# Project #7: Explain IP Subnetting Worksheet

## Section 1 /24 Network

Network Address: 192.168.4.0

Broadcast Address: 192.168.4.255

Available Hosts: 254

First Assignable Host: 192.168.4.1

Last Assignable Host: 192.168.4.244

## Section 2 /25 Subnet 1

Network Address: 192.168.4.0

Broadcast Address: 192.168.4.127

Available Hosts: 126

First Assignable Host: 192.168.4.1

## Section 2 /25 Subnet 2

Network Address: 192.168.4.128

Broadcast Address: 192.168.4.255

Available Hosts: 126

Last Assignable Host: 192.168.4.254

## Section 3 /26 Network

Subnet 1 Network Address: 192.168.4.0

Subnet 2 Network Address: 192.168.4.64

Subnet 3 Network Address: 192.168.4.128

Subnet 4 Network Address: 192.168.4.192

## Section 4 /27 Network (answer these questions for the 5th subnet in the network)

Subnet 5 Network Address: 192.168.4.128

Subnet 5 Broadcast Address: 192.168.4.159

Available Hosts: on Subnet 5: 30

First Assignable Host on Subnet 5: 192.168.4.129

Last Assignable Host on Subnet 5: 192.168.4.158

## Section 5 – Subnetting Scenario

Subnet the given network to meet the given host requirements.

# Network: 192.168.110.0/24

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Department | Hosts | Subnet Size | CIDR | Network | Subnet Mask | Sort Order |
| Sales | 80 | 128 | /25 | 192.168.110.0 | 255.255.255.128 | 1 |
| Advertising | 35 | 64 | /26 | 192.168.110.128 | 255.255.255.192 | 2 |
| Research | 18 | 32 | /27 | 192.168.110.192 | 255.255.255.224 | 3 |
| Marketing | 11 | 16 | /28 | 192.168.110.224 | 255.255.255.240 | 4 |
| Administration | 6 | 8 | /29 | 192.168.110.240 | 255.255.255.248 | 5 |
| CEO | 2 | 4 | /30 | 192.168.110.248 | 255.255.255.252 | 6 |
| Router->Router | 2 | 4 | /30 | 192.168.110.252 | 255.255.255.252 | 7 |

# Screenshots

Insert Screenshot #1 of successA screenshot of a computer

AI-generated content may be incorrect.ful PNG between computers

Insert Screenshot#2 oA computer screen with a black screen

AI-generated content may be incorrect.f Failed PING between computers

Insert Screenshot #3 of succesA screenshot of a computer

AI-generated content may be incorrect.sful PING between computers

Question: What did you do to allow successful PING between the 2 computers?

To create a successful ping between the two computers, I changed the IP address of VM2 from 192.168.4.200 to 192.168.4.101, ensuring both VMs (VM1 @192.168.4.100 and VM2 @192.168.4.101) were in the same /26 subnet with the subnet mask of 255.255.255.192. In step 12 the ping failed, because the /26 subnet mask placed VM1 in subnet 2 and VM2 in subnet 4.