

To construct simple LAN and Understand the concept and operation of ARP.

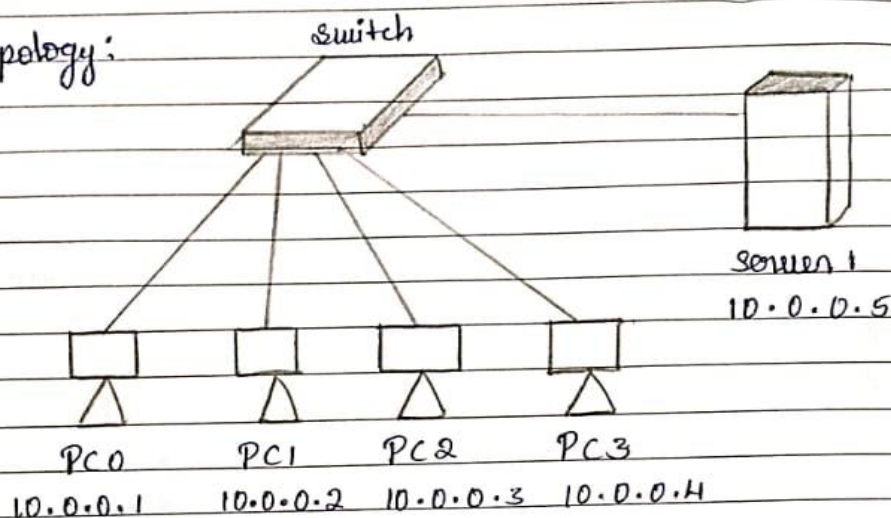
LAB-08

18/12/2024

1) To Construct the Simple LAN & understand the Concept and operation of Address Resolution Protocol.

AIM: Construct the Simple LAN & understand the Concept & operation of Address Resolution Protocol.

Topology:



ARP tables:

ARP table for PC0		
IP Address	Hardware Address	Interface
10.0.0.4	0009.7C82A2...	FastEthernet 0

ARP table for PC1		
IP Address	Hardware Address	Interface
10.0.0.1	00E0.8F8C.76...	FastEthernet 0
10.0.0.5	0000.0CAB.B0--	FastEthernet 0

ARP table for PC2		
IP Address	Hardware Address	Interface
10.0.0.4	0009.7C82.A25A	FastEthernet 0

- This is done by adding an additional header information called tag to the Ethernet frame. The process of adding this small header is called VLAN tagging.
- 8) hook into the interfaces of the switches with the 2 NEW VLAN Systems.
- This makes the switch understand NEW VLAN.
 - Next the router is to understand the NEW VLAN
- 9) ~~9~~ Config tab of router select VLAN DATABASE enter the number & name of the Vlan created.

Go to CLI, & Run the following

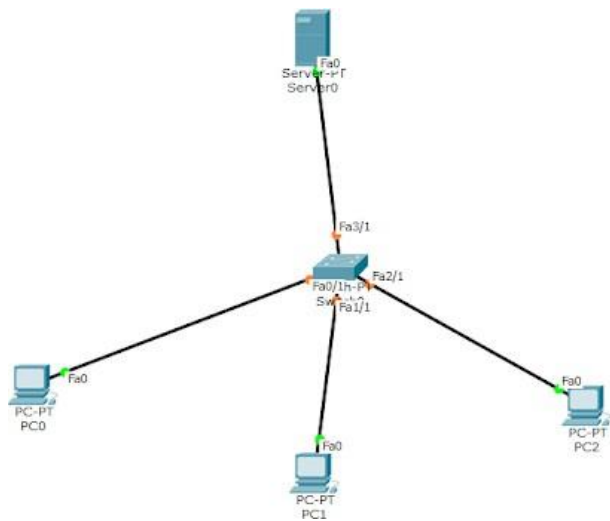
- Config t
- interface fastEthernet 0/0.1
- encapsulation dot1q 2
- ip address 192.168.2.1 255.255.255.0
- no shut
- exit

Observation:

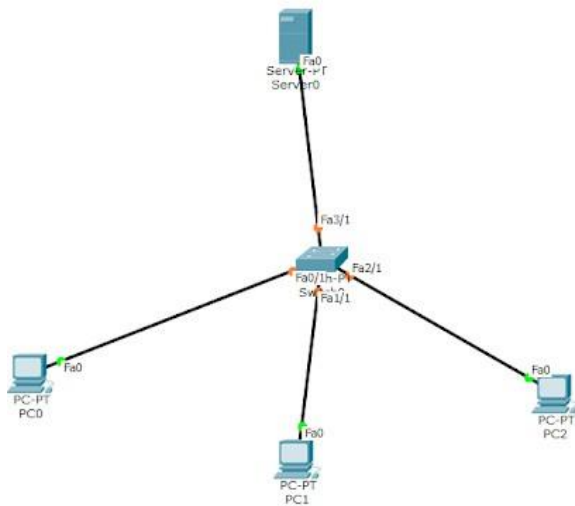
- 1) VLANs are used to logically segment a network, devices in the same VLAN to communicate directly while isolating traffic from other VLAN'S.
- 2) Switches must be configured to create VLAN'S, assign VLAN IDS, & allocate ports to specific VLAN'S.

① ~~12/12/24~~

TOPOLOGY:



OUTPUT:



ARP Table for PC0

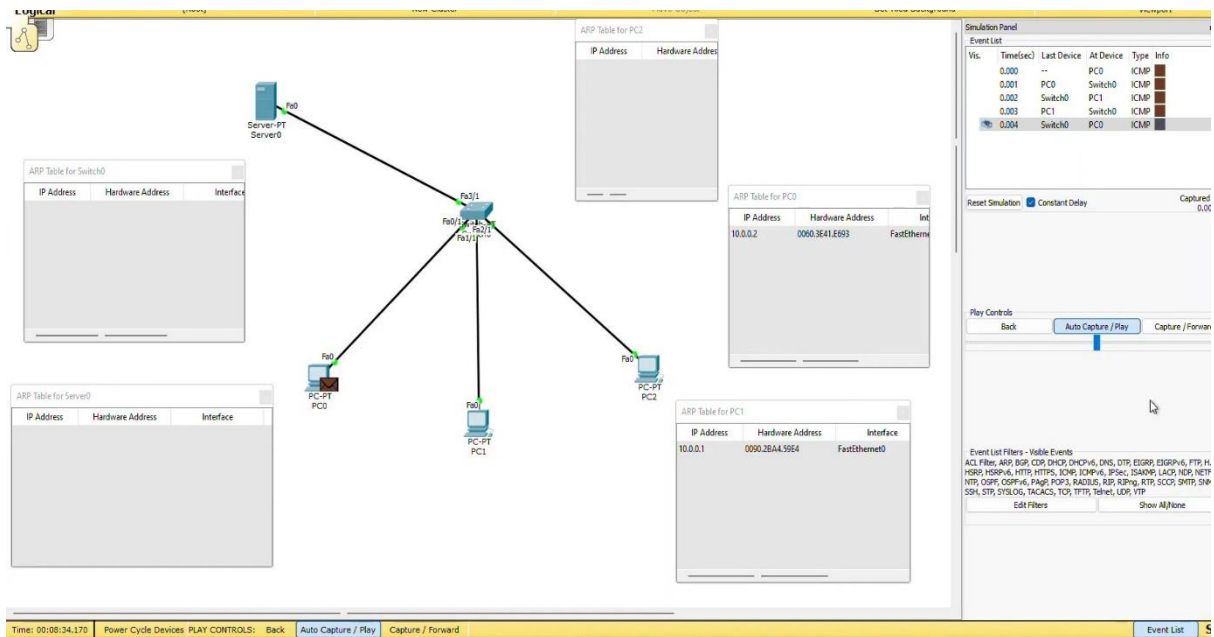
IP Address	Hardware Address	Interface
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PC1

Physical Config Desktop Custom Interface

Command Prompt

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



Switch0

Physical Config CLI

IOS Command Line Interface

```

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet2/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet3/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet3/1, changed state to up

Switch>show mac address-table
      Mac Address Table
-----
Vlan    Mac Address      Type      Ports
----    -
1       000a.41e0.130b   DYNAMIC   Fa0/1
1       0060.47e1.1058   DYNAMIC   Fa1/1
1       00d0.d337.698e   DYNAMIC   Fa2/1

Switch>show mac address-table
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Switch>
  
```

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