## Lab 18: Using ifconfig to View and Modify Network Information on Linux

### Scenario

As part of a penetration testing engagement, you are tasked with analyzing and modifying network interface settings on a Linux system. During reconnaissance, you need to view details such as IP addresses, MAC addresses, and interface configurations of the machine running Parrot Security OS. Since different Linux distributions may or may not support the ifconfig command.

### Solution

Using the ifconfig commands in Linux, we can view and modify important network interface settings needed during penetration testing. These tools allow us to list all active interfaces, check IP and MAC addresses, and display details of a specific device for troubleshooting. We can also enable or disable interfaces, switch them into promiscuous mode to capture all network traffic, and even change the MAC address temporarily or permanently for anonymity and evasion. Mastering these commands equips penetration testers with essential skills to control and manipulate network behavior during security assessments.

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| 1. Open a terminal in parrot OS, we will begin by viewing the help information screen by executing the command i**fconfig -h,** or if you have a new Linux distribution, use the command **ip addr help.**  **Note:** New Linux distributions do not have the **ifconfig** command installed. To install it, you can use the command **sudo apt install net-tools**.    2. To view your networking information, type **ifconfig** or, in case of a new Linux distribution, use the command **ip addr**. There will be a lot of information including your local IP addresses.    3. To display a short list output, we can use the command **ifconfig -s** or in case of new Linux distribution use command **ip -brief addr.**    4. We can display information about a specific interface by using the following command: **ifconfig [interface-name]** or **ip addr show dev eth0**. This is useful for determining interface information and for debugging    5. We can disable or enable a network interface using an ifconfig flag using command **sudo ifconfig enp0s3 down** or using command **sudo ip link set dev enp0s3 down** in case of a new Linux distribution. This command will disable our local connection to the Wi-Fi card. After that write command **ifconfig**, you can see the interface is not visible.    6. To enable it, enter the command **sudo ifconfig enp0s3** **up** or **sudo ip link set dev enp0s3 up** in case of a new Linux distribution. After that write command **ifconfig**, you can see the interface enp0s3 is up and visible again.    7. 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. Use command **ifconfig enp0s3 promisc** or **ip link set dev eth0 promisc on** in case of a new Linux distribution.    8. Promiscuous mode can be disabled using the command sudo **ifconfig enp0s3 -promisc** or **ip link set dev eth0 promisc off** in case of a new Linux distribution.    9. The **ifconfig** tool also enables you to change the MAC address associated with a network interface. This can be done using command format **ifconfig [network-name] hw [class] [hardware-address]** as used here **ifconfig enp0s3 hw ether 66:3e:7f:60:f2:1f.**    10. This concludes the demonstration of this lab. |