

192.168.1.0/24

$$2^n = 4 \Rightarrow n = 2$$

11111111.11111111.11111111.11000000

192.168.1.0/26

255.255.255.192

$$2^n - 2 = 2^6 - 2 = 62$$

192.168.1.0 – 192.168.1.63

192.168.1.64 – 192.168.1.127

192.168.1.128 – 192.168.1.191

192.168.1.192 – 192.168.1.255

.....

172.16.0.0/16

$$2^n = 16 \Rightarrow n = 4$$

11111111.11111111.11110000.00000000

172.16.0.0/20

255.255.240.0

$$2^n - 2 = 2^{12} - 2 = 4094$$

172.16.0.0 – 172.16.15.255

172.16.16.0 – 172.16.31.255

172.16.32.0 – 172.16.47.255

172.16.48.0 – 172.16.63.255

172.16.64.0 – 172.16.79.255

.....

10.0.0.0/8

$$2^n = 64 \Rightarrow n = 6$$

11111111.11111100.00000000.00000000

10.0.0.0/14

255.252.0.0

$$2^n - 2 = 2^{16} - 2 = 65534$$

10.0.0.0 – 10.3.255.255

10.4.0.0 – 10.7.255.255

10.8.0.0 – 10.11.255.255

10.12.0.0 – 10.15.255.255

10.16.0.0 – 10.19.255.255

.....

192.168.10.0/24, n = 8

$2^n = 8 \Rightarrow n = 3$

11111111.11111111.11111111.11100000

192.168.10.0/27

255.255.255.224

$2^n - 2 = 2^5 - 2 = 30$

192.168.10.1 - 192.168.10.30

192.168.10.62 – 192.168.10.33

192.168.10.94 – 192.168.10.65

192.168.10.97 – 192.168.10.126

172.31.0.0/16, n = 128

$2^n = 128 \Rightarrow n = 7$

11111111.11111111.11111110.00000000

172.31.0.0/23

255.255.254.0

172.31.1.254-172.31.0.1

172.31.2.1 – 172.31.3.254

172.31.4.1 – 172.31.5.254

172.31.6.1 – 172.31.7.254

10.10.0.0/16, n = 1000

$2^n = 1000 \Rightarrow n = 10$

11111111.11111111.11111111.11000000

10.10.0.0/26

255.255.255.192

10.10.0.1 – 10.10.0.62

10.10.0.65 – 10.10.0.126

10.10.0.129 – 10.10.0.190

10.10.0.193 – 10.10.0.254

10.10.1.1 – 10.10.1.62

192.168.0.0/16 , n = 1024

$2^n = 1024 \Rightarrow n = 10$

11111111.11111111.11111111.11000000

192.168.0.0/26

255.255.255.192

192.168.0.1 – 192.168.0.62

192.168.0.65 – 192.168.0.126

192.168.0.129 – 192.168.0.190

192.168.0.193 – 192.168.0.254
