Name – Aryan Sharma

Enrollment No – BT21GCS161

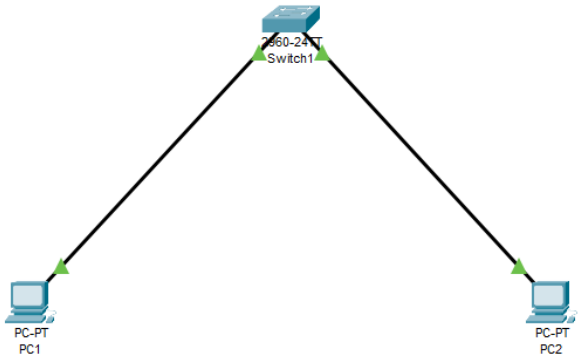
Computer Network (CS – 261)

Assignment -02

Activity 2 – Repeater, Switches and Router

Objective –

1) ***Connect a switch to the network***



A network switch or switching hub is a computer networking device that connects network segments. The term commonly refers to a network bridge that processes and routes data at the data link layer (layer 2) of the OSI model. Switches that additionally process data at the network layer (layer 3 and above) are often referred to as Layer 3 switches or multilayer switches.

Step1

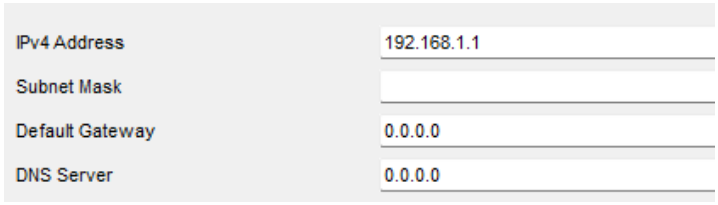
a) *Select the switch (2960-24T switch) and access the Command Line Interface (CLI)*
b) *Enter enable mode by using 'ena.' Once you gain access, proceed to configuration mode by using 'conf'*
c) *If you want to change the hostname, type 'hostname' followed by the new name you desire. For example, 'hostname Aryan'*
d) *Exit*

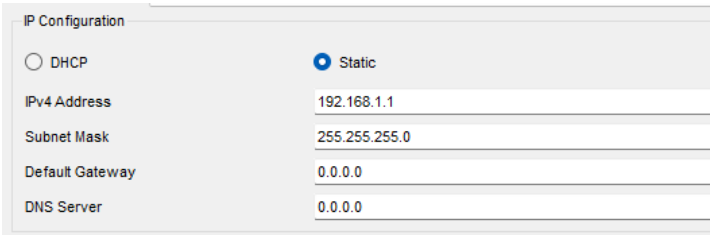
```
Switch>ena
Switch#conf
Switch#configure
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#
Switch(config)#hostname Aryan
Aryan(config)#exit
Aryan#
%SYS-5-CONFIG_I: Configured from console by console

Aryan#
```

Step 2 –

a) *Select PC1 and then navigate to its Desktop and open the IP configuration*
b) *Provide IPv4 Address*

c) *Once you provide an IPv4 address, click on 'Subnet mask,' and it will automatically provide the subnet mask.*





d) *Do same thing for another pc*

Step 3-

To set the message while login the server

a) *Select the switch (2960-24T switch) and access the Command Line Interface (CLI)*
b) *Enter enable mode by using 'ena.' Once you gain access, proceed to configuration mode by using 'conf'*
c) *To set the message, type 'banner.' If you need any help with banners, you can type 'banner?'*
d) *Once you gain access to banner mode, type 'motd $' and then enter the message you want to display when logging into the PC. Conclude the message with '$'.*
e) *Exit*

```
Aryan#ena
Aryan#enable
Aryan#config t
Aryan#config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Aryan(config)#bann
Aryan(config)#banner ?
  motd  Set Message of the Day banner
Aryan(config)#banner motd $
Enter TEXT message.  End with the character '$'.
-------------------------------------------------
Hello, Welcome to my server
-------------------------------------------------
$

Aryan(config)#exit
```

Step 4-

a) *Enter to configuration mode using conf*
b) *Int vlan1*
c) *IP add 192.168.1.10 255.255.255.0*
d) *no shutdown*
e) *exit*

```
Aryan(config)#int vlan1
Aryan(config-if)#IP add 192.168.1.10 255.255.255.0
Aryan(config-if)#no sh
Aryan(config-if)#no shutdown
```

Step 5-

Setup Password

a) *Enter to configuration mode using conf*
b) *Line vty 0 1*
c) *Password<ur password for pc>*
   Eg- password NU

```
Aryan#configure
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Aryan(config)#line vty 0 1
Aryan(config-line)#password NU
Aryan(config-line)#exit
Aryan(config)#
```

Step 6-

Setup Password Encryption

a) *Exit*
b) *Enter to configuration mode using conf*
c) *Once you enter configuration mode, type the 'enable password' followed by your password. For example: 'enable password cisco.'*
d) *Then write 'service pass-encry', and also write the do sh run*
e) *Exit*

```
Aryan#configure
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Aryan(config)#ena pass
Aryan(config)#ena password cisco
Aryan(config)#service pass
Aryan(config)#service password-encryption
Aryan(config)#do sh
Aryan(config)#do sh run
Aryan(config)#do sh run
Building configuration...

Current configuration : 1304 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname Aryan
!
enable password 7 0822455D0A16
!
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 --More--
```

Step 7-

Verify Password

a) *Select PC2, then navigate to its Desktop and open the Command Prompt.*
b) *Type telnet <IP address>*
   Eg- Telnet 192.168.1.10
c) *Wait, for sec and Now it asking to password*

OR

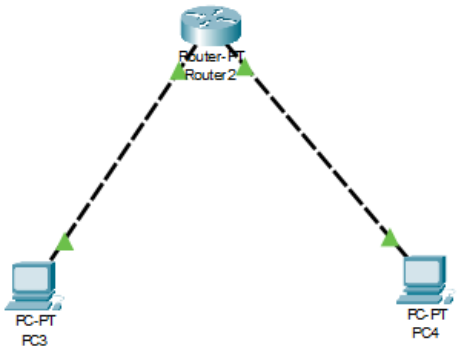
i) When you try to log in first, it will ask for the line control password.

ii) Then, to configure the terminal it will ask to enable a secret password.

```
----------------------------------------
Hello, Welcome to my server
----------------------------------------


Aryan>enable
Password:
Password:
Aryan#
```

```
C:\>telnet 192.168.1.10
Trying 192.168.1.10 ...Open
----------------------------------------------
Hello, Welcome to my server
----------------------------------------------



User Access Verification

Password:
Password:
Aryan>
```

2) Objective – Router Configuration



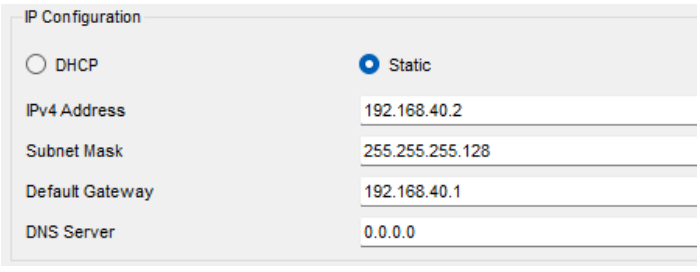
Step 1-

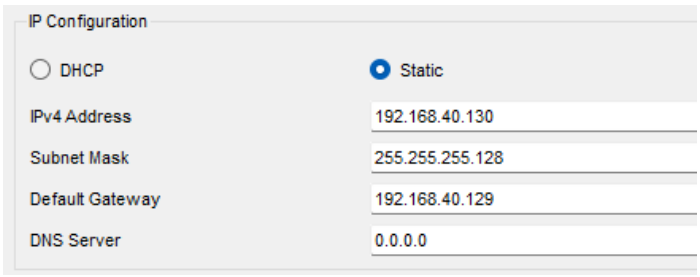
a) Select the router (Router- PT) and access the Command Line Interface (CLI)
b) Enter enable mode by using 'ena.' Once you gain access, proceed to configuration mode by using 'conf'
c) If you want to change the hostname, type 'hostname' followed by the new name you desire. For example, 'hostname R1'
d) Exit

```
Router>ena
Router>enable
Router#conf
Router#configure
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
```

Step 2-

a) *Select PC3, then navigate to its Desktop and open the IP configuration*
b) *Provide IPv4 Address, Default Gateway, and do same for PC4*





Step 3-

a) *Connect the PC3 interface to the router and check the connection label. Once you confirm the connection, type 'interface Fa0/0.' By default, it's 'Fa0/0'*
b) *Then add the Ip address <PC> < sub mask ip>*
c) *No shutdown command, then exit*

```
Router(config)#int Fa0/0
Router(config-if)#ip addr
Router(config-if)#ip address 192.168.40.1 255.255.255.128
Router(config-if)#no show
Router(config-if)#no shut
Router(config-if)#no shutdown
```

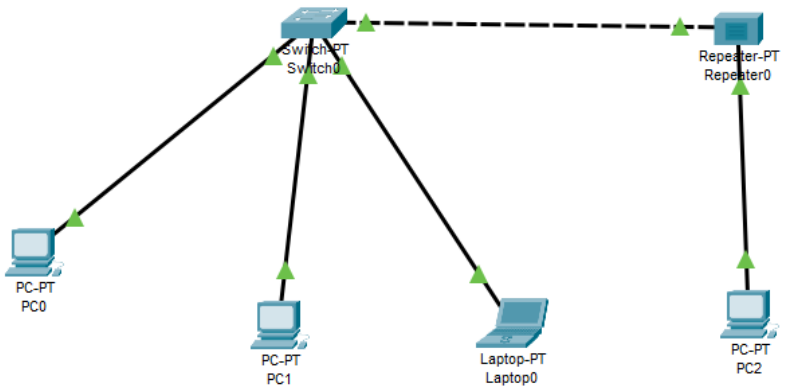
d) *Repeat the same steps for another device.*

```
Router#ena
Router#enable
Router#conf
Router#configure
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int Fa1/0
Router(config-if)#ip addre
Router(config-if)#ip address 192.168.40.129 255.255.255.128
Router(config-if)#no shut
Router(config-if)#no shutdown
```

e) *Successfully router configuration*

Objective –

3) Objective - Repeater configuration



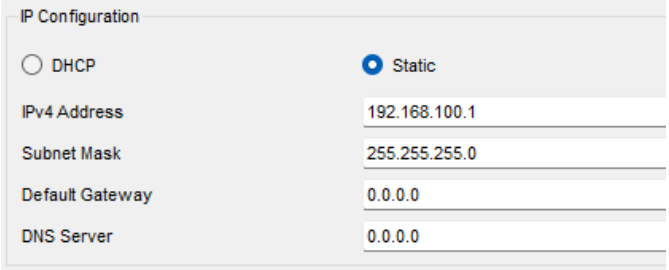
Step1-

Assign Ip address each of device such as PC, laptop

a) *Select PC0, then navigate to its Desktop and open the IP configuration*
b) *Provide IPv4 Address*

c) *Once you provide IPv4 address click on Subnet mask, it will automatically provide subnet mask*

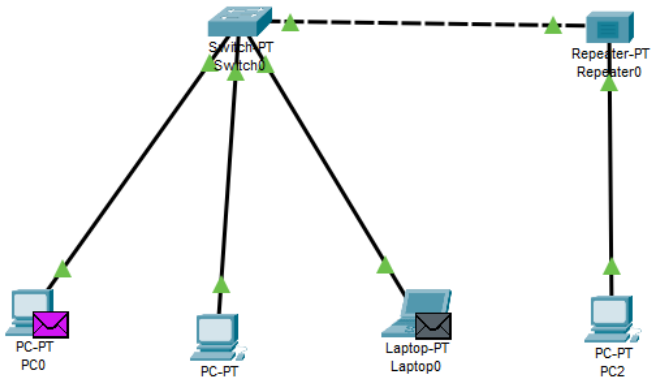
d) *Repeat the same steps for another device*



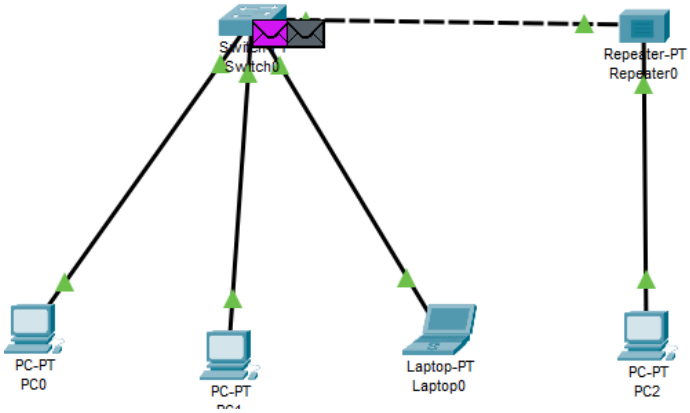
Step 2 –

Assign the message (add a simple PDU) something like this, make it visible to us, and then click on 'start simulation'.

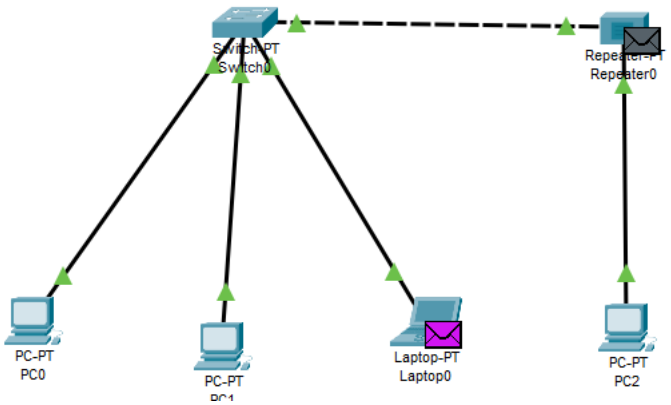
I'm sending two messages: one from PC0 in purple color and another one messages from the laptop in black color.



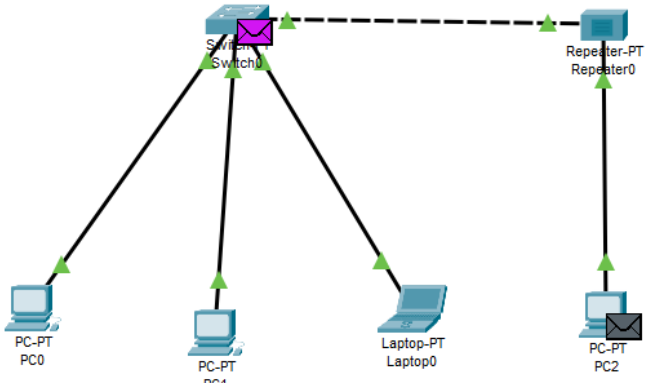
Once the simulation starts, you will notice that the message starts moving toward SwitchPT



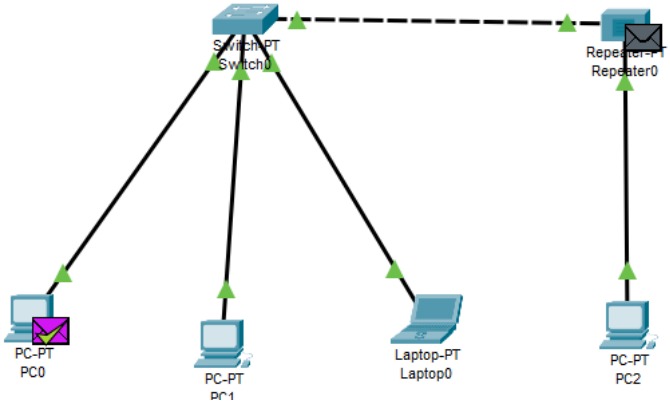
And SwitchPT send message to path you select to receive message

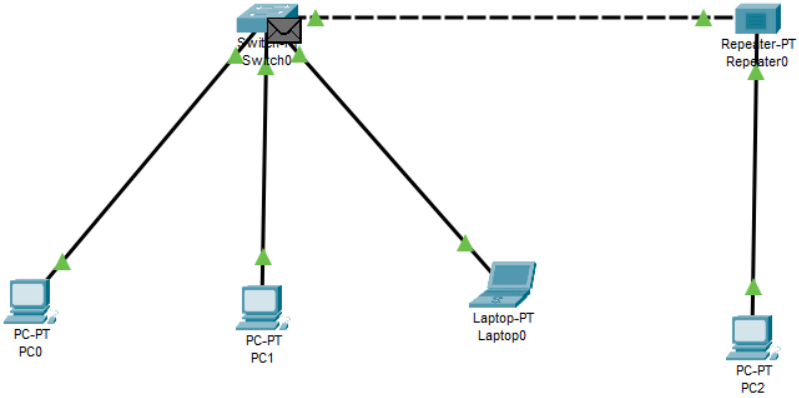


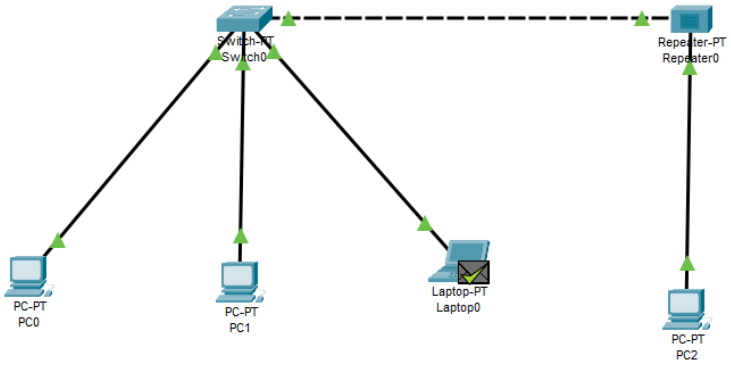
Once the message is received by the receiver, the receiver acknowledges that message and sends it back to the sender,



As you can see Laptop Ack that message and send back to sender






Switch-PT
Switch0
Repeater-PT
Repeater0
PC-PT
PC0
PC-PT
PC1
Laptop-PT
Laptop0
PC-PT
PC2
