**Lab 1 [Basics of Packet Tracer]**

**Outline:**

1. Creating a Simple Network with a switch and observe MAC address table working.
2. Understanding various switch modes
3. Basic Cisco Switch Configurations

**Tasks:**

1. Create a network with one switch and four PCs.
2. Connect each PC to the switch using copper straight-through cables.
3. Assign IP addresses to the PCs within the same subnet (e.g., 192.168.1.2, 192.168.1.3, 192.168.1.4, 192.168.1.5).
4. Use ping command to test the connections by pinging different nodes over the LAN.
5. Open switch CLI and use show mac-address-table command to view the mac address table and observe its behaviour after each ping.

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| * **User EXEC Mode:** The initial mode after accessing the switch CLI, limited to basic monitoring commands. Indicated by the > prompt. * **Privileged EXEC Mode:** Accessed by typing enable at the User EXEC prompt. Allows access to more advanced monitoring commands. Indicated by the # prompt. * **Global Configuration Mode:** Accessed by typing configure terminal in Privileged EXEC mode. Used for making global configuration changes. Indicated by the (config)# prompt. |

1. Use switch CLI and above stated commands to move from one mode to another.
2. Change the hostname of switch to “SystemsLab”.

Switch> enable

Switch# configure terminal

Switch(config)# hostname SystemsLab

SystemsLab(config)# exit

SystemsLab # write memory

1. Assign IP address to the switch

SystemsLab(config)# interface vlan 1

SystemsLab (config-if)# ip address 192.168.1.1 255.255.255.0

SystemsLab (config-if)# no shutdown

SystemsLab (config-if)# exit

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| * **Console Password (line console 0)**: Protects local access via the console. * **VTY Password (line vty 0 4)**: Protects remote access via Telnet or SSH. * **Enable Password (enable password)**: Protects Privileged EXEC mode, but is stored in plaintext. * **Enable Secret (enable secret)**: Protects Privileged EXEC mode, with the password stored in encrypted form (more secure). |

1. Set the password to the console port and configuration mode of switch.

SystemsLab# configure terminal

SystemsLab(config)# line console 0

SystemsLab(config-line)# password cisco123

SystemsLab(config-line)# login

SystemsLab(config-line)# exit

SystemsLab(config)# enable secret cisco123

SystemsLab(config)# exit

SystemsLab# write memory