

Computer Communications

EXPERIMENT-5

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Aim: To configure default routing between two routers.

PROCEDURE:

- (i) Connect two routers with serial connection
0/2/0 (click on router → physical → WIC-IT
& maximize, poweroff, drag and drop router
from WIC-IT & power on)
- (ii) Connect each router to a switch and a
switch to three PC's.
- (iii) Assign PC-0, PC-1, a class 'C' IP address
ie; 192.168.10.2, 192.168.10.3 and PC-3,
PC-4 with class 'C' IP address, 192.168.30.2
192.168.30.3.
- (iv) Configure the routers with fast ethernet IP
address as 192.168.10.1 and 192.168.30.1.

iv) Assign IP address to the routers for serial connection as 192.168.20.1 and 192.168.20.2 by typing following commands in CLI of router.

Router 1

enable

Configure terminal

interface serial 0/2/0.

IP address 192.168.20.1 255.255.255.0

clock rate 128000

no shutdown.

exit

fast ethernet 6/0

IP address 192.168.10.1 255.255.255.0

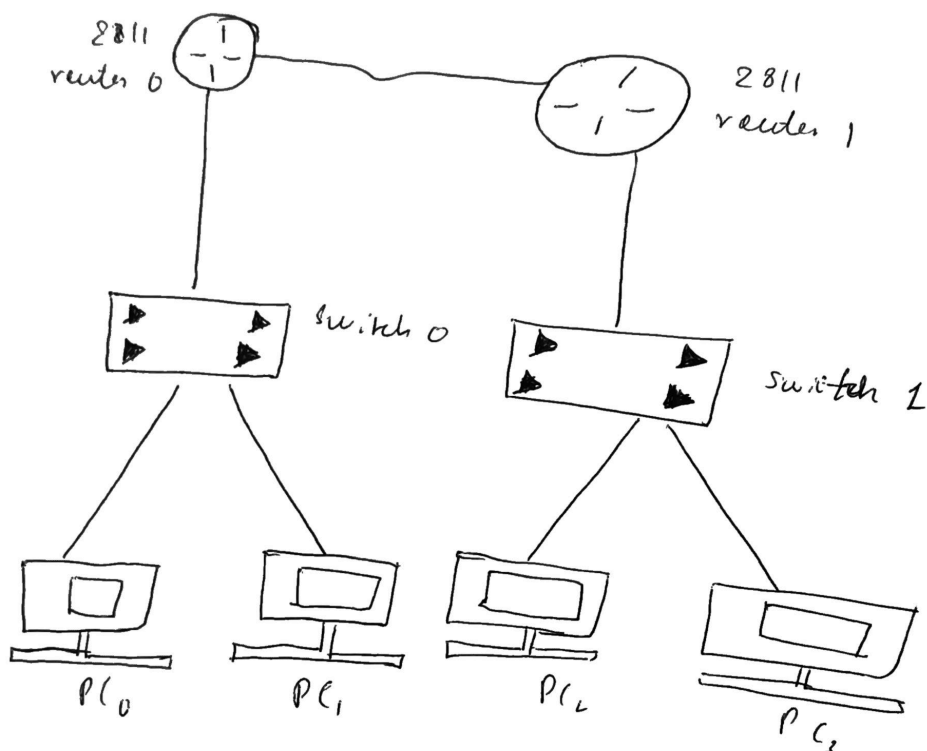
no shutdown

exit

IP route 0.0.0.0 0.0.0.0 192.168.20.2.

exit.

Diagram:



Router 2

enable

configure terminal

interface serial 0/210.

IP address 192.168.20.2 255.255.255.0

clock rate 128000

no shutdown

exit

interface fast ethernet 0/0.

IP address 192.168.30.1 255.255.255.0.

no shutdown

exit

IP route 0.0.0.0 0.0.0.0 192.168.20.1.

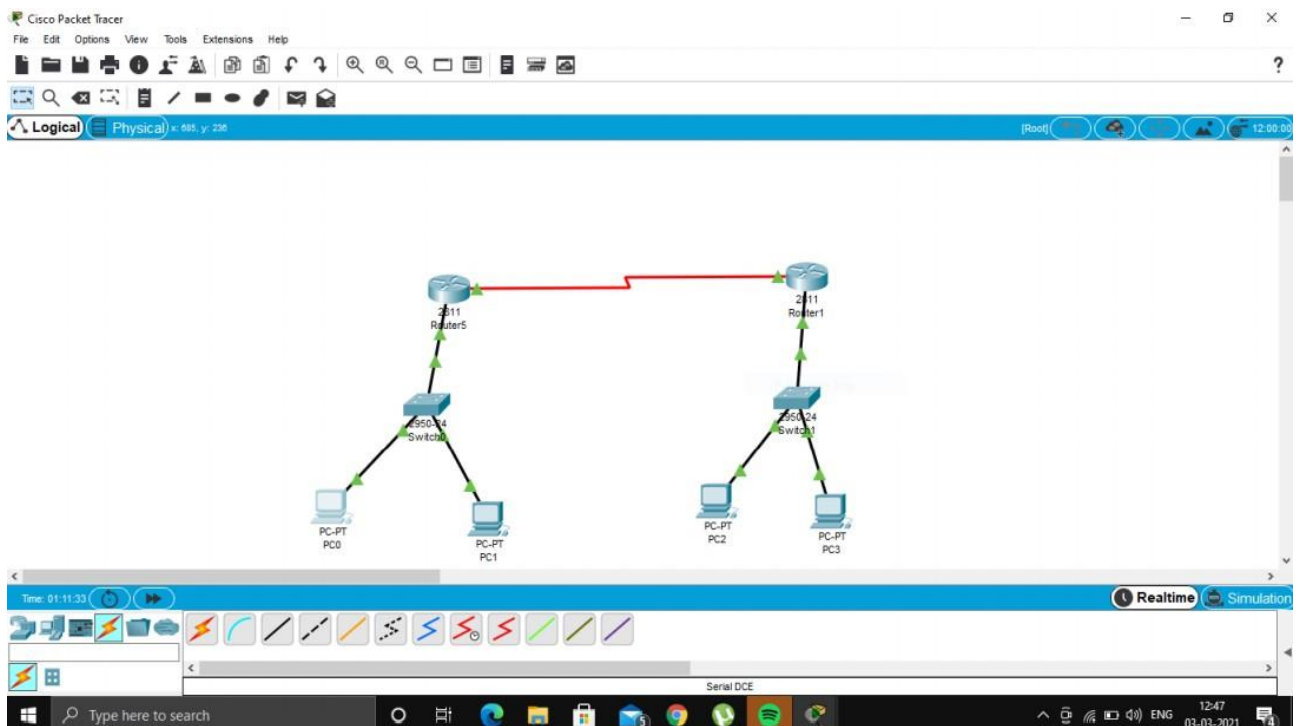
exit

(vi) Go to command prompt and check if all PCs in other network is accessible by Ping commands.

Ping commands

1) Ping 192.168.20.2

2) Ping 192.168.30.1



Router1

Physical Config CLI Attributes

IOS Command Line Interface

```
Would you like to enter the initial configuration dialog? [yes/no]: n

Press RETURN to get started!

Router>enable
Router(config)#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface serial 0/1/0
Router(config-if)#ip address 192.168.20.2 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-S-CHANGED: Interface Serial0/1/0, changed state to up

Router(config-if)#exit
Router(config)#
%LINEPROTO-S-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

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-S-CHANGED: Interface FastEthernet0/0, changed state to up

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

Router(config-if)#exit
Router(config)#ip route 0.0.0.0 0.0.0.0 192.168.20.1
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Ctrl+F6 to exit CLI focus
```

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Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

Would you like to enter the initial 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 serial 0/1/0
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#exit
Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 192.168.10.1
% Incomplete command.
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)#
Router(config)#ip route 0.0.0.0 0.0.0.0 192.168.20.2
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up
```

Ctrl+F6 to exit CLI focus

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Router5

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router(config-if)#exit
Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 192.168.10.1
% Incomplete command.
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)#
Router(config)#ip route 0.0.0.0 0.0.0.0 192.168.20.2
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#interface Serial0/1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

Ctrl+F6 to exit CLI focus

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