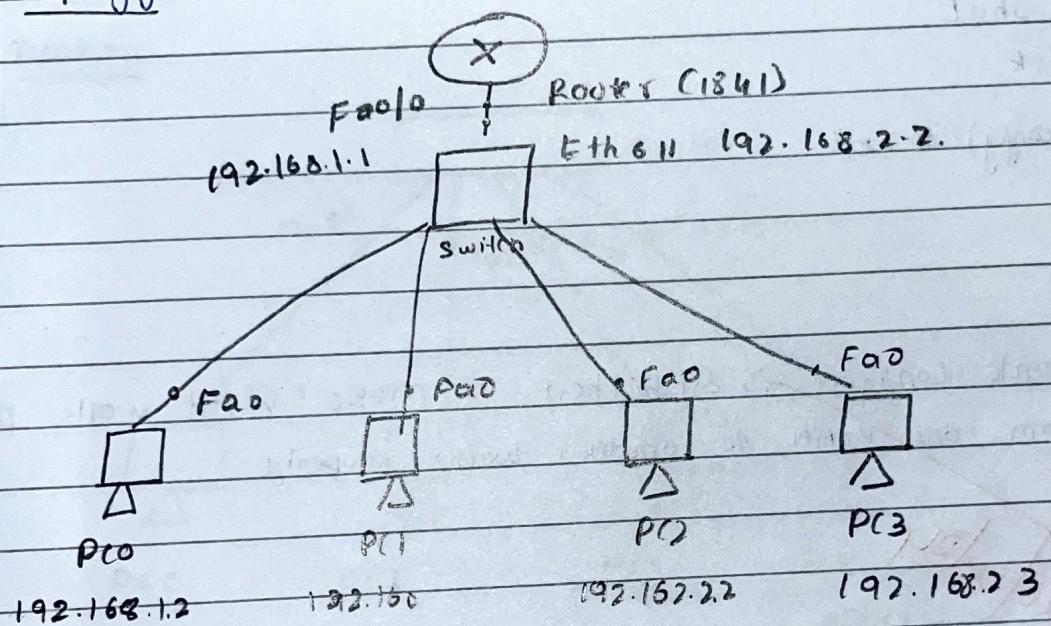


18/12/2024

ARP VLAN

Aim: To construct a VLAN & make the PC's communicate among a VLAN

Topology:



Procedure

- 1 Create the topology show above.
- 2 Place 1841 router
- 3 Assign IP to all
- 4 Go to the switch, choose VLAN database to configure the VLAN, write VLAN number & VLAN name add it
- 5 Select the interface i.e Fast Ethernet (near the switch from router) & make it trunk.
~~CULAN trunking allows switcher to forced frames from different VLANs over a single link called trunk.~~
- 6 To make config tab of router, select VLAN database enter a number & name of VLAN created
Go to CLF
Router (VLAN) # exit

18/12/2024

Router # config

Router (config) # interface fastethernet 0/0

Router (config-subif) #

encapsulation dot1q 2

ip address 192.168.2.1 255.255.255.0

no shutdown

exit

Router (config) # exit

Observation

- proper trunk configuration is established to make VLAN work properly
- ping from one VLAN to another works properly

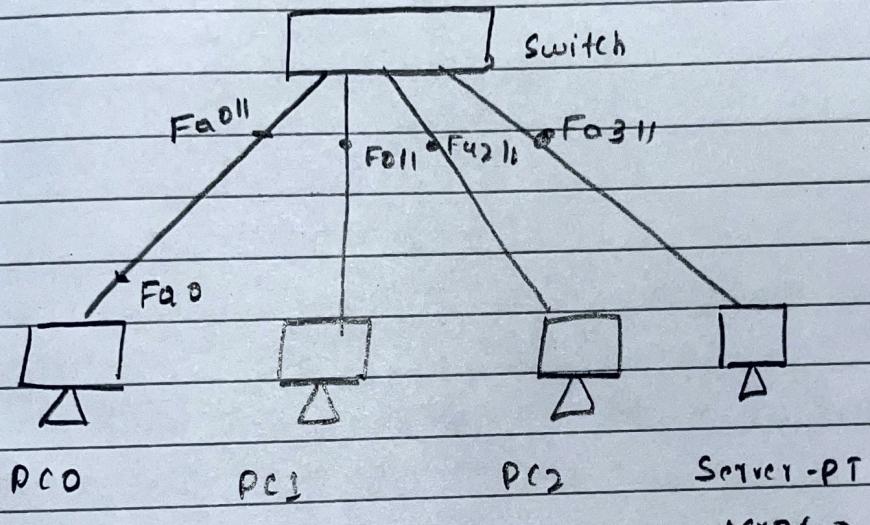
~~26/12/2024~~

13/12/2024

ARP

Aim: To construct simple LAN & understand the concept & operation of address Resolution protocol (ARP)

Topology



Procedure

1. Create a topology of 3 PC's & server & switch
2. Assign IP to all.
3. Connect them through a switch
4. Use the inspect tool to click on a PC to see the ARP table
Command in CLI for some if arp-a)
5. 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 transaction & build the address table)
6. Use the capture in the simulation panel to go step by step changes in ARP can clearly noted.

Observation

- Switch as well the nodes update the ARP table on and when new communication start

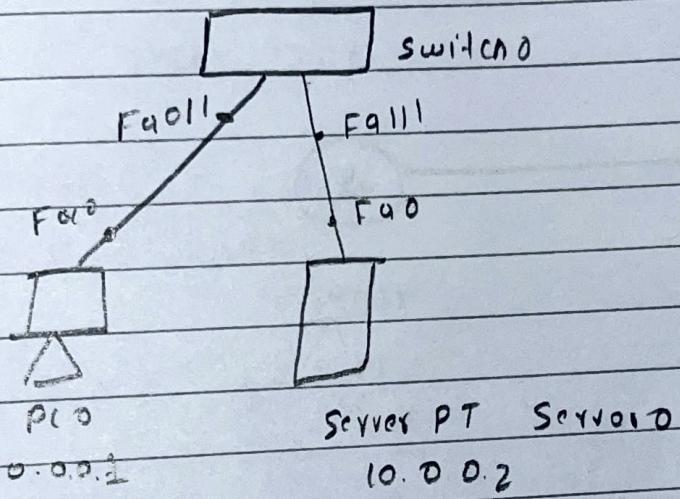
~~26/5/24~~

18/12/2024

DNS

Aim: To demonstrate WEB Server and DNS using packet traces

Topology



Procedure

1. Create the above topology using PC, Server & switch
2. Set the IP address of PC normally
3. To set IP of server, go to config, then select static method, set IP & make sure port station status is on.
4. Ping server from PC (ping is successful 0% loss)
5. Now to PC → desktop → webserver
6. In the virtual browser, type in the IP address of server & click
7. Now web page is visible

Observation

- Successfully accessed the server's web page from PC by Entering IP address
- created simple lan with PC, switch & server.

28/12/2024

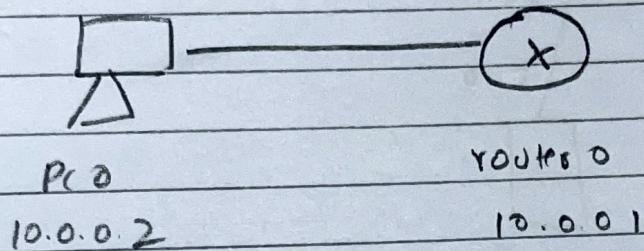
18/12/2029

TELNET

Aim!

To understand the operation of telnet by connecting to router from server room from a pc in a IT office

Topology



Procedure

1. Make simple topology shown above
 2. Command in router:
 - > Enable
 - # Config terminal
 - # hostname R1
 - # interface fast ethernet 0/0
 - # ip address 10.0.0.1 255.0.0.0
 - # no shutdown
 - # line vty 0 5
 - # login
 - # password po
 - # exit
 - > exit
- wr → to save changes

3. Command in PC

ping 10.0.0.1

ping result : (0% loss)

{ password for user access verification is Pa
{ password for Enable is Pa }

4 Accessing router CLI from PC

User access Verification

password!

R# > enable

password:

show ip route

Codes : C ...

D ...

N ...

E ...

area

A ...

P ...

Gateway of last resort is not set

Observation

→ The admin in pc is able to run commands on R1A in router CLI & see the result from PC.

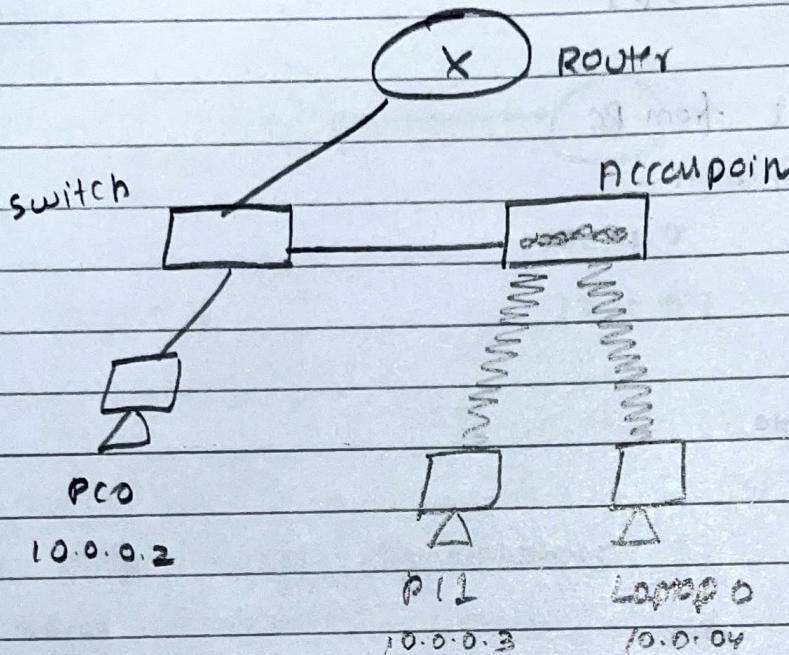
26/12/24

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WLAN

Aim: WLAN construction & make the nodes communicate wirelessly

Topology



Procedure

1. Construct the above topology
Configure PC0 & Router as normally done
2. Configure access points part 1 → SSID
home - any name (WLAN here)
3. Select WEP & give 10 digit hex key (1234567890) here
4. Configure PC1 & Laptop with wireless standards
5. In PC1
Switch off the devices, drag the Existing PT-HOST-NM-LAM to the component listed on the LHS. Drag WNP300N wireless interface to the empty part. Switch on PC
6. In the Config tab a new wireless interface would have been added. Now config SSID WEP WEP key IP address & gateway to the device

8-10

7. Do the similar in laptop
8. Ping from every device to every other to check the result

Observation

- Device could connect to WLAN as long as they are in the network range
- Signal strength decreases with increase in distance
- ping is successful

~~8.1
26/12/24~~