**Subnets: 172.16.0.0/16**

VLAN 33 🡪 75 hosts

VLAN 55 🡪 40 hosts

VLAN 88 🡪23 hosts

VLAN 22 🡪 20 hosts

VLAN 66 🡪18 hosts

VLAN 11 🡪15 hosts

VLAN 77 🡪14 hosts

VLAN 44 🡪13 hosts

PC3: VLAN 33 (75 hosts)

27 -2=126 hosts Cider prefix:32-7 =25 , Subnet Mask: 255.255.255.128

Network IP address: 172.16.0.0/25

First host IP address: 172.16.0.1/25

Last host IP address: 172.16.0.126/25

Broadcast address: 172.16.0.127/25 (0+126+1)

IP Range: 172.16.0.1 🡪 172.16.0.126

PC5: VLAN 55 (40 hosts)

26-2=62 hosts Cider prefix: 32-6=26 , Subnet Mask: 255.255.255.192

Network IP address: 172.16.0.128/26

First host IP address: 172.16.0.129/26

Last host IP address: 172.16.0.190/26

Broadcast IP address: 172.16.0.191/26 (128+62+1)

IP Range: 172.16.0.129 🡪 172.16.0.190

PC8: VLAN 88 (23 host)

25-2=30 hosts Cider prefix: 32-5=27 , Subnet Mask: 255.255.255.224

Network IP address: 172.16.0.192/27

First host IP address: 172.16.0.193/27

Last host IP address: 172.16.0.222/27

Broadcast IP address: 172.16.0.223/27 (192+30+1)

IP Range: 172.16.0.193 🡪 172.16.0.222

PC2 : VLAN 22 (20 host)

25-2=30 hosts Cider prefix: 32-5=27 , Subnet Mask: 255.255.255.224

Network IP address: 172.16.0.224/27

First host IP address: 172.16.0.225/27

Last host IP address: 172.16.0.254/27

Broadcast IP address: 172.16.0.255/27 (224+30+1)

IP Range: 172.16.0.225 🡪 172.16.0.254

PC6 : VLAN 66 (18 host)

25-2=30 hosts Cider prefix: 32-5=27 , Subnet Mask: 255.255.255.224

Network IP address: 172.16.1.0/27

First host IP address: 172.16.1.1/27

Last host IP address: 172.16.1.30/27

Broadcast IP address: 172.16.1.31/27 (0+30+1)

IP Range: 172.16.1.1 🡪 172.16.1.30

PC1: VLAN 11 (15 host)

25-2=30 hosts Cider prefix: 32-5=27 , Subnet Mask: 255.255.255.224

Network IP address: 172.16.1.32/27

First host IP address: 172.16.1.33/27

Last host IP address: 172.16.1.62/27

Broadcast IP address: 172.16.1.63/27 (32+30+1)

IP Range: 172.16.1.33 🡪 172.16.1.63

PC7: VLAN 77 (14 host)

24-2= 14hosts Cider prefix: 32-4=28 , Subnet Mask: 255.255.255.240

Network IP address: 172.16.1.64/28

First host IP address: 172.16.1.65/28

Last host IP address: 172.16.1.78/28

Broadcast IP address: 172.16.1.79/28 (64+14+1)

IP Range: 172.16.1.65 🡪 172.16.1.78

PC8: VLAN 44 (13 host)

24-2= 14 hosts Cider prefix: 32-4=28 , Subnet Mask: 255.255.255.240

Network IP address: 172.16.1.80/28

First host IP address: 172.16.1.81/28

Last host IP address: 172.16.1.94/28

Broadcast IP address: 172.16.1.95/28 (80+14+1)

IP Range: 172.16.1.81 🡪 172.16.1.94

ServerRoom: (10 host)

24-2= 14 hosts Cider prefix: 32-4=28 , Subnet Mask: 255.255.255.240

Network IP address: 172.16.1.96/28

First host IP address: 172.16.1.97/28

Last host IP address: 172.16.1.110/28

Broadcast IP address: 172.16.1.111/28 (96+14+1)

IP Range: 172.16.1.97 🡪 172.16.1.110