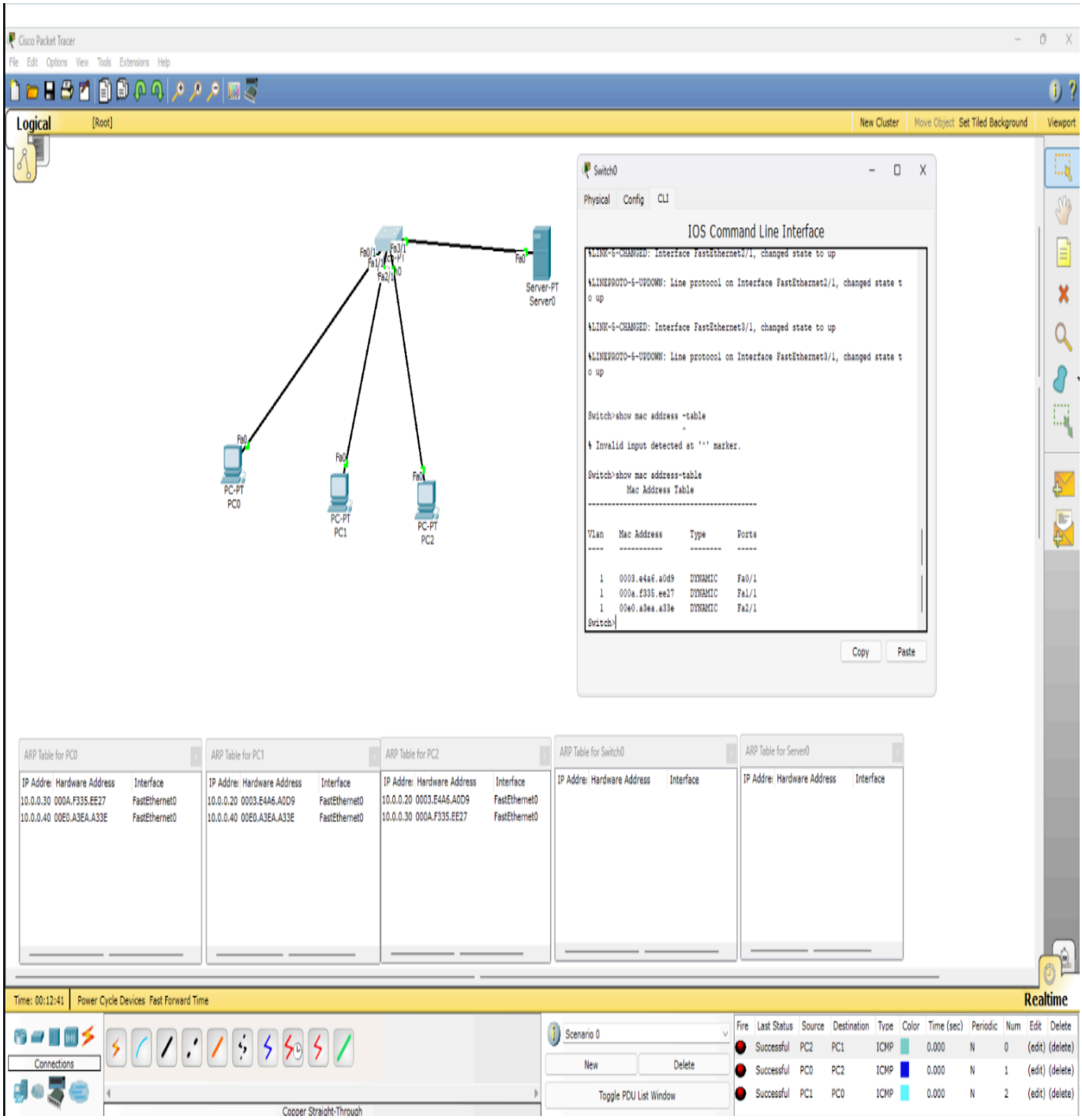
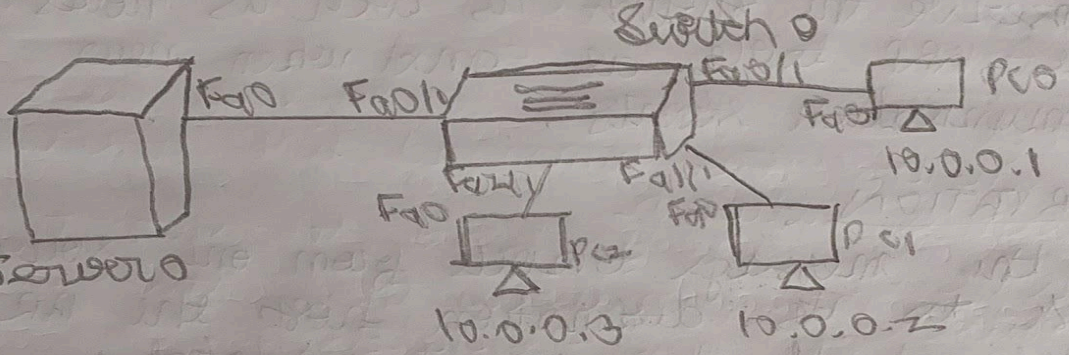

Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Switch0
Physical
Config
CLI
IOS Command Line Interface
%LINK-5-CHANGED: Interface FastEthernet2/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface 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
% Invalid input detected at '^' marker.
Switch>show mac address-table
Mac Address Table
Vlan Mac Address Type Ports
1 0003.e4a6.a0d9 DYNAMIC Fa0/1
1 000a.f335.ee27 DYNAMIC Fa1/1
1 00e0.a3ea.a33e DYNAMIC Fa2/1
Switch>
Copy
Paste
PC-PT PC0
PC-PT PC1
PC-PT PC2
Server-PT Server0
ARP Table for PC0
ARP Table for PC1
ARP Table for PC2
ARP Table for Switch0
ARP Table for Server0
Time: 00:12:41
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Copper Straight-Through
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time (sec) Periodic Num Edit Delete
Successful PC2 PC1 ICMP 0.000 N 0 (edit) (delete)
Successful PC0 PC2 ICMP 0.000 N 1 (edit) (delete)
Successful PC1 PC0 ICMP 0.000 N 2 (edit) (delete)

EXPERIMENT 8 - To construct a simple LAN and understand concept and operation of ARP

M: Construct a simple LAN simulate operation of Address Resolution Protocol

TOPOLOGY



1) Switch connected to 3 PCs and a server via three fastethernet interfaces and one ethernet interface
2) All connections made via copper straight-through cable

PROCEDURE:

1) Open cisco packet tracer and drag the following switch. PC: Place 3 PCs each connected to switch 0 and server: Place 1 server and connect it to switch 0
2) Assign an IP address and subnet mask to all the devices then connect them via a switch.
3) Use the inspect tool to click on a PC to view ARP table.
4) Display the ARP table of the devices
5) Initially ARP is empty for all

6) Also in CLI of switch, the command = show mac address table can be given on every transaction to see how switch learns from transactions and build the address table

7) Use the capture button in the simulation panel to go step by step so that changes in ARP can be clearly noted.

8) Observe the switch as well as nodes update the ARP table as and when new communication starts.

OBSERVATION:

* As the message travels from one source host to its destination host the ARP tables of all devices get updated.

ARP maps an IP address to a MAC address to process communication within a local network

ARP table for PC0 (source)

IP address	Hardware address	Interface
10.0.0.3	0060.2F24.2CBB	FastEthernet

ARP table for PC2 (destination)

IP address	Hardware Address	Interface
10.0.0.1	0000.0302.960B	FastEthernet

NP
24/12/24