

### ***Experiment No: 03***

#### ***Experiment Name:*** Packet through Routers (Routers Configured with CLI)

#### ***Objective:***

Since we're going to transfer packet through Routers. we'll design a simple network diagram using " CISCO Packet Tracer".

In this experiment we'll test a simple packet transfer from one PC to another. The circuit contains 3 Routers with delta connection & some PCs. We'll configure the routers via command line interface and evaluate packet transfer (ICMP packet).

#### ***Design procedure:***

Here a simple network connection using Routers connected via a delta connection:

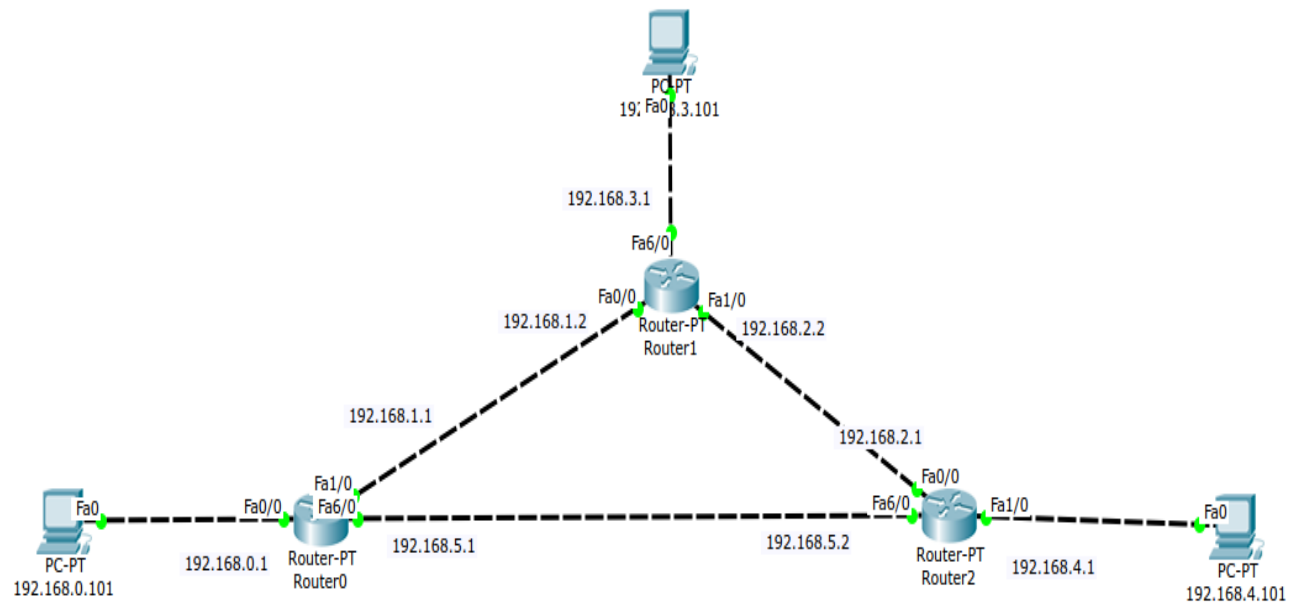


fig: Packet Through Router configured via CLI

*Illustration 1: Delta Connected Routers and End Devices*

The above figure shows the connection among PCs & routers.

***Details procedure of router, End Device configuration:***  
***1. End Device IP address configure:***

- ***Device 1***

The screenshot shows a network configuration window titled "IP Configuration" with a close button (X) in the top right corner. The window has tabs for "Physical", "Config", "Desktop", "Attributes", and "Software/Services", with "Config" currently selected. The "IP Configuration" section is active, showing two main sections: "IP Configuration" and "IPv6 Configuration". In the "IP Configuration" section, the "Static" radio button is selected. The fields are filled with: IP Address: 192.168.0.101, Subnet Mask: 255.255.255.0, Default Gateway: 192.168.0.1, and DNS Server: 8.8.8.8. In the "IPv6 Configuration" section, the "Static" radio button is also selected. The fields are: IPv6 Address: (empty), Link Local Address: FE80::2D0:FFFF:FE8E:348C, IPv6 Gateway: (empty), and IPv6 DNS Server: (empty). At the bottom left, there is a "Top" button.

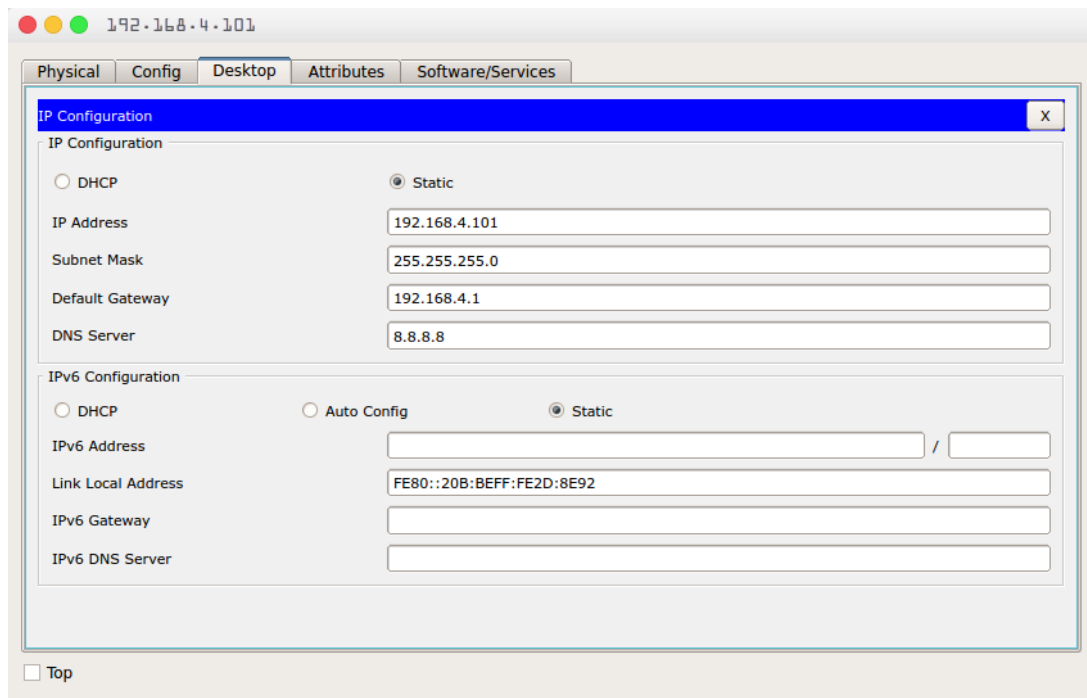
*Illustration 2: Device 1 IP configuration*

- ***Device 2***

The screenshot shows a network configuration window titled "IP Configuration" with a close button (X) in the top right corner. The window has tabs for "Physical", "Config", "Desktop", "Attributes", and "Software/Services", with "Config" currently selected. The "IP Configuration" section is active, showing two main sections: "IP Configuration" and "IPv6 Configuration". In the "IP Configuration" section, the "Static" radio button is selected. The fields are filled with: IP Address: 192.168.3.101, Subnet Mask: 255.255.255.0, Default Gateway: 192.168.3.1, and DNS Server: 8.8.8.8. In the "IPv6 Configuration" section, the "Static" radio button is also selected. The fields are: IPv6 Address: (empty), Link Local Address: FE80::2D0:D3FF:FEE7:6D6C, IPv6 Gateway: (empty), and IPv6 DNS Server: (empty). At the bottom left, there is a "Top" button.

*Illustration 3: Device 2 IP configuration*

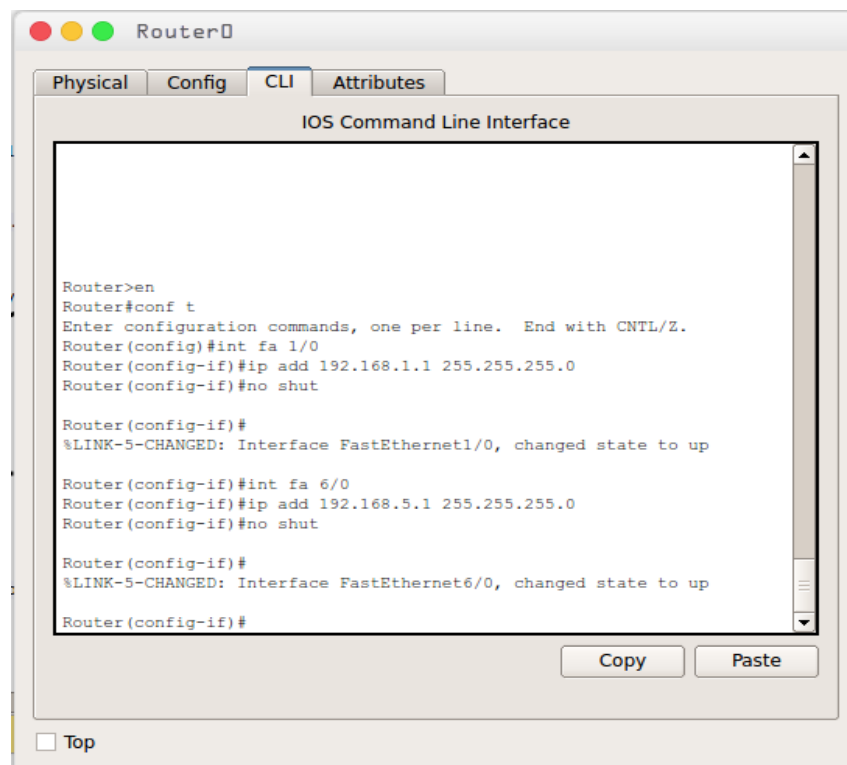
- **Device 3**



*Illustration 4: Device 3 IP configuration*

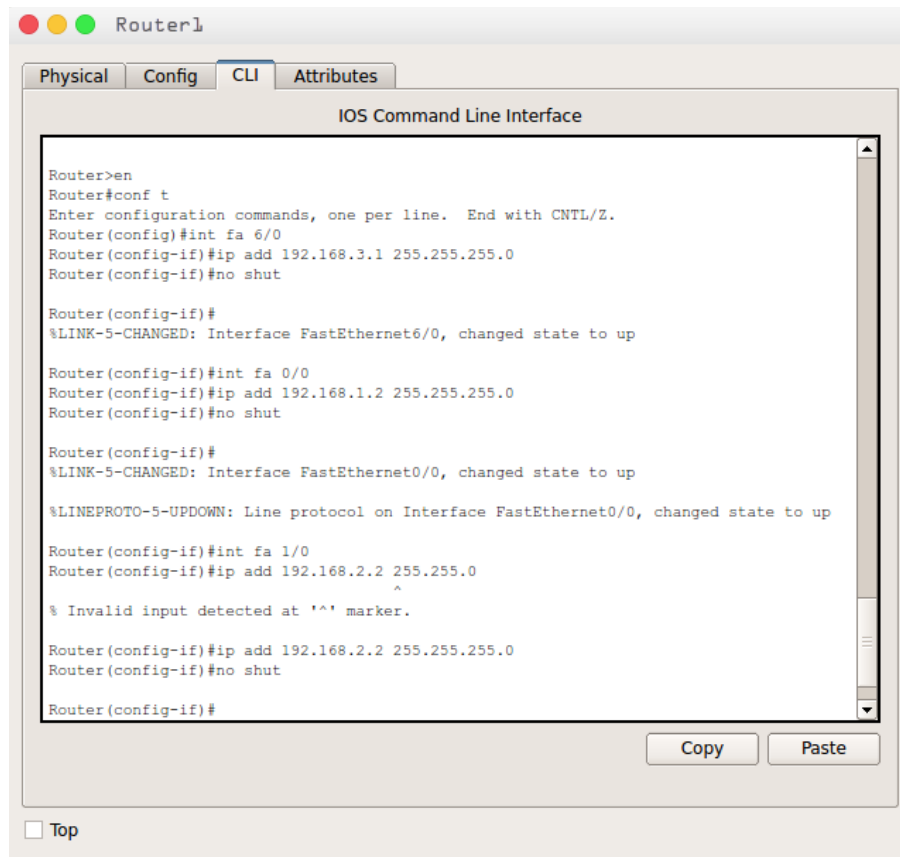
**2. Router configuration with CLI:** Each Router requires two step to be fully functional, first step we assign IP-addresses relative to each router. The second step we make the routing table ready. The router configuration for each router is as follows:

- **Router:1**



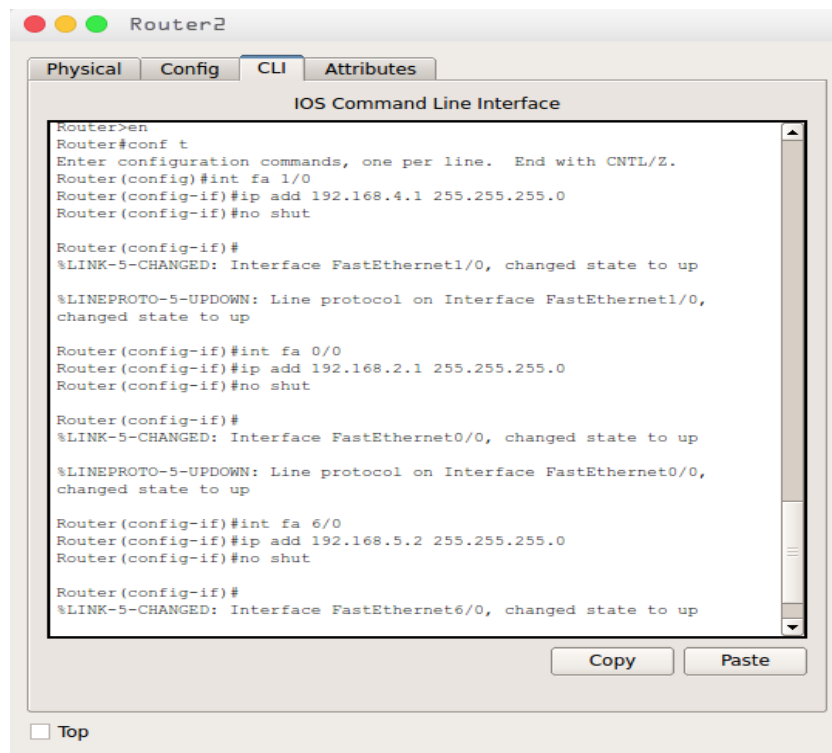
*Illustration 5: Router-1 Configuration*

- **Router:2**



*Illustration 6: Router-2 Configuration*

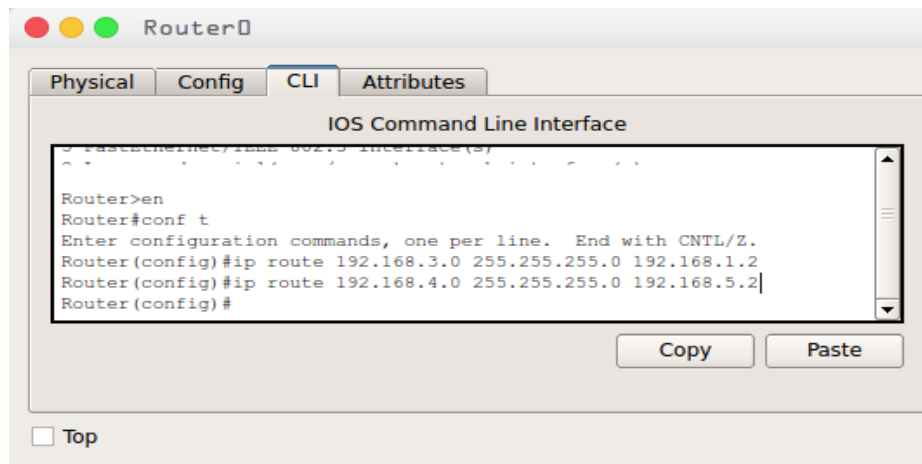
- **Router:3**



*Illustration 7: Router-3 Configuration*

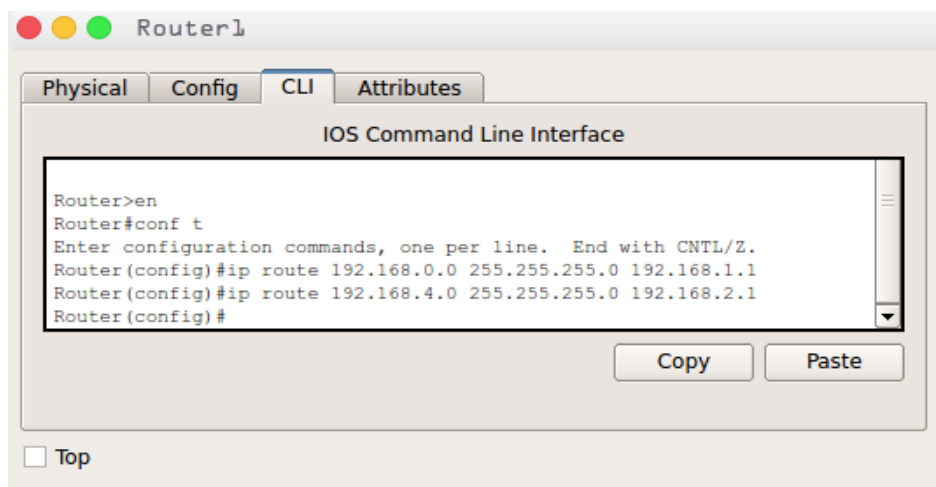
## Routing Table:

- Router-1



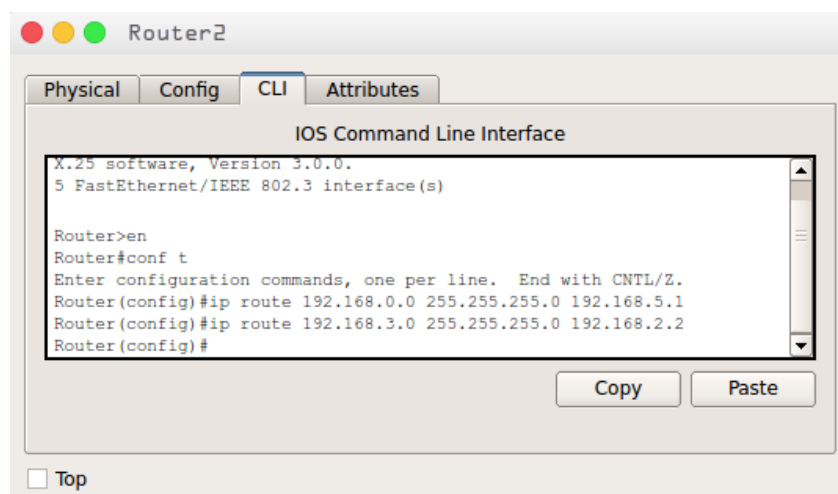
*Illustration 8: Router-1 Routing Table*

- Router-2



*Illustration 9: Router-2 Routing Table*

- Router-3



*Illustration 10: Router-3 Routing Table*

### 3. Packet transferring between two Device.

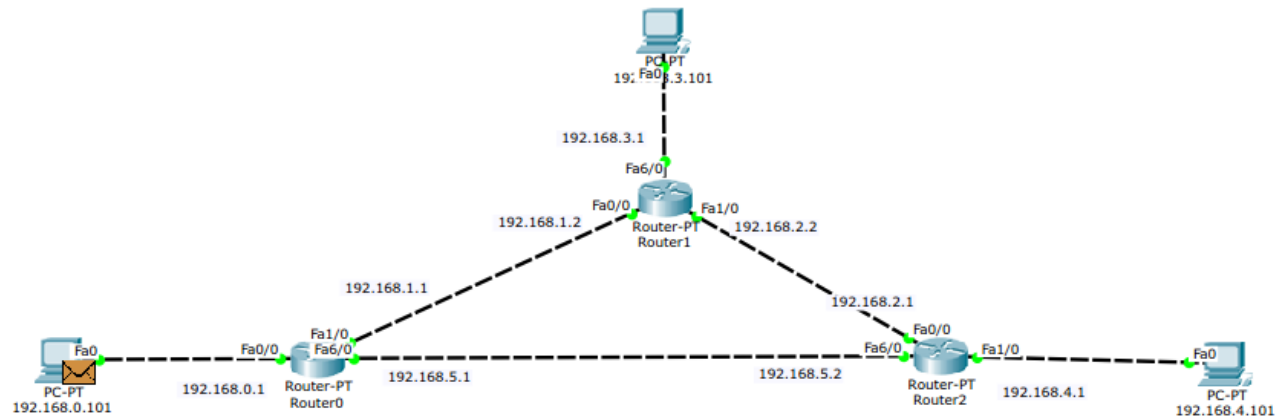


fig: Packet Through Router configured via CLI

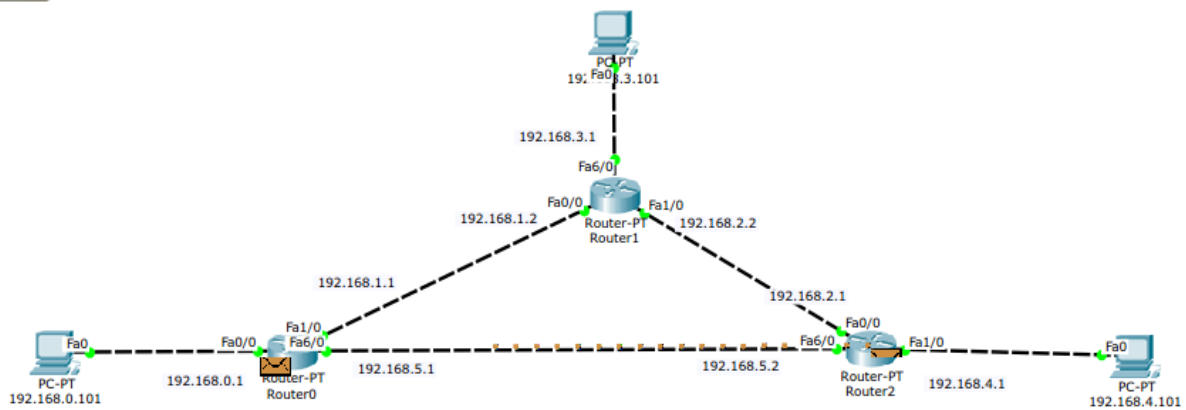


fig: Packet Through Router configured via CLI

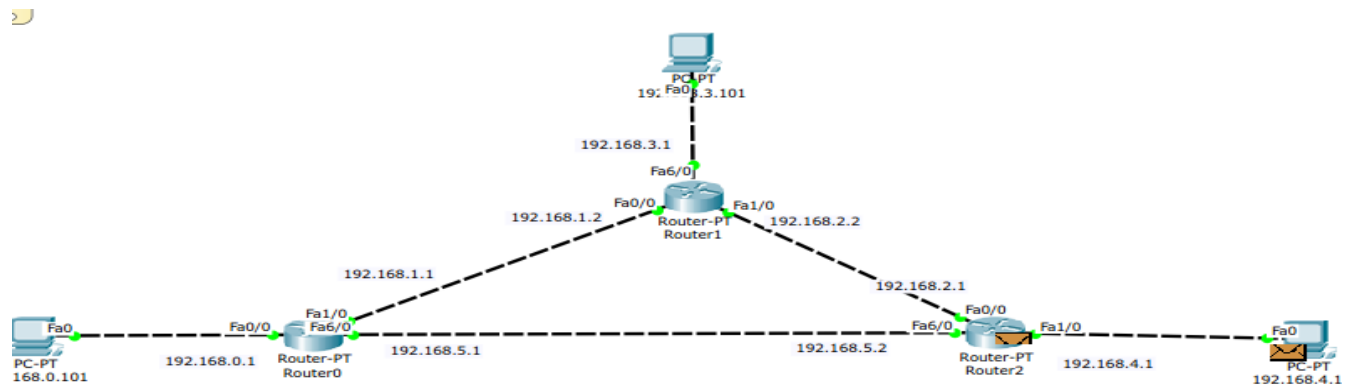


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