

Date:

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.

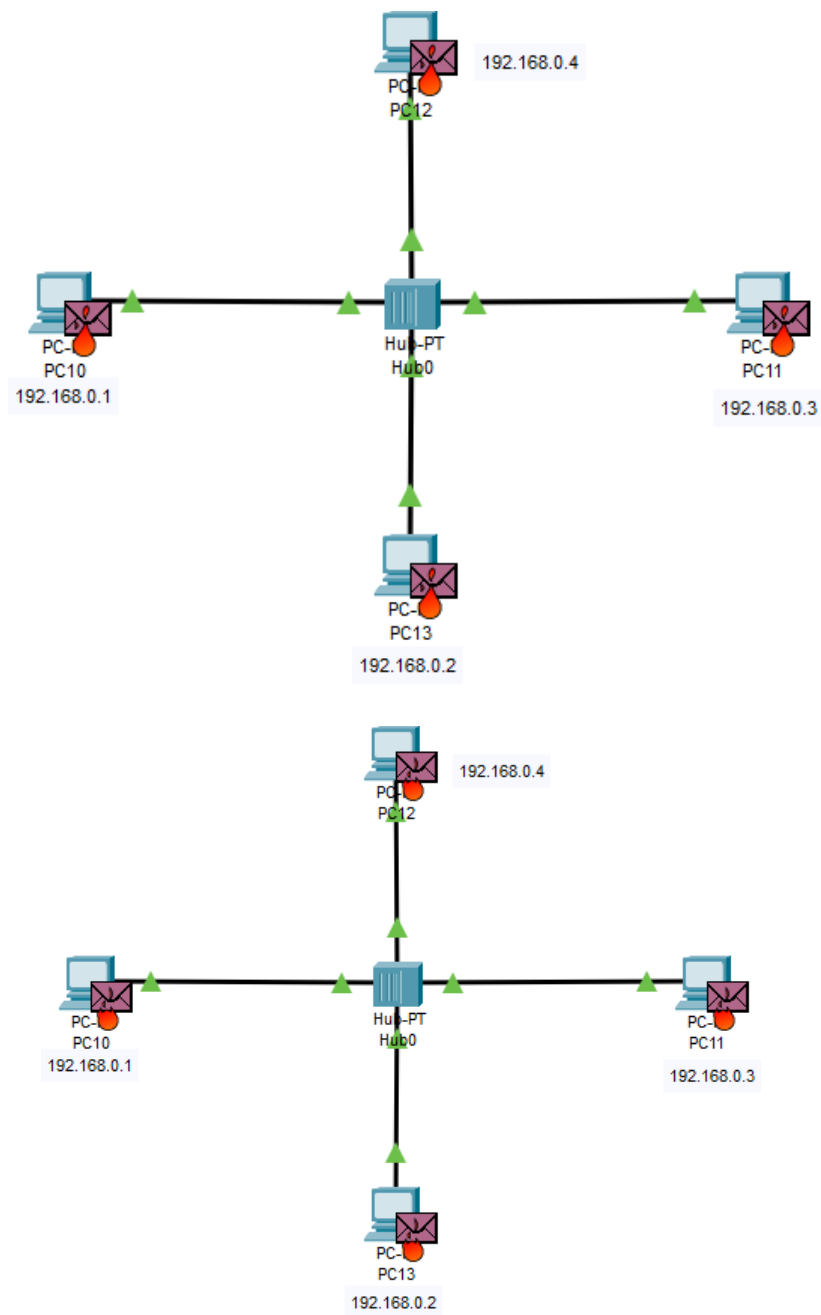
STEP 2: Select the straight through cable and connect all end device to switch. Assign the IP address for all end devices. (Double click the end device Select → desktop → IP configuration static)

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.

Diagram:



Output:

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x:1002, y:642

Simulation Panel

Event List

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

Reset Simulation Constant Delay Captured to: 857.681 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, ETP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Mesh, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPng, RTP, SDP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Tunnel, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:19:50.762 PLAY CONTROLS

Scenario 0

Toggle POUList Window

File	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
Successful	PC0	PC3	ICMP	486.827	N	0	(edit)	(delete)		
Successful	PC4	PC7	ICMP	486.834	N	1	(edit)	(delete)		

Copper Straight Through

Simulation

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