

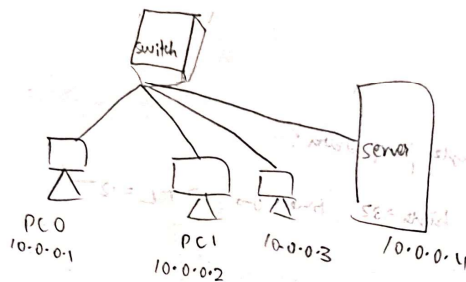
## Program 10

**Aim:** To construct simple LAN and understand the concept and operation of Address Resolution Protocol (ARP)

### **Topology , Procedure and Observation:**

18/12/24. Exp 10  
To construct simple LAN and understand concept of Address Resolution Protocol (ARP)

#### Topology :



#### Procedure

- Create topology of 3 PC's, a server & a switch.
- assign IP address to PC's.
- Use the expert tool to click on a PC to see the ARP Table.
- Command in CLI for the same is arp-a.
- Initially ARP Table is empty.
- ~~Also~~ In CLI of switch, the command - show mac address-table is given on every transition to see how the switch learns from them & build the address-table.
- capture packet in simulation panel to see change in ARP.

#### Observation:

- Switch as well as nodes update the ARP table as & when a new communication starts.

#### Output:

Result: show mac address.

Vlan	MacAddress	Type	Ports
1	000c00000000	DYNAMIC	Eth 6/11
1	000970d2a20a	DYNAMIC	Fa3/1

## Screen Shots:

The screenshot displays a network simulation environment with a central switch (Switch0) connected to three PCs (PC0, PC1, PC2) and a Server-PT (Server0). The interface includes several panels:

- 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
10.0.0.3	0005.41B0.B710	FastEthernet0
- ARP Table for Server0:**

IP Address	Hardware Address	Interface
10.0.0.4	0006.41B0.B710	FastEthernet0
- Switch0 CLI:**

```
Switch0>show mac address-table
Mac Address Table
-----
Vlan    Mac Address      Type      Ports
----    -
1       0003.e490.6097   DYNAMIC   Fa1/1
1       0004.9a10.2391   DYNAMIC   Fa0/1
1       0005.41b0.b710   DYNAMIC   Fa3/1
```
- Event List:**

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

