

Macchanger

A Media Access Control (MAC) address is a unique identifier assigned to a network interface controller (NIC) for use as a network address in communications within a network segment. MAC addresses are used in the data link layer of the OSI model and are most often assigned by the manufacturer of the NIC.

`macchanger` is a Linux utility that allows users to view and manipulate the MAC address of their network interfaces. This tool is particularly useful for enhancing privacy and anonymity, as it can change the MAC address to a randomly generated one or a user-specified value, making it harder for network tracking and monitoring. Network administrators and security professionals often use `macchanger` to test network configurations and security measures, as well as to bypass network restrictions that are based on MAC addresses. The changes made by `macchanger` are temporary and will be reset after a reboot unless scripted to persist. This tool is commonly installed via package managers, such as `apt` on Debian-based systems or `dnf` on Red Hat-based systems. The basic commands include viewing the current MAC address with `sudo macchanger -s [interface]`, changing it randomly with `sudo macchanger -r [interface]`, or setting it to a specific value with `sudo macchanger -m [new_mac] [interface]`.

Example: -

1. To check the current MAC address use ifconfig command.

```
(kali㉿kali)-[~]  
$ sudo ifconfig  
[sudo] password for kali:  
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 10.0.0.1 netmask 255.255.255.0 broadcast 10.0.0.255  
    inet6 fe80::a214:ff:fe00:4241 prefixlen 64 scopeid 0x20<link>  
    ether 08:00:27:12:34:56 txqueuelen 1000 (Ethernet)  
    RX packets 61 bytes 20059 (25.4 KiB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 104 bytes 11700 (11.4 KiB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536  
    inet 127.0.0.1 netmask 255.0.0.0  
    inet6 ::1 prefixlen 128 scopeid 0x10<host>  
    loop txqueuelen 1000 (Local Loopback)  
    RX packets 4 bytes 240 (240.0 B)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 4 bytes 240 (240.0 B)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

2. We have to disable the interface before changing the MAC address. To do so use down command along with the interface.

```
(kali㉿kali)-[~]  
$ sudo ifconfig eth0 down
```

3. Now to change the MAC address use -r flag.

```
(kali㉿kali)-[~]  
$ sudo macchanger -r eth0  
Current MAC: 08:00:27:12:34:56 (CADMUS COMPUTER SYSTEMS)  
Permanent MAC: 08:00:27:12:34:56 (CADMUS COMPUTER SYSTEMS)  
New MAC: 7a:fd:4a:2d:f0 (unknown)
```

4. Now we can enable the interface again by using up command.

```
(kali㉿kali)-[~]  
$ sudo ifconfig eth0 up
```

5. Now to check whether the MAC is changed or not use the ifconfig command.

```
(kali㉿kali)-[~]  
$ sudo ifconfig  
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet6 1::e434:471b:1:0:0:0 prefixlen 64 scopeid 0x20<link>  
    ether 7a:5b:0c:00:00:00 txqueuelen 1000 (Ethernet)  
    RX packets 81 bytes 26059 (25.4 KiB)  
    RX errors 0 dropped 0 overruns 0 frame 0
```