Free Code Camp Course - Linux Essentials for Hackers - 4 hours

- linux is imoprtant for
  - security
  - system administration
  - personal use! (I want this :))
- linux can run on
  - virtual machine
  - baremetal

useful keyboard shortcuts

- open terminal
  - `ctrl + alt + t`
- move window to top, right, bottom, left
  - `window + arrowkeys`
- increase/decrease font size
  - `ctrl + shift + "+"`
  - `ctrl + "-"`
- clear the terminal
  - `ctrl + l`
  - `clear` command
- end the current process
  - `ctrl + c`
- see history commands
  - `top and bottom in arrowkeys`
- auto complete command
  - `tab`
  - `right-arrowkey`
- close the window
  - `ctrl + w`
  - `ctrl + shift + w`

file management and manipulation

- print working directory

  ```
  pwd
  ```

- list directory

  ```
  ls
  ```

- list direcotry in a table

  ```
  ls -l
  ```

- list directory also hiddens

```
ls -a
```

- list direcotry in a table human readable

```
ls -lh
```

- list direcotry recursively!

```
ls -R
```

- cahnge directory to home directory

```
cd
```

```
cd ~
```

- change directory to previous directory

```
cd -
```

- change directory to parent directory

```
cd ..
```

- change directory to any directory you want

```
cd wanteddirectorypath
```

- change directory to root directory

```
cd /
```

- see the one line documentation of a command!!!

```
whatis thecommand
```

- create new file

```
touch newfilename
```

- returning a line

```
echo yourlinegoeshere
```

- redirect output to a file

```
echo "something" > somefile
```

- see the content of a file

```
cat somefile
```

- copy content of a file to another file

```
cat somefile > anotherfile
```

- remove a file or directory

```
rm yourfile
```

```
rm -r yourdirectory
```

- remove all files and folders in a directory

  `rm -r *`

- create a directory

  `mkdir yournewdirectoryname`

- copy a file to another directory

  `cp yourfilepath yournewdirectory`

- copy a directory to another directory

  `cp -r yourfolderpath yournewdirectory`

- move a file or folder to new directory

  `mv yourfileorfolderpath yournewdirectory`

- rename a file

  `mv yourfileorfolderpath yournewname`

- remove a direcotry

  `rmdir yourdirectorypath`

- open a file with nano editor

  `nano filepath`

- open a file with vim editor

  `vi filepath`

file and directory permissions

- in a file config: `drwxrwxrwx`
  - `d` shows directory, `-` shows file
  - `r` shows read permission
  - `w` shows write permission
  - `x` shows execute permission
  - `-` shows without permission
  - first `rwx` is for owner of file
  - second `rwx` is for group of file
  - third `rwx` is for others of file
- change the permission of file

`chmod mapuserstopermissions filepath`

- map users to permissions
  - `ugo`: owner, group, others
  - `rwx`: read, write, execute
  - `=+-`: equal, append, delete

- also you can use from binary to map users to permissions
- change the permission of folder

```
chmod -R mapuserstopermissions folderpath
```

file and directory ownership

- every file has a user and also a group
- change the owner of file

```
chown newowner filepath
```

- change the group of file

```
chgrp newgroup filepath
```

- see the groups

```
groups
```

- see the groups of specific user

```
groups username
```

- see the current logined users

```
users
```

grep and piping

```
$ whatis grep
grep (1)              - print lines that match patterns
```

- usually `grep` used in 2 ways
  - direct
  - pipe the last command

direct `grep`

- searching in file

```
grep "word" filepath
```

`-i` usually used for case-insensitive way

`grep` with pipe

- simple use

```
yourfirstcommandwithoutput | grep "wordsearchinginoutput"
```

finding files with `locate`

```
$ whatis locate
locate (1)           - find files by name, quickly
```

- actually `locate` is not very practical command in my opinion...

enumerating distribution and kernel information

- current user

```
whoami
```

- os(workstation) name

```
hostname
```

- change `hostname`

```
sudo nano /etc/hostname
```

- see the linux distribution

```
lsb_release -a
```

```
cat /etc/issue
```

```
cat /etc/os-release
```

```
cat /etc/*release
```

```
uname -a
```

- cpu information

```
lscpu
```

- pci information

```
lspci
```

find and bandit challanges

```
$ whatis find
find (1)             - search for files(also directories) in a directory hierarchy
```

- very powerful command!
- usage

```
find pathtosearch specifiers
```

- specifiers
  - `-type`
  - `-name`
  - `-iname`

- `-size`
- `-perm`