CIDR (classless Inter domain Routing)

EG1: VPC1 - 10.0.0.0 /22 - 1024 IP addresses

Total number of bits in IPV4 - 32

Bits in CIDR IP address - 22

$32-22 = 10, 2^{10} = 1024$ IP address

$32-23 = 9, 2^9 = 512$

$32-24 = 8, 2^8 = 256$

$32-25 = 7, 2^7 = 128$

$32-26 = 6, 2^6 = 64$

$32-27 = 5, 2^5 = 32$

$32-28 = 4, 2^4 = 16$

/16 - 65536

/17 - 32768

/18 - 16384

/19 - 8192

/20 - 4096

/21 - 2048

EG1: VPC1 - 10.0.0/24 - 256 IP addresses

Total number of bits in IPV4 - 32

Bits in CIDR IP address - 24

$32-24 = 8, 2^8 = 256$ IP addresses

10.0.0.0, 10.0.0.1, 10.0.0.2, ..., 10.0.0.255.

EG2: VPC2 - 10.0.0.0/23 - 512 IP addresses

Total number of bits in IPV4 - 32

Bits in CIDR IP address - 23

$32-23=9$, $2^9=512$ IP addresses

10.0.0.0, 10.0.0.1, 10.0.0.2, ---10.0.0.255, ------10.0.1.255

NPC-3

10.0.0.0/22

$2^{10}=1024$

10.0.0.0, 10.0.0.1 ---10.0.0.255, 10.0.1.0, ----10.0.1.255

10.0.2.0, ---- 10.0.2.255, 10.0.3.0 ---- 10.0.3.255.

10.0.0.0/25:

$2^7=128$

10.0.0.0 to 10.0.0.127

10.0.0.0/26

$2^6=64$

10.0.0.0 to 10.0.0.63

10.0.0.0/27

$2^5=32$

10.0.0.0 to 10.0.0.31

10.0.0.0/28

$2^4=16$

10.0.0.0 to 10.0.0.15

10.0.0.0/21

$2^{11}=2048$

10.0.0.0 ---10.0.0.255, 10.0.1.0 ---10.0.1.255, ---

--- 10.0.3.255, 10.0.7.255

10.0.0.0/20

$2^{12} = 4096$ | 256 · 16 15.255

10.0.0.0 --- 10.0.15.255

8192/256

32

31.255

10.0.0.0/19

$2^{13} = 8192$

10.0.0.0 ------ 10.0.31.255

10.0.0.0/18

$2^{14} = 16384$

10.0.0.0 ------ 10.0.63.255

10.0.0.0/17

$2^{15} = 32768$

10.0.0.0 ------ 10.0.127.255

10.0.0.0/16

$2^{16} = 65536$

10.0.0.0 ------ 10.0.255.255.

Day-6

VPC2: 20.15.0.0/23

512 IP addresses

20.15.0.0 --- 20.15.0.255, 20.15.1.0 --- 20.15.1.255

VPC3: 20.15.0.0/24

256 IP address

20.15.0.0 ------ 20.15.0.255

VPC4 - 20.15.0.0/25

20.15.0.0 ---- 20.15.0.127

VPC-5 - 20.15.0.0/26

20.15.0.0 ---- 20.15.0.63

VPC-6 - 20.15.0.0/27

20.15.0.0 ---- 20.15.0.31

VPC-7 - 20.15.0.0/28

20.15.0.0 ---- 20.15.0.15

VPC8 - 20.15.0.0/22

2^{10} = 1024 bits

20.15.0.0 ---- 20.15.3.255

VPC-9 - 20.15.0.0/21

2^{11} = 2048 bits

20.15.0.0 ---- 20.15.7.255

VPC-10 - 20.15.0.0/20

2^{12} = 4096

20.15.0.0 ---- 20.15.15.255

VPC-11 - 20.15.0.0/19

2^{13} = 8192

20.15.0.0 ---- 20.15.31.255

VPC-12 - 20.15.0.0/18

2^{14} = 16384

20.15.0.0 ---- 20.15.63.255

VPC-13 - 20.15.0.0 /17

$2^{15} = 32768$

20.15.0.0 ---- 20.15.127.255

VPC-14 - 20.15.0.0/16

$2^{16} = 65536$

20.15.0.0 ---- 20.15.255.255

Eg1: VPC 1 - 20.15.0.0/22

Subnet 1 - 256 IPS - 20.15.0.0/24

Subnet 2 - 256 IPS - 20.15.1.0/24

Subnet 3 - 256 IPS - 20.15.2.0/24

Subnet-4 - 256 IPS - 20.15.3.0/24

Eg2: VPC 2 - 20.15.0.0/21

Subnet 1 - 512 IPS - 20.15.0.0/23

2 - " - 20.15.2.0/23

3 - " - 20.15.4.0/23

4 - " - 20.15.6.0/23

Eg3: VPC 3 - 20.15.0.0/20

Subnet 1 - 1024 IPS - 20.15.0.0/22

Subnet 2 - 1024 IPS - 20.15.4.0/22

Subnet 3 - 1024 IPS - 20.15.8.0/22

Subnet 4 - 1024 IPS - 20.15.12.0/22

EG4: VPC4 - 20.15.0.0/19

Subnet 1 - 2048 IPS - 20.15.0.0/21

Subnet 2 - 2048 IPS - 20.15.8.0/21

Subnet 3 - 2048 IPS - 20.15.16.0/21

Subnet 4 - 2048 IPS - 20.15.24.0/21

EG5: VPC5 - 20.15.0.0/18

Subnet 1 - 4096 IPS - 20.15.0.0/20

Subnet 2 - 4096 IPS - 20.15.16.0/20

Subnet 3 - 4096 IPS - 20.15.32.0/20

Subnet 4 - 4096 IPS - 20.15.48.0/20

EG 6: VPC 6 - 20.15.0.0/17

Subnet 1 - 8192 IPS - 20.15.0.0/19

Subnet 2 - 8192 IPS - 20.15.32.0/19

Subnet 3 - 8192 IPS - 20.15.64.0/19

Subnet 4 - 8192 IPS - 20.15.96.0/19

EG 7: VPC 7 - 20.15.0.0/16

Subnet 1 - 16384 IPS - 20.15.0.0/18

Subnet 2 - 16384 IPS - 20.15.0.64/18

Subnet 3 - 16384 IPS - 20.15.0.128/18

Subnet 4 - 16384 IPS - 20.15.0.192/18

EG 8: VPC8 - 20.15.0.0/18.

Subnet1 - 4096 IPS - 20.15.0.0/20

Subnet2 - 2048 IPS - 20.15.16.0/21

Subnet-3 - 1024IPS - 20.15.24.0/22

Subnet-4-2048IPS - 20.15.28.0/21

Subnet-5 - 1024IPS - 20.15.36.0/22

Subnet-6 - 2048IPS - 20.15.40.0/21

Subnet-7 - 4096IPS - 20.15.48.0/20

EG 9: VPC-9- 20.15.0.0/16-

Subnet 1- 4096 IP's - 20.15.0.0/20

Subnet 2- 16384IPS - 20.15.16.0/18

Subnet 3- 4096IPS- 20.15.80.0/20

Subnet 4 - 2048IPS- 20.15.96.0/21

Subnet 5 - 1024IPS - 20.15.104.0/22

Subnet 6 - 8192IPS - 20.15.108.0/19

Subnet 7 - 4096IPS - 20.15.140.0/20

EG-10: VPC10 - 20.15.0.0/17

Subnet1 - 2048IPS - 20.15.0.0/21

Subnet2 - 8192IPS - 20.15.8.0/19

Subnet3 - 2048IPS - 20.15.40.0/21

Subnet4 - 1024IPS - 20.15.48.0/22

Subnet5 - 512IPS - 20.15.52.0/23

Subnet6 - 4096IPS - 20.15.54.0/20

Subnet7 - 512IPS - 20.15.70.0/23

Subnet8 - 2048IPS - 20.15.72.0/21

EG.11 - VPC11 - 20.15.0.0/18

Subnet1 - 2048 IPS - 20.15.0.0/21

Subnet 2 - 4096 IPS - 20.15.8.0/20

Subnet 3 - 512 IPS - 20.15.24.0/21

Subnet 4 - 1024 IPS - 20.15.26.0/22

Subnet 5 - 512 IPS - 20.15.30.0/23

Subnet 6 - 4096 IPS - 20.15.32.0/20

Subnet 7 - 1024 IPS - 20.15.48.0/22

Subnet 8 - 2048 IPS - 20.15.52.0/21

EG.12: VPC12 - 10.0.0.0/16

Subnet1 - 4096 IPS - 10.0.0.0/20

Subnet2 - 1024 IPS - 10.0.16.0/21

Subnet 3 - 8192 IPS - 10.0.20.0/19

Subnet 4 - 4096 IPS - 10.0.52.0/20

Subnet 5 - 2048 IPS - 10.0.68.0/21

Subnet 6 - 4096 IPS - 10.0.76.0/20

Day 7:

Data Center:

→ A data center is a facility of one or more buildings that house a centralized computing infrastructure, typically servers, storage, and networking equipment.

→ In this world of apps, big data and digital everything, you can't stay on top of your industry without cutting-edge computing infrastructure.