


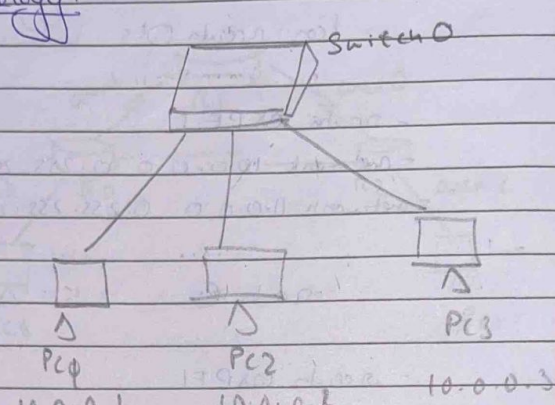
EXPERIMENT-8

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


 Date : _____
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① Aim : To construct a lan and understand the concept and operation of Address Resolution Protocol

Topology :



```

graph TD
    Switch[Switch] --- PC1[PC1]
    Switch --- PC2[PC2]
    Switch --- PC3[PC3]
    PC1 --- IP1[10.0.0.1]
    PC2 --- IP2[10.0.0.2]
    PC3 --- IP3[10.0.0.3]
  
```

Configure IP -

PC0 (CMD)

- ip -a
- Ping - 10.0.0.2
- arp -a
- arp -d.

Output :

arp -a

No ARP entry found

Ping 10.0.0.2

Reply from 10.0.0.2 bytes = 32 time 0ms TTL=128

" " " "

arp -a

Internet address	Physical address	Type
10.0.0.2	000c-1b15-9f20	Dynamic

TOPOLOGY & OUTPUT

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport

ARP Table for PC0

IP Address	Hardware Address	Interface
10.0.0.2	000C.8566.E0...	FastEthernet0
10.0.0.3	0090.21BC.4006	FastEthernet0
10.0.0.4	00E0.B048.BCC3	FastEthernet0

ARP Table for PC3

IP Address	Hardware Address	Interface
10.0.0.1	0090.21CE.43D7	FastEthernet0

ARP Table for Server0

IP Address	Hardware Address	Interface
10.0.0.1	0090.21CE.43D7	FastEthernet0

ARP Table for PC2

IP Address	Hardware Address	Interface
10.0.0.1	0090.21CE.43D7	FastEthernet0

ARP Table for PC1

IP Address	Hardware Address	Interface
10.0.0.1	0090.21CE.43D7	FastEthernet0

Simulation Panel

Vis.	Time(sec)	Last De	At Dev	Type	Info
	0.016	Switch0	Server...	ARP	
	0.016	Switch0	PC1	ARP	
	0.016	Switch0	PC2	ARP	
	0.016	Switch0	PC3	ARP	
	0.017	Server0	Switch...	ARP	

Reset Simulation ☒ Constant Delay Captured to: 0.017 s

Switch0

Physical Config CLI

IOS Command Line Interface

```

$LINEPROTO-5-UPDOWN: Line protocol on Interface
Ethernet6/1, changed state to up

Switch>show mac address-table
Mac Address Table
-----
Vlan    Mac Address      Type      Ports
----    -
1       000c.8566.e0dc   DYNAMIC   Fa2/1
1       0090.21bc.4006   DYNAMIC   Fa3/1
1       0090.21ce.43d7   DYNAMIC   Fa1/1
1       00e0.b048.bcc3   DYNAMIC   Eth6/1
1       00e0.f78b.ac89   DYNAMIC   Fa0/1
Switch>

```

Time: 00:05:08.650 Power Cycle Devices PLAY CONTROLS: Back Auto Capture / Play Capture / Forward

Connections

Scenario 0

New Delete

Toggle PDU List Window

Fire	Last Sta	Source	Destination	Protocol	Port	Count	Direction	Details
Successful	PC0	PC3	IC...		0.000	N	0	(ed... (delete)
Successful	PC0	PC1	IC...		0.007	N	1	(ed... (delete)
Successful	PC0	PC2	IC...		0.007	N	2	(ed... (delete)

Automatically Choose Connection Type