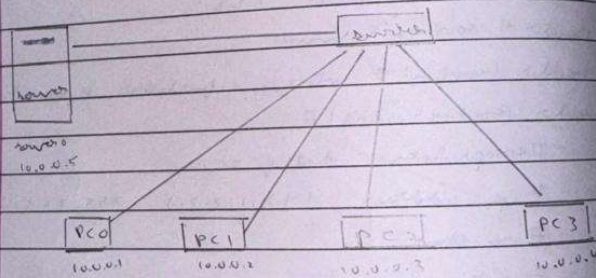


LAB-8

Aim
To configure a simple LAN and understand
the concept and operation of address resolution
protocol (ARP)

Devices used
Switch, Router, and Servers

Topology



Procedure

- (i) Create a topology of 4 PCs and a switch and switch as shown above
- (ii) Assign IP addresses as shown above
- (iii) Connect them through a switch
- (iv) Use the inspect tool to click on a PC
see the ARP table.
(the command in CLI for the same is "show ip arp")

(v) Initially
Switch
- show
every
hardware
address

(vi) Use the
show ip
arp

Also
The
the
start

- (v) Initially ARP table is empty. Also in C.T of switch, the command ~~show ip arp~~ ~~show ip address~~
- show mac address-table can be given as every transaction to see how the switch learns from transactions and builds the address table.

- (vi) We go capture button in simulation panel to go step by step to changes in the ARP table can be clearly seen.

Observations:

The source as well as the nodes update the ARP table when a new communication starts.

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Logical [Root] New Cluster Move Object Set Titled Background

ARP Table for PC0

IP Address	Hardware Address	Interface
10.0.0.2	0003.E490.6097	FastEthernet0

ARP Table for PC1

IP Address	Hardware Address	Interface
10.0.0.1	0004.9A10.2391	FastEthernet0

ARP Table for PC2

IP Address	Hardware Address	Interface
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ARP Table for Server0

IP Address	Hardware Address	Interface
------------	------------------	-----------

Switch0

IOS Command Line Interface

```

Switch>show mac address-table
          Mac Address Table
-----
VLAN    Mac Address      Type        Ports
----    -
1       0003.e490.6097   DYNAMIC     Fa0/1
1       0004.9a10.2391   DYNAMIC     Fa0/1
1       0004.41b0.b710   DYNAMIC     Fa3/1
Switch>

```

Simulation Panel

Vis.	Time(sec)	Last Device	At Device
0.003	...	PC1	Switch0
0.004	...	Switch0	PC0
0.005	...	PC0	Switch0
0.006	...	Switch0	PC1
0.007	...	PC1	Switch0
0.008	...	Switch0	PC0
0.172	...	Switch0	...

Reset Simulation Constant Delay Captured to 0.172

PC1

Physical Config Desktop Custom Interface

Command Prompt

```

Packet Tracer PC Command Line 1.0
PC>arp -a
No ARP Entries Found
PC>

```