

## Packet Tracer - Design and Implement a VLSM Addressing Scheme

### Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
	G0/0			N/A
	G0/1			N/A
	S0/0/0			N/A
	G0/0			N/A
	G0/1			N/A
	S0/0/0			N/A
	VLAN 1			
	VLAN 1			
	VLAN 1			
	VLAN 1			
	NIC			
	NIC			
	NIC			
	NIC			

### Objectives

In this lab you will design a VLSM addressing scheme given a network address and host requirements. You will configure addressing on routers, switches, and network hosts.

- Design a VLSM IP addressing scheme given requirements.
- Configure addressing on network devices and hosts.
- Verify IP connectivity.
- Troubleshoot connectivity issues as required.

### Background / Scenario

You have been asked to design, implement, and test an addressing scheme for a customer. The customer has given you the network address that is suitable for the network, the topology, and the host requirements. You will implement and test your design.

### Instructions

You have been given the network address \_\_\_\_\_ by your customer. The host address requirements are:

### Requirements

**Host Requirements:**

LAN	Number of Addresses Required

**Design Requirements**

- Create the addressing design. Follow guidelines provided in the curriculum regarding the order of the subnets.
- The subnets should be contiguous. There should be no unused address space between subnets.
- Provide the most efficient subnet possible for the point-to-point link between the routers.
- Assign the subnets in the order of the number of hosts from the greatest to the least.
- Document your design in a table such as the one below.

Subnet Description	Number of Hosts Needed	Network Address/CIDR	First Usable Host Address	Broadcast Address

**Configuration Requirements**

**Note:** You will configure addressing on **all** devices and hosts in the network.

- Assign the first usable IP addresses in the appropriate subnets to \_\_\_\_\_ for the two LAN links and the WAN link.
- Assign the first usable IP addresses in the appropriate subnets to \_\_\_\_\_ for the two LANs links. Assign the last usable IP address for the WAN link.
- Assign the second usable IP addresses in the appropriate subnets to the switches.
- The switch management interface should be reachable from hosts on all of the LANs.
- Assign the last usable IP addresses in the appropriate subnets to the hosts.

## Packet Tracer - Design and Implement a VLSM Addressing Scheme

---

If the addressing design and implementation are correct, all hosts and devices should be reachable over the network.