# CN Assignment Lab 2: Exploring Networking commands in detail

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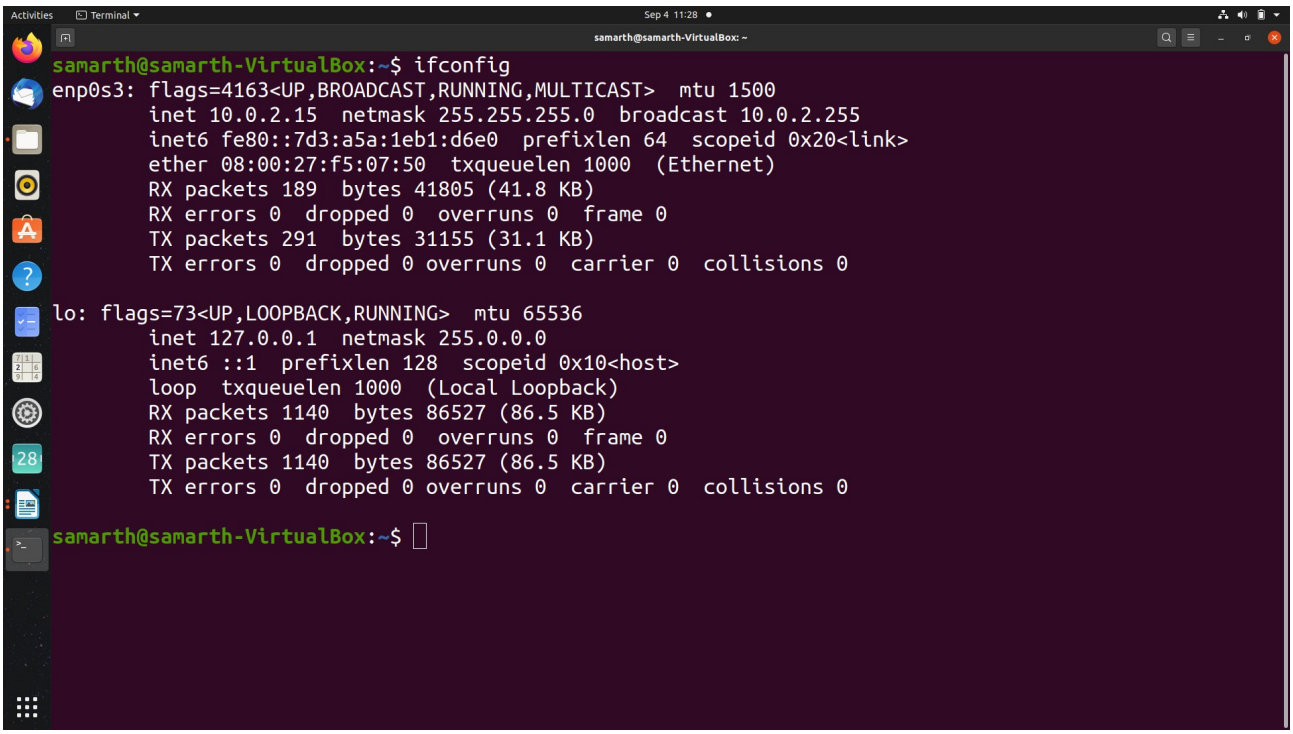
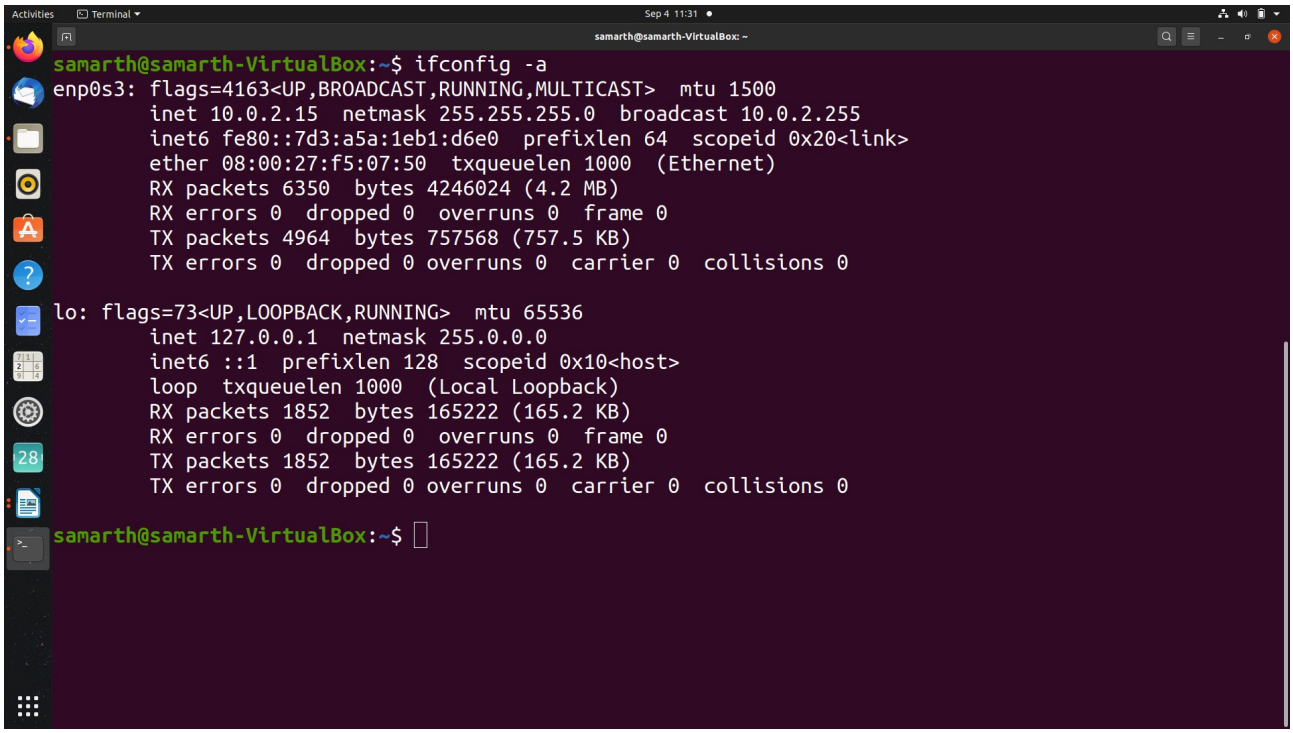
1. Command : **ifconfig-** It is a utility for Linux machines to configure, assign, add, delete, control and query network intefeace in UNIX/Linux machine.

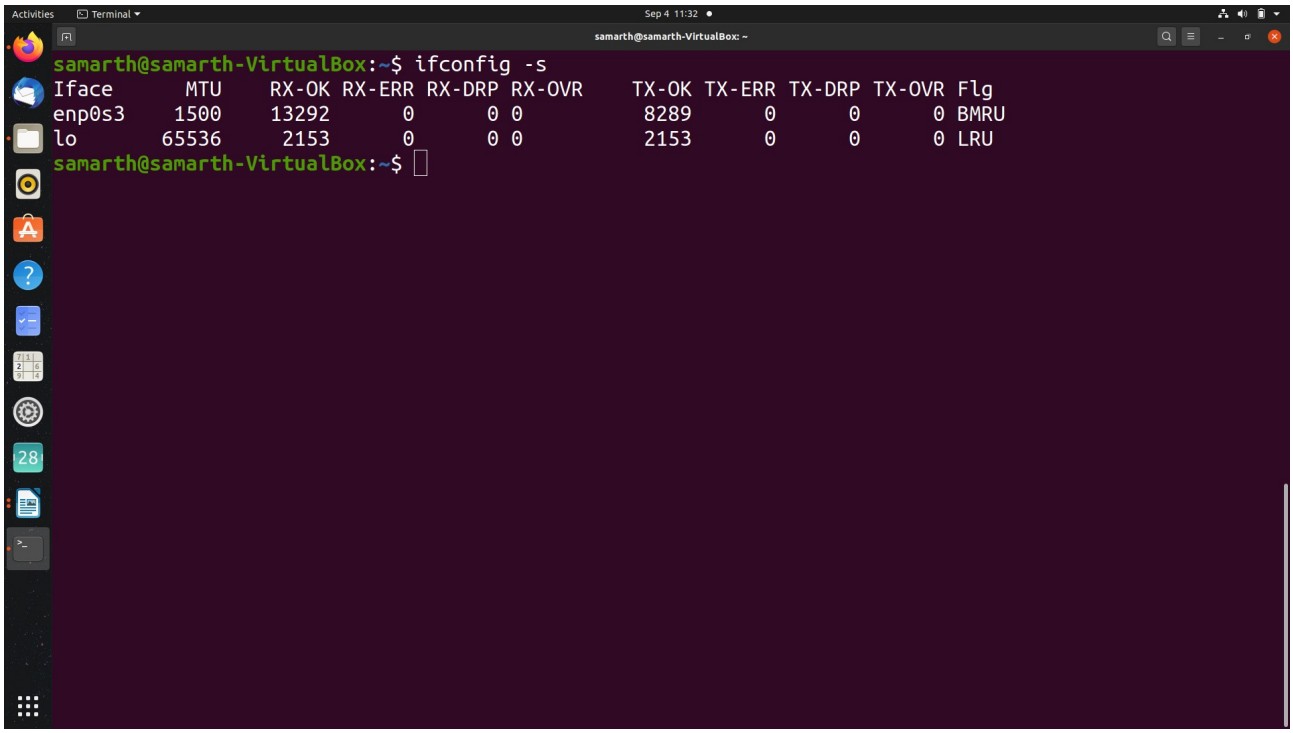
## $ ifconfig




**$ ifconfig -a -** This option is used to display all the interfaces available, even if they are down.

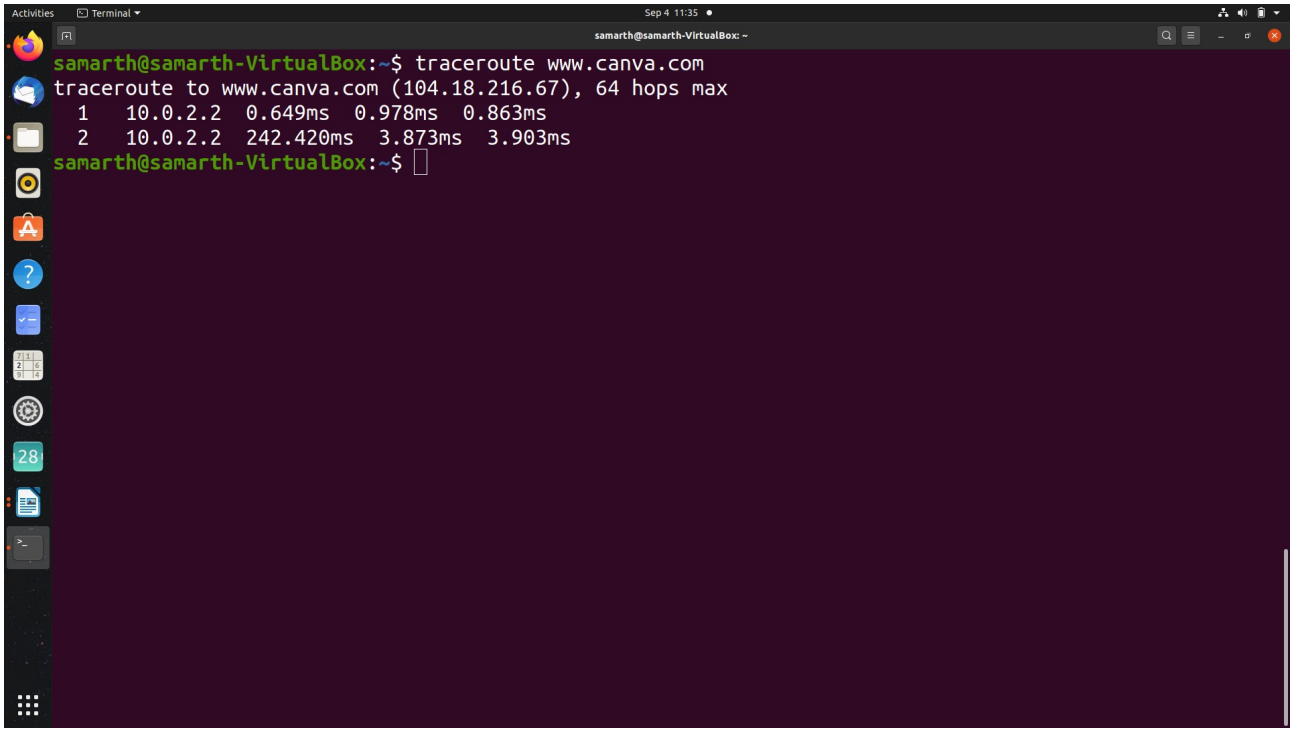


**$ ifconfig -s -** Display a short list, instead of details.

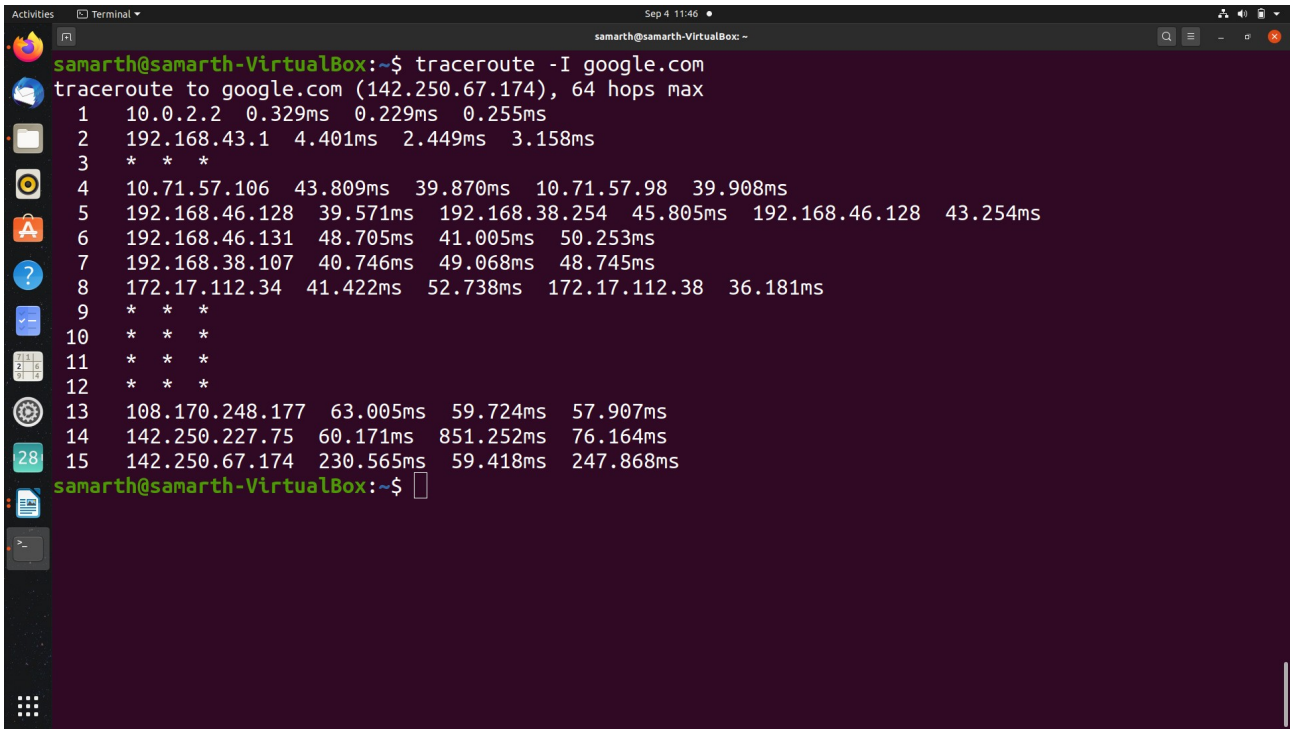



2. Command : **traceroute-** This command in Linux prints the route that a packet takes to reach the host. This command is useful when you want to know about the route and about all the hops that a packet takes.

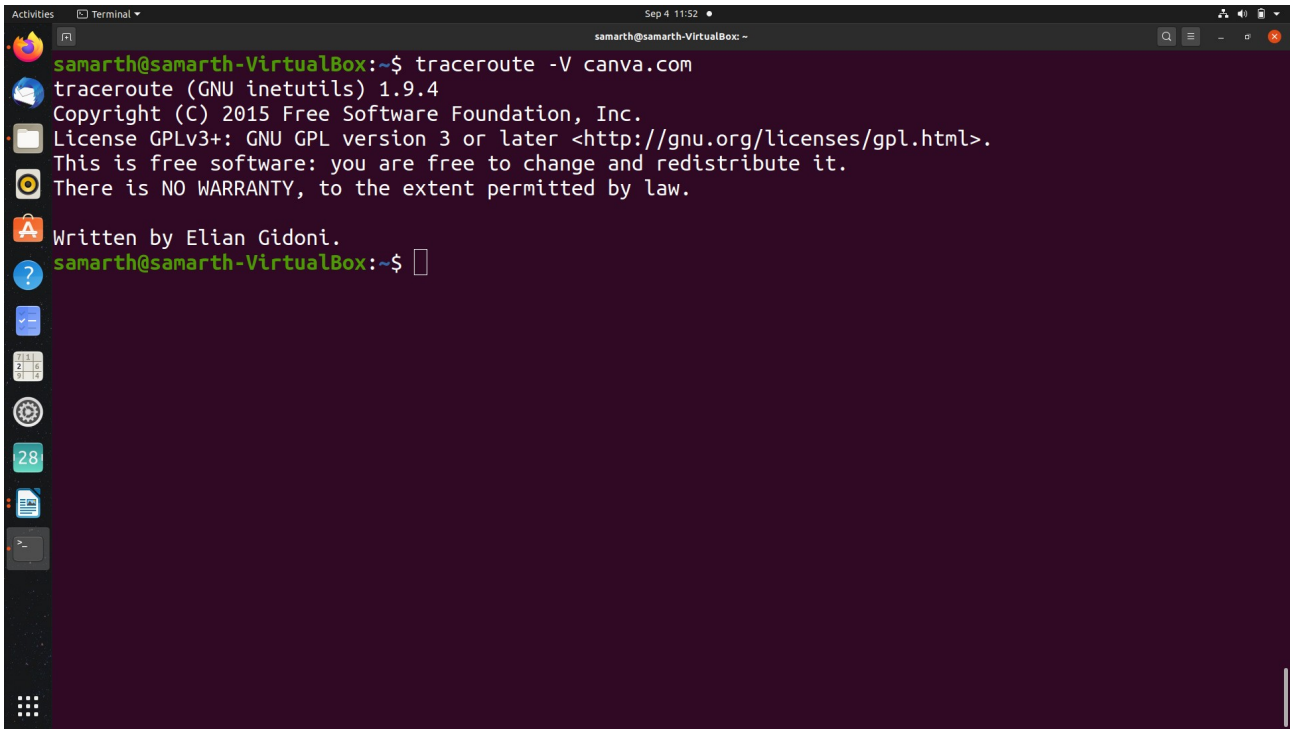
**$ traceroute www.canva.com**



**$ traceroute -I google.com –** By default, traceroute uses high UDP(User Datagram Protocol) ports for tracing hosts. However, sometimes firewalls block these UDP ports. Hence, here it will use ICMP(Interner Control Message Protocol) instead of UDP for tracing hosts if “-I” flag is used.

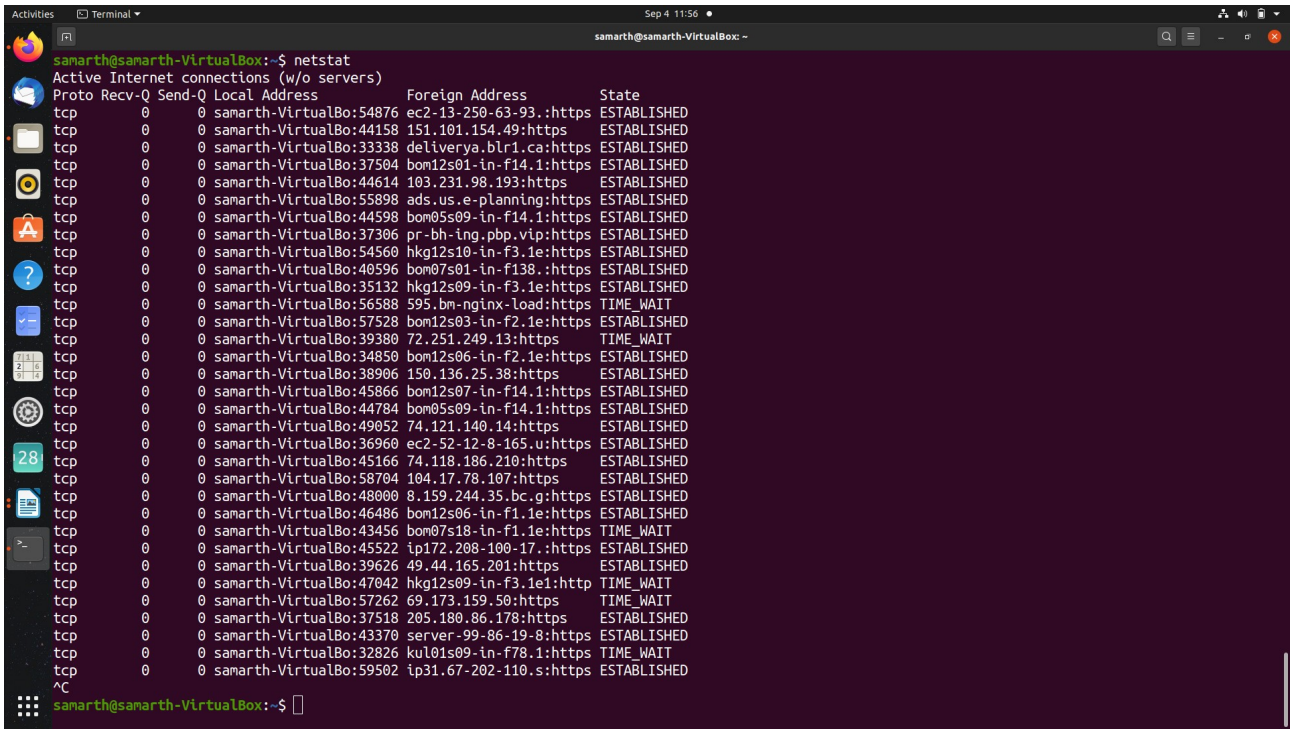



**$ traceroute -V canva.com –** This command prints the version and exits.

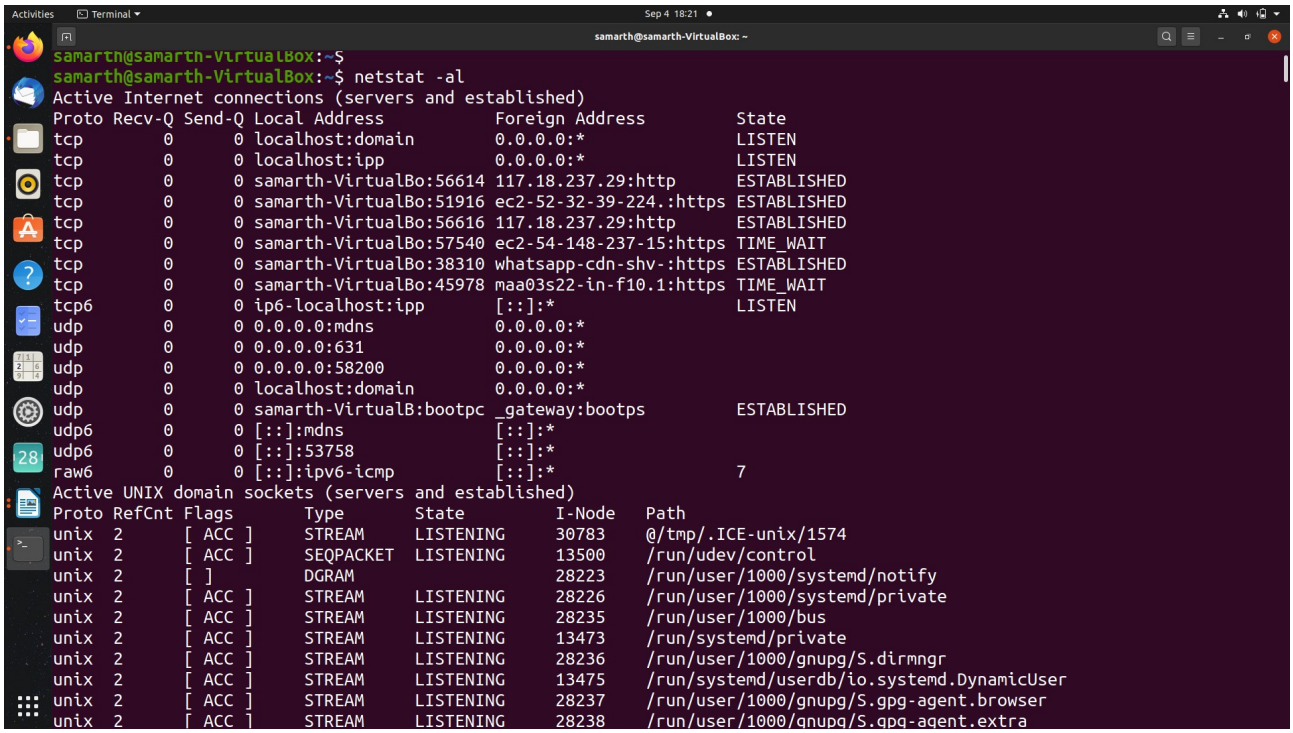


3. Command : **netstat -** Netstat command displays various network related information such as network connections, routing tables, interface statistics, masquerade connections, multicast memberships etc.,

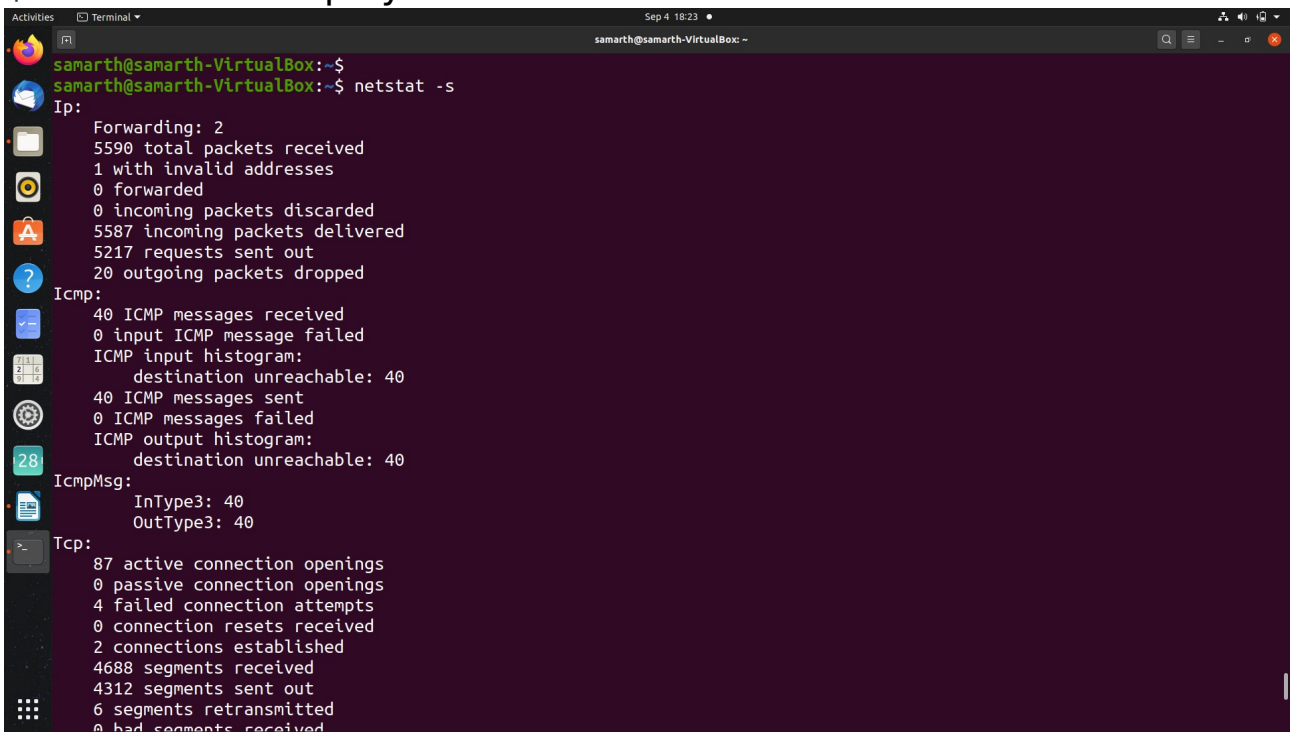
# $ netstat




# $ netstat -al - To list all TCP commands.

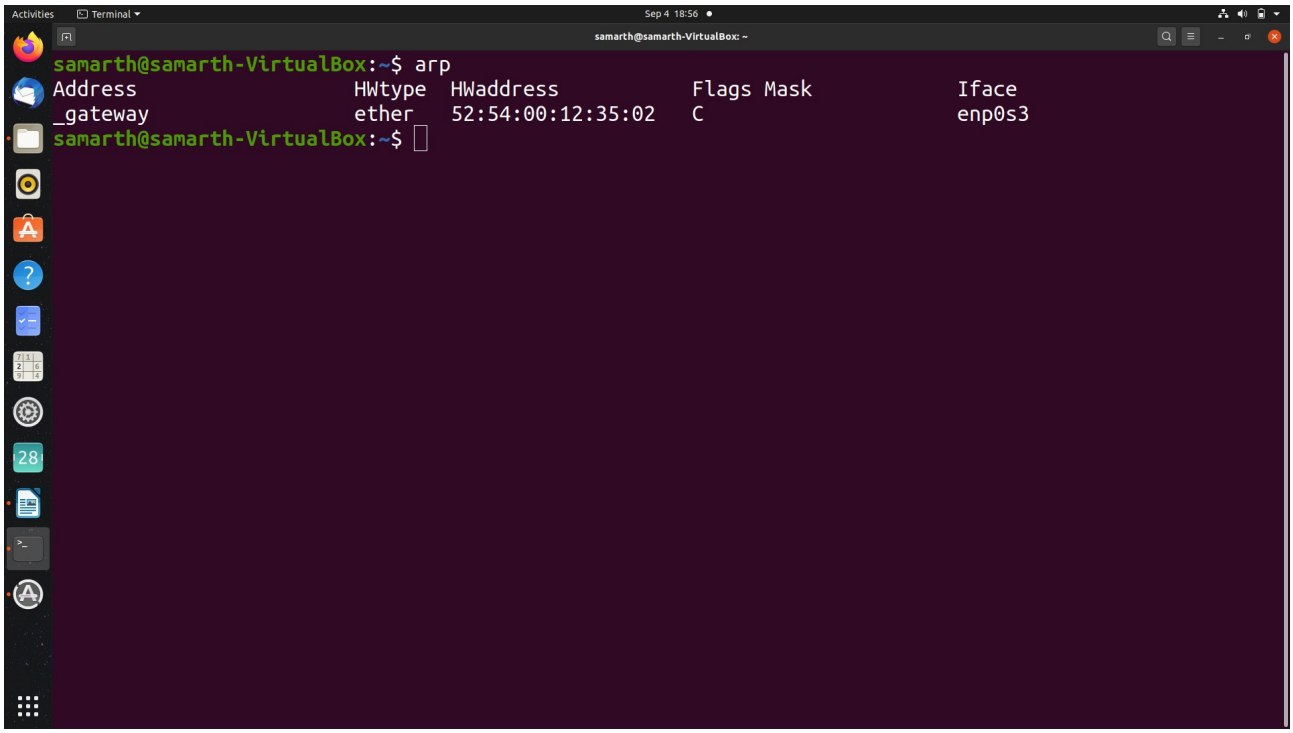


## $ netstat -s - Displays network statistics

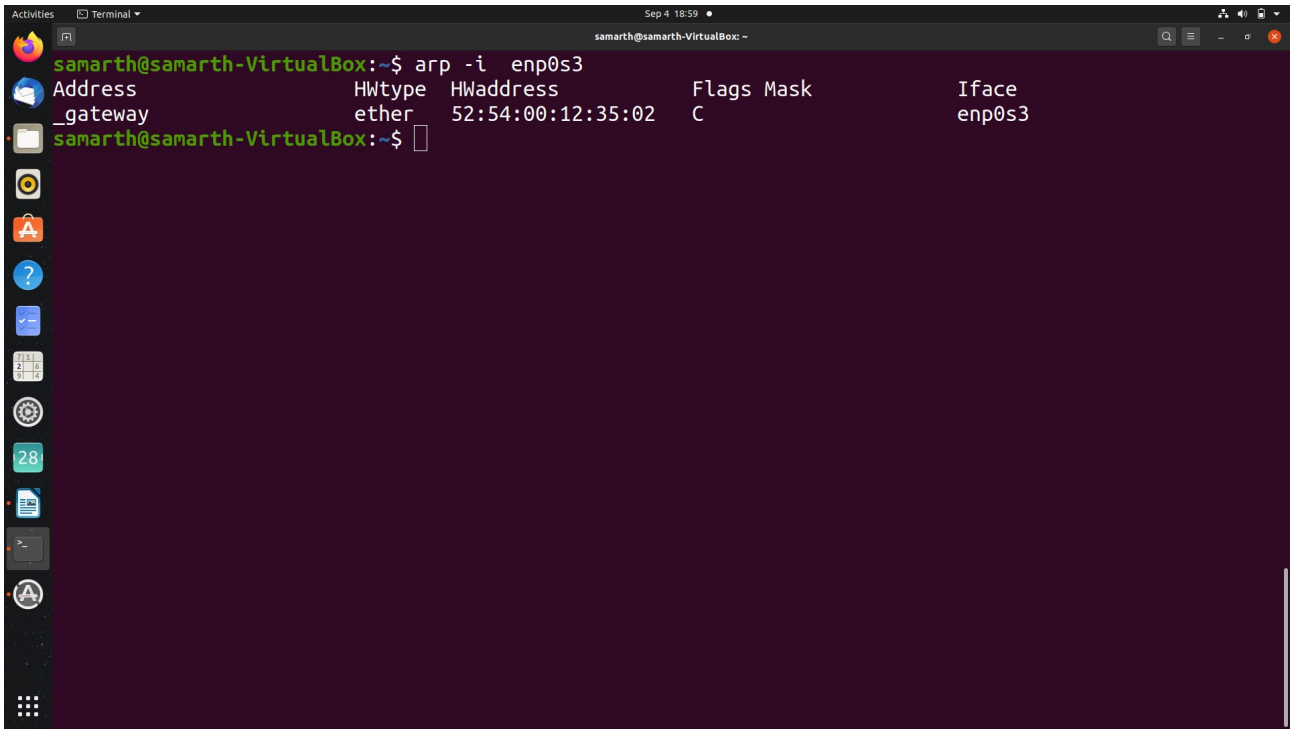



## 4. Command : **arp -** The purpose of the arp protocol is two-fold i.e. itdetermines the physical/MAC address of the destinationdevice while sending a data packet and it respondswiththe MAC address of the machine on which it is runningas answers queries received from other machines.

## $ arp



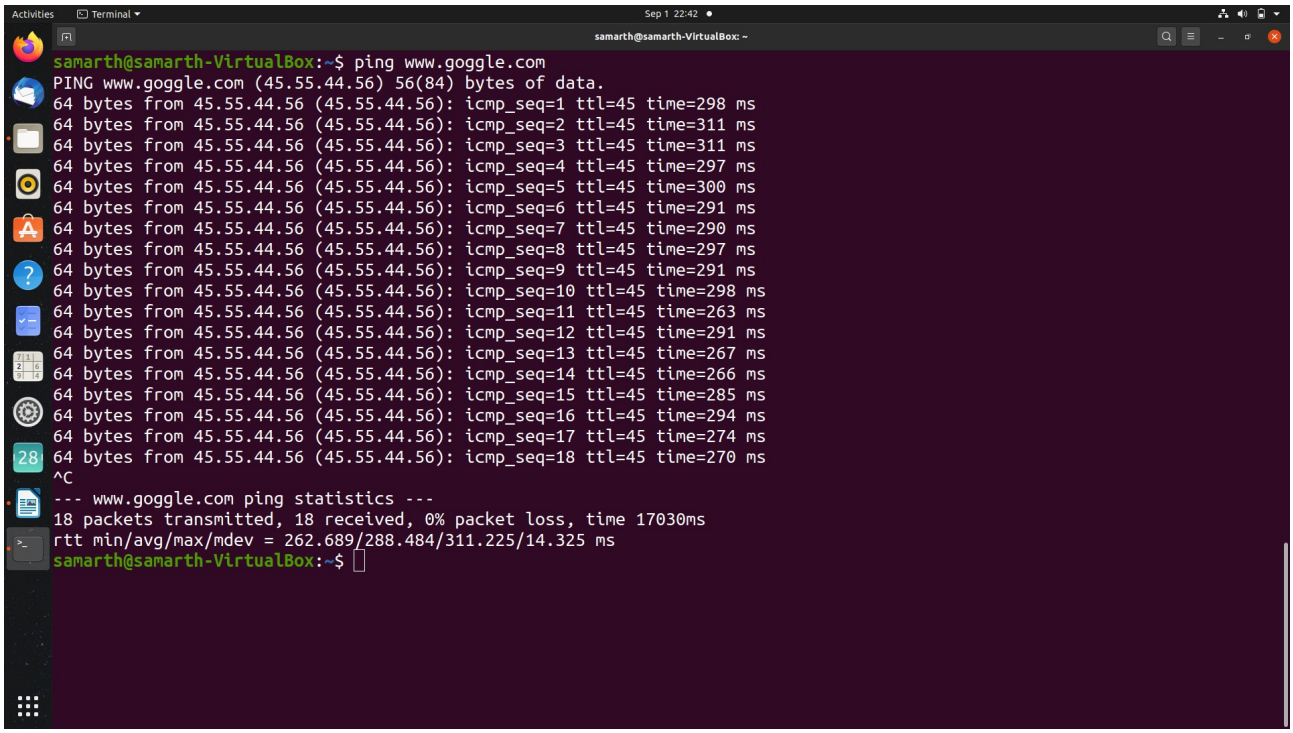
## $ arp -i enp0s3 -



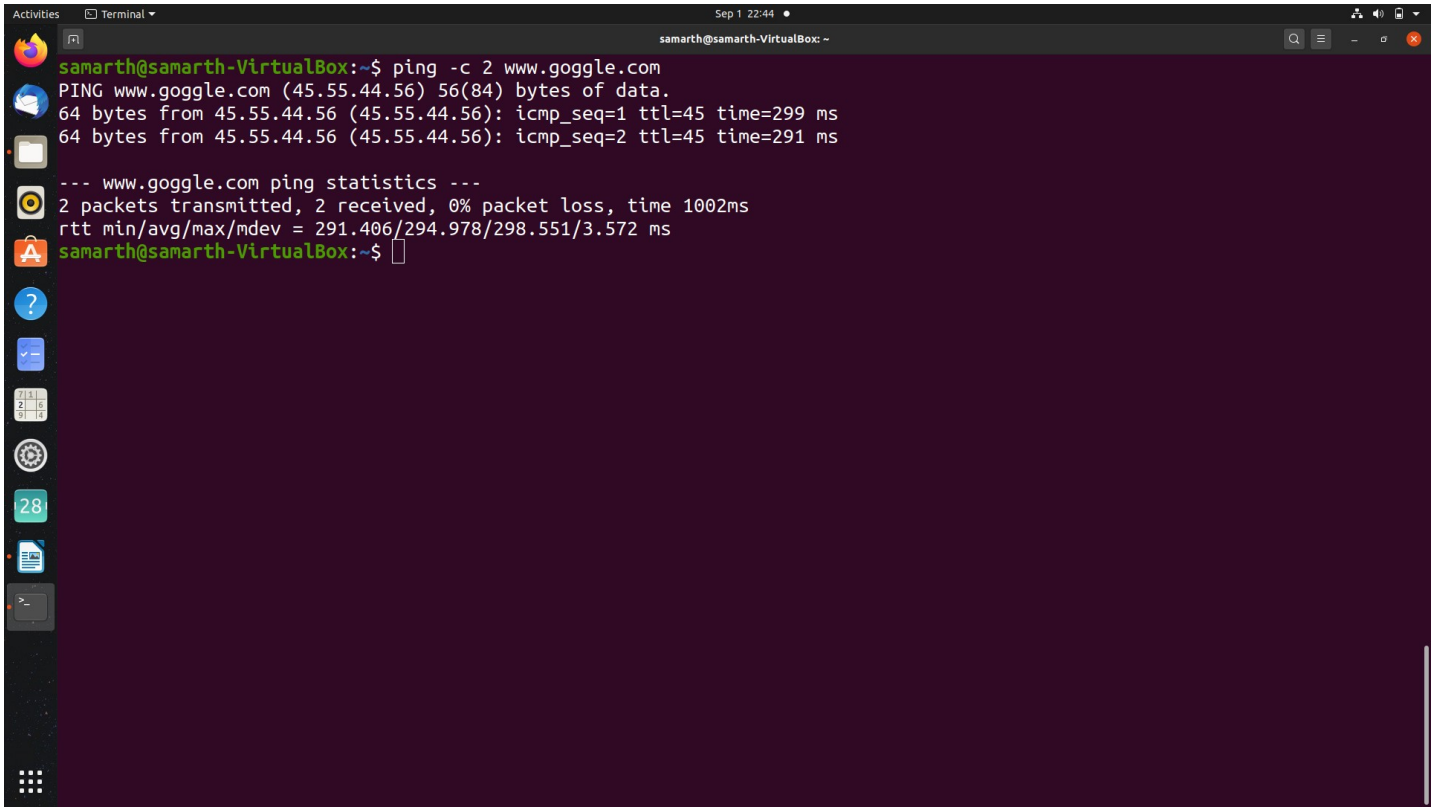

5. Command : **ssh –** This protocol is used to securely connect to a remote server/system. It transfers inputs from the client to the host and relays back the output. This connection can also be used for terminal access, file transfers, and for tunneling other applications. Graphical X11 applications can also be run securely over **SSH** from a remote location.

6. Command : **ping -** ping (Packet Internet Groper) is the most commonly used tool for troubleshooting a network, included with most operating systems. It is invoked using the *ping* command. The *ping* command uses ICMP (Internet Control Message Protocol) and works by sending an ICMP echo request message to the specified IP address. If the computer with the destination IP address is reachable, it responds with an ICMP echo reply message. The *ping* command outputs some information about a network performance, e.g. the round-trip time (the time from the packet transmission to reception).

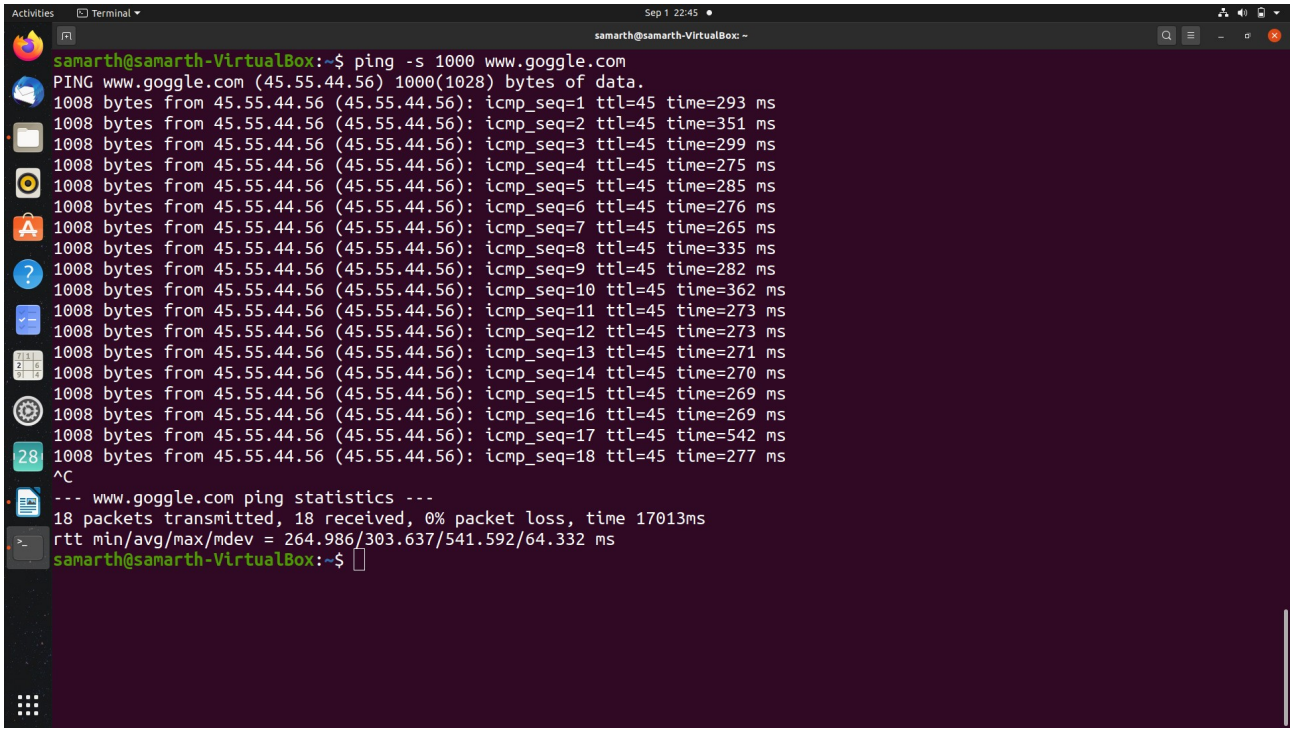
# $ ping www.goggle.com




**$ ping -c 2 www.goggle.com -** -c parameter is used specify the number of packets to send.

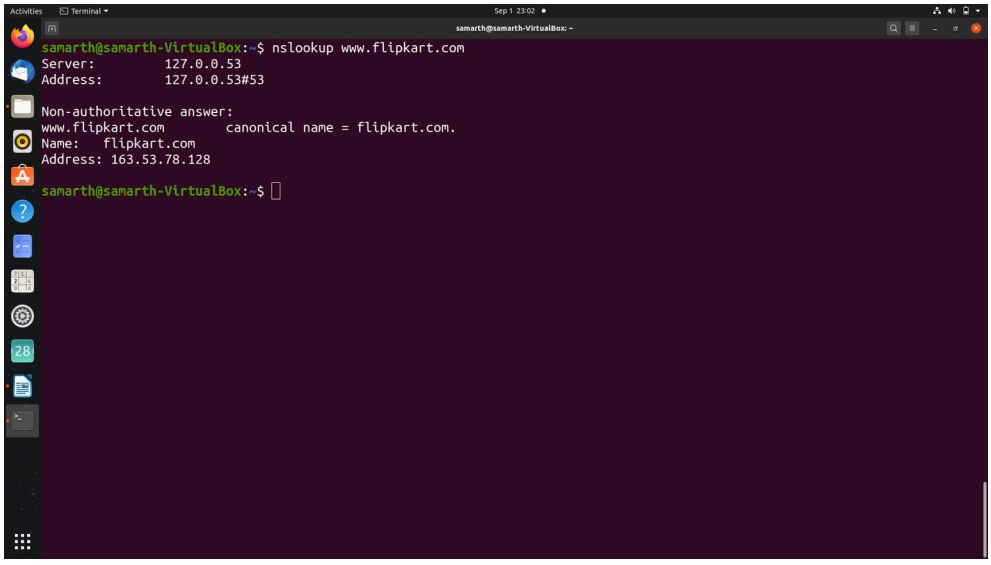


**$ ping -s 1000 www.goggle.com -** -s parameter is used change the packets size.

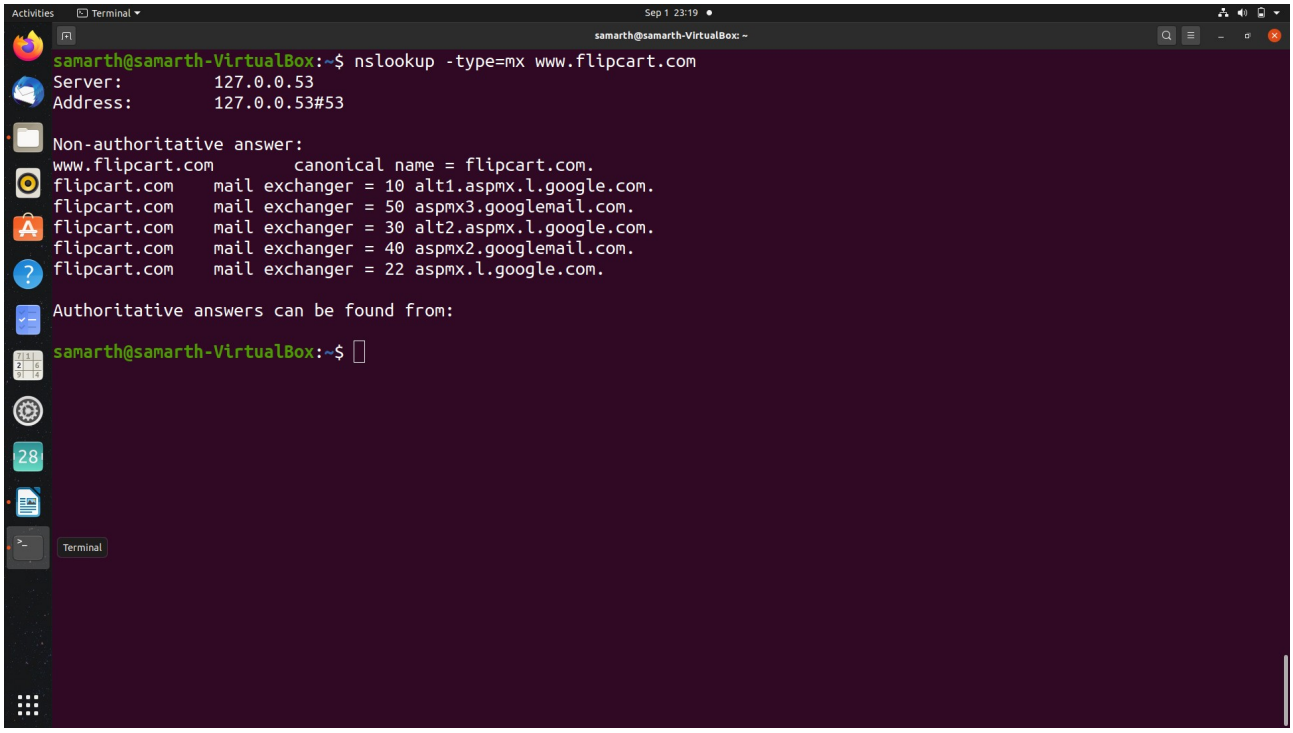



**7. Command : nslookup –** `nslookup` followed by the domain name will display the “A Record” (IP Address) of the domain. We can use this command to find the address record for a domain. It queries to domain name servers and get the details.

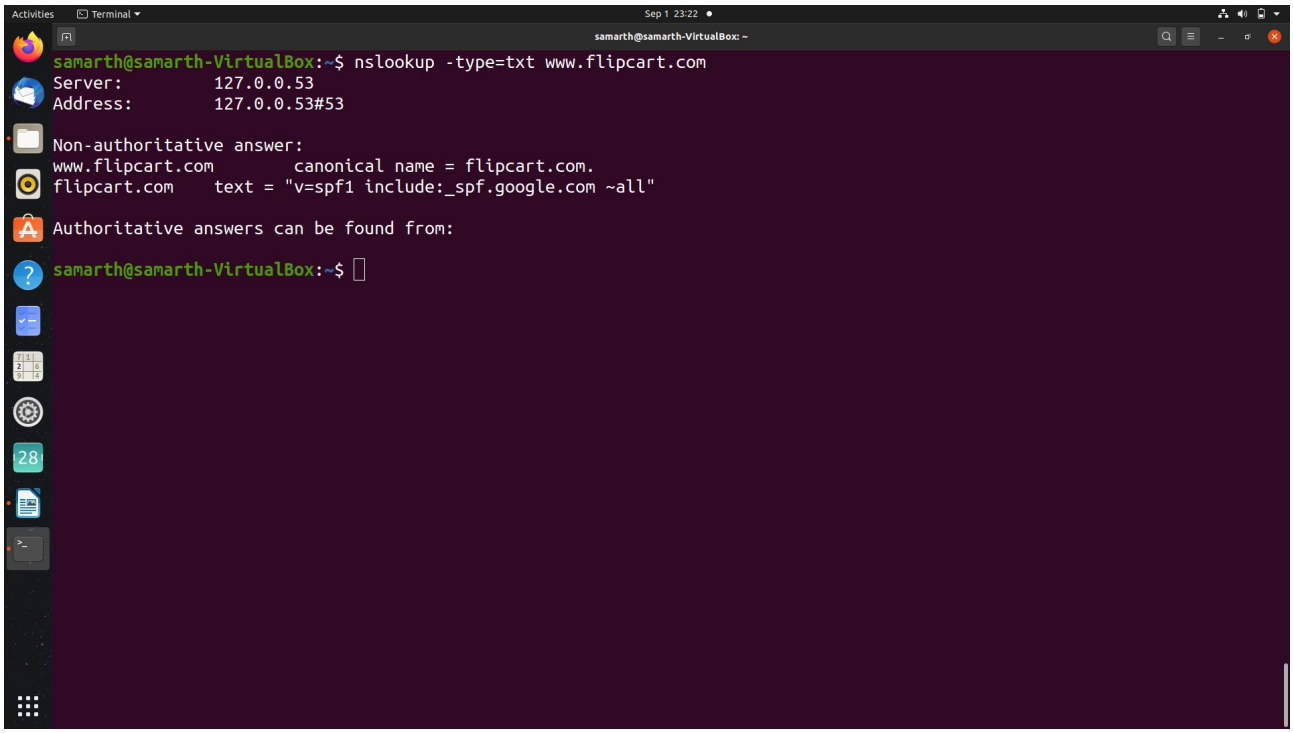
**$ nslookup www.flipcart.com**



**$ nslookup -type=mx** www.**flipcart**.com **–** Lookup for an mx record MX(Mail Exchanger) record maps a domain name to a list of mail exchange servers for that domain.

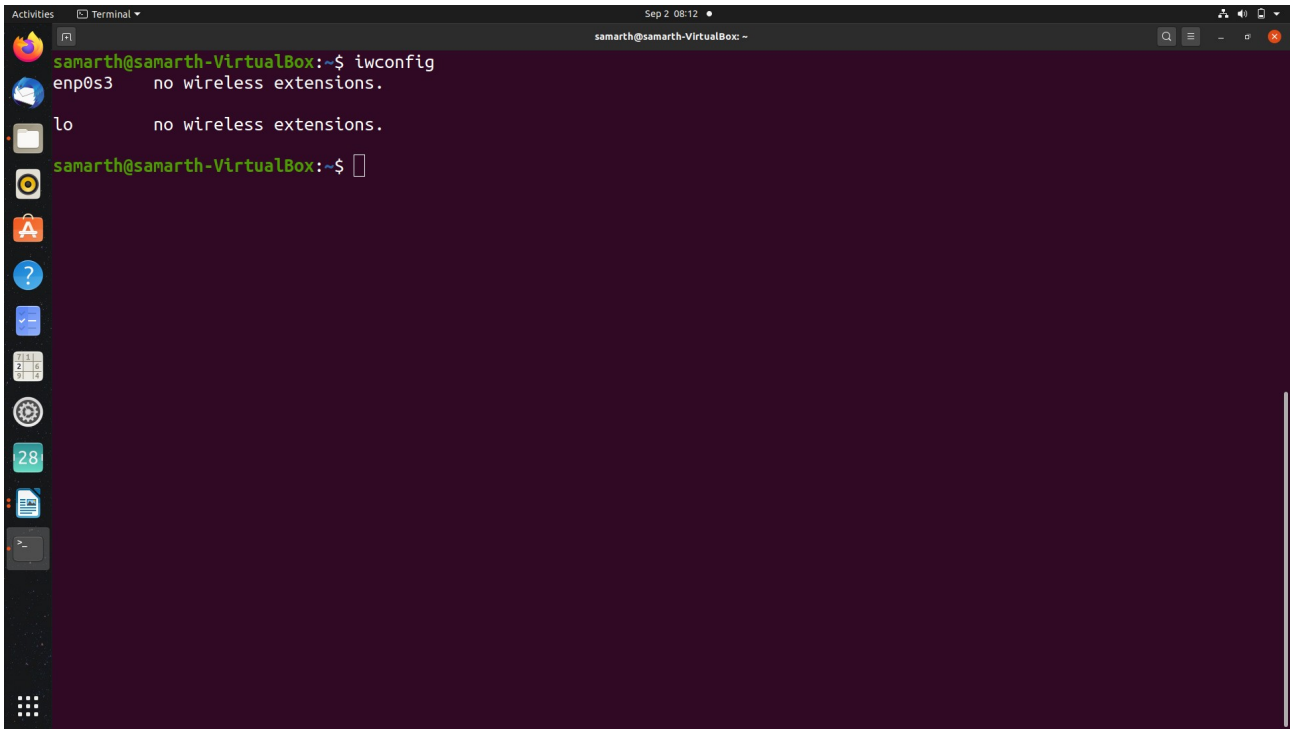



**$ nslookup -type=txt** www.**flipcart**.com **–** Lookup for an txt record that are useful for multiple types of records like DKIM, SPF, etc.

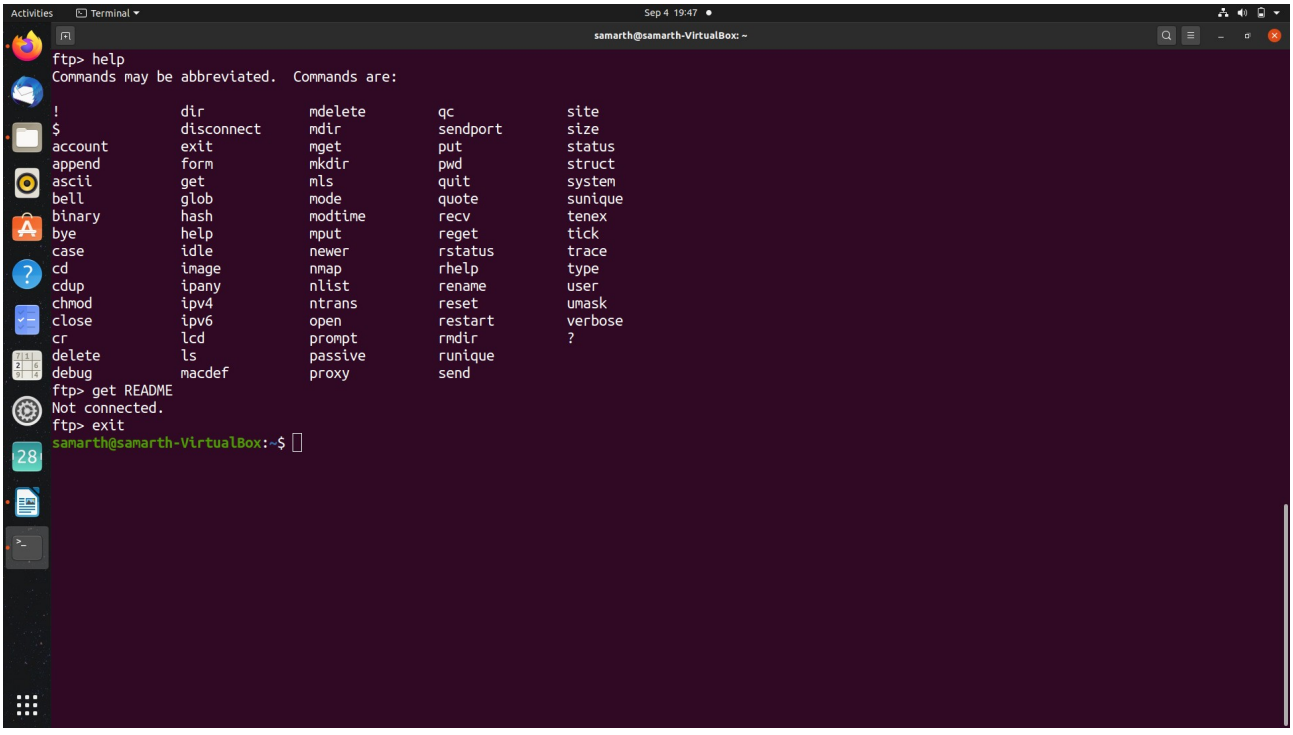


8. **Command : iwconfig–** Iwconfig is similar to ifconfig but is dedicated to the wireless interfaces. It is used to set the parameters of the network interface which are specific to the wireless operation (for example : the frequency). Iwconfig may also be used to display those parameters, and the wireless statistics.

**$ iwconfig**




9. **Command : ftp –** ftp is the user interface to the Internet standard File Transfer Protocol. The program allows a user to transfer files to and from a remote network site.



10. **Command : wget -** Wget is the non-interactive network downloader which is used to download files from the server even when the user has not logged on to the system and it can work in the background without hindering the current process. GNU wget is a free utility for non-interactive download of files from the Web. It supports HTTP, HTTPS, and FTP protocols, as well as retrieval through HTTP proxies.