IP Addressing

Base Address: 172.16.1.0 (Class B Address)

First Floor

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Department | Network Address | Subnet Mask | Host Address Range | Broadcast Address |
| SALES | 172.16.1.0 | 255.255.255.128/25 | 172.16.1.1 to 172.16.1.126 | 172.16.1.127 |
| HR | 172.16.1.128 | 255.255.255.128/25 | 172.16.1.129 to 172.16.1.254 | 172.16.1.255 |

Second Floor

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Department | Network Address | Subnet Mask | Host Address Range | Broadcast Address |
| FINANCE | 172.16.2.0 | 255.255.255.128/25 | 172.16.2.1 to 172.16.2.126 | 172.16.2.127 |
| ADMIN | 172.16.2.128 | 255.255.255.128/25 | 172.16.2.129 to 172.16.2.254 | 172.16.2.255 |

Third Floor

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Department | Network Address | Subnet Mask | Host Address Range | Broadcast Address |
| ICT | 172.16.3.0 | 255.255.255.128/25 | 172.16.3.1 to 172.16.3.126 | 172.16.3.127 |
| Server Room | 172.16.3.128 | 255.255.255.240/28  (/28 because only 12 devices required) | 172.16.3.1 to 172.16.3.142 | 172.16.3.143 |

Between Router and Layer 3 switches

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Network Address | Subnet Mask | Host Address Range | Broadcast Address |
| R1-MLSW1 | 172.16.3.144 | 255.255.255.252 | 172.16.3.145 to 172.16.3.146 | 172.16.1.127 |
| R1-MLSW2 | 172.16.3.148 | 255.255.255.252 | 172.16.3.149 to 172.16.3.150 | 172.16.1.255 |
| R2-MLSW1 | 172.16.3.152 | 255.255.255.252 | 172.16.3.153 to 172.16.3.154 | 172.16.3.155 |
| R2-MLSW2 | 172.16.3.156 | 255.255.255.252 | 172.16.3.157 to 172.16.3.158 | 172.16.3.159 |

Between the routers and ISPs

Public IP address 195.136.17.0/30, 195.136.17.4/30, 195.135.17.8/30, 195.136.17.12/30