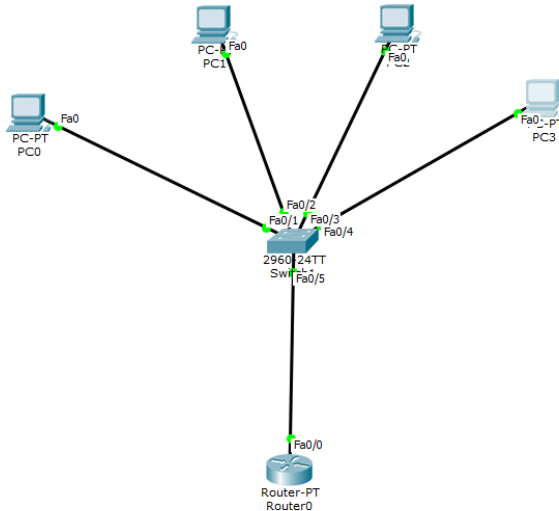


## **Program – 10:**

**Aim:** To construct a VLAN and make the PC's communicate among a VLAN.

### **Topology:**



### **Procedure:**

#### **1. Topology**

- One Router
- One 2960-24TT Switch
- Four PCs (PC0, PC1, PC2, PC3)
- Connections using Copper Straight-Through cables

#### **2. Router Configuration**

##### **Open CLI**

- enable
- configure terminal

##### **Configure Interfaces**

###### **Fa0/0**

- interface Fa0/0
- ip address 10.0.0.1 255.0.0.0
- no shutdown
- exit

###### **Fa0/0.1 (Sub-interface for VLAN 20)**

- interface Fa0/0.1
- encapsulation dot1Q 20
- ip address 20.0.0.1 255.0.0.0
- no shutdown
- exit

#### **3. PC Configurations**

##### **PC0**

- Go to **Config** → **FastEthernet**
- IP Address: **10.0.0.2**
- Default Gateway: **10.0.0.1**

### PC1

- Go to **Config** → **FastEthernet**
- IP Address: **10.0.0.3**
- Default Gateway: **10.0.0.1**

### PC2

- Go to **Config** → **FastEthernet**
- IP Address: **20.0.0.3**
- Default Gateway: **20.0.0.1**

### PC3

- Go to **Config** → **FastEthernet**
- IP Address: **20.0.0.2**
- Default Gateway: **20.0.0.1**

## 4. Switch Configuration

### Create VLANs

- Go to **Config** → **VLAN Database**
- VLAN Number: **2**
- VLAN Name: **vlan**

### Assign Ports to VLANs

### Configure Trunk Port

- FastEthernet0/5 (connection to router):
  - Change **Access** → **Trunk**

### Assign VLAN 2 Ports

- Fa0/3 and Fa0/4 (connections to PC2 and PC3):
  - Change VLAN → **2**

(PC0 and PC1 remain in default VLAN 1)

## Output:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 20.0.0.3

Pinging 20.0.0.3 with 32 bytes of data:

Request timed out.
Reply from 20.0.0.3: bytes=32 time=1ms TTL=127
Reply from 20.0.0.3: bytes=32 time=12ms TTL=127
Reply from 20.0.0.3: bytes=32 time<1ms TTL=127

Ping statistics for 20.0.0.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 12ms, Average = 4ms

C:\>ping 20.0.0.3

Pinging 20.0.0.3 with 32 bytes of data:

Reply from 20.0.0.3: bytes=32 time<1ms TTL=127
Reply from 20.0.0.3: bytes=32 time=1ms TTL=127
Reply from 20.0.0.3: bytes=32 time<1ms TTL=127
Reply from 20.0.0.3: bytes=32 time=1ms TTL=127

Ping statistics for 20.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

Fig 10.1 pinging to the other vLan -PC0 to PC2