

## WEEK 8

To construct a simple LAN and understand the concept and operation of Address Resolution Protocol (ARP).

### OBSERVATION:

3/08/23

LAB-8

AIM:

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

TOPOLOGY:-

PC-PT  
PC0  
10.0.0.1

PC-PT  
PC1  
10.0.0.2

PC-PT  
PC2  
10.0.0.3

PC-PT  
PC3  
10.0.0.4

PROCEDURE

- Create a topology of PCs & a server.
- Assign an IP address to all PCs and server.
- Connect them through the switch.
- Use the inspect tool to click on a PC to see ARP table.
- Command in cmd for the same is arp-a.
- Initially ARP table is empty.
- Also in CLI of switch, the command - show mac address-table can be given on every transaction to see how the switch learns from transactions & build the address table.

- Use the capture button in the simulation panel to step by step so that the changes in ARP can be noted.

### PING OUTPUT

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=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 milliseconds.

Minimum = 0ms ; Maximum = 0ms ; Average = 0ms

PC> arp -a

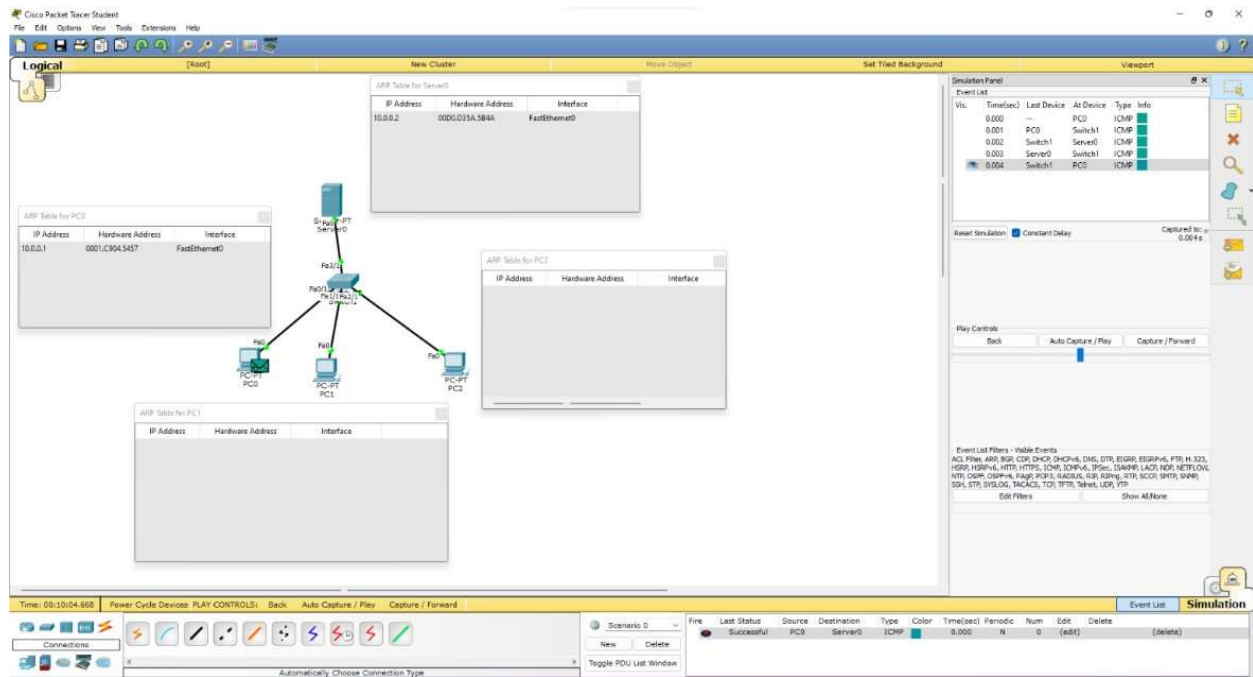
Internet address	Physical Address	Type
10.0.0.4	0060.2fa0.324d	Dynamic

### OBSERVATION

- When we ping 1 PC and server the address of server is known to PC & vice versa.
- When we ping between other two PC's simultaneously the address of each other are known.
- Every time a host requests a MAC address in order to send a packet to another host in the LAN, it checks its ARP cache to see if the IP to MAC address translation address already exists. If the translation doesn't exist it performs ARP.

11/10/2023

## TOPOLOGY:



## OUTPUT:

