Redes de Comunicações 1

Network Project

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Rede Pública Ipv4

Rede Ipv4 Pública: 198.158.148.0/24

55 servers at the Design network, 29 servers at the Marketing network, 49 server at the Admin network, 18 servers at the DMZ network, 6 servers at the Datacenter network, and R2 needs 5 IPv4 public addresses to configure NAT/PAT mechanisms

55 e 49 precisa de 64 adresses então /26

Resto é 32 adresses então /27

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Design | Marketing | Admin | DMZ | DataCenter | NAT/PAT R2 |
| Network | 198.158.148.0 | 198.158.148.128 | 198.158.148.64 | 198.158.148.160 | 198.158.148.192 | 198.158.148.224 |
| Broadcast | 198.158.148.63 | 198.158.148.159 | 198.158.148.127 | 198.158.148.191 | 198.158.148.223 | 198.158.148.255 |
| Ipv4 Público  Range | 198.158.148.1-  62 | 198.158.148.129-158 | 198.158.148.65-126 | 198.158.148.161-190 | 198.158.148.193-222 | 198.158.148.225-254 |
| Máscara | 255.255.255.192/  26 | 255.255.255.224/27 | 255.255.255.192/26 | 255.255.255.224/27 | 255.255.255.224/27 | 255.255.255.224/  27 |
| Interface | R1 f0/0  198.158.148.63/  26 | R1 f0/1  198.158.148.159/27 | R1 f1/0  198.158.148.127/26 | R2 f0/0  198.158.148.191/27 | R2 f0/1  198.158.148.223/27 | R1 f1/1  198.158.148.255/  27 |

Rede Privada Ipv4

Rede Ipv4 Privada: 172.20.0.0/16

55 servers at the Design network, 29 servers at the Marketing network, 49 server at the Admin network, 18 servers at the DMZ network, 6 servers at the Datacenter network, and R2 needs 5 IPv4 public addresses to configure NAT/PAT mechanisms

Aqui podemos usar 254 adresses então /24

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Design | Marketing | Admin | DMZ | DataCenter | NAT/PAT R2 |
| Network | 172.20.0.0 | 172.20.1.0 | 172.20.2.0 | 172.20.3.0 | 172.20.4.0 | 172.20.5.0 |
| Broadcast | 172.20.0.255 | 172.20.1.255 | 172.20.2.255 | 172.20.3.255 | 172.20.4.255 | 172.20.5.255 |
| Ipv4 Privado  Range | 172.20.0.1-254 | 172.20.1.1-254 | 172.20.2.1-254 | 172.20.3.1-254 | 172.20.4.1-254 | 172.20.5.1-254 |
| Máscara | 255.255.255.0/  24 | 255.255.255.0/  24 | 255.255.255.0/  24 | 255.255.255.0/  24 | 255.255.255.0/  24 | 255.255.255.0/  24 |
| Interface | R1 f0/0  172.20.0.255/24 | R1 f0/1  172.20.1.255/24 | R1 f1/0  172.20.2.255/24 | R2 f0/0  172.20.3.255/24 | R2 f0/1  172.20.4.255/24 | R1 f1/1  172.20.5.255/24 |

Rede Ipv6

Rede Ipv6 Global: 2ABC:5128::/60

55 servers at the Design network, 29 servers at the Marketing network, 49 server at the Admin network, 18 servers at the DMZ network, 6 servers at the Datacenter network, and R2 needs 5 IPv4 public addresses to configure NAT/PAT mechanisms

No ipv6 são 128 com 64 para definir a rede (primeiras 4 series de números (tem 8 no total)) outros 64 são para os terminais. Por isso definimos com o prefixo /64

(Prefixo porque no ipv6 não existe máscara)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Design | Marketing | Admin | DMZ | DataCenter | NAT/PAT R2 |
| Network | 2ABC:5128:0:1::/  64 | 2ABC:5128:0:2::/64 | 2ABC:5128:0:3::/64 | 2ABC:5128:0:4::/64 | 2ABC:5128:0:5::/64 | 2ABC:5128:0:6::/  64 |
| Broadcast | - | - | - | - | - | - |
| Ipv6  Range | 2ABC:5128:0:1::2-2ABC:5128:0:1:FFFF:FFFF:FFFF:FFFE | 2ABC:5128:0:2::2-2ABC:5128:0:2:FFFF:FFFF:FFFF:FFFE | 2ABC:5128:0:3::2-2ABC:5128:0:3:FFFF:FFFF:FFFF:FFFE | 2ABC:5128:0:4::2-2ABC:5128:0:4:FFFF:FFFF:FFFF:FFFE | 2ABC:5128:0:5::2-2ABC:5128:0:5:FFFF:FFFF:FFFF:FFFE | 2ABC:5128:0:6::2-2ABC:5128:0:6:FFFF:FFFF:FFFF:FFFE |
| R1 | 2ABC:5128:0:1::1 | 2ABC:5128:0:2::1 | 2ABC:5128:0:3::1 | 2ABC:5128:0:4::1 | 2ABC:5128:0:5::1 | 2ABC:5128:0:6::1 |
| Máscara | /64 | /64 | /64 | /64 | /64 | /64 |