/0/0” as per your local router interface.

Step 11: Type “ip address 10.0.0.1 255.0.0.0” ip address and subnet mask then give “no shut” to make this interface and line protocol up. And then type “exit”.

Step 12: Type “int Se0/1/0” as pr your router serial path and then type “ip address 30.0.0.1 255.0.0.0” and then “no shut”. And then type “exit” and again type “exit” to get into config mode.

Step 13: Type “router rip” which config to transfer route information.

Step 14: Type “network 10.0.0.0” to make router config protocol up. And then type “network 30.0.0.0” for router 2 network line.

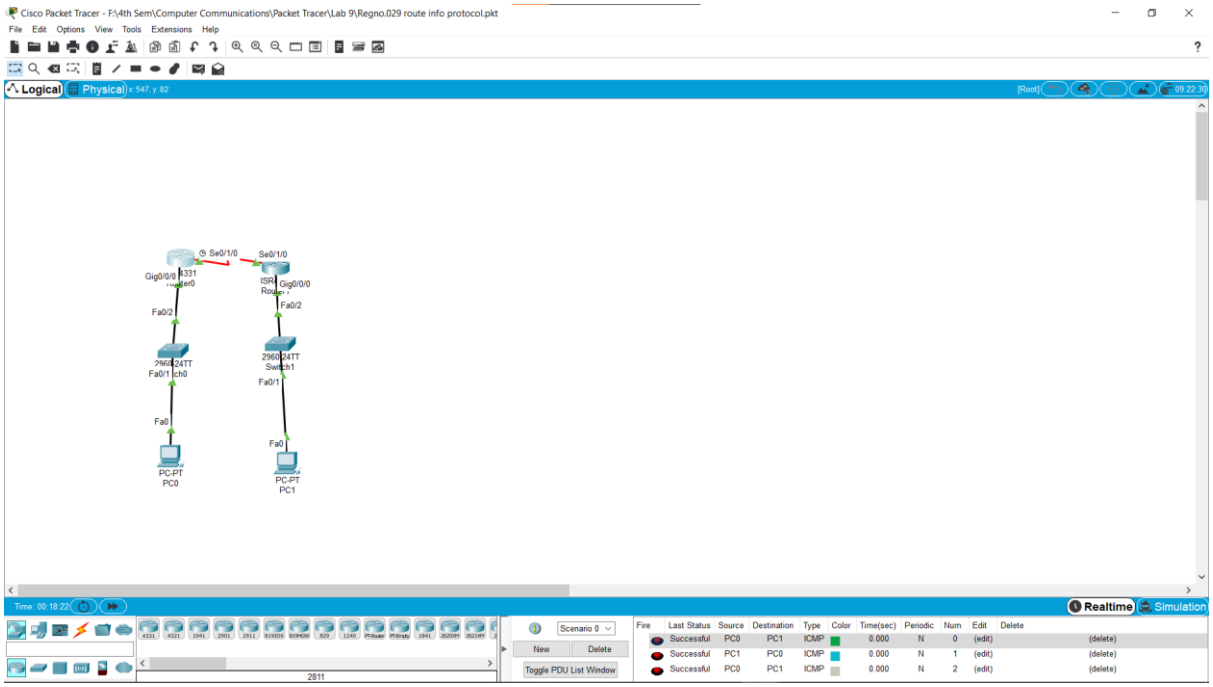
Step 15: Now type “show ip route” which will show the step by step process of connection.

Step 14: Similarly type the above steps for configuring 2nd router connection.

Step 15: At last assign the message from one PC to other and simulate the environment.

Router Info Protocol V1

Screenshot:



CLI code:

1st Router

```
Would you like to enter the initial configuration dialog? [yes/
no]: no


Press RETURN to get started!



Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int Gig0/0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to
up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/0/0, changed state to up

Router(config-if)#exit
```

```
Router(config)#int Se0/1/0
Router(config-if)#ip address 30.0.0.1 255.0.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#exit
Router(config)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

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

Router(config)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

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

Router(config)#router rip
Router(config-router)#network 10.0.0.0
Router(config-router)#network 30.0.0.0
Router(config-router)#exit
Router(config)#
```

```
Router#show ip route
Codes: L - local, C - connected, S - static, 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

     10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       10.0.0.0/8 is directly connected, GigabitEthernet0/0/0
L       10.0.0.1/32 is directly connected, GigabitEthernet0/0/0
R    20.0.0.0/8 [120/1] via 30.0.0.2, 00:00:02, Serial0/1/0
     30.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       30.0.0.0/8 is directly connected, Serial0/1/0
L       30.0.0.1/32 is directly connected, Serial0/1/0

Router#
```

2nd Router

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int Gig0/0/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to
up

%LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/0/0, changed state to up

Router(config-if)#exit
Router(config)#int Se0/1/0
Router(config-if)#ip address 30.0.0.2 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
```

```
Router(config-if)#exit
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0,
changed state to up

Router(config)#router rip
Router(config-router)#network 20.0.0.0
Router(config-router)#network 30.0.0.0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route
Codes: L - local, C - connected, S - static, 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 -
```

AIM: To perform RIP V2

PROCEDURE:

Step 1: Open cisco packet tracer and create a new file.

Step 2: Add all the components – PCs, Switches and Router and wire all the components.

Step 3: Click PC-> Desktop->IP Configuration, to assign IP address 10.0.0.2 and Default gateway as 10.0.0.1. and similarly assign IP address , Default gateway for other PCs.

Step 4: Click on Router0->Physical and attach module into the router and ON the switch similarly go for Router1 and Router2.

Step 5: Now take wire to connect Router0 to Router1 and Router1 to Router2.

Step 6: Now Click on Router0->CLI(Command Line Interface) to write the command for establishing a network connection.

Step 7: It will display "Continue with configuration dialog? [yes/no]:".Give "no" and Press enter which move on to user mode.

Step 8: Type "en" and press enter. Now you get into the Privileged Mode,

Step 9: Type "conf t" and press enter to get into global configuration mode.

Step 10: Now configure router interface by checking it through hovering it on red arrow and type “int Gig0/0/0” as per your local router interface.

Step 11: Type “ip address 10.0.0.1 255.0.0.0” ip address and subnet mask then give “no shut” to make this interface and line protocol up. And then type “exit”.

Step 12: Type “int Se0/1/0” as pr your router serial path and then type “ip address 30.0.0.1 255.0.0.0” and then “no shut”. And then type “exit” and again type “exit” to get into config mode.

Step 13: Type “router rip” which config to transfer route information. Then type “version 2”.

Step 14: Type “network 10.0.0.0” to make router config protocol up. And then type “network 30.0.0.0” for router1 network line. Type “exit” to move back to router config mode.

Step 15: Now type “show ip route” which will show the step-by-step process of connection.

Step 14: Similarly, for configuring router1 connection.

Step 15: It will display "Continue with configuration dialog? [yes/no]:".Give "no" and Press enter which move on to user mode.

Step 16: Type "en" and press enter. Now you get into the Privileged Mode,

Step 17: Type "conf t" and press enter to get into global configuration mode.

Step 18: Now configure router interface by checking it through hovering it on red arrow and type “int Gig0/0/0” as per your local router interface.

Step 19: Type “ip address 20.0.0.1 255.0.0.0” ip address and subnet mask then give “no shut” to make this interface and line protocol up. And then type “exit”.

Step 20: Type “int Se0/1/0” as pr your router serial path and then type “ip address 30.0.0.2 255.0.0.0” and then “no shut”. And then type “exit” and again type “exit” to get into config mode.

Step 21: Type “router rip” which config to transfer route information. Then type “version 2”.

Step 22: Type “network 20.0.0.0” to make router config protocol up. And then type “network 30.0.0.0” for router 2 network line.

Step 23: Type "conf t" and press enter to get into global configuration mode.

Step 24: Now configure router interface by checking it through hovering it on red arrow and type “int Gig0/0/0” as per your local router interface.

Step 25: Type “ip address 20.0.0.1 255.0.0.0” ip address and subnet mask then give “no shut” to make this interface and line protocol up. And then type “exit”.

Step 26: Type “int Se0/1/1” as pr your router serial path and then type “ip address 50.0.0.1 255.0.0.0” and then “no shut”. And then type “exit” and again type “exit” to get into config mode.

Step 27: Type “router rip” which config to transfer route information. Then type “version 2”.

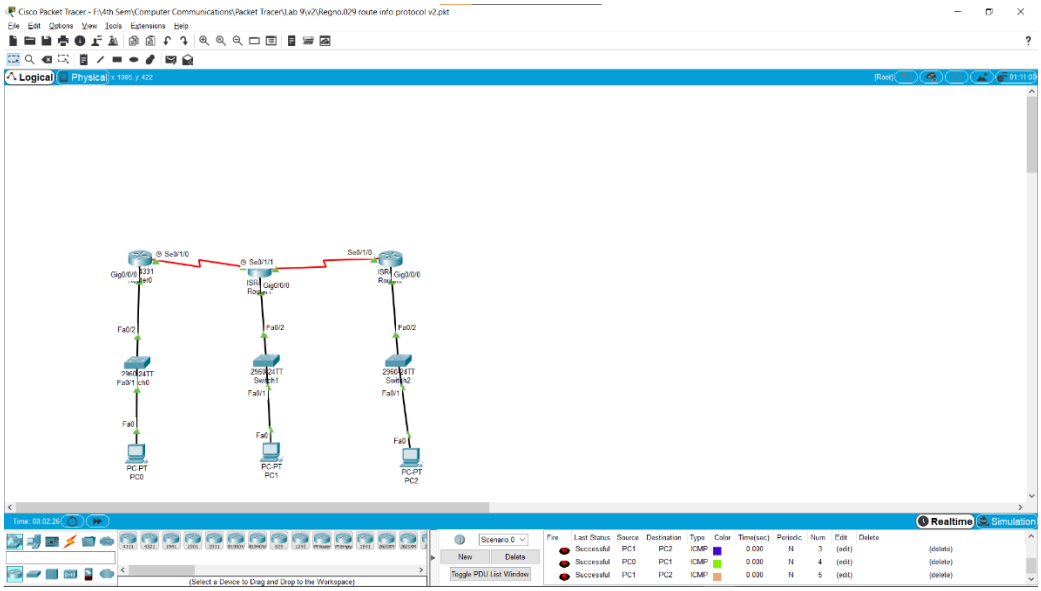
Step 28: Type “network 20.0.0.0” to make router config protocol up. And then type “network 50.0.0.0” for router 1 network line. Type “exit” to move back to router config mode.

Step 29: Similarly, for configuring router2 connection do as router1.

Step 30: At last assign the message from one PC to other and simulate the environment.

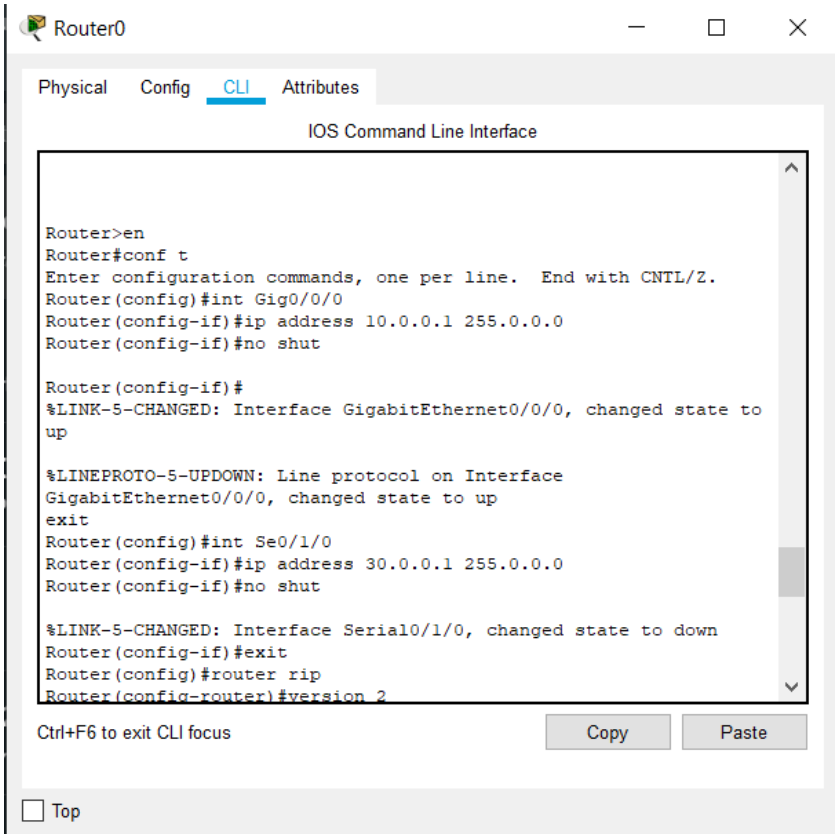
Router Info Protocol V2

Screenshot:



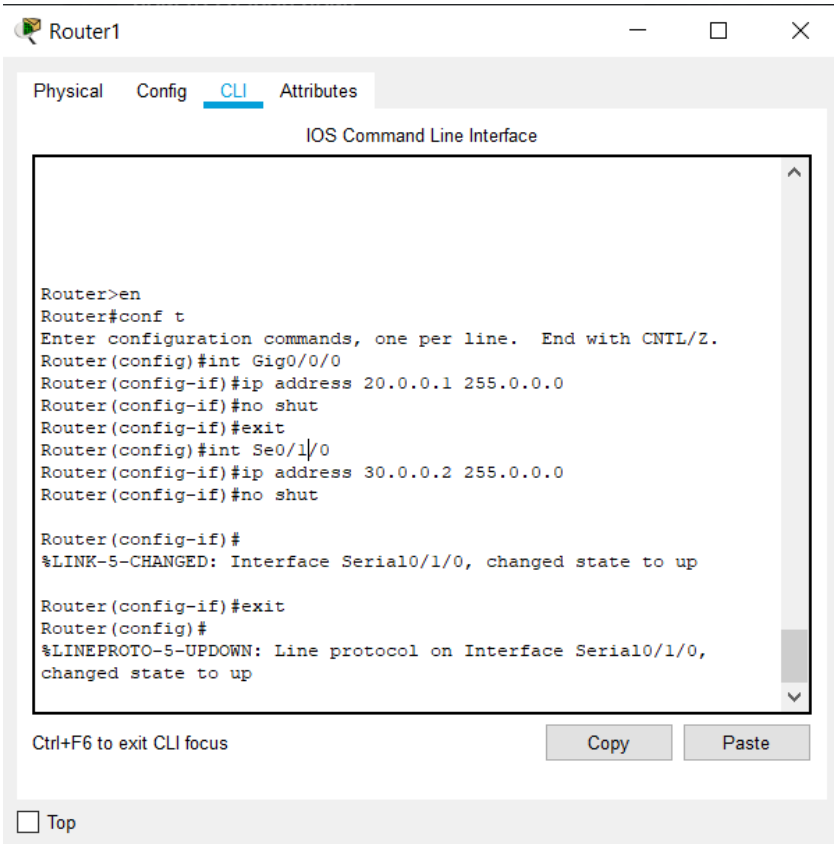
CLI code:

1st Router



```
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#network 10.0.0.0
Router(config-router)#network 30.0.0.0
Router(config-router)#exit
Router(config)#
```

2nd Router




```
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to down
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#network 20.0.0.0
Router(config-router)#network 30.0.0.0
Router(config-router)#exit
Router(config)#exit
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)#int Gig0/0/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#int Se0/1/1
Router(config-if)#ip address 50.0.0.1 255.0.0.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
```

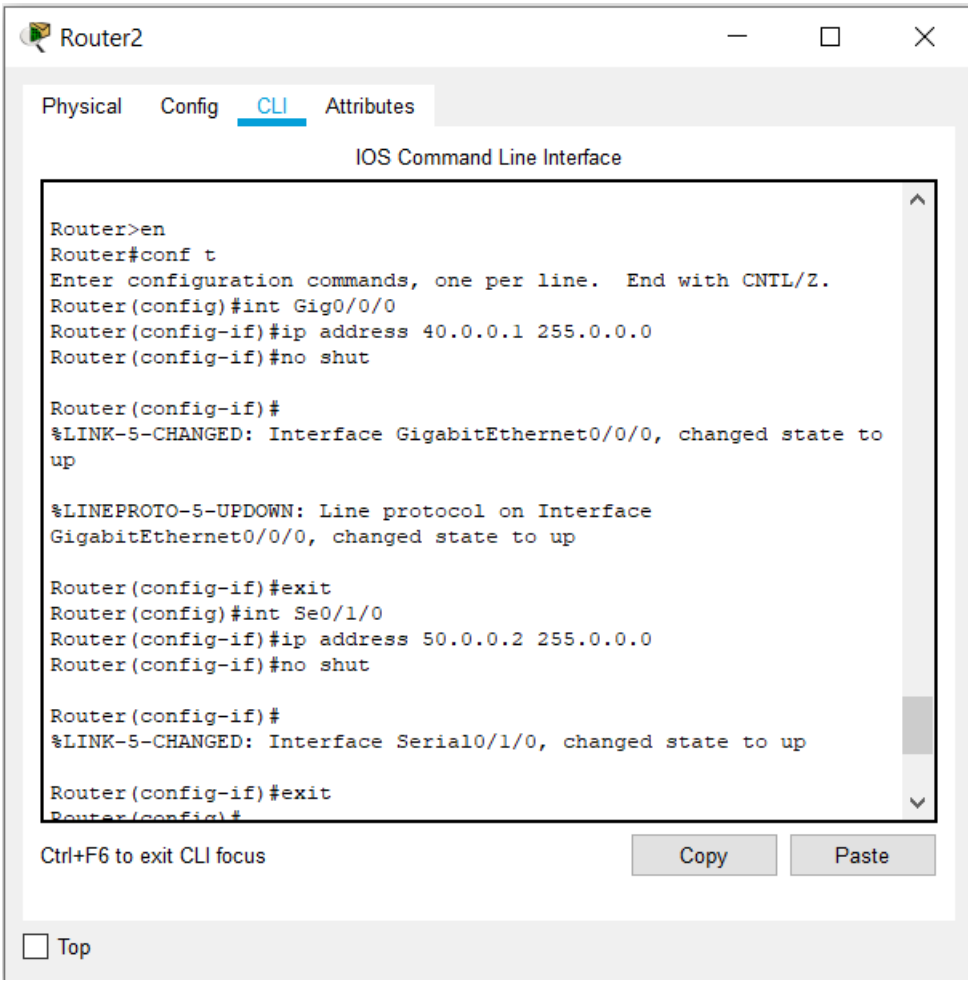
```
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#network 20.0.0.0
Router(config-router)#network 50.0.0.0
Router(config-router)#exit
Router(config)#show ip route
                ^
% Invalid input detected at '^' marker.

Router(config)#show iproute
                ^
% Invalid input detected at '^' marker.

Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile,
B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter
area
```

3rd Router



```
Router(config-if)#exit
Router(config)#int Se0/1/0
Router(config-if)#ip address 50.0.0.2 255.0.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

Router(config-if)#exit
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0,
changed state to up

Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#network 40.0.0.0
Router(config-router)#network 50.0.0.0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#
```

RESULT: Connection was made successfully.