

Network

- Network is a set of computing devices connected together for the purpose of sharing information and resources

Que. What is IP & IP Address?

Ans. An IP address is a unique address that identifies a device on the internet or a local network. IP stands for "Internet Protocol,"

Difference between static and dynamic ip ?

A static IP address is simply an address that doesn't change. Once your device is assigned a static IP address, that number typically stays the same until the device is decommissioned or your network architecture changes. Static IP addresses generally are used by servers or other important equipment.

As the name suggests, dynamic IP addresses are subject to change, sometimes at a moment's notice. Dynamic addresses are assigned, as needed, by Dynamic Host Configuration Protocol (DHCP) servers.



What is IP conflict issue?

IP conflict is a term used to denote the state of two or more devices within the same network or subnet that are trying to use the same IP address. This can cause communications destined for a specific host to get mixed up with other hosts, as both use the same IP.



Ip 1.1.1.1



Ip 1.1.1.1

Solution for ip conflict.

1. Try restarting your router. ...
2. Disable then re-enable your network adapter. ...
3. Release and renew your IP address. ...
4. Remove static IP and use an automatic IP instead. ...
5. Disable IPv6. ...
6. Use a VPN to get a different IP address each time.

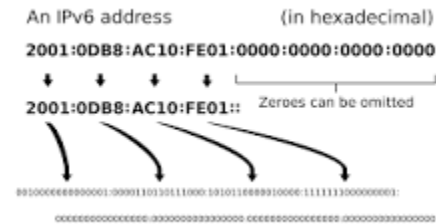
What is ipv4 and ipv6?

IP stands for Internet Protocol and v4 stands for Version Four (IPv4). IPv4 was the primary version brought into action for production within the ARPANET in 1983.

IP version four addresses are 32-bit integers which will be expressed in decimal notation. Example- 192.0.2.126 could be an IPv4 address.

An IPv6 address is a 128-bit alphanumeric value that identifies an endpoint device in an Internet Protocol Version 6 (IPv6) network. IPv6 is the successor to a previous addressing infrastructure, IPv4, which had limitations IPv6 was designed to overcome.

Is an example of an IPv6 address?



An IPv6 address is represented as eight groups of four hexadecimal digits, each group representing 16 bits. The groups are separated by colons (:). An example of an IPv6 address is: 2001:0db8:85a3:0000:0000:8a2e:0370:7334

We have Total No. of IP address in IPv4 = $256 \times 256 \times 256 \times 256 = 4.2$ Billion

IPv6 uses 128-bit (2^{128}) addresses, allowing 3.4×10^{38} unique IP addresses. This is equal to 340 trillion trillion trillion IP addresses

What is classful and class less ip address distribution?

Types of Classful Address

Class A, Class B, Class C, Class D, and Class E are the five varieties of Classful addresses. In IPv4, this classification is known as Classful addressing or IP address classes.

- The first three classes, Class A, B, and C, are used for "public addressing", in which communication is always one-to-one between source and destination. It implies that when data is transmitted from a source, it will only be sent to a single network host.

Classless Addressing

Classless Inter-Domain Routing (CIDR) is another name for classless addressing. This addressing type aids in the more efficient allocation of IP addresses. This technique assigns a block of IP addresses based on specified conditions when the user demands a specific amount of IP addresses. This block is known as a "CIDR block", and it contains the necessary number of IP addresses.

When allocating a block, classless addressing is concerned with the following three rules.

- **Rule 1** – The CIDR block's IP addresses must all be contiguous.

- **Rule 2** – The block size must be a power of two to be attractive. Furthermore, the block's size is equal to the number of IP addresses in the block.
- **Rule 3** – The block's first IP address must be divisible by the block size

Loop back Address:

127.0.0.1 is the most commonly used loopback address; generally, 127.0.0.1 and localhost are functionally similar, i.e., the loopback address 127.0.0.1 and the hostname localhost; are internally mapped. Though, other loopback addresses are also accessible and can be used.

x

x

The End

Thankyou