

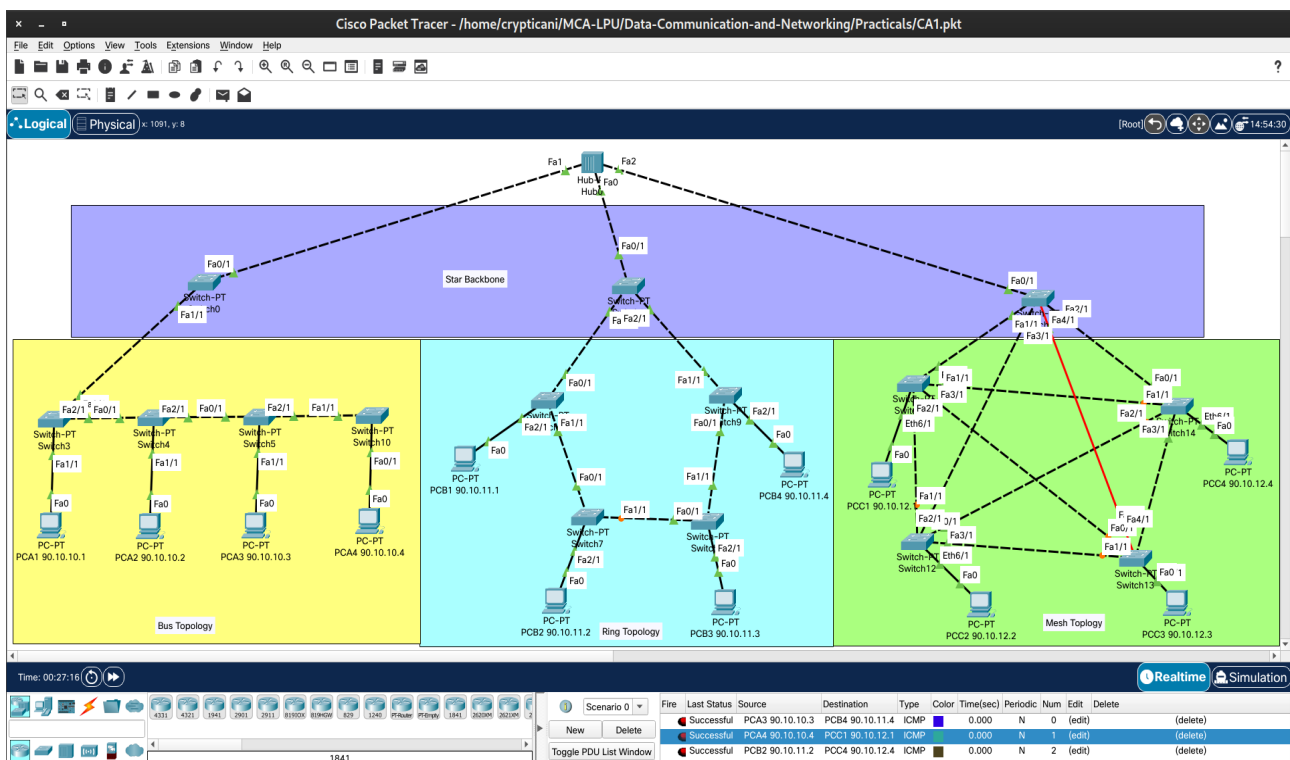
Online Assignment-1

Course Code:	CAP 276	Course Title:	Data Communication and Networking-Laboratory
Course Instructor: Avinash Bhagat			
Student's Roll no:	RD2112B81	Student's Reg. no:	12108348
Name: Aniket Kumar			
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1. Objective:

Design a network topology with a star backbone connected to bus, ring and mesh topologies.

2. Network Snapshot with proper labelling:



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3. Initial IP Configuration:

Device	Interface	IP Configuration	Connected with
PCA1	Fa0	90.10.10.1	Switch3
PCA2	Fa0	90.10.10.2	Switch4
PCA3	Fa0	90.10.10.3	Switch5
PCA4	Fa0	90.10.10.4	Switch10
PCB1	Fa0	90.10.11.1	Switch6
PCB2	Fa0	90.10.11.2	Switch7
PCB3	Fa0	90.10.11.3	Switch8
PCB4	Fa0	90.10.11.4	Switch9
PCC1	Fa0	90.10.12.1	Switch11
PCC2	Fa0	90.10.12.2	Switch12
PCC3	Fa0	90.10.12.3	Switch13
PCC4	Fa0	90.10.12.4	Switch14
Switch0	Fa0/1	-----	Hub0
Switch0	Fa1/1	-----	Switch3
Switch1	Fa0/1	-----	Hub0
Switch1	Fa1/1	-----	Switch6
Switch1	Fa2/1	-----	Switch9
Switch2	Fa0/1	-----	Hub0
Switch2	Fa1/1	-----	Switch11
Switch2	Fa2/1	-----	Switch14
Switch2	Fa3/1	-----	Switch12
Switch2	Fa4/1	-----	Switch13
Hub0	Fa0	-----	Switch1
Hub0	Fa1	-----	Switch0
Hub0	Fa2	-----	Switch2

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4. Process Description:

Creating the Network:

Step-1: First of all, take a hub which is going to be main backbone of the network.

Step-2: Take 3 switches, namely Switch0, Switch1, Switch2 and connect it to the hub in star topology.

Step-3: For Bus Topology, Take 4 switches and 4 PCs and connect 1 PC to each Switch and each switch in a sequence to form a Bus topology.

Step-4: Connect first switch of Bus topology to Switch0.

Step-5: For Ring Topology, Take 4 switches and 4 PCs and connect 1 PC to each Switch and each switch in a sequence.

Step-6: Connect first switch and last switch to Switch1 to form a ring, so that, it becomes a Ring topology.

Step-7: For Mesh Topology, Take 4 switches and 4 PCs and connect 1 PC to each Switch and each switch to every other 3 switches.

Step-8: Connect Switch2 with all 4 switches of this network, so that it will become a Mesh topology.

Step-9: Finally, the network is created. Now wait for some time, so that the network becomes active by learning the paths.

Assigning the IP address:

Step-1: Click on the PC.

Step-2: Go to Desktop → IP configuration.

Step-3: Enter IPv4 address and Subnet mask of the class of IP the address.

Transferring the Packets:

Step-1: From toolbar, select "Add Simple PDU (P)".

Step-2: Select source and destination PCs to transfer.

Step-3: Select a protocol, for example, ICMP.