Installation of Virtual box in Windows system

* From browser we can install Oracle Virtual box in windows
* On installation of Oracle vm box download of supporting software
* We have to download an Ubuntu Iso from browser
* After through Vm box connect to download of ubuntu and it can store in the Vm box

Linux commands

* It has higher privileges for opening files

Sudo

* To see the use who is currently logged in

whoami

* To see all the users logged into the linux server

who

* To create directories

mkdir dir1

* To create multiple directories one within another

mkdir -p d1/d2/d3/d4

* To remove an empty directory

rmdir dir\_name

* To remove a directory which has files and sub directories

rm -r dir\_name

* To move from one dir to another

cd dirname

(.) current directory

(..) parent Directory

* To display date command -- date
* To display calender command -- cal
* To display time command -- time
* To clear the data on the terminal -- clear
* To exit from the terminal --- exit
* To hold terminal in the sleep mode -- sleep time ( in sec)
* To create an file

touch file1 file2 file3

* To create file and add content in it

cat > filename

to see the content in the file

cat filename

to append the data to an existing file

cat >> filename

* To see the list of all files in present working dir

ls

* To see long listing of files

ls -l (it shows all the meta data realted to the file)

* To see the files (visible and hidden)

ls -a

* To see the size of the files in human readable format

ls -lh

* To see the inode numbers of the files

ls -li

* To see the files based on their time stamps

ls -lt

* To see the files after reversing the time stamps ie older files first

ls -ltr

* To see the files recursively present in a dir

ls -lR

* To copy files

cp srcfile destfile

to copy directories

cp -R srcdir destdir

If the destination file is not present cp will create a new file

If the destination file is present cp will overwrite the file

* To rename or move files

mv srcfile destfile

mv works like cut paste

Text processing tools

* Less : This is used to display the text in pagewise format

less filename

* Head: This will display the top 10 lines of a file

head filename

To display top 3 lines of a file

head -3 filename

* Tail : This will display the last 10 lines of a file

tail filename

To display the last 4 lines of a file

tail -4 filename

* Wc : This is used to find the number of lines,words and characters in a file

wc filename

To find only the no of lines

wc -l filename

To find only the number of words

wc -w filename

To find only the number of charactes

wc -c filename

* Sort: Used for sorting the content of a file. By default it performs an alphabetical sort

sort filename

To perform a numeric sort

sort -n filename

To perfrom a reverse numeric sort

sort -nr filename

* Grep (globally search for a regular expression and print it)

To search for a word in file

grep filename

To search for ignoring its case

grep -i filename

To search for a word and also display the line numbers

grep -n filename

To search for all the lines where the word is not present

grep -v filename

* cut (This is used to capture the data in column fashion)

To pick 1st and 7th column from /etc/passwd file

cut -d ":" -f 1,7 /etc/passwd

* Piping : If output of one command is sent input for some other command is called piping. (|)

Eg : ls -l | wc - l

* Tac : [tac](https://www.javatpoint.com/linux-tac) command is the reverse of cat command, as its name specified. It displays the file content in reverse order (from the last line).

tac **<file** name**>**

* Tee:  [tee](https://www.javatpoint.com/linux-tee) command is quite similar to the cat command. The only difference between both filters is that it puts standard input on standard output and also write them into a file.

cat **<fileName>** | tee **<newFile>** |  cat or tac |.....

* Tr: [tr](https://www.javatpoint.com/linux-tr) command is used to translate the file content like from lower case to upper case command | tr **<**'old'**>** **<**'new'**>**
* Uniq :  [uniq](https://www.javatpoint.com/linux-uniq) command is used to form a sorted list in which every word will occur only once

command **<filename>** | uniq

* Od : [od](https://www.javatpoint.com/linux-od) command is used to display the content of a file in different s, such as hexadecimal, octal, and ASCII characters.

od -b **<filename>**      // Octal format

od -t x1 **<filename>**   // Hexa decimal format

od -c **<filename>**     // ASCII character forma

* Gzip :  [gzip](https://www.javatpoint.com/linux-gzip) command is used to truncate the file size. It is a compressing tool. It replaces the original file by the compressed file having '.gz' extension

gzip **<file1>** **<file2>** **<file3>**.

* Gunzip : [gunzip](https://www.javatpoint.com/linux-gzip) command is used to decompress a file. It is a reverse operation of gzip gunzip **<file1>** **<file2>** **<file3>**.
* Zcat : To display compressed files

zcat filename

* Df: to display disk space --- df
* Find: [find](https://www.javatpoint.com/linux-find) command is used to find a particular file within a directory. It also supports various options to find a file such as byname, by type, by date, and more.

(.): For current directory ;;; (/) : For root

Find filename

* Mount:  [mount](https://www.javatpoint.com/linux-mount) command is used to connect an external device file system to the system's file system.

mount -t type **<device>** **<directory>**

* Ip: Linux [ip](https://www.javatpoint.com/linux-ip) command is an updated version of the ipconfig command. It is used to assign an IP address, initialize an interface, disable an interface.

ip a or ip addr

* Mail: Used to send emails from command line

mail -s “Subject” email id

* Ssh : Linux [ssh](https://www.javatpoint.com/ssh-linux) command is used to create a remote connection through the ssh protocol. ssh user\_name@host(IP/DomainName)**</p>**
* Ping : [ping](https://www.javatpoint.com/linux-ping) command is used to check the connectivity between two nodes, that is whether the server is connected. It is a short form of "Packet Internet Groper."

ping **<destination>**

* Host : [host](https://www.javatpoint.com/linux-host) command is used to display the IP address for a given domain name and vice versa. It performs the DNS lookups for the DNS Query

host **<domain** name**>** or **<ip** address**>**

* Comm: The ['comm'](https://www.javatpoint.com/linux-comm) command is used to compare two files or streams. By default, it displays three columns, first displays non-matching items of the first file, second indicates the non-matching item of the second file, and the third column displays the matching items of both files.

comm **<file1>** **<file2>**

* Sed: The [sed](https://www.javatpoint.com/linux-sed) command is also known as **stream editor**. It is used to edit files using a regular expression. It does not permanently edit files; instead, the edited content remains only on display. It does not affect the actual file.

command | sed 's/**<oldWord>**/**<new Word>**/'

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* Tar : Itis used to create Archive and extract the Archive files. We can use Linux tar command to create compressed or uncompressed Archive files and also maintain and modify them.

tar [options] [archive-file] [file or directory to be archived]

Options:   
**-c :** Creates Archive   
**-x :** Extract the archive   
**-f :** creates archive with given filename   
**-t :** displays or lists files in archived file   
**-u :** archives and adds to an existing archive file   
**-v :** Displays Verbose Information   
**-A :** Concatenates the archive files   
**-z :** zip, tells tar command that creates tar file using gzip   
**-j :** filter archive tar file using tbzip   
**-W :** Verify a archive file   
**-r :** update or add file or directory in already existed .tar file

* If config : It is used to view the ip adderss, mac address and maximum Transmission address.

ifconfig

to assign ipaddress and gateways

ifconfig etho<address> netmask<address>

to enable specific interface - if up etho

to disable specific interface - if down etho

* Traceroute: To trace route of connected network pass name of server or ip address

Trace route [ option] Host

Trace path : It will show you where your network is weak.

trace path<destination>

* Netstat(network statistics): It will show the information of opensockets,routing tables and connection information.

netstat -a

ne tstat -at Display Tcp or Udp connection(Tcp : Transmission Control Oriented Protocol ; Udp : User Datagram Protocol)

netstat -au Display only Udp

netstat -ant Disable reverse Dns lookup for fastest output

* ss: Replacement of netstat and it gives information from Kernal userspace

ss

ss -ta, ss-ua, ss-xa listing , Listening and connected ports of Tcp,Udp,Unix

ss -lt,ss -lu,ss -lx Listing, Listening ports of Tcp, Udp and Unix

* Domain information Groper (Dig ) dig @ server name type
* Ns lookup : It is used to find Dns Related query

nslookup <domain name>

* Route : It is command to display and manipulate ip routing table for your system

Route

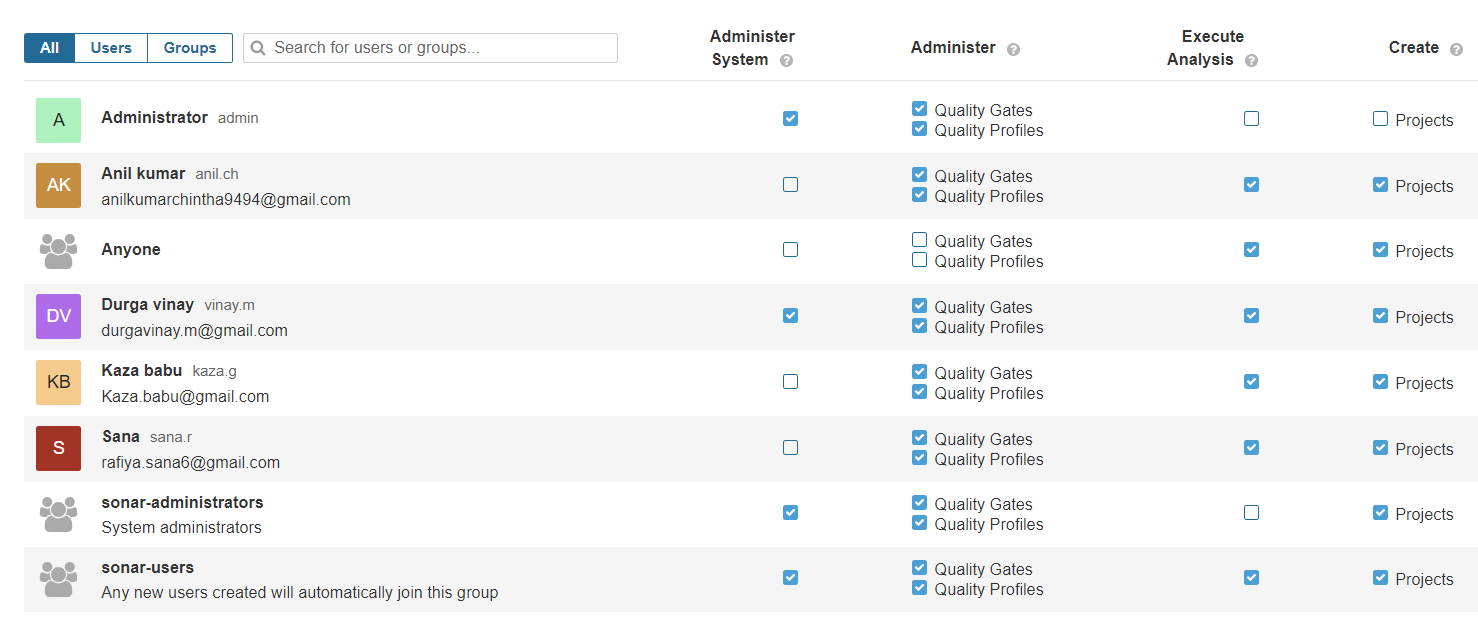
* Arp(Address Resoultion Protocal) arp command
* Hostname : to add the host name in the /etc/hostname file

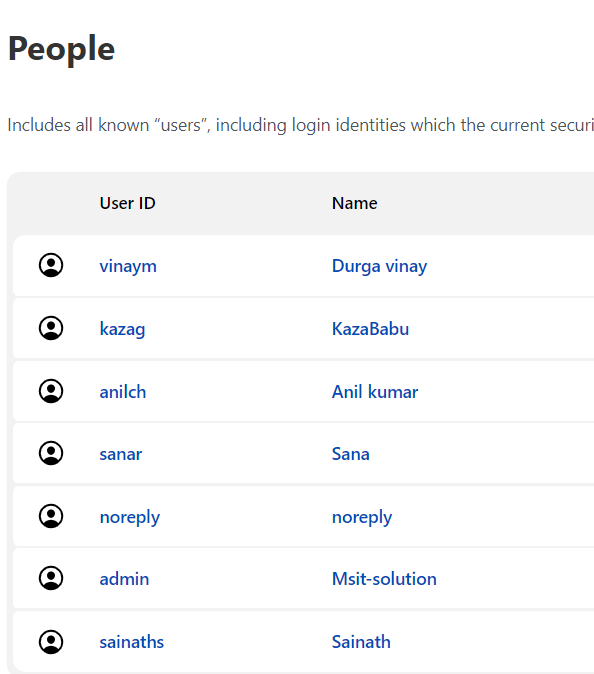
Sudo hostname < new name>

* Curl and wget command: used to download a file from internet using Cli(command line interface)

Curl -o <file link>

Wget <file link>





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