

# Subnetting

El subnetting consiste en dividir una red grande en varias subredes más pequeñas

## Redes IPv4 Privadas

Direccionamiento para redes privadas

| Clase                    | A                                | B                              | C                                |
|--------------------------|----------------------------------|--------------------------------|----------------------------------|
| Direccionamiento privado | 10.0.0.0 a<br>10.255.255.255.255 | 172.16.0.0 a<br>172.31.255.255 | 192.168.0.0 a<br>192.168.255.255 |

## CIDR

CIDR (Classless Inter-Domain Routing)

La notación CIDR es una forma abreviada de especificar la máscara de subred.

| CIDR | Máscara subred  | Máscara Comodín | Total direcciones IP | Total IP utilizables |
|------|-----------------|-----------------|----------------------|----------------------|
| 32   | 255.255.255.255 | 0.0.0.0         |                      |                      |
| 31   | 255.255.255.254 | 0.0.0.1         | 2                    | 2 (RFC3021)          |
| 30   | 255.255.255.252 | 0.0.0.3         | 4                    | 2                    |
| 29   | 255.255.255.248 | 0.0.0.7         | 8                    | 6                    |
| 28   | 255.255.255.240 | 0.0.0.15        | 16                   | 14                   |
| 27   | 255.255.255.224 | 0.0.0.31        | 32                   | 30                   |
| 26   | 255.255.255.192 | 0.0.0.63        | 64                   | 62                   |
| 25   | 255.255.255.128 | 0.0.0.127       | 128                  | 126                  |
| 24   | 255.255.255.0   | 0.0.0.255       | 256                  | 254                  |
| 23   | 255.255.254.0   | 0.0.1.255       | 512                  | 510                  |
| 22   | 255.255.252.0   | 0.0.3.255       | 1,024                | 1,022                |
| 21   | 255.255.248.0   | 0.0.7.255       | 2,048                | 2,046                |
| 20   | 255.255.240.0   | 0.0.15.255      | 4,096                | 4,094                |
| 19   | 255.255.224.0   | 0.0.31.255      | 8,192                | 8,190                |
| 18   | 255.255.192.0   | 0.0.63.255      | 16,384               | 16,382               |
| 17   | 255.255.128.0   | 0.0.127.255     | 32,768               | 32,766               |
| 16   | 255.255.0.0     | 0.0.255.255     | 65,536               | 65,534               |
| 15   | 255.254.0.0     | 0.1.255.255     | 131,072              | 131,070              |
| 14   | 255.252.0.0     | 0.3.255.255     | 262,144              | 262,142              |
| 13   | 255.248.0.0     | 0.7.255.255     | 524,288              | 524,286              |
| 12   | 255.240.0.0     | 0.15.255.255    | 1,048,576            | 1,048,574            |
| 11   | 255.224.0.0     | 0.31.255.255    | 2,097,152            | 2,097,150            |
| 10   | 255.192.0.0     | 0.63.255.255    | 4,194,304            | 4,194,302            |
| 9    | 255.128.0.0     | 0.127.255.255   | 8,388,608            | 8,388,606            |
| 8    | 255.0.0.0       | 0.255.255.255   | 16,777,216           | 16,777,214           |
| 7    | 254.0.0.0       | 1.255.255.255   | 33,554,432           | 33,554,430           |

|   |           |                 |               |               |
|---|-----------|-----------------|---------------|---------------|
| 6 | 252.0.0.0 | 3.255.255.255   | 67,108,864    | 67,108,862    |
| 5 | 248.0.0.0 | 7.255.255.255   | 134,217,728   | 134,217,726   |
| 4 | 240.0.0.0 | 15.255.255.255  | 268,435,456   | 268,435,454   |
| 3 | 224.0.0.0 | 31.255.255.255  | 536,870,912   | 536,870,910   |
| 2 | 192.0.0.0 | 63.255.255.255  | 1,073,741,824 | 1,073,741,822 |
| 1 | 128.0.0.0 | 127.255.255.255 | 2,147,483,648 | 2,147,483,646 |
| 0 | 0.0.0.0   | 255.255.255.255 | 4,294,967,296 | 4,294,967,294 |

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