17th Feb

DevOps

01 ~~Ter~~ Terminal. Commands & Linux

- Terminal emulator is a program that'll let us use the terminal in a graphical environment.

- Shell is a CLI that'll take all my commands as input & convert these to tell the OS what to do.
  eg. Bourne Shell, Bash etc.

- ls
- Environment Var — Named values that are used to change how command & processes are executed.
  ↳ any instance of running command.

- echo — built-in command in home bin dir. used to display values & vars in the shell

- echo $PATH — shows path envvariables.
- where git /python3/echo — shows location of an .exe file.
- open /usr/bin — opens it up.

- whenever we open up a terminal like bash or zsh, some files & commands are auto executed. They give props like colour etc.

- ls-a command to see hidden files
- ls -l to display details of files / folders
- ls -al display details of files & folders along with hidden files
- ls-R show sub directory files

- cat file_name to see what lies in a file or print
  ↳ short for concatenate

- ZSH_THEME env var that contains theme name of zsh terminal
- alias shortcut commands for long commands
- PS1 env var used to add info to your particular shell command prompt.

- .zprofile system wide profile for interactive zsh login shells

- vi ~/.zprofile command to edit .zprofile file of zsh add something to the path var

- export $\underbrace{\text{MY\_PATH}}_{\text{env var}} = \underbrace{\text{"Sid"}}_{\text{value assigned.}}$ command to set temp env var in current dir!

- pwd - print working directory

- Creating & Merging files.

- cat > file.txt

  | My name is Sid.

  ^c

- cat > two.txt

  |My name is Ryan.

  ^c!

- cat file.txt two.txt > total.txt.
- cat total.txt

  My name is. Sid

  My name is Ryan.

- man . echo to know more info about a cmd.

- Uppercase Translation.

- cat file.txt.
  Hellow World.
- cat file.txt | tr a-z A-z > upper.txt.
  Redirection.
- cat upper.txt.
  HELLO WORLD.

pipe — o/p of first cmd acts as i/p for second command.

- Subfolder.
  - mkdir random
  - mkdir random/hello.

In between folder → — mkdir -p random/middle/hello.

- cp file.txt copy-file.txt copy file
- mv names.txt random. move file
- mv file.txt new Name.txt. rename file
- rm file.txt delete file
- rm -R folder-name delete folder
- cp -R text random copy files from a folder into another
- rm -rf file-name to delete a file forcefully when
- sudo
  "super user do". You can use this to execute a cmd for the admin purpose work. This will ask you password to execute the cmd. associated with it.

- df to check disk space usage in kb
  df -m in mb
  df -hg in gb

- du display disk usage stats
  du -h " in human readable format

- head to display first 10 lines of any file
- head -n 4 file.txt first 4 lines of file.txt

- tail last 10 lines
  tail -n2 file.txt last 2 lines

- diff one.txt two.txt compare files line by line & output contents that dont match.

- Locate to find any file or folder

- find . find files of present dir
  find . -type d find only dir in current dir
  find . -type f find only files "
  find . -type f -name "two.txt" find particular file in current dir with its name.

  Here name is case sensitive

  find . -type f -name "two*" → anything can come over here.
  find -type f -iname "two" → not case sensitive.

find . -type f -mmin -20 find files modified less than 20 mins ago. In the current dir.

find . -type f -mmin +15 more than 15 mins ago

find . -type f -mmin +2 -mmin -10 more than 2 less than 10 mins

find . -type f -mtime -10 less than 10 days ago

find . -size +1Kb size more than 1Kb.

find . -empty find files that are empty.

- File Permissions.

3 types of file permission -

① Read (r)
② write (w)
③ Execute (x)

ls -l file.txt to check permission of a file.

chmod u=rwx g=rx,O=r file.txt To change file perms

user group other.

if you wanna use no.s instead of r,w,x

- 4 Read
- 2 Write
- 1 execute.
- 0 No perms.
- 7 All perms.

— whoami used to check the person logged in & display name.

— sudo chown root file.txt change ownership to root

— Root . Super user account in unix based sys & posix sys & its used for admin purposes & has most access rights in the sys.

— find . -perm 777 find files in current dir with perms 777

— find . -type f -name "*.txt" -exec rm -rf { } +

delete multiple files of type .txt at same time from the current directory.

— grep used to search for some text within the files in our sys & its case-sensitive.

grep "Sid" names.txt

grep -v use of grep

grep -w "Sid" names.txt
or grep -w "Sid Sharma" names.txt } will return the complete name Sid Sharma from names.txt

grep -i "Sid" names.txt
or grep -iw "Sid" names.txt } Case Insensitive.

grep -n "Kunal" names.txt to find line no. with text grep -win. "Sid" names.txt containing all 3, we can write this.

grep -B 3 "Sid" names.txt to see prev. 3 lines

grep -win "Sid" ./*.txt. to search for sid in all the txt files of the current dir.

grep -wirl "Sid" to check all the files containing "Sid" in current dir.

grep -wirc "Sid" count the no of files containing "Sid" in current dir.

- history history of all the commands we've been using
- history | grep "ls" history of all cmd having 'ls'
- Terminal Shortcuts

Ctrl+A	Move cursor to the very first character.
Ctrl+E.	move cursor to the end.
Ctrl+K	Remove everything after the cursor.
Ctrl+U.	remove everything in general.
Tab	autocomplete.
Arrow Keys.	Move cursor.
!find.	~~It~~ will return prev. used find cmds.
Ctrl+R.	Search for prev cmds.
clear	Clear the terminal.

- sort file.txt sort content in alphabetical order
- sort -f file.txt sort in case-insensitive manner
- sort -n file.txt sort in numerical order.

- Jobs display all the Jobs currently running along with thy statuses

  Job - process started by a shell

- ping google.com check connectivity status

- wget url download any file using a link
  ↳ link

- wget -o myfile.pdf url.
  ↳ giving user defined name to the file being downloaded.

- top find all processes running currently & how much CPU usage.

- kill process-id to kill a process which is running
  contain no. related to the process

- uname gives you Info about Linux sys

- zip files.zip company.txt Compress & zip files

- unzip files.zip.

- hostname To get DNS (Domain Name System) & get Info about that domain

  hostname -I give IP address.

- useradd user. adding new user
  passwd user set password for user
  userdel user delete user

- OS Info

- uname - get OS name.
- uname -o get type of OS.
- uname -m get architecture of OS.
- uname -r get kernel version
- cat /etc/os-release. - get all info about the OS.
- lscpu get all the cpu details
- free check memory that is free
- free -h check used & free memory
- vmstat check the virtual memory.

  vmstat -S m. To display in mbs.

- id get id of groups
- id -g get the id
- id -G get the group id
- id -r. get the real id
- getent group user to check if user exists or not.
- id user. to get the id of user.

- lsof list all the open files.
- lsof -u user ~~tot~~ list files opened by user.

- nslookup google.com - To check IP Address of domain.
- netstat print all the ports currently up.

- sed stream editor

- cut cut out selected portions of each line of a file.

  eg. cut -c 1-2 companies.txt.
  cut first two columns of each line of file.

  - this is handy when working with log files

- htop. - allows user to interactively monitor the system's vital resources or server's processes in real time.

- ps aux print all the processes currently running along with the process id..

- echo "first" && echo "second" second printed only after first is.

- when you wanna add multiple cmds, use ; to seperate cmds.

- ~~s~~ echo "one" || echo "two"
  "one" is printed only as it's an 'or' condition.

- rm -r !(names.txt). delete all the files permanently except names.txt.

- echo "hey" >> names.txt append "hey" to names.txt.

- echo "hey" > names.txt remove all the other contents from the file & only append "hey" to the file.
  This simply does overriding

- echo "hey" && {echo "hi"; echo "i am good"} combo ops