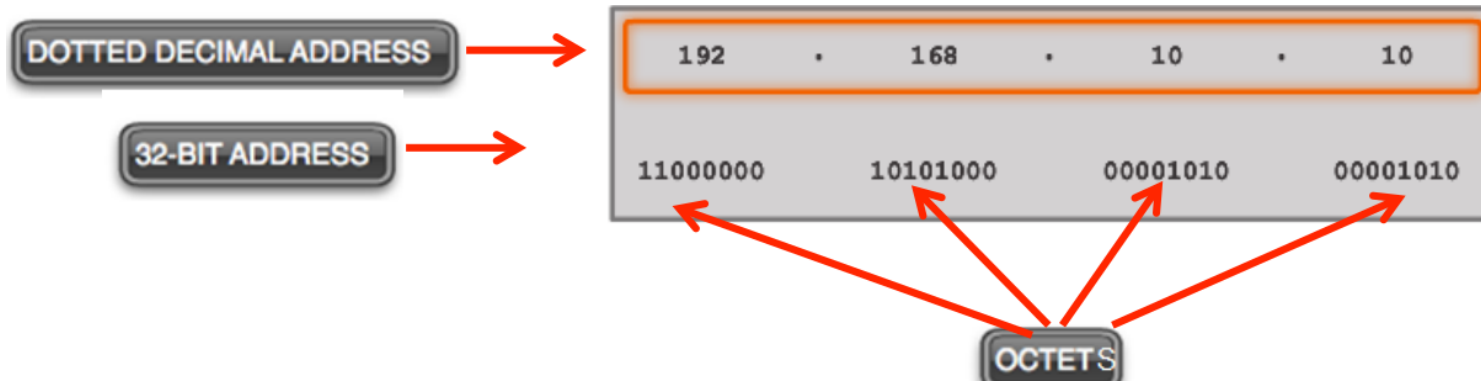


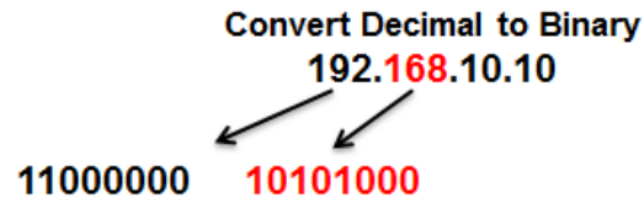
Converting from binary to dot decimal notation



Radix	2	2	2	2	2	2	2	2
Exponent	7	6	5	4	3	2	1	0
Octet Bit Values	128	64	32	16	8	4	2	1
Binary Address	1	1	0	0	0	0	0	0
Binary Bit Values	128	64	0	0	0	0	0	0

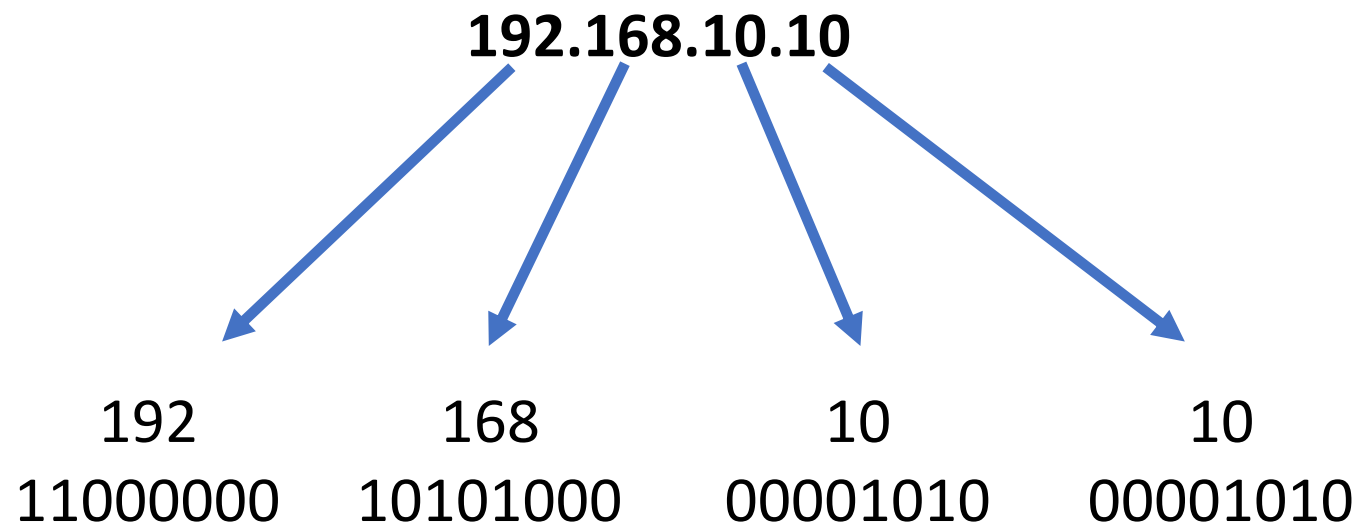
Add the binary bit values.
 $128 + 64 = 192$

Converting from Decimal to Binary



	128	64	32	16	8	4	2	1
168 > 128, place a 1 in the 128 position -128 subtract 128	1							
40 < 64, place a 0 in the 64 position do not subtract	1	0						
40 > 32, place a 1 in the 32 position -32 subtract 32	1	0	1					
8 < 16, place a 0 in the 16 position do not subtract	1	0	1	0				
8 = 8, place a 1 in the 8 position subtract 8	1	0	1	0	1			
0 place a 0 in all remaining positions All done. Result	1	0	1	0	1	0	0	0

Converting Decimal to Binary



IPv4 Subnet Mask

- A subnet mask is a separate 32-bit pattern used to define the network and host portions of an address.
- Shows where the network portion is in the IP.

IPv4 address	192 11000000	168 10101000	10 00001010	10 00001010
Subnet Mask	255 11111111	255 11111111	255 11111111	0 00000000
Network address	192 11000000	168 10101000	10 00001010	0 00000000

Subnet mask always has 1s from left to final position of network address. 1s show the location of network portion