CIDR

Monday, February 24, 2025 11:38 PM

CIDR (Classless Inter-Domain Routing) is a method for allocating IP addresses and routing that replaces the older **classful** addressing system. It was introduced to improve the efficiency of IP address allocation and slow down the exhaustion of IPv4 addresses.

Key Concepts of CIDR:

1. **CIDR Notation:**
   - An IP address in CIDR is represented as **A.B.C.D/n**, where **n** indicates the number of bits in the subnet mask.
   - Example: 192.168.1.0/24 means the first 24 bits are the network part, and the remaining 8 bits are for host addresses.

Class A (CIDR Value = /8)
IP Address: 1-126
Default Subnet Mask: 255.0.0.0
Here, 8 bits are reserved for network and remaining 24 bits are reserved for host

Network Bits	Host Bits		
8	24		
1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0

Class B (CIDR Value = /16)
IP Address: 128-191
Default Subnet Mask: 255.255.0.0
Here, 16 bits are reserved for network and remaining 16 bits are reserved for host

Network Bits		Host Bits	
16		16	
1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0

Class C (CIDR Value = /24)
IP Address: 192-223
Default Subnet Mask: 255.255.255.0
Here, 24 bits are reserved for network and remaining 8 bits are reserved for host

Network Bits			Host Bits
24			8
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