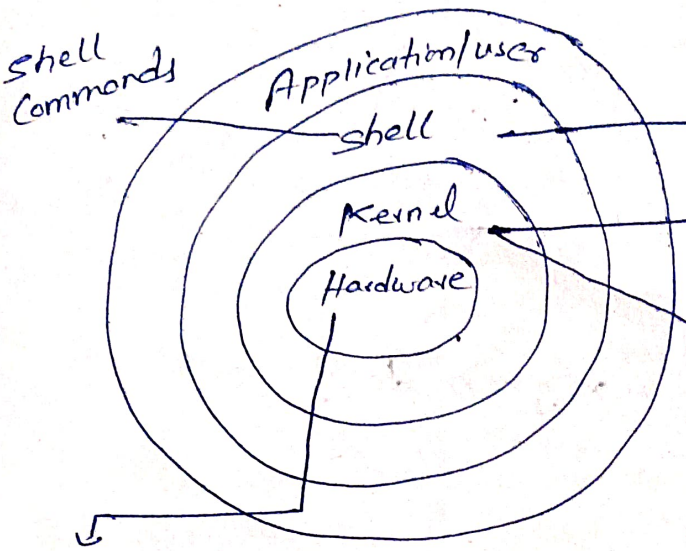
Linux DAY-2 Assignment

* Linux Architecture, processes and Systemd *

Linux Architecture

[A ⇒ Application
S ⇒ Shell
K ⇒ Kernel]



shell Commands → is an interactive way to talk to kernel

Application/user → Talks directly to Hardware like CPU, RAM etc.

Kernel → Computer program
↳ machine samajhta hai
c program → 10101 (binary)

Monitor
Printer
Speaker
mike

(userland)

User Space — The user space is a higher level portion of the OS where user facing applications and processes runs.

↳ Request serves from kernel

Note: Directly interact nahi kar sakta ~~hardware~~ kesath

Example ⇒ ls → ask kernal → read disk ⇒ show file

init/ Systemd Systemd is a service manager in linux. which is responsible for booting OS.

Note: Systemd is modern replacement for traditional init.

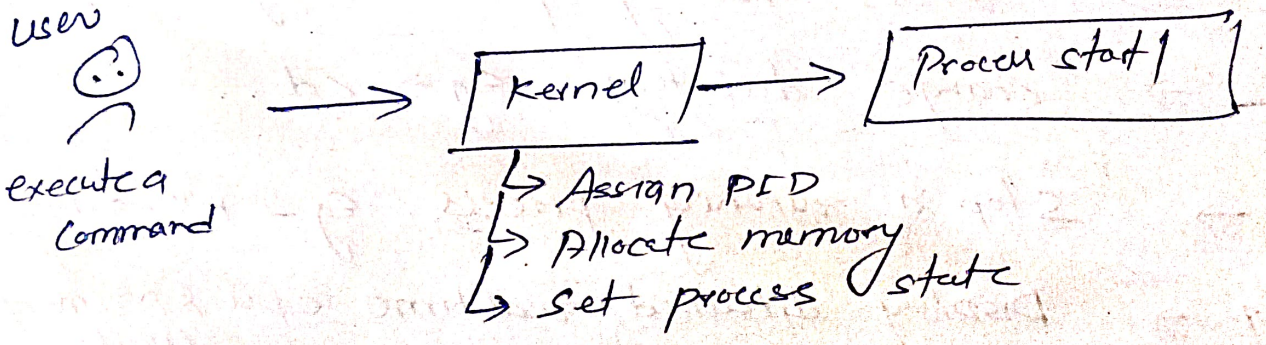
→ The first process is started by kernel → PID 1.
→ It start/stop/restart the services
→ Handle logs as well.

Example- systemctl start nginx ↵
systemctl stop nginx ↵

Note: Without systemd → system would not boot properly.

Process

* A process is a program which is running in your system



Process States

* Throughout lifecycle, process transitions through various states.

i) Running (R) - using CPU right now
ii) Sleeping (S) - waiting for I/O to run.
iii) Stopped (T) - The process has been paused.
iv) Zombie (Z) - finished or completed it task but its parent is crashed/died but are not aware about it.
v) Idle → is has no other runnable tasks assigned to it and actively waiting for work.

* What Systemd does and why it matters?

Ans! → Systemd is used to. start, stop, restart the crashed services
→ Mentain logs
→ Handle boot targets.

* 5 linux Commands *

i) pwd → shows current working directory → pwd
ii) ps → shows running processes eg - ps -el | grep
iii) cd → change directory eg → cd ..
iv) kill → stop a running process eg - kill -9 PID
v). Top / Htop → Display ditailed realtime cpu & memory usage.