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DESIGN A SIMPLE TOPOLOGY AND CONFIGURE WITH ONE ROUTER,2 SWITCHES AND PCs USING CISCO PACKET TRACER

AIM:

To design a simple topology and configure with one router,two switches and PCs using cisco packet tracer.

INTRODUCTION:

The router will be used to route traffic between different networks, while the switches will facilitate communication within the same local area network (LAN). This experiment will help us understand the basic concepts of networking such as device interconnection, IP addressing, and device configuration using Cisco Packet Tracer.

ALGORITHM:

- 1.Launch Cisco packet tracer on your computer.
- 2.Add 1 router to workspace.
- 3.Add 2 switches to the workspace.
- 4.Add multiple PCs.
- 5.Use copper straight through cables to connect:

Router to switch1 and Router to switch2

PCs to their respective switches.

6. Select each PC and assign an IP address and subnet mask appropriate for their network segment.

7. Set the default gateway for each PC as the corresponding router interface IP.

8. Enter the router's CLI and assign IP address to each interface connected to the switches.

9. Enable the interfaces with no shutdown command.

10. Use the ping command from PCs to test communication with other PCs on the same switch and on the other switch.

CODE:

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface gigabitEthernet0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown

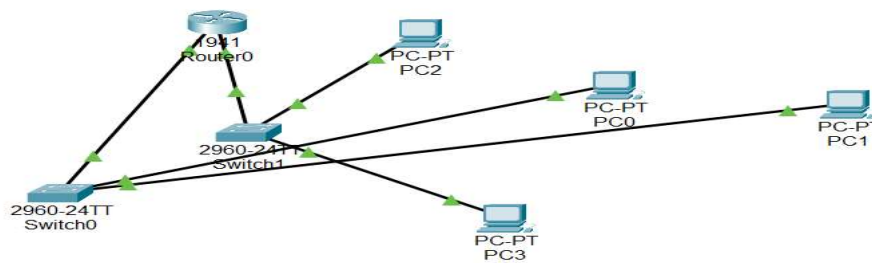
Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
exit
Router(config)#interface gigabitEthernet0/1
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 GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
write memory
Building configuration...
[OK]
Router#
```

SIMPLE TOPOLOGY:



OUTPUT:

```
Cisco Packet Tracer PC Command Line 1.0
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

C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Request timed out.
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 = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time<1ms TTL=127
Reply from 192.168.2.3: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

RESULT:

Thus, the simple topology using router, switches and PCs are made using Cisco Packet Tracer.