**Lab 3.1.1.2: VLAN Implementation**

**Objective**

Implement VLANs to segment a small- to medium-sized network. Students will use the Lab 3.1 Activity to implement the VLAN Planning. Develop your own topology for this implementation.

Create the topology using Packet Tracer. Let the instructor check your work.

1. Topology
2. VLAN Configuration
3. Verify Connectivity

**Scenario**

ABC Co. Inc., hired you to design a VLAN switched network for their small- to medium- sized business. The company business rent a two floors space on a high-rise building. The following elements need VLAN consideration and access for planning purposes:

- Management
- Finance
- Sales
- Human Resources
- Network administrator
- General visitors to your business location

You have one (1) Cisco 2900-24PS switches. Use a word processing software program to design your VLAN-switched network scheme.

**Part 1: Setup Devices in Packet Tracer using the designed topology**

3. Use the table in Lab 3.1 to implement the VLAN Plan.
4. Each should have at least 2 desktop pc assigned
5. Assigned different network address and IP address for each VLAN and desktop pc
6. Using the table below, add some information on your existing table at Lab 3.1.

| Department | Assigned VLAN Name and Number | Switchport Number | PC Numbers | IP Address |
|---|---|---|---|---|
| Management | Vlan 100 – mgt | 1 – 4 | PC1, PC2 | 192.168.10.1 – 2 |
| Finance | Vlan 200 – fin | 5 – 8 | PC3, PC4 | 192.168.20.1 – 2 |
| Sales | Vlan 300 – sales | 9 – 12 | PC5, PC6 | 192.168.30.1 – 2 |
| Human Resources | Vlan 400 – HR | 13 – 16 | PC7, PC8 | 192.168.40.1 – 2 |

| | | | | |
|---|---|---|---|---|
| Network administrator | Vlan 99 - Admin | 17 – 20 | PC9, PC10 | 192.168.99.1 – 2 |
| Visitors | Vlan 500 - Visitors | 21 – 24 | PC11, PC12 | 192.168.50.1 – 2 |

**Reflection**

1. What is the significance of using VLAN in a small network?
2. Can you list some advantages and disadvantages in implementing VLAN in a network?
3. What is the result of pinging pc's that belongs to a VLAN? Does the result similar with pinging pc's in a different VLAN? Why?