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IP Address

IPV4	IPV6
32 bit	128 bit
decimal	hexadecimal

5-Classes

A - 0 - 126
B - 128 - 191
C - 192 - 223
D - 224 - 239 : Used for Multicasting
E - 240 - 255 : Used for Research purposes

127 is used for self testing, for ex. NIC Card

ex. 192.10.96.169
8 8 8 8 = 32 bit Class C

Private IP Address

A = 10.0.0.0 - 10.255.255.255 (1-126)
B = 172.16.0.0 - 172.31.255.255 (128-191)
C = 192.168.0.0 - 192.168.255.255 (192-223)

ex. 10.18.0.19 → Private IP
ex. 10.250.10.18 → Private IP
ex. 11.10.11.11 → Public

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ex. 172.19.0.9 → Private IP
ex. 170.18.18.18 → Public IP
ex. 172.32.16.18 → Public IP
ex. 179.16.14.11 → Public IP

Binary to Decimal

Number System

Binary = 0, 1 = 2
IPV4 Decimal = 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 = 10
IPV6 Hexadecimal = 0-9, A, B, C, D, E, F = 16

IPV4 - 32 bit

10 . 0 . 0 . 25
8bit 8 8 8bit

↓

Max. size of 8 bit = 255

Which all 8 bits?

255 = 128 64 32 16 8 4 2 1 (Add all = 255)

1 1 1 1 1 1 1 1

1 bit = 128
2 bit = 192
3 bit = 224
4 bit = 240
5 bit = 248
6 bits = 252
7 bits = 254
8 bits = 255

∴ 255 in binary = 11111111

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128 64 32 16 8 4 2 1

128 = 1 0 0 0 0 0 0 0
192 = 1 1 0 0 0 0 0 0
224 = 1 1 1 0 0 0 0 0
252 = 1 1 1 1 1 1 0 0

222 = 1 1 0 1 1 1 1 0

Binary to Decimal

ex. 1 1 0 1 0 1 0
128 64 32 16 8 4 2 1 = 218