https://gitlab.com/jerry-devops/docs

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https://www.virtualbox.org/wiki/Downloads

getting ip address

1. sudo systemctl status ssh
2. ip addr add 192.168.56.101/24 dev enp0s8
3. sudo ip link set enp0s8 up
4. ip a | grep enp0s8 -A 5

its not running then check ssh

1. sudo systemctl enable ssh
2. sudo systemctl start ssh
3. sudo systemctl status ssh
4. sudo ip addr flush dev enp0s8

last autoconfiguration for ip config

1. sudo nano /etc/netplan/01-netcfg.yaml

```
network:
 version: 2
 renderer: networkd
 ethernets:
  enp0s3:
   dhcp4: true   # keeps internet
  enp0s8:
   dhcp4: no
   addresses:
    - 192.168.56.101/24
   gateway4: 192.168.56.1
   nameservers:
    addresses: [8.8.8.8, 1.1.1.1]
```

OR

sudo dhclient enp0s8

above file not there we need to create it

sudo nano /etc/netplan/00-installer-config.yaml

```
network:
```

```
version: 2
renderer: networkd
ethernets:
  enp0s3:
    dhcp4: true   # keeps internet
  enp0s8:
    dhcp4: no
    addresses:
      - 192.168.56.101/24
    gateway4: 192.168.56.1
    nameservers:
      addresses: [8.8.8.8, 1.1.1.1]
```

2. sudo netplan apply
3. ip a | grep enp0s8 -A 5
4. sudo reboot

python installation

-install letest version nad check this commmand pip install pywin32

-set enviornment variable PATH-
C:\Users\ebina\AppData\Local\Programs\Python\Python313\Scripts

missing networkoption

---

step1- uninstall virtualbox

step2: reboot system

step3:reinstall again

https://ubuntu.com/#download-ubuntu

yourname:dev

servername:dev

username: dev

password:dev

1. Update & Upgrade the System

sudo apt update && sudo apt upgrade -y

list updated package

2.apt list --upgradable

3.Install Basic Tools

sudo apt install build-essential git curl wget vim -y

4. Check Network Connectivity

ping google.com

5. Show ip address

ip addr show

6.connect ipaddssbaed machine

ssh username@ipaddess

7.make directory - mkdir directorynamme

8. shutdown clinet machine to virtual machine

sudo shutdown -h now -gracefull shutdown

sudo means superuserdo

9. create filename - touch filename

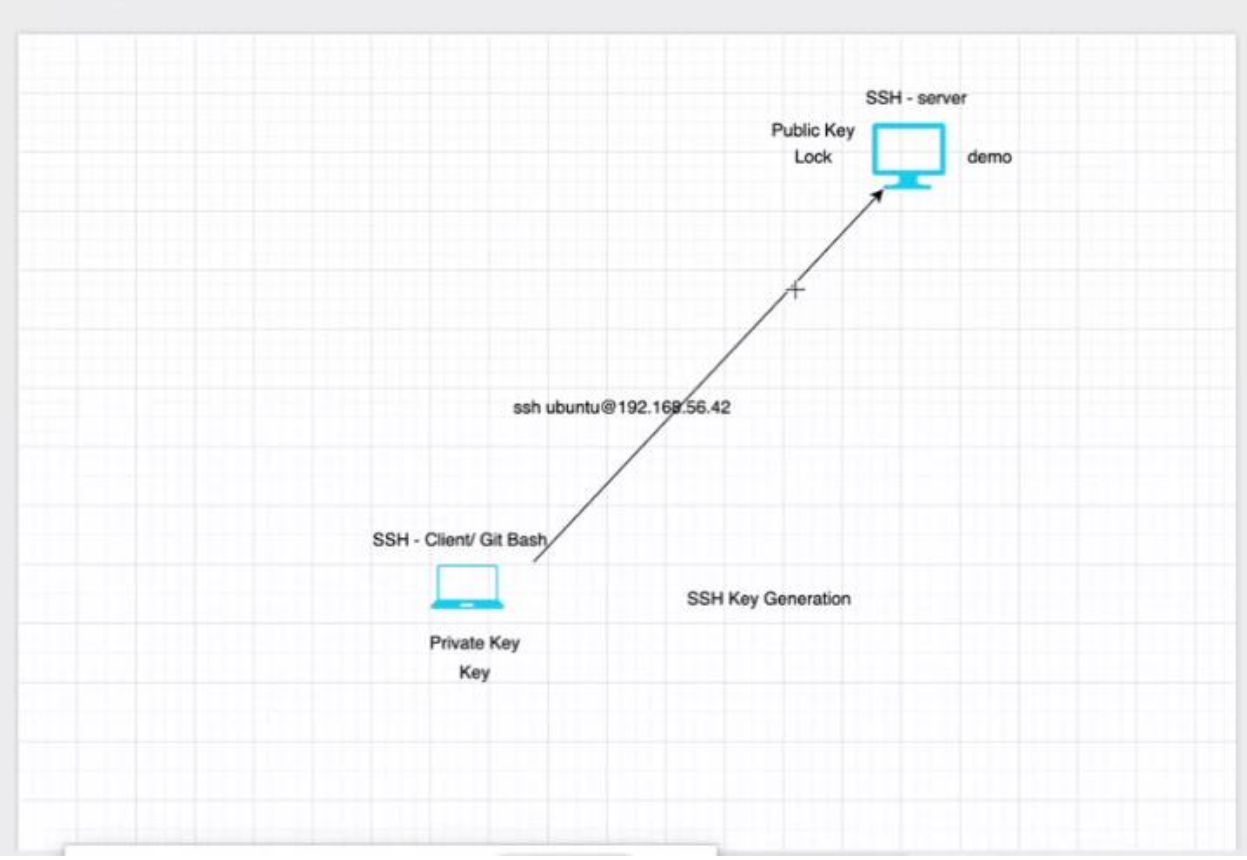
10. specific search ls .ssh(dot means hidden directory)

11. ssh-keygen – sshkey generation

12 viewing content – cat c/ebina/filename

13:shift +:+q – quit editor

SSH Key have private key(lock) and public key(key)



.ssh file available in home directory

Software are two type :

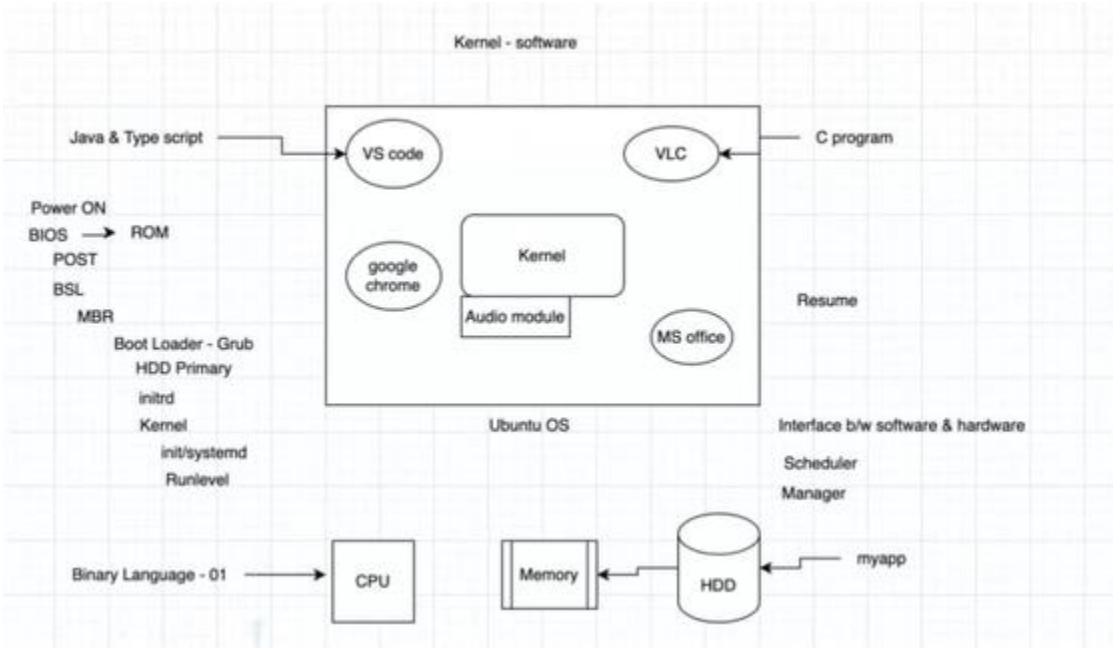
- system software – ubuntu, windows,
  system software capable to manage computer softyware while applicatyion software enable users specific task
- application software – VScode, Microsoft word

Open source software means source code is open . so we can able to read ,write and contribute

Inner Source Software: Source code is open to particular community

Closed Source software: Source code is not open. So we cannot able to read , write and distribute

Kernel



Example: Vs code written in java script and type script → execution flow first code will compile through compiler->then it will convert in to 0101 machine language-> this machine language will cjheck in cpu and execute and -> finally written in Harddisk

(above step complete work through kernel)

Linux system we will saya instead of driver module

Windows we will say drivers

Interface between software and hardware

Kernel is a :

Scheduler,

Manager

Example2: my app coming from harddisk - > then it will execute through memory so this memory slot also will allocate with help of kernel

Example 3: audio is not working that time audio module plug in to kernel

System resources: cpu, memory , hdd, Ram ……

Linus torvalds is father of linux operating system

Linux kernel mix of unix and minix -1991

Ignou license for open source linux

Unix is paid one

Minix using only for college and university

Its developed through c programing – 1985 – dennies Richie and ken thomson

1987 -cpp -bjrane strou strup

Type of kernel –

monolithic kernel-service run in same space and large size required, fast execution

microkernel – service run different different space but slower performance(service comunication)

hybridkernel – mixed of monolithic and microkernel

nanokernel

exo kernel

kernel is a software

window boot loader is NTFS

how operating system will boot

---

system poweron time Rom will get signal and execute BIOS (placed in ROM)->BIOS two function POST – it will check hardware component correct

BSL(Boot strap loader) – contans MBR(master bott recorder) contains Boot loader grub(grant unified boot loader) -Hardidk primary location , initrd, kernel location -init(this position will start linux os)-> then go to run level

Run level	Command	purpose
0	init 0	Halt/ shutdown
1	init 1	single user mode(root)
2	init 2	multiusermode
3	init 3	multiusermode + NFS support
4	init 4	unused(using development purpose)
5	init 5	X11(support graphics)
6	init 6	Reboot

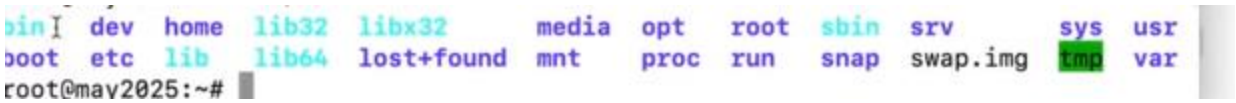
Linux performance: resource utilization optimize and increase perfomannce

Linux file system two type

1. directories and file
2. formatting file system

root is the superuser

in mystem based dev is non root user



Skublue – linked directory

Black color- this is not directory this is file

Bin – user executable binary(not mandatory to provide access in bin-non root user case)

Sbin-systemexecutable binary

Boot-system related boot file

Dev-device attacing harddisk..

Etc-configuration file available here

Whoami – finding user

Hostname- finding sytem name

$non root user

#root user

~ home directory

Vim absolutepath

Click on I insert mode

Esc mode

Cat for content view

Cut =D double click

Copy ==Y doublecli

Delete =D double click

Paste

mkdir –help

fdisk -l

manufacture side doing -Low level partion - Track,sector, cluster

user side – highlevel partition

```
root@may2025:~# fdisk /dev/sda

Welcome to fdisk (util-linux 2.37.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

This disk is currently in use - repartitioning is probably a bad idea.
It's recommended to umount all file systems, and swapoff all swap
partitions on this disk.


Command (m for help):
```

fdisk utility console

Directory not present we will use mkdir –help

```
Create the DIRECTORY(ies), if they do not already exist.

Mandatory arguments to long options are mandatory for short options too.
  -m, --mode=MODE   set file mode (as in chmod), not a=rwx - umask
  -p, --parents     no error if existing, make parent directories as needed
  -v, --verbose     print a message for each created directory
  -Z                   set SELinux security context of each created directory
                         to the default type
      --context[=CTX]  like -Z, or if CTX is specified then set the SELinux
                         or SMACK security context to CTX
      --help     display this help and exit
      --version  output version information and exit
```

Ls -d /home/may2025/techmindz = print directory details

Ls -ld /home/may2025/techmindz = print long details of directory

Ls -l /home/may2025/techmindz -print content of directory

$ non root user

rootuser

~home directory

Vim, vi ,nano

Quit - :q

Writequi- :wq

Line numer -: set number

: 3

Unset line number – set nonnumber

Copy paste – press two times y then click on p

Cut paste =press twp time D then click p

Undo -press U

Select specific line – press count of number line 2 press D two time then P

Df -h – print partion details

Fdisk – list disk details

Mkfs – make file system

Mkfs -t ext4 /dev/sda4 or mkfs.ext4 /dev/sda4

Mkfs.ext4

Mount -a

1 sector 512 bytes

Adduser – developdby dabien or useradd develoed by unix

-b -base directory

-c – comment

-s – specify user home directory

Shell is the inter face between user and os