Base 2	Base 10
Binário	Decimal
0 1	0 1 2 3 4 5 6 7 8 9

Convertc Dec → Bin

10_{b10} 12_{b2}

$\begin{array}{r|l} 10 & 2 \\ \hline 0 & 5 \end{array}$ $\begin{array}{r|l} 12 & 2 \\ \hline 0 & 6 \end{array}$

$\begin{array}{r|l} 5 & 2 \\ \hline 1 & 2 \end{array}$ $\begin{array}{r|l} 6 & 2 \\ \hline 0 & 3 \end{array}$

$\begin{array}{r|l} 2 & 2 \\ \hline 0 & 1 \end{array}$ $\begin{array}{r|l} 3 & 2 \\ \hline 1 & 1 \end{array}$

1

1010_{b2} 1100_{b2}

Converte Binário para Decimal

$B_{1\phi} = 1\emptyset \longrightarrow B_2 = 1\emptyset 1\emptyset$

8	4	2	1	= Impar
2^3	2^2	2^1	$2^\emptyset$	
1	$\emptyset$	1	$\emptyset$	= 10 bits

10_{bits}

IPv4 = Bits 32 bits

IPv4 = Octetos = 4

↳D = 8 bits

↳D = .Ponto

IPv4 $2^{32} = >= 4.3B.$

8 . 8 . 8 . 8

192 . 168 . 1 . 53 Binário

128	64	32	16	8	4	2	1
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
1	1	0	0	0	0	0	0
1	0	1	0	1	0	0	0
0	0	0	0	0	0	0	1
0	0	1	1	0	1	0	1
1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

IPv4 Privado	IPv4 Público
Classes	Classes CIDR
A = 10.0.0.0 255.0.0.0	/8
B = 172.16.0.0 255.255.0.0	/16
C = 192.168.0.0 255.255.255.0	/24

IP ¢ Mask

IPv4: 192.168.0. | 1

Mask: 255.255.255. | 0

Redes | Hosts

¢EP: 08490-00 | 345

Network = 2^{24} = >= 16M

Hosts = 2^8 = 256 - 2 = 254

VLAN

2^8

256 mts

254 mts

1 ——— 254

0 ——— 255

0 = IDRede

1 = PIV

254 = UIV

255 = Broadcast

ID Rede: Par 2°

Broadcast: Impar (1)

IPv4: 172.16.0.30

Mask: 255.255.255.224

7	6	5	4	3	2	1	0
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
128	64	32	16	8	4	2	1
1	1	1	0	0	0	0	0

Bits Network = 2^{27} = >=134M

Bits Hosts = $2^5 - 2 = 30$

Network $= 2^8 = 256$

Sub-Network $= 2^5 = 32$

$$\begin{array}{r} 256 \\ -\ 224 \\ \hline 32 \end{array}$$

$256 / 32 = 8$

$2^3 = 8$

1	Ø → 1	Router	3Ø ← 31	
2	32 → 33	Server	62 ← 63	
3	64 → 65	WiFi	94 ← 95	
4	96 → 97	SVI	126 ← 127	
5	128 → 129	VLAN 1Ø	158 ← 159	
6	160 → 161	2Ø	190 ← 191	
7	192 → 193	3Ø	222 ← 223	
8	224 → 225	4Ø	→ 254 + 255	

VLAN

WAN

GW

RT

Bio

LAW

Roteamento

RT

GW

TI

LAW

VLAN → 3 ← Dados
Wi-Fi
CFTV

1 — 1Ø23

1Ø = Dados : 192.168.Ø.Ø/24

2Ø = Wi-Fi : 192.168.1.Ø/24

3Ø = CFTV : 192.168.2.Ø/24