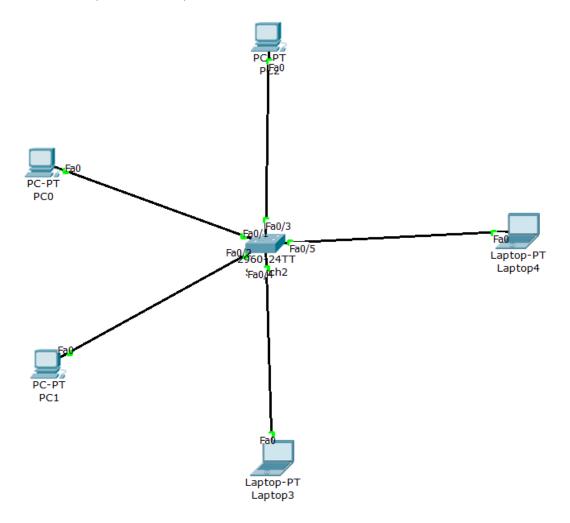
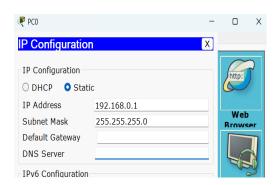
Experiment No.: 01

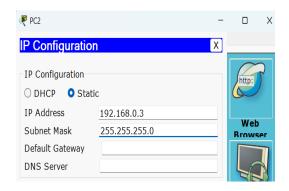
Name of the Experiment: Configure Local Area Network (Wired)

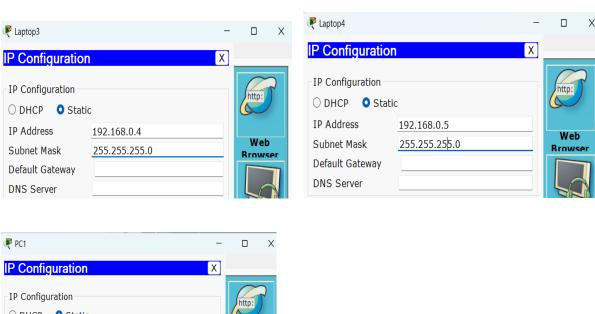
Required Component:

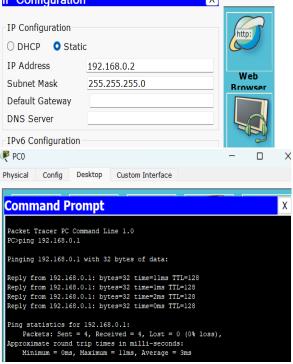
- (1). Switch
- (2). UTP Cable (Straight Through)
- (3). End Device(Desktop, Laptop etc)
- (4). IP Address (192.168.1.0)











The ping command in every Pc and Laptop command Prompt there different IP address

Pc 0 = ping 192.168.0.1

Pc1= ping 192.169.0.2

Pc2 = ping 192.168.0.3

Laptop3 = ping 192.168.04

Laptop4 = ping 192.168.05

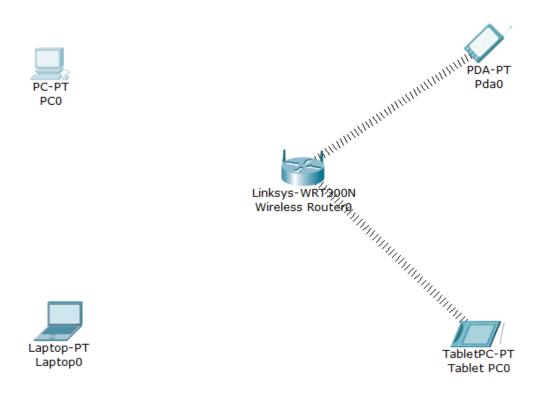
Then run

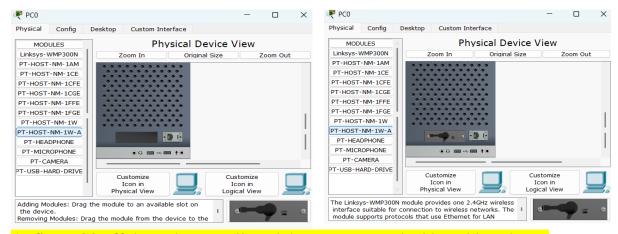
Experiment No.: 02

Name of the Experiment: Configure Local Area Network (Wireless)

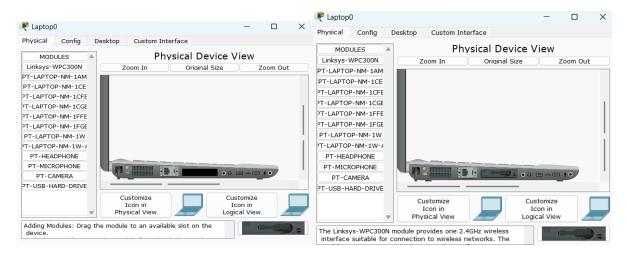
Required Component:

- (1) Router (Linksys-WRT300N)
- (2) End Device (Desktop, Laptop, TabletPC, PDAetc)
- (3) IP Address (192.168.1.0)

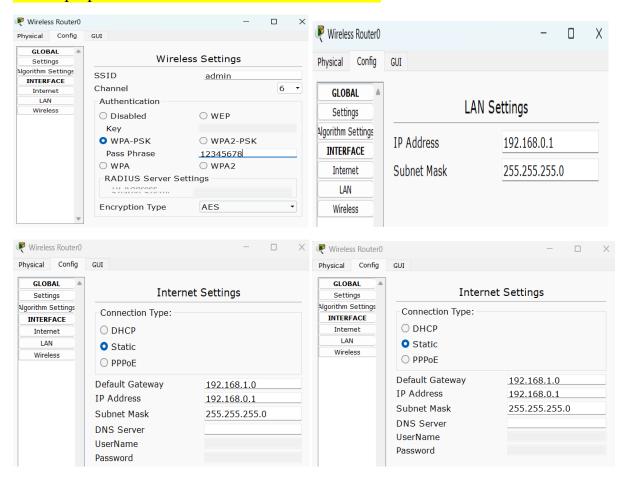




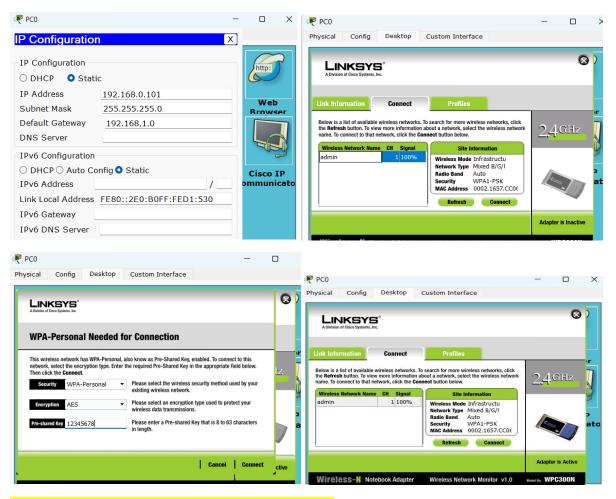
At first PC0 off these then scroll and then remove and add and last the on



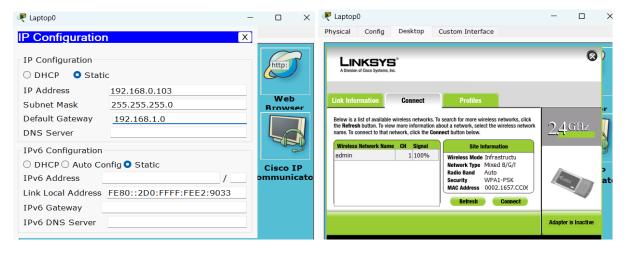
The Laptop0 off and remove then add and on these

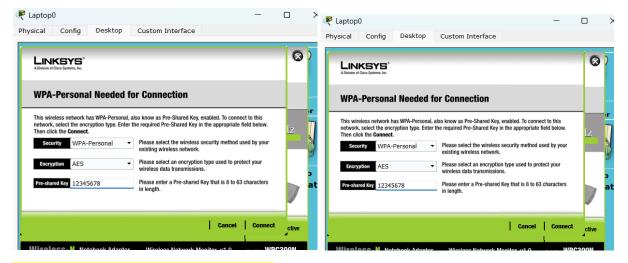


Two time set these one time set after leave then again go DCHP and go the Static and set again

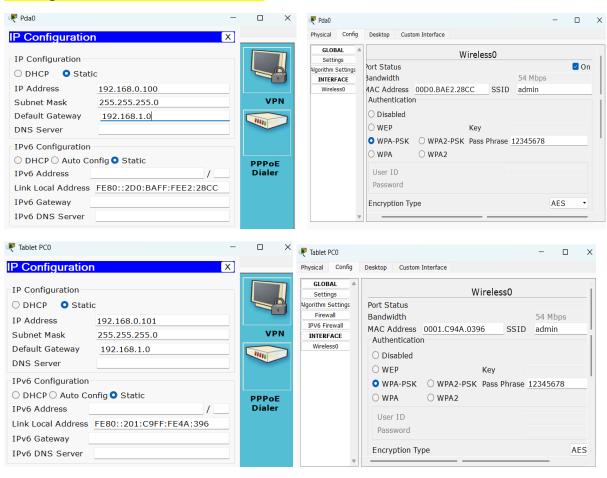


The two time connects the admin password





Same process connected two times

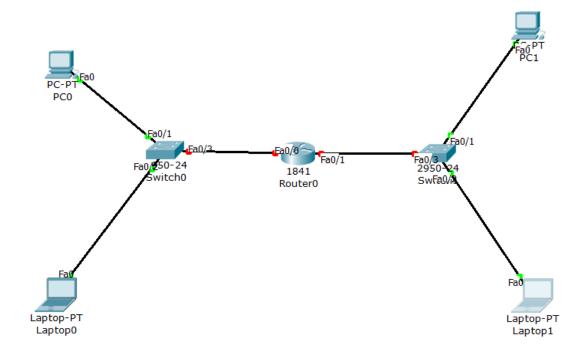


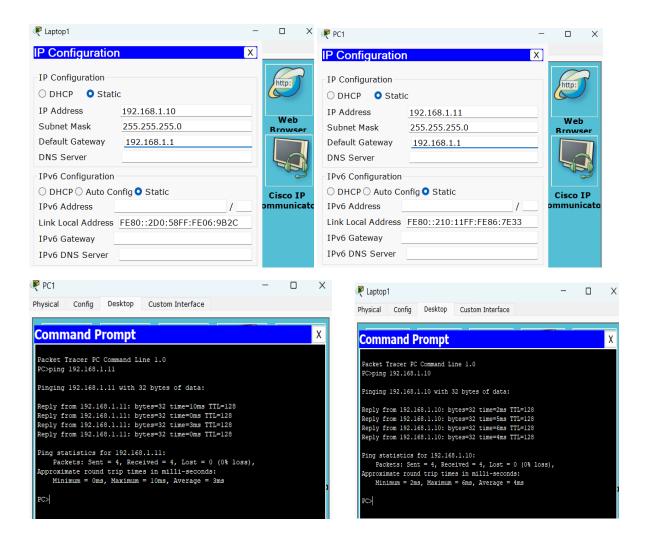
All set the run

Experiment No.: 03

Name of the Experiment: Transfer packets through two different network Required Component:

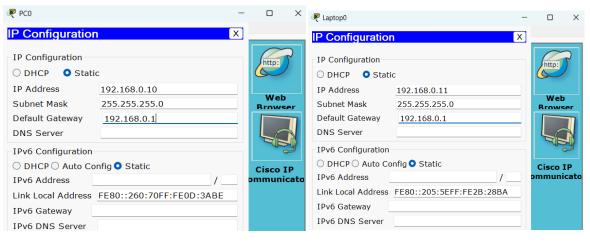
- (1). Switch
- (2). UTP Cable (Straight Through)
- (3). End Device (Desktop, Laptop etc)
- (4). IP Address (192.168.1.0, 192.168.2.0)
- (5). Router



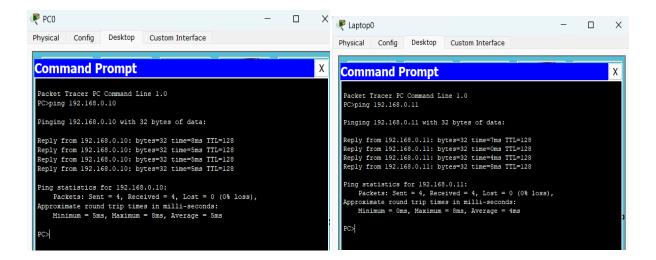


PC1 = Ping 192.168.1.11

Laptop1 = ping 192.168.1.10

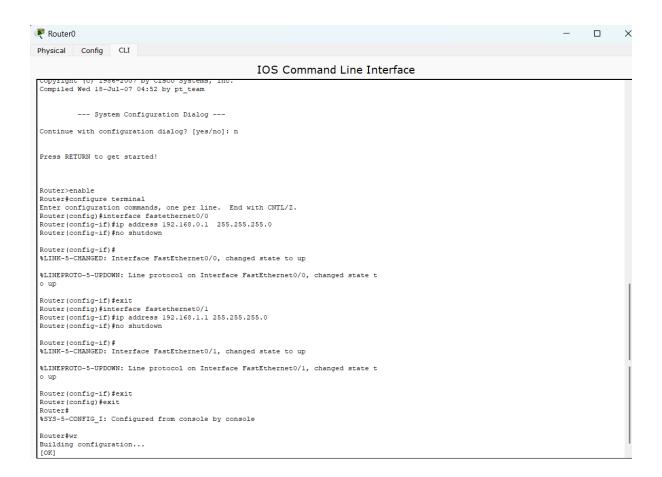


Set Static Ip



PC0 = ping 192.168.0.10

Laptop0 = ping 192.168.0.11



--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: n

Press RETURN to get started!

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface fastethernet0/0

Router(config-if)#ip address 192.168.0.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)# %LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#interface fastethernet0/1

Router(config-if)#ip address 192.168.1.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)# %LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#exit

Router(config)#exit

Router# %SYS-5-CONFIG I: Configured from console by console

Router#wr

Building configuration... [OK]

THEN RUN

At first pc the router then router theke onno pc

This output represents configuring a Cisco router, setting IP addresses on its interfaces, and saving the configuration. Here's a breakdown of the process:

1. Starting Configuration:

 The system configuration dialog is skipped (Continue with configuration dialog? [yes/no]: n), so manual configuration is initiated. After pressing Enter, the router prompts with Router>.

2. Enabling Configuration Mode:

- The enable command grants access to privileged EXEC mode (Router#).
- The configure terminal command moves into global configuration mode (Router(config)#).

3. Configuring Interfaces:

- o Interface fastethernet0/0:
 - The IP address 192.168.0.1 with a subnet mask of 255.255.255.0 is assigned.
 - no shutdown activates the interface, bringing it up.
 - Confirmation messages %LINK-5-CHANGED and %LINEPROTO-5-UPDOWN indicate the interface's status change to "up."
- Interface fastethernet0/1:
 - Assigned IP address 192.168.1.1 with a subnet mask of 255.255.255.0.
 - no shutdown brings the interface up.
 - Similar status messages confirm this change.

4. Saving Configuration:

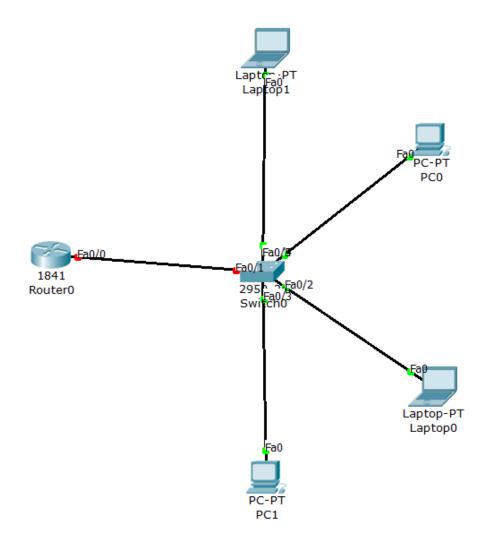
 The wr (write) command saves the configuration to the startup configuration file in the router's NVRAM.

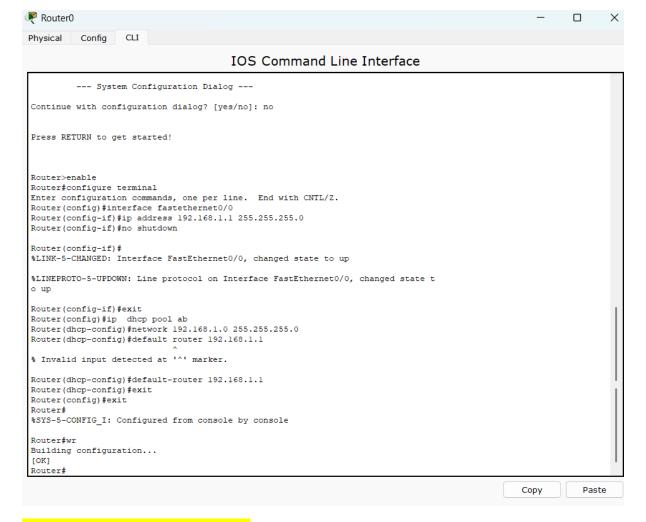
Experiment No.: 04

Name of the Experiment: Dynamic IP through DHCP

Required Component:

- (1). Switch
- (2). UTP Cable (Straight Through)
- (3). End Device (Desktop, Laptop etc)
- (4). IP Address (192.168.1.0)
- (5). Router





--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface fastethernet0/0

Router(config-if)#ip address 192.168.1.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#ip dhcp pool ab

Router(dhcp-config)#network 192.168.1.0 255.255.255.0

Router(dhcp-config)#default-router 192.168.1.1

Router(dhcp-config)#exit

Router(config)#exit

Router#

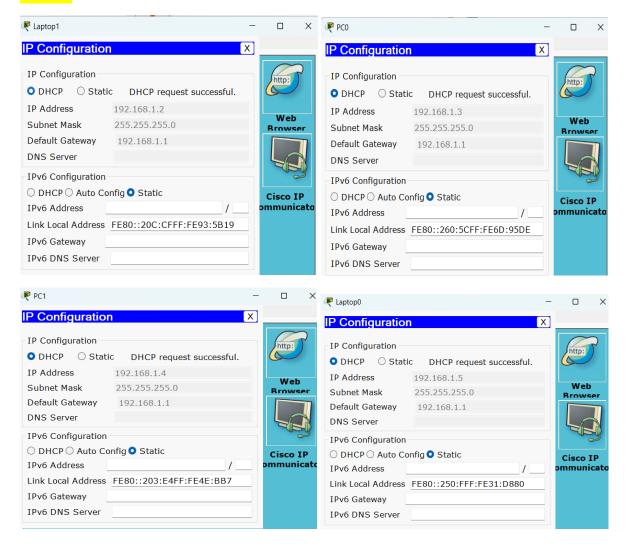
%SYS-5-CONFIG_I: Configured from console by console

Router#wr

Building configuration...

[OK]

Router#



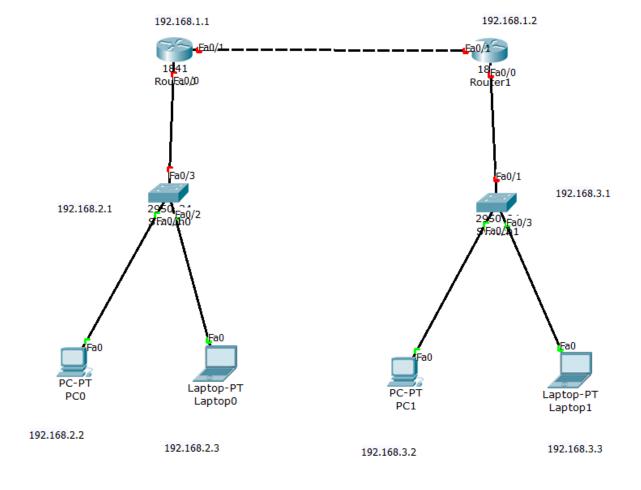
Then Run

Experiment No.: 05

Name of the Experiment: Configure Routing Information Protocol (RIP)

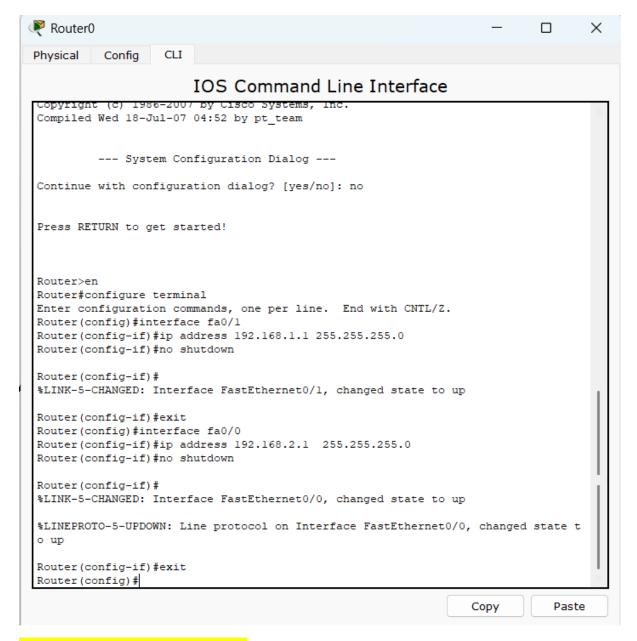
Required Component:

- (1). Switch
- (2). UTP Cable (Straight Through)
- (3). Ethernet crossover cable
- (4). End Device (Desktop, Laptop etc)
- (5). Router





this ware used



--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface fa0/1

Router(config-if)#ip address 192.168.1.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

Router(config-if)#exit

Router(config)#interface fa0/0

Router(config-if)#ip address 192.168.2.1 255.255.255.0

Router(config-if)#no shutdown

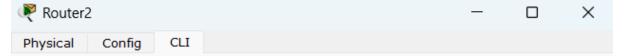
Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#



IOS Command Line Interface

```
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt team
         --- System Configuration Dialog ---
Continue with configuration dialog? [yes/no]: no
Press RETURN to get started!
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config) #interface fa0/1
Router(config-if) #ip address 192.168.1.2 255.255.255.0
Router(config-if) #no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed
o up
Router(config-if)#exit
Router(config) #interface fa0/0
Router(config-if) #ip address 192.168.3.1 255.255.255.0
Router(config-if) #no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed
o up
Router (config-if) #exit
Router (config) #
```

Copy

Paste

--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface fa0/1

Router(config-if)#ip address 192.168.1.2 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#exit

Router(config)#interface fa0/0

Router(config-if)#ip address 192.168.3.1 255.255.255.0

Router(config-if)#no shutdown

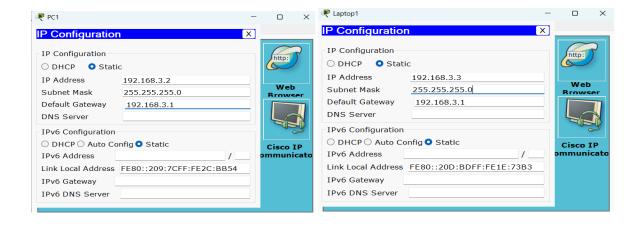
Router(config-if)#

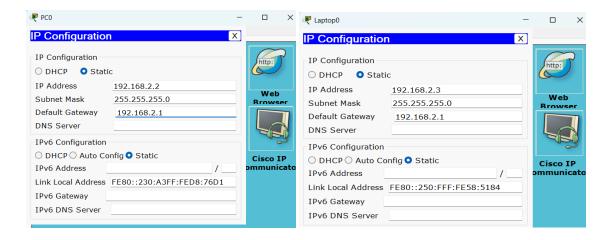
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

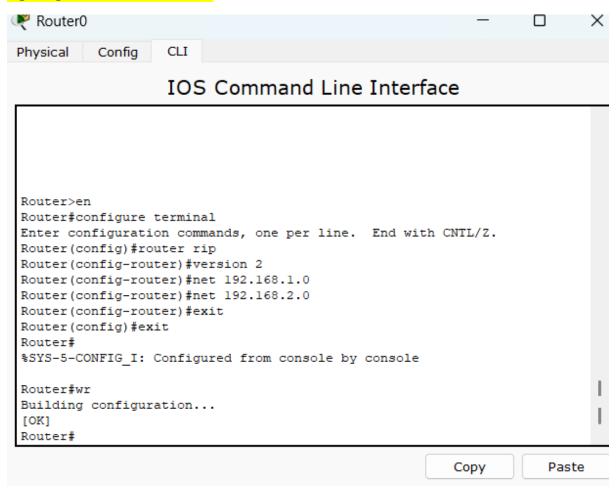
Router(config-if)#exit

Router(config)#





Agein go to the router 0 clc



Router>en

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#net 192.168.1.0

Router(config-router)#net 192.168.2.0

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG_I: Configured from console by console

Router#wr

Building configuration...

[OK]

Router#

Again go to the Router 2



| _ | | | | | | | _ |
|---|-----|---|--------|---------------------------|-----|----|-----|
| D | ~ | 4 | r> | ~ 4 | • • | L | 1 ~ |
| к | () | | · > | -1 | 12 | 11 | 16 |
| | v | u | | $\mathbf{v}_{\mathbf{I}}$ | ıч | w. | |

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router rip

Router(config-router)#version 2

Router(config-router)#net 192.168.1.0

Router(config-router)#net 192.168.3.0

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG_I: Configured from console by console

Router#wr

Building configuration...

[OK]

Router#

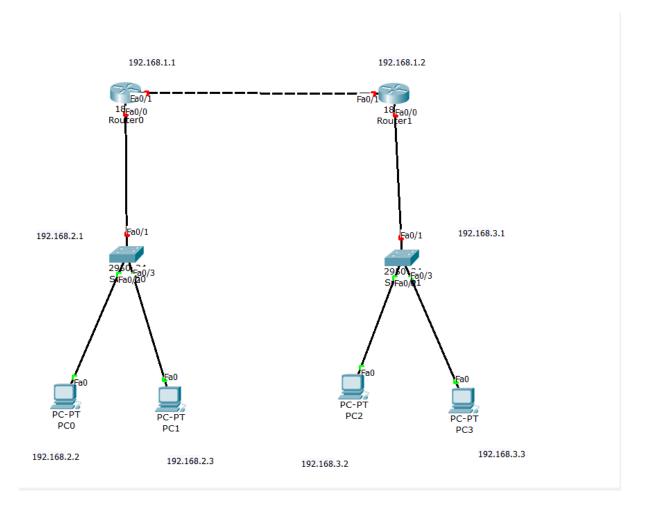
Then run

Name of the Experiment: 06

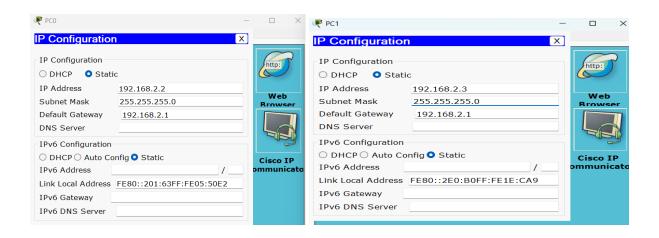
Name of the Experiment: Configure Open Shortest Path First (OSPF) Routing Protocol

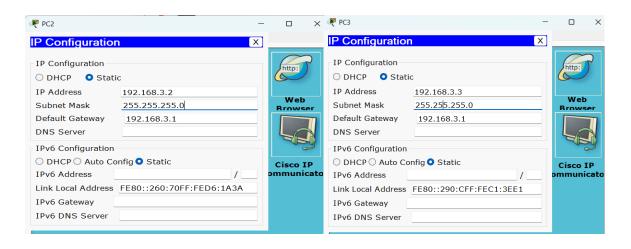
Required Component:

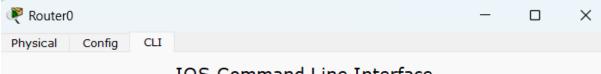
- (1). Switch
- (2). UTP Cable (Straight Through)
- (3). Ethernet crossover cable
- (4). End Device (Desktop, Laptop etc)
- (5). Router











IOS Command Line Interface

```
--- System Configuration Dialog ---
Continue with configuration dialog? [yes/no]: no
Press RETURN to get started!
Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config) #int fa0/1
Router(config-if) #ip address 192.168.1.1 255.255.255.0
Router(config-if) #no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
Router (config-if) #exit
Router(config) #int fa0/0
Router(config-if) #ip address 192.168.2.1 255.255.255.0
Router(config-if) #no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state t
Router(config-if) #exit
Router(config)#
```

--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int fa0/1

Router(config-if)#ip address 192.168.1.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

Router(config-if)#exit

Router(config)#int fa0/0

Router(config-if)#ip address 192.168.2.1 255.255.255.0

Router(config-if)#no shutdown

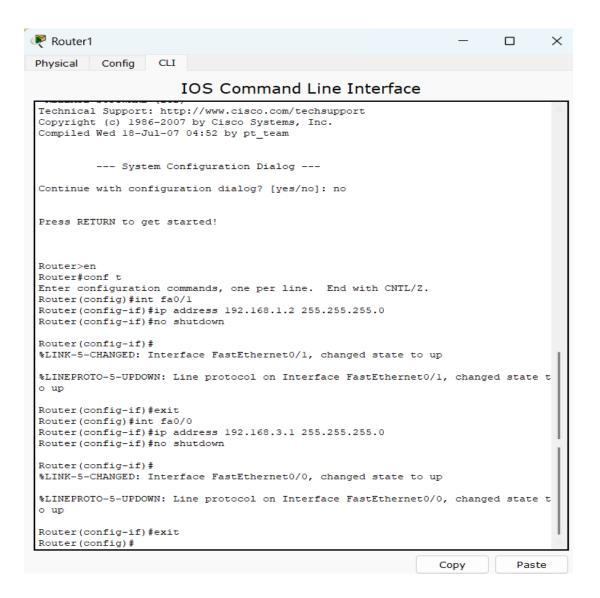
Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#



--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int fa0/1

Router(config-if)#ip address 192.168.1.2 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#exit

Router(config)#int fa0/0

Router(config-if)#ip address 192.168.3.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

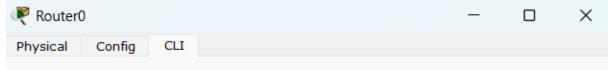
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#

Again go to the router 0



IOS Command Line Interface

```
Router (config-if) #exit
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed
Router(config) #router ospf 1
Router(config-router) #net 193.168.1.0 0.0.0.255 area 0
Router(config-router) #net 192.168.1.0 0.0.0.255 area o
% Invalid input detected at '^' marker.
Router(config-router) #net 192.168.1.0 0.0.0.255 area 0
Router(config-router) #net 192.168.2.0 0.0.0.255 area 0
Router(config-router) #no shutdown
% Invalid input detected at '^' marker.
Router(config-router) #exit
Router (config) #exit
Router#
%SYS-5-CONFIG I: Configured from console by console
Router#wr
Building configuration...
[OK]
Router#
```

Copy

Paste

Router(config)#router ospf 1

Router(config-router)#net 192.168.1.0 0.0.0.255 area 0

Router(config-router)#net 192.168.2.0 0.0.0.255 area 0

Router(config-router)#no shutdown ^

Router(config-router)#exit

Router(config)#exit

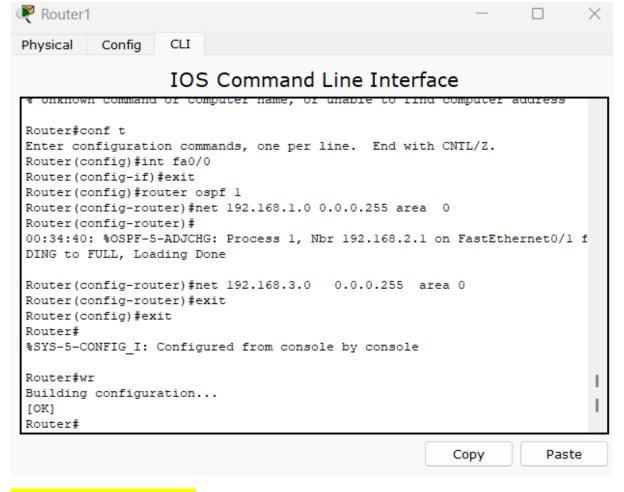
Router#

%SYS-5-CONFIG_I: Configured from console by console

Router#wr

Building configuration...

[OK]



Router(config)#router ospf 1

Router(config-router)#net 192.168.1.0 0.0.0.255 area 0

Router(config-router)#

00:34:40: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.2.1 on FastEthernet0/1 from LOADING to FULL, Loading Done

Router(config-router)#net 192.168.3.0 0.0.0.255 area 0

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG I: Configured from console by console

Router#wr

Building configuration...

[OK]

Router#

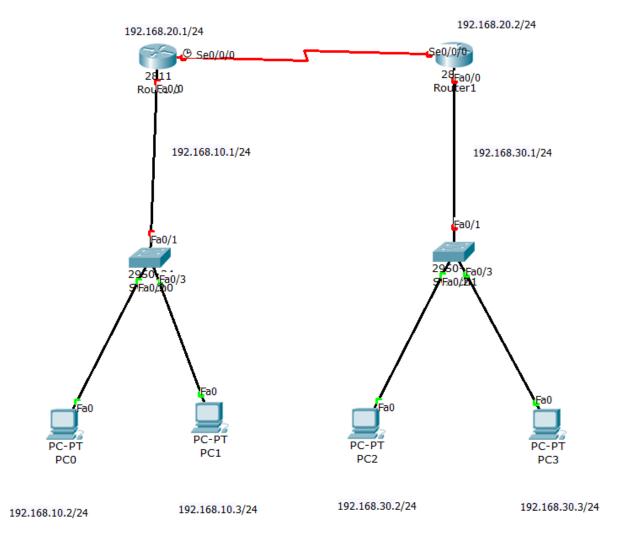
Ru the code

Name of the Experiment: 07

Name of the Experiment: Configure Enhanced Interior Gateway Routing Protocol (EIGRP)

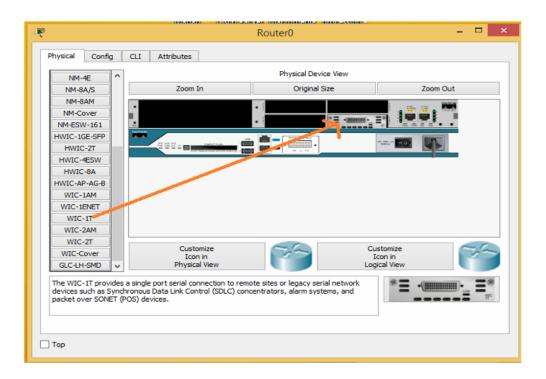
Required Components:

- (1). Switch
- (2). UTP Cable (Straight Through)
- (3). Serial DCE cable
- (4). End Device (Desktop, Laptop etc.)
- (5). Router

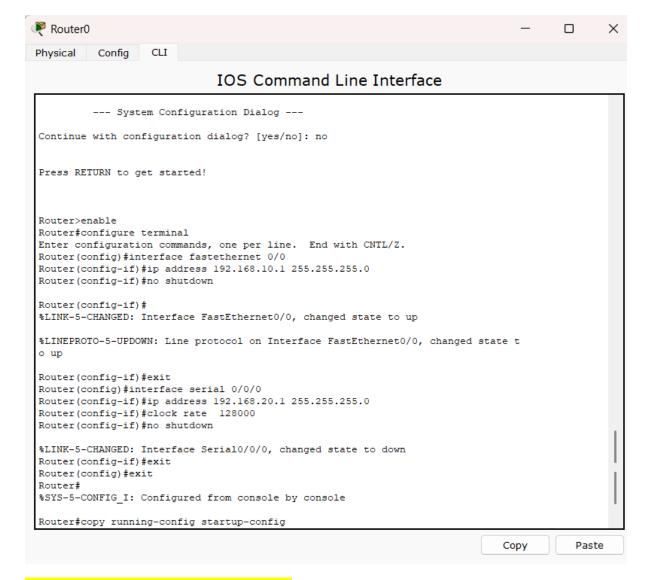


#Procedure:

- (1). Drag and Drop Routers (2811), Switches and PCs.
- (2).Double click on router then by default "Physical" tab. first power off your router. We need to add WIC-!T Module on this router. Then power on your router.



- (2). Select cable and make sure a proper connections.
- (3). Double click on router.
- (4). Click on CLI Tab.
- (5). First assign IP Address of on interface
- (6). Assign EIGRP command. (eigrp then numerical value such as 1,2,3)
- (7). Mention network then subnet mask.
- (8). Finally save this configuration



--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface fastethernet 0/0

Router(config-if)#ip address 192.168.10.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#interface serial 0/0/0

Router(config-if)#ip address 192.168.20.1 255.255.255.0

Router(config-if)#clock rate 128000

Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down

Router(config-if)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG_I: Configured from console by console

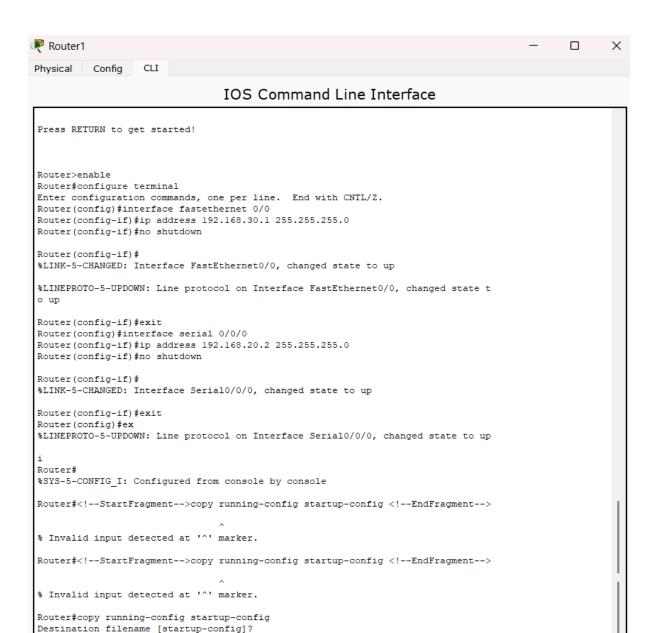
Router#copy running-config startup-config

Destination filename [startup-config]?

Building configuration...

[OK]

Router#



Copy

Paste

--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable

Building configuration...

[OK] Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface fastethernet 0/0

Router(config-if)#ip address 192.168.30.1 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit

Router(config)#interface serial 0/0/0

Router(config-if)#ip address 192.168.20.2 255.255.255.0

Router(config-if)#no shutdown

Router(config-if)#

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up

Router(config-if)#exit

Router(config)#exit

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

Router#

%SYS-5-CONFIG_I: Configured from console by console

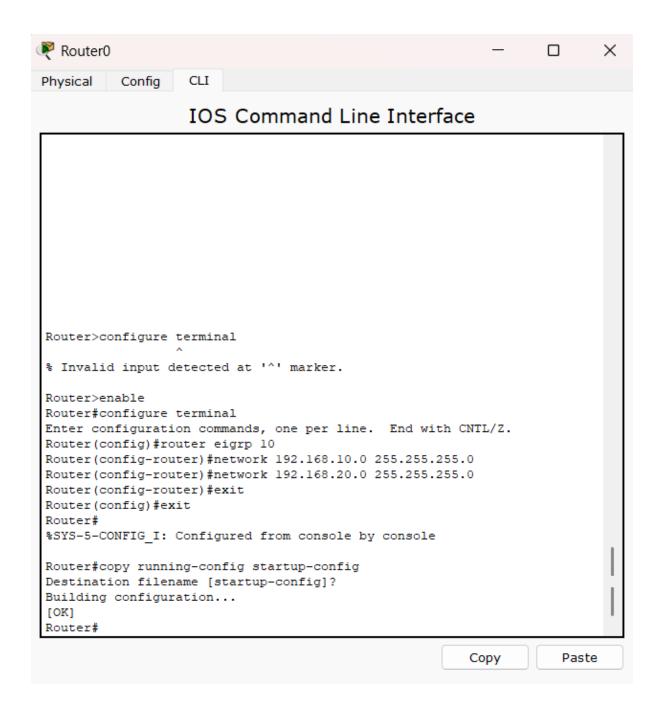
Router#copy running-config startup-config

Destination filename [startup-config]?

Building configuration...

[OK]

Router#



Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router eigrp 10

Router(config-router)#network 192.168.10.0 255.255.255.0

Router(config-router)#network 192.168.20.0 255.255.255.0

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG_I: Configured from console by console

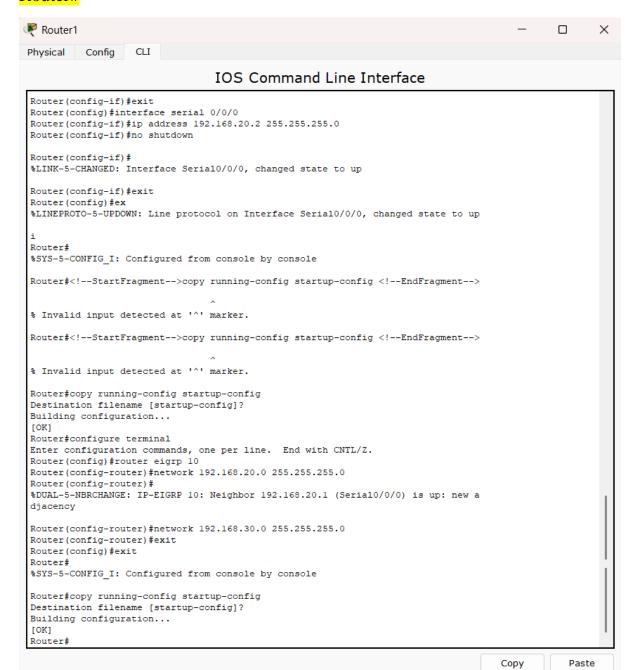
Router#copy running-config startup-config

Destination filename [startup-config]?

Building configuration...

[OK]

Router#



Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router eigrp 10

Router(config-router)#network 192.168.20.0 255.255.255.0

Router(config-router)#

%DUAL-5-NBRCHANGE: IP-EIGRP 10: Neighbor 192.168.20.1 (Serial0/0/0) is up: new adjacency

Router(config-router)#network 192.168.30.0 255.255.255.0

Router(config-router)#exit

Router(config)#exit

Router#

%SYS-5-CONFIG_I: Configured from console by console

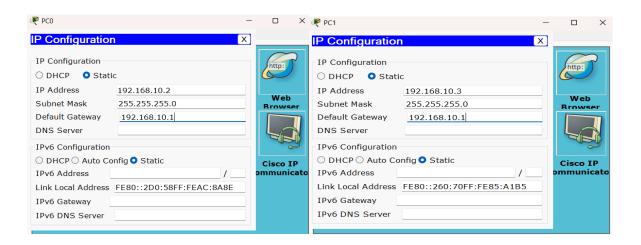
Router#copy running-config startup-config

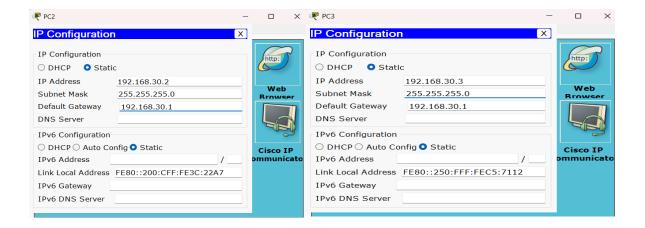
Destination filename [startup-config]?

Building configuration...

[OK]

Router#





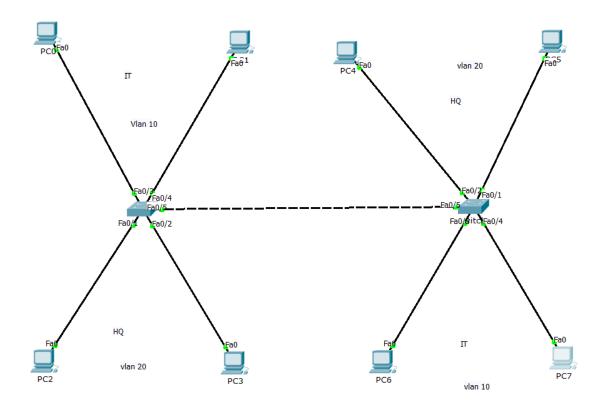
Then run

Name of the Experiment: 08

Name of the Experiment: Configure Virtual Local Area Network (VLAN).

Required Components:

- (1). Switch
- (2). UTP Cable (Straight Through)
- (3). Serial DCE cable
- (4). End Device (Desktop, Laptop etc.)
- (5). Router





These ware used

All data same to same nite hobe

×

Physical

Config

CLI

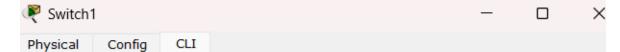
IOS Command Line Interface

```
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed
o up
%LINK-5-CHANGED: Interface FastEthernet0/4, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed
o up
%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed
o up
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config) #vlan 10
Switch(config-vlan) #name IT
Switch (config-vlan) #exit
Switch(config) #vlan 20
Switch(config-vlan) #name HQ
Switch (config-vlan) #exit
Switch(config) #int fa0/1
Switch(config-if) #switchport access vlan 20
Switch(config-if) #exit
Switch(config) #int fa0/2
Switch(config-if) #switchport access vlan 20
Switch (config-if) #exit
Switch(config)#int fa0/3
Switch(config-if) #switchport access vlan 10
Switch (config-if) #exit
Switch(config) #int fa0/4
Switch(config-if) #switchport access vlan 10
Switch(config-if) #exit
Switch(config)#int fa0/5
Switch(config-if) #switchport mode trunk
Switch(config-if)#exit
Switch(config) #interface range fa0/1-4
Switch(config-if-range) #switchport mode access
Switch(config-if-range)#exit
Switch (config) #
Switch (config) #
Switch (config) #
```

Copy

Paste

```
<mark>vlan 10</mark>
<mark>name IT</mark>
<mark>exit</mark>
<mark>vlan 20</mark>
name HQ
<mark>exit</mark>
int fa0/1
switchport access vlan 20
<u>exit</u>
int fa0/2
switchport access vlan 20
<mark>exit</mark>
int fa0/3
switchport access vlan 10
<mark>exit</mark>
int fa0/4
switchport access vlan 10
<mark>exit</mark>
int fa0/5
switchport mode trunk
exit
interface range fa0/1-4
switchport mode access
<mark>exit</mark>
```



IOS Command Line Interface

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed
%LINK-5-CHANGED: Interface FastEthernet0/4, changed state to up
LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed
o up
%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed
o down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed
o up
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config) #vlan 10
Switch(config-vlan) #name IT
Switch (config-vlan) #exit
Switch(config) #vlan 20
Switch(config-vlan) #name HQ
Switch (config-vlan) #exit
Switch(config) #int fa0/1
Switch(config-if) #switchport access vlan 20
Switch (config-if) #exit
Switch(config) #int fa0/2
Switch(config-if) #switchport access vlan 20
Switch (config-if) #exit
Switch(config) #int fa0/3
Switch(config-if) #switchport access vlan 10
Switch (config-if) #exit
Switch(config) #int fa0/4
Switch(config-if) #switchport access vlan 10
Switch (config-if) #exit
Switch(config) #int fa0/5
Switch(config-if) #switchport mode trunk
Switch(config-if) #exit
Switch(config) #interface range fa0/1-4
Switch(config-if-range) #switchport mode access
Switch(config-if-range)#exit
Switch (config) #
Switch (config) #
Switch (config) #
Switch (config) #
Switch (config) #D
```

```
<mark>vlan 10</mark>
<mark>name IT</mark>
<mark>exit</mark>
<mark>vlan 20</mark>
name HQ
<mark>exit</mark>
int fa0/1
switchport access vlan 20
<u>exit</u>
int fa0/2
switchport access vlan 20
<mark>exit</mark>
int fa0/3
switchport access vlan 10
<mark>exit</mark>
int fa0/4
switchport access vlan 10
<mark>exit</mark>
int fa0/5
switchport mode trunk
exit
interface range fa0/1-4
switchport mode access
<mark>exit</mark>
```

