

RIP - Routing Information Protocol  
we use RIP to config routers  
It is a distance vector routing protocol. It  
knows only neighbors. It doesn't know entire  
topology. Routing by rumors.



It doesn't support classless network (CIDR)  
But Rip Version 2 supports CIDR & VLSM. It will update routing information every 30s. It sends routing table to neighbour

PPP - point to point protocol  
for serial clock connections

encapsulation PPP for serial interfaces  
only

clock rate only for clock interfaces

To configure RIP protocol

click on router 1 → enable → config terminal

router rip

network 10.0.0.0

network 20.0.0.0

exit

for router 2

same commands

except

network 20.0.0.0

30.0.0.0

for router 3

network 30.0.0.0

network 40.0.0.0

RIP is  
→ configured  
in all the  
routers

To check if router is collecting  
routing info

command: - ~~show~~ show ip route



to config PC  
Fast Ethernet0 -

10.0.0.10

1. Gateway - 10.0.0.1  
IP.

2. 40.0.0.10

Gateway - 40.0.0.1

Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip address 10.0.0.1 255.0.0.0
      ^
% Invalid input detected at '^' marker.

Router(config)#ip address 10.0.0.1 255.0.0.0
      ^
% Invalid input detected at '^' marker.

Router(config)#interface fastethernet2/0
      ^
% Invalid input detected at '^' marker.

Router(config)#interface fa0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown

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

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up
exit
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
Router(config)#interface fa0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown

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

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up
exit
Router(config)#config terminal
%Invalid hex value
Router(config)#interface se2/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#encapsulation ppp
Router(config-if)#clock rate 64000
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#wx
      ^
% Invalid input detected at '^' marker.

Router(config-if)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

Router1

Physical

Config

CLI

Attributes

IOS Command Line Interface

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

Press RETURN to get started!

Router>enable  
Router#config terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#interface se2/0  
Router(config-if)#ip address 20.0.0.2 255.0.0.0  
Router(config-if)#encapsulation ppp  
Router(config-if)#clock rate 64000  
This command applies only to DCE interfaces  
Router(config-if)#no shutdown  
  
Router(config-if)#  
%LINK-5-CHANGED: Interface Serial2/0, changed state to up  
  
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up  
exit  
Router(config)#

Ctrl+F6 to exit CLI focus

Copy

Paste

☐ Top

Router2

Physical

Config

CLI

Attributes

IOS Command Line Interface

Press RETURN to get started!

Router>enable  
Router#config terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#interface se3/0  
Router(config-if)#ip address 30.0.0.2 255.0.0.0  
Router(config-if)#no shutdown  
  
Router(config-if)#  
%LINK-5-CHANGED: Interface Serial3/0, changed state to up  
  
Router(config-if)#encapsulation ppp  
Router(config-if)#  
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up  
  
Router(config-if)#clock rate 64000  
This command applies only to DCE interfaces  
Router(config-if)#no shutdown  
Router(config-if)#exit  
Router(config)#

Ctrl+F6 to exit CLI focus

Copy

Paste

☐ Top



Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface se3/0
Router(config-if)#ip address 30.0.0.2 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

Router(config-if)#encapsulation ppp
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed
state to up

Router(config-if)#clock rate 64000
This command applies only to DCE interfaces
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface fa0/0
Router(config-if)#ip address 40.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

Router2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Press RETURN to get started.

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 30.0.0.0
Router(config-router)#network 40.0.0.0
Router(config-router)#exit
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

Router1

Physical Config CLI Attributes

IOS Command Line Interface

Press RETURN to get started.

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
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)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

Router0

Physical Config CLI Attributes

IOS Command Line Interface

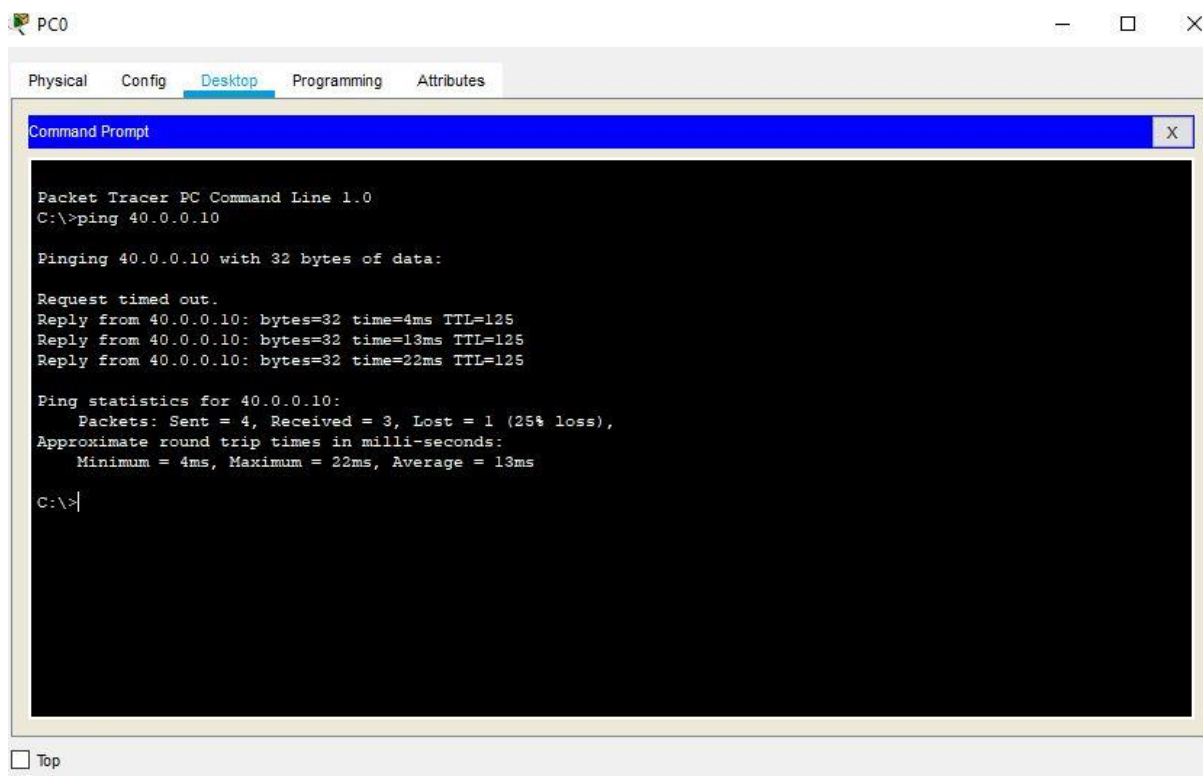
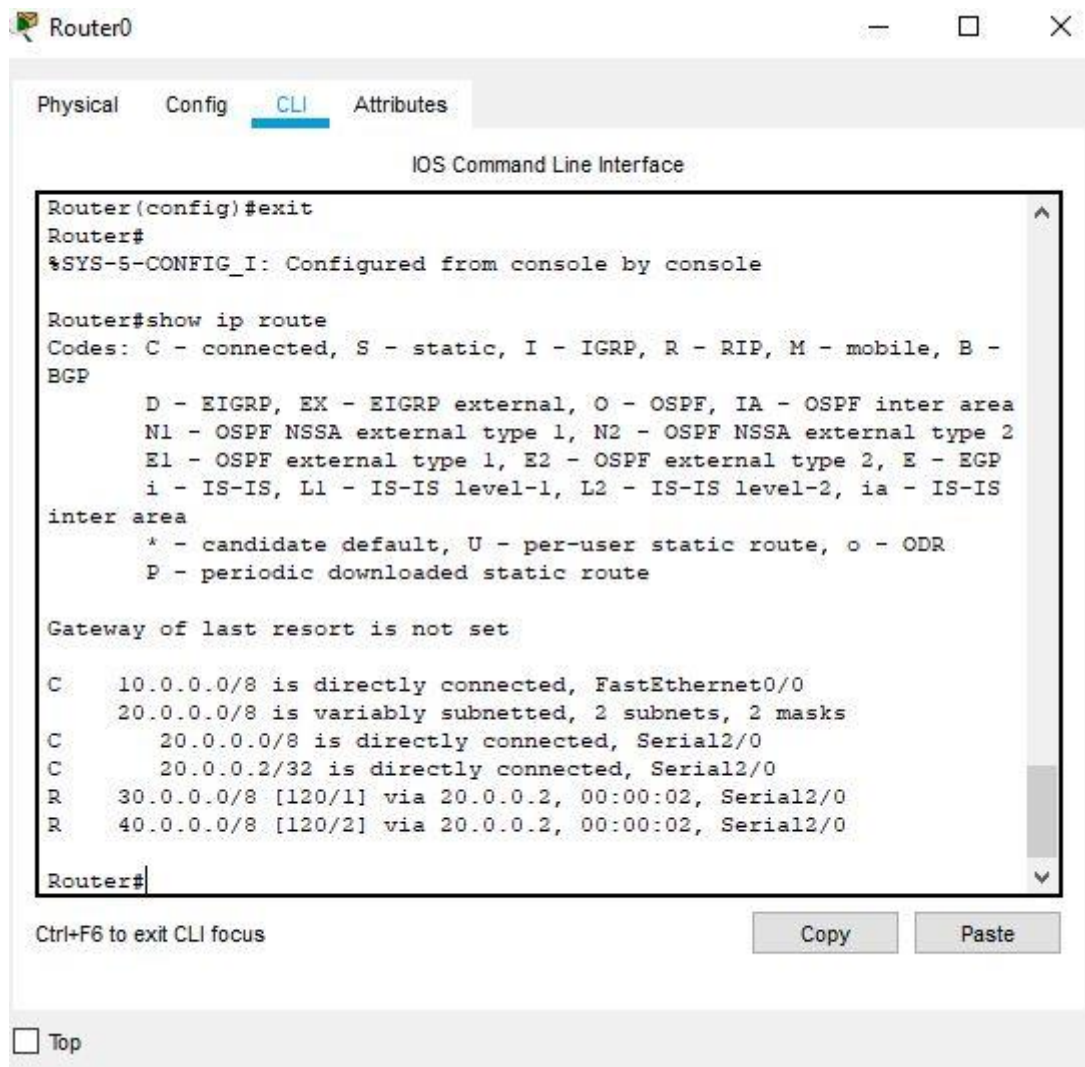
Press RETURN to get started.

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 10.0.0.0
Router(config-router)#network 20.0.0.0
Router(config-router)#exit
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top





PC0

Physical

Config

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

Global Settings

Display NamePC0

InterfacesFastEthernet0

Gateway/DNS IPv4

DHCP

Static

Gateway10.0.0.1

DNS Server

Gateway/DNS IPv6

DHCP

Auto Config

Static

IPv6 Gateway

Top

PC0

Physical

Config

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

On

Bandwidth

100 Mbps

10 Mbps

Duplex

Half Duplex

Full Duplex

MAC Address0090.21E6.EC1E

IP Configuration

DHCP

Static

IP Address10.0.0.10

Subnet Mask255.0.0.0

IPv6 Configuration

DHCP

Auto Config

Static

IPv6 Address

Link Local AddressFE80::290:21FF:FEE6:EC1E

Top



Physical

Config

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

☒ On

Bandwidth

☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex

☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address

0002.16D6.7EB7

IP Configuration

☐ DHCP ☒ Static

IP Address

40.0.0.10

Subnet Mask

255.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address

Link Local Address: FE80::202:16FF:FED6:7EB7

☐ Top

PC1

Physical

Config

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

Global Settings

Display Name

PC1

Interfaces

FastEthernet0

Gateway/DNS IPv4

☐ DHCP ☒ Static

Gateway

40.0.0.1

DNS Server

Gateway/DNS IPv6

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Gateway

☐ Top