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Computer Networks Lab (CS 353): Lab 8/Assignment 6 (Graded)

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1. Design a network scenario using a Layer-3 Switch where devices (Wired Nodes in NetSim) D1, D2, D3 belong to VLAN 1 and D4, D5 belong to VLAN2 and D6, D7 belong to VLAN3. Configure the IP Addresses using the example experiments (Understanding VLAN routing in L2-L3-switches). Create a unicast CBR application between VLAN1 <-> VLAN2 & VLAN2 and VLAN3. Plot the link-layer and application layer metrics.

2. Design a VLAN network scenario using two layer-3 switches where devices 1, 2, 3 are wireless, and belong to VLAN-1 and are connected to switch 1. Devices 4, 5, 6, 7 are wired and connected to switch-2 where 4, 5 belong VLAN-1 and 6, 7 belong to a VLAN-2. Create multiple applications (CBR) from D1 to D4 and D5 to D2. Also, create similar applications between D6 to D3 and D4 to D7. Document the switching tables, all the application and link layer metrics. The example application, "understanding access and trunk links in VLAN" can be used as a reference.