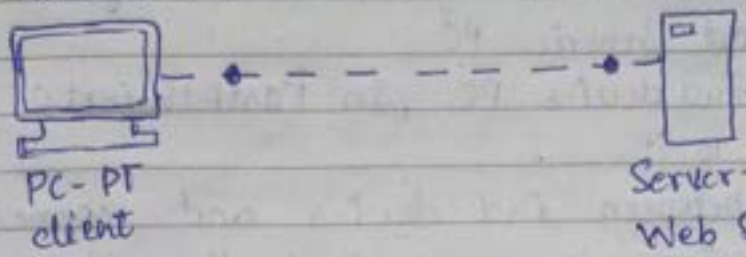
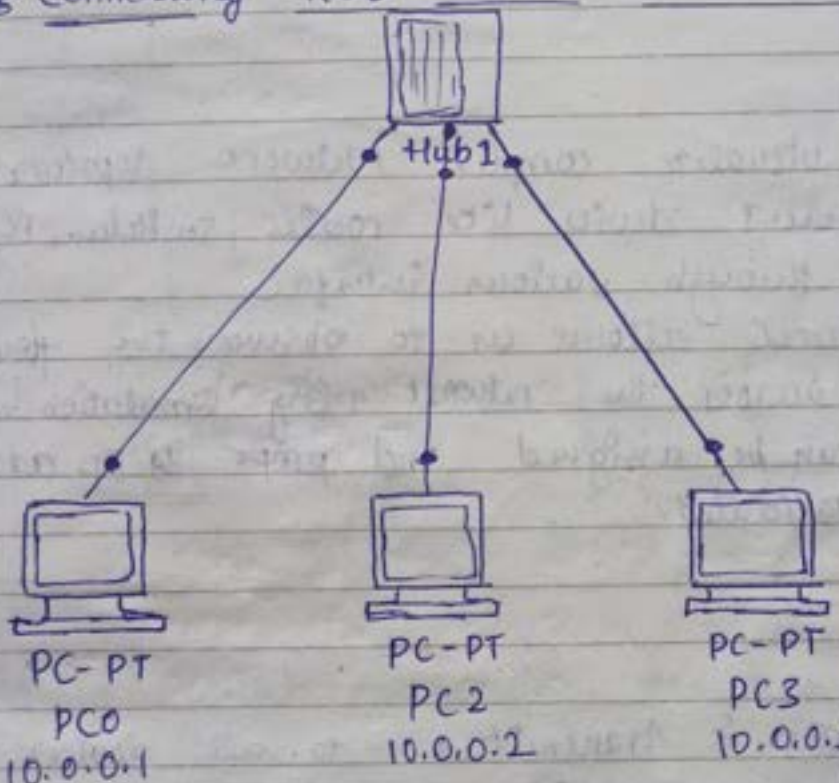
Computer Network Lab. Date

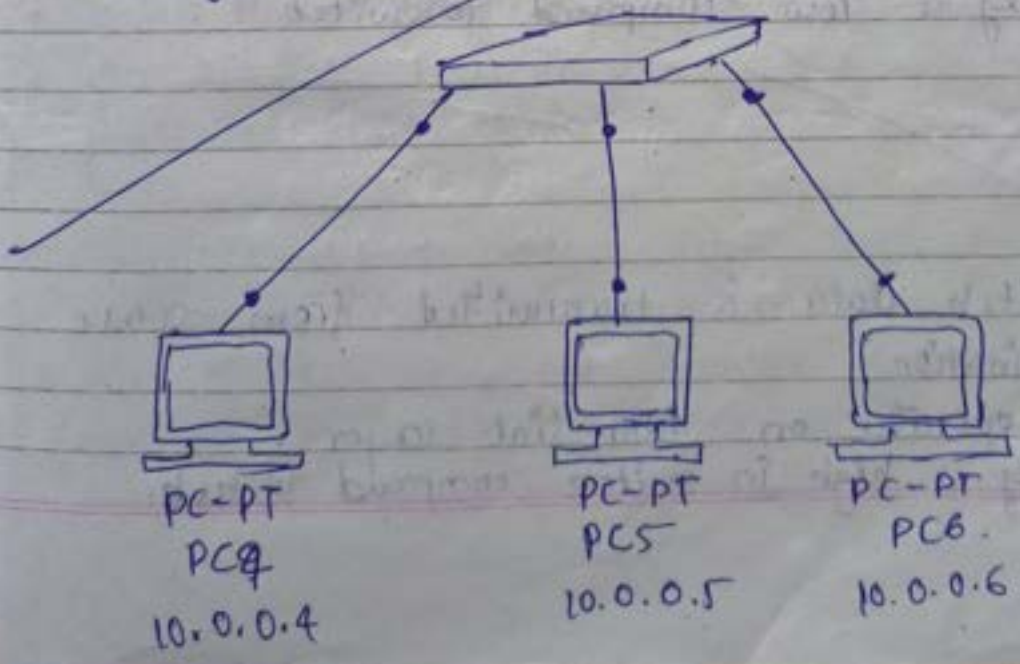
Aim: To explore and find difference between Hub and switch.



Connecting HUB with END Devices (PC)



Conneting Swith with Multiple End devices



Implementation:

* Creating a network by first selecting the End devices, Add Generic PC
* click on end devices PC, In FastEthernet0 add IP address to it.
* Connect between End devices and connecting devices using copper straight through

Observation:

* we can visualize complex network topology with different devices like router, switches, PC connected through various interface
* Packet tracer allows us to observe the flow of packet across the network using "Simulation mode"
* Subnets can be assigned and proper IP address can be validated.

Hub:

* In hub data is transmitted to all devices connecting from hub from source
* Hub operates on physical layer of OSI model
* Efficiency is low, compared to switch.

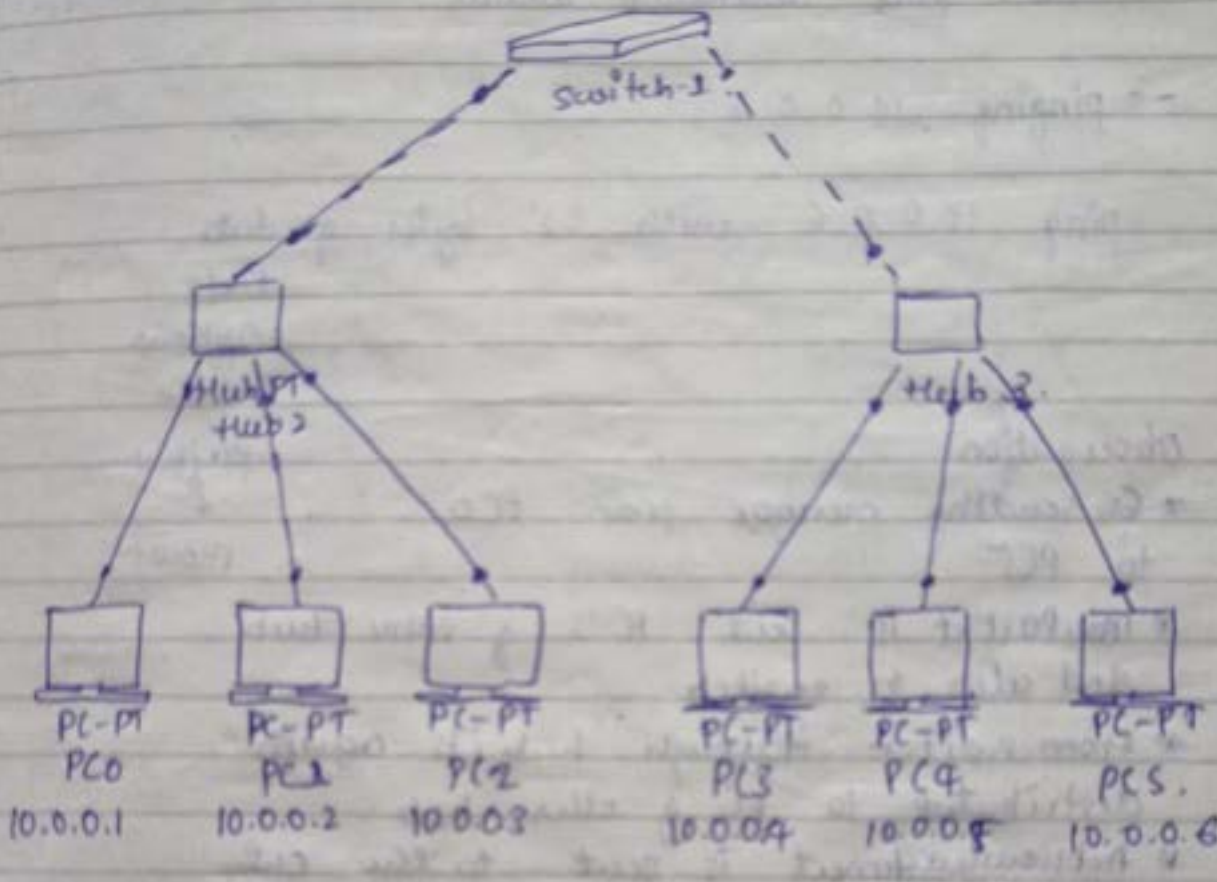
Switch:

* In switch data is transmitted from source to destination
* Switch operates on data link layer
* Efficiency is high in switch compared to hub.

LAB - 2

04/10/24.

Aim: Create a Topology involving multiple hubs and switch connecting them to simulate simple POV



* Add a switch connecting to two hubs through Copper cross-over wire
* For each hub add 3 end devices i.e generic PC
* Connect them using Copper straight-through wire
* Before connecting PC, configure the IP address of all the end devices.

* Simulate the message from the end devices of the same hub once
* Also simulate message transfer between the end devices of different hubs

Ping Command:

PC > ping destination address

→ pinging 10.0.0.6.

ping 10.0.0.6 with 32 byte of data.

Fado Options ↓ prefixes ↓ show

Observation

* Sending message from PC0 to PC5.
* Packet is sent PC's of same hub and also to switch
* From switch through hub it is again distributed to PC of other hub
* Acknowledgement is sent to the only hub where source end device is present

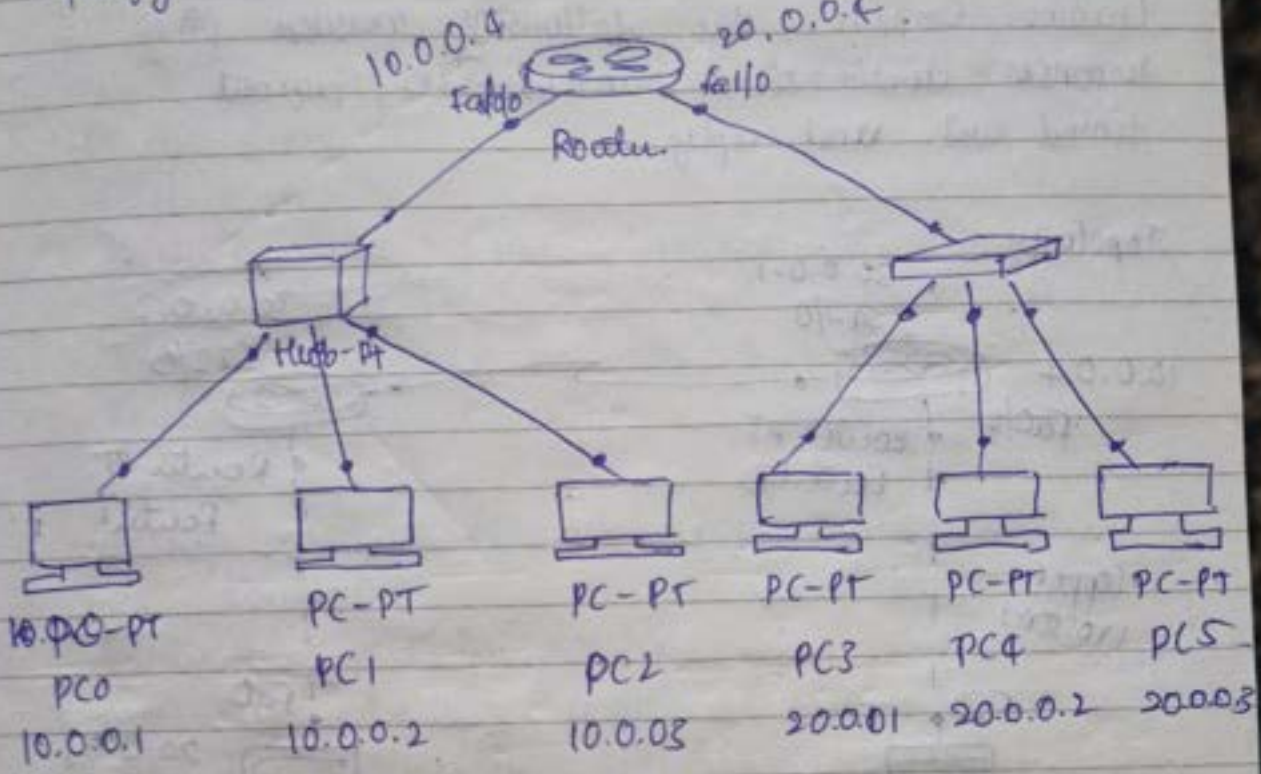
4/10/22

Date : 04/10/24.

Aim

AIM: Connecting and Configuring Router

Topology



Steps:

* Add a Hub and switch connecting to a Router.
* For Hub and switch add 3 pc for each And config IP for them as shown.
* For switch

click on switch → cli

→ type "no", double Enter.

Router > enable

Router # config t

Router (config) # interface fastethernet 0/0

Router (config-if) # ip address 10.0.0.4 255.0.0.0

Router (config-if) # no shutdown.

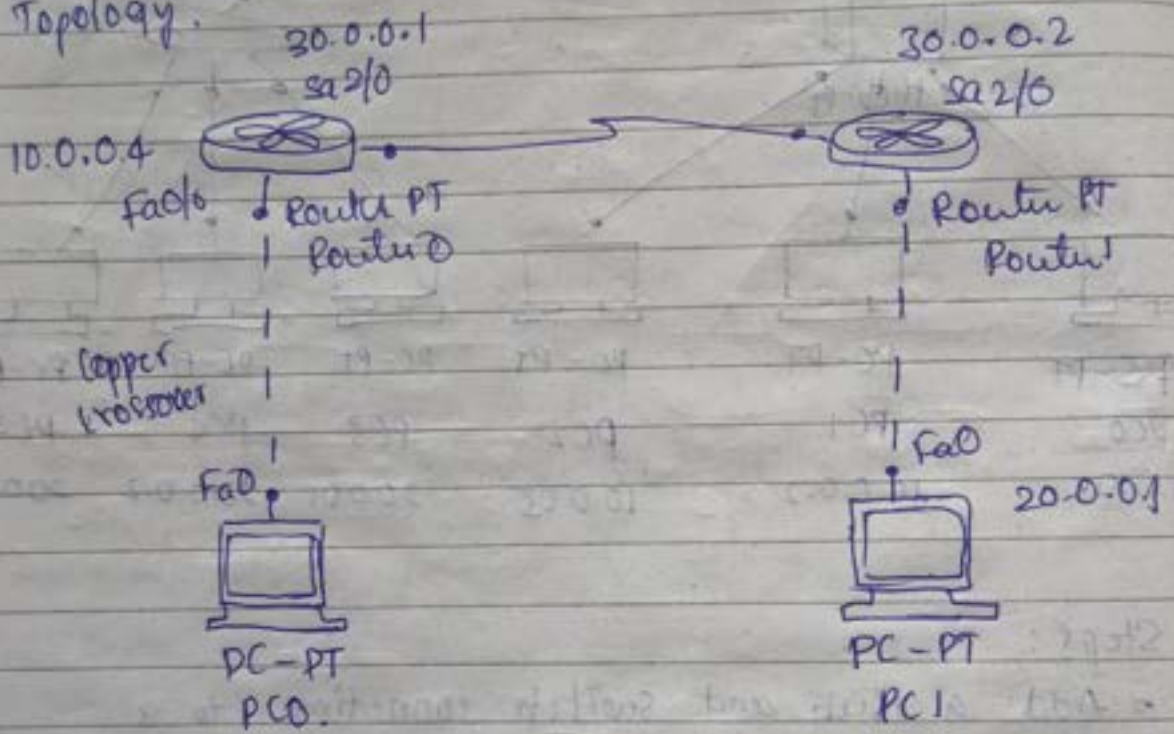
exit.

18/10/24.

AIM: Configuration of 2 Routers

Q) Configure IP address to routers in packet tracers. Explore the following messages ping responses, destinations, unreachable, request timed out and reply.

Topology.



Steps:

→ Select two generic routers Router PT0, Router PT1

→ Connect two PC's PC0 with Router0 and PC1 with Router 1.

Configure PC0 with 10.0.0.1
PC1 with 20.0.0.1

Configure a Router with PC0

Router > enable

Router # config t

Router (config)# interface fastethernet 0/0

Router (config-if) # ip address 10.0.0.4 255.0.0.0
Router (config-if)# no shutdown
Router (config-if) # exit.

config PC1 with Router 1
Router > enable
Router # config t.
Router (config)# interface fastethernet 1/0
Router (config-if)# ip address 20.0.0.4 255.0.0.0
Router (config-if) # no ~~selatio~~ shutdown.
Router (config-if) # exit.

configuration of two Routers
For Router0;
Router # show ip route
Gateway of last resort is not set.
C 10.0.0.0/8 is directly connected, FastEthernet 0/0
C 30.0.0.0/8 is directly connected, and 2/0

For Router 1:
Router # show ip ~~address~~ route.
Gateway of last resort is not set

C 20.0.0.0/8 is directly connected; FastEthernet 1/0
C 30.0.0.0/8 is directly connected, and 2/0

Router 0:
Router (config)# ip route 20.0.0.0 255.0.0.0 30.0.0.2.

Router 1 :
Router (config)# ip route 10.0.0.0 255.0.0.0
30.0.0.0.

Packet Transmission : Successfull.

command prompt.
packet Tracer PC command line 1.0.

PC > ping 20.0.0.1
To check route configured or not
pinging 20.0.0.1 with 32 bytes
of data.
Reply from 20.0.0.1 bytes = 32
time = 6ms TTL = 12.6

ping statistics for 20.0.0.1 :
packets : sent = Received = 4
Lost = 0 (0% loss).

PC > ping 20.0.0.1
pinging 20.0.0.1 with 32 bytes of data
Request timed out.
Reason gateway is not configured.

Dest. host unreachable
request timed out
Reply

(when gateway Not configured)

> ping 20.0.0.1
pinging 20.0.0.0 with 32 bytes of data
Request timed out.

> ping 50.0.0.1
pinging 50.0.0.1 with 32 bytes of data

Reply from 10.0.0.2 : Destination host unreachable

25/10/24

observation:

Configured routers and executed ping commands and observed output.

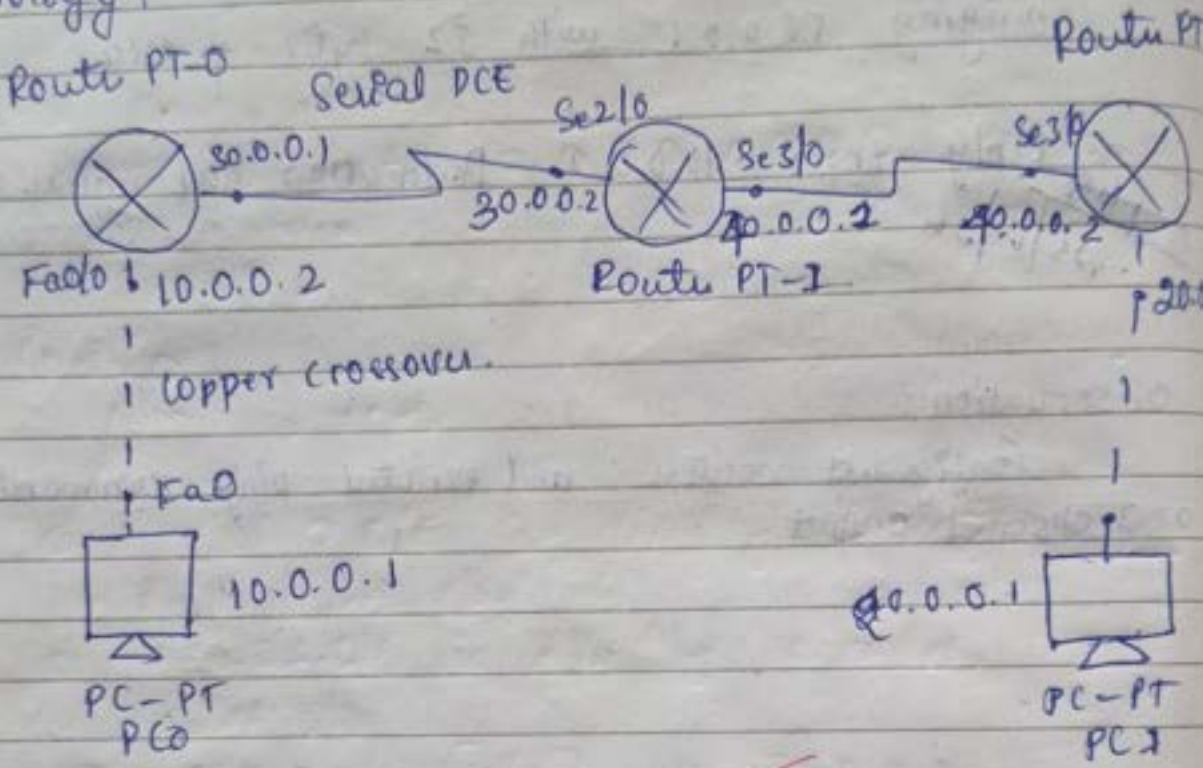
25-10-24

Config

Configure default route, static route to the router.

AIM: Configuring 3 routers and 2 PC to simulate packets.

Topology:



Steps:

→ Select two generic PCs PC PT-0 and PC PT-1 and configure them Ip address 10.0.0.1 and 40.0.0.1 respectively

→ Next select 3 routers Router PT0, PT1 and PT2.
Connect Router PT0 with PC0 and PT1 with PC1 using copper crossover.

→ Config router0 with ip 10.0.0.2 and Router 2 with 40.0.0.2

→ Now config the serial ports Se2/0 with 30.0.0.1 and 30.0.0.2 for router 0 and router 1 and 40.0.0.1 and 40.0.0.2 for router 1 and 2

packet transmission:

Select source and destination PC for the packet to be transferred.

packet transmission successful

ping command.

PC > ping 40.0.0.1

pinging 40.0.0.1 with 32 bytes of data.

Reply from 40.0.0.1: bytes=32 time=15ms

"

"

ping statistics for 40.0.0.1

packets: sent=4, Received=4, Lost=0.

Approximate round trip times in milliseconds

Minimum=2ms, Maximum=15ms, Average=8ms.

Router 1:

Router(config)# ip route 10.0.0.0 255.0.0.0 20.0.0.2

Router(config)# ip route 40.0.0.0 255.0.0.0 30.0.0.2

Router 2:

ip route 20.0.0.0 255.0.0.0 20.0.0.2

ip route 10.0.0.0 255.0.0.0 20.0.0.1

ping commands:

PC > ping 50.0.0.1

Reply from 10.0.0.2 Destination host unreachable.

Default Routing:

For Router0:
Router# ip route 0.0.0.0 0.0.0.0 30.0.0.2

For Router2:
ip route 0.0.0.0 0.0.0.0 40.0.0.1

Router0:
show ip route

C 10.0.0.0/8 is directly connected, FastEthernet 0/0.
C 30.0.0.0/8 is directly connected, Serial 2/0
S* 0.0.0.0/0 [1/0] via 30.0.0.2

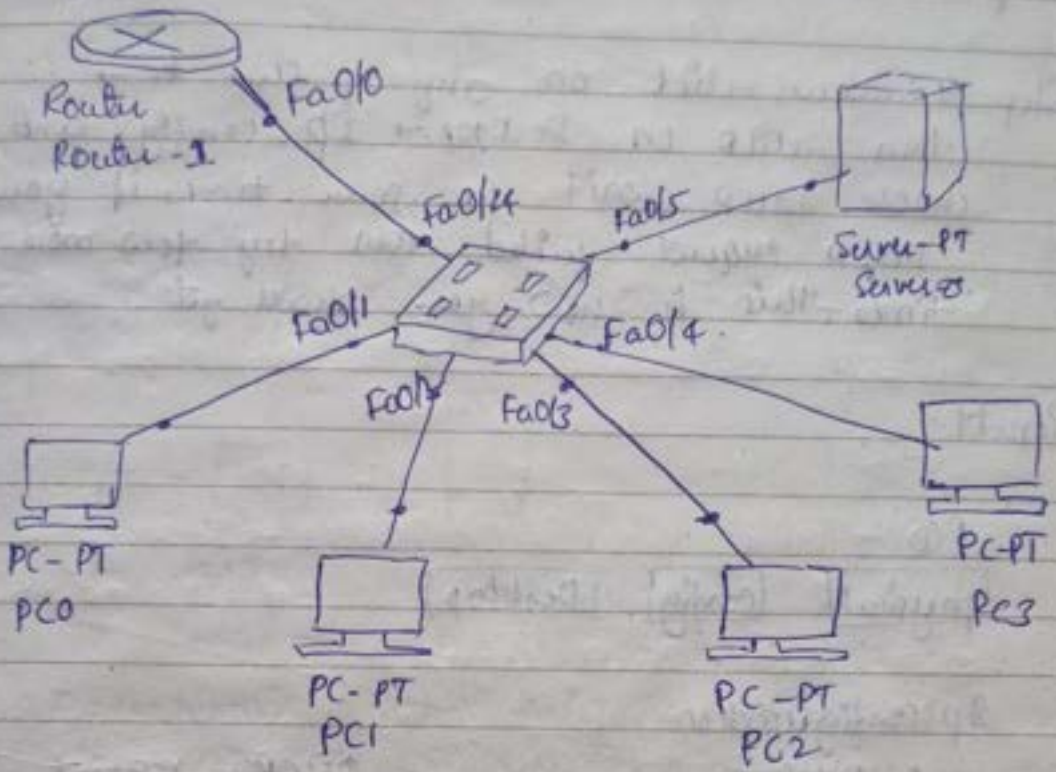
observation (static Routing)
Executed ping command to test simulation, learnt how to configure 3 routers

observation (Default Routing)
observed that default routing can be done in case where more routers involved.

Aim: Part 1: Create basic Lan and test connectivity. 8/11/24

How to configure DHCP within a Lan in a packet Tracer.

Topology:



Step 1: Configure router interface with ip 10.0.0.1 and subnet mask 255.0.0.0.

Step 2: Click on gateway in Server → config, then assign gateway as 10.0.0.1

Step 3: Then click FastEthernet and assign ip address and subnet mask.

Step 4: Click on DHCP

Just give default gateway as 10.0.0.1

DNS server just give our server ip address i.e 10.0.0.2.

Step 5: Then just edit start ip address, I am going to give 10.0.0.1 and subnet mask 255.0.0.0

Step 6: In max No. of users just give how many Ip address you want in this pool here give 500

Step 7: Assign TFTP server ip adder, just give out server ip addres 10.0.0.02

Step 8. And click save.

Step 9: Now, click on any of the PC → then click on Desktop → IP config. and choose DHCP wait for some time, if your DHCP request failed then try few more times, this is how you shall get

Result:

PC0.

physical | config | Desktop

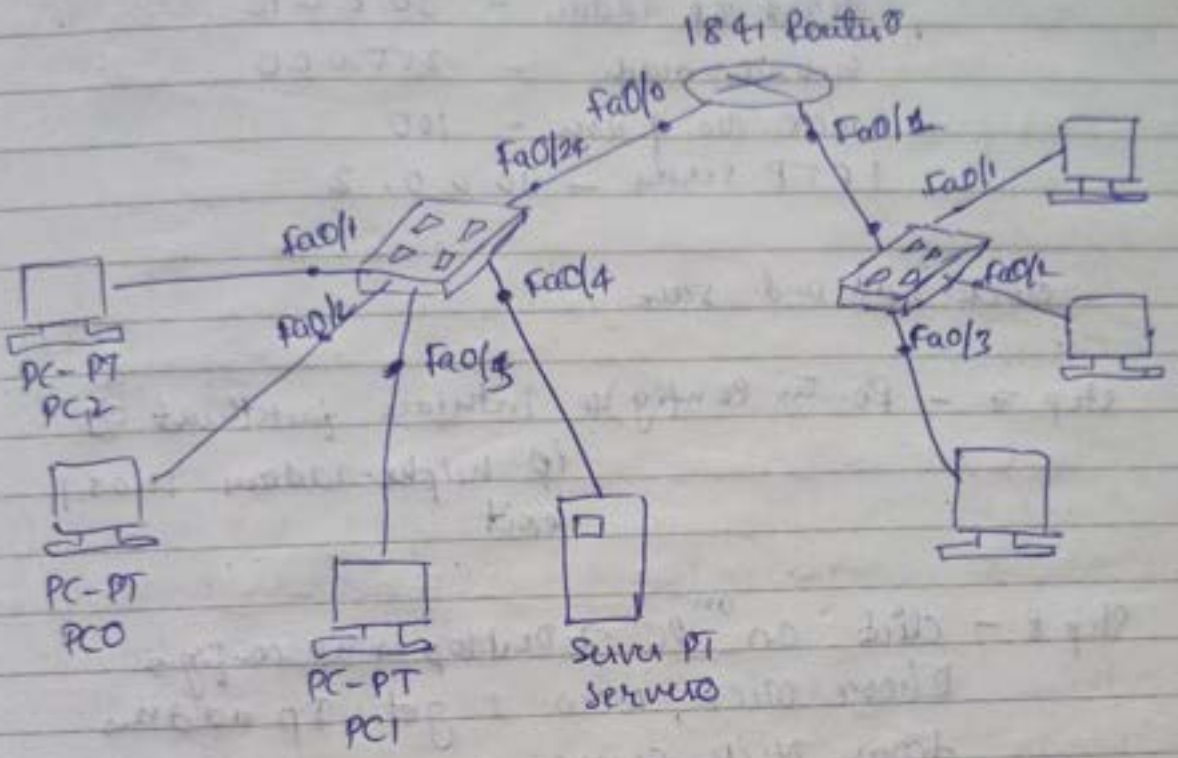
Ip configuration

- DHCP — DHCP request Successfull
- Static

Ip addres	10.0.0.14
Subnet mask	255.0.0.0
Default Gateway	10.0.0.1
DNS Server	10.0.0.2

ASM: Part 2:

to get Ip from DHCP that is present in some other network using IP helper Addr.



Step 2: Configure router interface fastethernet 0/0 and fastethernet 0/1 with IP addrs

Step 3: click on Server → config → then just give the gateway ip addrs 10.0.0.1

Step 4 → Then click on fastethernet assign ip address 10.0.0.2 and subnet mask 255.0.0.0 DHCP will automatically assign to network for default pool. we dont have to create pool for to network just give ip for DNS, Gateway and TFTP then we may config starting ip addrs

Step 5 - Now click on pc in a LAN with server and click whether DHCP working fine in the network

Ip-config → choose DHCP → then put ip for DHCP server for this pc

Step 6 - Default Gateway - 20.0.0.1
DNS server - 10.0.0.2
Start IP addres - 20.0.0.10
Subnet mask - 255.0.0.0
max. No. of user - 100
TFTP server - 10.0.0.2

click add and save.

Step 7 - Router (config)# interface fastethernet 0/0
ip helper-address 10.0.0.1
exit.

Step 8 - click on any PC → Desktop → IP config → Choose DHCP; Now I got IP addres from DHCP server

observation:

→ DHCP assigns IP addres automatically within a network
→ Using helper IP address router to allow DHCP client in different network to get IP address from DHCP server to another network

8) How to demonstrate WEB server and DNS using Packet Tracer Topology.

PC-PT
PC 0
192.168.1.200

2960-24TT
Switch 0

Server-PT
Server 0
192.168.1.254

1) click on end device and then click on a generic pc and, place it in logical coordspace, click on switch and place it.
click on generic server and place it on logical coordspace
2) Assign IP to place 192.168.1.200 Server - 192.168.1.254
3. click on interface → fast ethernet on left hand side make sure that the port status is on
4) To set up PC, double click on it, go to config tab and go to fastEthernet on LHS
make sure the port is turned on under Static IP enter 192.168.1.100.
5) we will now ping from the PC to the server to make sure that we have connection

PC > ping 192.168.1.254

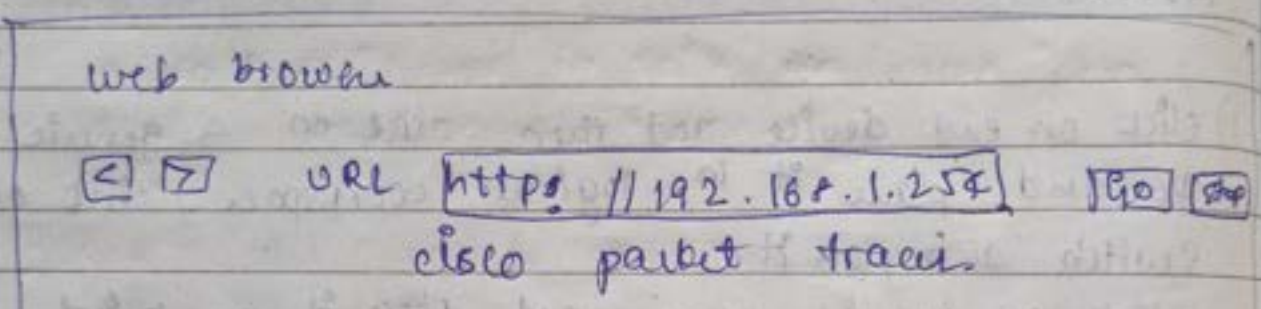
pinging 192.168.1.254 with 32 bytes of data.

Reply from 192.168.1.254: bytes=32 time=17ms
TTL=128.
Reply from 192.168.1.254: bytes=32 time=4ms
TTL=128

6. Double click on server go to config tab

7. In the virtual browser that appears type in the IP address of the server and click go.

8. You should now be able to see the screen that we saw earlier.



Your are now connected to FTP server.

ASM 15/11/24.

Write a program for Error Detection using CRC.

```
#include <iostream>
#include <string>
using namespace std;

int crc(const string& ip, string op, const string poly,
        int mode){
    op = ip;
    if (mode){
        op.append(poly.length()-1,'0');
    }
    for(int i=0;i<ip.length();i++){
        if(op[i]=='1'){
            for(int j=0;j<poly.length();j++){
                op[i+j] = (op[i+j]==poly[j])?
                    '0':'1';
            }
        }
    }

    for(int i=0;i<op.length();i++){
        if(op[i]=='1') return 0;
    }

    return 1.
}
int main(){
    string ip,op,recv;
    string poly = "1000100000100001";
    cout<<"Enter input";
    cin>>ip;
    crc(ip,op,poly,1);
```

```
cout<<"transmitted message"<<
        ip + op.substr(ip.length()) <<endl;

cout<<"Enter the recived message in
        binary: ";
cin>>recv;

if (crc(recv, op, poly, 0)){
        cout<<"No error in data"<<endl
else
    cout<<"Error in data transmission
        has occured"<<endl;
}
```

Output:

```
> g++ main.cpp
> ./a.out
```

Enter input
11111
transmitted message:
11111111000 11110 11110
Enter the received message in binary
11111
No error in data

Output 2.
Enter input
11111
The transmitted message 11111111000 11110
11110
Enter received message
1111
Error in data transmission has occured.

Aim

To explore Leaky Bucket Algorithm.

```
#include <bits/stdc++.h>
using namespace std;

int main() {
    int n, storage, output_pkt_size;
    int input_pkt_size, bucket_sz, sz_left;

    storage = 0;
    n = 4;
    bucket_sz = 10;
    input_pkt_sz = 4;
    output_pkt_sz = 1;

    for (int i=0; i<n; i++) {
        sz_left = bucket_sz - storage;

        if (input_pkt_sz <= sz_left) {
            storage += input_pkt_sz;
        }
        else {
            cout << "packet loss = %d\n" <<
                input_pkt_size;
        }
        cout << "Buffer size " << storage <<
            " out of bucket size " << bucket_sz;

        storage -= output_pkt_size;
    }
}
```

Output:

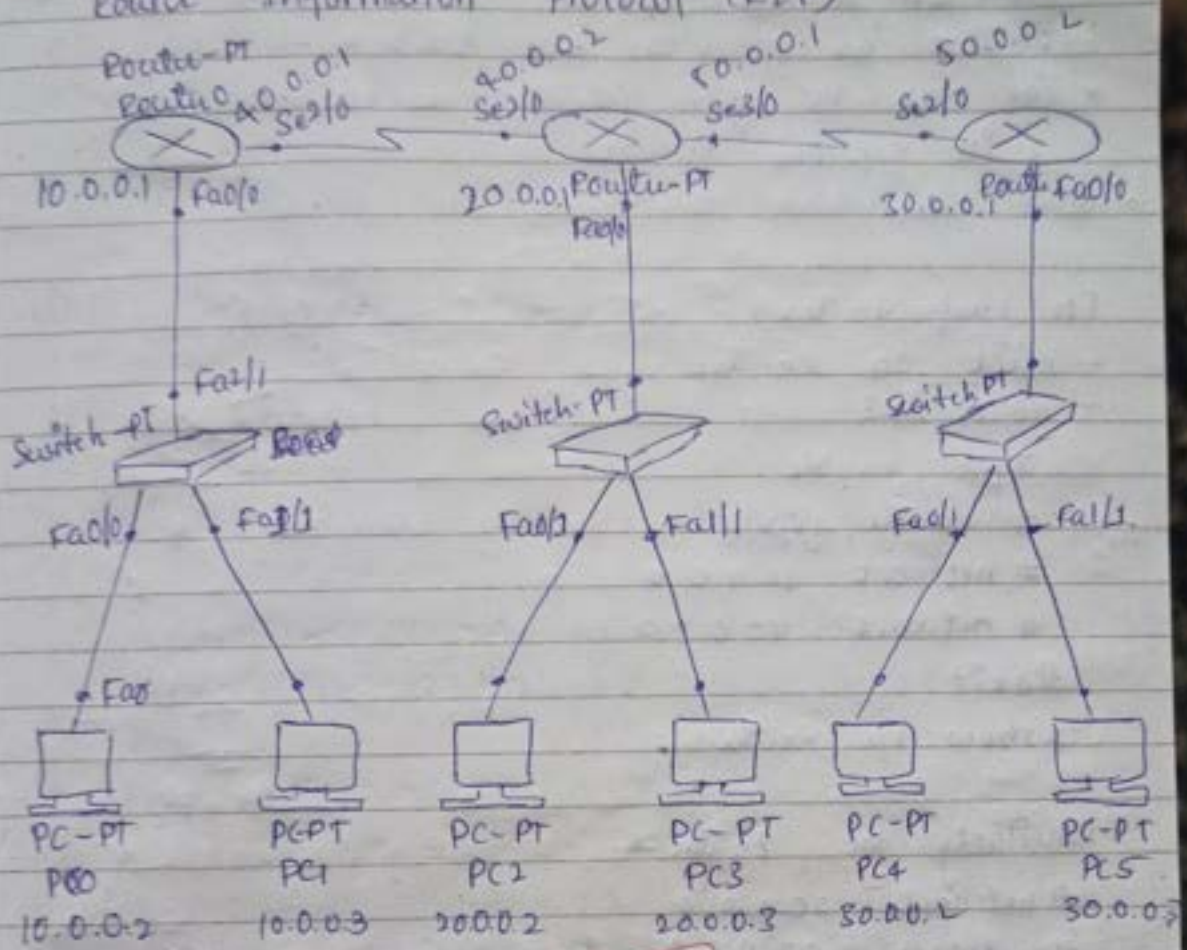
Buffer size = 4 out } bucket size 10.
" = 7 out } bucket size 10
" = 10 out } bucket size 10

packet loss = 4.

Buffer size = 9 out } bucket size = 10

AIM. 22/11/24

Routu In-formation Protocol (RIP)



Steps:

1) Select 3 generic routu and connect them in serial with serial DCT wire
2) place 3 switch in logical workspace and connect each with each 1 the routu respectively copper straight-through.
3) for every switch connect 2 end devices PC through copper straight through
4) Config Ip addrs for routu as 10.0.0.1, 20.0.0.1 30.0.0.1 respectively
5) also config Ip addrs for routu in serial
   Se2/0 → 40.0.0.1 , Se2/0 → 40.0.0.2
   Routu 0. Routu 1

* Find IP address between Router 1 and Router 2 as 50.0.0.1 and 50.0.0.2.
* For each PC give gateway as IP address of its respective Router

For Each Router:
- click on Router
- go to CLI
- Type enable
- # router rip
  # network 10.0.0.0
  # network 40.0.0.0
  #exit
  >show ip route.

Similarly for Router 3
network 20.0.0.0
network 40.0.0.0
network 50.0.0.0.

for Router 2
network 30.0.0.0
network 50.0.0.0
show ip route for each.

Observation
For Router 1.
C 10.0.0.0/8 is directly connected FastEthernet 0/0
R 20.0.0.0/8 [120/1] via 40.0.0.2; 00:00:20.61
Serial 1/0
R 30.0.0.0/8 [120/2] via 40.0.0.2 00:00:20.61
Serial 1/0.

C 40.0.0.0/8 is directly connected, Serial 1/0
R 50.0.0.0/8 [120/1] via 40.0.0.2 00:00:06
Serial 2/0

Similarly show IP route for Router1 and Router2

click on PC1 → command prompt:

PC> ping 30.0.0.2

pinging 30.0.0.2 with 32 bytes of data:

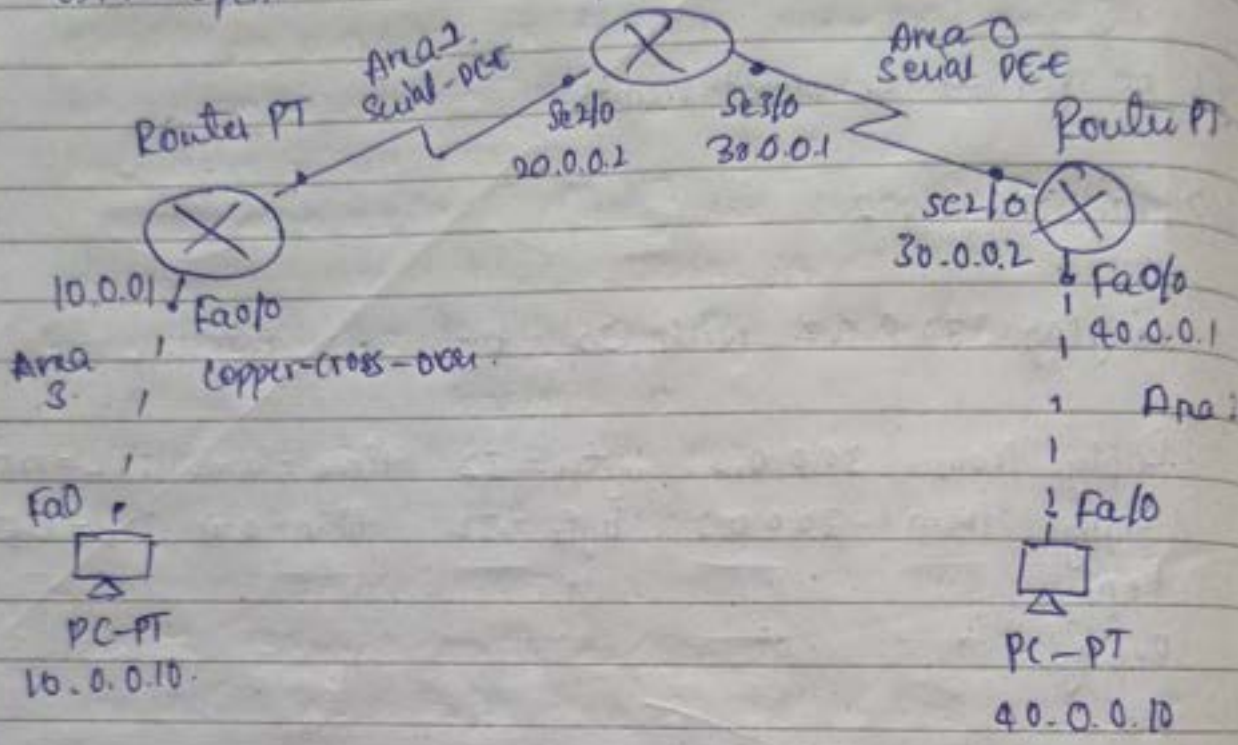
Reply from 30.0.0.2: bytes = 32 time = 4ms TTL = 125
Reply from 30.0.0.2: bytes = 32 time = 4ms TTL = 125
Reply " " " " "
Reply " " " " "

ping statistics for 30.0.0.2
Approximate round trip time
Packet: sent = 4 Received = 4, lost = 0
Approximate round trip time in milliseconds
Minimum = 4ms, maximum = 5ms, Average = 4ms

29/11/24.

How to configure OSPF Routing Protocol and connect across

OSPF - Open Short Path Router PT.



Router R1 : Configure FastEthernet 0/0 → 10.0.0.1
For Serial interface:
R1 (config) # interface serial 1/0
R1 (config-if) # ip address 20.0.0.1 255.0.0.0
R1 (config-if) # encapsulation ppp.
R1 (config-if) # clock rate 64000
R1 (config-if) # no shutdown.
R1 (config-if) # exit.

Router R3: configure FastEthernet 0/0 → 40.0.0.1
For serial interface: configure ip 30.0.0.2
encapsulation. no clock rate.
Router R2: configure serial Se2/0 →
ip 20.0.0.2 encapsulation
configure serial Se3/0 → ip 30.0.0.1

Configuring OSPF routing protocol

Router R1

R1(config)# router ospf

Router ?

R1(config-router)# router-id 1.1.1.1

R1(config-router)# network 10.0.0.0 0.255.255.255 area 1

" " " " area 1

R1(config-router)# exit

Router R2:

Router(config)# router ospf 1

Router(config)# router-id 2.2.2.2

Router(config-router)# network 20.0.0.0 0.255.255.255 area 0

" " " " area 0

Router 3:

Router(config)# router ospf 1

Router(config-router)# router-id 3.3.3.3

Router(config-router)# network 30.0.0.0 0.255.255.255 area 0

" " " area 2

Configure loopback address

R1:

Router(config)# interface loopback 0

Router(config-if)# ip add 172.16.1.252 255.255.0.0

Router(config-if)# no shutdown

R2:

Router(config)# interface loopback 0

Router(config-if)# ip add 172.16.1.254 255.255.0.0

Router(config-if)# no shutdown

R1:

Router# show ip route.

C 10.0.0.0/8 is directly connected, FastEthernet 0/0

20.0.0.0/8 is variably subnetted, 2 subnets, 2

C 200.0.0/8 is directly, serial 2/0.

C 20.0.0.0/8 is directly connected, serial 2/0

50.0.0.0/8 [110/128] via 20.0.0.9, 00:11:11 serial 2/0.

IA 40.0.0.0/8 [110/128] via 20.0.0.2, 00:11:11 serial 2/0.

C 172.16.0.0/16 is directly connected, loopback 0.

R1:

Router (config)# router OSPF 1

Router (config-router)# area 0 virtual link 2.2.2.2

R2

Router (config)# router OSPF 1.

Router (config-router)# area 1 virtual link 1.1.1.1

PC > ping 40.0.0.10.

Pinging 40.0.0.10 with 32 bytes of data

Request timed out.

Reply from 40.0.0.10: bytes=32 time=16ms TTL=125

" " " "

" " " "

ping statistics for 40.0.0.10;

packets: sent = 4, Received = 3 lost = 1

(25% loss)

*

Approximate round trip time in milliseconds
Minimum = 2ms, Maximum = 16ms
Average = 8ms

20/12/24

Using TCP/IP sockets, write a client-server program to make client sending the file name and the server to send back the contents of the requested file if present.

ClientTCP.py

```
from socket import *
ServerName = '127.0.0.1'
ServerPort = 12000
clientSocket = socket(AF_INET, SOCK_STREAM)
clientSocket.connect((ServerName, ServerPort
sentence = input("\n Enter file name: ")
clientSocket.send(sentence.encode())
fileContents = clientSocket.recv(1024).decode()
print("\n From Server: \n")
print(fileContents)
clientSocket.close()
```

ServerTCP.py

```
from socket import *
serverName = "127.0.0.1"
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_STREAM)
serverSocket.bind((serverName, serverPort))
serverSocket.listen(1)
while True:
    print("The server is ready to receive")
    connectionSocket, addr = serverSocket.accept()
    sentence = connectionSocket.recv(1024).decode
```

```
try:
    file("The server is ready to receive")
    file = open(sentence, "r")
    l = file.read(1024)
    connectionSocket.send(l.encode())
    print('\n Sent contents of ' + sentence)
    file.close()
except FileNotFoundError:
    connectionSocket.send("File not found".encode())
    print(f"File {sentence} not found")
connectionSocket.close()
```

Output:

⇒ python ServerTCP.py ~~python clientUDP.py~~

The Server is ready to recive.

Sent contents of ServerTCP.py

⇒ python clientTCP.py

Enter file name: ServerTCP.py

From Server:

```
from socket import *
serverName = "127.0.0.1"
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_STREAM
(whole code above)
```

Using UDP sockets, write a client-server program to make client sending the file name and the send the back of contents of the requested file if present

Solution

ClientUDP.py

```
from socket import *
serverName = "127.0.0.1"
serverPort = 12000

Sentence = input ("\n Enter the file")

clientSocket.sendto(bytes(sentence, "utf-8"),
    serverName, serverPort))

fileContents, serverAddress = clientSocket.recvfrom(2048)
print("\n Reply from Server: \n")
print(fileContents.decode("utf-8"))
# for i in fileContents:
    # print(str(i), end = "")
clientSocket.close()
clientSocket.close()
```

ServerUDP

```
from socket import *
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_DGRAM)
serverSocket.bind(("127.0.0.1", serverPort))
print("The server is ready to receive")
while 1:
    sentence, clientAddress = serverSocket.recvfrom(2048)
```

serverSocket.sendto(bytes(con,"utf-8"), clientAddress)

print("\n Sent contents :", end = ' ')
print(sentence)
# for i in sentence:
    # print(str(i), end = ")
file.close()

Solution:

python serverUDP.py.

The server is ready to receive
Sent contents of serverUDP.py

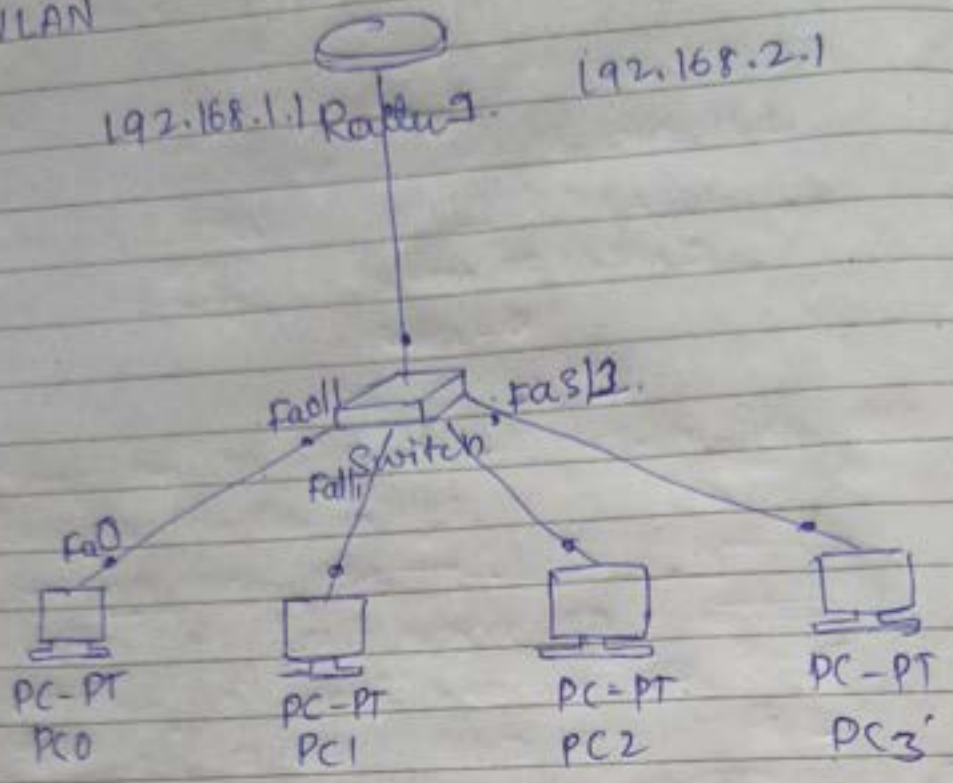
The server is ready to receive

python clientUDP.py.

Reply from Server:

from socket import *
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_DGRAM)
serverSocket.bind(("127.0.0.1", serverPort))
(whole code).

VLAN



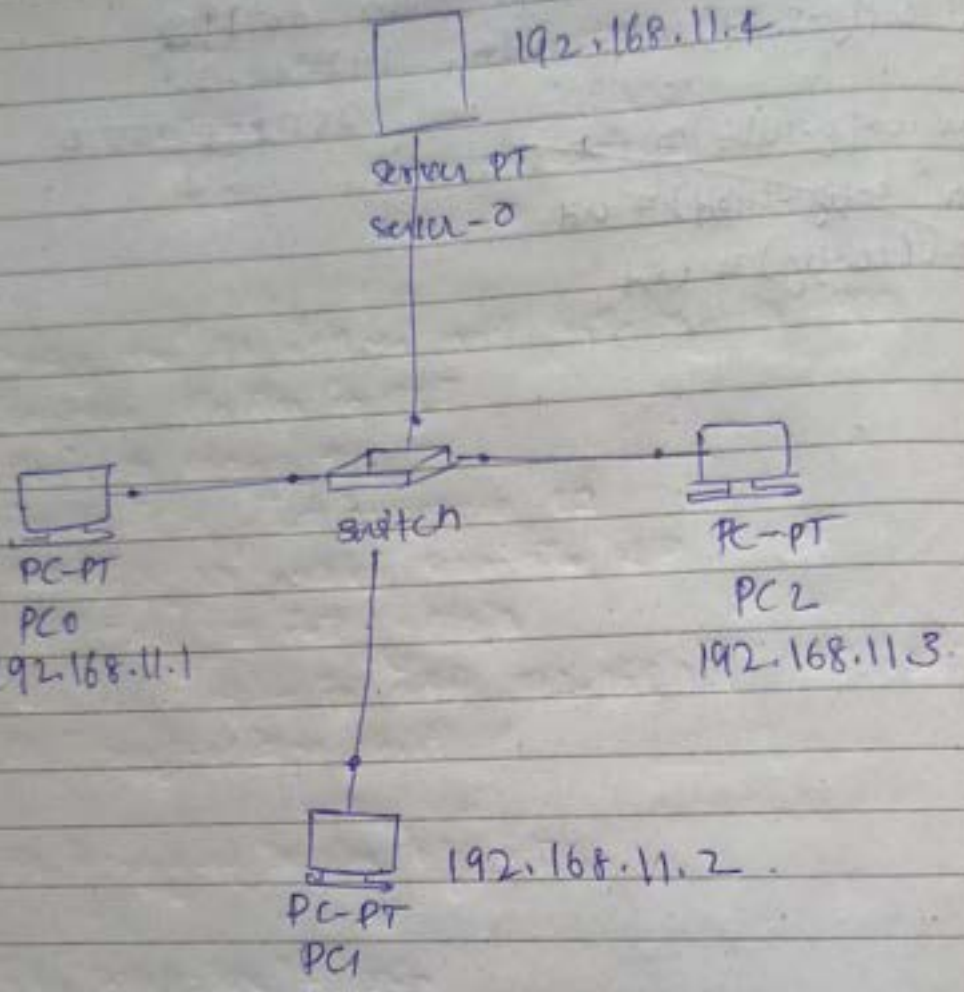
* In the switch, go to config tab and select VLAN Database
* Give any VLAN number say 2 here include any name, Say Add.

* VLAN trunking - forward frames from diffrent VLANs over single link called trunk.

* Next to router is to understand NEW VLAN. Do this for fastethernet 2/1 and 3/1.
* Config tab of router select VLAN Database enter the number of the VLAN
  GOTO CLI -
  Router(vlan)# exit
  APPLY completed.
  Exiting....

Router(config)# interface fastEthernet 0/0.1
Router(config-subif)#
Router(config-subif)# encapsulation dot1Q 2
Router(config-subif)# ip address 192.168.2.1
255.255.255.0
Router(config-subif)# no shut
Router(config-subif)# exit.
Router(config)# exit

ARP Protocol



Step 1: Assign IP address to all PC's and server

Step 2: Go to simulation panel, click on inspect and right click on PC0

Step 3: Notice that there are no entries in ARP table

Step 4: Repeat same for server

5) Click on PC0 and go to command prompt

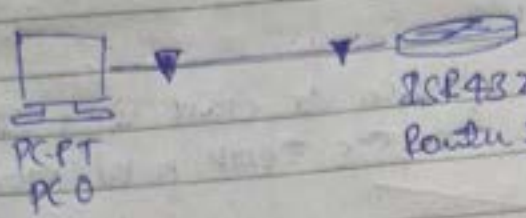
```
PC>arp -a
No ARP Entries Found
PC> ping 192.168.11.4
Pinging 192.168.11.4 with 32 bytes of data
```

7) two packets are created ICMP and ARP
8) Hover over the packets and check the type of packet
9) click on ARP Packet
10) click on capture button to start simulation
11) click on capture to see ICMP packet movement

Observation:

* ARP is first used when PC0 attempts to ping server since it needs to know the MAC Address of the server

Aim
to understand TELNET PROTOCOL



* Config the IP address and gateway for PC0
* Configure Router in CLI.

Router# config t
Router(config)# hostname R1
R1(config)# enable secret to RP.
R1(config)# int g0/0/0.
R1(config-if)# ip add 192.168.1.1 255.255.255.0
R1(config-if)# no shut

R1(config-if)# line vty 0 5.

R1(config-line)# login
% login disabled on line 2, until 'password' is set

R1(config-line)# password tp.
R1(config-line)# exit.
R1(config)# exit.

Go to PC - command prompt
C:> ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data

Reply from 192.168.1.1: bytes = 32 time <1ms TTL=

Reply from 192.168.1.1 bytes = 32 time < 1ms TTL=255

Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss)
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0 ms, Average = 0ms

C:\> telnet 192.168.1.1
Trying 192.168.1.1 ... Open

User Access Verification.

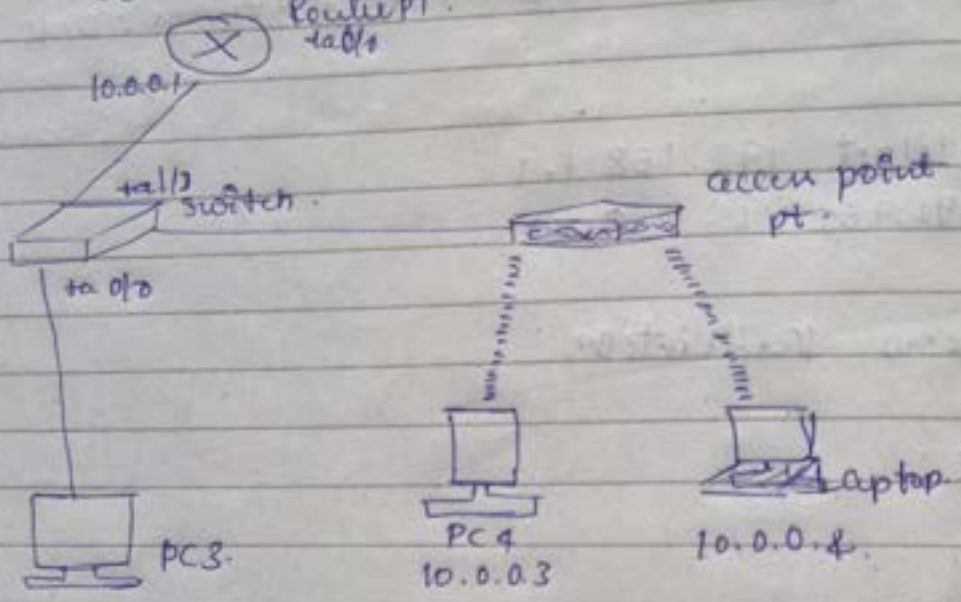
Password:
R1>
R1:>
R1:> en.
Password.:
R1#
R1#

Observation.
Ping
Successful pings indicate that the router is forwarding ICMP packets correctly between different subnets.
ARP helps to map IP address.
Telnet:
Successful telnet connections show that PC0 can establish a remote connection to PC1 / Server through the router.

WLAN

AIM:
To construct a WLAN and make the nodes to communicate wirelessly.

Topology:



Procedure:

Router

→ Go to config Tab.
⇒ Assign an IP address 10.0.0.1

PC3.

→ Go to desktop tab
→ Open IP configuration and assign
IP address: 10.0.0.2
subnet mask: 255.0.0.0
Gateway: 10.0.0.1

* Configuring Access Point:
Set SSID
⇒ Go to config tab, select port
SSID name: WLAN
Security mode: WEP
Key: 1234567890 (10-dig Hex)

* Configuring PC4 and laptop for wireless
Install wireless NIC
- Switch off PC4 and laptop.
→ Drag the WMP300N wireless Interface and to their empty ports.
→ Switch on device.
Configure wireless setting:
⇒ Go to config tab
⇒ Select new wireless interface
⇒ Set SSID: WLAN
Security mode: WEP
WEP Key: 1234567890
IP address: eg: PC4: 10.0.0.5.
laptop: 10.0.0.4

~~Done~~
31/12/24

ping:
Open CMD
ping every other device