**Logical Topology**

**Network Requirements**Examine the network requirements (current and future) and answer the questions below.

1. How many subnets are possible? 4
2. How many subnets are required? 4
3. What is the maximum number of IP addresses that are allocated to a single subnet? 18
4. What is the total number of usable IP addresses that are needed for the entire network? 33

**Design an IP Addressing Scheme**

Subnet the XXX.XXXX.XXXX.XXXX network into the appropriate number of subnets.

1. What will be the subnet mask be for the subnetworks? 255.255.255.0
2. How many usable host IP addresses are there per subnet? 256
3. Fill in the following chart with the subnet information

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| --- | --- | --- | --- | --- |
| **Subnet Number** | **Subnet Address** | **1st Usable Host Address** | **Last Usable Host Address** | **Broadcast Address** |
| /24 | 255.255.255.0 | 192.168.9.1 | 192.168.9.254 | 192.168.9.255 |
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**Device Address Table**

* You only to need to list one 1 PC per subnet. Make sure to name your PC’s accordingly. The PC’s should list the NIC as their interface.
* No need to include the printers in this device table.
* The router will have many IP addresses depending on the number of subnets you have in your topology

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| --- | --- | --- | --- | --- |
| **Device (Name)** | **Interface** | **IP Address** | **Subnet Mask** | **Default Gateway** |
| Floor 1 (sales) | NIC | 192.168.9.2 | 255.255.255.0 | 192.168.9.1 |
| Floor 2 (Billing) | NIC | 192.168.10.2 | 255.255.255.0 | 192.168.10.1 |
| Floor 3 (Body guard) | NIC | 192.168.11.2 | 255.255.255.0 | 192.168.11.1 |
| Router | WAN | 192.168.9.1  192.168.10.1  192.168.11.1 | 255.255.255.0  255.255.255.0  255.255.2550 | 192.168.9.1  192.168.10.1  192.168.11.1 |
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