CIDR

VPC

CIDR:- Classless inter domain routing

⇒ CIDR is an Ip address allocation method that Improves data routing Efficiency on the . internet

⇒ Every machine/ server and end-user device that connects to the internet. it has a . unique number, called an Ip address, associated with it

Ipv4

Example:-1

10.0.0.0/24 → 32-24=28 → 2^8=256 (In this network 256 ips present)

Starting with

10.0.0.0
10.0.0.1
10.0.0.255

} 256 Ip's

Example:-2

10.0.0.0/26 → 32-24=6 2^6 = 64

Starting with

10.0.0.0.
10.0.0.1
10.0.0.64

} 64 Ip's

Example:- 3

10.0.0.0/23 → 32-23=9 →2^9=512

10.0.0.0
10.0.0.1
10.0.0.255

} 256 Ip's

10.0.1.0
10.0.1.0
10.0.1.255

} 256 Ip's

} 512 Ip's

IPv4 is a 32-bit address

8.8.8.8 each bitt has 8 because we use 32

bit 8+8=16+16+16=32

Types of numbers:-

Binary :- 0,1

octal number:- 1,2,3,4,5,6,7

Decimal numbers:- 1,2,3,4,5,6,7,8,9

Note: In pv4 we will give up to 256 Ip's only in one bit

IPv6 address → 128-bit address

Types of number

Hexadecimal format

0, 1, 2, 3,4,5,6,7,8,9,a,b,c,d,e,f

16+16 +16 +16 +16 +16 +16 +16 =128

what is private Ip address
→if user in internal communication network

IMP

➔ **In AWS 1st 4th and last 1 Ip's Total = 5 reserved for Aws**

Ex: in VPC1 → SN1 , SN2 ==➔ 10.0.0.0/24 = 512

SN1 → 10.0.0.0/25 = 128

10.0.0.0
10.0.0.1
10.0.0.2
10.0.0.3
10.00.127

} **These five are reserved for AWS**

SN2 → 10.0.0.0/25 = 128

192.168.0.0
192.168.0.1
192.168.0.2
192.168.0.3
19.168.0.127

} **These five are reserved for AWS**

} **In Each subnet AWS Reserves**

we can't use these five Ips for our use