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## CN Lab 2

### Procedure:

1. Two generic computers are placed alongside a router. They are connected with copper cross over wires as the devices are on the same level.
2. IP addresses (fast ethernet) and default gateway addresses are configured specifically, for each computer.
3. The router's terminal is accessed and an interface for each connection and With the specified gateway addresses the no shut command is used to establish a connection.
4. Using the terminals on the computers, we can ping the other computers using their IP Address.

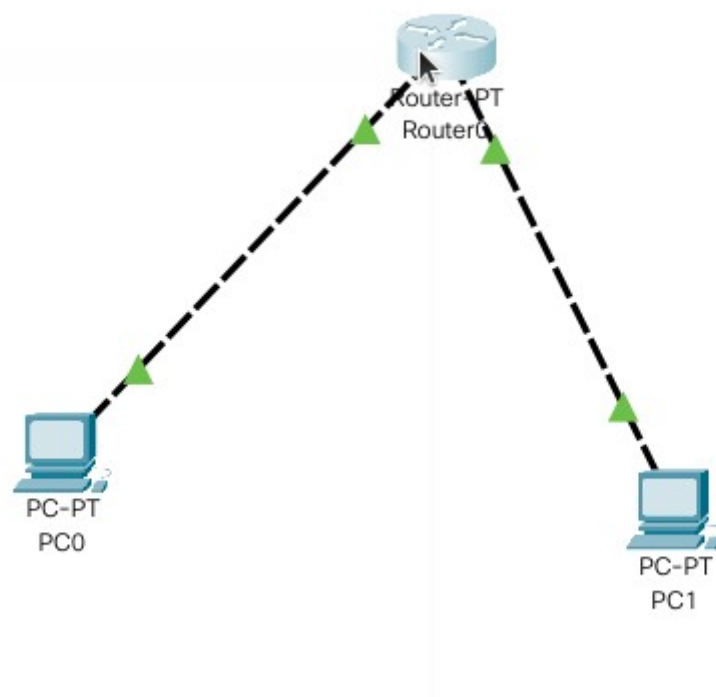
### Observation:

After configuring the devices, a connection is established from the router's Side using the command line interface. The show ip route command shows that the computers are connected. Opening up the terminal on the computer, we can ping another connected computer's IP address to see whether there is a response from the sent packet. The initial attempt will be a time out but on future attempts packets would be successfully retrieved since the computer will be found on the network.

## Outcome:

In today's lab, I understood how hubs and switches work along with their differences, and in which setups and environments they are better/worse in. I also understood the working of routers, its configuration and its communication with end network devices and the use of pinging to test connections in a network and make sure all devices are connected properly and can communicate properly.

## Screenshots:



The screenshot shows the CLI interface of Router0. The title bar says 'Router0'. Below the title bar are tabs for 'Physical', 'Config', 'CLI' (selected), and 'Attributes'. The main window displays the following text:

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

Router(config-if)#exit
Router(config)#show ip route
^
% Invalid input detected at '^' marker.

Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

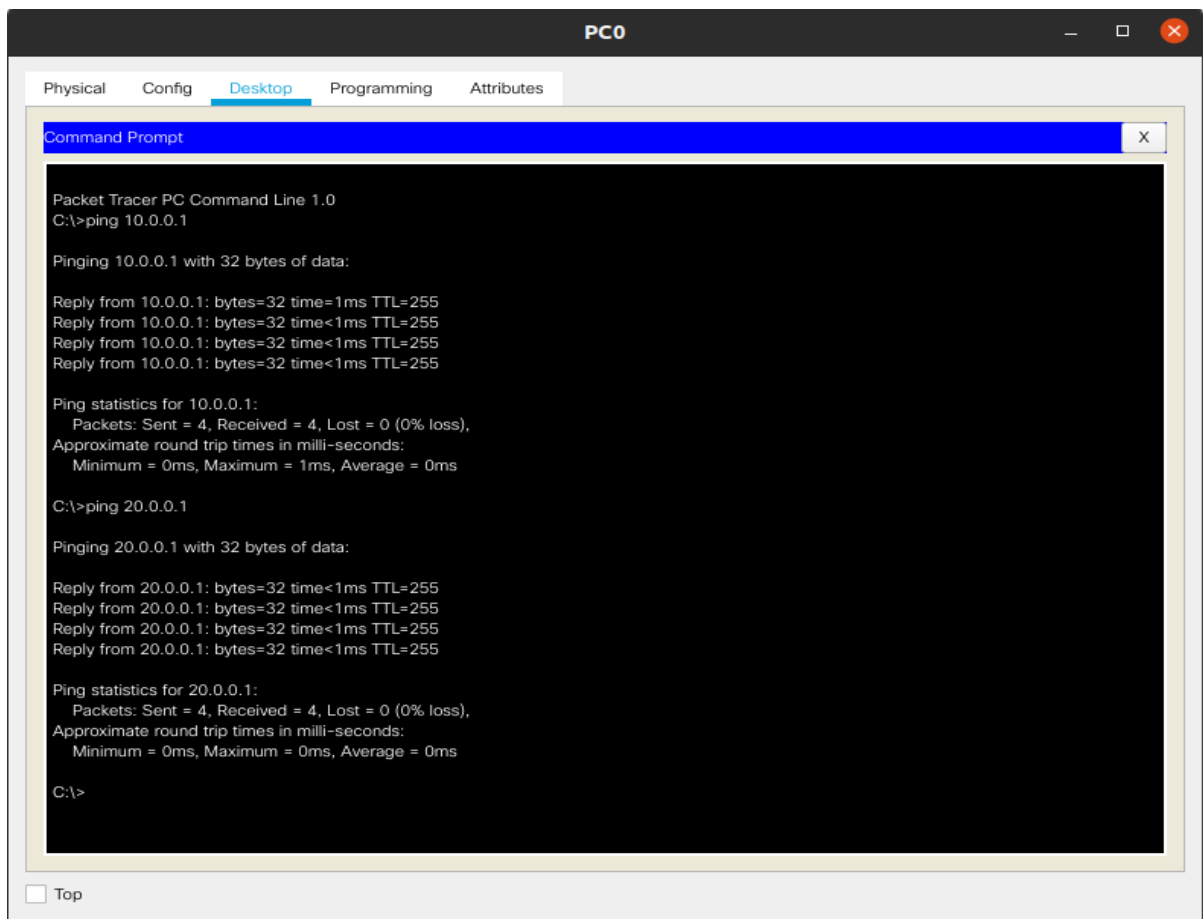
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    20.0.0.0/8 is directly connected, FastEthernet1/0

Router#
```

At the bottom of the window, there is a status bar that says 'Ctrl+F6 to exit CLI focus' and two buttons: 'Copy' and 'Paste'.



## HUB & SWITCH SCREENSHOT:

