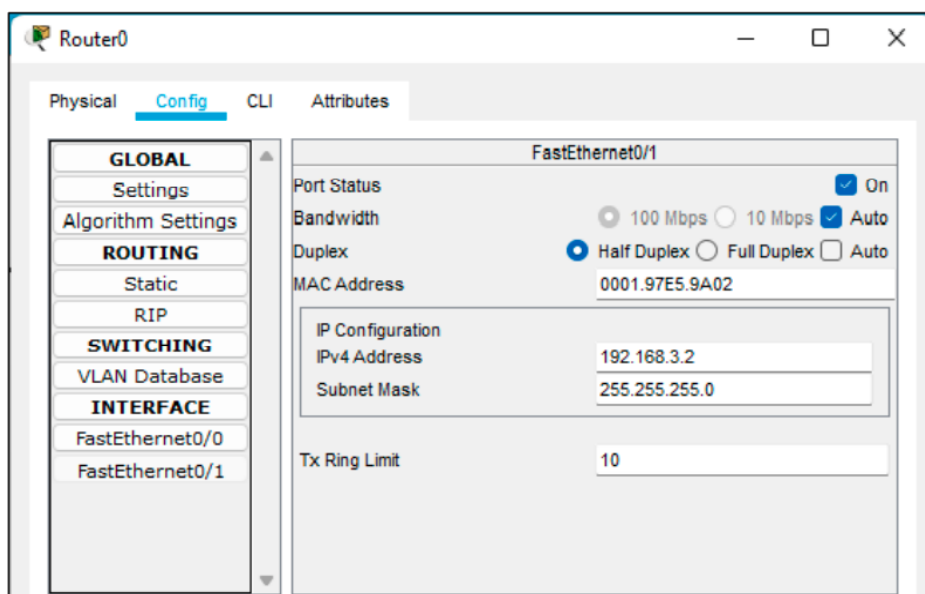
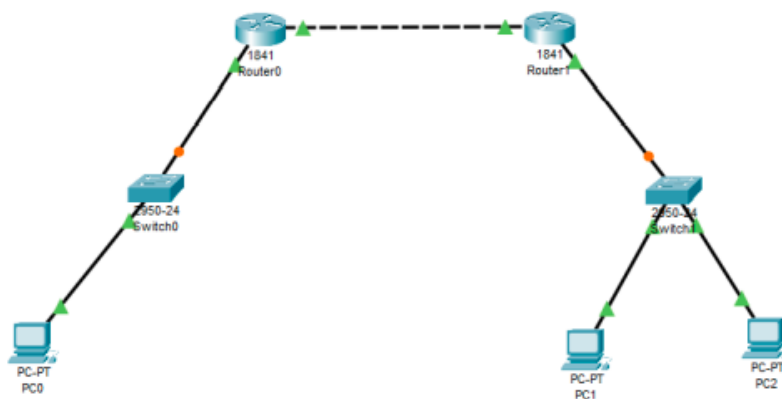


Name : Swapnil Sawant  
Division : TE4  
Roll No : 47  
Batch : D  
Subject : Computer Network

## Experiment No 7

**Aim** : Design VPN and Configure RIP/OSPF using Packet tracer.

**Implementation** : Create the following network and set IP Addresses.



Router1

Physical **Config** CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**SWITCHING**

VLAN Database

**INTERFACE**

FastEthernet0/0

FastEthernet0/1

FastEthernet0/0

Port Status ☒ On

Bandwidth ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☒ Half Duplex ☐ Full Duplex ☐ Auto

MAC Address 00D0.BAC5.7D01

IP Configuration

IPv4 Address 192.168.3.3

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Equivalent IOS Commands

```
Router1>configure terminal
Router1(config)#interface FastEthernet0/0
Router1(config-if)#
Router1(config-if)#exit
Router1(config)#interface FastEthernet0/1
Router1(config-if)#
Router1(config-if)#exit
Router1(config)#interface FastEthernet0/0
Router1(config-if)#
```

☐ Top

PC0

Physical Config **Desktop** Programming Attributes

**IP Configuration**

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.100

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::230:A3FF:FE21:DB0A

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

☐ Top

PC1

Physical Config **Desktop** Programming Attributes

**IP Configuration**

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.100

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::260:3EFF:FEE7:6261

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

☐ Top

PC2

Physical Config **Desktop** Programming Attributes

**IP Configuration**

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.101

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address FE80::20D:BDFF:FE61:75E3

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

☐ Top

## Sending the packets:

The network diagram shows a topology with two routers, Router0 (1041) and Router1 (1841), connected by a dashed line. Router0 is connected to Switch0 (2950-24), which is connected to PC0 (PC-PT). Router1 is connected to Switch1 (2950-24), which is connected to PC1 (PC-PT) and PC2 (PC-PT). The interface on Router0 is highlighted with a red circle.

**Simulation Panel - Event List**

Via	Time(sec)	Last Device	At Device	Type
0.000	--	Router1	Router1	RIPv1
0.000	--	Router1	Router1	RIPv1
0.000	--	Switch1	Router1	DTP
0.000	--	PC0	Router1	ICMP
0.000	--	PC0	Router1	ARP
0.001	--	Router1	Router1	CDP
0.001	--	Router1	Router1	CDP
0.001	PC0	Router1	Switch1	ARP
0.001	Router1	Router1	Switch1	ARP
0.001	Switch1	Router1	Router1	RIPv1
0.001	Switch1	Router1	Router1	DTP
0.001	--	Router1	Router1	CDP
0.002	Router1	Router1	Router1	CDP
0.004	--	Router1	Router1	ARP

**Simulation Panel - Play Controls**

Time: 00:26:57.580

**Simulation Panel - Event List Filters - Visible Events**

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, RARP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

**Simulation Panel - Event List**

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

The network diagram shows the same topology as the first image. Router0 (1041) is connected to Switch0 (2950-24), which is connected to PC0 (PC-PT). Router1 (1841) is connected to Switch1 (2950-24), which is connected to PC1 (PC-PT) and PC2 (PC-PT). The interface on Router1 and Switch0 are highlighted with red circles.

**Simulation Panel - Event List**

Via	Time(sec)	Last Device	At Device	Type
28.086	Switch0	PC0	Switch1	STP
28.237	--	Switch1	Router1	STP
28.238	Switch1	Router1	PC1	STP
28.238	Switch1	Router1	PC2	STP
28.238	Switch1	Router1	PC2	STP
30.000	--	Router0	Router0	CDP
30.000	--	Router0	Router0	CDP
30.001	--	Switch0	Router1	CDP
30.001	--	Switch0	Router1	CDP
30.001	Router0	Router1	Router1	CDP
30.001	Router0	Router1	Router1	CDP
30.001	--	Switch0	Router1	DTP
30.001	--	Switch0	Router1	CDP
30.002	Switch0	PC0	Router1	CDP

**Simulation Panel - Play Controls**

Time: 00:30:37.582

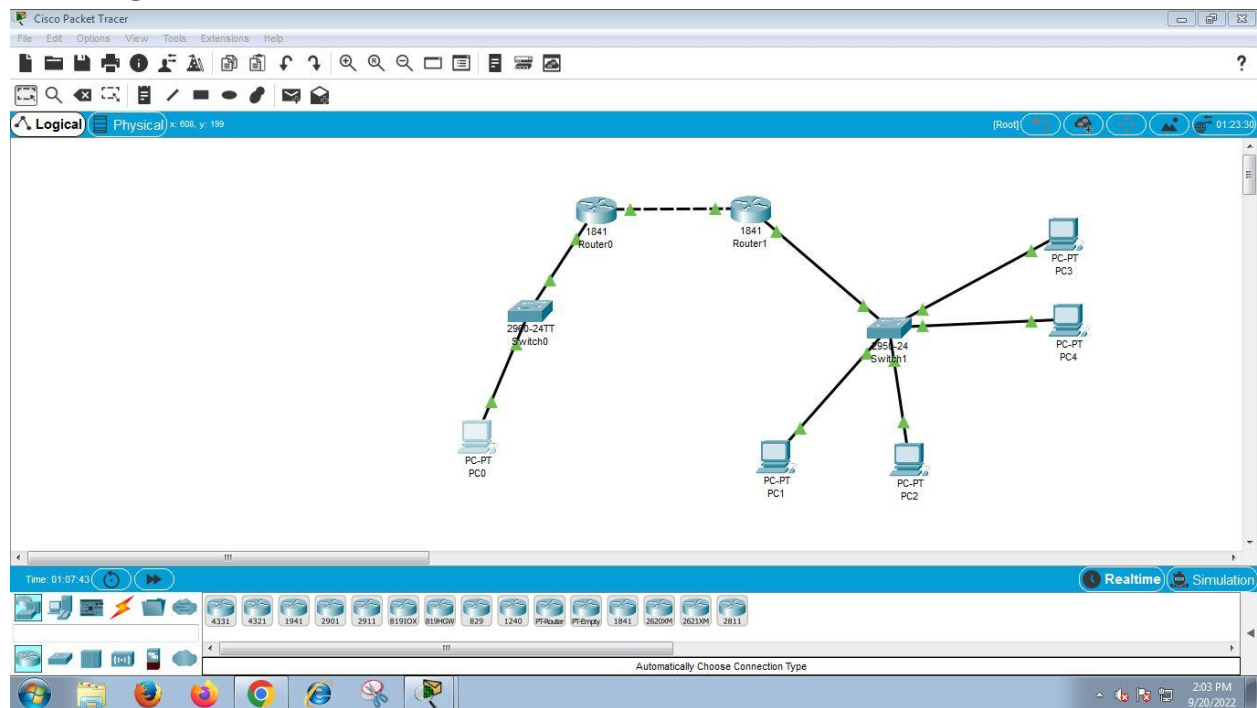
**Simulation Panel - Event List Filters - Visible Events**

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, RARP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

**Simulation Panel - Event List**

Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
Successful	PC1	PC2	ICMP	Green	0.000	N	0	(edit)	(delete)

## Creating a VLAN :



PC3

Physical Config Desktop Custom Interface

### IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 192.168.2.102

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.2.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::260:70FF:FEDB:17A9

IPv6 Gateway:

IPv6 DNS Server:

PC4

Physical Config Desktop Custom Interface

### IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 192.168.2.103

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.2.1

DNS Server:

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::201:43FF:FE21:BB63

IPv6 Gateway:

IPv6 DNS Server:



Switch1

Physical Config CLI

### IOS Command Line Interface

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/4, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to up

Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 20
Switch(config-vlan)#name sales
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name purchase
Switch(config-vlan)#exit
Switch(config)#
```



Switch1

Physical Config CLI

### IOS Command Line Interface

```
state to up

Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 20
Switch(config-vlan)#name sales
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name purchase
Switch(config-vlan)#exit
Switch(config)#int fa0/2
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#int fa0/3
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#int fa0/4
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#int fa0/5
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#
```

**Conclusion :** Thus we have successfully implemented VLAN and RIP protocol.