Summaries

Sumamry topo

1. Make arrangement of PC, Switched (Select leftmost switch/pc/hub u can see in the screen) and wire connection using red thunder
   - Switch can connect to max 4 lines

2. label the IP using notes

3. Configure IP :
   - Click on PC , desktop , IP configuration = (window opened to set things)
   - Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
   - Only these range can be used. Exclude first and last adreess of the range (10.0.0.0,11,12 saab chalega)
     - 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
     - 172.16.0.0 to 172.31.255.255 (172.16.0.0/12)
     - 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)

4. Ping one pc from another:
   - Click PC , desktop, Command propmt , write "ping 176.16.0.3" from 176.16.0.4 PC
   - (if from packet lost , then try other pc to other pc)

5. Run in simulation mode
   - View,simulation mode = (simulation pannel opens up), edit filters , select IPv4 ICMP packet only (deselect others)
   - Select pdu (closed message), select any pc (source), select other pc (destination), then run simulation from simulation panel (take time and enjoy the simlation)
   - Delete PDU from anywhere using (botthom right horizontal panel)
   - Delete PDU(mssg) from anywhere using (botthom right horizontal panel)
   - Reset simulation also useful in simulation vertical pannel
   - Move PC with connection = connection also long/short hoga
   - Max time undo = 1
   - Select delete option in top left then click on wire to delete a perticular wire

Summary RIP

1. Make arrangement of PC, Switched (Select leftmost switch/pc/router u can see in the screen) and wire connection using red thunder
   - Switch can connect to max 4 lines

2. label the IP using notes
   - 2 network of PC+Router eg
   - 1 router network , all have different generic network adress)

3. Configure IP :
   - Click on PC , desktop , IP configuration = (window opened to set things)
   - Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
   - Only these range can be used. Exclude first and last adreess of the range(10.0.0.0,11,12 saab chalega)
     - 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
     - 172.16.0.0 to 172.31.255.255 172.16.0.0/12)
     - 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)
   - PC first configure then Router (easy to be oranised)
     - PC ip configure first (Pc,desktop,ip config)
     - Router ip configure (hover through arrow = get this) (Router select, config , interface, ethernet number)
4. RIP network adress confoguration in routers (Router, config, routing ,RIP)

Summary DHCP server

1. Make arrangement of PC, Switched (Select leftmost switch/pc/hub u can see in the screen) and wire connection using red thunder
- Switch can connect to max 4 lines

2. ==Donot label== the IP (hence not configure ip) using notes ==(coz DHCP server will auto assign)==

3. <u>DHCP server service configure</u>

   - Click server , Destop , configure ip , ==give exact ip== (not generic network address) eg 10.0.0.1
   - Click server , Services, DHCO , ==give generic ip== in deafult gateway eg 10.0.0.0 , save , service ON
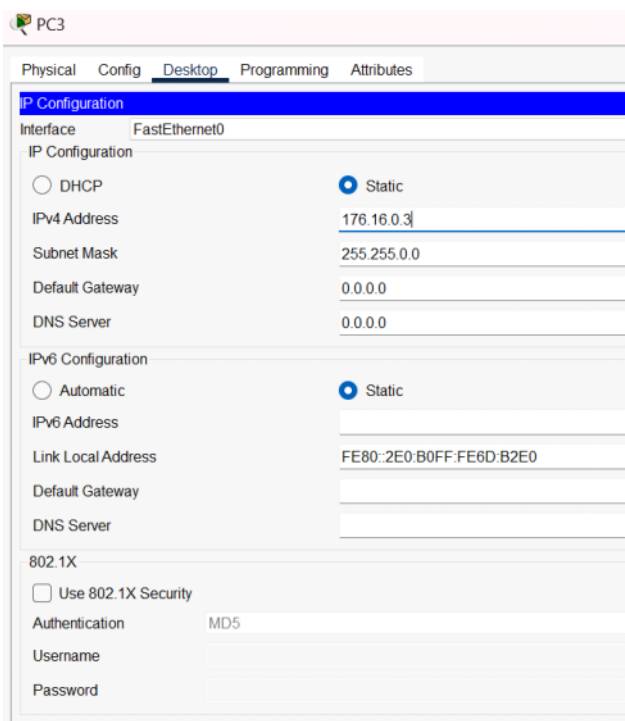
Summary DNS

1. Make arrangement of PC, Switched (Select leftmost switch/pc/hub/server u can see in the screen) and wire connection using red thunder
   - Switch can connect to max 4 lines

2. label the IP using notes

3. Configure IP :
   - Click on (1st = server , then 2nd = PC) , desktop , IP configuration = (window opened to set things)
   - Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
   - Only these range can be used. Exclude first and last adreess of the range (10.0.0.0,11,12 saab chalega)
     - 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
     - 172.16.0.0 to 172.31.255.255 (172.16.0.0/12)
     - 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)

4. Set up DNS server
   - Click on server , services , DNS , add satya.com with adresss = exact ip of host which hosts the site (10.0.0.1) and not any one ip (10.0.0.102)
   - Go to PC , desktop , browser , satya.com , go
   - Click on server , services ,http , index.html , edit = custom web page

5. Run in simulation mode
   - View,simulation mode = (simulation pannel opens up), edit filters , select IPv4 ICMP packet only (deselect others)
   - Select pdu (closed message), select any pc (server), select other pc (destination), then run simulation from simulation panel (take time and enjoy the simlation)
   - Delete PDU from anywhere using (botthom right horizontal panel)
   - Delete PDU(mssg) from anywhere using (botthom right horizontal panel)
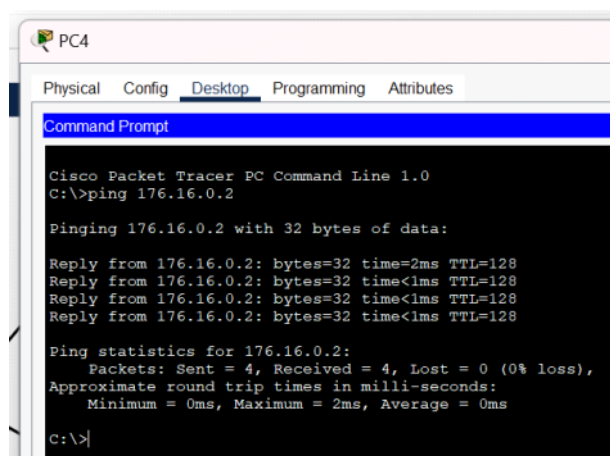   - Reset simulation also useful in simulation vertical pannel

Detailed=====================================

Topologies

1. make arrangement and wire connection using red thunder
* Switch can connect to max 4 lines
2. label the IP using notes
3. Configure IP :
    * Click on PC , desktop , IP configuration = (window opened to set things)
    * Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
    * Only these range can be used. Exclude first and last adreess of the range
        * 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
        * 172.16.0.0 to 172.31.255.255 (172.16.0.0/12)
        * 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)

PC3

Physical   Config   Desktop   Programming   Attributes

IP Configuration

Interface   FastEthernet0

IP Configuration

○ DHCP	● Static
IPv4 Address	176.16.0.3
Subnet Mask	255.255.0.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

IPv6 Configuration

○ Automatic	● Static
IPv6 Address	
Link Local Address	FE80::2E0:B0FF:FE6D:B2E0
Default Gateway	
DNS Server	

802.1X

☐ Use 802.1X Security

Authentication   MD5

Username

Password

1. Ping one pc from another:
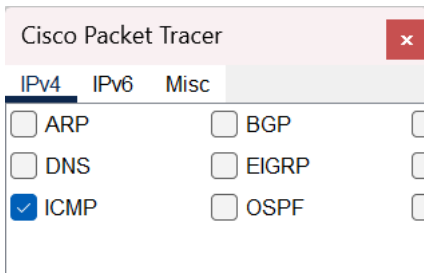   Click PC , desktop, Command propmt , write "ping 176.16.0.3" from 176.16.0.4 PC
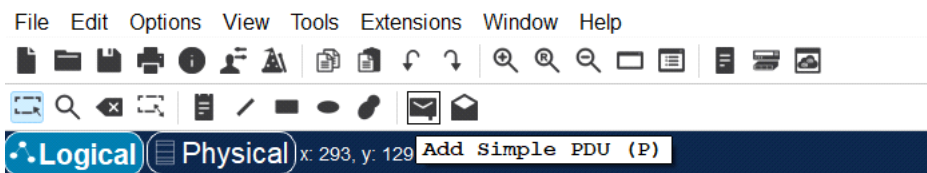   (if from packet lost , then try other pc to other pc)

PC4

Physical   Config   Desktop   Programming   Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 176.16.0.2

Pinging 176.16.0.2 with 32 bytes of data:

Reply from 176.16.0.2: bytes=32 time=2ms TTL=128
Reply from 176.16.0.2: bytes=32 time<1ms TTL=128
Reply from 176.16.0.2: bytes=32 time<1ms TTL=128
Reply from 176.16.0.2: bytes=32 time<1ms TTL=128

Ping statistics for 176.16.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\>
```

Run real time (see successful or failure)

.

Run in simulation mode

- View,simulation mode = (simulation pannel opens up), edit filters , select IPv4 ICMP packet only (deselect others)

Cisco Packet Tracer ×

IPv4   IPv6   Misc

☐ ARP   ☐ BGP
☐ DNS   ☐ EIGRP
☑ ICMP   ☐ OSPF

- Select pdu (closed message), select any pc (source), select other pc (destination), then run simulation from simulation panel (take time and enjoy the simlation)

File   Edit   Options   View   Tools   Extensions   Window   Help

Logical   Physical   x: 293, y: 129   Add Simple PDU (P)

Simulation Panel

Event List

Vis.	Time(sec)	Last Device
	1.699	--
	1.700	Switch0
	1.700	Switch0
	1.700	Switch0
	1.700	Switch0
	1.700	Switch0
	3.698	--
	3.699	Switch0
	3.699	Switch0
	3.699	Switch0
	3.699	Switch0
	3.699	Switch0
	5.017	--
Visible	5.018	Switch0

Reset Simulation   ☑ Constant Delay   Captured to 5.018

Play Controls

|◄   ►   ►|

Event List Filters - Visible Events
ACL Filter, Bluetooth, CAPWAP, CDP, DHCPv6, DTP
EAPOL, EIGRPv6, FTP, H.323, HSRPv6, HTTP,
HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP
LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPFv
PAgP, POP3, PPP, PPPoED, PTP, RADIUS, REP,
RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP,
SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB,
VTP

Edit Filters   Show All/None

Delete PDU(mssg) from anywhere using (botthom right horizontal panel)

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	In Progress	PC0	PC1	ICMP		0.000	N	0	(edit)	(delete)
	In Progress	PC3	PC1	ICMP		0.000	N	1	(edit)	(delete)

Reset simulation also useful in simulation vertical pannel

Move PC with connection = connection also long/short hoga

Max time undo = 1

Select delete option in top left then click on wire to delete a perticular wire

.

<mark>Doubt</mark>

No Functional Ports -- Cisco P... ✕

⚠️ PC0(1) has no functional ports.

OK

Sumamry topo

1. Make arrangement of PC, Switched (Select leftmost switch/pc/hub u can see in the screen) and wire connection using red thunder
   - Switch can connect to max 4 lines

2. label the IP using notes

3. Configure IP :
   - Click on PC , desktop , IP configuration = (window opened to set things)
   - Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
   - Only these range can be used. Exclude first and last adreess of the range (10.0.0.0,11,12 saab chalega)
     - 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
     - 172.16.0.0 to 172.31.255.255 (172.16.0.0/12)
     - 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)

4. Ping one pc from another:
   - Click PC , desktop, Command propmt , write "ping 176.16.0.3" from 176.16.0.4 PC
   - (if from packet lost , then try other pc to other pc)

5. Run in simulation mode
   - View,simulation mode = (simulation pannel opens up), edit filters , select IPv4 ICMP packet only (deselect others)
   - Select pdu (closed message), select any pc (source), select other pc (destination), then run simulation from simulation panel (take time and enjoy the simlation)
   - Delete PDU from anywhere using (botthom right horizontal panel)
   - Delete PDU(mssg) from anywhere using (botthom right horizontal panel)
   - Reset simulation also useful in simulation vertical pannel
   - Move PC with connection = connection also long/short hoga
   - Max time undo = 1
   - Select delete option in top left then click on wire to delete a perticular wire

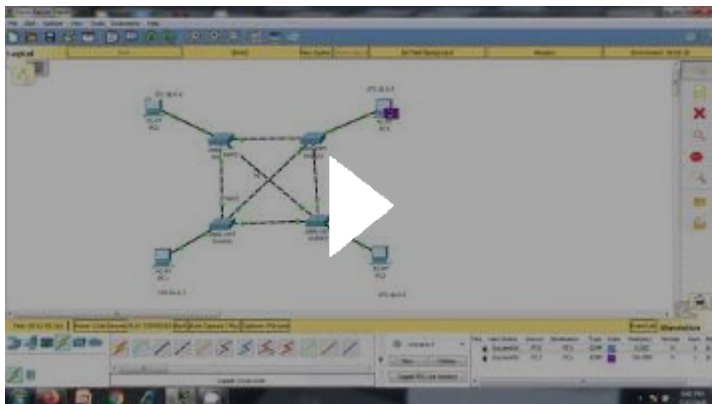# Resource

[Cisco Packet Tracer: Star Topology](#)
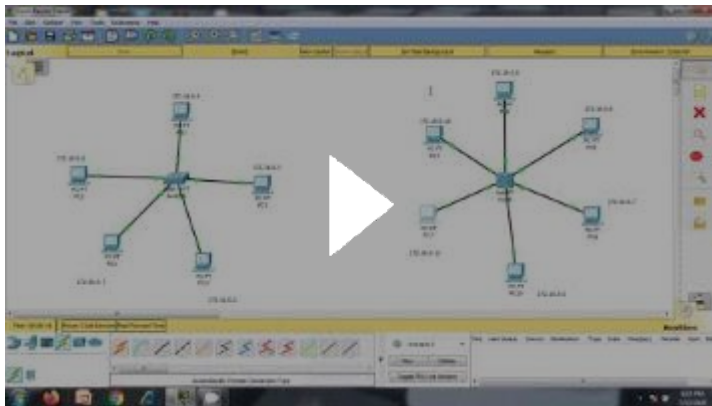
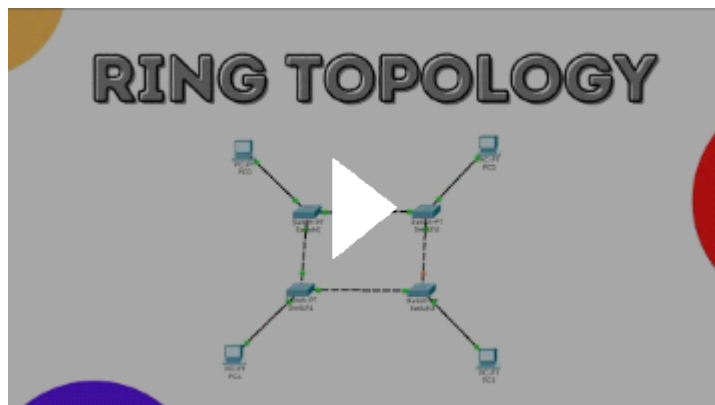Can use switch / hub as center

[Cisco Packet Tracer: Bus Topology Creation](#)
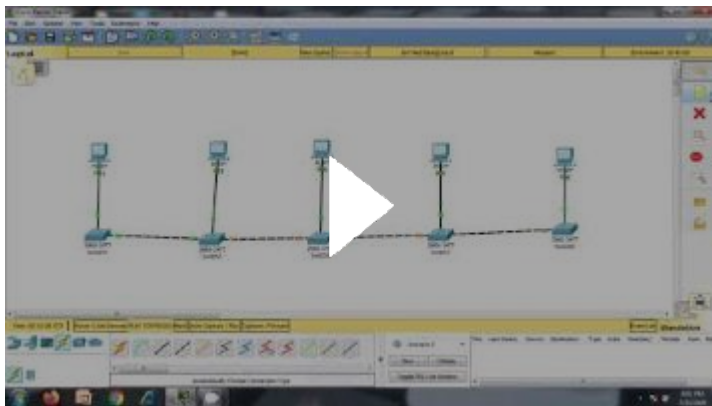
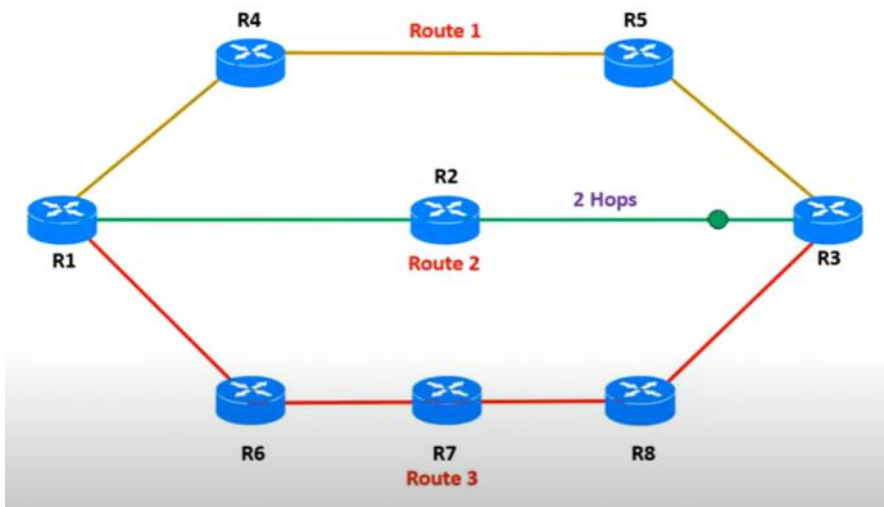[Cisco Packet Tracer: Mesh Topology](#)

.

[Ring Topology In Cisco Packet Tracer | Network Topology | #ringtopology #CiscoPacketTracer](#)
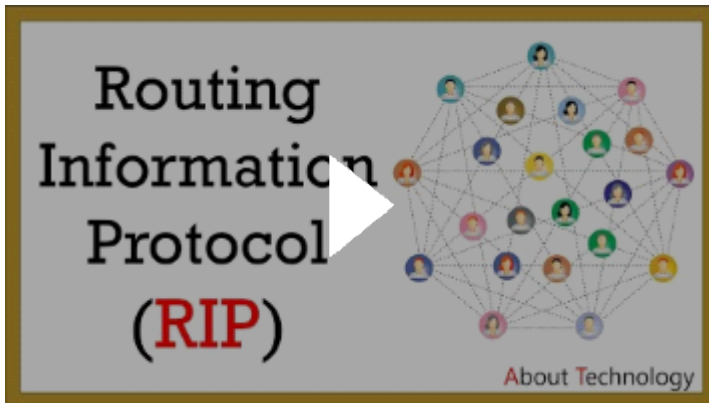
RIP Protocol

Routing table , minimum hops , (distance vect Module 5 Q) = already studied CAT 2

Never have to configure switch , but have to configure the router , so remember which port can connect
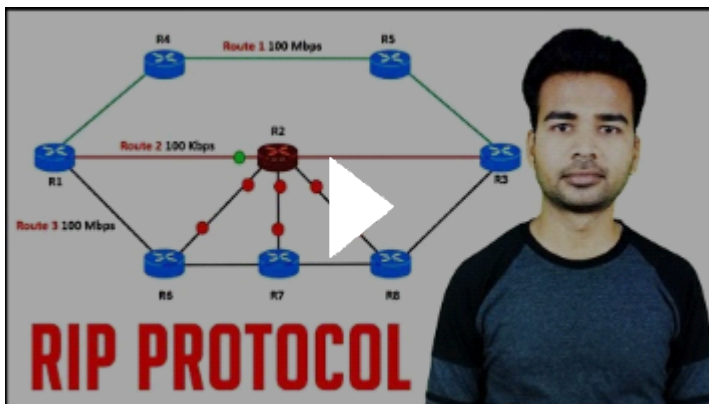
Resouce

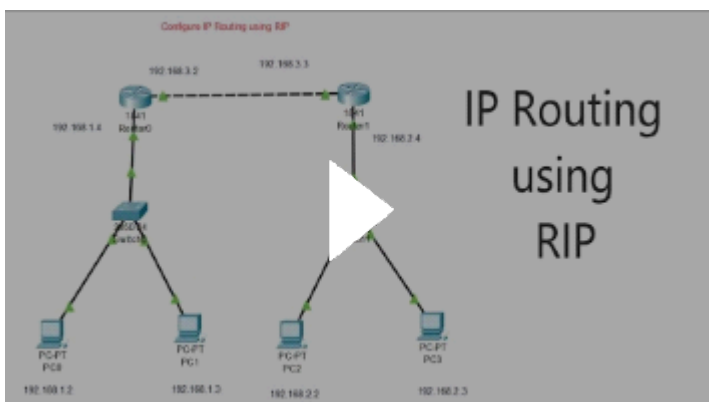What is RIP (Routing Information Protocol)?

theory exam

What is RIP Protocol and How it works | Routing Information Protocol Basic Tutorial | CCNA 2018

Packet

Configure IP routing using RIP in Hindi | RIP using 2 routers, 2 Switches, 4 PC

Theory

1. Make arrangement of PC, Switched (Select leftmost switch/pc/router u can see in the screen) and wire connection using red thunder
   - Switch can connect to max 4 lines
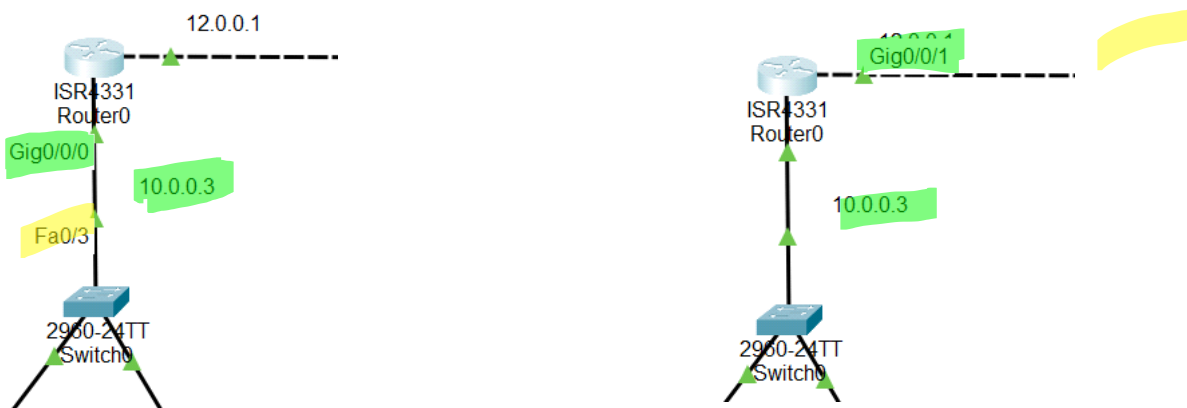
2. label the IP using notes
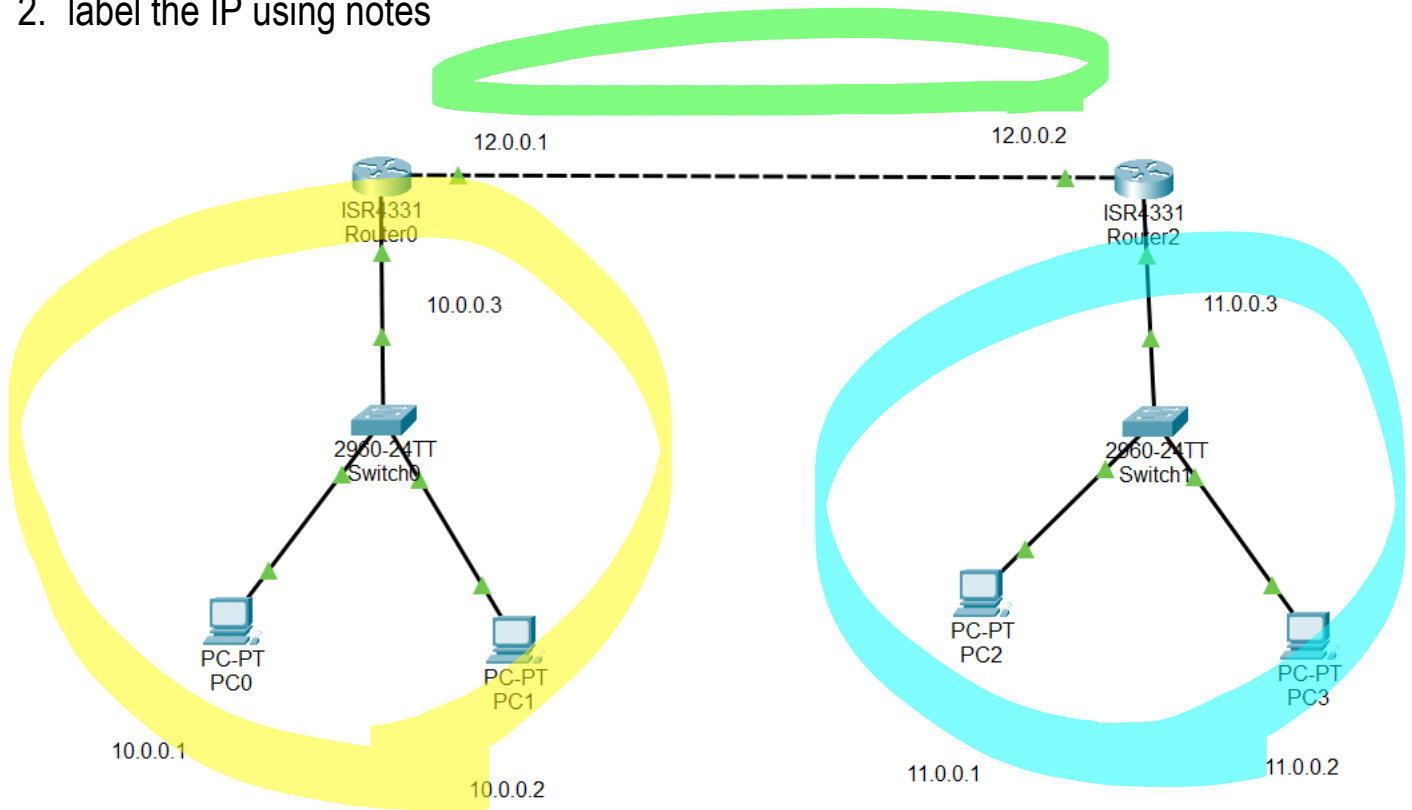
3. Configure IP :
   - Click on PC , desktop , IP configuration = (window opened to set things)
   - Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
   - Only these range can be used. Exclude first and last adreess of the range(10,11,12 saab chalega)
     - 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
     - 172.16.0.0 to 172.31.255.255 172.16.0.0/12)
     - 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)
   - PC first configure , then Router
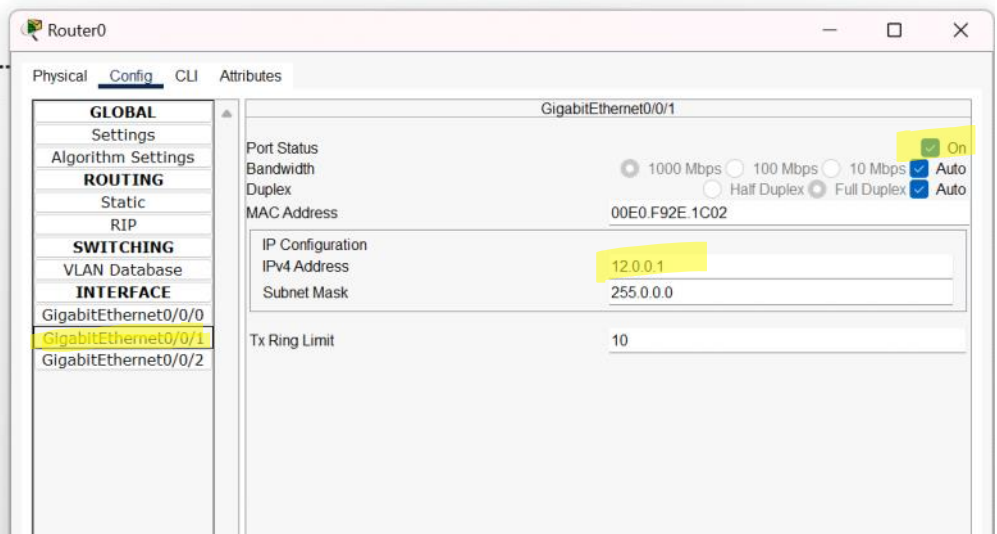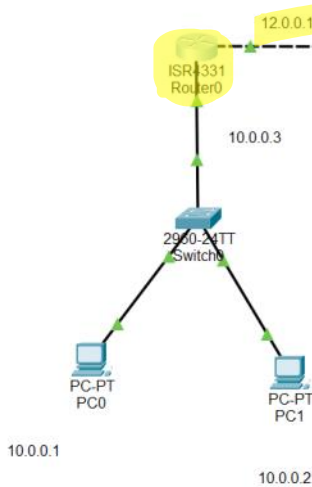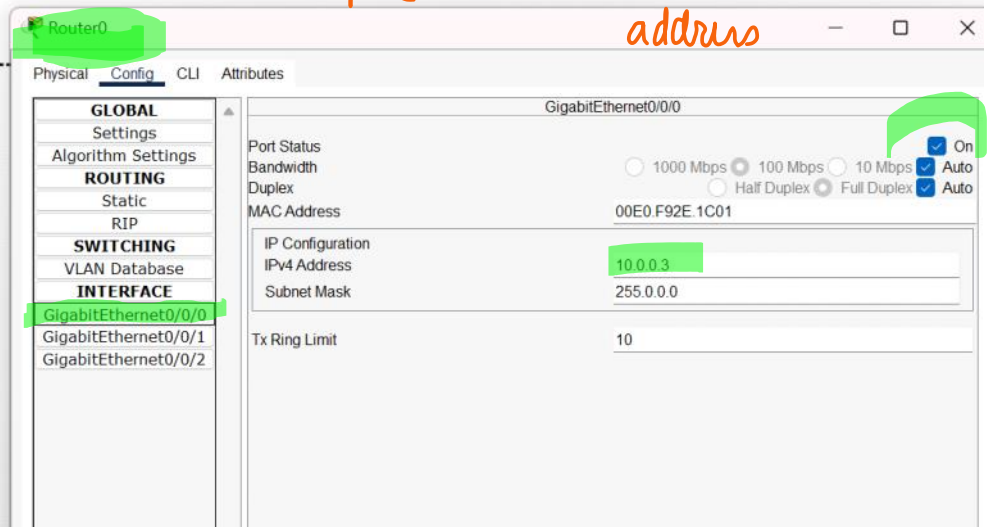
PC ip configure first

PC0

Physical | Config | Desktop | Programming | Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

○ DHCP ● Static

IPv4 Address: 10.0.0.1

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.3

DNS Server: 0.0.0.0

IPv6 Configuration

○ Automatic ● Static

IPv6 Address:

Link Local Address: FE80::260:3EFF

Default Gateway:

DNS Server:

802.1X

12.0.0.1

ISR4331 Router0

10.0.0.3

2960-24TT Switch0

PC-PT PC0

PC-PT PC1

10.0.0.1

10.0.0.2

(kis router k kis pork k through mnsg g8)

Router ip configure (hover through arrow = get this)

= value put

☑ ON

12.0.0.1

ISR4331 Router0

Gig0/0/0

10.0.0.3

Fa0/3

2960-24TT Switch0

Gig0/0/1

ISR4331 Router0

10.0.0.3

2960-24TT Switch0

.

PC → exact network address

Router0 — Physical | Config | CLI | Attributes

GigabitEthernet0/0/0

GLOBAL
- Settings
- Algorithm Settings

ROUTING
- Static
- RIP

SWITCHING
- VLAN Database

INTERFACE
- GigabitEthernet0/0/0
- GigabitEthernet0/0/1
- GigabitEthernet0/0/2

Port Status — ☑ On
Bandwidth — ○ 1000 Mbps ○ 100 Mbps ○ 10 Mbps ☑ Auto
Duplex — ○ Half Duplex ○ Full Duplex ☑ Auto
MAC Address — 00E0.F92E.1C01

IP Configuration
IPv4 Address — 10.0.0.3
Subnet Mask — 255.0.0.0

Tx Ring Limit — 10

12.0.0.1
ISR4331 Router0
10.0.0.3
2960-24TT Switch0
PC-PT PC0
PC-PT PC1
10.0.0.1
10.0.0.2

Router0 — Physical | Config | CLI | Attributes

GigabitEthernet0/0/1

GLOBAL
- Settings
- Algorithm Settings

ROUTING
- Static
- RIP

SWITCHING
- VLAN Database

INTERFACE
- GigabitEthernet0/0/0
- GigabitEthernet0/0/1
- GigabitEthernet0/0/2

Port Status — ☑ On
Bandwidth — ○ 1000 Mbps ○ 100 Mbps ○ 10 Mbps ☑ Auto
Duplex — ○ Half Duplex ○ Full Duplex ☑ Auto
MAC Address — 00E0.F92E.1C02

IP Configuration
IPv4 Address — 12.0.0.1
Subnet Mask — 255.0.0.0

Tx Ring Limit — 10

12.0.0.1
ISR4331 Router0
10.0.0.3
2960-24TT Switch0
PC-PT PC0
PC-PT PC1
10.0.0.1
10.0.0.2

4. RIP network adress confoguration in routers

Router0 — Physical | Config | CLI | Attributes

GLOBAL
- Settings
- Algorithm Settings

ROUTING
- Static
- RIP

SWITCHING
- VLAN Database

INTERFACE
- GigabitEthernet0/0/0
- GigabitEthernet0/0/1
- GigabitEthernet0/0/2

Network

Network Address
10.0.0.0
12.0.0.0

} generic network address

12.0.0.1
ISR4331 Router0
10.0.0.3
2960-24TT Switch0
PC-PT PC0
PC-PT PC1
10.0.0.1
10.0.0.2

Summary RIP

1. Make arrangement of PC, Switched (Select leftmost switch/pc/router u can see in the screen) and wire connection using red thunder
   - Switch can connect to max 4 lines

2. label the IP using notes
   - 2 network of PC+Router eg
   - 1 router network , all have different generic network adress)

3. Configure IP :
   - Click on PC , desktop , IP configuration = (window opened to set things)
   - Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
   - Only these range can be used. Exclude first and last adreess of the range(10.0.0.0,11,12 saab chalega)
     - 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
     - 172.16.0.0 to 172.31.255.255 172.16.0.0/12)
     - 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)
   - PC first configure then Router (easy to be oranised)
     - PC ip configure first (Pc,desktop,ip config)
     - Router ip configure (hover through arrow = get this) (Router select, config , interface, ethernet number)
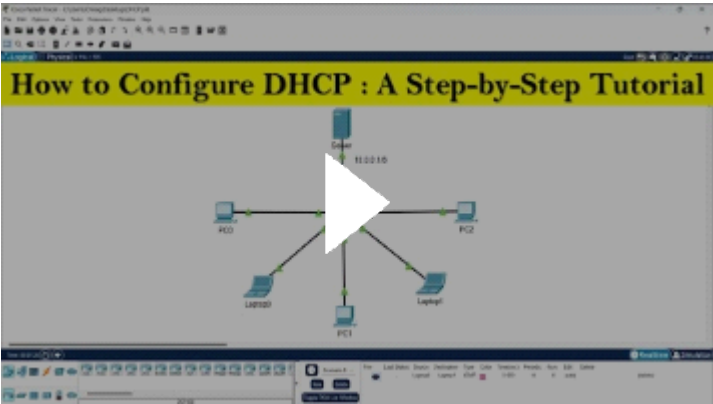4. RIP network adress confoguration in routers (Router, config, routing ,RIP)

DHCP server

[DHCP Explained - Dynamic Host Configuration Protocol](#)

Theory

[How to configure DHCP server | DHCP server configuration step by step](#)

packet

Theory

1. Make arrangement of PC, Switched (Select leftmost switch/pc/hub u can see in the screen) and wire connection using red thunder

2. Donot label the IP using notes (coz DHCP server will auto assign)

3. <u>DHCP server service configure</u>

   - Click server , Destop , configure ip , give exact ip (not generic network address)
   - Click server , Services, DHCO , give exact ip in deafult gateway , save , service ON

Summary DHCP server

1. Make arrangement of PC, Switched (Select leftmost switch/pc/hub u can see in the screen) and wire connection using red thunder
- Switch can connect to max 4 lines

2. <mark>Donot label</mark> the IP (hence not configure ip) using notes <mark>(coz DHCP server will auto assign)</mark>

3. DHCP server service configure

    - Click server , Destop , configure ip , <mark>give exact ip</mark> (not generic network address) eg 10.0.0.1
    - Click server , Services, DHCO , <mark>give generic ip</mark> in deafult gateway eg 10.0.0.0 , save , service ON

DNS (Domain Name System) server

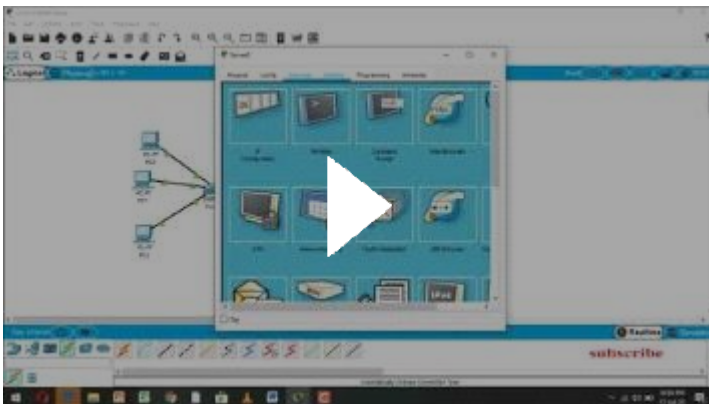How a DNS Server (Domain Name System) works.

theory

Phone = name to number (satya to 7735416363)
DNS = name to number (google.com to 124.3.3.2)

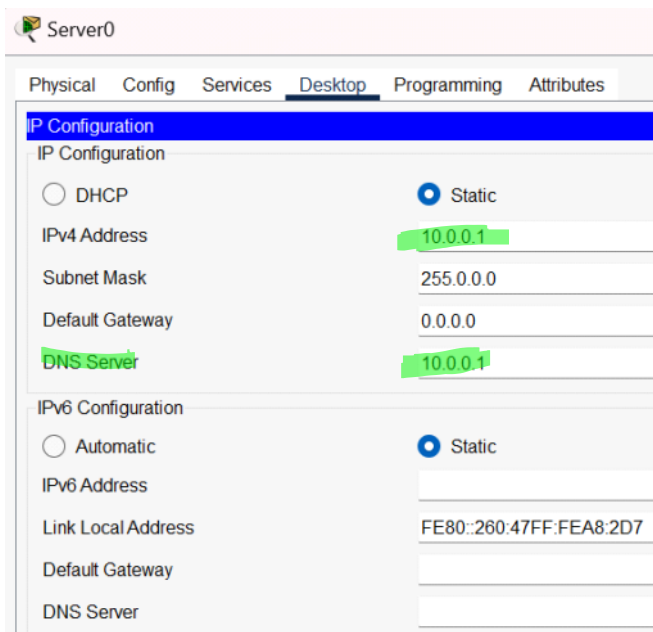dns server in cisco packet tracer||how to configure a dns server
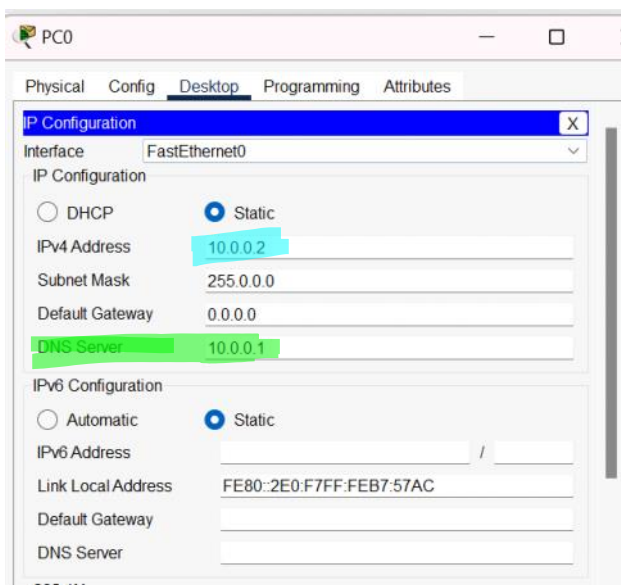

*chk by
mssg

+

me

reg. satya.com*

Theory

1. Make arrangement of PC, Switched (Select leftmost switch/pc/hub/server u can see in the screen) and wire connection using red thunder

2. label the IP using notes

3. Configure IP :
   - Click on (1st = server , then 2nd = PC) , desktop , IP configuration = (window opened to set things)
   - Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
   - Only these range can be used. Exclude first and last adreess of the range
     - 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
     - 172.16.0.0 to 172.31.255.255 (172.16.0.0/12)
     - 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)

Server0

| Physical | Config | Services | Desktop | Programming | Attributes |

IP Configuration

IP Configuration
- ○ DHCP   ● Static
- IPv4 Address   10.0.0.1
- Subnet Mask   255.0.0.0
- Default Gateway   0.0.0.0
- DNS Server   10.0.0.1

IPv6 Configuration
- ○ Automatic   ● Static
- IPv6 Address
- Link Local Address   FE80::260:47FF:FEA8:2D7
- Default Gateway
- DNS Server

(extra)

PC0

| Physical | Config | Desktop | Programming | Attributes |

IP Configuration

Interface   FastEthernet0

IP Configuration
- ○ DHCP   ● Static
- IPv4 Address   10.0.0.2
- Subnet Mask   255.0.0.0
- Default Gateway   0.0.0.0
- DNS Server   10.0.0.1

IPv6 Configuration
- ○ Automatic   ● Static
- IPv6 Address   /
- Link Local Address   FE80::2E0:F7FF:FEB7:57AC
- Default Gateway
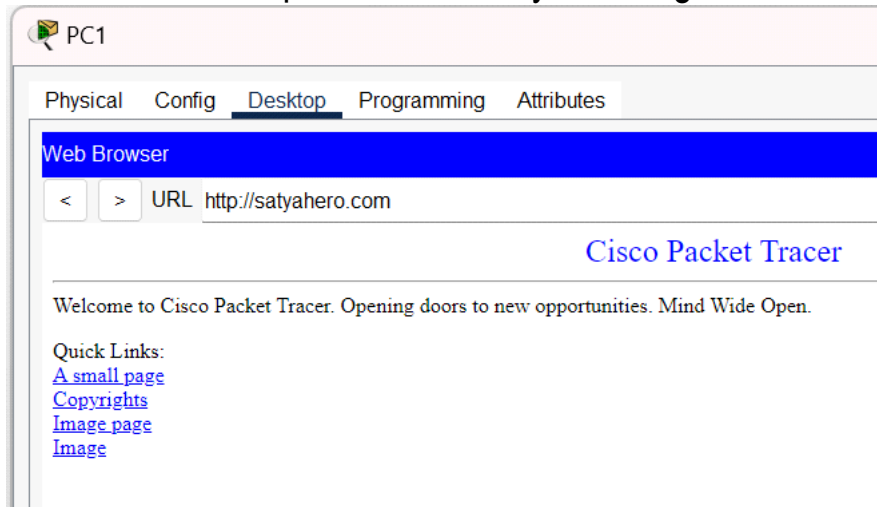- DNS Server

PC1   PC2

10.0.0.3   10.0.0.4

.

1. Set up DNS server
   - Click on server , services , DNS , add satya.com with adresss = exact ip of host which hosts the site (10.0.0.1) and not any one ip (10.0.0.102)
   - Go to PC , desktop , browser , satya.com , go

   ```
   PC1

   Physical   Config   Desktop   Programming   Attributes

   Web Browser

   <    >    URL  http://satyahero.com
                                          Cisco Packet Tracer
   Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.

   Quick Links:
   A small page
   Copyrights
   Image page
   Image
   ```

   - Click on server , services ,http , index.html , edit = custom web page

2. Run in simulation mode
   - View,simulation mode = (simulation pannel opens up), edit filters , select IPv4 ICMP packet only (deselect others)
   - Select pdu (closed message), select any pc (server), select other pc (destination), then run simulation from simulation panel (take time and enjoy the simlation)
   - Delete PDU from anywhere using (botthom right horizontal panel)
   - Delete PDU(mssg) from anywhere using (botthom right horizontal panel)
   - Reset simulation also useful in simulation vertical pannel

Summary DNS

1. Make arrangement of PC, Switched (Select leftmost switch/pc/hub/server u can see in the screen) and wire connection using red thunder
   - Switch can connect to max 4 lines

2. label the IP using notes

3. Configure IP :
   - Click on (1st = server , then 2nd = PC) , desktop , IP configuration = (window opened to set things)
   - Set IP as labled (enter ip = subnet mask auto come, Static by deafult)
   - Only these range can be used. Exclude first and last adreess of the range (10.0.0.0,11,12 saab chalega)
     - 10.0.0.0 to 10.255.255.255 (10.0.0.0/8)
     - 172.16.0.0 to 172.31.255.255 (172.16.0.0/12)
     - 192.168.0.0 to 192.168.255.255 (192.168.0.0/16)

4. Set up DNS server
   - Click on server , services , DNS , add satya.com with adresss = exact ip of host which hosts the site (10.0.0.1) and not any one ip (10.0.0.102)
   - Go to PC , desktop , browser , satya.com , go
   - Click on server , services ,http , index.html , edit = custom web page

5. Run in simulation mode
   - View,simulation mode = (simulation pannel opens up), edit filters , select IPv4 ICMP packet only (deselect others)
   - Select pdu (closed message), select any pc (server), select other pc (destination), then run simulation from simulation panel (take time and enjoy the simlation)
   - Delete PDU from anywhere using (botthom right horizontal panel)
   - Delete PDU(mssg) from anywhere using (botthom right horizontal panel)
   - Reset simulation also useful in simulation vertical pannel