

Lab Report 32: Spoofing Your MAC Address with macchanger

Lab Number: 32

Lab Title: Spoofing your MAC address with macchanger

Tool Used: Kali Linux (with **macchanger**)

Objective:

To learn how to spoof (change) a network interface's MAC address using the **macchanger** tool in Kali Linux — for privacy, penetration testing, or evading detection on networks.

Background:

A **MAC (Media Access Control)** address is a unique identifier assigned to a network interface card (NIC). In certain scenarios, such as ethical hacking or evading network tracking, we may need to spoof this address.

macchanger is a Linux utility that allows you to:

- View the current MAC address
 - Randomize the MAC address
 - Assign a specific MAC address
 - Restore the original hardware MAC address
-

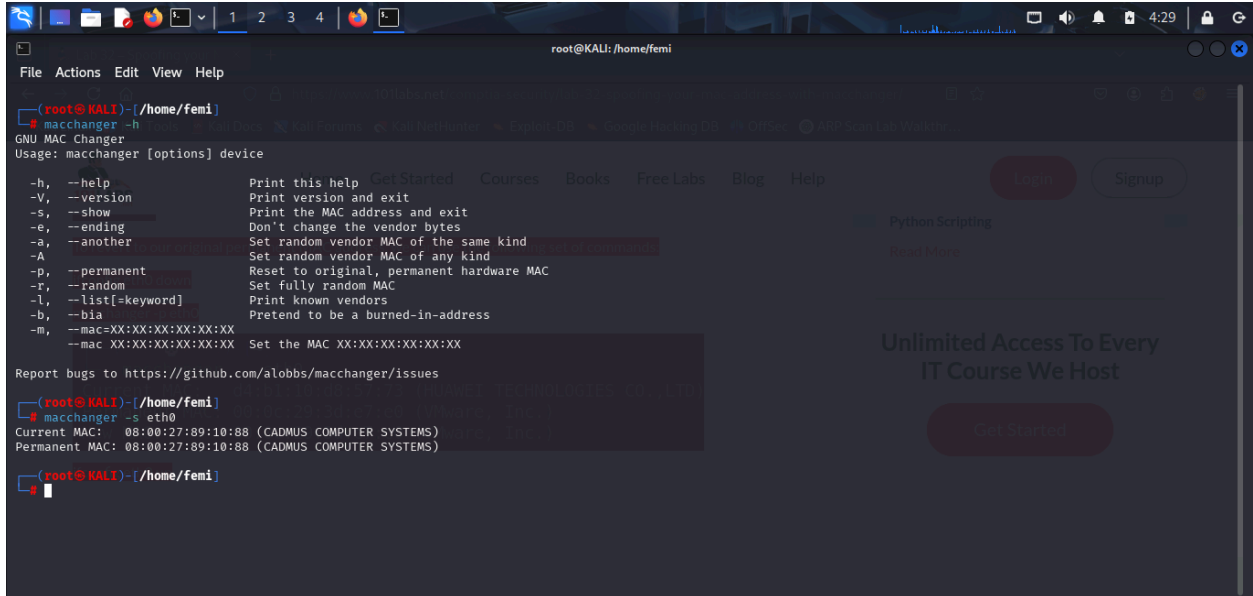
Lab Tasks and Execution:

Task 1: View Help Screen and Check Current MAC Address

Command(s) Used:

```
macchanger -h
```

```
macchanger -s eth0
```



The screenshot shows a terminal window with a dark background. The prompt is `root@KALI: /home/femi`. The user has entered `macchanger -h`, which displays the GNU MAC Changer usage and options. The options include `--help`, `--version`, `--show`, `--ending`, `--another`, `--A`, `--permanent`, `--r`, `--list[=keyword]`, `--bia`, `--mac=XX:XX:XX:XX:XX:XX`, and `--mac XX:XX:XX:XX:XX:XX`. The user then enters `macchanger -s eth0`, which displays the current and permanent MAC addresses for the `eth0` interface.

```
root@KALI: /home/femi
macchanger -h
GNU MAC Changer
Usage: macchanger [options] device

-h, --help                Print this help
-V, --version              Print version and exit
-s, --show                 Print the MAC address and exit
-e, --ending               Don't change the vendor bytes
-a, --another              Set random vendor MAC of the same kind
-A, --A                    Set random vendor MAC of any kind
-p, --permanent            Reset to original, permanent hardware MAC
-r, --random               Set fully random MAC
-l, --list[=keyword]       Print known vendors
-b, --bia                  Pretend to be a burned-in-address
-m, --mac=XX:XX:XX:XX:XX:XX Set the MAC XX:XX:XX:XX:XX:XX

Report bugs to https://github.com/alobbs/macchanger/issues

root@KALI: /home/femi
macchanger -s eth0
Current MAC: 08:00:27:89:10:88 (CADMUS COMPUTER SYSTEMS)
Permanent MAC: 08:00:27:89:10:88 (CADMUS COMPUTER SYSTEMS)

root@KALI: /home/femi
```

Explanation:

- `macchanger -h`: Displays all options and usage instructions.
- `macchanger -s eth0`: Shows the current MAC address of the `eth0` interface.

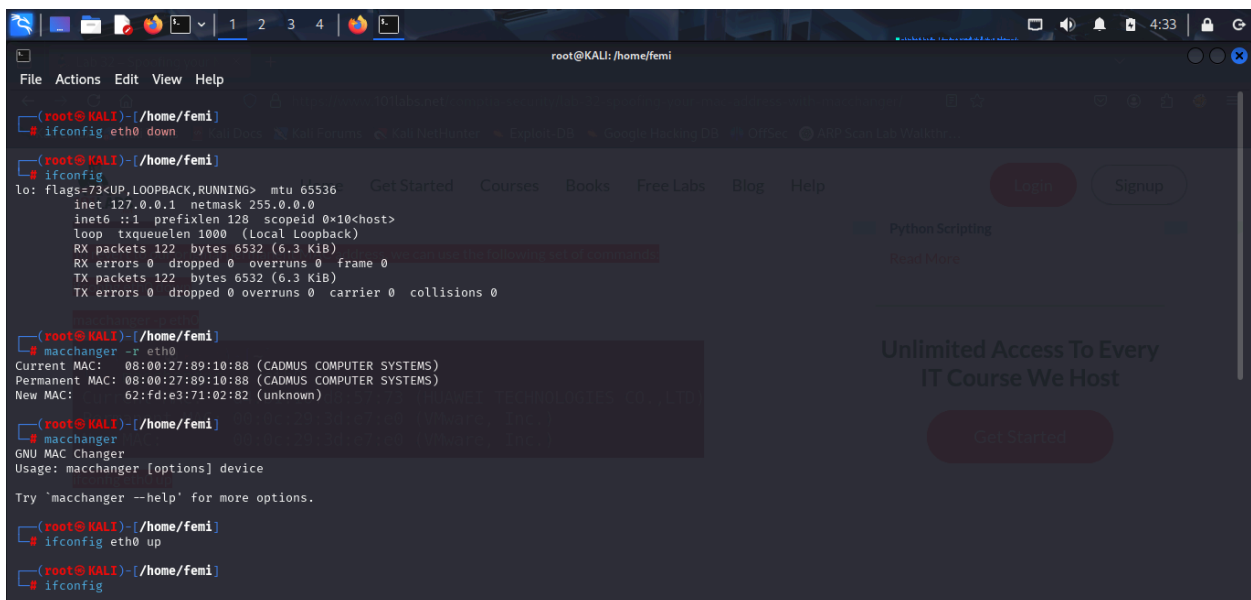
Observation:

The original hardware MAC address and current address are displayed.

Task 2: Change MAC Address to a Random Value

Step-by-Step Commands:

```
ifconfig eth0 down
ifconfig
macchanger -r eth0
macchanger
ifconfig eth0 up
ifconfig
macchanger -s eth0
```



```
root@KALI: /home/femi
File Actions Edit View Help
root@KALI: /home/femi
root@KALI: /home/femi# ifconfig eth0 down
root@KALI: /home/femi# ifconfig
to: 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 122 bytes 6532 (6.3 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 122 bytes 6532 (6.3 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
root@KALI: /home/femi# macchanger -r eth0
Current MAC: 08:00:27:89:10:88 (CADMIUS COMPUTER SYSTEMS)
Permanent MAC: 08:00:27:89:10:88 (CADMIUS COMPUTER SYSTEMS)
New MAC: 62:fd:e3:71:02:82 (unknown)
root@KALI: /home/femi# macchanger
GNU MAC Changer
Usage: macchanger [options] device
Try 'macchanger --help' for more options.
root@KALI: /home/femi# ifconfig eth0 up
root@KALI: /home/femi# ifconfig
```

Explanation:

- **ifconfig eth0 down**: Disables the interface so changes can be made.
- **macchanger -r eth0**: Assigns a random MAC address to the interface.
- **ifconfig eth0 up**: Brings the interface back online.
- **macchanger -s eth0**: Confirms that the MAC address has changed.

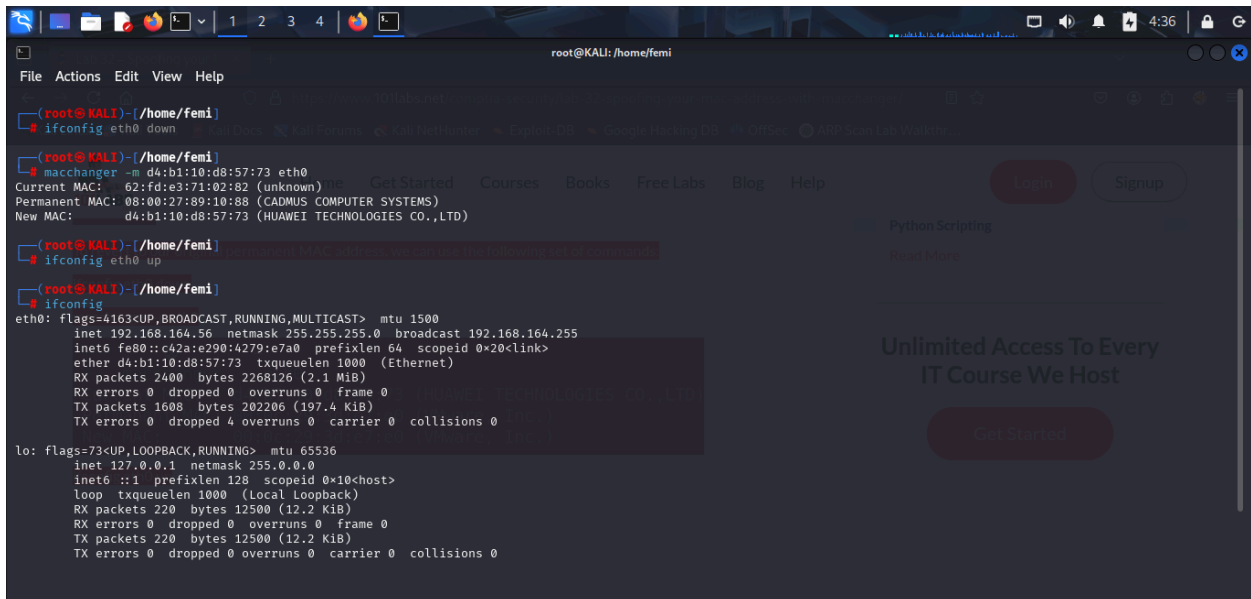
Result:

The MAC address was successfully changed to a random value.

Task 3: Set a Specific MAC Address (Manual Spoofing)

Step-by-Step Commands:

```
ifconfig eth0 down
macchanger -m d4:b1:10:d8:57:73 eth0
macchanger
ifconfig eth0 up
ifconfig
macchanger -s eth0
```



```
root@KALI: /home/femi
File Actions Edit View Help
root@KALI: /home/femi
root@KALI: /home/femi# ifconfig eth0 down
root@KALI: /home/femi# macchanger -m d4:b1:10:d8:57:73 eth0
Current MAC: 62:fd:e3:71:02:82 (unknown)
Permanent MAC: 08:00:27:89:10:88 (CADMUS COMPUTER SYSTEMS)
New MAC: d4:b1:10:d8:57:73 (HUAWEI TECHNOLOGIES CO.,LTD)
root@KALI: /home/femi# ifconfig eth0 up
root@KALI: /home/femi# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.164.56 netmask 255.255.255.0 broadcast 192.168.164.255
    inet6 fe80::c42a:e290:4279:e7a0 prefixlen 64 scopeid 0<link>
    ether d4:b1:10:d8:57:73 txqueuelen 1000 (Ethernet)
    RX packets 2400 bytes 2268126 (2.1 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1608 bytes 202206 (197.4 KiB)
    TX errors 0 dropped 4 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 0<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 220 bytes 12500 (12.2 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 220 bytes 12500 (12.2 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Explanation:

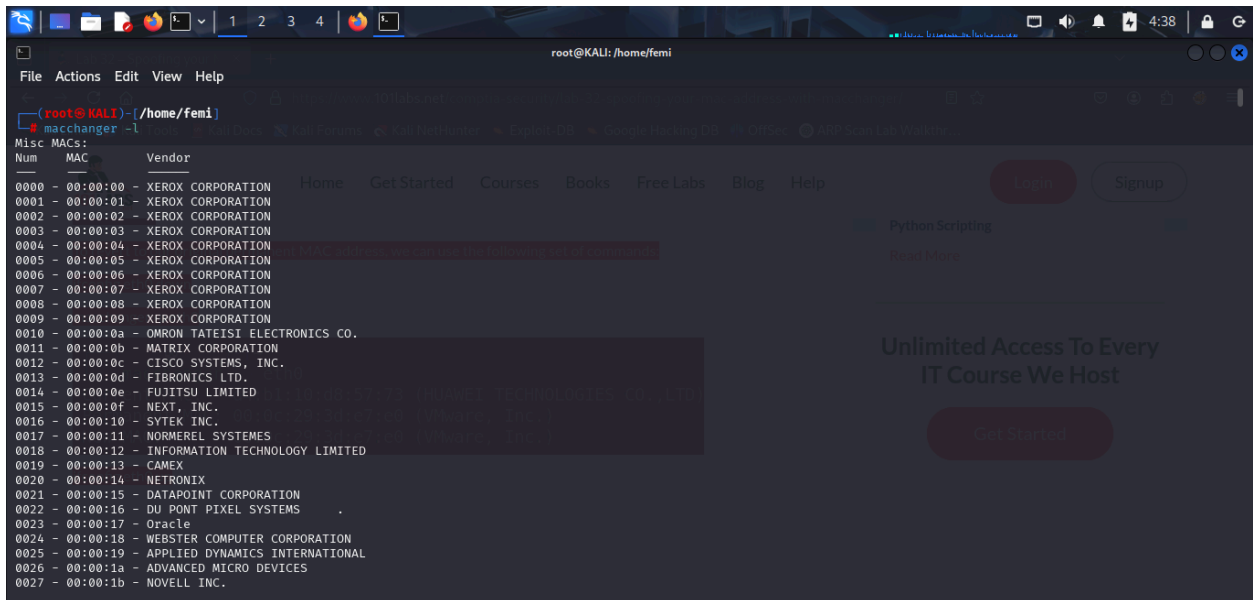
- **-m [address]**: Allows setting a specific MAC address manually.
- This is useful if we want to impersonate a specific device or vendor.

Result:

The MAC address was changed successfully to the specified value.

Task 4: List Vendor MAC Prefixes:

macchanger -l



```
root@KALI: /home/femi
File Actions Edit View Help

(root@KALI) - /home/femi
macchanger -l

Misc MACs:
Num  MAC  Vendor
-----
0000 - 00:00:00 - XEROX CORPORATION
0001 - 00:00:01 - XEROX CORPORATION
0002 - 00:00:02 - XEROX CORPORATION
0003 - 00:00:03 - XEROX CORPORATION
0004 - 00:00:04 - XEROX CORPORATION
0005 - 00:00:05 - XEROX CORPORATION
0006 - 00:00:06 - XEROX CORPORATION
0007 - 00:00:07 - XEROX CORPORATION
0008 - 00:00:08 - XEROX CORPORATION
0009 - 00:00:09 - XEROX CORPORATION
0010 - 00:00:0a - OMRON TATEISI ELECTRONICS CO.
0011 - 00:00:0b - MATRIX CORPORATION
0012 - 00:00:0c - CISCO SYSTEMS, INC.
0013 - 00:00:0d - FIBRONICS LTD.
0014 - 00:00:0e - FUJITSU LIMITED
0015 - 00:00:0f - NEXT, INC.
0016 - 00:00:10 - SYTEK INC.
0017 - 00:00:11 - NORMEREL SYSTEMES
0018 - 00:00:12 - INFORMATION TECHNOLOGY LIMITED
0019 - 00:00:13 - CAMEX
0020 - 00:00:14 - NETRONIX
0021 - 00:00:15 - DATAPOINT CORPORATION
0022 - 00:00:16 - DU PONT PIXEL SYSTEMS
0023 - 00:00:17 - Oracle
0024 - 00:00:18 - WEBSTER COMPUTER CORPORATION
0025 - 00:00:19 - APPLIED DYNAMICS INTERNATIONAL
0026 - 00:00:1a - ADVANCED MICRO DEVICES
0027 - 00:00:1b - NOVELL INC.
```

Explanation:

- Lists known MAC address prefixes assigned to hardware vendors.
- Useful if we want to spoof as a device from a specific company like Apple, Cisco, etc.

Observation:

A large list of vendors and their MAC prefixes was displayed.

Task 5: Revert to Original MAC Address

Step-by-Step Commands:

```
ifconfig eth0 down
macchanger -p eth0
macchanger
ifconfig eth0 up
```

```
root@KALI: /home/femi
File Actions Edit View Help

(root@KALI)-[/home/femi]
# ifconfig eth0 down

(root@KALI)-[/home/femi]
# macchanger -p eth0
Current MAC: d4:b1:10:d8:57:73 (HUAWEI TECHNOLOGIES CO.,LTD)
Permanent MAC: 08:00:27:89:10:88 (CADMUS COMPUTER SYSTEMS)
New MAC: 08:00:27:89:10:88 (CADMUS COMPUTER SYSTEMS)

(root@KALI)-[/home/femi]
# ifconfig eth0 up

(root@KALI)-[/home/femi]
# macchanger -s eth0
Current MAC: 08:00:27:89:10:88 (CADMUS COMPUTER SYSTEMS)
Permanent MAC: 08:00:27:89:10:88 (CADMUS COMPUTER SYSTEMS)

(root@KALI)-[/home/femi]
#
```

Explanation:

- **-p**: Resets the MAC address back to the permanent hardware MAC.
- Useful after completing tests or audits to restore normal network behavior.

Result:

MAC address was successfully restored to its original state.

Conclusion:

This lab demonstrated how to effectively:

- View and understand a MAC address.
- Randomize or manually spoof a MAC address using **macchanger**.
- Masquerade as a specific device vendor.
- Restore the original hardware address after testing.

Real-World Use Case:

During penetration testing, changing the MAC address can help avoid detection by MAC-based filtering systems or intrusion detection systems (IDS).

- `macchanger -s eth0` before and after changing
 - The `ifconfig` output showing the interface down and up
 - The list of vendors using `macchanger -l`
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