

TITLE :

Connection between two separate channel (using 2960 switch and a single method router).

To connect two separate channels (VLANs) using a Cisco 2960 switch and a single router in Cisco Packet Tracer, you're essentially implementing Router-on-a-stick.

Objective :

connect two VLANs (say VLAN 10 and VLAN 20) using a singular router and one switch (2960) so that devices in both VLANs can communicate.

Devices Required :

- 1) 1 router (eg. 1941)
- 2) 2 switch (eg. 2960)
- 3) At least 2 PCs (one for each VLAN)
- 4) copper straight through cables

Step : 1

CONNECTION OF DEVICES

In the experiment I have connected the devices as following:

(1) 1941 router connected with two 2960 switches using copper straight through cables in Gigabit Ethernet 0/0, & Gigabit Ethernet 0/1 ports.

(2) I have connected 3 PCs with each switch using copper straight through cables. It means each channel has 3 PCs in it connected via 2960 switch.

Step - 2

CONFIGURE INTERFACES ON ROUTER

- Open or click on the router
- Then select the CLI tab and follow the steps →
 - i) First click enter / press enter key two times.

i) then write the following instructions :

Router > enable

Router # configure terminal

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

Router (config) # interface g0/0.

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 Gigabit Ethernet 0/0, changed state to up

% LINEPROTO - 5 - UPDOWN : line protocol on Interface.

Gigabit Ethernet 0/0, changed state to up
exit.

Router (config) # interface g0/1

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 Gigabit Ethernet 0/1, changed state to up

% LINEPROTO - 5 - UPDOWN : line protocol on Interface
Gigabit Ethernet 0/1, changed state to up

exit.

Step 3

SET IP address on PCs

a) On (VLAN10)

→ Set IP for 3 PCs like 192.168.1.2, 192.168.1.3,

and 192.168.1.4

→ Subnet mask will be the same → 255.255.255.0

→ Default gateway for this network will be 192.168.1.1

b) On (VLAN20)

→ Set IP for 3 PCs like 192.168.2.2, 192.168.2.3, 192.168.2.4

→ Subnet mask will be the same → 255.255.255.0

→ Default gateway for this network will be : 192.168.2.1

STEP 4 :TEST CONNECTION BY SENDING MESSAGES

→ 1) Click the message (envelope) icon present in the top. It looks like a closed envelope. This is called "Add Simple PDU". (Basic Ping).

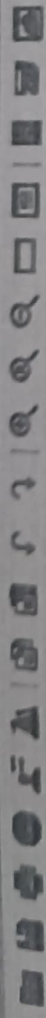
2) Now after clicking click on the source PC.

3) Now after that click the destination PC.

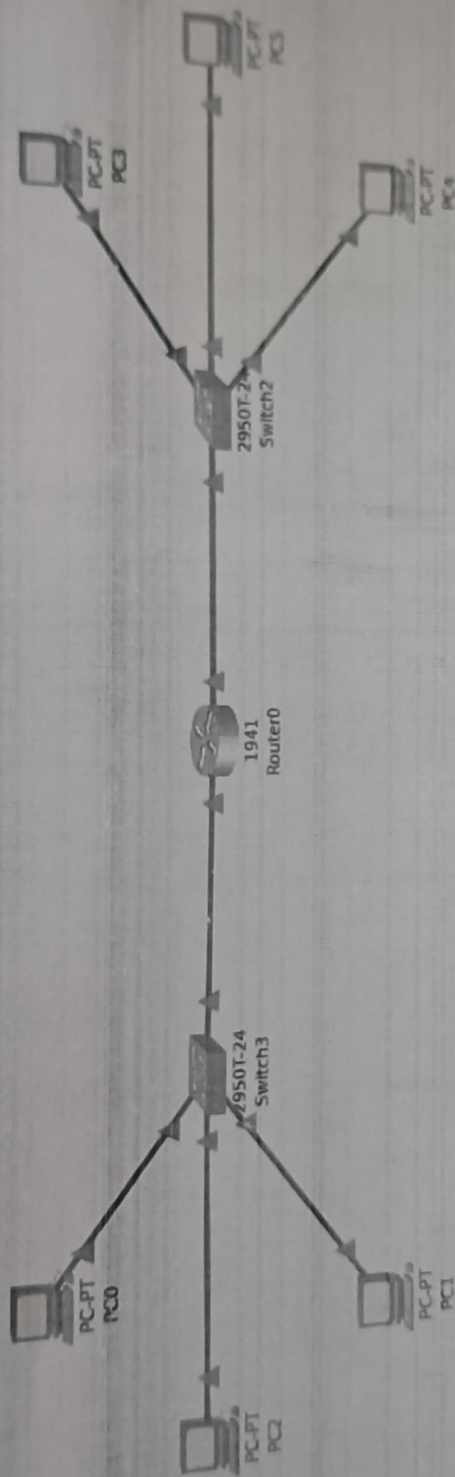
4) Now view the result.

The test done in the CISCO packet tracer application & the printout of the entire test is shown in the next page.

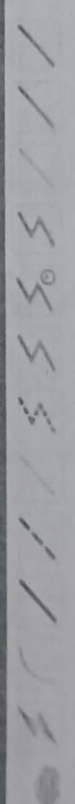
— X —



logical Physical



Time: 00:29:40



Copper Straight Through

Scenario 0

New Delete

Save Scenario

Fire	Last Status	Source	Destination	Type	Class	Threshold	Packet	Count
	Failed	PC0	PC4	IC		0.000	N	0
	Successful	PC0	PC4	IC		0.000	N	0
	Failed	PC0	PC3	IC		0.000	N	0
	Successful	PC0	PC3	IC		0.000	N	0

Realtime Simulation