**LINUX**

**What is linux?**

>Linux is a operating system also it is kernel(monolithic).

>Free

>Open source

>more secure

>CLI as well as GUI

>major multiple distro

**#Architecture of linux:**

|  |
| --- |
| Application |
| Shell |
| Kernel(linux) |
| hardware |

**#Kernel** is a software that helps the hardware & other to interact.also it is executes the commands.

**#shell** is an interface among the kernel & user.It takes commands through the user & runs the functions of the kernel.

* Graphical shell
* Command line shell

**#distro**= distribution/versions

**#linus Torvalds in 1991**

**#Linux distro:**

1. Redhat
2. Fedora
3. Debian (ubuntu)
4. Android

**#FILE SYSTEM:**

**/root:**

* /bin=binary
* /sbin=system binary(root folder name)
* /dev=device connect(harddisk)
* /mount=cd etc
* /etc=configuration are stored
* /home=contains home path
* /media=pendrive
* /Lib64=contains user libraries
* /lib=contains user libraries
* /etc/password/shadow=contains encrypted password of users

**COMMANDS**

* Sudo apt-get update: apt-get is package manager.This command is used to download package information from all configured sources.
* Su: super user same as admin in windows.
* Sudo: super user do
* Whoami: gives the user name(currently loged in)
* Sudo su: changes user to root
* Sudo su ec2-user: changes to ec2-user
* Id: gives user details
* Wheel: sudo
* Pwd: present working directory
* Cd /: change directory root
* ls -la: display hidden files
* proc: contains process details
* var: log details
* opb: optional files
* cd .. : takes one directory back
* mkdir aws: create directory
* mkdir -p batch8/aws/ec2: it creates directory in directory
* mkdir batch8 test1: creates directory
* touch abc.txt: creates a files
* rmdir: delete a folder but when it is empty
* rm -r name: delet a folder
* uptime: gives the total time of running system and how many users are currently looged in & the system load.
* History: gives all commands previously executed
* cp aws.txt batch(relative path) or /home/ec2-user/batch(absolute path): used to copy file to another location
* mv: move file
* df -h: shows details about harddisk and file system
* free -m: ram details
* nano: text editor
* cat: to display file details
* echo: print anything
* man: description of any command also displays the flags
* echo “snehal” > filename

**#linux booting process:**

## BIOS(verifies i/o devices) power off 🡪 MBR(master boot record.verifies boot devices) 🡪GRVB(initialise boot) 🡪 kernel(kernel boot) 🡪 system(application details /stc/systemd)power on

**#How to add user:**

* useradd: create user
* cat /etc/passwd: displays user
* cat /etc/shadow: it contains password in encrypted form
* usermod -aG wheel username: add user in wheel
* passwd: set password
* sudo yum install httpd -y:
* groupadd groupname: add group
* cat /etc/group: displays group
* usermod -aG batch8 ec2-user: add user in batch8
* groupdel: to delete user
* who:displays which user logged in
* last: last logged in user details
* lsof -u ec2-user: tells users activities
* chmod: to change permissions of user
* chmod +rwx filename: change permission