

19/02/25

### EXPERIMENT-8

#### 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 3. Switch/Hub - Interface Between two devices  
. Cable - Used to connect two devices

#### Procedure:

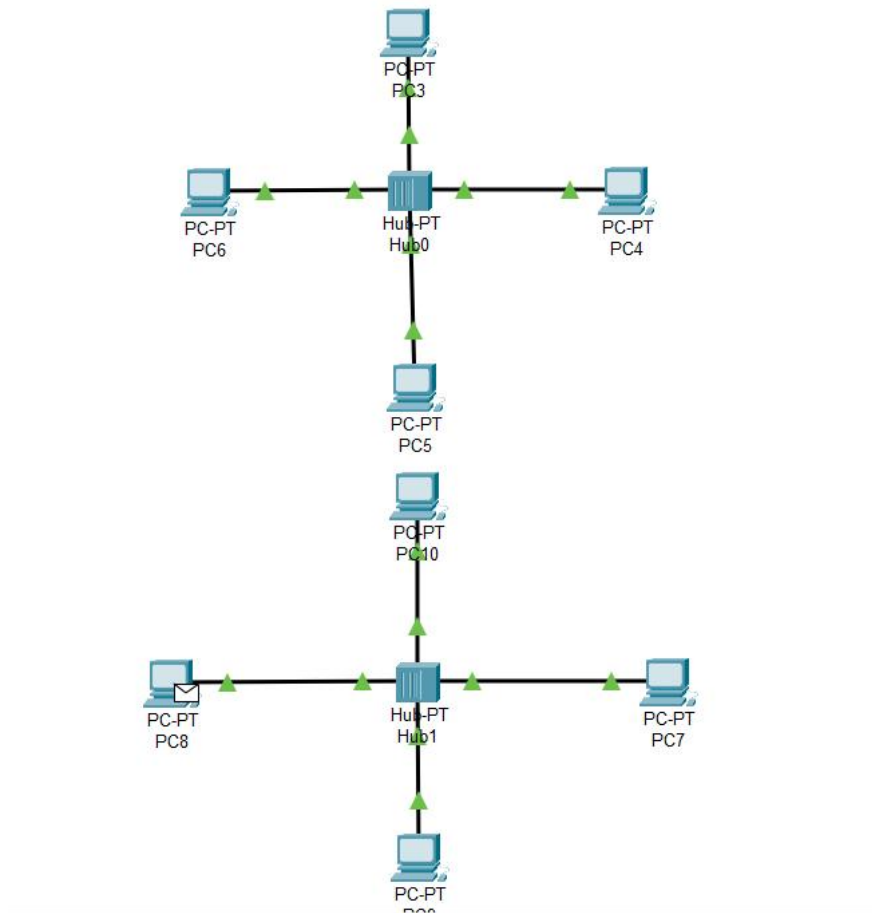
STEP 1: Click on end devices, select generic Pc's drag and drop it on the window. Click on SWITCH drag and drop it on the window.

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.

## Diagram:



## Output-

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x:100% y:642

Simulation Panel

Event List

Vis	Time(sec)	Last Device
486.834	-	
486.834	-	
486.835	Hub0	Hub0
486.835	Hub0	Hub0
486.835	Hub0	Hub0
486.835	PC4	PC4
486.836	Hub1	Hub1
486.836	Hub1	Hub1
486.836	Hub1	Hub1
486.837	PC7	PC7
486.838	Hub1	Hub1
486.838	Hub1	Hub1
486.838	Hub1	Hub1
486.838	Hub1	Hub1
486.838	-	
486.839	PC4	PC4
486.840	Hub1	Hub1
486.840	Hub1	Hub1
486.840	Hub1	Hub1
486.841	PC7	PC7
Visible 486.842	Hub1	Hub1
Visible 486.842	Hub1	Hub1
Visible 486.842	Hub1	Hub1

Reset Simulation Constant Delay Captured to: 657.661 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, ILL2, IGMP, ISAKMP, ISAKMPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, L2L3, LACP, LLDP, MIB, NTP, NETCONF, NTP, OSPF, OSPFv6, PAgP, PAgPv6, PPP, PPPoE, PTP, RADIUS, RDP, RDPv6, RTP, SCTP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:19:50.702 PLAY CONTROLS

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
Success	Successful	PC3	PC7	ICMP		486.827	N	0	(edit)	
Success	Successful	PC4	PC7	ICMP		486.834	N	1	(edit)	

Logos HUI List Window

Copper Straight-Through

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