

**Experiment Number : 01**

**Experiment Name :** To configure local area Network (wired).

**Objectives :**

**Understanding Network Topology:**

Identify and comprehend the components of a local area network (LAN).

Understand the roles of routers, switches, and end devices in a LAN environment.

**Configuration of Cisco Devices:**

Configure routers and switches using the Cisco Packet Tracer interface.

Implement basic settings such as IP addressing and subnetting.

**Establishing Interconnectivity:**

Establish communication between devices within the LAN.

Verify network connectivity and troubleshoot any configuration issues.

**Required Components:** PC, Copper Straight cable, Switch 295024, Router 2811, Cisco Packet Tracer.

**Procedure:**

**Step1:** Start

**Step2:** Open Cisco Packet Tracer.

**Step3:** Take [end device]: PC0, Laptop0, Laptop1, Laptop2, take [Network device]: Switch and use connection wires to connect the devices (copper straight through) Figure 01: Setup Layout

**Step4:** IP Configuration for PC0, PC0, Laptop0, Laptop1

Click PC0 → Desktop → IP Configuration

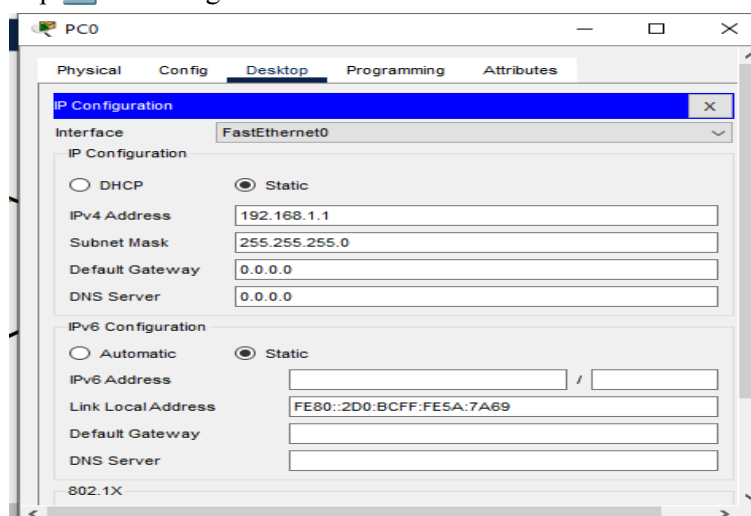


Figure : IP address and gateway setup

**Step5:** Open Command Prompt of PC0 and Sent Ping to Laptop1

## Output:

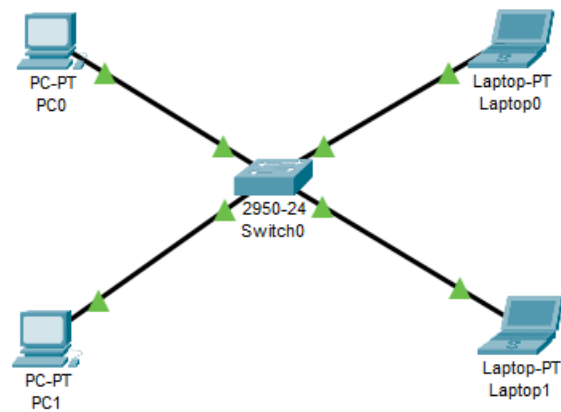


Figure: Setup Layout

## Command Prompt and Data Transfer

```
C:\>ping 192.168.1.3
```

Pinging 192.168.1.3 with 32 bytes of data:

Reply from 192.168.1.3: bytes=32 time<1ms TTL=128

Reply from 192.168.1.3: bytes=32 time<1ms TTL=128

Reply from 192.168.1.3: bytes=32 time<1ms TTL=128

Reply from 192.168.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.3:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

## Experiment Number : 02

**Experiment Name :** To transfer packet through different networks (static routing).

### Objectives :

#### Understanding of Network Routing:

Grasp the concept of routing in a network environment.

Comprehend the difference between static and dynamic routing.

#### Configuration of Static Routes:

Configure static routes on routers to define the path for packet transfer between different networks.

Understand the syntax and parameters associated with static route configuration.

#### Verification of Routing Functionality:

Verify the effectiveness of static routes by ensuring successful packet transfer between source and destination networks.

Troubleshoot and resolve any issues related to static route configurations.

**Required Equipment:** PC, Copper Straight cable, Switch 295024, Router 2811, Cisco Packet Tracer.

### Procedure:

**Step1:** Start

**Step2:** Open Cisco Packet Tracer.

**Step3:** Take [end device]: PC0, PC1, Laptop0, Laptop1, take [Network device]: Switch, router and use connection wires to connect the devices (copper straight through)

**Step4:** IP Configuration for PC0 & PC1.

Click PC0 → Desktop → IP Configuration

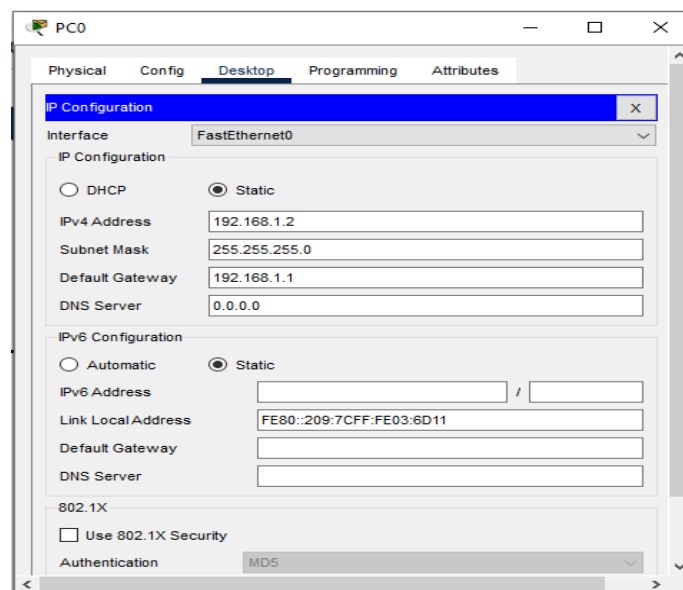


Figure : PC0 IP address and gateway setup

**Step5:** Router Configuration Click Router CLI now write command in Configuration dialog.

```
Router>enable
Router#configure terminal
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.165.31.1 255.255.255.0
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#no shutdown
Router(config-if)#ip address 192.165.32.1 255.255.255.0
Router(config-if)#exit
```

Step6: Open Command Prompt of PC0 and Sent Ping to PC1

**Output :**

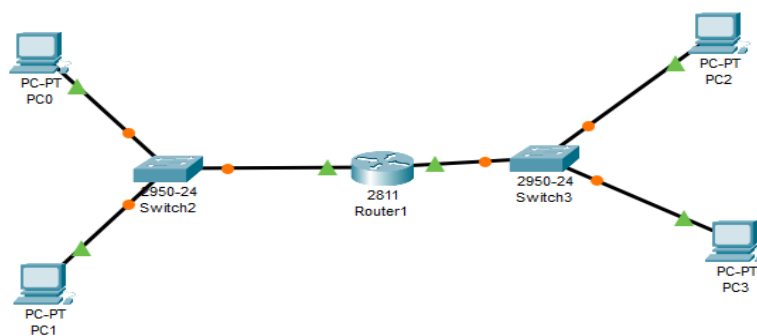


Figure : Setup Layout

**Command Prompt and Data Transfer:**

```
C:\>ping 192.168.2.2
Pinging 192.168.2.2 with 32 bytes of data:
Reply from 192.168.2.2: bytes=32 time=10ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 2ms
```

## Experiment Number : 03

**Experiment Name** : To configure dynamic IP routing through DHCP (Dynamic Host Configuration Protocol (DHCP)).

### Objectives :

**Configure DHCP Server:** Understand how to configure a DHCP server, defining IP address pools, subnet masks, default gateways, and DNS servers to automate IP address assignment.

**Test DHCP Configuration:** Validate the DHCP setup by connecting client devices to the network and ensuring they receive IP addresses dynamically, verifying the functionality of DHCP within the network.

**Troubleshoot DHCP Issues:** Practice troubleshooting skills to address any DHCP-related issues that may arise during configuration, ensuring smooth operation and connectivity within the network.

**Requirement Equipment:** PC, Copper Straight cable, Switch 295024, Router 2811, Cisco Packet Tracer.

### Procedure :

Step 1: First we setup a cisco packet tracer according with this figure 05.

Step 2: Router0 configuration:

Click Router1 CLI now write command in Configuration dialog.

Router>enable

Router#configure terminal

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

Router(config)#interface fastEthernet 0/0

Router(config-if)#ip address 192.168.1.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#exit

Router(config)#ip dhcp pool ice

Router(dhcp-config)#network 192.168.1.0 255.255.255.0

Router(dhcp-config)#default-router 192.168.1.1

Router(dhcp-config)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG\_I: Configured from console by console

Router#wr

Building configuration...

[OK]

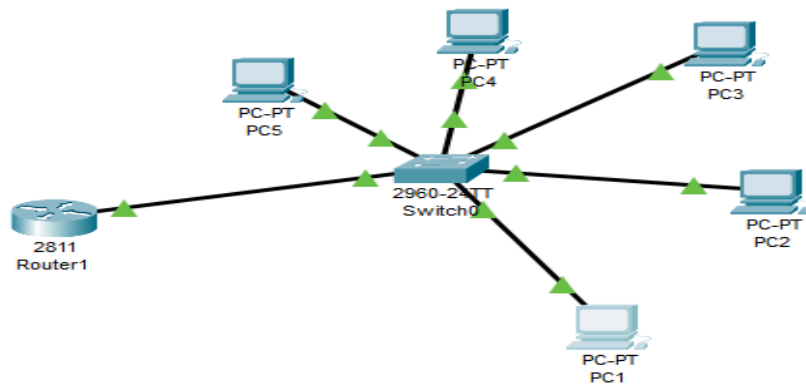
Router#

Router#exit

Step-03: Open PC0 IP-Configuration and click DHCP. It automatically take IP address from DHCP server. The other PC's also take IP address dynamically from DHCP server.

Step-04: Open Command Prompt of PC0 and Sent Ping to PC1

**Output :**



### Command Prompt and Data Transfer:

Cisco Packet Tracer PC Command Line 1.0

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.2:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

## Experiment Number : 04

**Experiment Name** : To Configure Enhanced Interior Gateway Routing Protocol (EIGRP)

### Objectives :

**Understanding EIGRP:** Gain a comprehensive understanding of EIGRP, its features, and its advantages over other routing protocols such as OSPF and RIP.

**Topology Design:** Design a network topology using Cisco Packet Tracer or any other simulation tool, considering the network size, device placement, and connectivity requirements.

**EIGRP Configuration:** Learn how to configure EIGRP on Cisco routers, including enabling EIGRP routing process, specifying autonomous system number (ASN), and defining network interfaces participating in EIGRP.

**Requirement Equipment:** PC, Copper Straight cable, Switch 295024, Router 2811, Cisco Packet Tracer.

### Procedure :

Step 1: Open the Cisco Packet Tracer.

Step 2: From [End Devices] take six Computers and Label as PC0, PC1, PC2, PC3, PC4, PC5, From [Network Devices]. select [Switches] and take three switches namely 2960 IOS15 then again select [Routers] and take three routers namely 2811.

Step 3: From [Connections] select Automatically Choose Connection Type then connect these devices as shown in the figure.

Step 4: IP Address Configuration for PC0, PC1, PC2, PC3, PC4, PC5. Here PC0, PC1 Computers are under PUST router. PC2, PC3 Computers are under JUST router. PC4, PC5 are under SUST router.

Step 5: To set up routers, Perform the following command.

#### For PUST:

```
Router>enable
```

```
Router #configure terminal
```

```
Router(config) #hostname PUST
```

```
PUST (config) #interface Ethernet0/0/0
```

```
PUST (config-if) #ip address 172.16.0.1 255.255.0.0
```

```
PUST (config-if) #no shutdown
```

```
PUST (config-if) #exit
```

```
PUST (config) #interface Ethernet0/1/0
```

```
PUST (config-if) #ip address 172.15.0.1 255.255.0.0
```

```
PUST (config-if) #no shutdown
```

```
PUST (config-if) #exit
```

```
PUST (config) #interface fastEthernet0/0
```

```
PUST (config-if) #ip address 192.168.1.1 255.255.255.0
```

```
PUST (config-if) #no shutdown
```

```
PUST (config-if) #exit
```

```
PUST (config-if) #exit
```

```
PUST (config-if) #wr
```

```
Building configuration...
```

```
[OK]
```

```
PUST>en
PUST (config) #router eigrp 20
PUST (config-router)#network 192.168.1.0
PUST (config-router)#network 172.15.0.0
PUST (config-router)#network 172.16.0.0
PUST (config-router)#exit
PUST (config)#exit
PUST #
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
```

**For SUST:**

```
Router>enable
Router #configure terminal
Router(config) #hostname SUST
SUST (config) #interface fastEthernet0/0
SUST (config-if) #ip address 192.168.2.1 255.255.255.0
SUST (config-if) #no shutdown
SUST (config-if) #exit
SUST (config) #interface Ethernet0/2/0
SUST (config-if) #ip address 172.17.0.1 255.255.0.0
SUST (config-if) #no shutdown
SUST (config-if) #exit
SUST (config) #interface Ethernet0/1/0
SUST (config-if) #ip address 172.15.0.2 255.255.0.0
SUST (config-if) #no shutdown
SUST (config-if) #exit
SUST (config-if) #exit
SUST (config-if) #wr
Building configuration...
[OK]
SUST>en
SUST (config) #router eigrp 20
SUST (config-router)#network 172.16.0.0
SUST (config-router)#network 172.17.0.0
SUST (config-router)#network 192.168.3.0
SUST (config-router)#exit
SUST (config)#exit
SUST #
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
```

**For SUST:**

```
Router>enable
```



```
Router #configure terminal
Router(config) #hostname SUST
SUST (config) #interface fastEthernet0/0
SUST (config-if) #ip address 192.168.3.1 255.255.255.0
SUST (config-if) #no shutdown
SUST (config-if) #exit
SUST (config) #interface Ethernet0/2/0
SUST (config-if) #ip address 172.17.0.1 255.255.0.0
SUST (config-if) #no shutdown
SUST (config-if) #exit
SUST (config) #interface Ethernet0/1/0
SUST (config-if) #ip address 172.15.0.2 255.255.0.0
SUST (config-if) #no shutdown
SUST (config-if) #exit
SUST (config-if) #exit
SUST (config-if) #wr
Building configuration...
[OK]
SUST>en
SUST (config) #router eigrp 20
SUST (config-router)#network 172.16.0.0
SUST (config-router)#network 172.17.0.0
SUST (config-router)#network 192.168.3.0
SUST (config-router)#exit
SUST (config)#exit
SUST #
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
```

### **For JUST:**

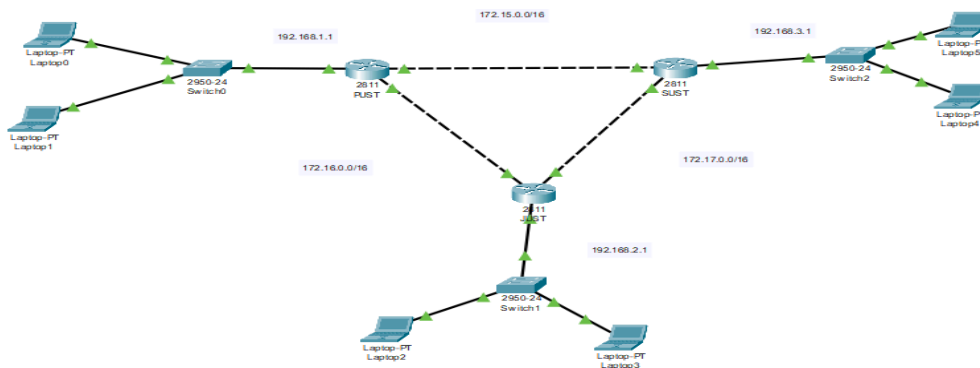
```
Router>enable
Router #configure terminal
Router(config) #hostname JUST
JUST (config) #interface fastEthernet0/0
JUST (config-if) #ip address 192.168.2.1 255.255.255.0
JUST (config-if) #no shutdown
JUST (config-if) #exit
JUST (config) #interface Ethernet0/1/0
JUST (config-if) #ip address 172.15.0.2 255.255.0.0
JUST (config-if) #no shutdown
JUST (config-if) #exit
JUST (config) #interface Ethernet0/2/0
JUST (config-if) #ip address 172.17.0.1 255.255.0.0
JUST (config-if) #no shutdown
JUST (config-if) #exit
JUST (config-if) #exit
```

```

JUST (config-if) #wr
Building configuration...
[OK]
JUST>en
JUST (config) #router eigrp 20
JUST (config-router)#network 172.15.0.0
JUST (config-router)#network 192.168.2.0
JUST (config-router)#network 172.17.0.0
JUST (config-router)#exit
JUST (config)#exit
JUST #
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]

```

## Output



## Command Prompt and Data Transfer:

```
C:\>ping 192.168.3.3
```

Pinging 192.168.3.3 with 32 bytes of data:

```

Reply from 192.168.3.3: bytes=32 time<1ms TTL=126
Reply from 192.168.3.3: bytes=32 time=1ms TTL=126
Reply from 192.168.3.3: bytes=32 time=10ms TTL=126
Reply from 192.168.3.3: bytes=32 time<1ms TTL=126

```

Ping statistics for 192.168.3.3:

```

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 10ms, Average = 2ms

```

## **Experiment Number : 05**

**Experiment Name** : To configure Routing Information Protocol(RIP).

**Objectives** :

**Understanding RIP:** Gain a thorough understanding of the Routing Information Protocol (RIP), including its characteristics, limitations, and operation principles.

**Topology Design:** Design a network topology suitable for implementing RIP, considering factors such as network size, device placement, and connectivity requirements.

**RIP Configuration:** Learn how to configure RIP on Cisco routers or other networking devices, including enabling the RIP routing process, specifying network interfaces to participate in RIP, and setting RIP version (RIPv1 or RIPv2).

**Requirement Equipment:** PC, Copper Straight cable, Copper cross over, Switch 2950-24, Router 2811, Cisco Packet Tracer.

**Procedure** :

Step1: Start

Step2: Open Cisco Packet Tracer.

Step3: Take [end device]: PC0, PC1, take [Network device]: Switch, router and use connection wires to connect the devices (copper straight through and copper cross over).

Step4: IP Configuration for PC0 & PC1. Click PC0 Desktop IP Configuration.

Step5: Router Configuration

Click Router CLI, now write command in Configuration dialog.

### **IP configuration for router4:**

```
Router>en
```

```
Router#configure terminal
```

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

```
Router(config)#interface fastEthernet 0/0
```

```
Router(config-if)#ip address 192.168.1.1
```

% Incomplete command.

```
Router(config-if)#ip address 192.168.1.1 255.255.255.0
```

```
Router(config-if)#no shutdown
```

```
Router(config-if)#
```

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

```
Router(config-if)#exit
```

```
Router(config)#interface fastEthernet 0/1
```

```
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 FastEthernet0/1, changed state to up

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

```
Router(config-if)#exit
```

```
Router(config)#exit
```

```
Router#
```

%SYS-5-CONFIG\_I: Configured from console by console

```
Router#wr
```

Building configuration...[OK]

**RIP configuration for router4:**

```
Router>en
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router RIP
Router(config-router)#version 2
Router(config-router)#network 192.168.1.0
Router(config-router)#network 192.168.2.0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#wr
Building configuration...
[OK]
```

**IP configuration for router5:**

```
Router>en
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 192.168.1.2 255.255.255.0
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
Router(config-if)#exit
Router(config)#interface fastEthernet 0/1
Router(config-if)#ip address 192.168.3.1
% Incomplete command.
Router(config-if)#ip address 192.168.3.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#wr
Building configuration...
[OK]
```

**RIP configuration for router5:**

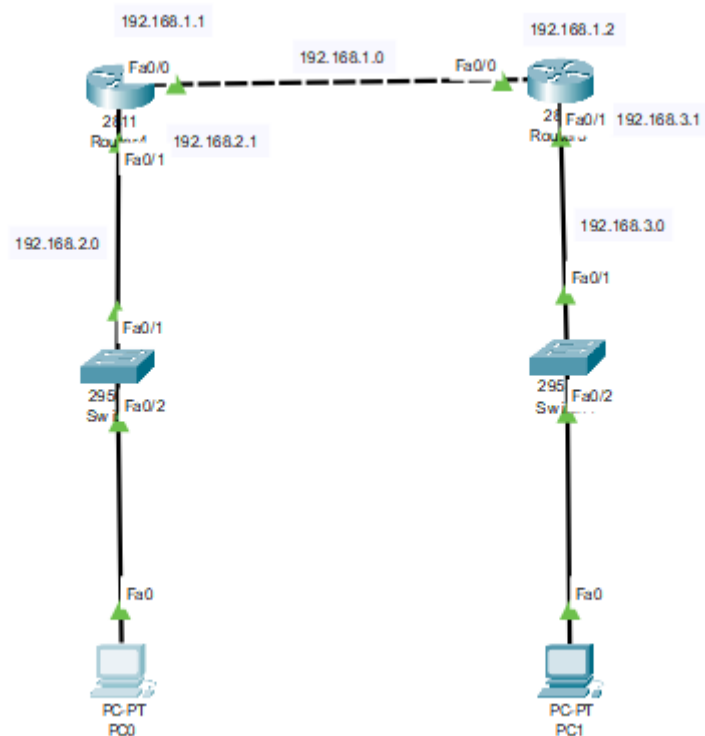
```
Router>en
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router RIP
```

```

Router(config-router)#version 2
Router(config-router)#network 192.168.1.0
Router(config-router)#network 192.168.3.0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#wr
Building configuration...
[OK]

```

**Output :**



### Command Prompt and Data Transfer:

```
C:\>Ping 192.168.3.2
```

Pinging 192.168.3.2 with 32 bytes of data:

```

Reply from 192.168.3.2: bytes=32 time<1ms TTL=126
Reply from 192.168.3.2: bytes=32 time<1ms TTL=126
Reply from 192.168.3.2: bytes=32 time<1ms TTL=126
Reply from 192.168.3.2: bytes=32 time=1ms TTL=126

```

Ping statistics for 192.168.3.2:

```

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms

```

## Experiment Number : 06

**Experiment Name** : To configure Open Shortest Path First (OSPF) Routing protocol.

### Objectives :

**Understanding OSPF:** Gain a comprehensive understanding of OSPF, including its features, advantages, and operation principles, such as link-state routing and the Dijkstra algorithm.

**Topology Design:** Design a network topology suitable for implementing OSPF, considering factors such as network size, device placement, and connectivity requirements.

**OSPF Configuration:** Learn how to configure OSPF on Cisco routers or other networking devices, including enabling OSPF routing process, specifying OSPF areas and assigning router IDs.

**Requirement Equipment:** PC, Copper Straight cable, Copper cross over, Switch 2950-24, Router 2811, Cisco Packet Tracer.

### Procedure :

Step1: Start

Step2: Open Cisco Packet Tracer.

Step3: Take [end device]: PC0, PC1, take [Network device]: Switch, router and use connection wires to connect the devices (copper straight through and copper cross over).

Step4: IP Configuration for PC0 & PC1. Click PC0 Desktop IP Configuration.

Step5: Router Configuration

Click Router CLI, now write command in Configuration dialog.

#### IP configuration router0:

```
Router>en
```

```
Router#configure terminal
```

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

```
Router(config)#interface fastEthernet 0/0
```

```
Router(config-if)#ip address 192.168.1.1 255.255.255.0
```

```
Router(config-if)#no shutdown
```

```
Router(config-if)#
```

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

```
Router(config-if)#exit
```

```
Router(config)#interface fastEthernet 0/1
```

```
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 FastEthernet0/1, changed state to up

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

```
Router(config-if)#exit
```

```
Router(config)#exit
```

```
Router#
```

%SYS-5-CONFIG\_I: Configured from console by console

```
Router#wr
```

Building configuration...

[OK]

**OSF configuration router0:**

```
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
Router(config-router)#network 192.168.2.0 0.0.0.255 area 0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#wr
Building configuration...
[OK]
```

**IP configuration router1:**

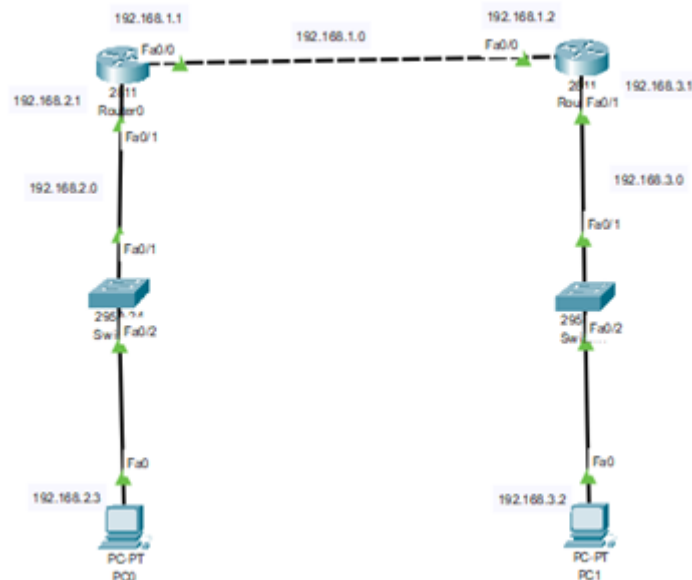
```
Router>en
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 192.168.1.2 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface fastEthernet 0/1
Router(config-if)#ip address 192.168.3.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#wr
Building configuration...
[OK]
Router#
```

**OSF configuration router1:**

```
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
Router(config-router)#network 192.1638.3.1
Router(config-router)#network 192.168.3.0 0.0.0.255 area 0
Router(config-router)#exit
```

```
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
```

**Output :**



### Command Prompt and Data Transfer:

```
C:\>ping 192.168.3.2
```

Pinging 192.168.3.2 with 32 bytes of data:

```
Reply from 192.168.3.2: bytes=32 time=3ms TTL=126
Reply from 192.168.3.2: bytes=32 time=1ms TTL=126
Reply from 192.168.3.2: bytes=32 time<1ms TTL=126
Reply from 192.168.3.2: bytes=32 time=2ms TTL=126
```

Ping statistics for 192.168.3.2:

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 3ms, Average = 1ms
```



## **Experiment Number : 07**

**Experiment Name** : To configure VLAN.

**Objectives** :

**Understanding VLANs:** Gain a comprehensive understanding of VLANs, including their purpose, benefits, and how they segment broadcast domains in a network.

**VLAN Configuration:** Learn how to configure VLANs on network switches, including creating VLANs, assigning VLAN IDs, and assigning switch ports to VLANs.

**VLAN Trunking:** Understand the concept of VLAN trunking and how it allows VLAN information to be carried between switches, and configure trunk links between switches to facilitate inter-VLAN communication.

**Requirement Equipment:** PC, Copper Straight cable, Switch 2960, Cisco Packet Tracer, copper cross over.

**Procedure** :

Step1: Start

Step2: Open Cisco Packet Tracer.

Step3: Take [end device]: PC0, PC1, PC2, PC3, PC4, PC5, PC6, PC7. [Network device]:

Switch and use connection wires to connect the devices (copper straight through and Copper cross over).

Step4: IP Configuration for PC0, PC1, PC2, PC3, PC4, PC5, PC6, PC7.

Step 5: To configure VLAN we have to write the following CLI command on both the switch

CLI Command:

Switch>en

Switch #configure terminal

Switch(config)#VLAN 10

Switch(config)#Name IT

Switch(config)#exit

Switch(config)#VLAN 20

Switch(config)#Name HR

Switch(config)#exit

Switch(config)#exit

Switch(config)#show VLAN brief

Switch#configure terminal

Switch(config)#interface fa0/1

Switch(config)#switchport access vlan 10

Switch(config)#exit

Switch(config)#interface fa0/2

Switch(config)#switchport access vlan 10

Switch(config)#interface fa0/3

Switch(config)#switchport access vlan 20

Switch(config)#interface fa0/4Switch(config)#switchport access vlan 20

Switch>en

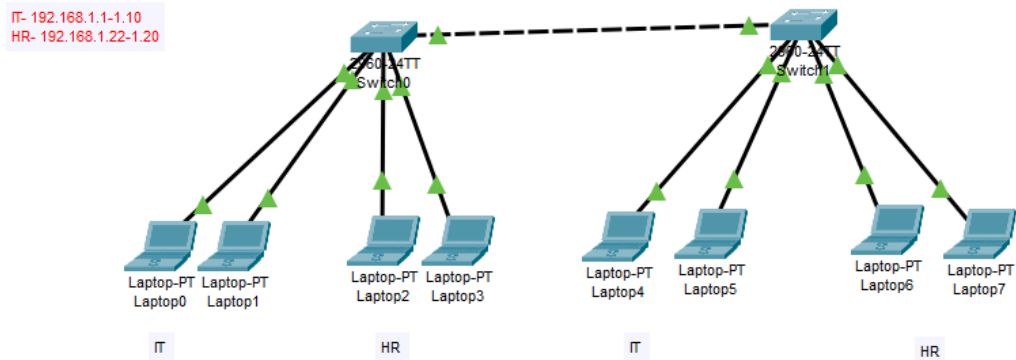
Switch#configure terminal

Switch(config)#interface fastEthernet 0/5

Switch(config)#switchport mode trunk

```
Switch(config)#exit
Switch(config)#interface fastEthernet 0/1- fastEthernet 0/4
Switch(config)#switchport mode access
Switch(config)#exit
```

**Output :**



### Command Prompt and Data Transfer:

If we want we send data from PC0 to PC5 then we get  
C:\>ping 192.168.1.7

Pinging 192.168.1.7 with 32 bytes of data:

```
Reply from 192.168.1.7: bytes=32 time<1ms TTL=128
Reply from 192.168.1.7: bytes=32 time<1ms TTL=128
Reply from 192.168.1.7: bytes=32 time<1ms TTL=128
Reply from 192.168.1.7: bytes=32 time<1ms TTL=128
```

Ping statistics for 192.168.1.7:

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

If we want to send data from PC0 to PC2 then we get  
C:\>ping 192.168.1.12

Pinging 192.168.1.12 with 32 bytes of data:

```
Request timed out.
Request timed out.
Request timed out.
Request timed out.
```

Ping statistics for 192.168.1.12:

```
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```