IT1080C Computer Networking

Packet Tracer Lab 2

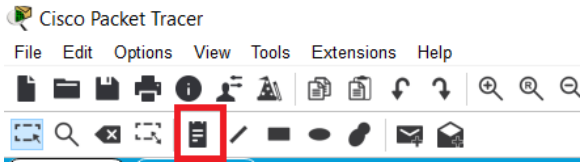
Create a local area network in Packet Tracer.

In Packet Tracer, create a local area network with four switches connected to a single router.

1. Use PT-Switch (six interfaces) or Switch 2950-24 (24 interfaces)
2. Use PT-Router-Empty and add four modules
    a. Open the physical tab on the router
    b. Power down the router; on/off switch located on right-hand side in the physical view
    c. Install four (4) 1CGE (gigabit Ethernet) modules – drag and drop
    d. Turn power on
3. Connect switches to the router using a Copper Straight-Through cable
    a. DMZ on interface GigabitEthernet0/0
    b. Sales on interface GigabitEthernet1/0
    c. Human Relations on interface GigabitEthernet2/0
    d. Manufacturing on interface GigabitEthernet3/0
4. Add a PC-PT to Sales, Human Relations, and Manufacturing; add a Server-PT to the DMZ
5. Connect each device to its switch using a Copper Straight-Through cable

Each subnetwork in this network has a unique private IP addresses in the 192.168.x.x range with a CIDR of 24 (subnet mask 255.255.255.0). Notice that the subnet addresses *do not overlap*.

NOTE: Annotate all configuration on the network diagram. To annotate the address on the diagram, use the Place Note icon from the tools menu:



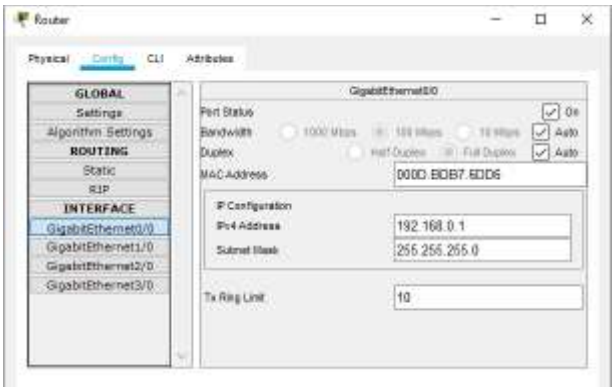
Each network has the following IP address. Annotate the private network address with CIDR on each network.

1. DMZ: 192.168.0.0/24
2. Sales: 192.168.1.0/24
3. Human Relations: 192.168.2.0./24
4. Manufacturing: 192.168.3.0/24

NOTE: Typically, we assign the first available IP address to the link to the default gateway and the last available IP address to services on a network. For instance, in the DMZ the default gateway link is 192.168.0.1 while the link to the server is 192.168.0.254. The network address of 192.168.0.0 and the broadcast address 192.168.0.255 cannot be assigned to a device.

Assign the first available IP address from each subnet to its default gateway.

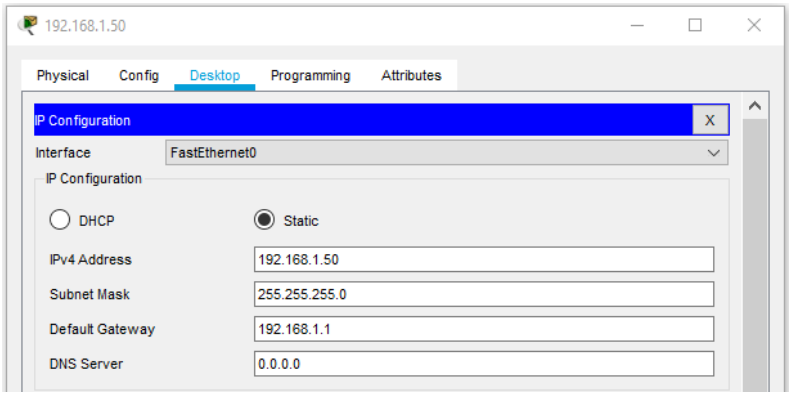
1. Open configuration tab on router. Select the interface and assign IP address, subnet mask, and check the Port Status to “on” for each the interface.
2. IP addressing assignment:
    a. Interface GigabitEthernet0/0
    IP address 192.168.0.1
    subnet mask 255.255.255.0
    b. Interface GigabitEthernet1/0
    IP address 192.168.1.1
    subnet mask 255.255.255.0
    c. Interface GigabitEthernet2/0
    IP address 192.168.2.1
    subnet mask 255.255.255.0
    d. Interface GigabitEthernet3/0
    IP address 192.168.3.1
    subnet mask 255.255.255.0



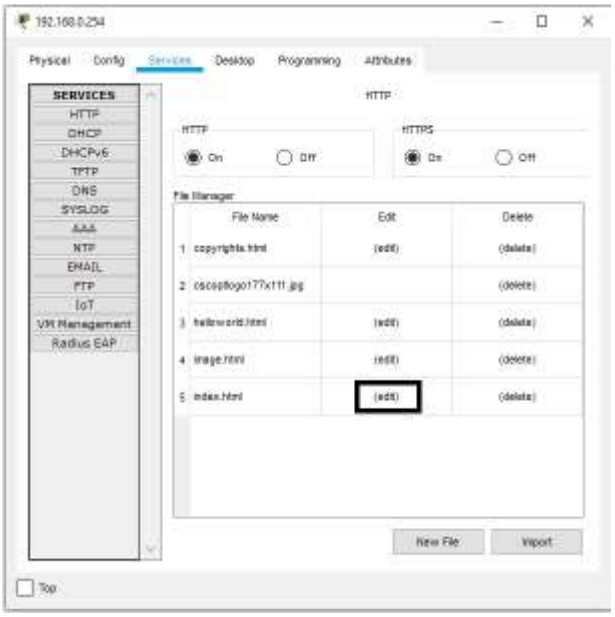
Statically assign an IP address to each device

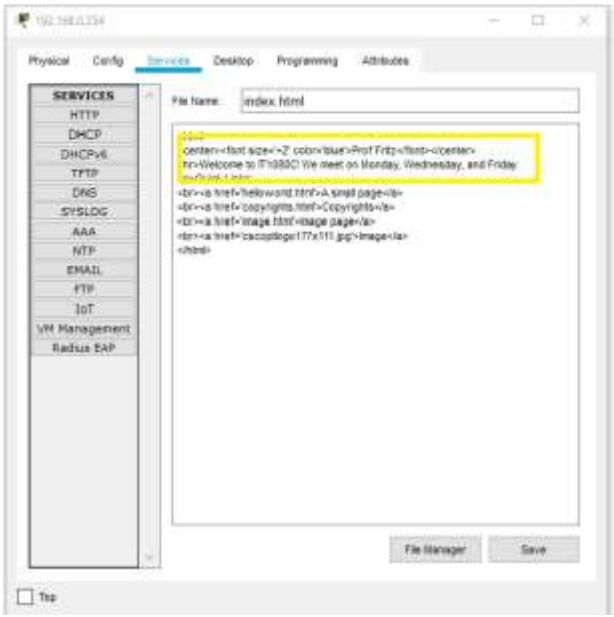
1. DMZ: 192.168.0.254
2. Sales: 192.168.1.50
3. Human Relations: 192.168.2.150
4. Manufacturing: 192.168.3.100

Open the PC and select the Desktop tab, then select IP Configuration.



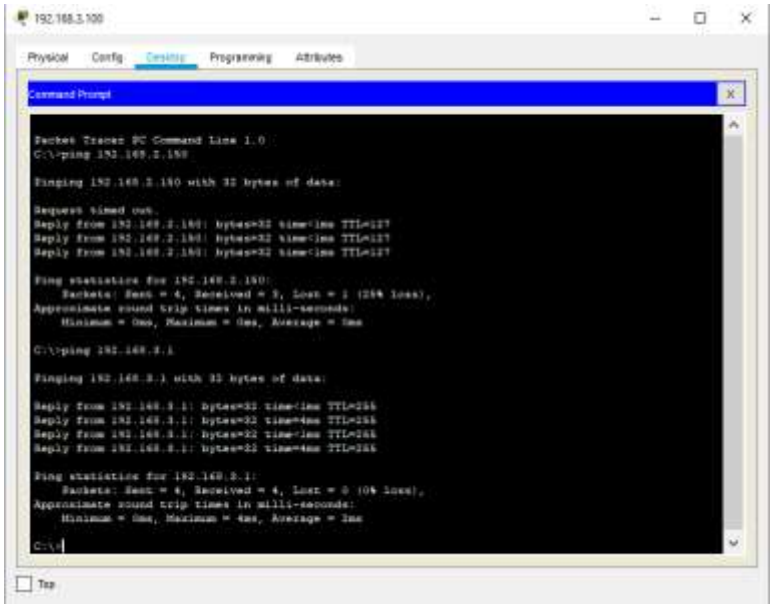
Modify the index.html page to reflect your name and a personalized greeting.





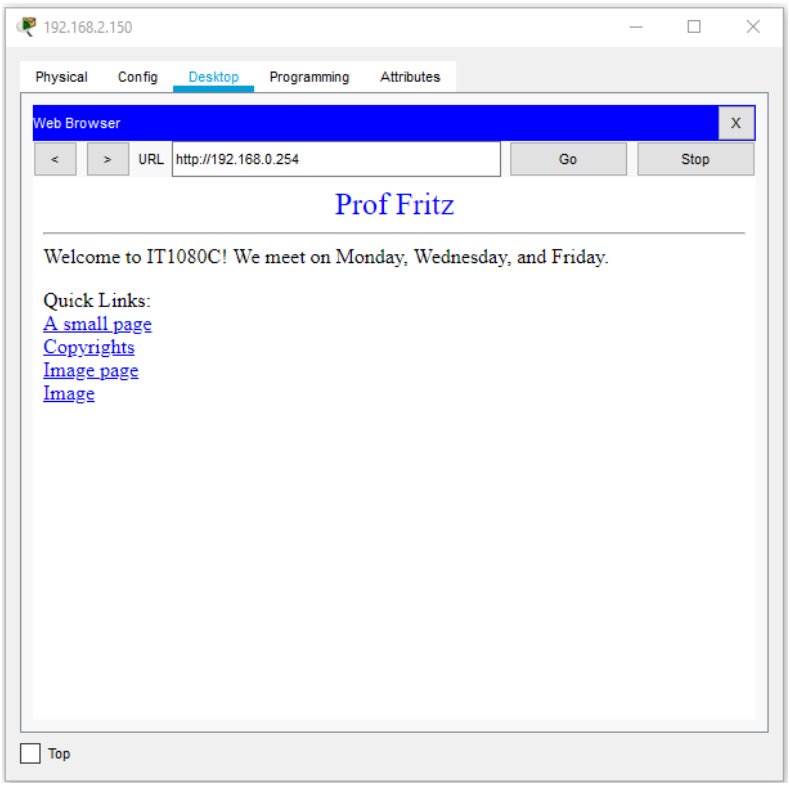
Ping between computers.

1. Open Desktop tab on a PC and go to Command Prompt. Ping a device on one of the other subnets.
2. Ping the default gateway.



Open the web page via Web Browser.

1. Open Desktop tab on a PC and go to Web Browser
2. Type in the IP address for the web server 192.168.0.254



Example of the completed network.