

Program 5

Aim: Configure DHCP within a LAN and outside LAN.

Topology , Procedure and Observation:

Lab-5

DHCP

Aim:- Configure DHCP within a LAN & outside LAN

① within LAN.

Topology

```
graph LR; Server[SERVER  
10.0.0.1] --- Switch[SWITCH]; Switch --- PC1[10.0.0.4]; Switch --- PC2[10.0.0.2]; Switch --- PC3[10.0.0.3];
```

Procedure

1. Choose a generic server, a switch, 2 PC and a laptop, connect them to switch using auto cable
2. Click on server → Desktop → IP Config → Static
Set IP address as 10.0.0.1 & def gateway 10.0.0.2
3. Again configure the server PT by
config → services → DHCP
service → on, pool name: switch on,
def gateway: 10.0.0.2
max no of user = 100
start IP → 10.0.0.3
click Add

2. For each PC \rightarrow go to config \rightarrow IP config
Change static IP address.

Observation

1. IP address was allocated dynamically.
2. Data was sent successfully among PC's when pinged.

Command

PC > ping 10.0.0.4

Pinging 10.0.0.4 with 32 byte of data:

Reply from 10.0.0.4: bytes=32 time=0ms

TTA=28

—|| —|| —||
—|| —|| —||
—|| —|| —||

~~ping statistics for 10.0.0.4~~

~~packets sent=6 received=6, loss=0% (0/6 lost)~~

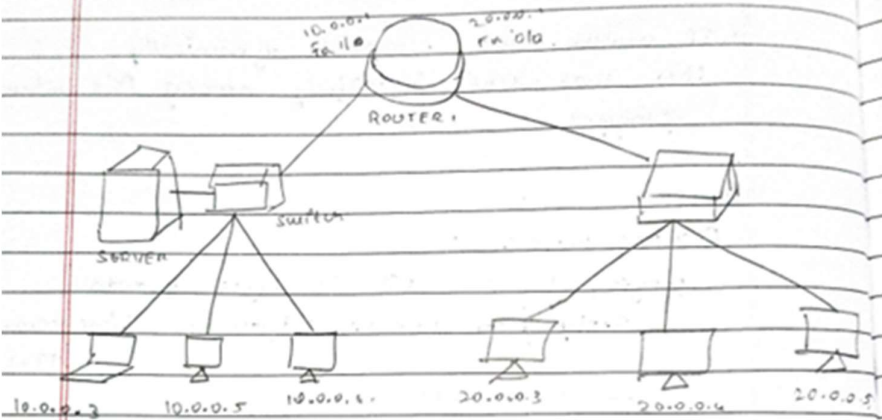
~~approximate round trip times in milliseconds~~

~~Minimum=0ms, Maximum=0ms, Avg=0ms~~

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outside LAN

Topology



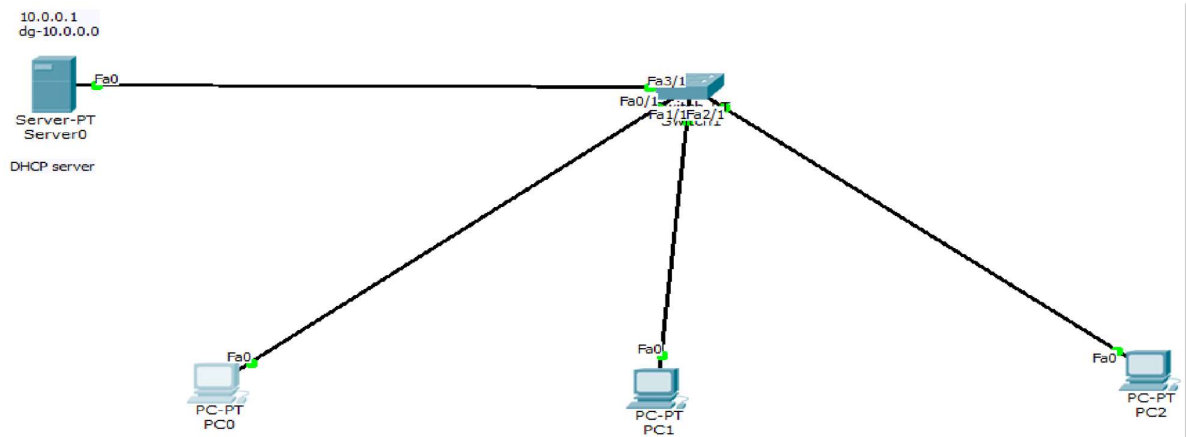
Procedure

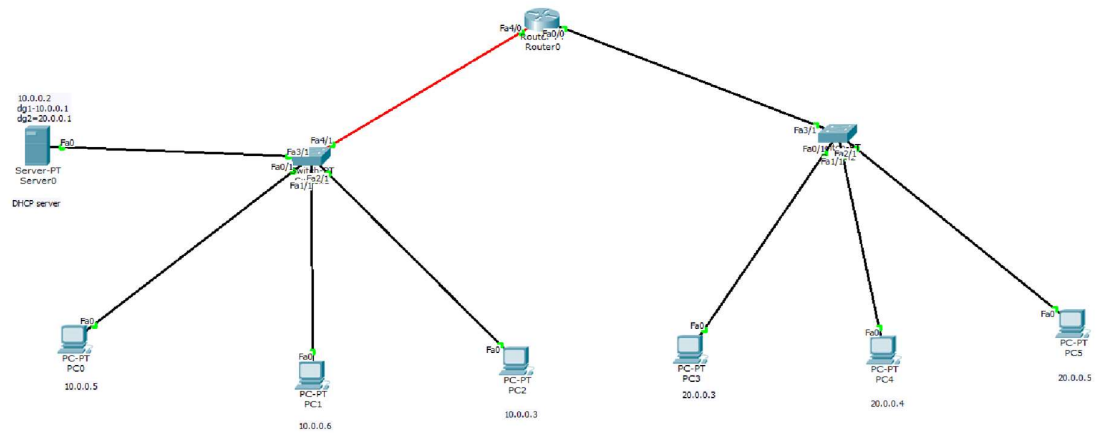
- ① In the existing server, with switch server, a laptop & 2 PC add a switch & add second network switch.
- ② In Server IP config, → static → IP address → 10.0.0.2
def gw → 10.0.0.1
- ③ In server, config → Server → DHCP → make the existing switch one → def gw → 10.0.0.1
ip range: 10.0.0.3
- ④ In server → DHCP → for switch 2,
poolname: switch two
def gw → 20.0.0.1
start IP → 20.0.0.3
end

⑤ Do the router configuration
 enable,
 config terminal
 interface FastEthernet 4/0
 ip address 10.0.0.1 255.0.0.0
 ip helper address 10.0.0.2
 no shut
 exit.

⑥ Now same for 2nd network as
 interface FastEthernet 0/0,
 ip address 20.0.0.1 255.0.0.0
 ip helper address 10.0.0.2
 no shut
 exit

Screen Shots:





PC0

Physical Config Desktop Custom Interface

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time=1ms 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

Ping statistics for 10.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>
```