Practical - 9

28.9.24

Castfull Subnetting

Aim: Implementation of subnetting in Cisco packed tracer

Procedure:

1) Create the network using switches, router, PC's

2) The IP address will be as follows

→ router R_1
* Gigabit ethernet 0/0 : 192.168.1.1
* Gigabit ethernet 0/1 : 192.168.2.1

also enable the 'ON' option for both giga ethernet on the page

→ switch S_1
* no IP

→ LAN - 1
* PC 0
IP address : 192.168.1.11
Gateway : 192.168.1.1

* PC 1
IP : 192.168.1.12
Gateway : 192.168.1.1

* PC 2
IP : 192.168.1.13
Gateway : 192.168.1.1
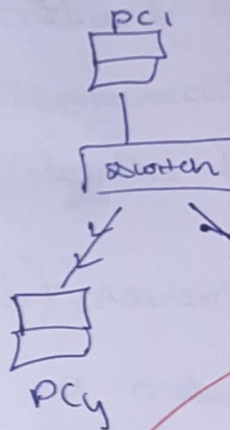
→ switch S_2
* NO IP

→ LAN - 2
* PC 5
IP address
Gateway :

* PC 6
IP : 192.16
Gateway : 192

Diagramatic

→ switch S_2

   * NO IP

→ αAN-2

   • PC 5

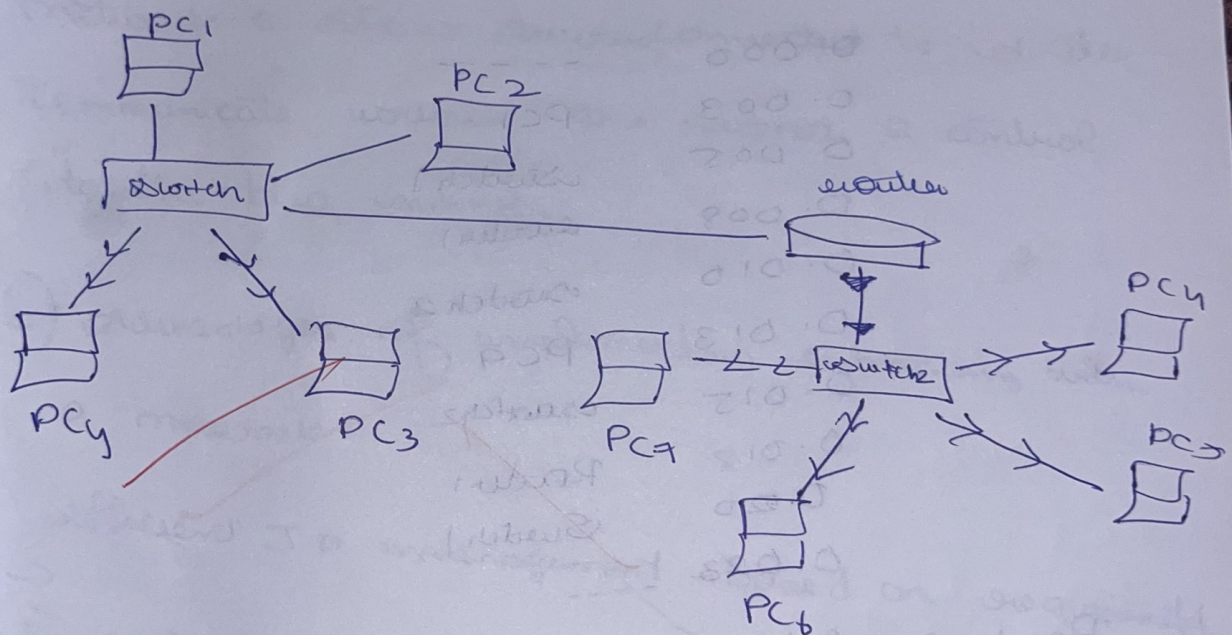   IP addeem : 192.168.2.11

    Galeway : 192.168.2.1

  • PC 6

    IP : 192.168.2.12

    galuway : 192.168.2.1

① Diagramatic ceepeesentation :

Output:

Now lets assume the sender is PC 1 &
receiver PC7

while simulating & observing, we get this
simulation panel.

Simulation Panel

event list

Vis	time	Last device
	0.000	- - - -
	0.003	PC1
	0.005	switch1
	0.008	router1
	0.010	switch2
	0.013	PC9
	0.015	switch2
	0.018	Router1
	0.020	switch1
	0.023	- - - -

Reset simulation ☐ Constant delay

Play controls

[114] [▷] [◁▷]
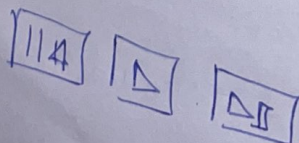
Fire	Last status	save	des	Type	Color	Time Gru	Pn no
⊙	Successful	PC1	PC9	ICMP ☐		0.000	N 0

Student Observation

a) Write down the understanding of subnetting

Subnetting is the process of sending a large IP network and manageable section called subnets. each subnet act as independent network & allow devices connected to it do communicate within the subnet & control traffic b/w subnets.

b) Advantages of implementing subnetting with a network.

efficient IP management — based on requirements

→ reduce network congestion — limit broadcast traffic to individual subnets.

Result :-
        The implementation of subnetting in cisco has been done successfully.