

This process of breaking up an IP address range into smaller, more specific networks of grouped devices is called **subnetting**.

## CIDR

To subnet, we don't have to list and assign IP addresses one by one. Instead, we use a format known as **Classless Inter-Domain Routing (CIDR)**.

### CIDRs

CIDRs are made up of two sets of numbers:  
an IP address (the prefix) and a range of available IP addresses (the suffix).

**192.243.3.0 /24**

**Prefix:**

The IP address.  
The first 3 octets would be the Network ID.

**Suffix:**

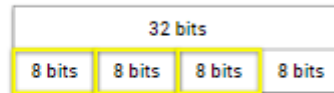
The range of IPs and the number of IPs available.

24 means everything after the first 24 bits is variable.

## CIDRs

CIDRs are made up of two sets of numbers:  
an IP address and a range of available IP addresses.

192.243.3.0 /24



24 means the first 24 bits  
(three octets) are **static**  
for a given network.

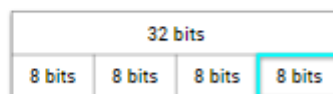
100

Suffix denotes static bits in [IP Addresses](#)

## CIDRs

CIDRs are made up of two sets of numbers:  
an IP address and a range of available IP addresses.

192.243.3.0 /24



The last 8 bits (.0) is **variable**.

- The range of each octet is 0-255.
- There are 256 available IP addresses in the range 192.243.3.0/24.
- 0 and 255 are reserved. 0 is reserved for the subnet ID and that 255 is reserved for the broadcast.

100

Last 8 bits are variable