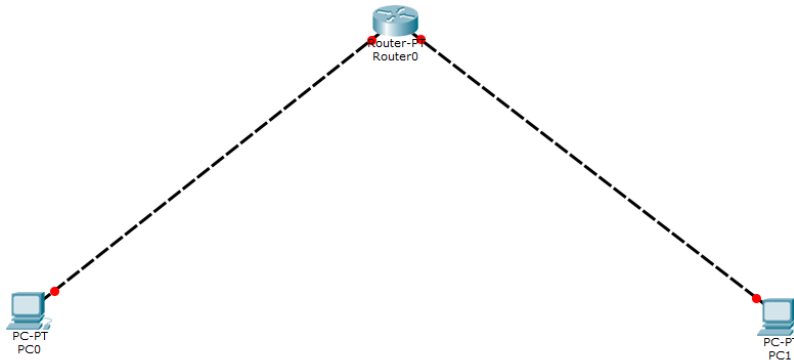


# WEEK 2 (1BM21CS213)

## Outcomes:

- Routers are used to establish connection between two different networks.
- End devices are connected to the routers with the help of interface.



## Configuration of Router:-

### Configuring the router on left side:

```
Router0
Physical Config CLI
IOS Command Line Interface
X.25 software, Version 3.0.0.
4 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

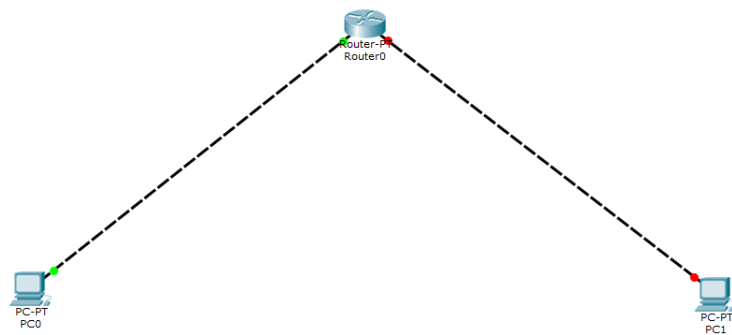
--- System Configuration Dialog ---
Continue with configuration dialog? [yes/no]: n

Press RETURN to get started!

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 10.0.0.1 255.0.0.0
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
exit
Router(config)#
```

After configuring the router on one side:



Configuring the router on right side:

```
Router0
Physical Config CLI
IOS Command Line Interface

Press RETURN to get started!

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 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-6-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
exit
Router(config)#interface fastEthernet 1/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#no shutdown

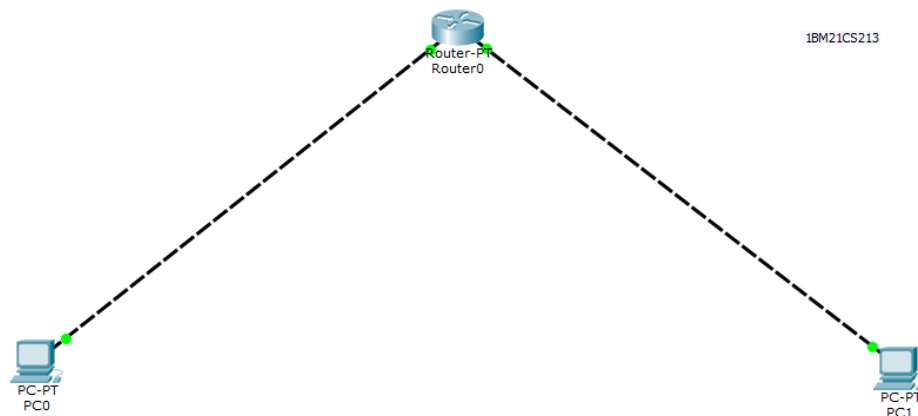
Router(config-if)#
%LINK-6-CHANGED: Interface FastEthernet1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
exit
Router(config)#
```

The screenshot shows a window titled 'Router0' with tabs for 'Physical', 'Config', and 'CLI'. The 'CLI' tab is active, displaying the 'IOS Command Line Interface'. The terminal shows the following sequence of commands and outputs:

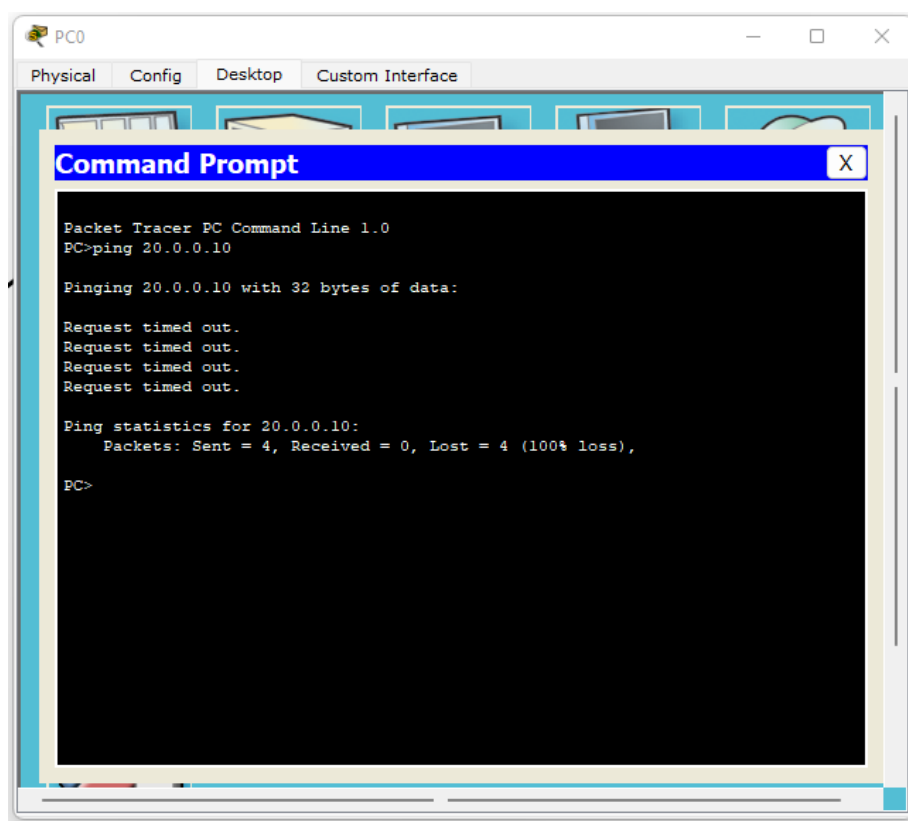
- `Router>enable`
- `Router#configure terminal`
- `Router(config)#interface fastEthernet 0/0`
- `Router(config-if)#ip address 10.0.0.1 255.0.0.0`
- `Router(config-if)#no shutdown`
- `Router(config-if)#` (Output: `%LINK-6-CHANGED: Interface FastEthernet0/0, changed state to up` and `%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up`)
- `exit`
- `Router(config)#interface fastEthernet 1/0`
- `Router(config-if)#ip address 20.0.0.1 255.0.0.0`
- `Router(config-if)#no shutdown`
- `Router(config-if)#` (Output: `%LINK-6-CHANGED: Interface FastEthernet1/0, changed state to up` and `%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up`)
- `exit`
- `Router(config)#`

At the bottom of the window, there are 'Copy' and 'Paste' buttons.

After configuring the router on both sides:

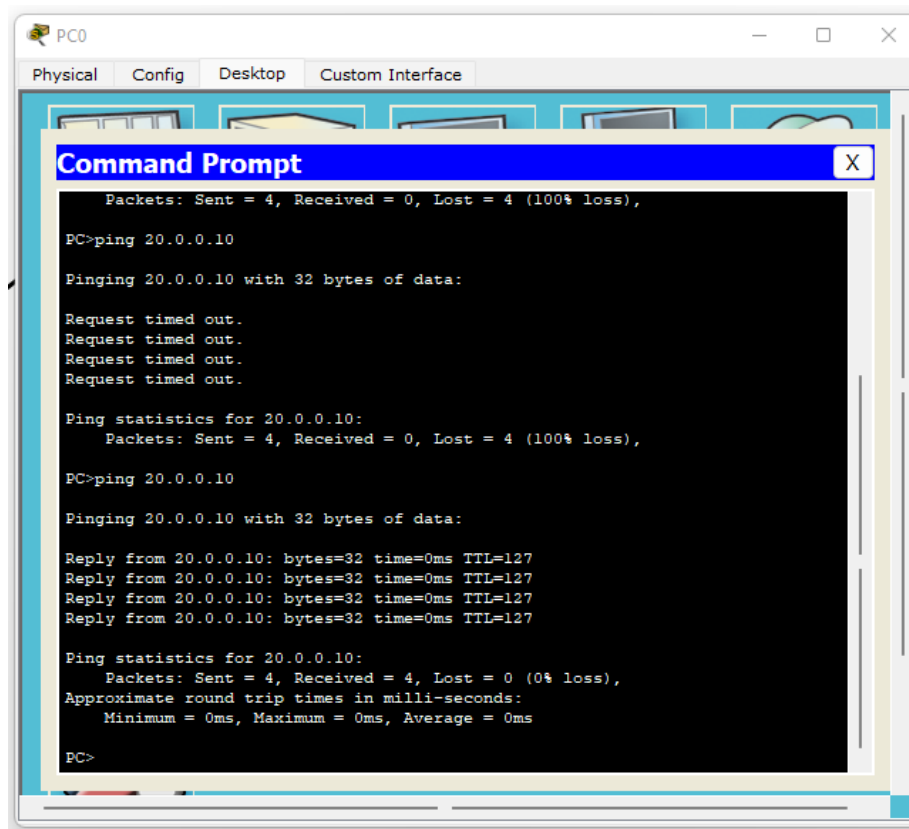


Pinging from source to destination without default gateway:



When we try to ping from source to destination without giving default gateway, we get request timed out, i.e., packets are sent but are not received and are lost because the router does not know the path.

Pinging from source to destination with default gateway:



In this case, all the packets sent are received and there is no loss.

Simulation Mode:

