# PT Lab – Basic VLAN Configuration

BACKGROUND

VLAN stands for virtual local area network. Their purpose is exactly what the name implies, they can be used to segment a network. VLANs also create smaller broadcast domains, which help to improve network performance (broadcasts only have to go to devices in a specific VLAN and not the entire network). The below screenshot helps to represent this idea. The purpose of this lab to perform basic VLAN configuration and see how, even though the PCs are technically within the same IP subnet, they can't communicate with each other because they're in separate VLANs.
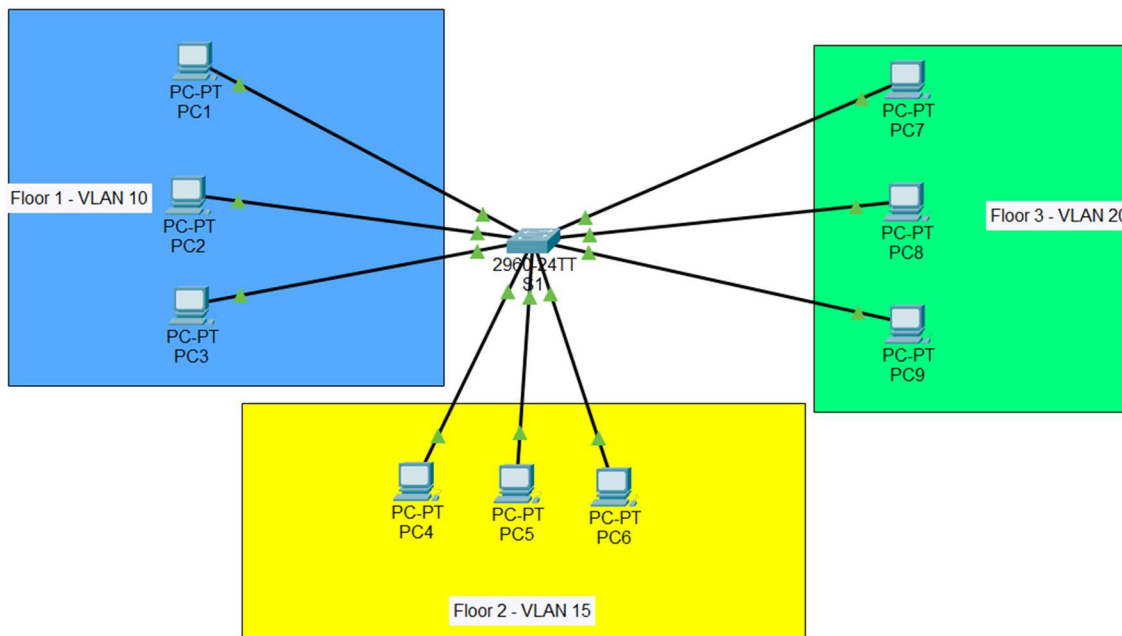
ADDRESSING TABLE

Use the below addresses to help get started.

DEVICE	INTERFACE	IP ADDRESS / VLAN	SUBNET MASK
PC1	NIC	192.168.10.10	255.255.255.0
PC2	NIC	192.168.10.20	255.255.255.0
PC3	NIC	192.168.10.30	255.255.255.0
PC4	NIC	192.168.10.40	255.255.255.0
PC5	NIC	192.168.10.50	255.255.255.0
PC6	NIC	192.168.10.60	255.255.255.0
PC7	NIC	192.168.10.70	255.255.255.0
PC8	NIC	192.168.10.80	255.255.255.0
PC9	NIC	192.168.10.90	255.255.255.0
S1	F0/1 – F0/3	VLAN 10 – Floor1	N/A
S1	F0/4 – F0/6	VLAN 15 – Floor2	N/A
S1	F0/7 – F0/9	VLAN 20 – Floor3	N/A

OBJECTIVES

- Configure S1 with a basic switch configuration
    - Add a hostname [Hostname: S1] to the switch
    - Disable IP domain lookups
    - Configure an encrypted password [Password: Lab1]
    - Configure a password for the console [Password: Lab1]
    - Configure synchronous logging on the console
    - Configure a password for the virtual lines [Password: Lab1]

- Add VLANs to S1
    - Add VLAN 10 to S1 [VLAN Name: Floor1]
    - Add VLAN 15 to S1 [VLAN Name: Floor2]
    - Add VLAN 20 to S1 [VLAN Name: Floor3]
    - Add VLAN 99 to S1 [VLAN Name: Blackhole]

- Configure VLANs on S1 interfaces
    - VLAN 10 should be added to interfaces F0/1 – F0/3
    - VLAN 15 should be added to interfaces F0/4 – F0/6
    - VLAN 20 should be added to interfaces F0/7 – F0/9
    - Don't forget to turn on interfaces
    - All other interfaces should be placed in VLAN 99. These interfaces should be disabled.
- Configure the PC workstations using the above addressing scheme. Use Packet Tracer's built-in IP configuration tool on the workstations.

- Test VLAN connectivity
    - PCs in VLAN 10 should be able to ping each other
    - PCs in VLAN 15 should be able to ping each other
    - PCs in VLAN 20 should be able to ping each other