

CN LAB 6

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AIM: TO CONFIG IP ADDRESSES OF HOST USING DHCP SERVER PRESENT WITHIN SAME LAN

OBSERVATION:

12/11/24

Lab-06

AIM:

- ① To configure ip addresses of the Host using DHCP server present within the same LAN
- ② To configure ip addresses of the Host using DHCP server present outside the same LAN

A: DHCP - Dynamic Host Configuration Protocol - helps to do configuration of host automatically.

Config Topology with Network 10.0.0.0

Configuration

- Assign ip address manually to Server PT-Server 0 as 10.0.0.1
- Configure Router 0 & assign ip address 10.0.0.2 using CLI commands.
- Set gateway for the server-0 to be 10.0.0.2
- Now, select server-0, select services & click on DHCP, set service to be ON
- Set pool Name as ServerPool1
- Default gateway to Server as 10.0.0.2 & DNS server as 10.0.0.1 (temporarily) & SAVE.

Bafra Gold 12/11/24 Date: Page:

- Now DHCP server is ready & have been assigned to server 0
- Now, host devices can automatically get assigned to ip address by DHCP server.
- Select PC0 & PC1 & check DHCP to automatically assign ip address.
- Now, the network is ready to communicate.

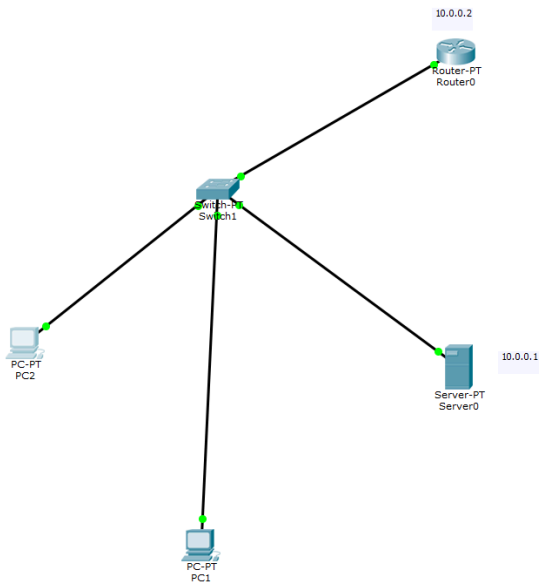
Output

- ping 10.0.0.4
- pinging 10.0.0.4 with 32 bytes of data
- Reply from 10.0.0.4: bytes=32 time=0ms TTL=128
- Reply from 10.0.0.4: bytes=32 time=0ms TTL=128
- Reply from 10.0.0.4: bytes=32 time=0ms TTL=128
- Reply from 10.0.0.4: bytes=32 time=0ms TTL=128

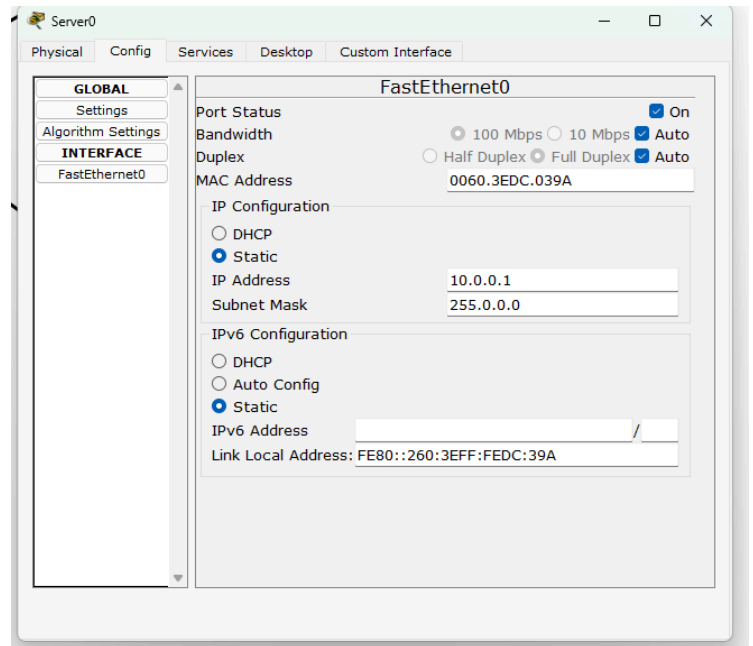
packet: send=4 Received=4 lost=0

B) outside the LAN topology

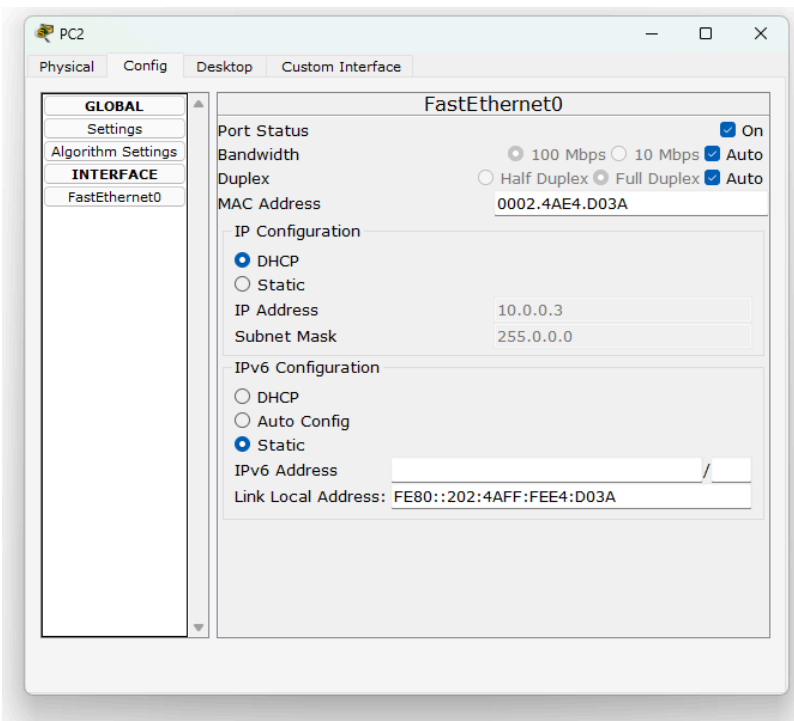
TOPOLOGY



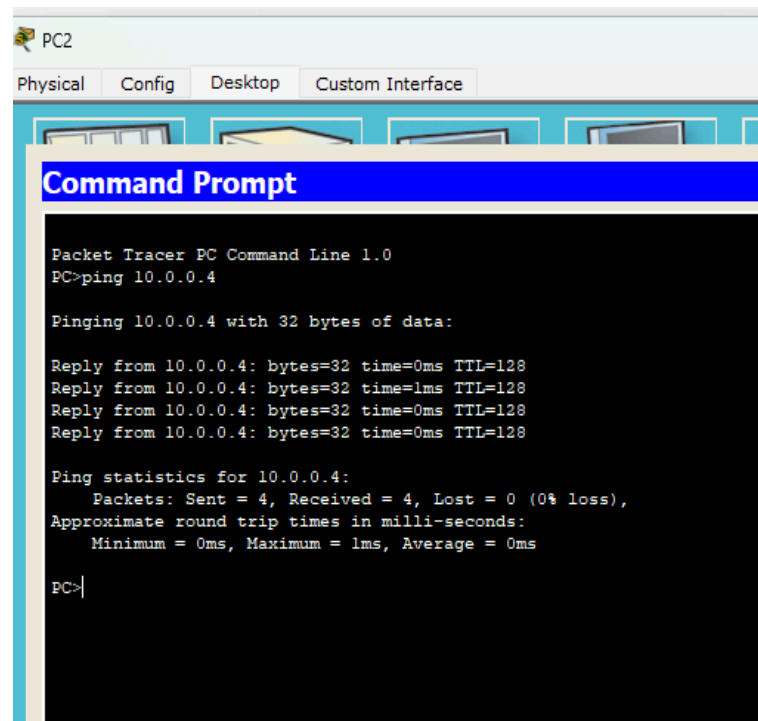
SERVER CONFIG



PC CONFIG



PING COMMAND



AIM: TO CONFIG IP ADDRESSES OF HOST USING DHCP SERVER PRESENT OUTSIDE SAME LAN

14/11/24

Configuration

- In the previous topology, add another network with IP 20.0.0.0 by adding 1 switch & 2 PC's in it.
- Configure the Router using the commands.

```

Router(config)# interface fastethernet1/0
Router(config-if)# ip address 20.0.0.1 255.0.0.0
no shutdown
ip helper 10.0.0.1
exit
Router(config)# interface fastethernet0/0
ip helper 10.0.0.1
exit

```

- Select PC2 & PC3 & select DHCP to automatically get assigned to IP address 20.0.0.2 & 20.0.0.3 respectively using DHCP server.
- Now ping from PC0 to PC2 (one LAN to another LAN).

Output:

```

PC0 > ping 20.0.0.3
Reply from 20.0.0.3: bytes=32 time=0ms TTL=128
Reply from 20.0.0.3: bytes=32 time=0ms TTL=128
Reply from 20.0.0.3: bytes=32 time=0ms TTL=128
Reply from 20.0.0.3: bytes=32 time=0ms TTL=128

```

packet: success Received: 4 lost: 0

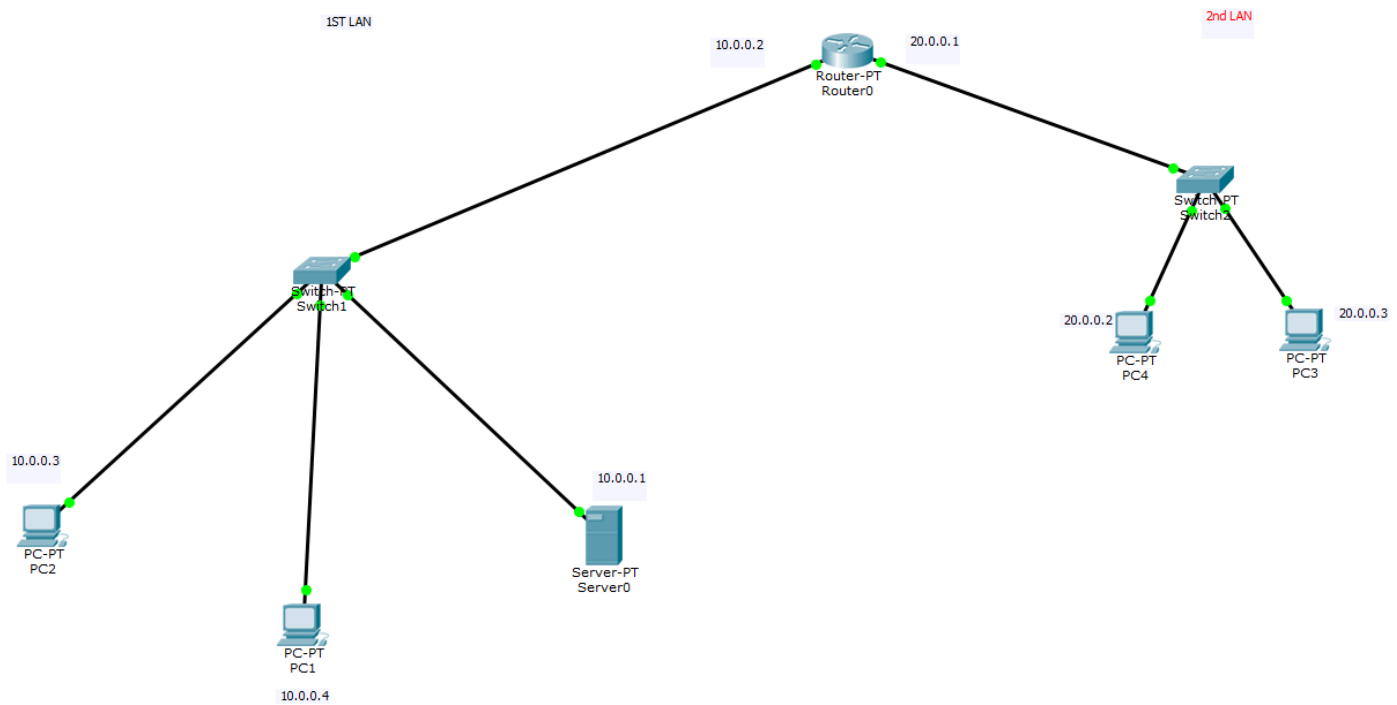
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Date: 14/11/24 Page: 1

AIM: To configure DNS server to demonstrate the mapping of IP addresses & domain name

Configuration:

- Choose Server 0, select DNS & check to ON add the name as website (Domain name) & set address of the server where the website is stored.
- Add address of Server 0 - 10.0.0.1.
- Now, select HTTP & edit the index.html to make the necessary changes in the website.
- Now, to open the website, select PC0 & select web browser, add the website name "website1".
- Now, website can be accessed on PC0

TOPOLOGY:



ROUTER CONFIG

```

Router0
Physical Config CLI
IOS Command Line Interface

Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet1/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#no shutdown

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

Router(config-if)#ip helper 10.0.0.1
Router(config-if)#exit
Router(config)#
Router(config)#interface fastethernet0/0
Router(config-if)#ip helper 10.0.0.1
Router(config-if)#exit
Router(config)#
Router(config)#

```

DNS SERVER CONFIG

PING COMMAND

```

Command Prompt

Packet Tracer PC Command Line 1.0
PC>ping 20.0.0.3

Pinging 20.0.0.3 with 32 bytes of data:

Reply from 20.0.0.3: bytes=32 time=0ms TTL=128
Reply from 20.0.0.3: bytes=32 time=1ms TTL=128
Reply from 20.0.0.3: bytes=32 time=0ms TTL=128
Reply from 20.0.0.3: bytes=32 time=0ms TTL=128

Ping statistics for 20.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>

```

Adding website name and address

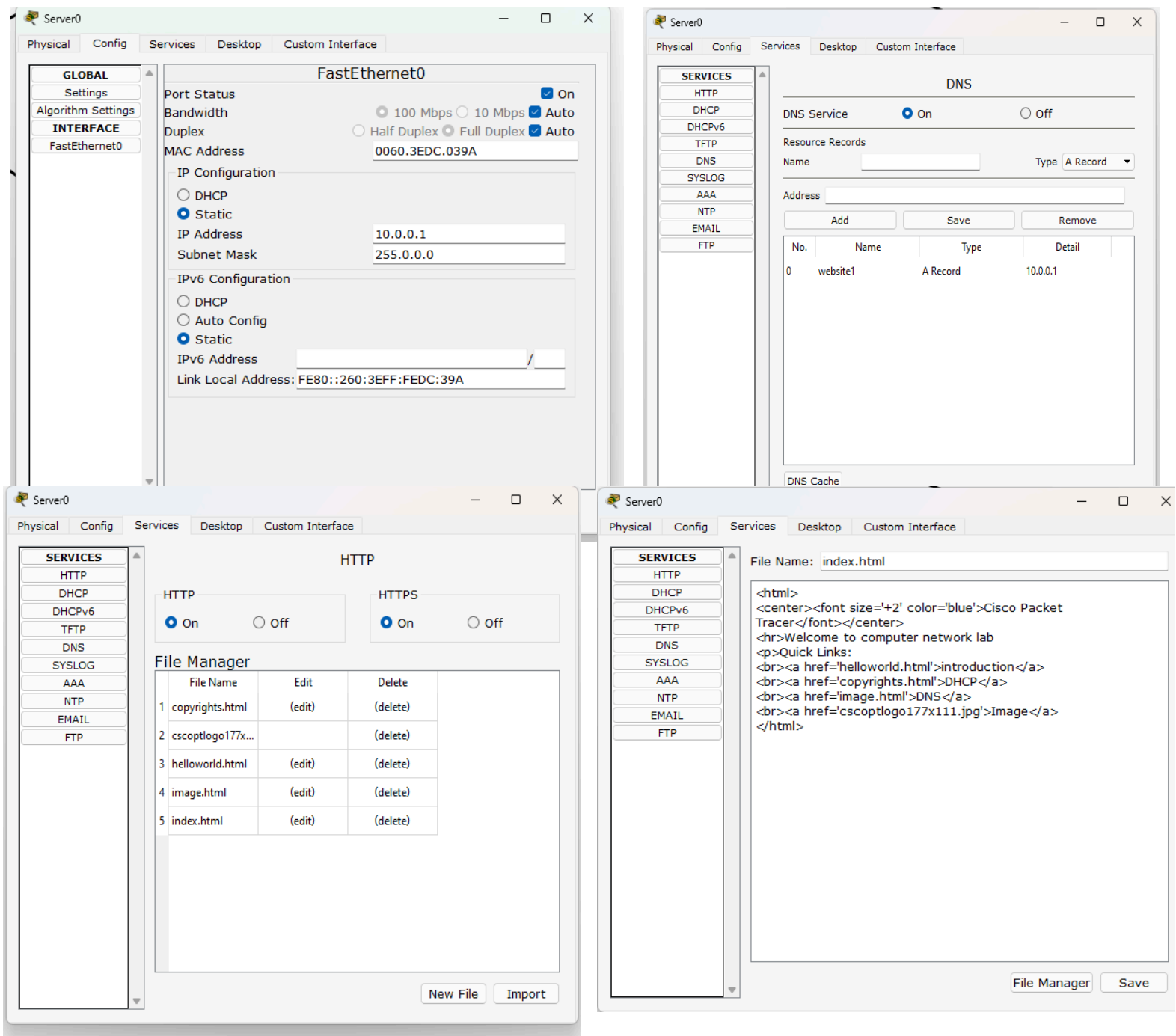


Fig: Accessing and changing index.html

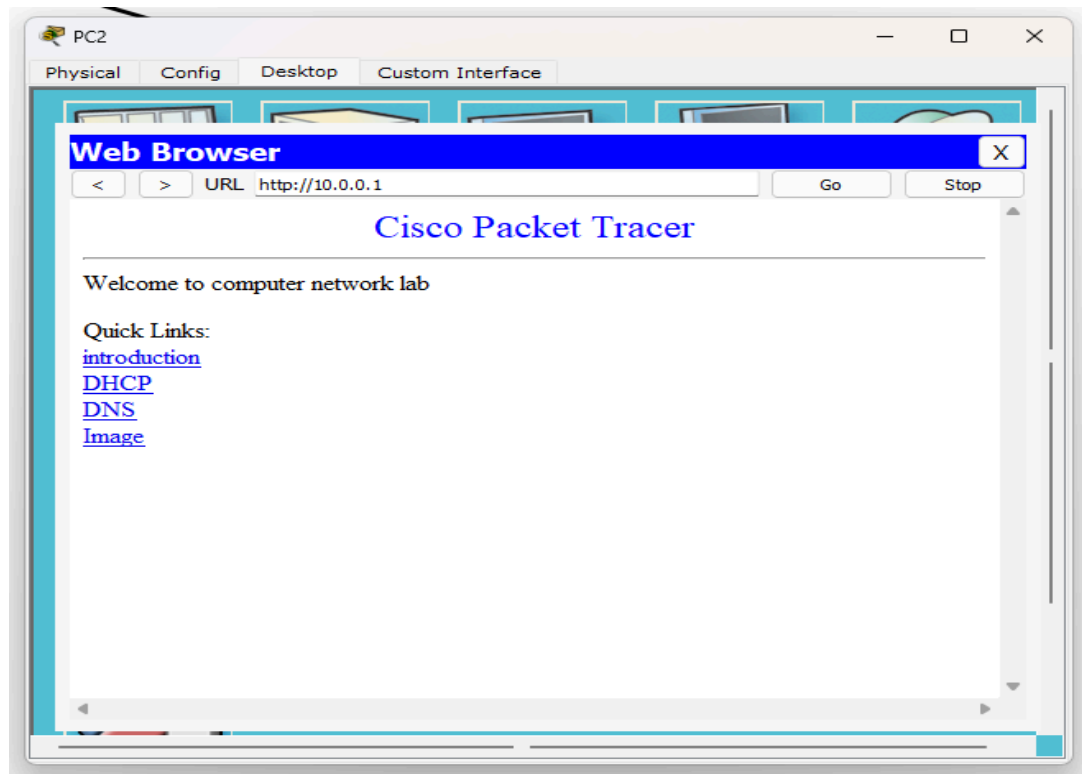


Fig : webBrowser output