**Superior University Reiwend Road**

Name: Haseeb Arshad

Roll no: SU92–BSSEM-F22-177

Section:5D

Subject: CN Lab  
Task 2

Submitted to: Sir Rasikh Ali

**What is “DHCP, VLAN & DNS”, explain with Example (draw structure in cisco**)

**1. DHCP (Dynamic Host Configuration Protocol)**

DHCP is a network protocol used to dynamically assign IP addresses and other configuration details (like subnet mask, default gateway, DNS server) to devices in a network.

**Why Use DHCP?**

Reduces manual IP configuration.

Efficient for managing large networks.

**Example:**

Router/Server: Acts as a DHCP server.

Client Devices: Receive IP configurations automatically.

**2. VLAN (Virtual Local Area Network)**

VLANs divide a physical network into multiple logical networks, isolating traffic and improving performance and security.

**Why Use VLAN?**

Better network segmentation.

Reduces broadcast domains.

**Example:**

VLAN 10 for HR, VLAN 20 for IT.

Devices in each VLAN communicate only within their VLAN unless routed.

**3. DNS (Domain Name System)**

DNS translates domain names (e.g., www.google.com) into IP addresses that computers use to communicate.

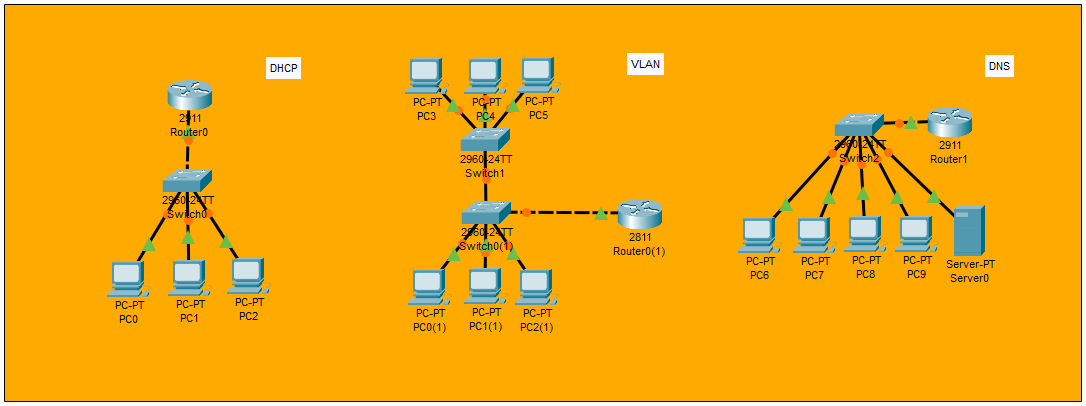
**Why Use DNS?**

Simplifies accessing resources using easy-to-remember names.

Essential for internet and intranet navigation.

**Example:**

DNS Server resolves www.example.com to 192.168.1.100.

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