

TechWayRay: IP Addressing Cheat Sheet

CONCEPT	EXPLANATION
IP Address	A unique address assigned to each device on a network (e.g., 192.168.1.10)
IPv4	A 32-bit numeric address (e.g., 192.168.0.1)
IPv6	A 128-bit hexadecimal address (e.g., fe80::1ff:fe23:4567:890a)
Private IP	Reserved for use inside private networks (e.g., 192.168.x.x, 10.x.x.x)
Public IP	Assigned by your ISP and accessible over the internet
Subnet Mask	Defines network and host portions (e.g., 255.255.255.0)
CIDR Notation	Compact format (e.g., 192.168.0.0/24 = 255.255.255.0)
Gateway	The device (usually a router) that routes traffic to other networks
DHCP	Automatically assigns IP addresses to devices on the network
Static IP	Manually assigned IP address for consistent access
Loopback Address	127.0.0.1 – refers to the local machine. Useful for testing
APIPA	Auto-assigned address when DHCP fails (e.g., 169.254.x.x)
Broadcast Address	Sends data to all devices on the subnet (e.g., 192.168.1.255)
Default Route	The fallback route when no specific route is found
Network ID	Identifies the network (e.g., 192.168.1.0 in /24 subnet)
Host ID	Identifies a device within a network