Video - Basic VLSM (3 min)

The basics of VLSM, or Variable Length Subnet Masks, works like this. One, subnets do not have to be equal sizes, as long as their address ranges do not overlap. So we can create unequal-sized subnets, they do not all have to be the same size. Two, when creating subnets it is easier to work from larger to smaller subnets. So, for example, I have the 192.168.1.0/24 network. I subnet the network into four subnets, /26 subnet masks. So the subnets go up by 64. I now have four equal sized-subnets. With VLSM, or Variable Length Subnet Masks, I can decide that I want to change one of these subnets and further subdivide them into smaller subnets as long as the address spaces that I create, and the subnets that I create do not intrude into the other subnets. For instance, I could take this 192.168.1.192 subnet. The address range for this subnet goes from 192 all the way up to 255. What I can do is, is I can say instead of having this subnet /26, what if I take that address space and divide it into two smaller subnets, size /27 each? If I do this, I effectively have created five subnets. The three subnets up here are 64 hosts each, and the two new subnets that I created from the fourth subnet are 32 hosts each. The reason I can do this is because my two smaller subnets do not intrude into the larger subnets. This is Variable Length Subnet Masks. In this situation, it has also allowed me to create five subnets, thus escaping the equal-sized subnet limitation of creating subnets in powers of two. This gives me greater flexibility and allows me to create subnets of different sizes based on the requirements of my network.