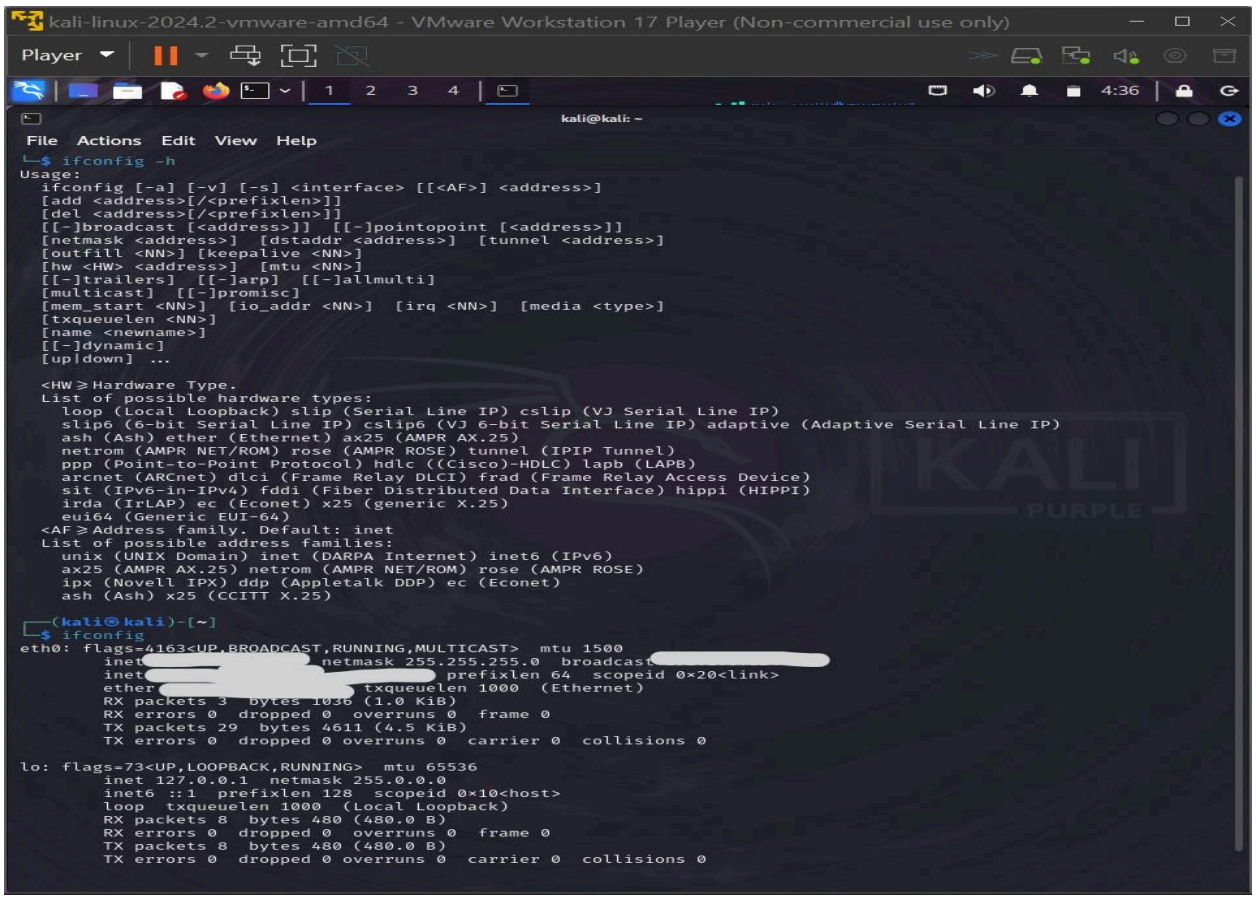
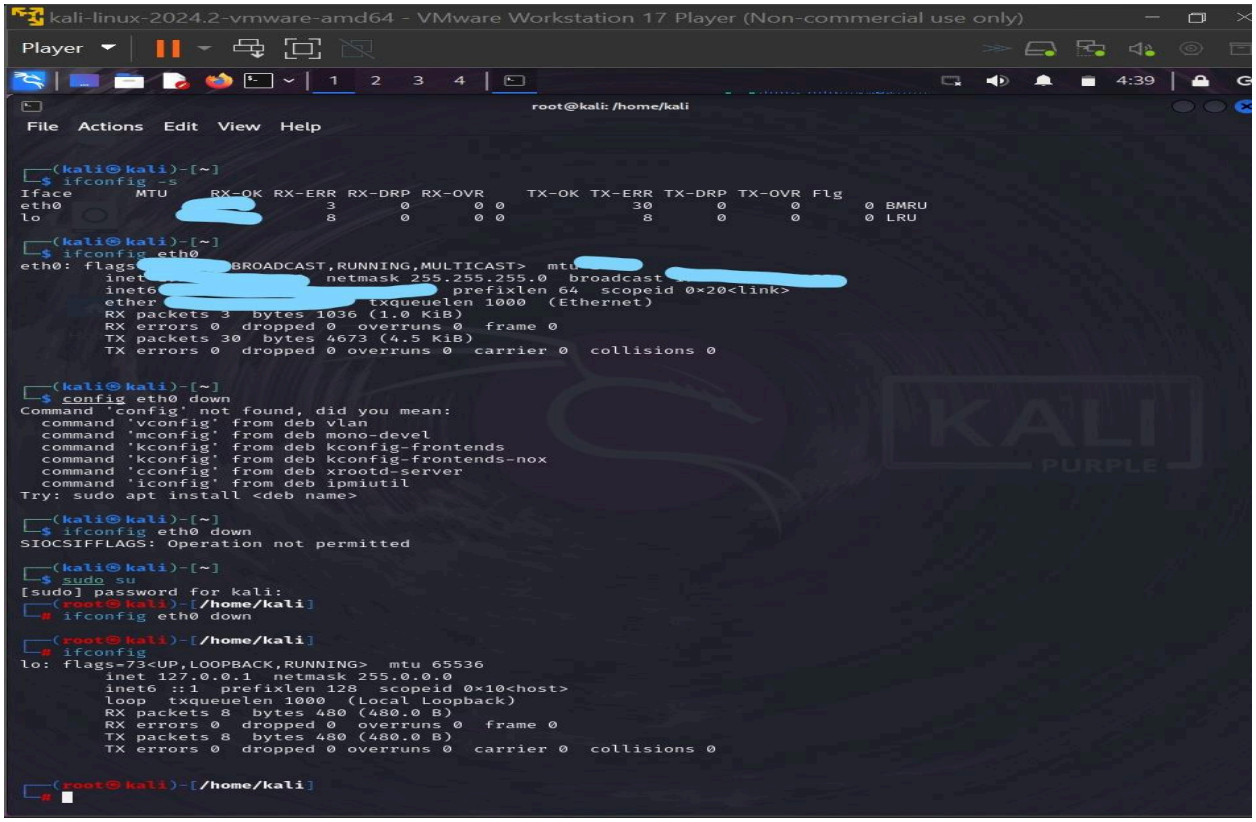
USING IFCONFIG TO VIEW AND MODIFY NETWORK INFORMATION ON LINUX

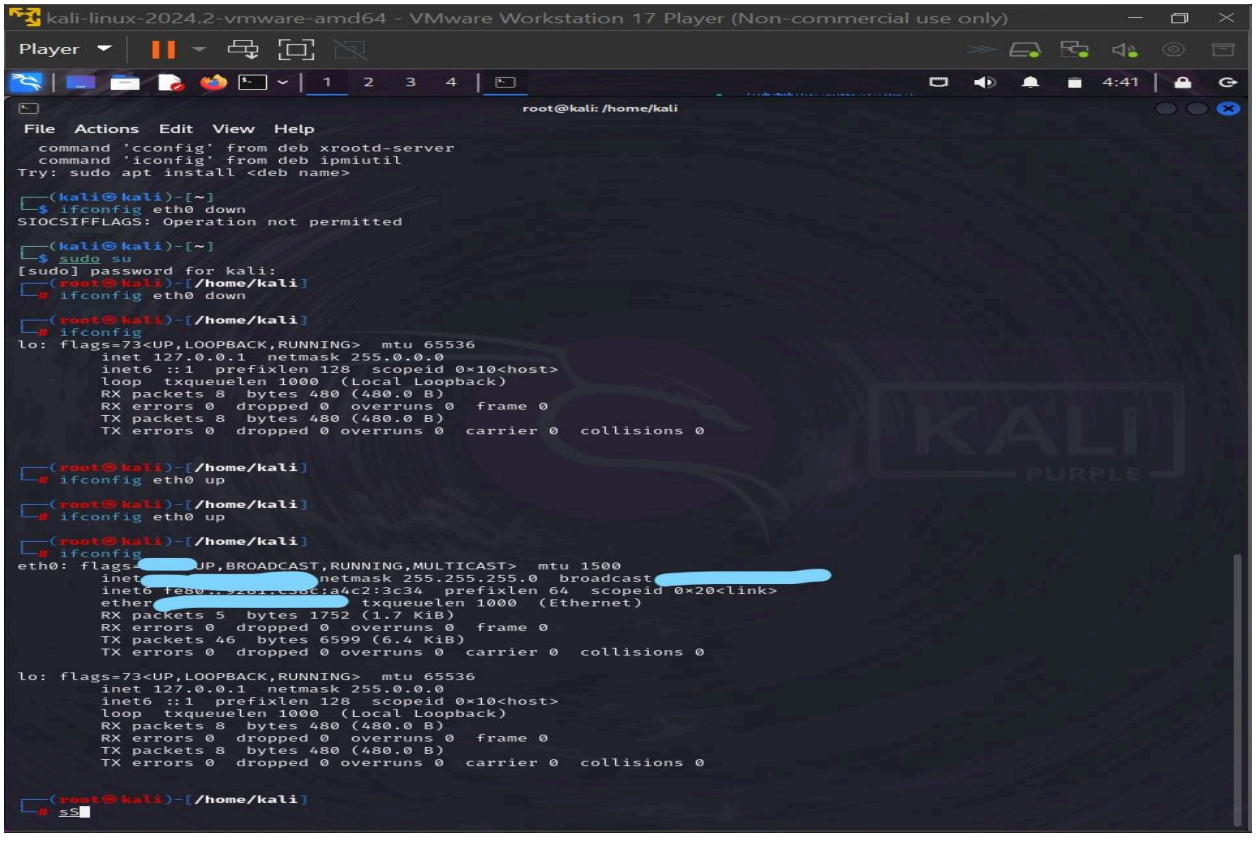
Tools : IFCONFIG on KALI
Site : No site

The ifconfig command is a network configuration utility used in Unix-based operating systems like Linux and macOS. It displays and manages network interfaces on a system. When you run ifconfig, it shows information about your network interfaces, including IP addresses, MAC addresses, network masks, and other details. It is used primarily for configuring and troubleshooting network settings.

Input from ifconfig:




kali-linux-2024.2-vmware-amd64 - VMware Workstation 17 Player (Non-commercial use only)
Player
4:39
root@kali: /home/kali
File Actions Edit View Help
(kali㉿kali)-[~]
$ ifconfig -s
Iface MTU RX-OK RX-ERR RX-DRP RX-OVR TX-OK TX-ERR TX-DRP TX-OVR Flg
eth0 3 0 0 0 30 0 0 0 BMRU
lo 8 0 0 0 8 0 0 0 LRU
(kali㉿kali)-[~]
$ ifconfig eth0
eth0: flags BROADCAST,RUNNING,MULTICAST> mtu
inet netmask 255.255.255.0 broadcast
inet6 prefixlen 64 scopeid 0×20<link>
ether txqueuelen 1000 (Ethernet)
RX packets 3 bytes 1036 (1.0 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 30 bytes 4673 (4.5 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(kali㉿kali)-[~]
$ config eth0 down
Command 'config' not found, did you mean:
command 'vconfig' from deb vlan
command 'mconfig' from deb mono-devel
command 'kconfig' from deb kconfig-frontends
command 'kconfig' from deb kconfig-frontends-nox
command 'cconfig' from deb xrootd-server
command 'iconfig' from deb ipmiutil
Try: sudo apt install <deb name>
(kali㉿kali)-[~]
$ ifconfig eth0 down
SIOCSIFFLAGS: Operation not permitted
(kali㉿kali)-[~]
$ sudo su
[sudo] password for kali:
(root㉿kali)-[/home/kali]
ifconfig eth0 down
(root㉿kali)-[/home/kali]
ifconfig
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0×10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 8 bytes 480 (480.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(root㉿kali)-[/home/kali]
#


kali-linux-2024.2-vmware-amd64 - VMware Workstation 17 Player (Non-commercial use only)
Player
4:41
root@kali: /home/kali
File Actions Edit View Help
command 'cconfig' from deb xrootd-server
command 'iconfig' from deb ipmiutil
Try: sudo apt install <deb name>
(kali㉿kali)-[~]
$ ifconfig eth0 down
SIOCSIFFLAGS: Operation not permitted
(kali㉿kali)-[~]
$ sudo su
[sudo] password for kali:
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ifconfig eth0 down
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lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
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loop txqueuelen 1000 (Local Loopback)
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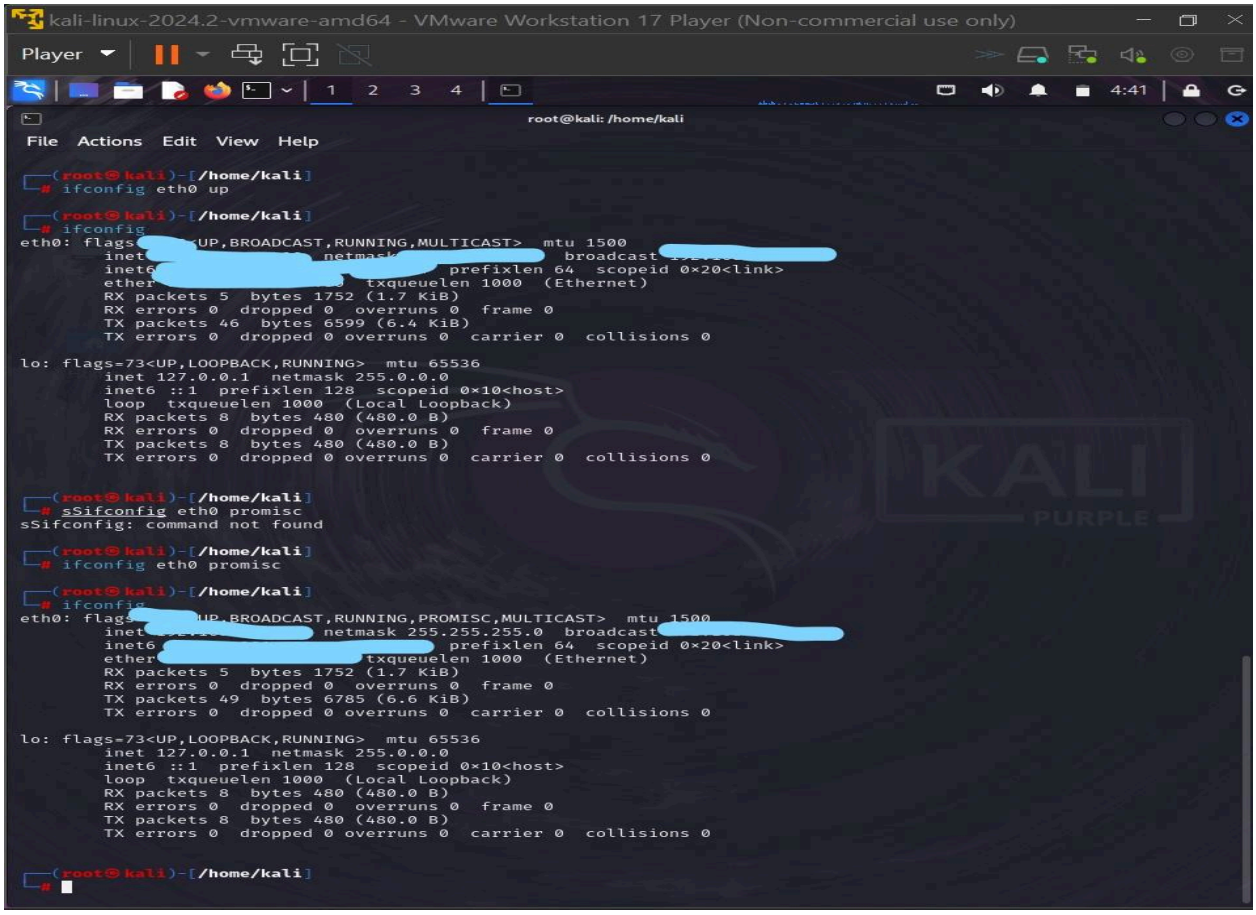
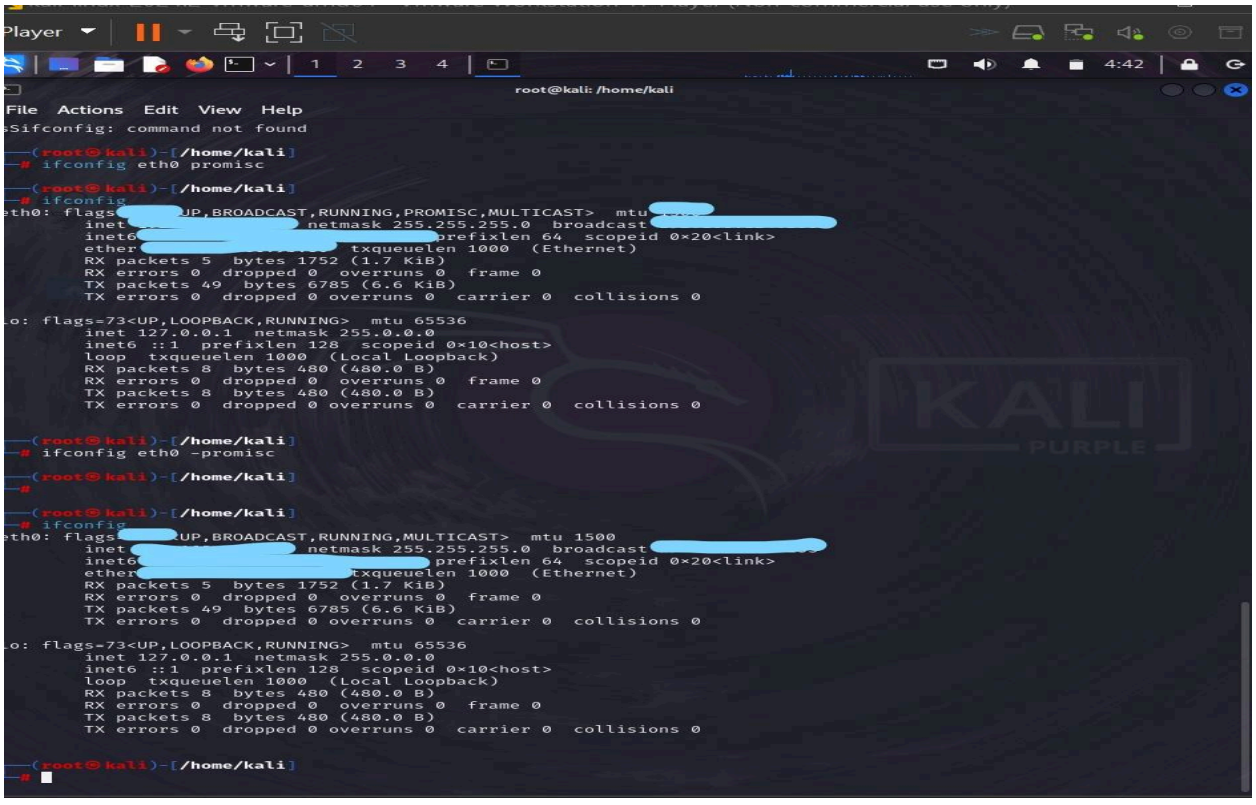
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(root㉿kali)-[/home/kali]
ifconfig eth0 up
(root㉿kali)-[/home/kali]
ifconfig eth0 up
(root㉿kali)-[/home/kali]
ifconfig
eth0: flags UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet netmask 255.255.255.0 broadcast
inet6 prefixlen 64 scopeid 0×20<link>
ether txqueuelen 1000 (Ethernet)
RX packets 5 bytes 1752 (1.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 46 bytes 6599 (6.4 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 0×10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 8 bytes 480 (480.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(root㉿kali)-[/home/kali]
ss


kali-linux-2024.2-vmware-amd64 - VMware Workstation 17 Player (Non-commercial use only)
Player
1 2 3 4
4:41
root@kali: /home/kali
File Actions Edit View Help
┌──(root㉿kali)-[/home/kali]
└─# ifconfig eth0 up
┌──(root㉿kali)-[/home/kali]
└─# ifconfig
eth0: flags=[redacted]UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet [redacted] netmask [redacted] broadcast [redacted]
inet6 [redacted] prefixlen 64 scopeid 0×20<link>
ether [redacted] txqueuelen 1000 (Ethernet)
RX packets 5 bytes 1752 (1.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 46 bytes 6599 (6.4 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 0×10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 8 bytes 480 (480.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
┌──(root㉿kali)-[/home/kali]
└─# sSifconfig eth0 promisc
sSifconfig: command not found
┌──(root㉿kali)-[/home/kali]
└─# ifconfig eth0 promisc
┌──(root㉿kali)-[/home/kali]
└─# ifconfig
eth0: flags=[redacted]UP,BROADCAST,RUNNING,PROMISC,MULTICAST> mtu 1500
inet [redacted] netmask 255.255.255.0 broadcast [redacted]
inet6 [redacted] prefixlen 64 scopeid 0×20<link>
ether [redacted] txqueuelen 1000 (Ethernet)
RX packets 5 bytes 1752 (1.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 49 bytes 6785 (6.6 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 0×10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 8 bytes 480 (480.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
┌──(root㉿kali)-[/home/kali]
└─#


Player
1 2 3 4
4:42
root@kali: /home/kali
File Actions Edit View Help
Sifconfig: command not found
┌──(root㉿kali)-[/home/kali]
└─# ifconfig eth0 promisc
┌──(root㉿kali)-[/home/kali]
└─# ifconfig
eth0: flags=[redacted]UP,BROADCAST,RUNNING,PROMISC,MULTICAST> mtu [redacted]
inet [redacted] netmask 255.255.255.0 broadcast [redacted]
inet6 [redacted] prefixlen 64 scopeid 0×20<link>
ether [redacted] txqueuelen 1000 (Ethernet)
RX packets 5 bytes 1752 (1.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 49 bytes 6785 (6.6 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
o: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0×10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 8 bytes 480 (480.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
┌──(root㉿kali)-[/home/kali]
└─# ifconfig eth0 -promisc
┌──(root㉿kali)-[/home/kali]
└─#
┌──(root㉿kali)-[/home/kali]
└─# ifconfig
eth0: flags=[redacted]UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet [redacted] netmask 255.255.255.0 broadcast [redacted]
inet6 [redacted] prefixlen 64 scopeid 0×20<link>
ether [redacted] txqueuelen 1000 (Ethernet)
RX packets 5 bytes 1752 (1.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 49 bytes 6785 (6.6 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
o: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0×10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 8 bytes 480 (480.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
┌──(root㉿kali)-[/home/kali]
└─#

Results of ifconfig and some of its variants and usage.

Here we used ifconfig to view and modify network information on linux. We will begin by viewing the help information screen by executing the following command: **Ifconfig -h**
We open a terminal to begin, and type **"ifconfig**" to view your networking information.

As you will see, there will be a lot of information, including your local IP addresses. New Linux distributions do not have the "ifconfig" command installed. In this case, you can use the **"ip addr**" command.
To display a short list output, we can use the following command: **ifconfig -s**
We can display information about a specific interface by using the following command: **ifconfig [interface-name]** e.g **[ifconfig eth0]** This is useful for determining interface information and for debugging.

We can disable or enable a network interface using an ifconfig flag. For example: **ifconfig eth0 down** This command will disable our local connection to the Wi-Fi card. To enable it, enter the following command: **ifconfig eth0 up**

We can use ifconfig to enable promiscuous mode on an interface. This will allow the interface to receive all packets on the network. You will need a compatible network card for this to work correctly**: ifconfig eth0 promisc** This can be disabled using the following command: **ifconfig eth0 -promisc**

The ifconfig tool also enables you to change the MAC address associated with a network interface. This can be done with the following command: **ifconfig [network-name] hw [class] [hardware-address]**

Eg. **ifconfig eth0 hw ether 66:3e:7f:60:f2:1f**

There are actually 4 sets of Locally Administered Address Ranges that can be used on your network without fear of conflict, assuming no one else has assigned these on your network:

x2-xx-xx-xx-xx-xx
X6-xx-xx-xx-xx-xx
xA-xx-xx-xx-xx-xx
xE-xx-xx-xx-xx-xx
To make the changes permanent, open the file below and add the following lines in it:
nano /etc/network/interfaces
pre-up ifconfig eth0 hw ether AA:22:33:44:55:66
Reboot the system. The new MAC address will appear.