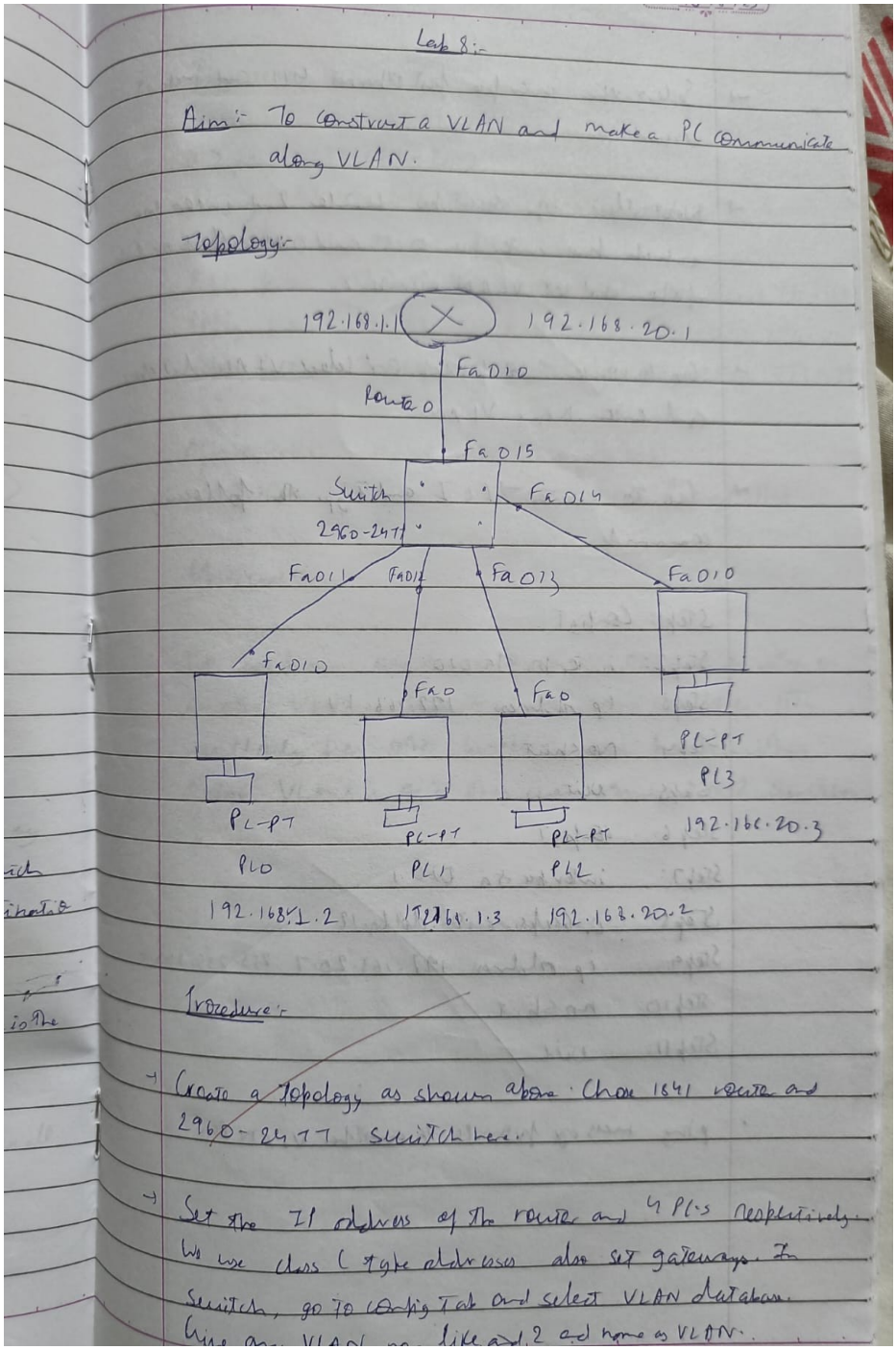
WEEK 8

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

OBSERVATION:



→ Select the interface fast ethernet 4/1 and make it trunk.

→ Next select the switches under 2nd interface which has interface 0/3 and 0/4. Click on each of them and set VLAN number 2.

→ Go to router → Config Tab and select VLAN database and enter name VLAN.

→ Go to router → CLI and type the following commands.

Step1: Config T
Step2: interface fa 0/0
Step3: ip address 192.168.1.1
Step4: No shut
Step5: exit
Step6: Config T
Step7: interface fa 0/0.1
Step8: encapsulation dot1q 12
Step9: ip address 192.168.20.7 255.255.255.0
Step10: no shut
Step11: exit

- ping message from PC to another VLAN PC.

Page:
Date: / /

Ping output:

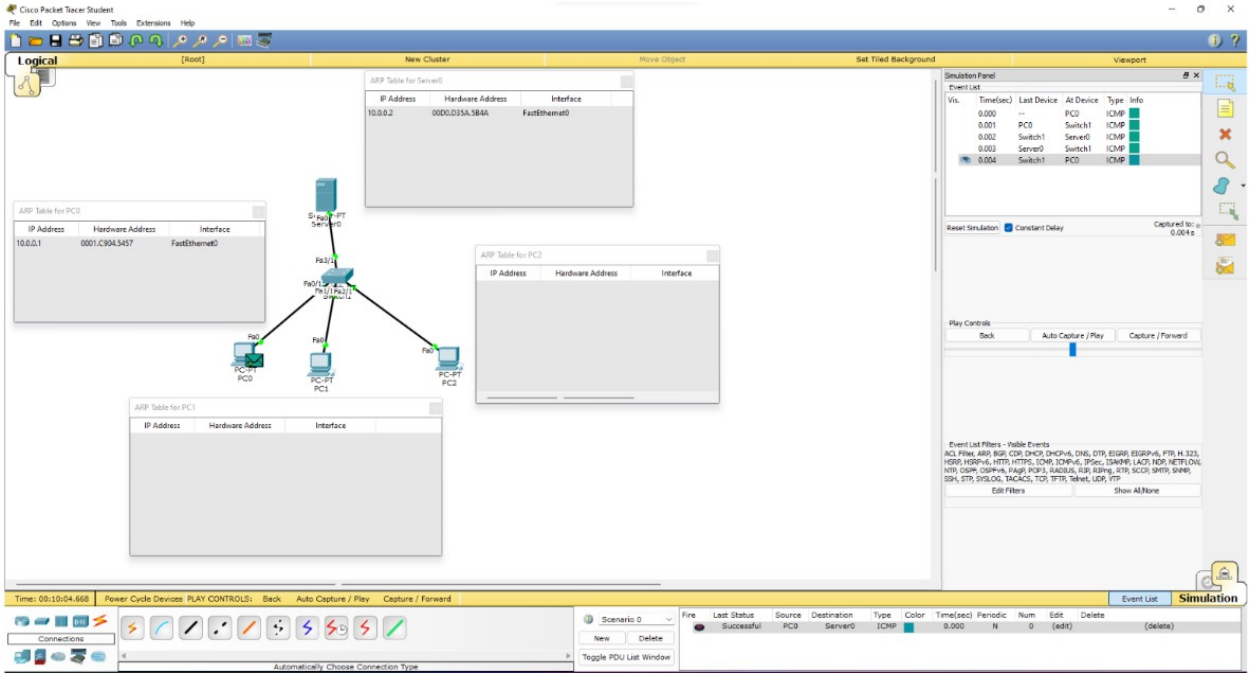
PC > ping 192.168.20.3
Pinging 192.168.20.3 with 32 bytes of data
Request timed out
Reply from 192.168.20.3: bytes = 32 time = 0ms TTL = 127
Reply from 192.168.20.3: bytes = 32 time = 0ms TTL = 127
Reply from 192.168.20.3: bytes = 32 time = 0ms TTL = 127

Approximate round Trip times in ms:
Minimum: 0ms, Maximum: 5ms, Average: 1ms

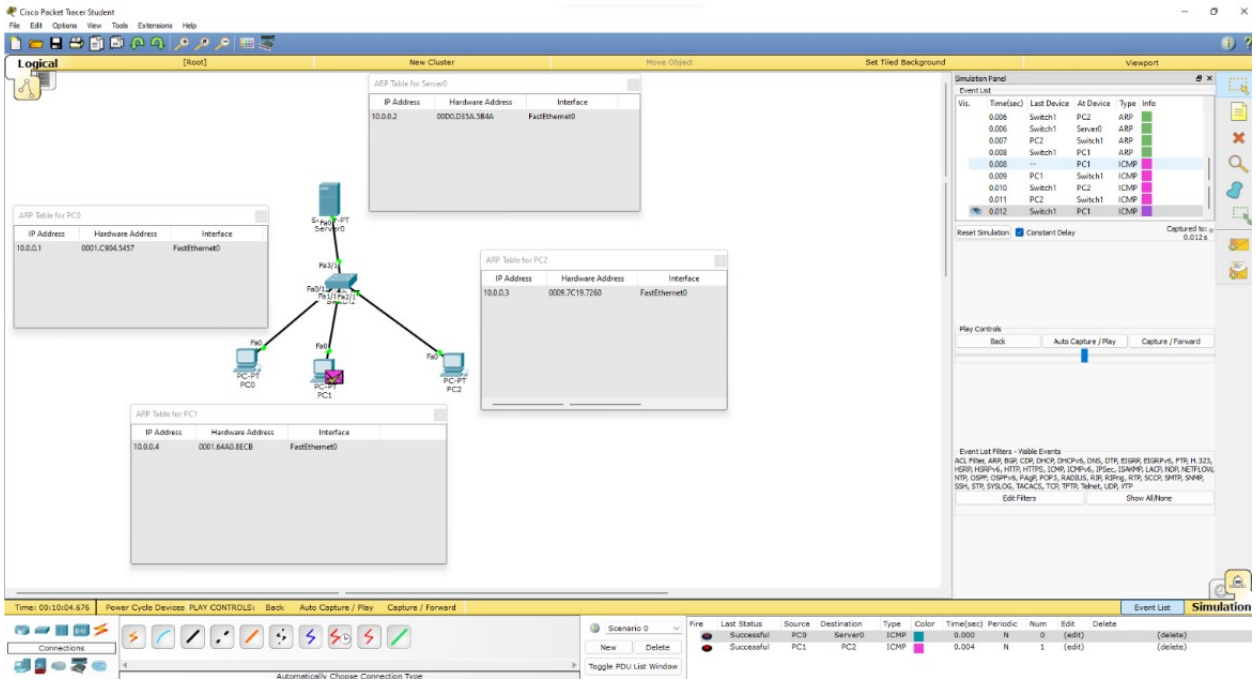
Observation:

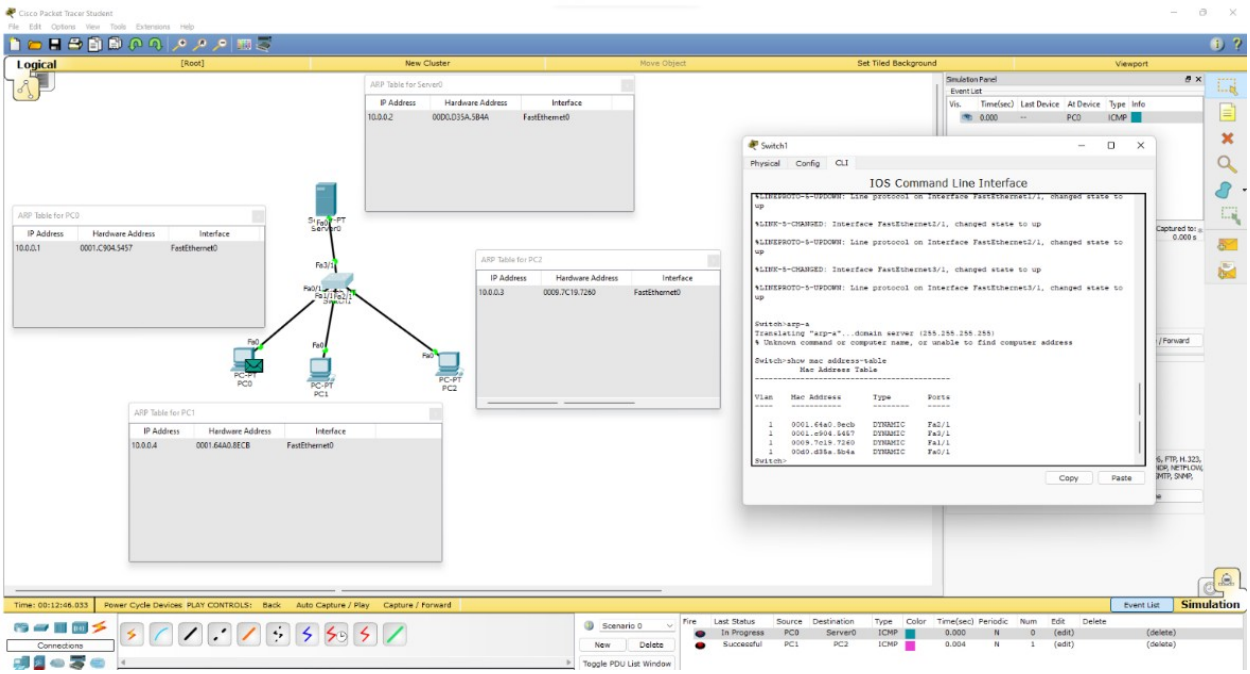
We can have one device on one VLAN and another on another VLAN connected to the same switch. They will only hear other broadcast traffic from within their VLANs, as if they were connected to 2 switches.

TOPOLOGY:



OUTPUT:




Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
ARP Table for Server0
IP Address
Hardware Address
Interface
10.0.0.2
00D0.D35A.5B4A
FastEthernet0
ARP Table for PC0
10.0.0.1
0001.C904.5457
ARP Table for PC2
10.0.0.3
0009.7C19.7260
ARP Table for PC1
10.0.0.4
0001.64A0.8ECB
Switch1
Physical
Config
CLI
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/1, changed state to up
%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>arp-a
Translating "arp-a"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address
Switch>show mac address-table
Mac Address Table
Vlan Mac Address Type Ports
1 0001.64a0.8ecb DYNAMIC Fa2/1
1 0001.c904.5457 DYNAMIC Fa3/1
1 0069.7c19.7260 DYNAMIC Fa1/1
1 00d0.d35a.5b4a DYNAMIC Fa0/1
Switch>
Copy
Paste
Simulation Panel
Event List
Vis.
Time(sec)
Last Device
At Device
Type
Info
0.000
PC0
ICMP
Time: 00:12:46.033
Power Cycle Devices
PLAY CONTROLS:
Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
In Progress
PC0
Server0
ICMP
0.000
N
0
(edit)
(delete)
Successful
PC1
PC2
ICMP
0.004
N
1
(edit)
(delete)