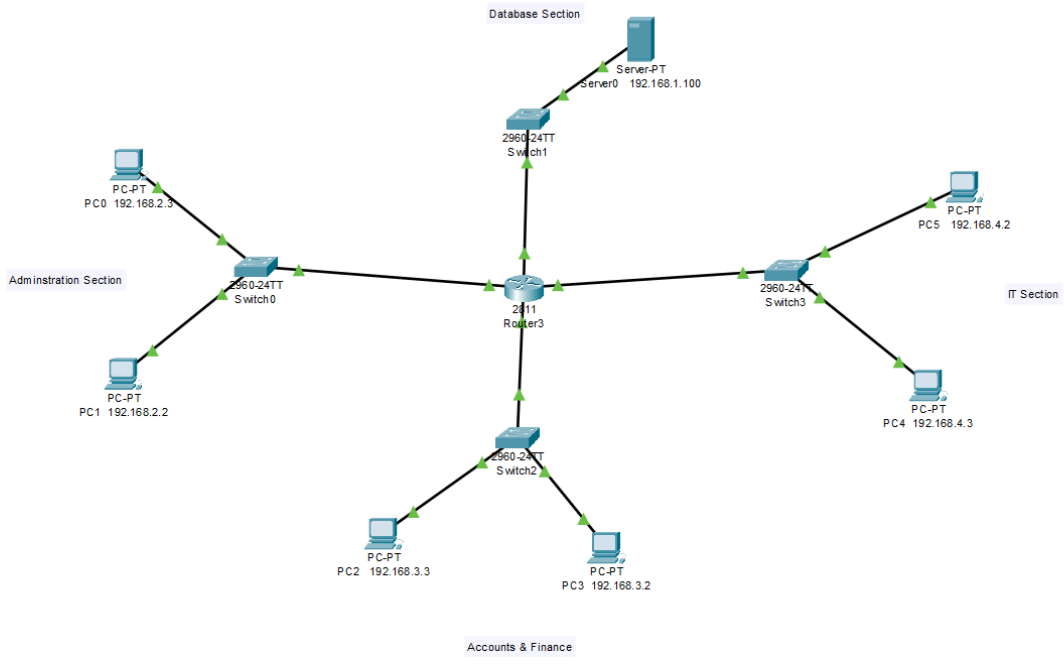
STEPS

Cisco Packet Tracer is a tool built by Cisco and it provides network simulation to practice simple and complex networks. The main purpose of the Cisco Packet Tracer is to help students learn the principles of networking and demonstrate the networking concepts.

Step 1: Open the Cisco Packet Tracer.

Step 2.: After opening the Cisco Packet tracer, add a router, 4 switches, 6 PCs, and a server to build a network for a small organization.

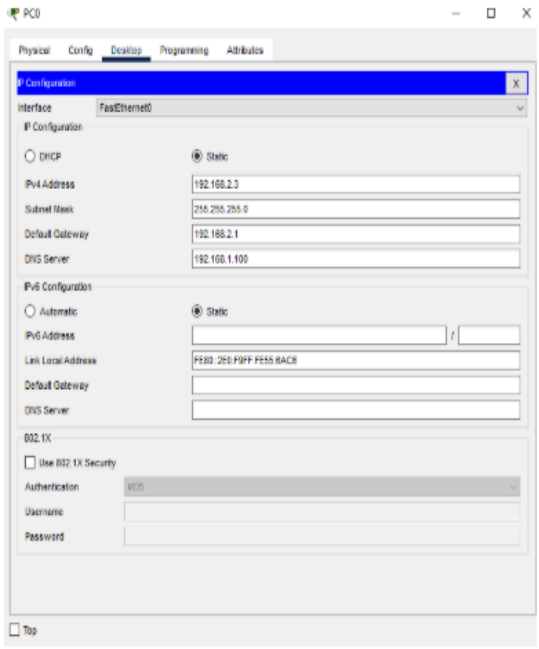


Step 3: Connect the router with 4 switches, 3 switches are connected with 2PCs each, and 1 switch is connected with the server using a cable. There are four different networks in this organization:- 192.168.1.0/24, 192.168.2.0/24, 192.168.3.0/24, and 192.168.4.0/24.

Step 4: Give IP, subnet mask, default gateway, and DNS server to each PC and server in this network. To assign IP to each PC and server, click on each PC, go to Desktop, and then click on IP configuration

Components	IP Address	Subnet Mask	Default Gateway	DNS server
PC0	192.168.2.3	255.255.255.0	192.168.2.1	192.168..1.100
PC1	192.168.2.2	255.255.255.0	192.168.2.1	192.168.1.100
PC2	192.168.3.3	255.255.255.0	192.168.3.1	192.168.1.100
PC3	192.168.3.2	255.255.255.0	192.168.3.1	192.168.1.100
PC4	192.168.4.3	255.255.255.0	192.168.4.1	192.168.1.100
PC5	192.168.4.2	255.255.255.0	192.168.4.1	192.168.1.100
Server	192.168.1.100	255.255.255.0	192.168.1.1	192.168.1.100

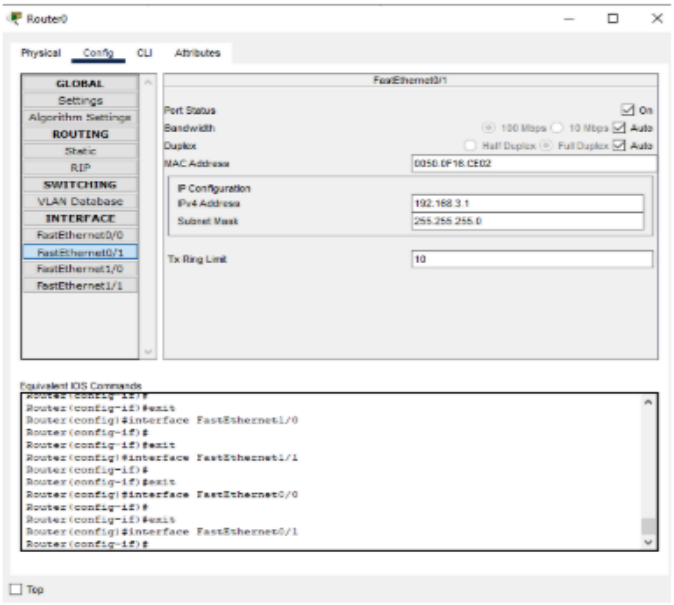
For example, For PC0:



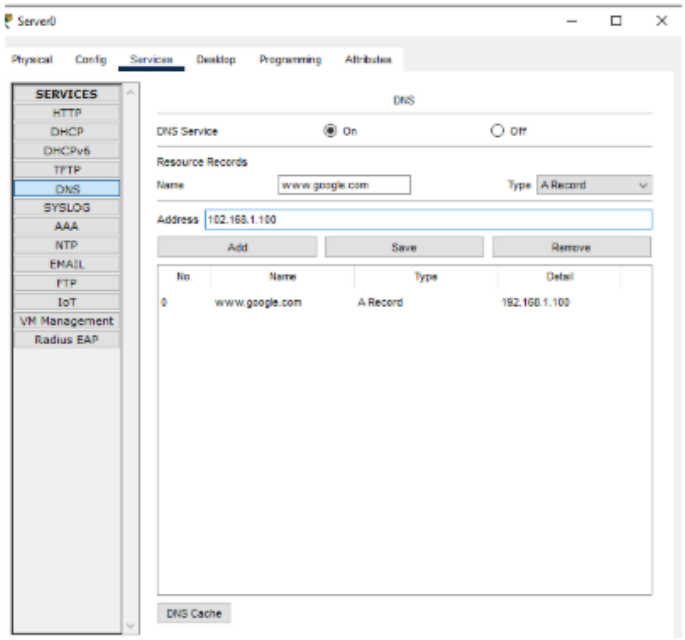
Step 5: Now, configure the router according to the details given below and then turn on the port status.

FastEthernet0/0	192.168.2.1	255.255.255.0
FastEthernet0/1	192.168.3.1	255.255.255.0
FastEthernet1/0	192.168.1.1	255.255.255.0
FastEthernet1/1	192.168.4.1	255.255.255.0

For example, For FastEthernet0/1:



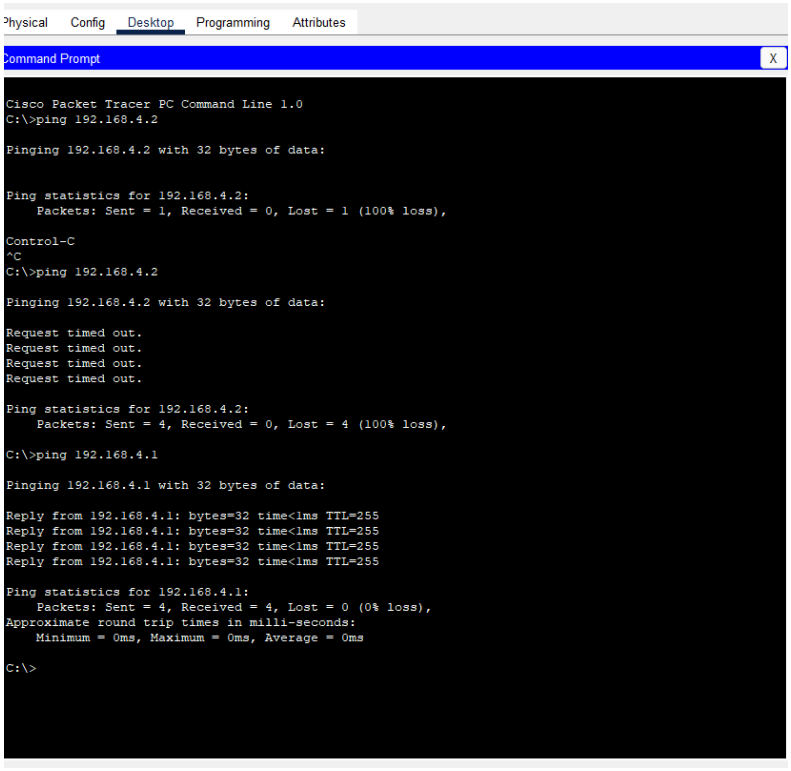
Step 6: Now, we've to maintain the DNS server. For this click on the server, go to the services section, and then click on DNS. Turn on the DNS server, Enter any domain in the 'Name' section For eg: "www.google.com" enter the IP address of the server in the 'Address section', and then click on save.



Step 7: Again click on the server, go to services, and then click on HTTP. Turn on the HTTP and HTTPS services. You can also edit the index.html file which will show when you search the domain you entered in DNS in the web browser.

Step 8: To check the connection between PCs present in different networks in this organization, you can use the ping command. Click on any PC, go to Desktop, and then click on the command prompt, enter the ping command, and check if they're able to communicate with each other.

For example, ping 192.168.3.1



Step 9: Click on any PC, go to the Desktop section, and then open the web browser. Enter the domain or address you've given in the DNS server and it will show the index.html file from HTTP services.