LAB 1

TITLE : Setting Up our First LAN Network

OBJECTIVE : To Build our First LAN Network

THEORY :

Introduction to Packet Tracer :

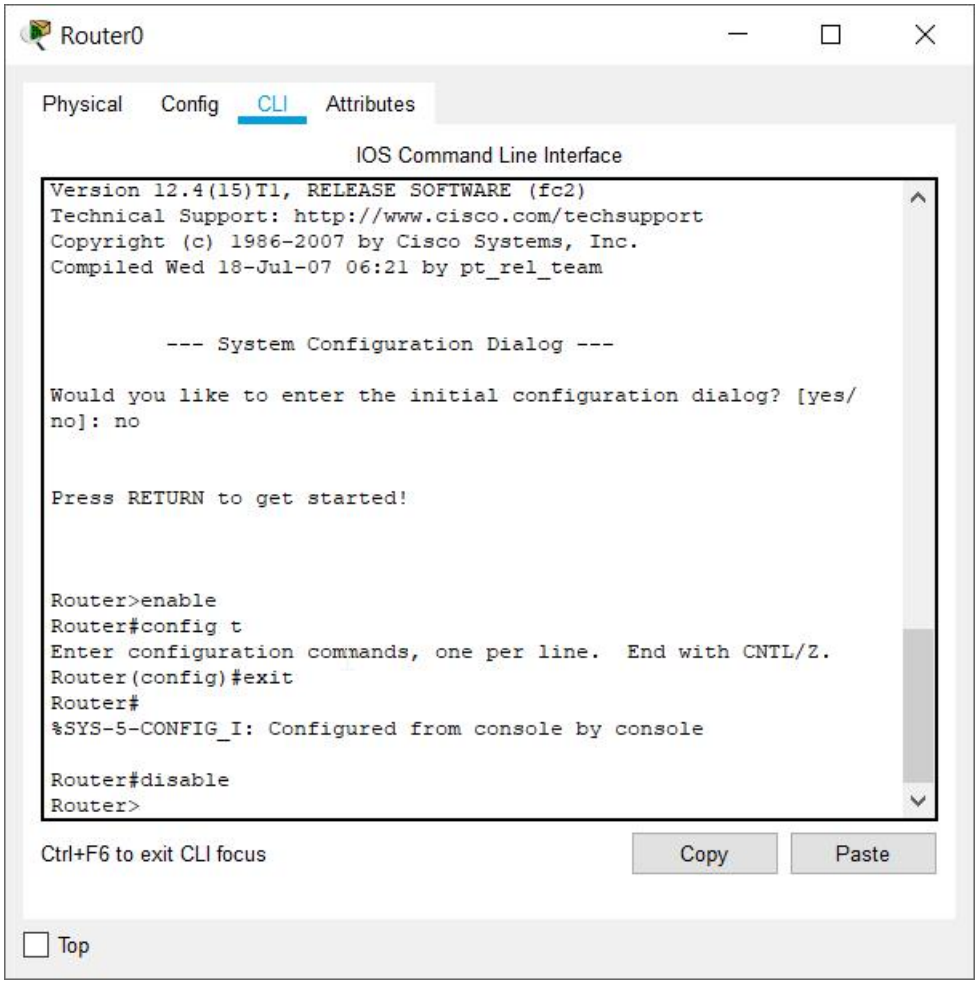
Packet Tracer is an exciting network design, simulation and modelling tool that allows you to develop your skill set in networking, cybersecurity, and the Internet of Things (IoT). It allows you to model complex systems without the need for dedicated equipment.Packet Tracer provides simulation, visualization, authoring, assessment, and collaboration capabilities to facilitate the teaching and learning of complex technology concepts.

Cisco® Packet Tracer is a powerful network simulation program that allows students to experiment with network behavior and ask "what if" questions.

CLI Command Modes :

Command Mode	Access Method	Prompt	Exit or Access Next Mode
User EXEC	This is the first level of access.(For the switch) Change terminal settings, perform basic tasks, and list system information.	Router>	Enter the logout command. To enter privileged EXEC mode, enter the enable command.
Privileged EXEC	From user EXEC mode, enter the enable command.	Router#	To exit to user EXEC mode, enter the disable command. To enter global configuration mode, enter the configure command.
Global configuration	From privileged EXEC mode, enter the configure command	Router(config)#	To exit to privileged EXEC mode, enter the exit or end command, or press Ctrl-Z. To enter interface configuration mode, enter the interface configuration command..
Interface configuration	From global configuration mode, specify an interface by entering the interface command followed by an interface identification.	Router(config-if)#	To exit to privileged EXEC mode, enter the end command, or press Ctrl-Z. To exit to global configuration mode, enter the exit command.

Configuration :



Router> (User-Mode Prompt)

Router>enable
Router# (Privileged-Mode Prompt)

Router#configuration terminal
Router(config)# (Global Configuration-Mode Prompt)

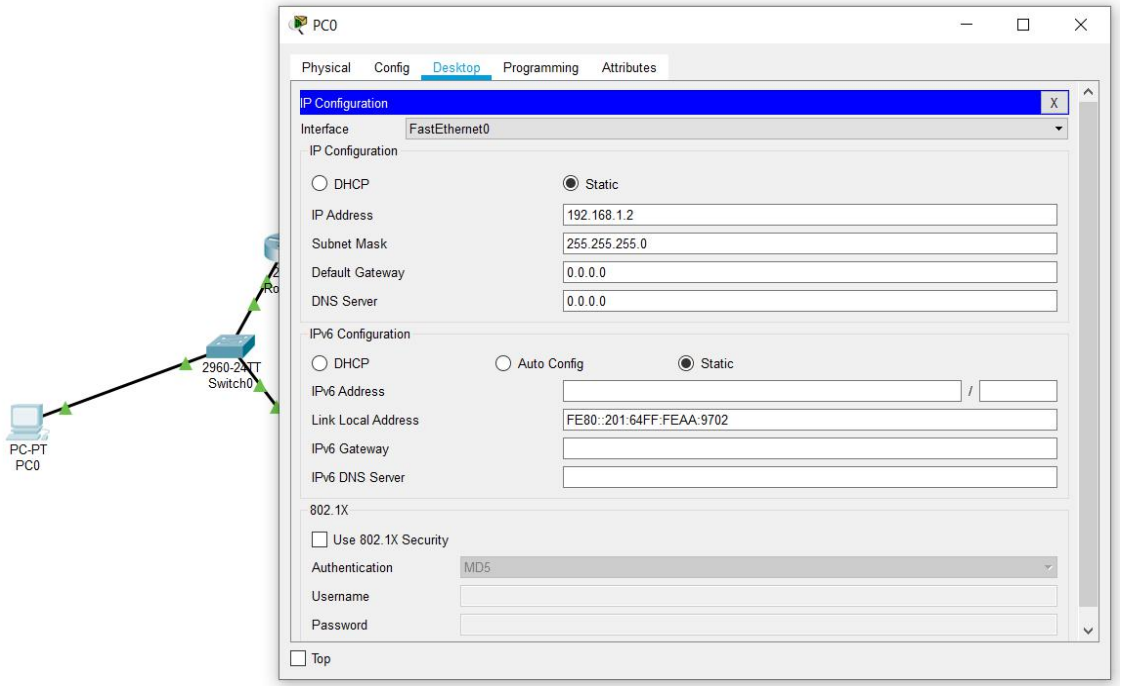
If You want to get back to privileged-mode,type exit or press CTRL+Z:

Router(config)#exit
Router#

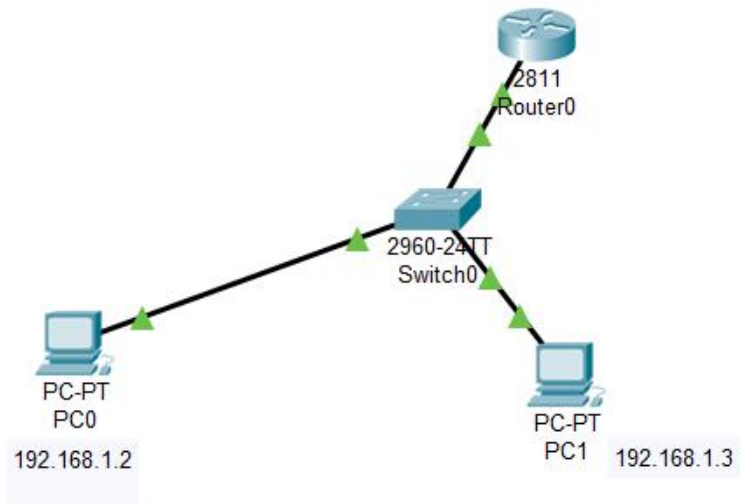
To change Router Name:

```
Router(config)#hostname HeadOffice
HeadOffice(config)#
```

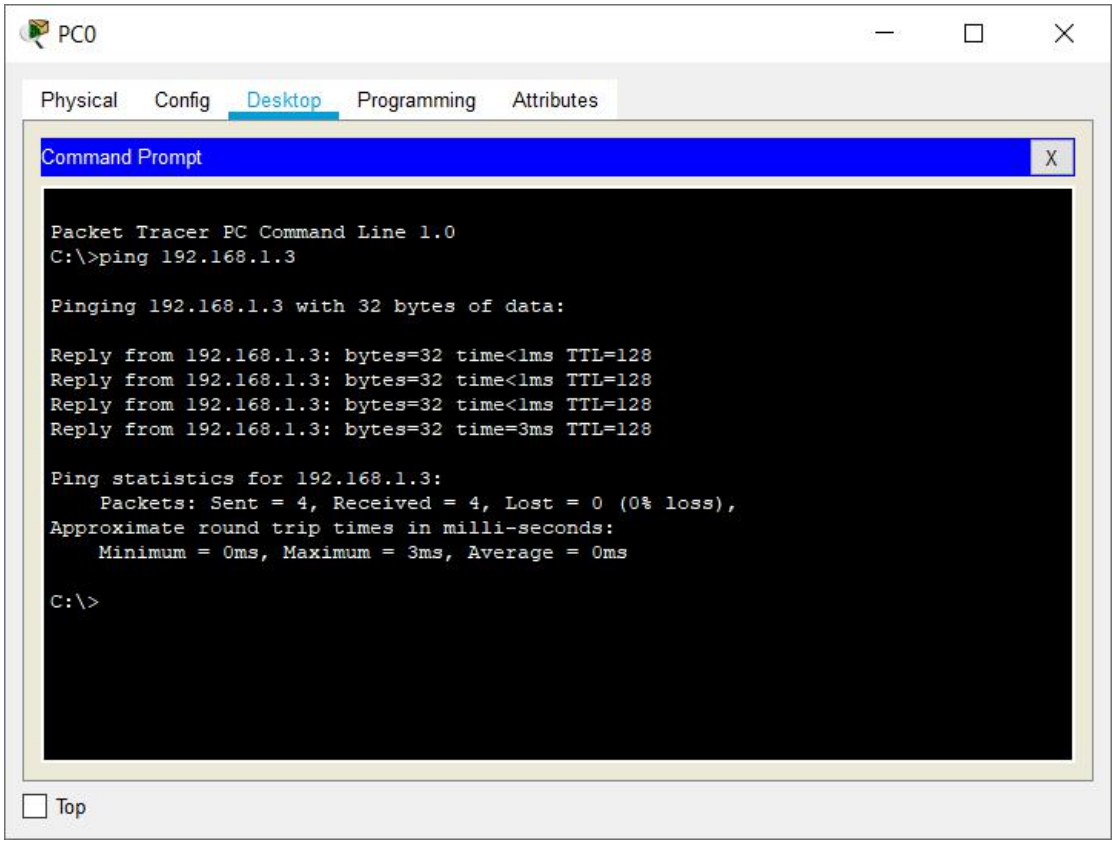
We can set ip addresses of Two PCs:



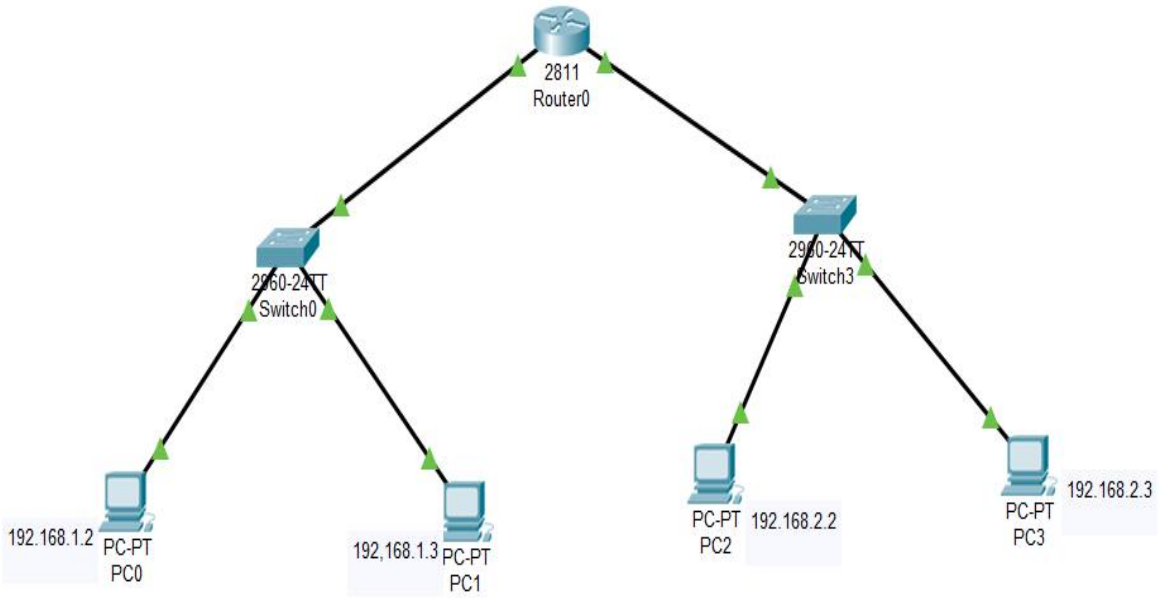
PC0 ip address= 192.168.1.2
PC1 ip address = 192.168.1.3



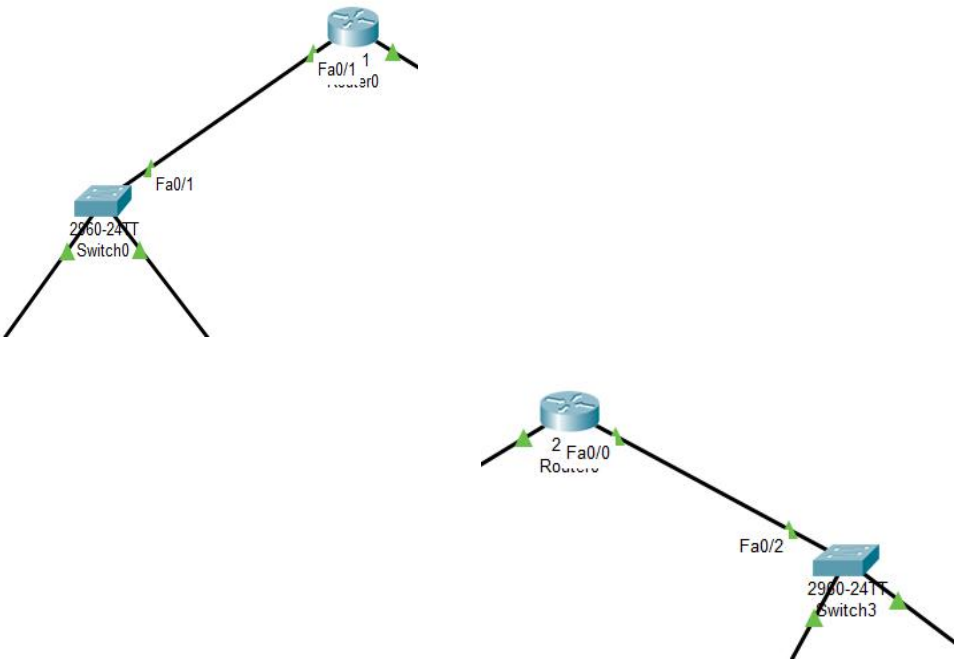
Pinging from PC0 to PC1 in same network:



Now we add another switch and two PCs ,PC2 and PC3.And we assign IP addresses of PC2 and PC3.



Next we can start configuring the router interfaces.To know which interface, hover the cursor on the link as shown in this figure:



Each interface has an interface configuration mode. To get into this, type “int fa0/1” or “int fa0/2” depending upon interfaces.

```
Router(config)#int fa0/1
Router(config-if)#
```

Let’s give this interface an IP address. To do this type “ip address 192.168.1.1 255.255.255.0” then press the enter key

```
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#
```

The following command is used to turn on an interface that has been shut down:

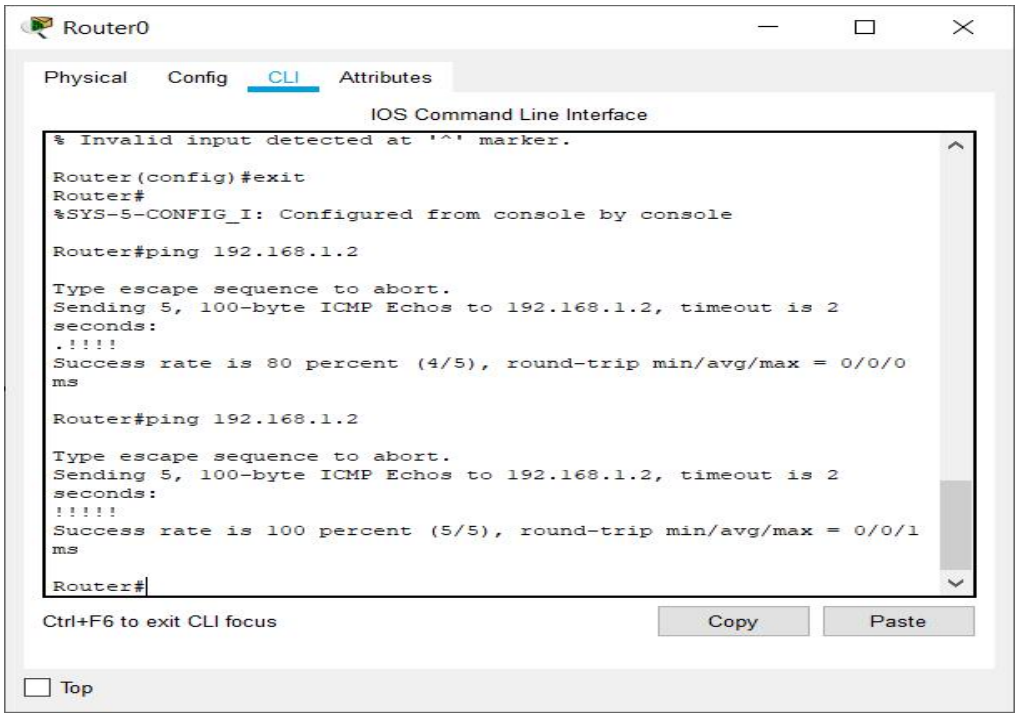
```
Router(config-if)#no shutdown
```

Troubleshooting command line errors

```
Router#configure ternimal
                 ^
% Invalid input detected at '^' marker.

Router#configure terminal
```

Pinging to 192.168.1.2 from Privileged-Mode:



Now, when we ping from PC3 to PC0 it doesn't receive reply due to the lack of gateway.