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Task 12

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**What is difference between “VLAN & Inter-VLAN Routing”, explain with Example (draw structure in cisco)**

### **VLAN (Virtual Local Area Network):**

* **Definition:** VLAN is a logical grouping of devices within the same physical network. Devices in a VLAN communicate with each other as if they were on the same physical network, regardless of their actual physical location.
* **Purpose:** It separates a network into smaller, isolated segments for better performance, security, and management.
* **Communication:** Devices within the same VLAN can communicate directly without a router.

### **Inter-VLAN Routing:**

* **Definition:** Inter-VLAN routing is the process of enabling communication between devices in different VLANs using a router or a Layer 3 switch.
* **Purpose:** Facilitates communication between VLANs that are logically separated.
* **Communication:** Requires routing functionality to forward traffic between VLANs.

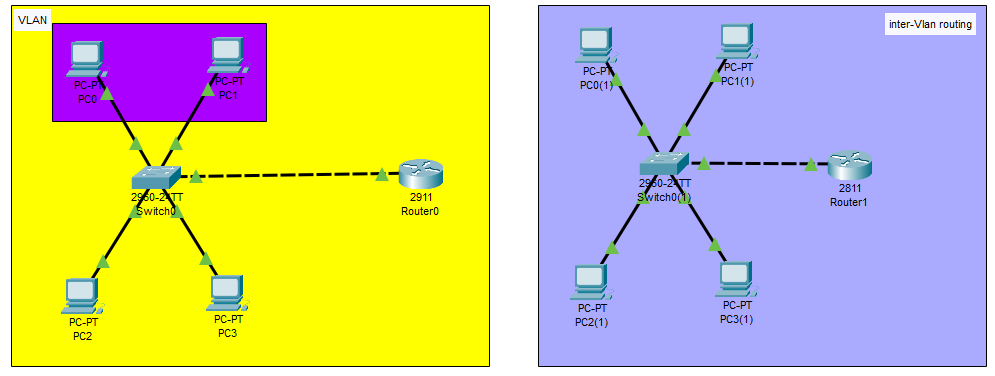
### **Example:**

#### **VLAN:**

* **VLAN 10:** Sales department (e.g., 192.168.10.0/24)
* **VLAN 20:** IT department (e.g., 192.168.20.0/24)
* Devices within VLAN 10 can only communicate with devices in VLAN 10 and not with VLAN 20.

#### **Inter-VLAN Routing:**

* A router or a Layer 3 switch with routing functionality is configured to allow devices in VLAN 10 to communicate with devices in VLAN 20.

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