

EXPERIMENT-9

DATA LINK LAYER TRAFFIC SIMULATION USING PACKET TRACER ANALYSIS OF CSMA/CD & CSMA/CA

Aim: To implement Data Link Layer Traffic Simulation using Packet Tracer Analysis of CSMA/CD & CSMA/CA. Software / Apparatus required: Packet Tracer / End devices, Switches, connectors.

Requirements:

1. End device - They are the devices through which we can pass message from one device to another and they are interconnected.
2. Switch/Hub - Interface Between two devices.
3. Cable - Used to connect two devices

Procedure:

STEP 1: Click on end devices, select generic Pc's drag and drop it on the window. Click on SWITCH drag and drop it on the window.

STEP 2: Select the straight through cable and connect all end device to switch. Assign the IP address for all end devices. (Double click the end device Select → desktop → IP configuration static)

STEP 3: Now set the IP address to Host A (192.168.1.1) in static mode. Similarly set IP address for Host B (192.168.1.2) and Host C (192.168.1.3)

STEP 4: To view the IP address, give ip config command in command prompt. Using ping command, we can establish communication between two host devices.

STEP 5: Now display the packet transmission in simulation mode.

NOTE:

Ip addresses:

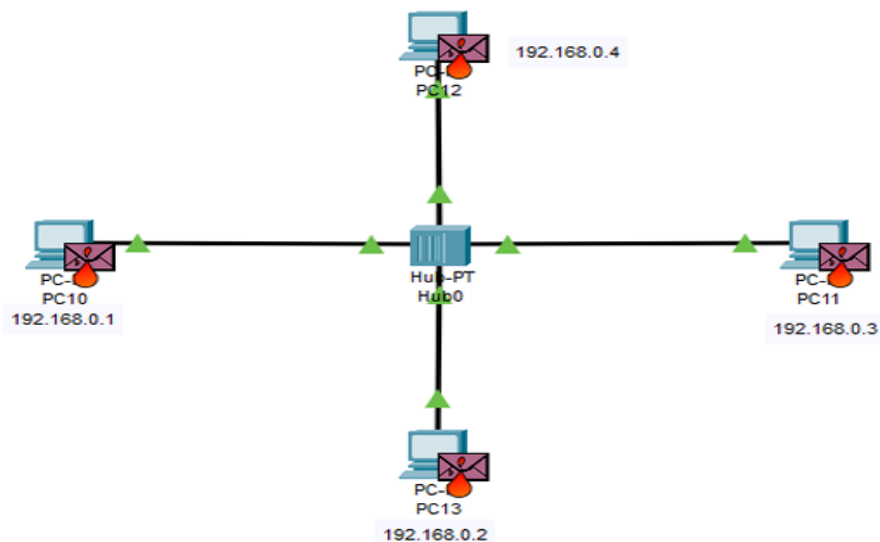
Pc0:132.32.0.1

Pc1:132.32.0.2

Pc2:132.32.0.3

Pc3:132.32.0.4

Diagram:



Output:

The screenshot shows the Packet Tracer simulation interface. The network diagram is identical to the one above. The Event List panel on the right displays the following data:

Vis.	Time(sec)	Last Device
	0.004	Hub0
	0.004	Hub0
	0.004	Hub0
	0.004	--
	0.005	PC6
	0.006	Hub0
	0.006	Hub0
	0.006	Hub0
	0.007	PC4
	0.008	Hub0
	0.008	Hub0
	0.008	Hub0

Below the Event List, there are Play Controls (Reset Simulation, Constant Delay, Captured to: 2326.719 s) and a list of Event List Filters. At the bottom, a table shows the status of the simulation:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC6	PC4	ICMP		0.000	N	0	(edit)	(delete)

Result: Thus Data Link Layer Traffic Simulation using Packet Tracer Analysis of CSMA/CD & CSMA/CA is implemented successfully.