Practical 3

Aim: Configure IP static routing.

Step 1: create a topology

1. Select two computers (PC-PT) drag it and place it.
2. Select two routers (router-PT) drag it and place it.
3. Provide the connection between the computers and routers.

Step 2: Add IP address to computer and router.

PC 0:

1. Select PC 0 and open desktop tab and select IP configuration.
2. Provide following information:
   IP address: 192.168.4.2
   Subnet mask:255.255.255.0
   Default gateway:192.168.4.1

PC 1:

1. Select PC 1 and open desktop tab and select IP configuration.
2. Provide following information:
   IP address: 192.168.5.2
   Subnet mask:255.255.255.0
   Default gateway:192.168.5.1

Router 0:

1. Select router go to fastethernet 0/0 and give IP address 192.168.4.1, Subnet mask 255.255.255.0. Make it ON.
2. Go to serial 0/0 and give IP address 20.0.0.1, Subnet mask 255.0.0.0. Make it ON.

Router 1:

1. Select router go to fastethernet 0/0 and give IP address 192.168.5.1, Subnet mask 255.255.255.0.
2. Go to serial 0/0 and give IP address 20.0.0.2, Subnet mask 255.0.0.0.

Step 3: Configure IP static routing.

Router 0:

Go to config tab, click on static under Routing option and add following information:

Network: 192.168.5.0

Mask: 255.255.255.0

Next hop: 20.0.0.2

Router 1:

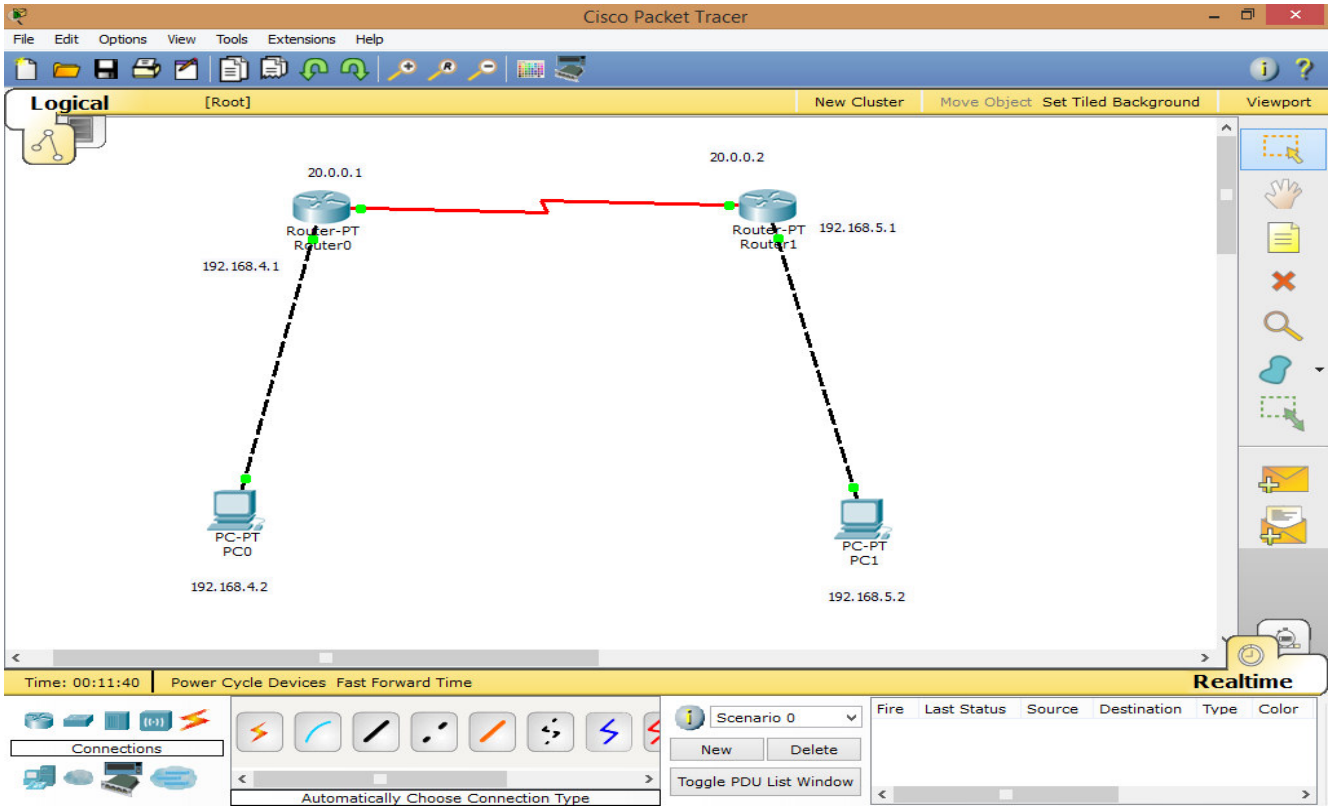
Go to config tab, click on static under Routing option and add following information:

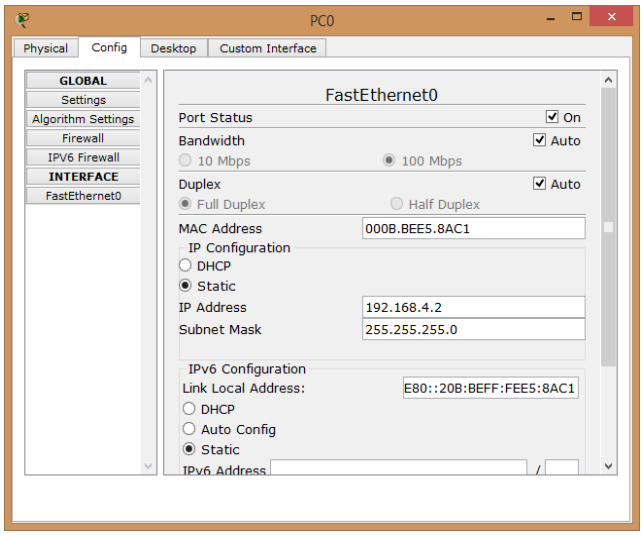
Network: 192.168.4.0

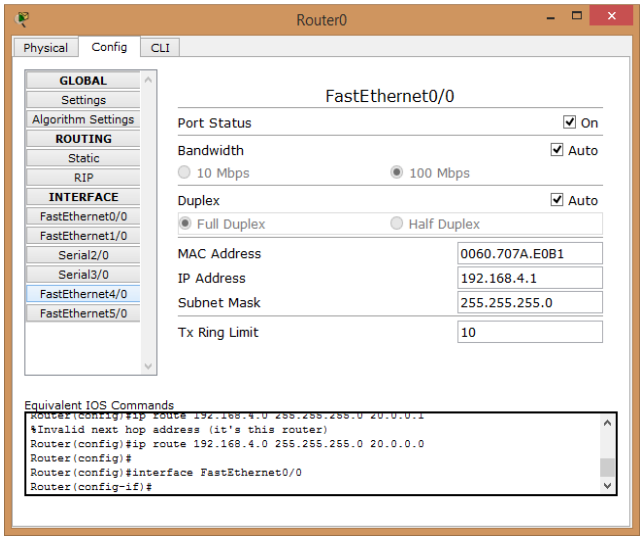
Mask: 255.255.255.0

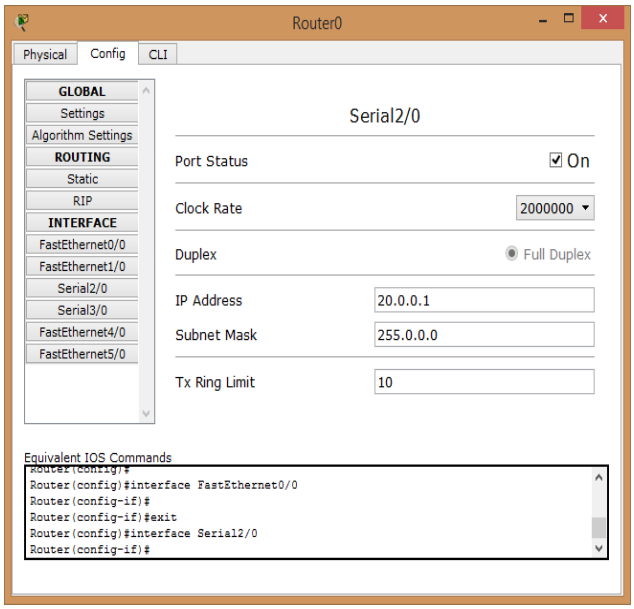
Next hop: 20.0.0.1

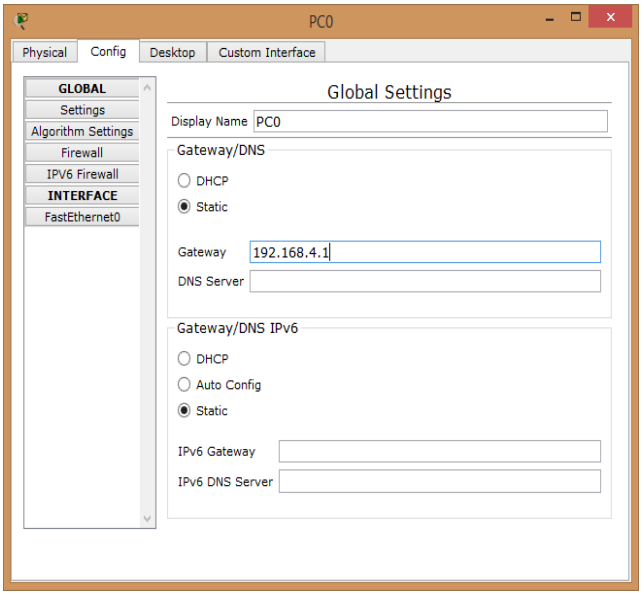
Step 4: Check the configuration by sending packets.

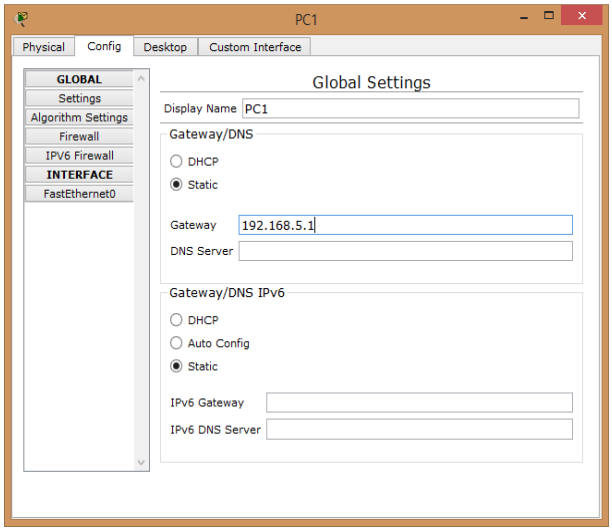

Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical [Root]
New Cluster Move Object Set Tiled Background Viewport
20.0.0.1
20.0.0.2
Router-PT Router0
Router-PT Router1
192.168.5.1
192.168.4.1
PC-PT PC0
192.168.4.2
PC-PT PC1
192.168.5.2
Time: 00:11:40 Power Cycle Devices Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Scenario 0
New Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color

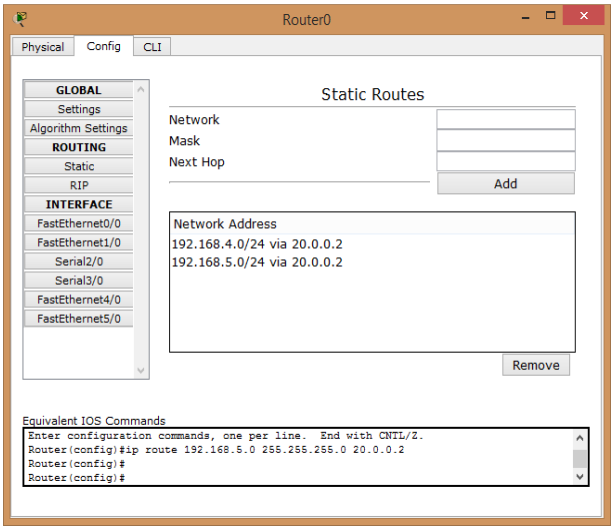

PC0
Physical Config Desktop Custom Interface
GLOBAL
Settings
Algorithm Settings
Firewall
IPV6 Firewall
INTERFACE
FastEthernet0
FastEthernet0
Port Status On
Bandwidth Auto
10 Mbps 100 Mbps
Duplex Auto
Full Duplex Half Duplex
MAC Address 000B.BEE5.8AC1
IP Configuration
DHCP
Static
IP Address 192.168.4.2
Subnet Mask 255.255.255.0
IPv6 Configuration
Link Local Address: E80::20B:BEFF:FEE5:8AC1
DHCP
Auto Config
Static
IPv6 Address

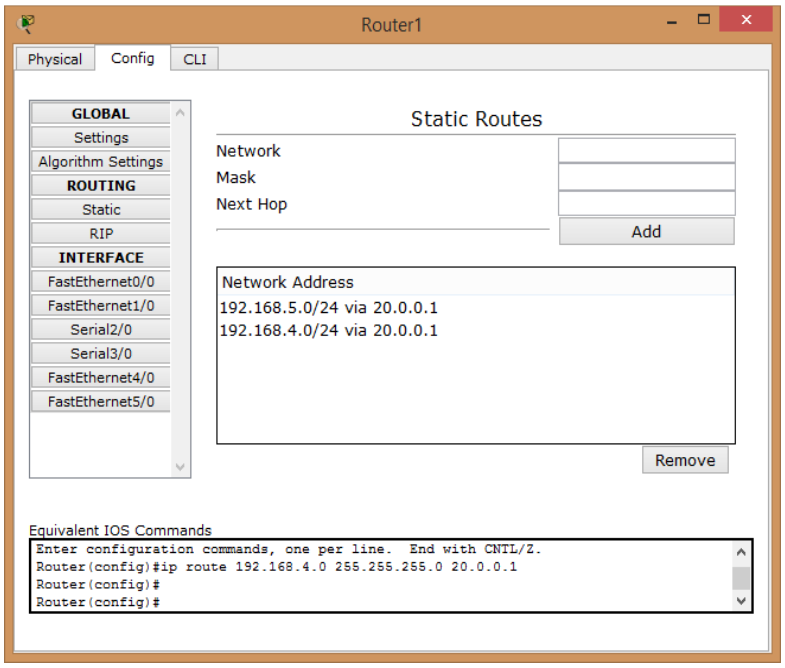

Router0
Physical Config CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
FastEthernet0/0
Port Status On
Bandwidth Auto
10 Mbps 100 Mbps
Duplex Auto
Full Duplex Half Duplex
MAC Address 0060.707A.E0B1
IP Address 192.168.4.1
Subnet Mask 255.255.255.0
Tx Ring Limit 10
Equivalent IOS Commands
%Invalid next hop address (it's this router)
Router(config)#ip route 192.168.4.0 255.255.255.0 20.0.0.0
Router(config)#
Router(config)#interface FastEthernet0/0
Router(config-if)#


Router0
Physical Config CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Serial2/0
Port Status On
Clock Rate 2000000
Duplex Full Duplex
IP Address 20.0.0.1
Subnet Mask 255.0.0.0
Tx Ring Limit 10
Equivalent IOS Commands
Router(config)#
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#


PC0
Physical Config Desktop Custom Interface
GLOBAL
Settings
Algorithm Settings
Firewall
IPV6 Firewall
INTERFACE
FastEthernet0
Global Settings
Display Name PC0
Gateway/DNS
DHCP
Static
Gateway 192.168.4.1
DNS Server
Gateway/DNS IPv6
DHCP
Auto Config
Static
IPv6 Gateway
IPv6 DNS Server


PC1
Physical
Config
Desktop
Custom Interface
GLOBAL
Settings
Algorithm Settings
Firewall
IPV6 Firewall
INTERFACE
FastEthernet0
Global Settings
Display Name
PC1
Gateway/DNS
DHCP
Static
Gateway
192.168.5.1
DNS Server
Gateway/DNS IPv6
DHCP
Auto Config
Static
IPv6 Gateway
IPv6 DNS Server


Router0
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Static Routes
Network
Mask
Next Hop
Add
Network Address
192.168.4.0/24 via 20.0.0.2
192.168.5.0/24 via 20.0.0.2
Remove
Equivalent IOS Commands
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 192.168.5.0 255.255.255.0 20.0.0.2
Router(config)#
Router(config)#


Router1
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Static Routes
Network
Mask
Next Hop
Add
Network Address
192.168.5.0/24 via 20.0.0.1
192.168.4.0/24 via 20.0.0.1
Remove
Equivalent IOS Commands
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 192.168.4.0 255.255.255.0 20.0.0.1
Router(config)#
Router(config)#

Practical 4

Aim: Configure IP routing using RIP.

RIP => The Routing Information Protocol (RIP) is one of the oldest distance. Vector routing Protocol which employ the hop count as routing matric. RIP prevent routing LOOP by implementing a limit on the no of hops allowed in a path from resources to destination.

Practical 3

Aim: Configure IP static routing.

Step 1: create a topology

4. Select two computers (PC-PT) drag it and place it.
5. Select two routers (router-PT) drag it and place it.
6. Provide the connection between the computers and routers.

Step 2: Add IP address to computer and router.

PC 0:

3. Select PC 0 and open desktop tab and select IP configuration.
4. Provide following information:
   IP address: 192.168.1.2
   Subnet mask:255.255.255.0
   Default gateway:192.168.1.1

PC 1:

3. Select PC 1 and open desktop tab and select IP configuration.
4. Provide following information:
   IP address: 192.168.2.2
   Subnet mask:255.255.255.0
   Default gateway:192.168.2.1

Router 0:

3. Select router go to fastethernet 0/0 and give IP address 192.168.1.1, Subnet mask 255.255.255.0. Make it ON.
4. Go to serial port and give IP address 10.0.0.1, Subnet mask 255.0.0.0. Make it ON.

Router 1:

3. Select router go to fastethernet 0/0 and give IP address 192.168.2.1, Subnet mask 255.255.255.0.
4. Go to serial port and give IP address 10.0.0.2, Subnet mask 255.0.0.0. Make it ON.

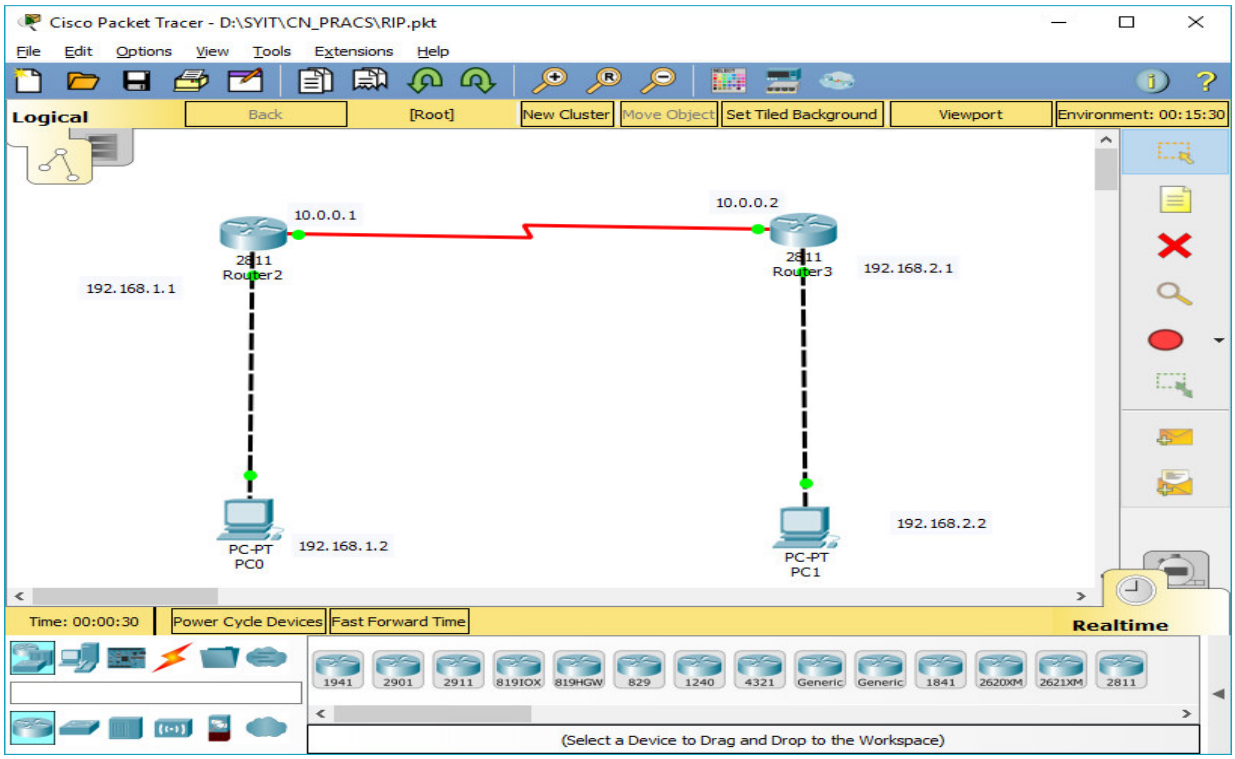
Step 3: Configure IP RIP routing.

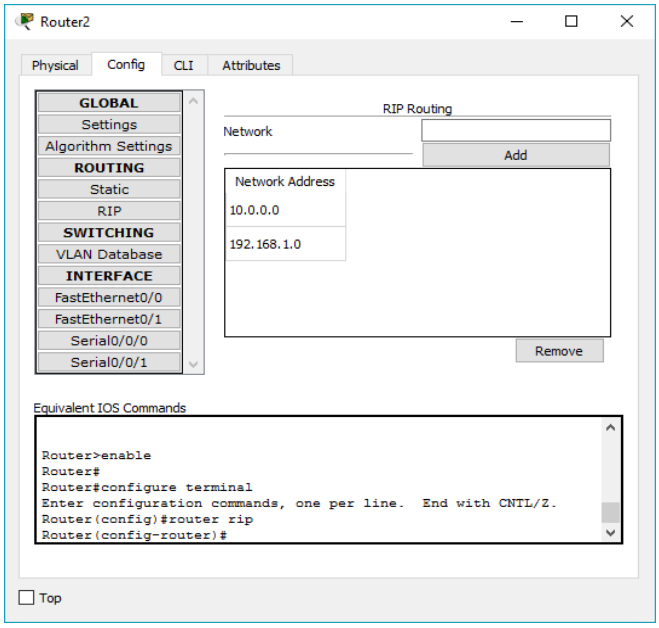
Router 0:
Go to config tab, click on RIP under Routing option and add following information:
Network: 192.168.1.0 click ADD.
Network: 10.0.0.0 click on ADD.

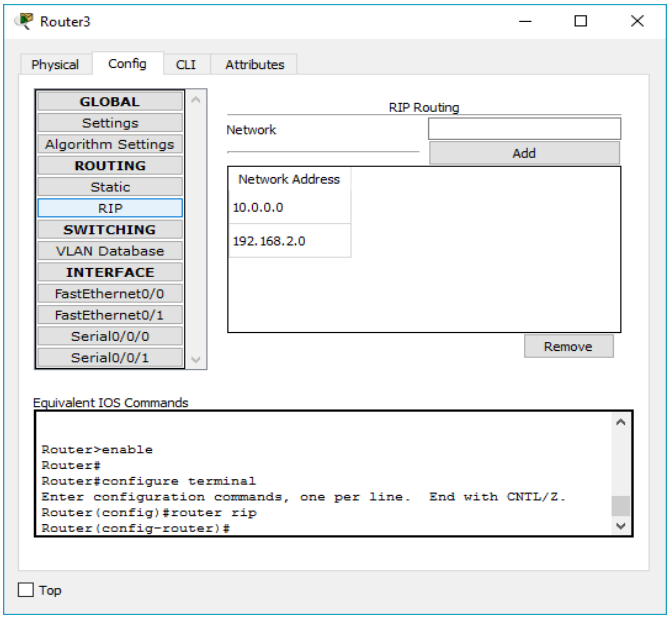
Router 1:
Go to config tab, click on RIP under Routing option and add following information:
Network: 192.168.2.0 click ADD.
Network: 10.0.0.0 click on ADD.

Step 4: Check the configuration by sending packets.

Output:


Cisco Packet Tracer - D:\SYIT\CN_PRACS\RIP.pkt
File Edit Options View Tools Extensions Help
Logical
Back
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Environment: 00:15:30
10.0.0.1
10.0.0.2
2811
Router2
2811
Router3
192.168.1.1
192.168.2.1
PC-PT
PC0
192.168.1.2
PC-PT
PC1
192.168.2.2
Time: 00:00:30
Power Cycle Devices
Fast Forward Time
Realtime
(Select a Device to Drag and Drop to the Workspace)


Router2
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/0/0
Serial0/0/1
RIP Routing
Network
Add
Network Address
10.0.0.0
192.168.1.0
Remove
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#
Top


Router3
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/0/0
Serial0/0/1
RIP Routing
Network
Add
Network Address
10.0.0.0
192.168.2.0
Remove
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#
Top

Practical 5

Aim: Configuring Simple OSPF.

Step 1 :- Take Router & pc as shown in Topology. Two 1841 Router & Two PC well as Two switch.

Step 2 :- Go to Router Interface in physical option off router and add WIC - 2t module in router and an router Now Go to Router and follow some procedure.

Step 3 :- Connect both router by serial DCE.

Step 4 :- Connect both switch - router and switch – pc by copper through as shown in topology.

Step 5 :- Give IP address 192.168.1.1 in fast Ethernet interface of pc0 and In gateway field give IP address 192.168.1.2

Step 6 :- Give IP address 192.168.2.1 in fast Ethernet interface of pc1 and In gateway field give IP address 192.168.2.2

Step 7 :- Go to Router 0 window in serial port give IP address 10.0.0.1 Check on port status close window. in fast Ethernet interface give IP address 192.168.1.2

Step 8 :- Go to Router 1 window in serial port give IP address 10.0.0.2 Check on port status close window. in fast Ethernet interface give IP address 192.168.2.2

** Now Go to Router 0 CLI interface and follow following command.

Router>enable

Router# configure terminal

Router (config) # router OSPF 1

Router (config – router) # network 192.168.1.0 255.255.255.0 area 1

Router (config – router) # network 10.0.0.0 255.0.0.0 area 1

Router (config- router) # exit

Router (config) # exit

** Now Go to Router 1 CLI interface and follow following command

Router>enable

Router # configure terminal

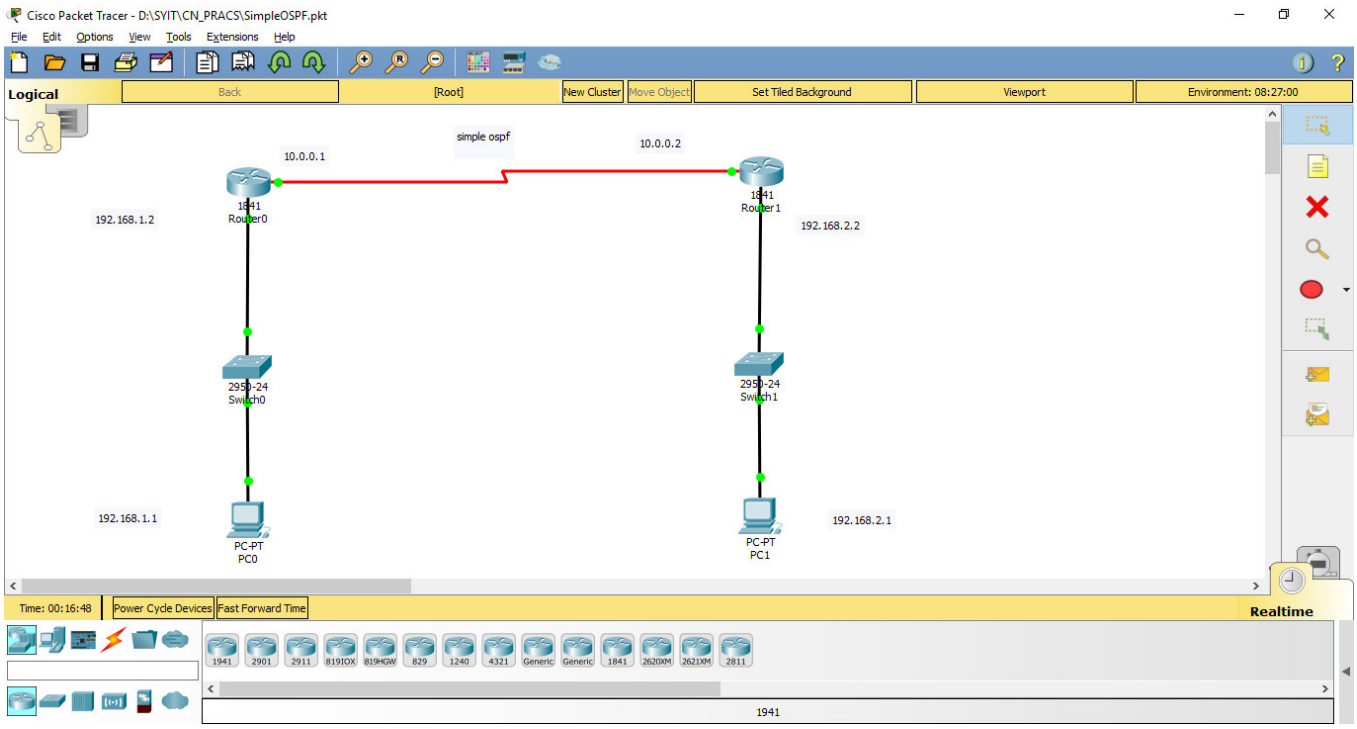
Router (config) # router OSPF 1

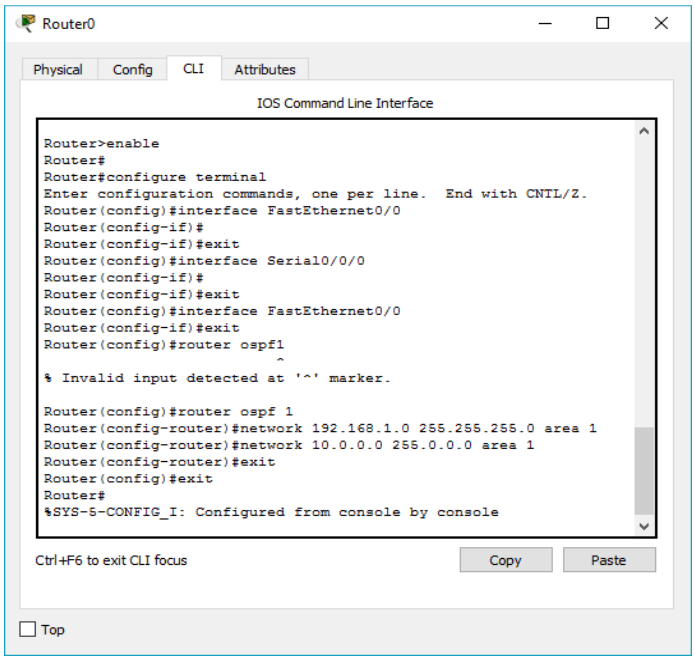
Router (config- router) # network 10.0.0.0 255.0.0.0 area 1

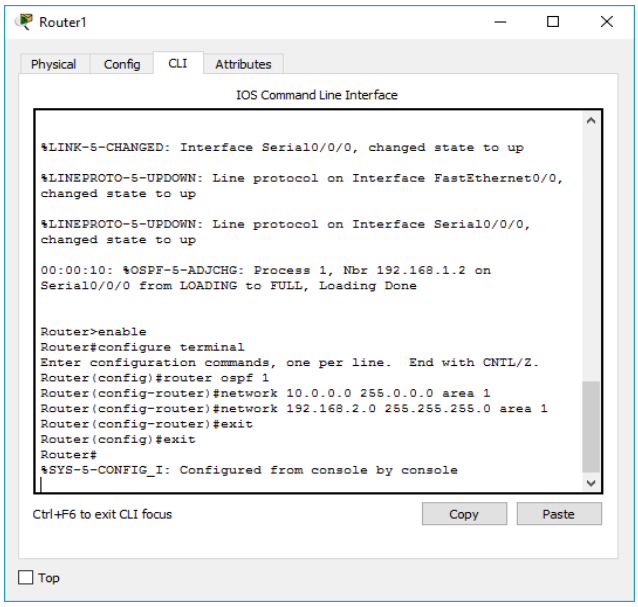
Router (config- router) # network 192.168.2.0 255.255.255.0 area 1

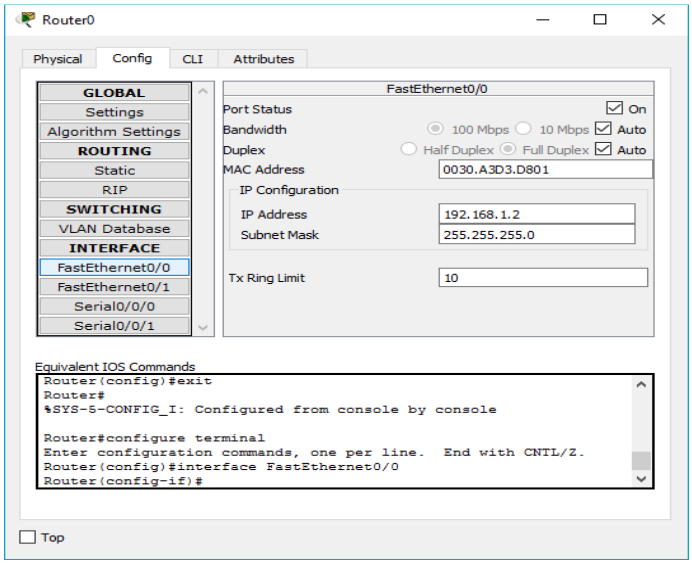
Router (config- router) # exit

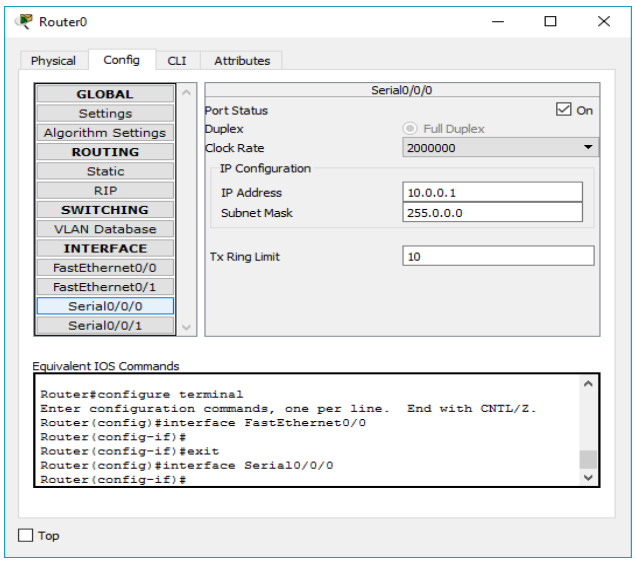
Router (config) # exit


Cisco Packet Tracer - D:\SYIT\CN_PRACS\SimpleOSPF.pkt
File Edit Options View Tools Extensions Help
Logical
Back
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Environment: 08:27:00
simple ospf
10.0.0.1
10.0.0.2
1841
Router0
1841
Router1
192.168.1.2
192.168.2.2
2950-24
Switch0
2950-24
Switch1
192.168.1.1
192.168.2.1
PC-PT
PC0
PC-PT
PC1
Time: 00:16:48
Power Cycle Devices
Fast Forward Time
Realtime
1941
2901
2911
819IOX
819HGW
829
1240
4321
Generic
Generic
1841
2620XM
2621XM
2811
1941


Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#exit
Router(config)#router ospf1
^
% Invalid input detected at '^' marker.
Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 255.255.255.0 area 1
Router(config-router)#network 10.0.0.0 255.0.0.0 area 1
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
00:00:10: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.1.2 on Serial0/0/0 from LOADING to FULL, Loading Done
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 10.0.0.0 255.0.0.0 area 1
Router(config-router)#network 192.168.2.0 255.255.255.0 area 1
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/0/0
Serial0/0/1
FastEthernet0/0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0030.A3D3.D801
IP Configuration
IP Address
192.168.1.2
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Top


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/0/0
Serial0/0/1
Serial0/0/0
Port Status
On
Duplex
Full Duplex
Clock Rate
2000000
IP Configuration
IP Address
10.0.0.1
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#
Top

Practical 6

Aim: Configure DHCP client and server:

Step 1: Create a topology.

1. Select a server (Server-PT) drag it and place it.
2. Select a switch (2960-24TT) drag it and place it.
3. Select a router (Router-PT) drag it and place it.
4. Select two switches (2960-24TT) one for each router.
5. Give the computers (PC-PT) as shown in the topology.
6. Provide connection (copper straight-through) between the server, routers, switches and computers.

Step 2: Provide IP address to server and routers.

Server 0:

1. Select server and open desktop tab and select IP configuration.

    Provide following information:
    IP address: 192.168.1.10
    Subnet mask:255.255.255.0
    Default gateway:192.168.1.1
    DNS server:192.168.1.10

2. Go to services tab select DHCP form the list of services. Provide the following information:

    Pool name: Pool1
    Default gateway: 192.168.2.1
    DNS server: 192.168.2.10
    Strat IP address: 192.168.2.11
    Subnet mask: 255.255.255.0
    Click on ADD and provide the information for next pool.

    Pool name: Pool2
    Default gateway: 192.168.3.1
    DNS server: 192.168.3.10
    Strat IP address: 192.168.3.11
    Subnet mask: 255.255.255.0
    Click on ADD and then click on save. Turn ON the DHCP services.

Router 0:

1. Select Router and open config tab select the interface FastEthernet0/0. Give IP address 192.168.1.1. subnet mask 255.255.255.0. make the port ON.
2. Select Router and open config tab select the interface FastEthernet1/0. Give IP address 192.168.2.1. subnet mask 255.255.255.0. make the port ON.

Router 1:

1. Select Router and open config tab select the interface FastEthernet0/0. Give IP address 192.168.1.1. subnet mask 255.255.255.0. make the port ON.
2. Select Router and open config tab select the interface FastEthernet1/0. Give IP address 192.168.3.1. subnet mask 255.255.255.0. make the port ON.

Step 3: Configure DHCP

Router 0:

Open the CLI tab and type the following:

Router(config-if)# interface FastEthernet 1/0

Router(config-if)# ip helper-address 192.168.1.10

Router(config-if)# exit

Router(config)#

Router 1:

Open the CLI tab and type the following:

Router(config-if)# interface FastEthernet 1/0

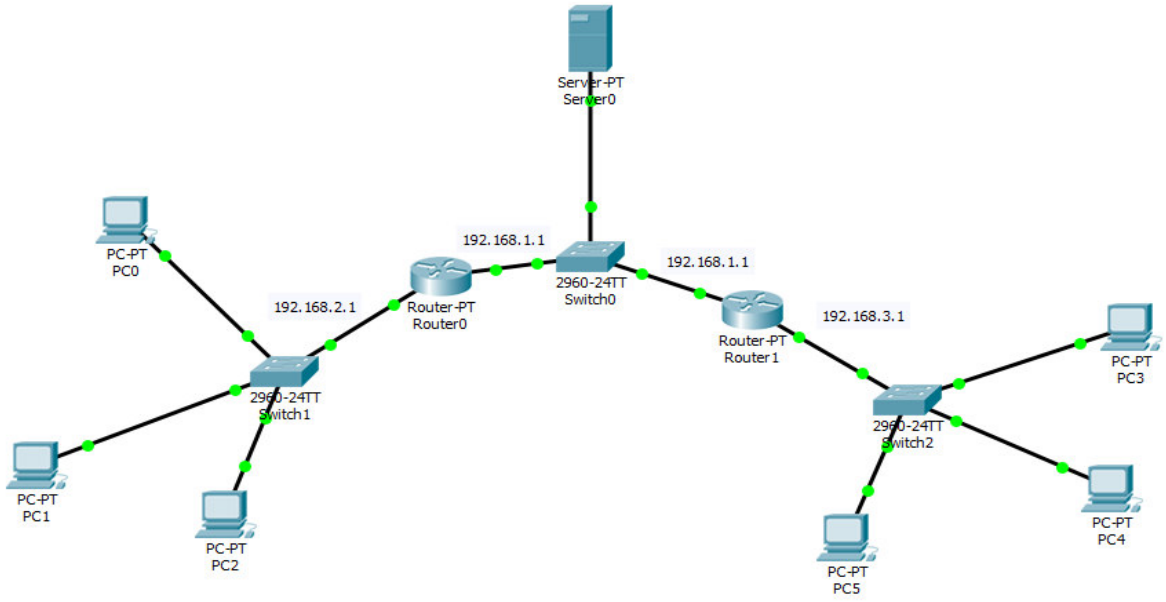
Router(config-if)# ip helper-address 192.168.1.10

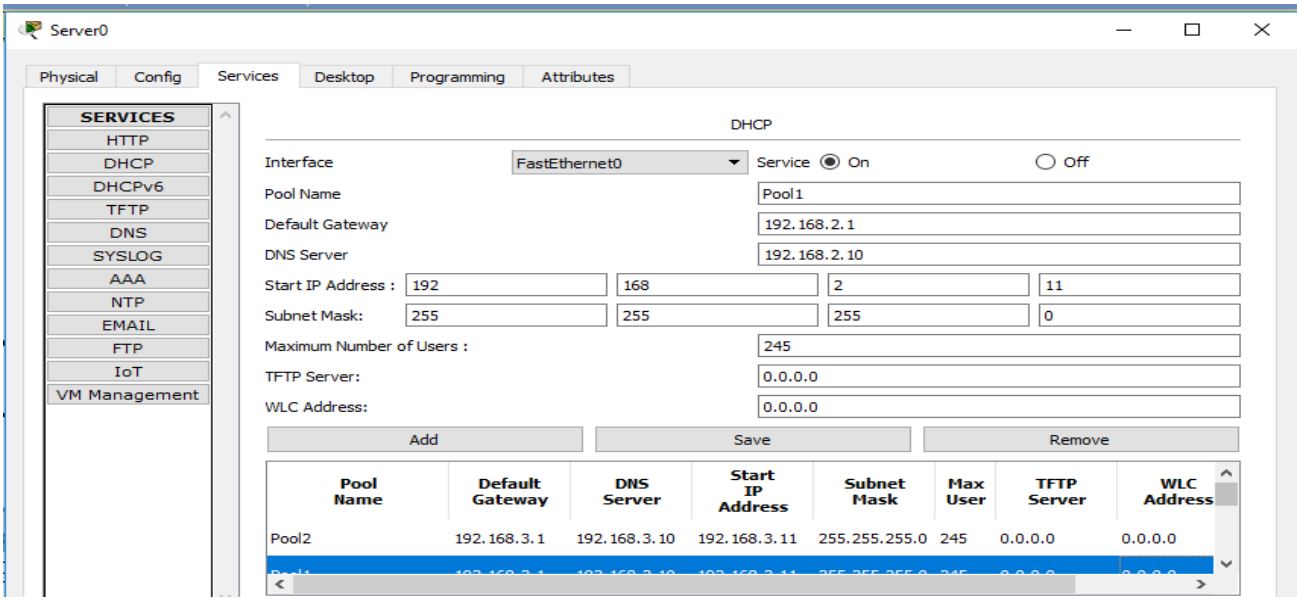
Router(config-if)# exit

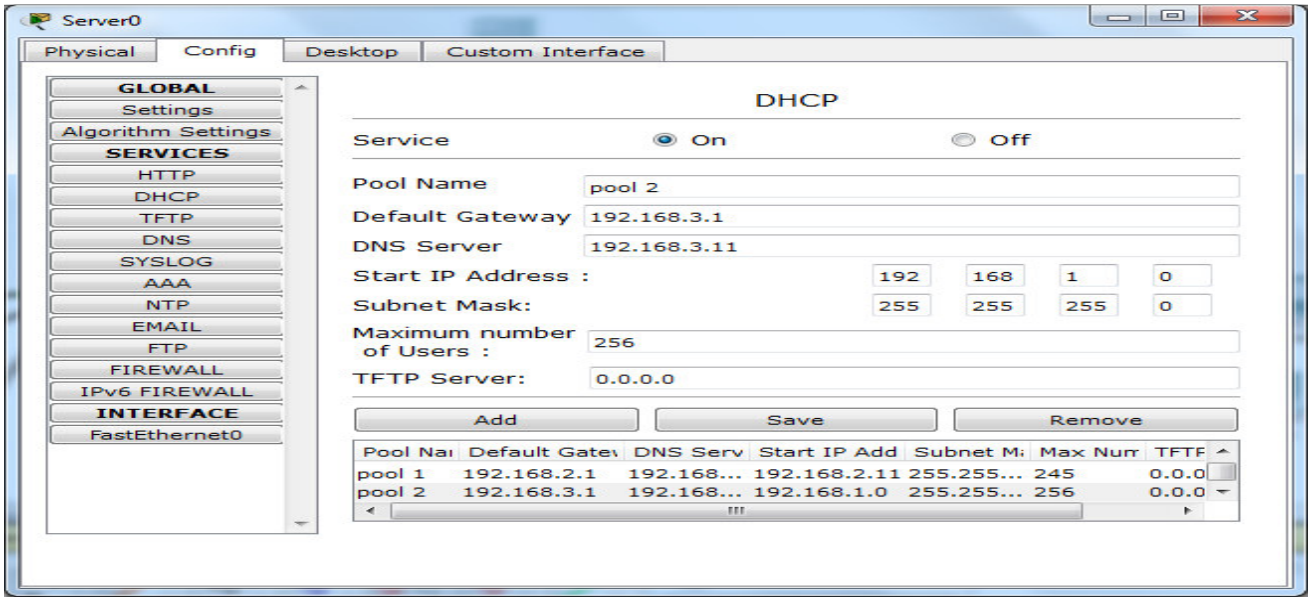
Router(config)#

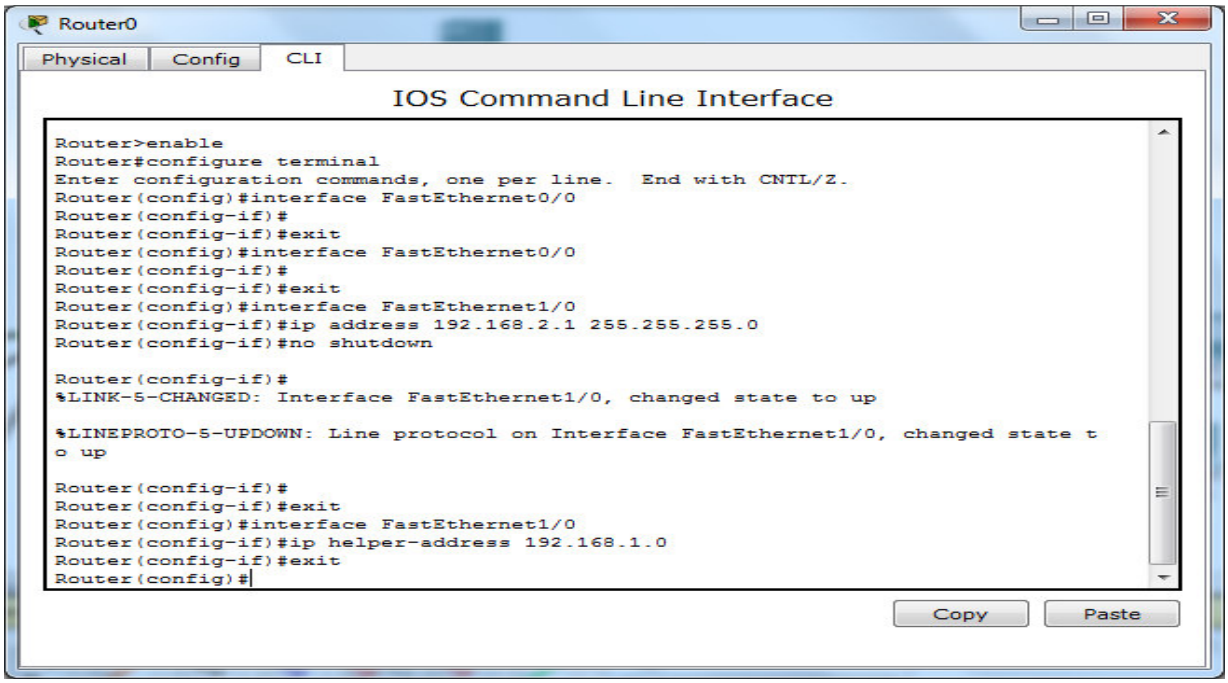
Step 4: Check and confirm the configuration:

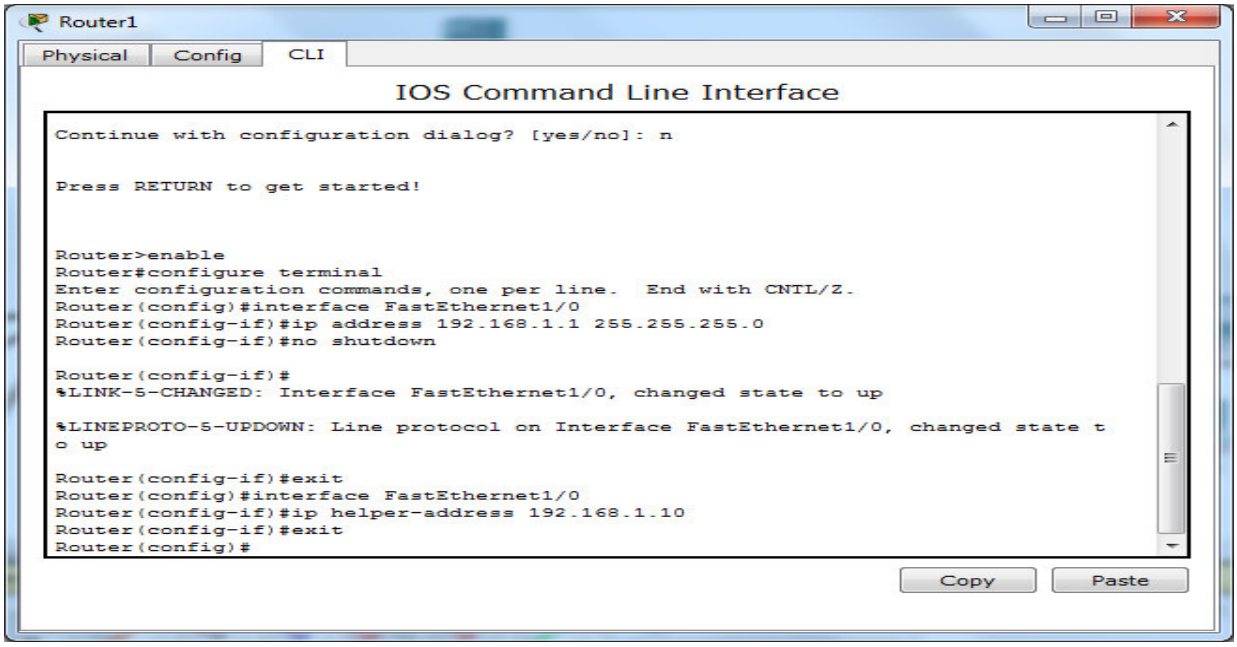
1. Select PC0 go to Desktop tab and select IP configuration. Then click on DHCP option. (DHCP request successful should be displayed).
2. Perform the same process on all the computers available in the topology.




Server0
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
DHCP
Interface
FastEthernet0
Service
On
Off
Pool Name
Pool1
Default Gateway
192.168.2.1
DNS Server
192.168.2.10
Start IP Address :
192
168
2
11
Subnet Mask:
255
255
255
0
Maximum Number of Users :
245
TFTP Server:
0.0.0.0
WLC Address:
0.0.0.0
Add
Save
Remove
Pool Name
Default Gateway
DNS Server
Start IP Address
Subnet Mask
Max User
TFTP Server
WLC Address
Pool2
192.168.3.1
192.168.3.10
192.168.3.11
255.255.255.0
245
0.0.0.0
0.0.0.0


Server0
Physical
Config
Desktop
Custom Interface
GLOBAL
Settings
Algorithm Settings
SERVICES
HTTP
DHCP
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
FIREWALL
IPv6 FIREWALL
INTERFACE
FastEthernet0
DHCP
Service
On
Off
Pool Name
pool 2
Default Gateway
192.168.3.1
DNS Server
192.168.3.11
Start IP Address :
192
168
1
0
Subnet Mask:
255
255
255
0
Maximum number of Users :
256
TFTP Server:
0.0.0.0
Add
Save
Remove
Pool Nai
Default Gatev
DNS Serv
Start IP Add
Subnet Mi
Max Num
TFTF
pool 1
192.168.2.1
192.168...
192.168.2.11
255.255...
245
0.0.0
pool 2
192.168.3.1
192.168...
192.168.1.0
255.255...
256
0.0.0


Router0
Physical
Config
CLI
IOS Command Line Interface
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#ip address 192.168.2.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state t
o up
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#ip helper-address 192.168.1.0
Router(config-if)#exit
Router(config)#
Copy
Paste



Practical 7

Aim: Configure DNS client and server

Step 1: create a topology

7. Select a computer (PC-PT) drag it and place it.
8. Select a switch (2950-24) drag it and place it.
9. Select a server (Server-PT) drag it and place it.
10. Provide connections between computer, switch and server (copper straight-through).

Step 2: Add IP address to computer and server.

Server 0:

Go to Desktop tab click on IP configuration.

IP address: 192.168.1.1

Subnet mask: 255.255.255.0

DNS server: 192.168.1.1

PC 0:

Go to Desktop tab click on IP configuration.

IP address: 192.168.1.5

Subnet mask: 255.255.255.0

DNS server: 192.168.1.1

Step 3: Configure the DNS server and Client:

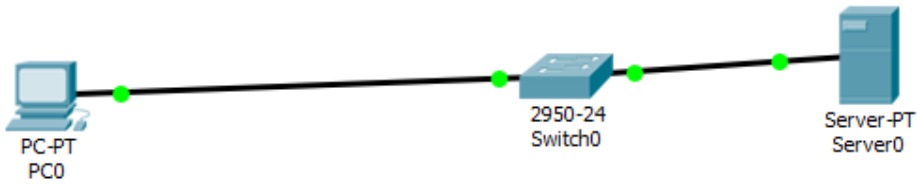
Server 0:

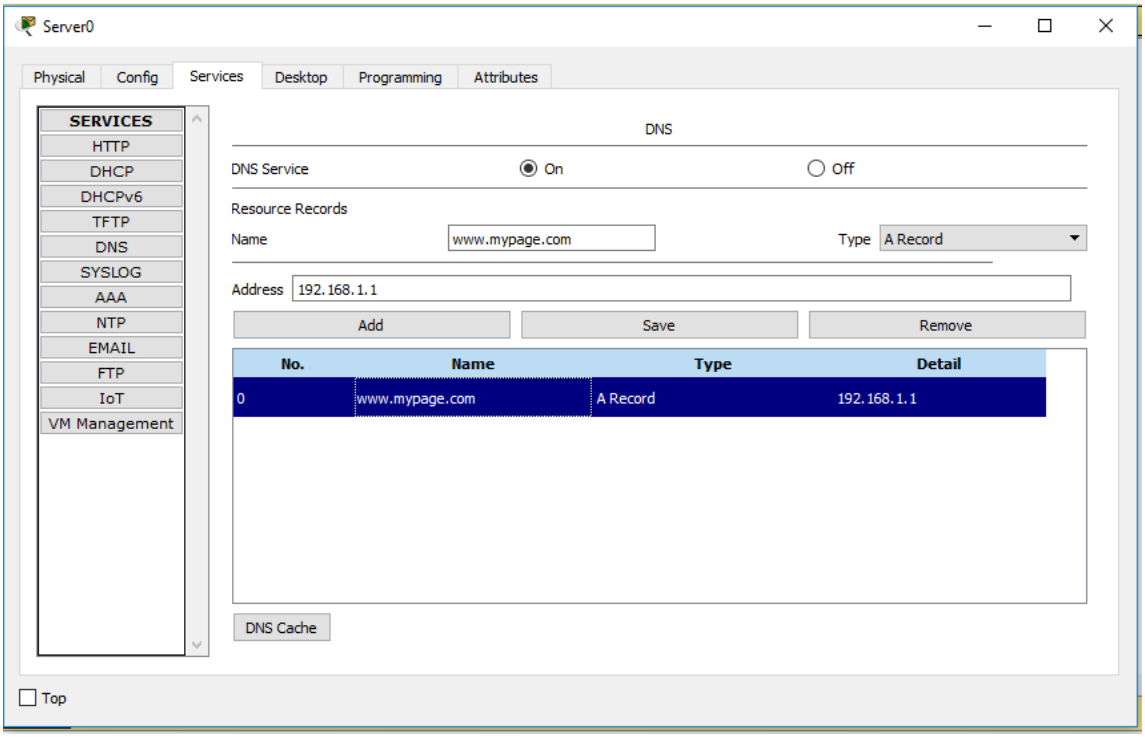
1. Click on services tab and select DNS from the list of services.
2. In Name field type the name of the web page (eg. www.firstpage.com).
3. In address field type the IP address of DNS server (192.168.1.1).
4. Then click on ADD and enable the DNS service by clicking ON option.
5. Then select HTTP from the list of services and type the required HTML code for the web page.

Step 4: check and confirm the configuration:

PC 0:

1. Go to Desktop tab select web browser.
2. In URL tab type the name of the DNS server (eg. www.firstpage.com).
3. And click on GO.





Practical 8
Aim: OSPF with multiple area.

Step 1: Design the topology.

Step 2: Give IP addresses to 3 PC, 3 Router (1841) and 3 Switch (2950).

Router 0

Give IP address on fast Ethernet -192.168.1.1

Give IP address on serial 0/0- 10.0.0.1

Router 1

Give IP address on fast Ethernet -192.168.2.1

Give IP address on serial 0/0- 10.0.0.2

Give IP address on serial 0/0/1- 11.0.0.1

Router 2

Give IP address on fast Ethernet -192.168.3.1

Give IP address on serial 0/0- 11.0.0.2

PC 0

Give IP address as 192.168.1.2

Set default gateway: 192.168.1.1

PC

Give IP address as 192.168.2.2

Set default gateway: 192.168.2.1

PC 2

Give IP address as 192.168.3.2

Set default gateway: 192.168.3.1

Step 3: Configure OSPF protocol.

Router 0

Open CLI:

Router (config-if) Exit

Router(config)# router ospf 1

Router (config-router) #network 192.168.1.0 0.0.0.255 area 1

Router (config-router) #network 10.0.0.0 0.255.255.255 area 1

Router (config-router) #exit

Router 1

Open CLI:

Router (config-if) Exit

Router(config)# router ospf 2

Router (config-router) #network 192.168.2.0 0.0.0.255 area 0

Router (config-router) #network 10.0.0.0 0.255.255.255 area 1

Router (config-router) #network 11.0.0.0 0.255.255.255 area 2

Router (config-router) #exit

Router 2

Open CLI:

Router (config-if) Exit

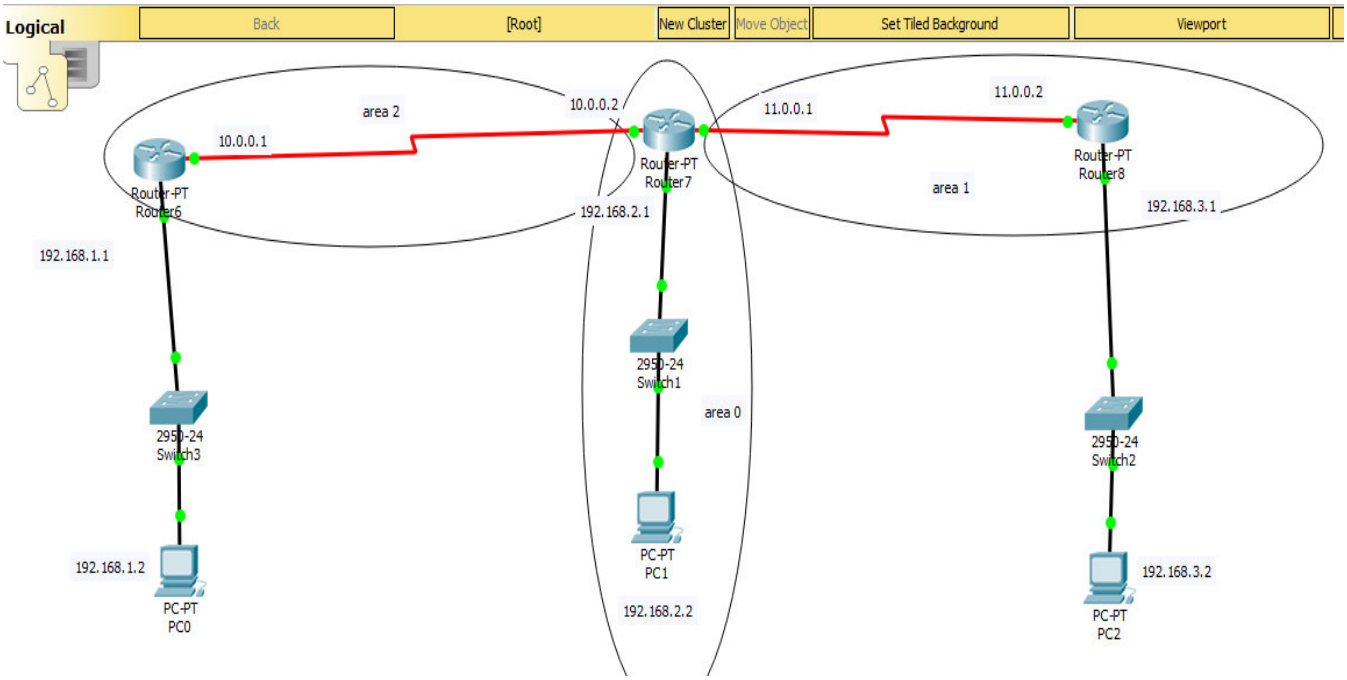
Router(config)# router ospf 1

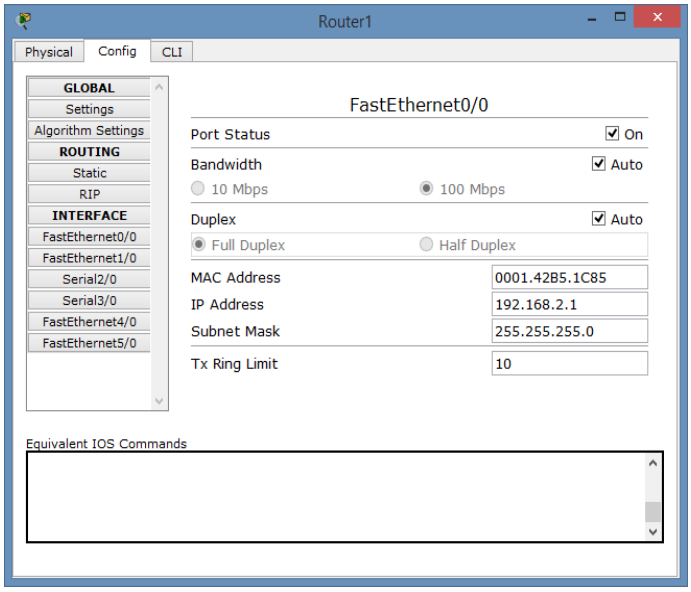
Router (config-router) #network 192.168.3.0 0.0.0.255 area 2

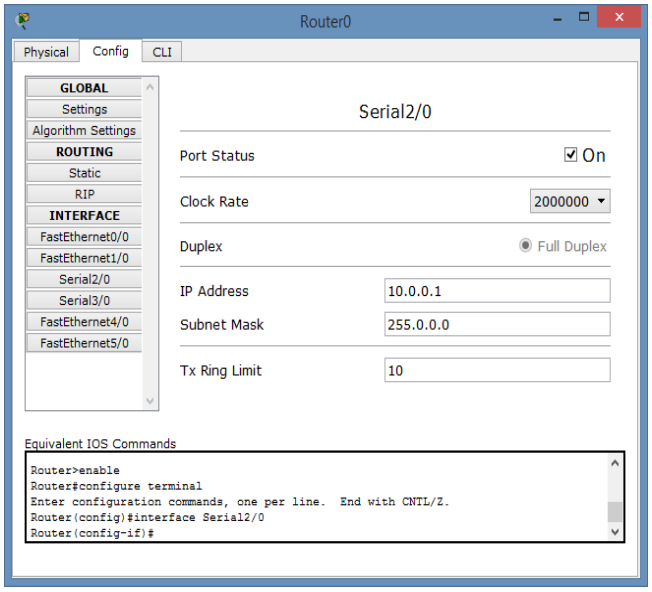
Router (config-router) #network 11.0.0.0 0.255.255.255 area 2

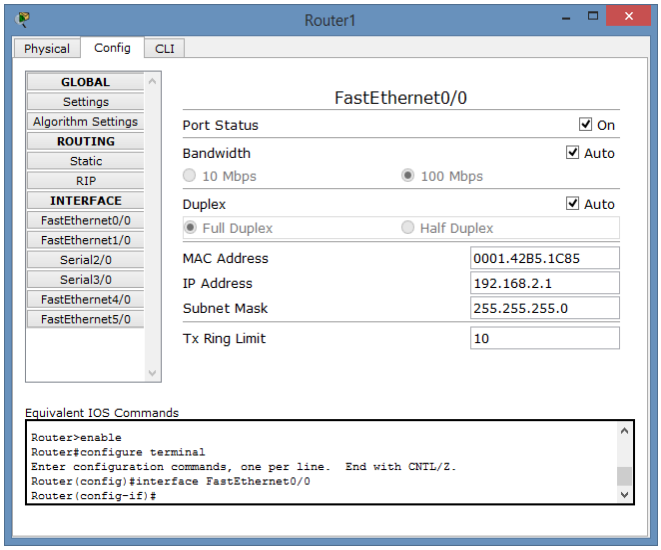
Router (config-router) #exit

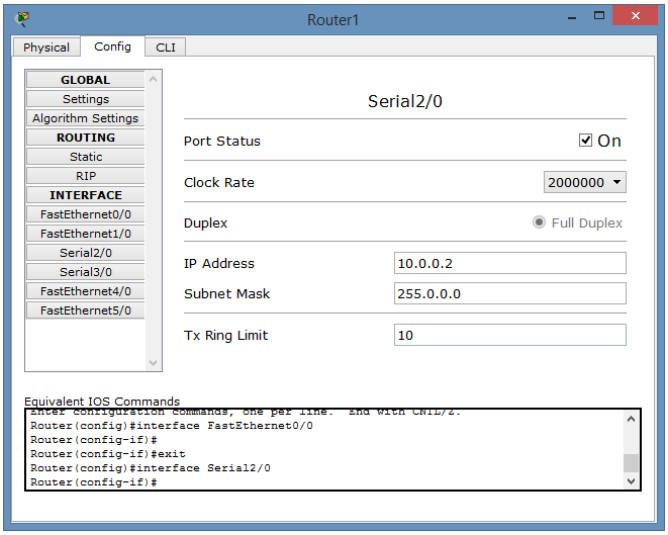
Step 4: Check the configuration by sending the packets.

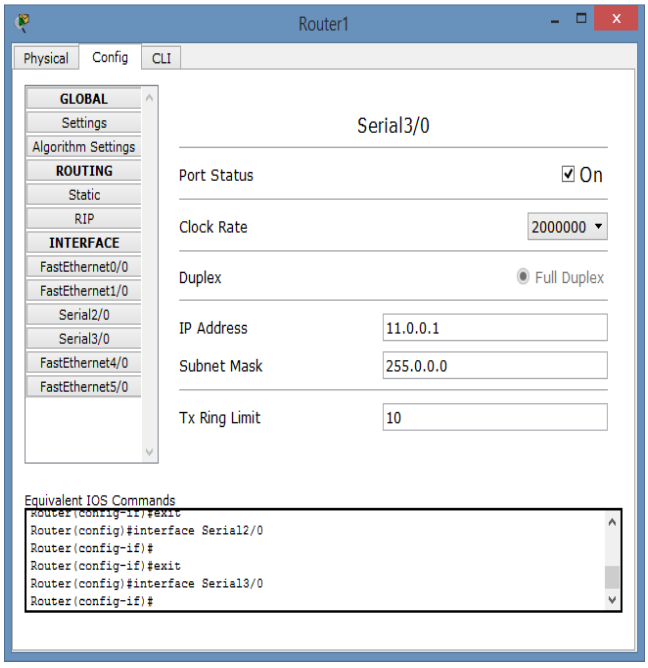


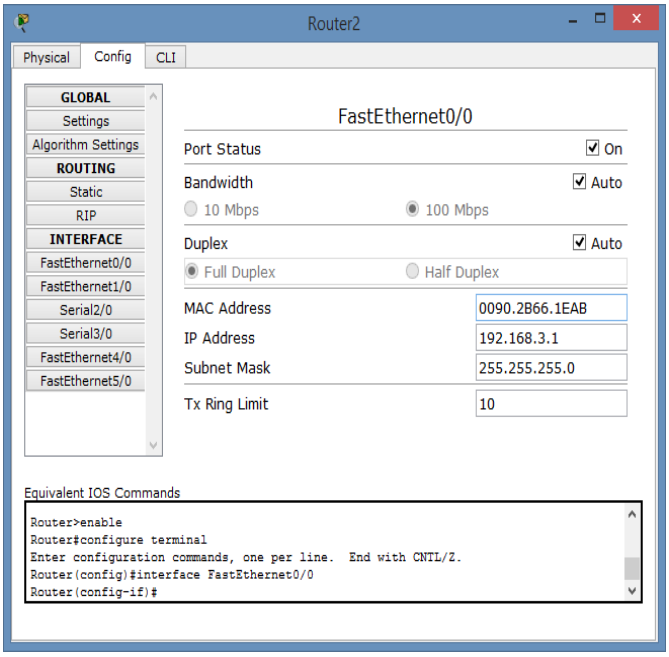

Router1
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
FastEthernet0/0
Port Status
On
Bandwidth
Auto
10 Mbps
100 Mbps
Duplex
Auto
Full Duplex
Half Duplex
MAC Address
0001.42B5.1C85
IP Address
192.168.2.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands

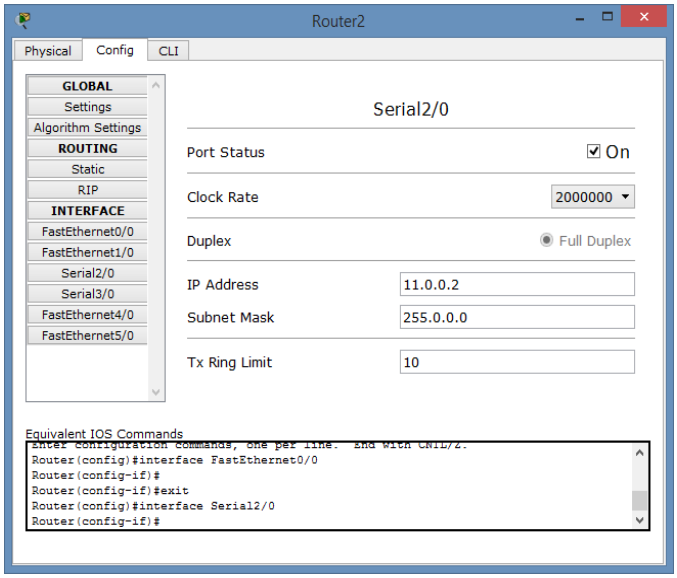

Router0
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Serial2/0
Port Status
On
Clock Rate
2000000
Duplex
Full Duplex
IP Address
10.0.0.1
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial2/0
Router(config-if)#

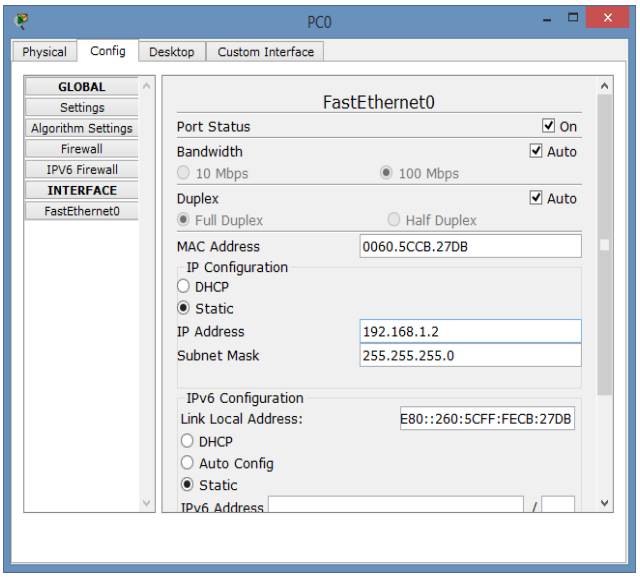

Router1
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
FastEthernet0/0
Port Status
On
Bandwidth
Auto
10 Mbps
100 Mbps
Duplex
Auto
Full Duplex
Half Duplex
MAC Address
0001.42B5.1C85
IP Address
192.168.2.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#

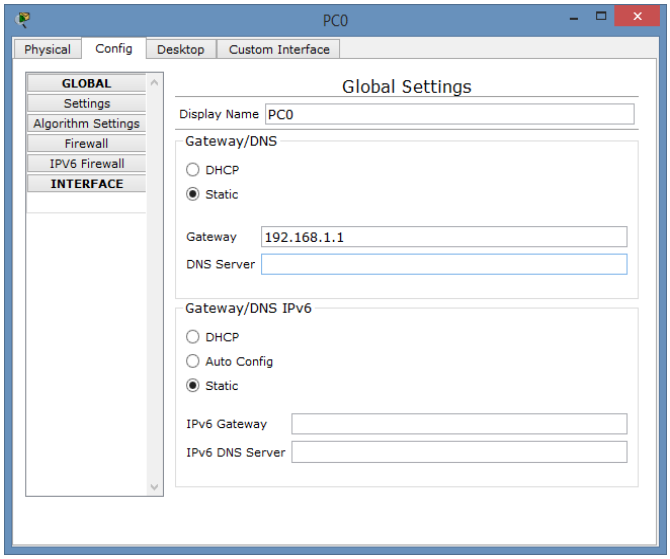

Router1
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Serial2/0
Port Status
On
Clock Rate
2000000
Duplex
Full Duplex
IP Address
10.0.0.2
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#

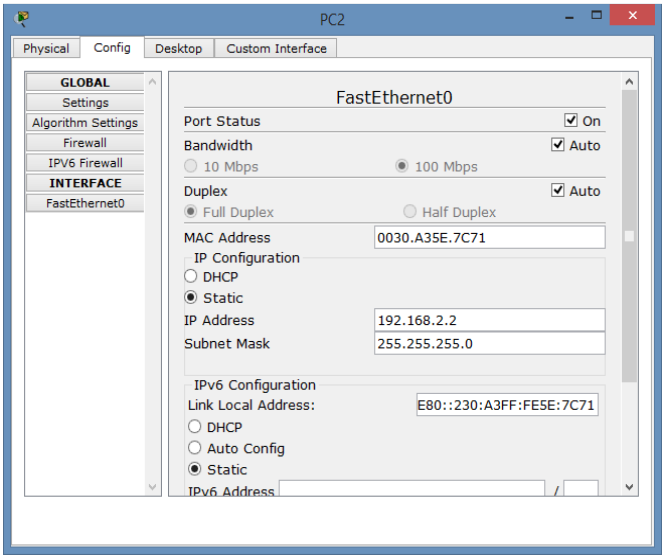

Router1
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Serial3/0
Port Status
On
Clock Rate
2000000
Duplex
Full Duplex
IP Address
11.0.0.1
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial3/0
Router(config-if)#

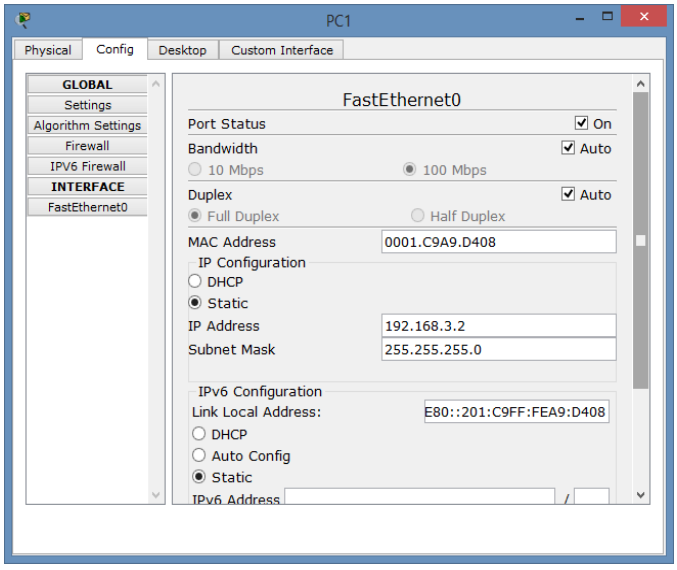

Router2
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
FastEthernet0/0
Port Status
On
Bandwidth
Auto
10 Mbps
100 Mbps
Duplex
Auto
Full Duplex
Half Duplex
MAC Address
0090.2B66.1EAB
IP Address
192.168.3.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#

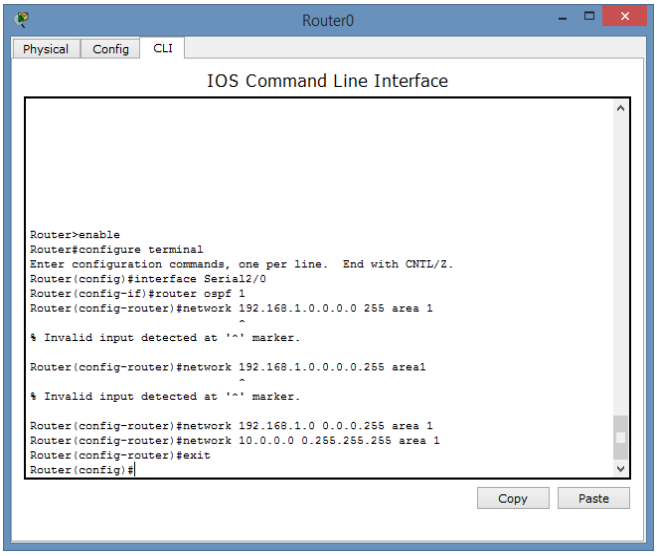

Router2
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
Serial2/0
Port Status
On
Clock Rate
2000000
Duplex
Full Duplex
IP Address
11.0.0.2
Subnet Mask
255.0.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#

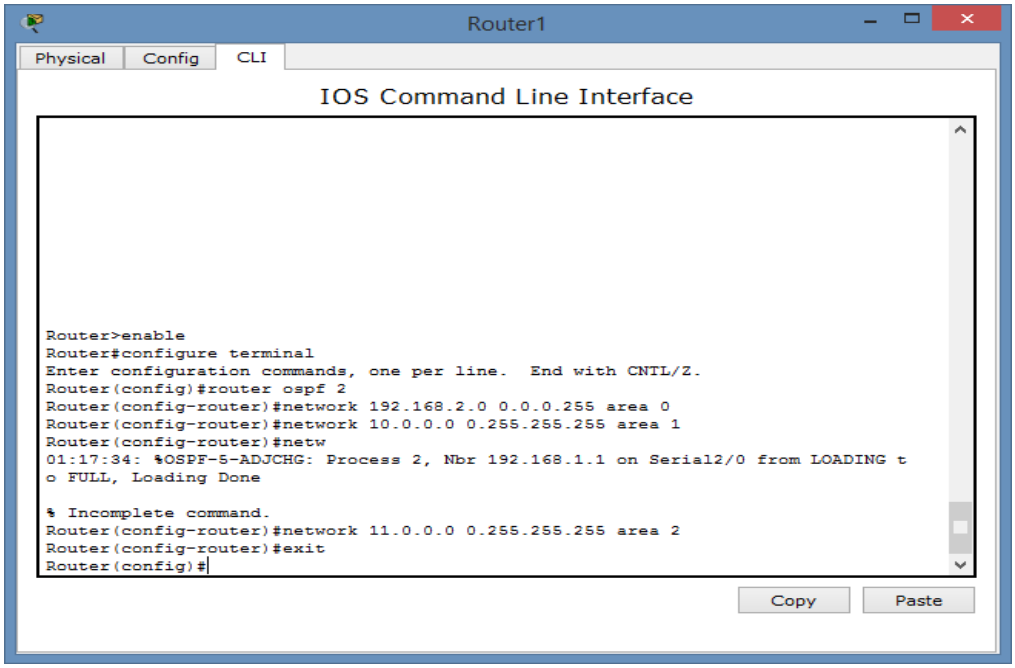

PC0
Physical
Config
Desktop
Custom Interface
GLOBAL
Settings
Algorithm Settings
Firewall
IPV6 Firewall
INTERFACE
FastEthernet0
FastEthernet0
Port Status
On
Bandwidth
Auto
10 Mbps
100 Mbps
Duplex
Auto
Full Duplex
Half Duplex
MAC Address
0060.5CCB.27DB
IP Configuration
DHCP
Static
IP Address
192.168.1.2
Subnet Mask
255.255.255.0
IPv6 Configuration
Link Local Address:
E80::260:5CFF:FECB:27DB
DHCP
Auto Config
Static
IPv6 Address

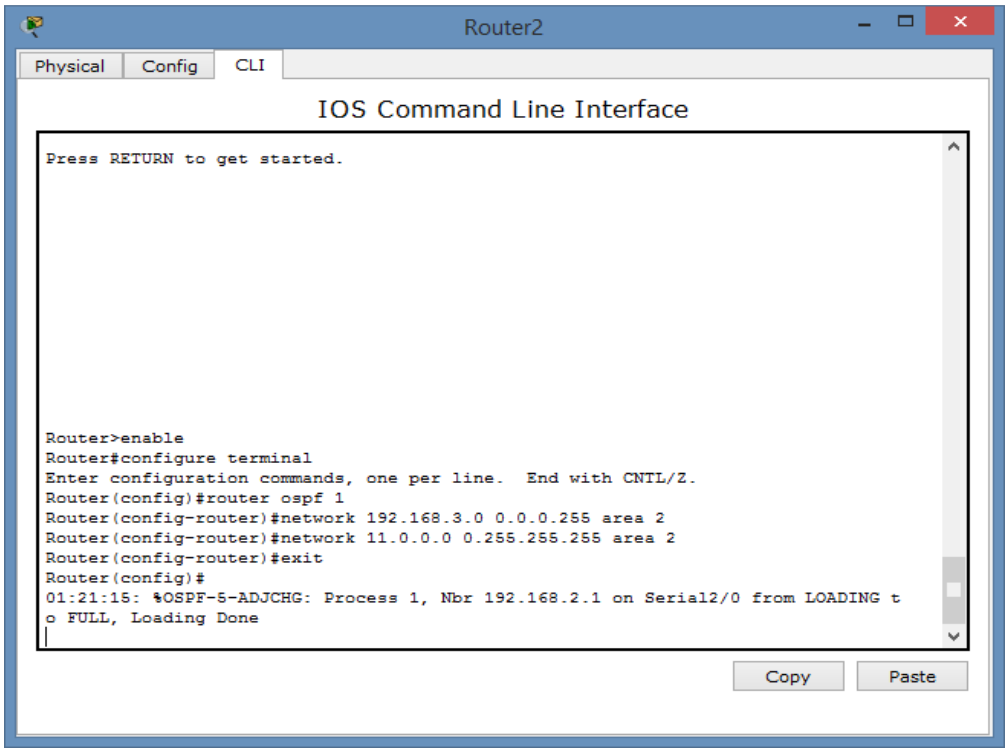

PC0
Physical
Config
Desktop
Custom Interface
GLOBAL
Settings
Algorithm Settings
Firewall
IPV6 Firewall
INTERFACE
Global Settings
Display Name
PC0
Gateway/DNS
DHCP
Static
Gateway
192.168.1.1
DNS Server
Gateway/DNS IPv6
DHCP
Auto Config
Static
IPv6 Gateway
IPv6 DNS Server


PC2
Physical
Config
Desktop
Custom Interface
GLOBAL
Settings
Algorithm Settings
Firewall
IPV6 Firewall
INTERFACE
FastEthernet0
FastEthernet0
Port Status
On
Bandwidth
Auto
10 Mbps
100 Mbps
Duplex
Auto
Full Duplex
Half Duplex
MAC Address
0030.A35E.7C71
IP Configuration
DHCP
Static
IP Address
192.168.2.2
Subnet Mask
255.255.255.0
IPv6 Configuration
Link Local Address:
E80::230:A3FF:FE5E:7C71
DHCP
Auto Config
Static
IPv6 Address


PC1
Physical
Config
Desktop
Custom Interface
GLOBAL
Settings
Algorithm Settings
Firewall
IPV6 Firewall
INTERFACE
FastEthernet0
FastEthernet0
Port Status
On
Bandwidth
Auto
10 Mbps
100 Mbps
Duplex
Auto
Full Duplex
Half Duplex
MAC Address
0001.C9A9.D408
IP Configuration
DHCP
Static
IP Address
192.168.3.2
Subnet Mask
255.255.255.0
IPv6 Configuration
Link Local Address:
E80::201:C9FF:FEA9:D408
DHCP
Auto Config
Static
IPv6 Address


Router0
Physical
Config
CLI
IOS Command Line Interface
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial2/0
Router(config-if)#router ospf 1
Router(config-router)#network 192.168.1.0.0.0.0 255 area 1
^
% Invalid input detected at '^' marker.
Router(config-router)#network 192.168.1.0.0.0.0.255 area1
^
% Invalid input detected at '^' marker.
Router(config-router)#network 192.168.1.0 0.0.0.255 area 1
Router(config-router)#network 10.0.0.0 0.255.255.255 area 1
Router(config-router)#exit
Router(config)#
Copy
Paste


Router1
Physical
Config
CLI
IOS Command Line Interface
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 2
Router(config-router)#network 192.168.2.0 0.0.0.255 area 0
Router(config-router)#network 10.0.0.0 0.255.255.255 area 1
Router(config-router)#netw
01:17:34: %OSPF-5-ADJCHG: Process 2, Nbr 192.168.1.1 on Serial2/0 from LOADING t
o FULL, Loading Done
% Incomplete command.
Router(config-router)#network 11.0.0.0 0.255.255.255 area 2
Router(config-router)#exit
Router(config)#
Copy
Paste


Router2
Physical
Config
CLI
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 ospf 1
Router(config-router)#network 192.168.3.0 0.0.0.255 area 2
Router(config-router)#network 11.0.0.0 0.255.255.255 area 2
Router(config-router)#exit
Router(config)#
01:21:15: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.2.1 on Serial2/0 from LOADING t
o FULL, Loading Done
Copy
Paste

Practical 9

Aim : Configure Email server:

Step 1: Design the topology.

Step 2: Give IP addresses to PC, Router and Server.

PC 0: 192.168.1.2 Default gateway: 192.168.1.1

PC 1: 192.168.1.3 Default gateway: 192.168.1.1

Router 0: router to switch- 192.168.1.1 and router to server 192.168.2.1

Server 0: 192.168.2.2 Default gateway: 192.168.2.1

Step 3: Configure the EMAIL server and Client:

Server 0:

6. Click on services tab and select EMAIL from the list of services.
7. Enter the following information:
   a. Domain name: gmail.com
   b. User: user1 password: user1 click on + button.
   c. Add another user.

PC 0:

1. Click on desktop tab then select configure mail.
2. Enter the following information:
   a. Name : user1
   b. Email: user1@gmail.com
   c. Incoming mail server: 192.168.2.2 (email address of email server)
   d. Outgoing mail server: 192.168.2.2 (email address of email server)
   e. User name: user1
   f. Password: user1.
3. Then click on SAVE.

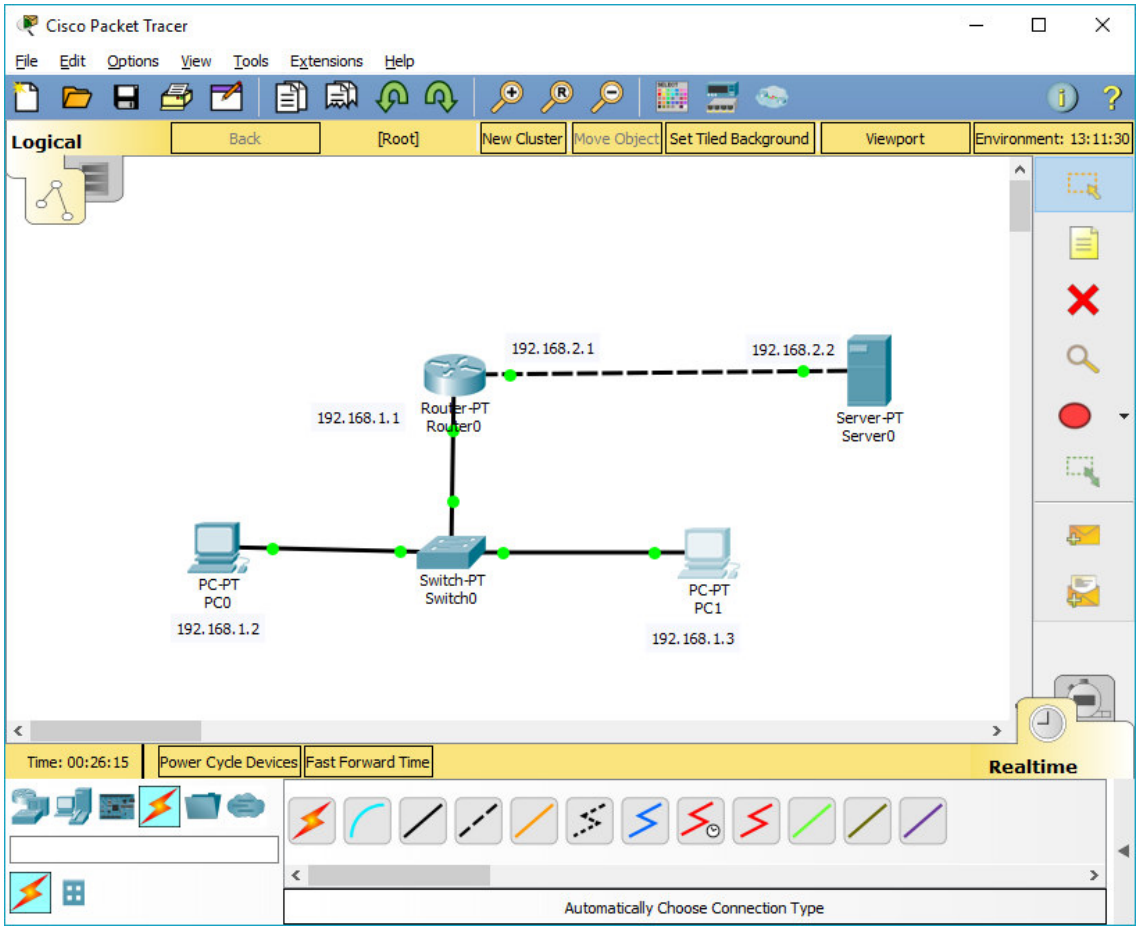
PC 1:

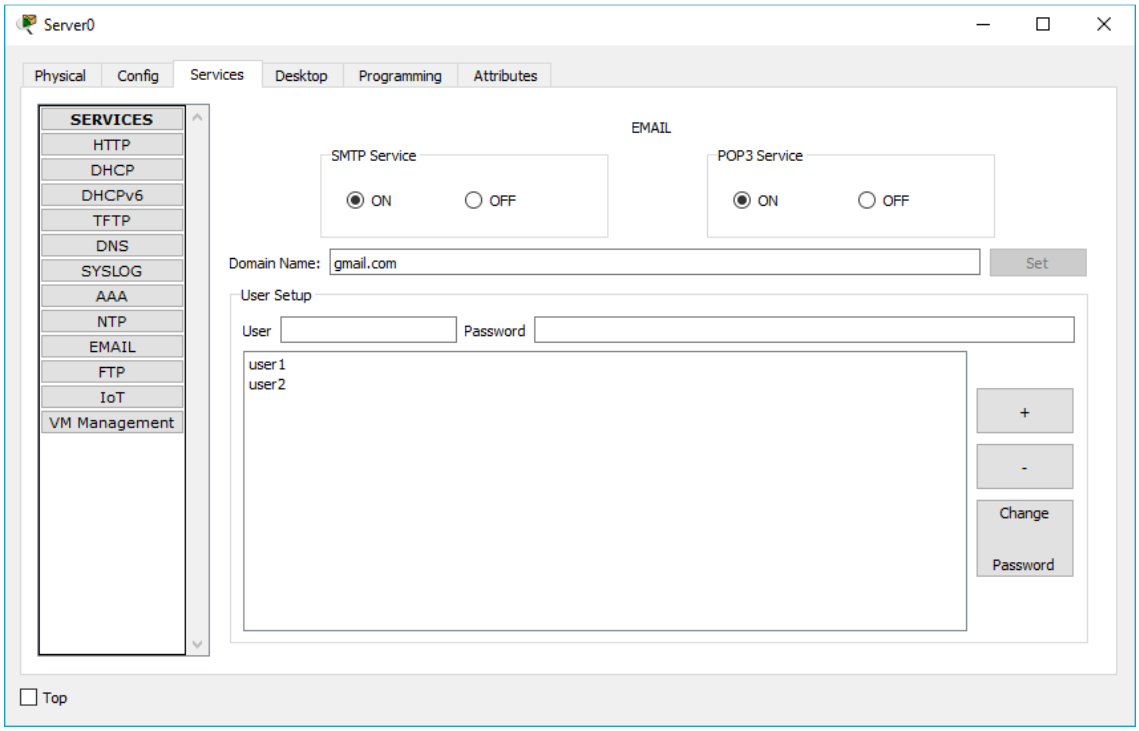
1. Click on desktop tab then select configure mail.
2. Enter the following information:
   a. Name : user2
   b. Email: user2@gmail.com
   c. Incoming mail server: 192.168.2.2 (email address of email server)
   d. Outgoing mail server: 192.168.2.2 (email address of email server)
   e. User name: user2
   f. Password: user2
3. Then click on SAVE.

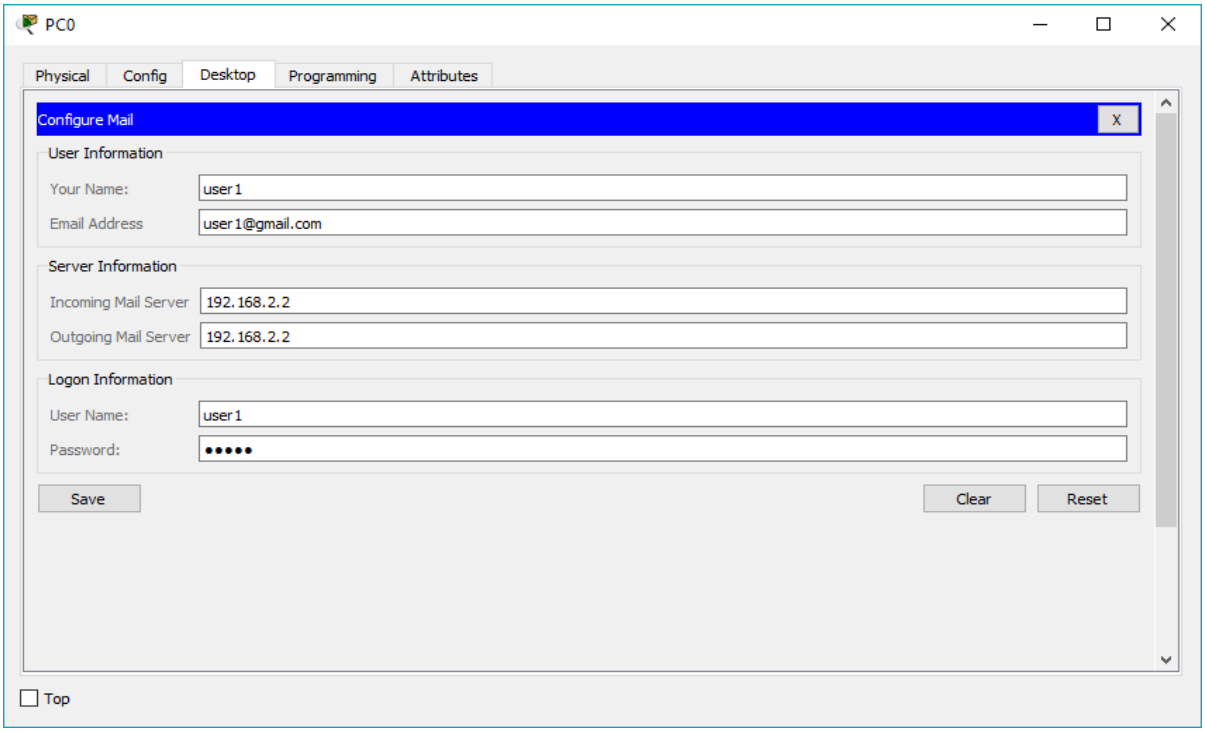
Step 4:

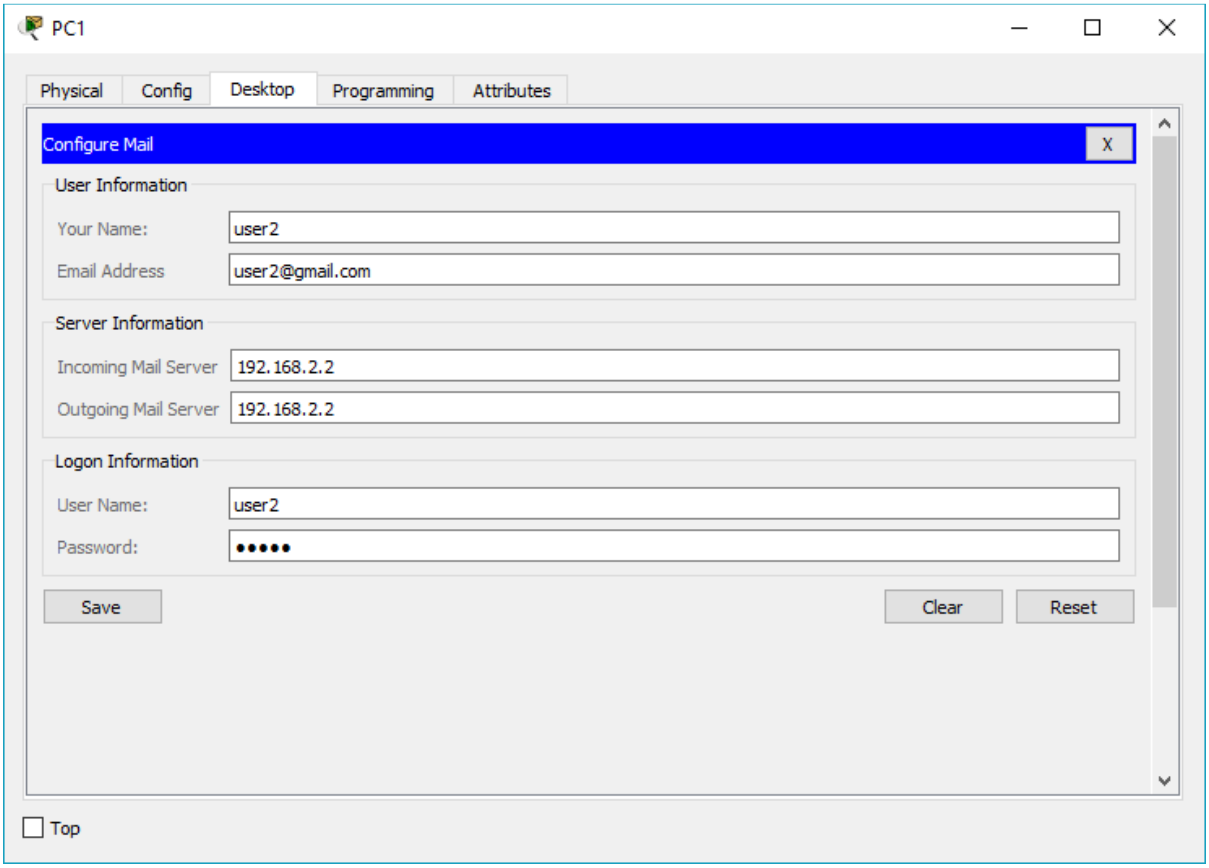
1. Go to desktop tab select configure mail and click on compose mail.
2. Write the mail from user1 to user2 and vice versa.

3. Check the received mail of both the users.






PC0
Physical
Config
Desktop
Programming
Attributes
Configure Mail
X
User Information
Your Name:
user1
Email Address
user1@gmail.com
Server Information
Incoming Mail Server
192.168.2.2
Outgoing Mail Server
192.168.2.2
Logon Information
User Name:
user1
Password:
Save
Clear
Reset
Top


PC1
Physical
Config
Desktop
Programming
Attributes
Configure Mail
X
User Information
Your Name:
user2
Email Address
user2@gmail.com
Server Information
Incoming Mail Server
192.168.2.2
Outgoing Mail Server
192.168.2.2
Logon Information
User Name:
user2
Password:
Save
Clear
Reset
Top