IPv4 Subnet Cheat Sheet

LightAtom

Prefix	Subnet mask	Wildcard	Addresses	Usable hosts	Size vs /24
/32	255.255.255.255	0.0.0.0	1	1	1/256 of a /24
/31	255.255.255.254	0.0.0.1	2	2	1/128 of a /24
/30	255.255.255.252	0.0.0.3	4	2	1/64 of a /24
/29	255.255.255.248	0.0.0.7	8	6	1/32 of a /24
/28	255.255.255.240	0.0.0.15	16	14	1/16 of a /24
/27	255.255.255.224	0.0.0.31	32	30	1/8 of a /24
/26	255.255.255.192	0.0.0.63	64	62	1/4 of a /24
/25	255.255.255.128	0.0.0.127	128	126	1/2 of a /24
/24	255.255.255.0	0.0.0.255	256	254	1 × /24
/23	255.255.254.0	0.0.1.255	512	510	2 × /24
/22	255.255.252.0	0.0.3.255	1,024	1,022	4 × /24
/21	255.255.248.0	0.0.7.255	2,048	2,046	8 × /24
/20	255.255.240.0	0.0.15.255	4,096	4,094	16 × /24
/19	255.255.224.0	0.0.31.255	8,192	8,190	32 × /24
/18	255.255.192.0	0.0.63.255	16,384	16,382	64 × /24
/17	255.255.128.0	0.0.127.255	32,768	32,766	128 × /24
/16	255.255.0.0	0.0.255.255	65,536	65,534	256 × /24
/15	255.254.0.0	0.1.255.255	131,072	131,070	512 × /24
/14	255.252.0.0	0.3.255.255	262,144	262,142	1,024 × /24
/13	255.248.0.0	0.7.255.255	524,288	524,286	2,048 × /24
/12	255.240.0.0	0.15.255.255	1,048,576	1,048,574	4,096 × /24
/11	255.224.0.0	0.31.255.255	2,097,152	2,097,150	8,192 × /24
/10	255.192.0.0	0.63.255.255	4,194,304	4,194,302	16,384 × /24
/9	255.128.0.0	0.127.255.255	8,388,608	8,388,606	32,768 × /24
/8	255.0.0.0	0.255.255.255	16,777,216	16,777,214	65,536 × /24

Quick rules

- **Addresses in a block** = 2^(32 − prefix). A /26 has 2^6 = 64.
- **Usable hosts** = addresses − 2 (network and broadcast), except **/31** (2 usable, for point-to-point links, RFC 3021) and **/32** (a single host).
- **Mask octet values** are always one of 0, 128, 192, 224, 240, 248, 252, 254, 255.
- **Block size** in the interesting octet = 256 − mask value. Mask 255.255.255.224 → blocks of 32: .0, .32, .64…
- The **wildcard mask** (used in ACLs and OSPF) is the mask inverted: 255 − each octet.