Linux Basics

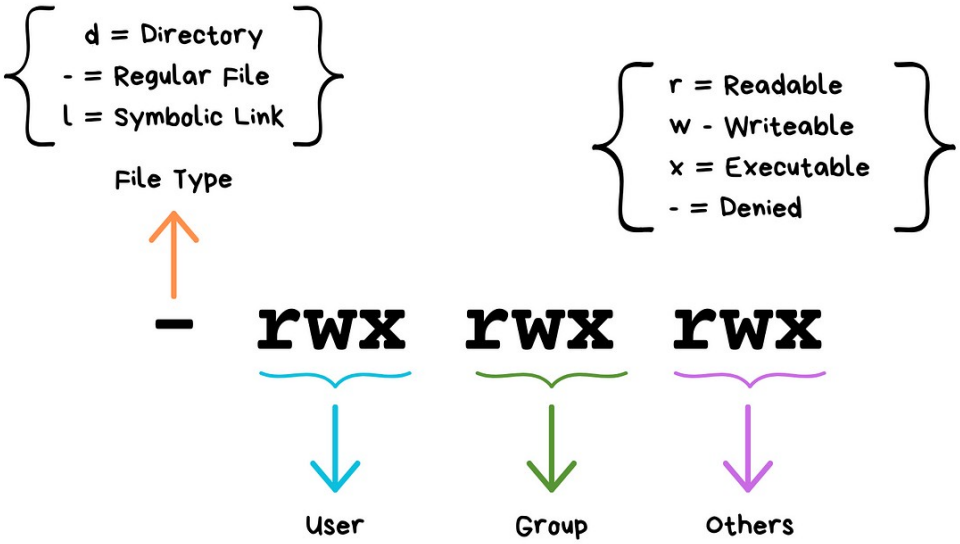
- Linux is free and open source operating system created by *Linus Trovalds* in 1991

Command	Description
apt-get update	Update all packages on linux
apt-get upgrade	Replace old packages with the newest packages
ls	List the directory contents on the current working directory. You can use switches beside the command, for example: *ls -lah*
ifconfig	Get the interface configuration, show the configuration of the network interface, this display information about: IP address, Ethernet, Netmask, Broadcast, …
pwd	Print the current working directory
man	Show the manually page of the command, for example: *man ls*
ctrl + l	Clear the screen
clear	Clear the screen
locate	Used to search about directories, files. For example: *locate rockyou.txt*
find	Used to search about files. find /path/to/search/ -name file_name for example: *find /home/ -name pass.txt*
curl	Used to deal with all protocols, allow you to download images, used to transfer a URL, for example: *curl https://www.google.com*
wget	Transfer a URL, used to download the files, for example: *wget https://www.google.com*
touch	Used to make files, for example: *touch main.py*
>	Used to replace the content of the files, for example: *echo "hi" > text.txt*
>>	Used to append at the end of the file, for example: *echo "hi" >> text.txt* Example, *ls -lah > ls.txt*
|	Called pipe, is used in the command line to pass the output of one command as input to another. for example: *ls -l | grep ".txt"* *ifconfig -I "inet"* → this will show only lines that contains *inet*
;	Called semicolon, used to execute more than one command at the same line.

	For example: *ls; pwd; touch index.html;*
cut	Used to extract specific sections from lines of text. Syntax: cut [options] [file] -b: select bytes -c: select characters -d: specify a delimiter (used with -f) -f: select fields (column) usually with a delimiter Example: *echo "HelloWorld" | cut -c1-5* Example: *ifconfig | grep -i 'inet' | cut -d ':' -f 2*
&&	Run more than one command at the same line, for example: *ls && pwd;*
&	Used to run the command on the background, allowing you to use the terminal without waiting for the command to finish. For example: *ls&pwd* This means that run *ls* on the background, *pwd* on the foreground *nmap 192.168.1.0/24 & ls*
head	Show the top lines of the file, for example *head test.txt* *head -n 2 test.txt* → show first 2 lines on the file
tail	Show the last lines of the file, for example: tail text.txt *tail -n 2 test.txt* → show last 2 lines on the file
grep	Used for searching text using patterns (regular expressions). It is also used to filter output or files for lines that match a specific string or pattern Examples: *grep "hello" file.txt* → Search for a string in a file *grep -i "hello" file.txt* → Ignore case while searching *grep -v "hello" file.txt* → show lines that don't match *grep -n "hello" file.txt* → Show line numbers *grep "^h.*o$" file.txt* → Use regular expressions *ps aux | grep firefox* → To search output of another command
tee	Reads from standard input and output and writes to both standard output *ls -l | tee output.txt* → Save output to a file and also display it *echo "New line" | tee -a log.txt* → Send output to multiple files
ps	Show information about active processes. It is short for process status

	ps -ef → Show detailed information
df	Used to report file system disk space usage. *df -h* → show information in a human readable *-h* → human readable *-T* → show file system type
top	Display real time information about file system's processes, resources, usage, and overall system performance. *top*
htop	Is an interactive process viewer, and alternative to the *top* command. It provides a more user-friendly, colorful interface for monitoring system resources and managing processes. *htop*

File Permissions



- **change the owner on a specific file**

  chown root:zigo /etc/shadow [zigo: this is the user that allow to use the file]

- **change the permissions of the file:**

  chmod 777 file_name

  777 can be any permissions like the following: