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EXP:10 **DATE:07/10/25**

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

Aim

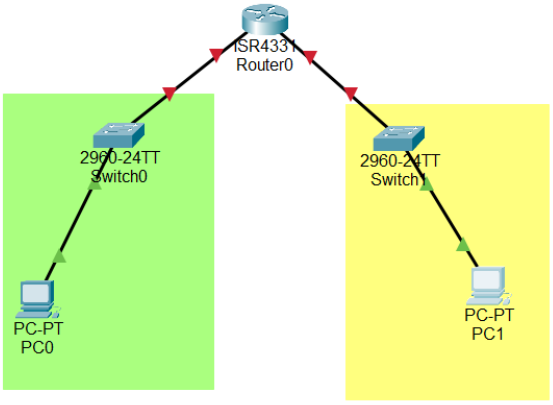
To configure a Cisco router to enable communication between two different networks by assigning IP addresses to its interfaces and connecting PCs from two subnets, verifying end-to-end connectivity.

Introduction

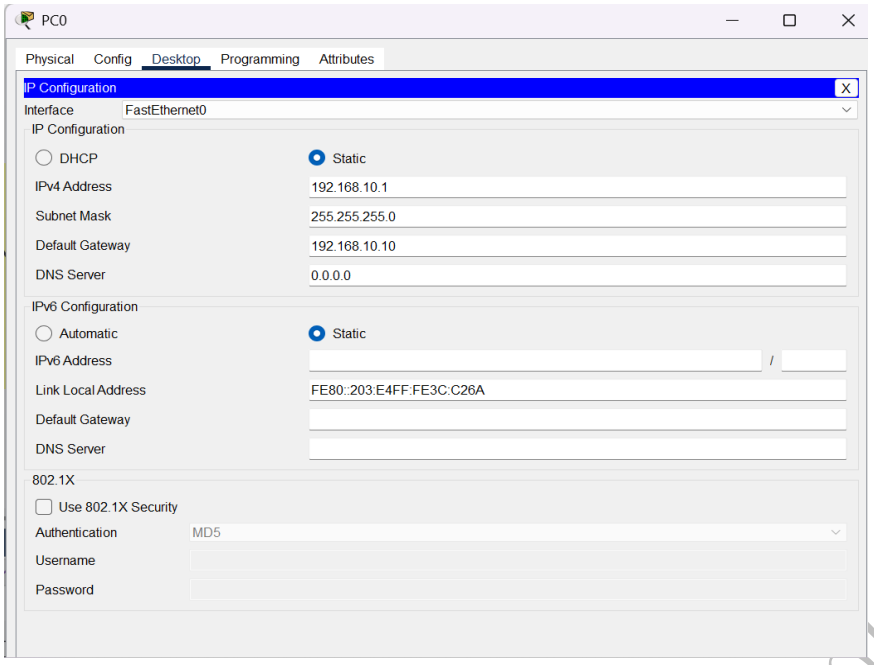
This experiment demonstrates how to connect two PCs using a Cisco router, assigning static IP addresses to router interfaces and PCs to enable communication between different networks.

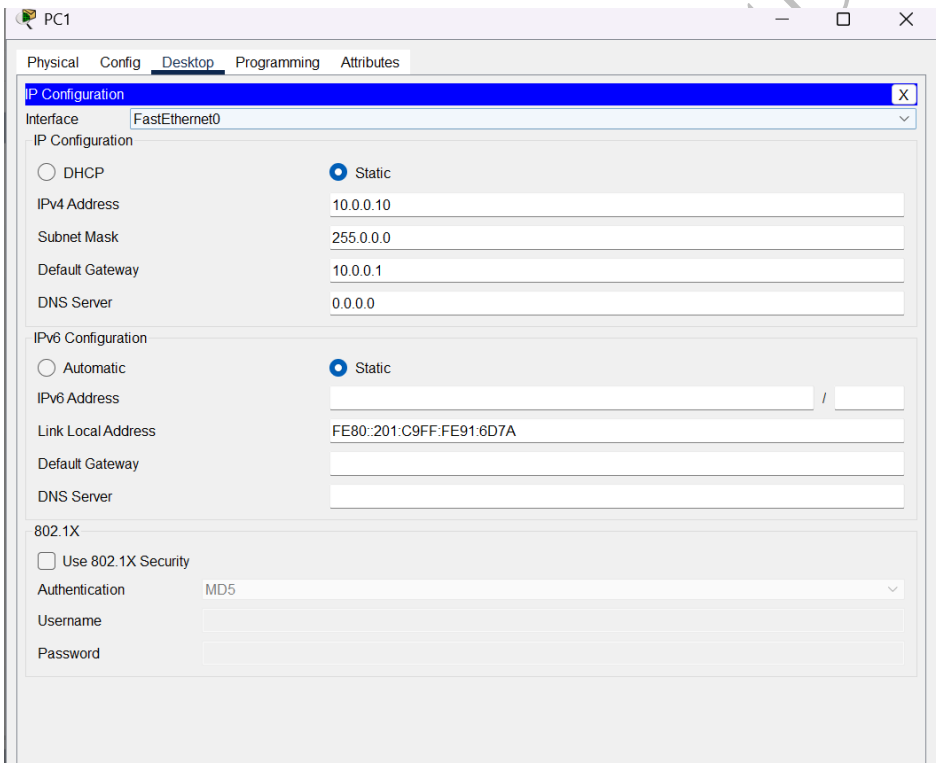
Algorithm

1. Start Cisco Packet Tracer.
2. Drag and drop the required router (e.g., Cisco 2811) and at least two PCs into the workspace.
3. Connect each PC to the router using straight-through Ethernet cables:
    - PC1 → FastEthernet0/0
    - PC2 → FastEthernet0/1



4. Assign IP addresses to the PCs as follows:
    - PC1: 192.168.10.2 / Subnet Mask 255.255.255.0 / Default Gateway 192.168.10.1
    - PC2: 10.0.0.2 / Subnet Mask 255.0.0.0 / Default Gateway 10.0.0.1





5. Configure the router:

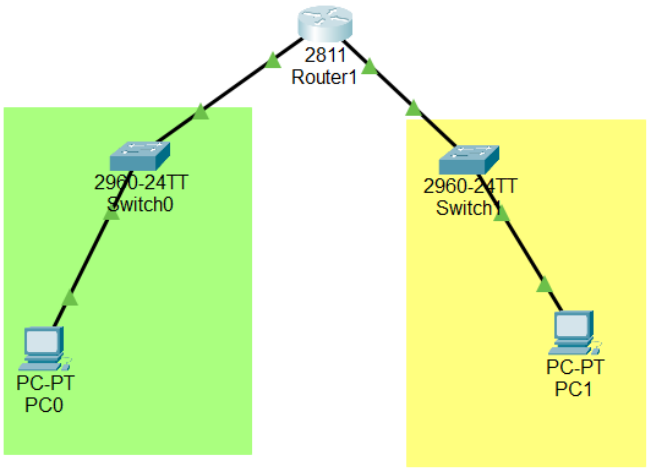
   - Enter privileged EXEC mode: enable
   - Enter global config mode: configure terminal
   - Set IP for interface FastEthernet0/0:
     interface FastEthernet0/0
     ip address 192.168.10.1 255.255.255.0
     no shutdown
     exit

- Set IP for interface FastEthernet0/1:
  interface FastEthernet0/1
  ip address 10.0.0.1 255.0.0.0
  no shutdown
  exit

- Exit and save config: end and write memory

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#exit
Router(config)#end
Router#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

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

%SYS-5-CONFIG_I: Configured from console by console
```

6. Test connectivity by pinging from one PC to the other's IP address using Command Prompt.



7. Observe and record the ping results to check if communication is successful.

Here are short versions for both the introduction and result:

Result

Both PCs were able to successfully communicate with the router after configuring static IP addresses on each device and verifying connectivity with ping test.