**Title of practical:-** Implement RIP in a network

**Theory:**

Routing Information Protocol (RIP) defines a way for [routers](http://searchnetworking.techtarget.com/definition/router), which connect networks using the Internet Protocol (IP), to share information about how to route traffic among networks. Each RIP router maintains a routing table, which is a list of all the destinations (networks) it knows how to reach, along with the distance to that destination. RIP uses a distance vector algorithm to decide which path to put a packet on to get to its destination.

In RIP all router in the network broadcast the information of its routing table after unique time period & other routers update their routing table according to it.

There are two types of RIP, version 1 & version 2. Version 1 works with only classful addressing. While version 2 works with both classful & classless addressing. Command ”*no auto-summary”* is used to manually configure rip.

**Code:**

**Configuration of R1-**

R1#config t

Enter configuration commands, one per line. End with CNTL/Z.

R1(config)#int loopback 0

\*Mar 1 00:01:26.851: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback0, changed state to up

R1(config-if)#ip address 10.0.0.1 255.0.0.0

R1(config-if)#exit

R1(config)#int fastEthernet 0/0

R1(config-if)#ip address 11.0.0.1 255.0.0.0

R1(config-if)#no shut

\*Mar 1 00:02:36.455: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up

\*Mar 1 00:02:37.455: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

R1(config-if)#exit

**Configuration of R2-**

R2#config t

Enter configuration commands, one per line. End with CNTL/Z.

R2(config)#int loopback 0

\*Mar 1 00:08:50.743: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback0, changed state to up

R2(config-if)#ip address 12.0.0.1 255.0.0.0

R2(config-if)#exit

R2(config)#int fastEthernet 0/0

R2(config-if)#ip address 11.0.0.2 255.0.0.0

R2(config-if)#no shut

R2(config-if)#

\*Mar 1 00:10:03.671: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up

\*Mar 1 00:10:04.671: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

R2(config-if)#exit

R2(config)#int fastEthernet 0/1

R2(config-if)#ip address 15.0.0.1 255.0.0.0

R2(config-if)#no shut

R2(config-if)#

\*Mar 1 00:11:00.319: %LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up

\*Mar 1 00:11:01.319: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

R2(config-if)#exit

**Configuration of R3-**

R3#config t

Enter configuration commands, one per line. End with CNTL/Z.

R3(config)#int loopback 0

\*Mar 1 00:12:46.823: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback0, changed state to up

R3(config-if)#ip address 14.0.0.1 255.0.0.0

R3(config-if)#exit

R3(config)#int fast

R3(config)#int fastEthernet 0/1

R3(config-if)#ip address 15.0.0.1 255.0.0.0

R3(config-if)#no shut

\*Mar 1 00:13:57.995: %IP-4-DUPADDR: Duplicate address 15.0.0.1 on FastEthernet0/1, sourced by c201.0f20.0001

R3(config-if)#exit

R3(config)#

\*Mar 1 00:13:59.559: %LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up

\*Mar 1 00:14:00.559: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

R3(config)#

**RIP configuration of R1-**

R1(config)#router rip

R1(config-router)#version 2

R1(config-router)#no auto-summary

R1(config-router)#network 10.0.0.0

R1(config-router)#network 11.0.0.0

R1(config-router)#exit

**RIP configuration of R2-**

R2(config)#router rip

R2(config-router)#version 2

R2(config-router)#no auto-summary

R2(config-router)#network 12.0.0.0

R2(config-router)#network 15.0.0.0

R2(config-router)#network 11.0.0.0

R2(config-router)#exit

**RIP configuration of R3-**

R3(config)#router rip

R3(config-router)#version 2

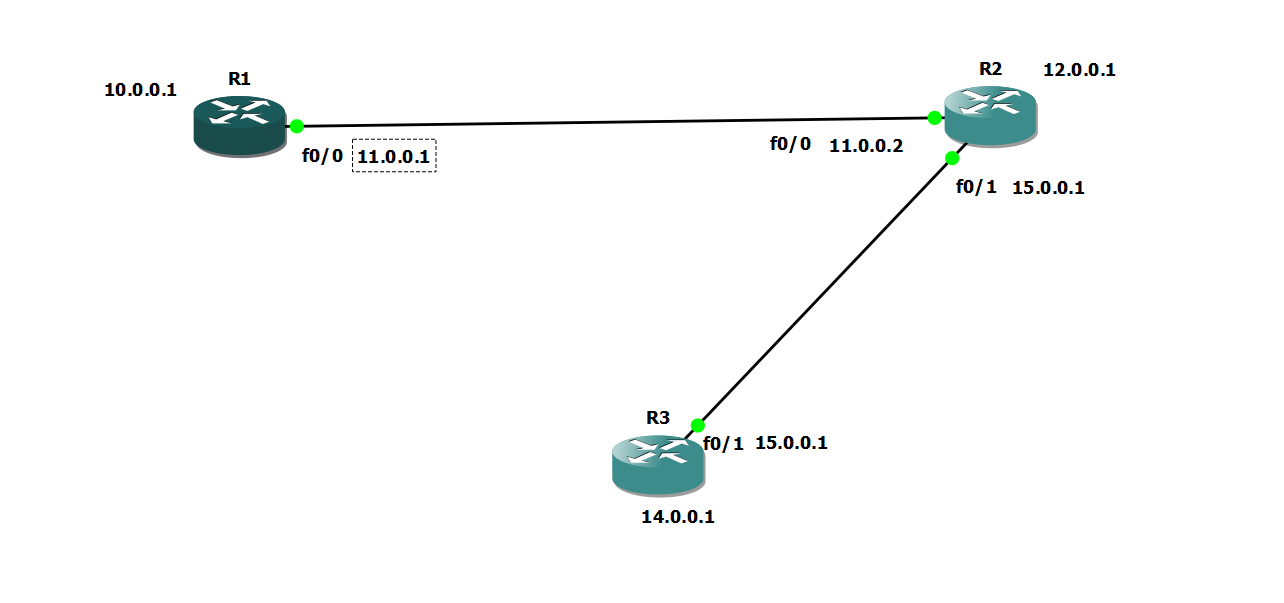
R3(config-router)#no auto-summary

R3(config-router)#network 15.0.0.0

R3(config-router)#network 14.0.0.0

R3(config-router)#exit

**Screenshot:**

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