Linux commands:

Let's start by gaining a basic understanding of Ubuntu.

Ubuntu is based on Debian. Ubuntu is a Linux distribution that is built upon the foundations of Debian, one of the oldest and most widely used Linux distributions. Ubuntu takes Debian as its upstream source and adds its own features, enhancements, and package management system.

There are two types of paths in Linux:

absolute path --An absolute path specifies the exact location of a file or directory from the root directory (denoted by "/") of the file system.

relative path --A relative path specifies the location of a file or directory in relation to the current working directory. It does not start with a forward slash ("/").

directory structure:

- / -- root directory
- /home -- default directory
- /user -- store user program
- /bin -- binary and executable files
- /etc -- stores config files`apt -- optional/thridparty software (It contains various system configuration files and directories)
- /var -- storing log files - messages audit
- /temp -- temp files

basic commands:

- whoami --to know the user
- pwd -- print the present working directory
- cd -- change directory
- ./ --current working directory
- ../ --parent working directory
- cd ../.. --Two sets of "../" means moving up two levels.
- cd ~ (or) cd --takes back to the home directory
- mkdir -- used to make a new directory
- rmdir --to delete a directory
- mkdir -p /home/ubuntu/newDirName --to create a directory by giving a path

- -p -- to specify a path
- rm -- used to delete the files or directory (rm -rf) (rf = recursive and forcefully)
- date --to print date and time
- hostname -- to print the host
- ifconfig --it will display all the adaptors and the ip address
- ssh-keygen -t rsa -- to create a ssh key

list:

- ls -- list
- ls -l -- long list
- ls -a -- used to see hidden objects (anything starting with . that means it's a hidden object)
- ls -lt -- most recently modified items displayed first
- ls -ltr -- used to print most recently modified items displayed first recursively
- ls -altr -- to print hidden list in recursive way

files:

- touch --creates empty file
- echo --use to print a message in the screen
- echo "content" > filename --add a line in the file

- echo "content" > > filename --add next line in the file
- diff --to print/check the difference between two files
- cat -- read the content of the object
- cat file1.txt file2.txt >test3 --to merge the files
- vi -- default text editor in Linux
- history -- to display all the used commands by a particular user
- history > filename.text -- converts all the history commands into a file
- cp --to copy
- mv --to move a file from one location to another
- scp --(server copy) to move an object from one server to another
- grep --used to search or filter content in the file
- find --used to search for a file
- find / -name 'enterSearchValue' --to pass a word & check all files which has that word
- wc -l --to print number of lines in a file
- wc -w --used to print number of words
- locate --used to quickly search for files and directories based on their names. It is typically faster than using tools like find

- tar -cz --to compress or a zip a file ({f1.txt,f2.txt} are the files (tar -czf file.tar.gz))
- tar -xf --to extract a compressed or a archive zip file
- gunzip -- used to decompress files that have been compressed with the gzip compression utility

vi editor shortcuts:

vi editor is a default popular and powerful text editor in Linux

i -- insert

:wq -- write and quit

:q! -- quit

permissions:

permissions are assigned for 3 entities:

* owner
* group owner
* others

R W X (read,write,execute)

| | |

4 2 1

rwx--rwx--rwx

  | | |

own owngrps others

- man usermod --to display all the commands
- chmod --to change mode
- chown --to change ownership (ubuntu:ubuntu)
- useradd --to create a user
- userdel --to delete a user
- groupadd --to create a group
- sudo groupdel -- to delete the group
- su userName (or) sudo su - userName --to change the current working/running user

- sudo su -- switch user to admin but the current dir will not change and will ask the password
- sudo su -m -- switch user to admin and the current directory will also change
- usermod -aG --to add a user in a group
- usermod username passwd--to add password to a user
- cat /etc/passwd --to check all the available users
- cat /etc/passwd |grep userName --to search a particular user
- cat /etc/group --to check the groups
- sudo vi /etc/sudoers --to remove the password (username ALL=(ALL) NOPASSWD: ALL) (if % is mentioned its a group)
- rsync --to sync and find diff in the source Dir and destination Dir (already existing data will not change only the new data will be changed (delta copy))

system utility commands:

- top --it will print all the processors which are running also shows what are the resources which are consumed
- top > top.out --to redirect or convert top in a text file
- ps -- to search for a specific process
- ps -ef | grep processName --search for a specific process
- ps -aux |grep processNAme --search for a specifi process gives more info than (ps -ef | grep processNAme)
- sudo kill --to kill a process
- sudo kill -9 --forcefully kills the process
- htop --it gives more detailed info compare to top
- pid --it is a unique numerical identifier assigned to each running process
- Ifconfig --to check ip address
- hostname --to check host name
- df -h --to check the disk usage and the availabe disk space
- df -ht--to check the disk usage and the availabe disk space with the type
- sudo fdisk -l --to check the volumes attached to the instance

- sudo growpart --extending the partition
- du -sh /* --used to estimate the space usage of the top-level directories in the root filesystem
- iostat --to check volume stats
- sudo apt install sysstat
- sudo apt remove packageName --to delete a package
- watch --used to monitor CPU and memory usage
- watch -n 5 iostat --used to monitor CPU and memory usage and also runs as a process and updates every 5 sec
- scp -i keypair.pem ubuntu@ publicIp:/home/ubuntu/xyz.txt –to copy a txt file from ubuntu to windows