Class C subnetting

Monday, February 24, 2025 11:51 PM

192.168.10.0/25

255								255								255								0							
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0

HOW TO FIND THE NUMBER OF NETWORK

2^n (Here, n indicated total number of bits borrowed from host)

$2^1 = 2$ (You can create only two networks)

HOW TO FIND THE NUMBER OF IP ADDRESS ON EACH NETWORK

2^n (Here, n indicated total number of host bits)

$2^7 = 128$ (On each network you will have 128 IP Address)

HOW TO FIND THE NUMBER OF HOSTS IN EACH NETWORK

$2^n - 2$ (Here, n indicated total number of remaining host bits)

$2^7 - 2 = 126$ (You will have total 126 Host IP Address on each network)

192.168.10.0/25

255								255								255								0							
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0

NETWORK 1		NETWORK 2	
192.168.10.0	Network ID	192.168.10.128	Network ID
192.168.10.1		192.168.10.129	
	Number of IP Address Can be assigned		
192.168.10.126		192.168.10.254	
192.168.10.127	Broadcast ID	192.168.10.255	Broadcast ID

192.168.10.0/26

255								255								255								0							
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0

HOW TO FIND THE NUMBER OF NETWORK

2^n (Here, n indicated total number of bits borrowed from host)

$2^2 = 4$ (You can create four networks)

HOW TO FIND THE NUMBER OF IP ADDRESS ON EACH NETWORK

2^n (Here, n indicated total number of host bits)

$2^6 = 64$ (On each network you will have 128 IP Address)

HOW TO FIND THE NUMBER OF HOSTS IN EACH NETWORK

$2^n - 2$ (Here, n indicated total number of remaining host bits)

$2^6 - 2 = 62$ (You will have 62 Host IP Address on each network)

NOTE:

On every network, first IP Address is a **network ID** and Last IP Address is a **broadcast ID**.

192.168.10.0/26

255								255								255								0							
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0

Total No of Networks: 4

Total No of IP Address on each network: 64

Total No of Host on each network: 64-2=62

NETWORK NO	NETWORK ID	HOST ADDRESS	BROADCAST ID
1	192.168.10.0	192.168.10.1 - 192.168.10.62	192.168.10.63
2	192.168.10.64	192.168.10.65 – 192.168.10.126	192.168.10.127
3	192.168.10.128	192.168.10.129 – 192.168.10.190	192.168.10.191
4	192.168.10.192	192.168.10.193 -192.168.10.254	192.168.10.255