



IPv4 SUBNETS

Cheat Sheet

SUBNETS			
CIDR	SUBNET MASK	# OF ADDRESSES	WILDCARD
/32	255.255.255.255	1	0.0.0.0
/31	255.255.255.254	2	0.0.0.1
/30	255.255.255.252	4	0.0.0.3
/29	255.255.255.248	8	0.0.0.7
/28	255.255.255.240	16	0.0.0.15
/27	255.255.255.224	32	0.0.0.31
/26	255.255.255.192	64	0.0.0.63
/25	255.255.255.128	128	0.0.0.127
/24	255.255.255.0	256	0.0.0.255
/23	255.255.254.0	512	0.0.1.255
/22	255.255.252.0	1.024	0.0.3.255
/21	255.255.248.0	2.048	0.0.7.255
/20	255.255.240.0	4.096	0.0.15.255
/19	255.255.224.0	8.192	0.0.31.255
/18	255.255.192.0	16.384	0.0.63.255
/17	255.255.128.0	32.768	0.0.127.255
/16	255.255.0.0	65.536	0.0.255.255
/15	255.254.0.0	131.072	0.1.255.255
/14	255.252.0.0	262.144	0.3.255.255
/13	255.248.0.0	524.288	0.7.255.255
/12	255.240.0.0	1.048.576	0.15.255.255
/11	255.224.0.0	2.097.152	0.31.255.255
/10	255.192.0.0	4.194.304	0.63.255.255
/9	255.128.0.0	8.388.608	0.127.255.255
/8	255.0.0.0	16.777.216	0.255.255.255
/7	254.0.0.0	33.554.432	1.255.255.255
/6	252.0.0.0	67.108.864	3.255.255.255
/5	248.0.0.0	134.217.728	7.255.255.255
/4	240.0.0.0	268.435.456	15.255.255.255
/3	224.0.0.0	536.870.912	31.255.255.255
/2	192.0.0.0	1.073.741.824	61.255.255.255
/1	128.0.0.0	2.147.483.648	127.255.255.255
/0	0.0.0.0	4.294.967.296	255.255.255.255

TERMINOLOGY

WILDCARD MASK	A wildcard mask indicates which parts of an IP address are available for examination.
CIDR	Classless interdomain routing was developed to provide more granularity than legacy classful addressing; CIDR notation is expressed as /XX

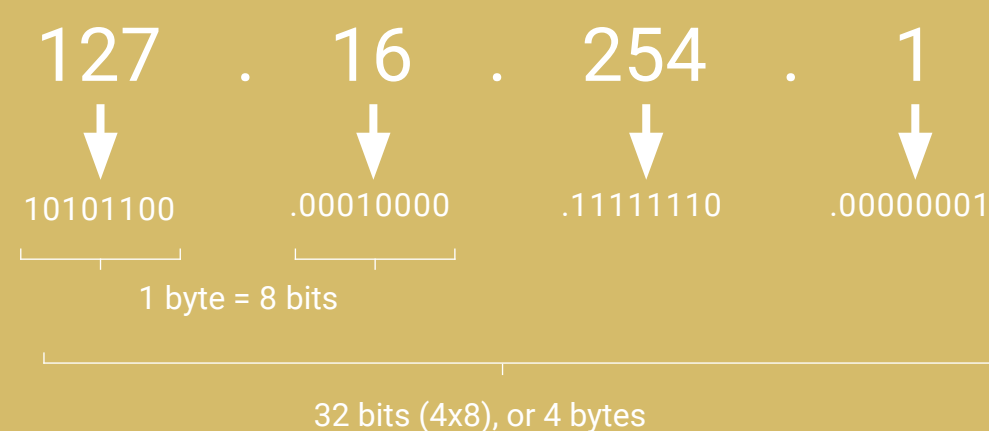
RESERVED (PRIVATE) RANGES

CLASS A	10.0.0.0	-	10.255.255.255
CLASS B	172.16.0.0	-	172.31.255.255
CLASS C	192.168.0.0	-	192.168.255.255
LOCALHOST	127.0.0.0	-	127.255.255.255
ZEROCONF (APIPA/BONJOUR)	169.254.0.0	-	169.254.255.255

IP ADDRESS CLASSES

A	0.0.0.0 - 127.255.255.255
B	128.0.0.0 - 191.255.255.255
C	192.0.0.0 - 223.255.255.255
D	224.0.0.0 - 239.255.255.255
E	240.0.0.0 - 255.255.255.255

BINARY TO DECIMAL



DECIMAL TO BINARY

SUBNET MASK	WILDCARD
255 1111 1111	0 0000 0000
254 1111 1110	1 0000 0001
252 1111 1100	3 0000 0011
248 1111 1000	7 0000 0111
240 1111 0000	15 0000 1111
224 1110 0000	31 0001 1111
192 1100 0000	63 0011 1111
128 1000 0000	127 0111 1111
0 0000 0000	255 1111 1111