IP ADDRESS ANALYSIS

Class B:

X.Y.Z.SSSSHHHH.HHHHHHHH

190.168.208.SSSSHHHH.HHHHHHHH

→ 4 subnetwork bits S:24 =16 subnetworks

→12 host bits H: 212 - 2 = 4092/subnet

10111110.10101000.11010000.SSSSHHHH

11111111.11111111.11111111.11110000

Subnetwork mask: 255.255.255.240

|  |  |  |  |
| --- | --- | --- | --- |
| ID | SUBNET BITS | BINARY | DECIMAL |
| #0 | 0000 | 10111110.10101000.1101000.00000000 | 190.168.208.0 |
| #1 | 0001 | 10111110.10101000.1101000.00010000 | 190.168.208.16 |
| #2 | 0010 | 10111110.10101000.1101000.00100000 | 190.168.208.32 |
| #3 | 0011 | 10111110.10101000.1101000.00110000 | 190.168.208.48 |
| #4 | 0100 | 10111110.10101000.1101000.01000000 | 190.168.208.64 |
| #5 | 0101 | 10111110.10101000.1101000.01010000 | 190.168.208.80 |
| #6 | 0110 | 10111110.10101000.1101000.01100000 | 190.168.208.96 |
| #7 | 0111 | 10111110.10101000.1101000.01110000 | 190.168.208.112 |
| #8 | 1000 | 10111110.10101000.1101000.10000000 | 190.168.208.128 |
| #9 | 1001 | 10111110.10101000.1101000.10010000 | 190.168.208.144 |
| #10 | 1010 | 10111110.10101000.1101000.10100000 | 190.168.208.160 |
| #11 | 1011 | 10111110.10101000.1101000.10110000 | 190.168.208.176 |
| #12 | 1100 | 10111110.10101000.1101000.11000000 | 190.168.208.192 |
| #13 | 1101 | 10111110.10101000.1101000.11010000 | 190.168.208.208 |
| #14 | 1110 | 10111110.10101000.1101000.11100000 | 190.168.208.224 |
| #15 | 1111 | 10111110.10101000.1101000.11110000 | 190.168.208.240 |

Subnetwork #1→ SSSS = 0001

* subnetwork address: 190.168.208.16
* interval: 190.168.208.2 - 190.168.208.15
* broadcast address: 190.168.208.31

Subnetwork #2→ SSSS = 0010

* subnetwork address: 190.168.208.32
* interval: 190.168.208.33 - 190.168.208.47
* broadcast address: 190.168.208.47

Subnetwork #3→ SSSS = 0011

* subnetwork address: 190.168.208.48
* interval: 190.168.208.49 - 190.168.208.63
* broadcast address: 190.168.208.63

Subnetwork #4→ SSSS = 0100

* subnetwork address: 190.168.208.64
* interval: 190.168.208.65 - 190.168.208.79
* broadcast address: 190.168.208.79

Subnetwork #5→ SSSS = 0101

* subnetwork address: 190.168.208.80
* interval: 190.168.208.81 - 190.168.208.95
* broadcast address: 190.168.208.95

Subnetwork #6→ SSSS = 0110

* subnetwork address: 190.168.208.96
* interval: 190.168.208.97 - 190.168.208.111
* broadcast address: 190.168.208.111

Subnetwork #7→ SSSS = 0111

* subnetwork address: 190.168.208.112
* interval: 190.168.208.113 - 190.168.208.127
* broadcast address: 190.168.208.127

Subnetwork #8→ SSSS = 1000

* subnetwork address: 190.168.208.128
* interval: 190.168.208.129 - 190.168.208.143
* broadcast address: 190.168.208.143

Subnetwork #9→ SSSS = 1001

* subnetwork address: 190.168.208.144
* interval: 190.168.208.145 - 190.168.208.159
* broadcast address: 190.168.208.159

Subnetwork #10→ SSSS = 1010

* subnetwork address: 190.168.208.160
* interval: 190.168.208.161 - 190.168.208.175
* broadcast address: 190.168.208.175

Subnetwork #11→ SSSS = 1011

* subnetwork address: 190.168.208.176
* interval: 190.168.208.177 - 190.168.208.191
* broadcast address: 190.168.208.191

Subnetwork #12→ SSSS = 1100

* subnetwork address: 190.168.208.192
* interval: 190.168.208.193 - 190.168.208.207
* broadcast address: 190.168.208.207

Subnetwork #13→ SSSS = 1101

* subnetwork address: 190.168.208.208
* interval: 190.168.208.209 - 190.168.208.223
* broadcast address: 190.168.208.223

Subnetwork #14→ SSSS = 1110

* subnetwork address: 190.168.208.224
* interval: 190.168.208.225 - 190.168.208.239
* broadcast address: 190.168.208.239