

# MAC Addresses

## What is a MAC address ?

A MAC address is a 48 bit physical address, which uniquely identifies each device on a given network. It is assigned to the NIC (Network Interface card) of each device that can be connected to the internet.

So, it is basically like your home physical address. That's what i was referring while we were learning about the IP addresses. So, IP address gives information the city and street you are you are living in. On the other hand, MAC address gives information about your specific house number or address.

These are expressed in hexadecimal notation. For example, "01-23-45-67-89-AB" in a 48-bit address and often considered permanent but in some cases can be changed via software or tools.

- To check the MAC address of a computer

```
# On linux
```

```
ifconfig
```

```
# On Windows
```

```
ipconfig /all
```

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# MAC Address Format

Talking about the structure of IP address

The first three octets, or 24 bits, represent the Organizationally Unique Identifier (OUI), which identifies the manufacturer of the NIC.

We can check the Manufacture of the MAC address with a MAC Lookup website like this.

-> <https://maclookup.app>

Entering MAC Address in it reveals the Manufacturer name and its Address.

The remaining three octets, or 24 bits, are the Network Interface Controller (NIC) specific portion, ensuring each NIC has a unique address.

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