LINUX
LPIC 1

REFERENCES:

https://linux1st.com/
https://www.youtube.com/playlist?list=PL-tKrPVkKKE0kM18Sg5fqaZW1V2nidAeU
...

DETERMINE AND CONFIGURE HARDWARE SETTINGS

Firmware

BIOS & UEFI

Other hardware

Sysfs

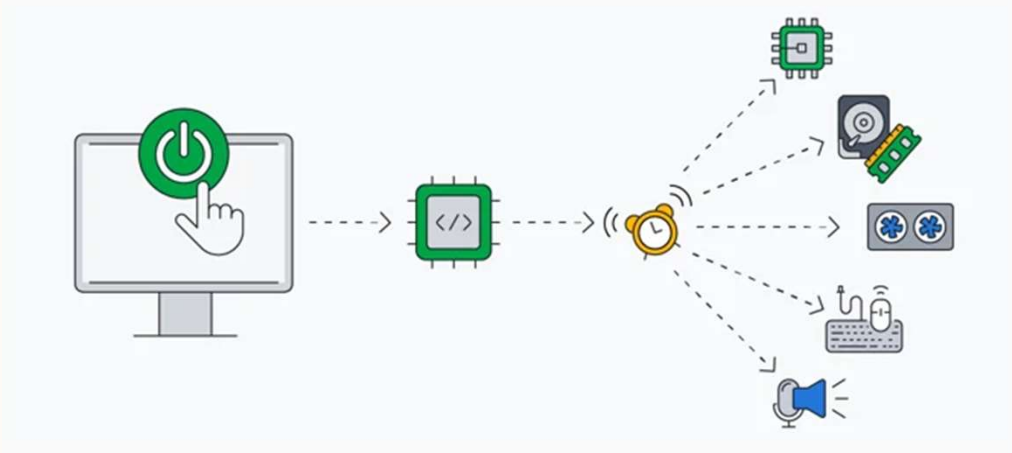
/sys/

/dev/

Dbus

/proc/

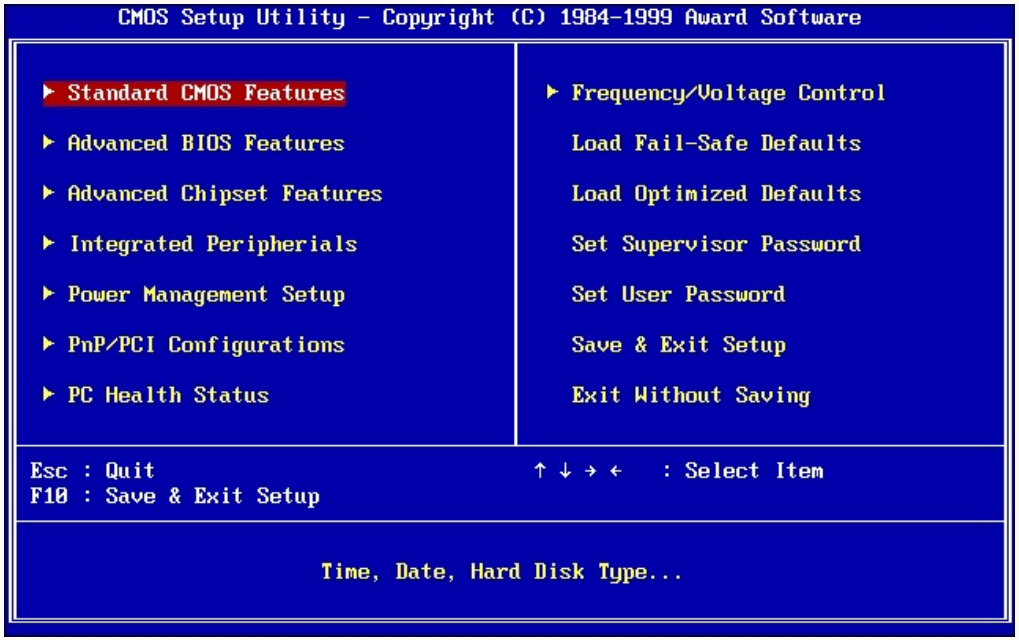
FIRMWARE



Firmware is the software on your hardware that runs it; Think of it as a built-in os or driver for your hardware. Motherboards need some firmware to be able to work too.

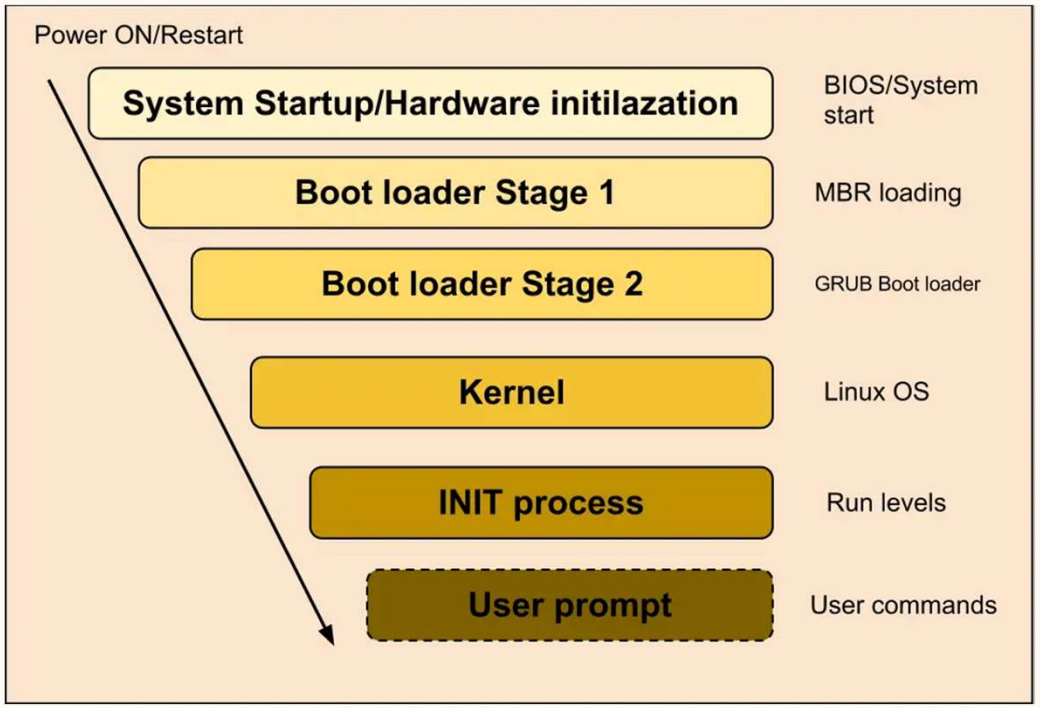
Firmware is a type of software that lives in hardware. Software is any program or group of programs run by a computer.

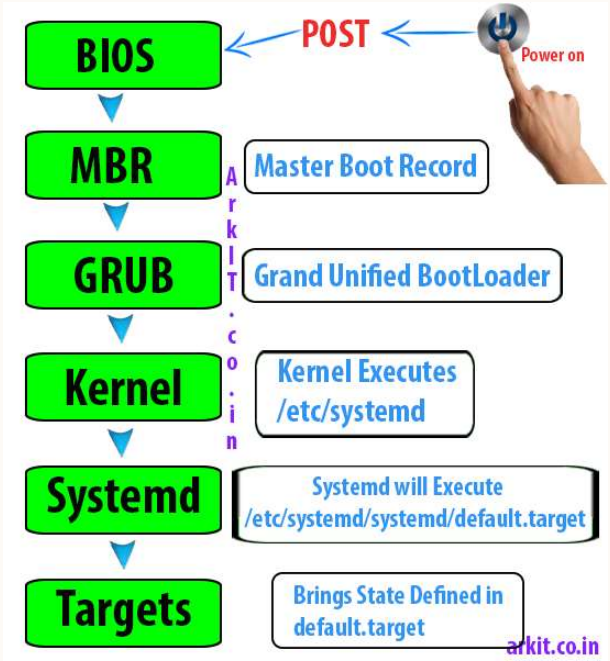
BIOS & UEFI


CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherials
Power Management Setup
PnP/PCI Configurations
PC Health Status
Frequency/Voltage Control
Load Fail-Safe Defaults
Load Optimized Defaults
Set Supervisor Password
Set User Password
Save & Exit Setup
Exit Without Saving
Esc : Quit
F10 : Save & Exit Setup
↑ ↓ → ← : Select Item
Time, Date, Hard Disk Type...


UEFI BIOS Utility - EZ Mode
Exit/Advanced Mode
10:24
Monday[09/23/2013]
English
Temperature
Voltage
Fan Speed
Q-Fan Control
Quiet
Performance
Energy Saving
Turbo
Boot Priority
Use the mouse to drag or keyboard to navigate to decide the boot priority.
Shortcut(F3)
Advanced Mode(F7)
Boot Menu(F8)
Default(F5)

LINUX BOOTING PROCESS





SYSFS

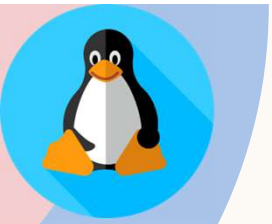
sysfs is a pseudo file system provided by the Linux kernel that exports information about various kernel subsystems, hardware devices, and associated device drivers from the kernel's device model to user space through virtual files.[1] In addition to providing information about various devices and kernel subsystems, exported virtual files are also used for their configuration.

UDEV

udev (userspace /dev) is a device manager for the Linux kernel. As the successor of devfsd and hotplug, udev primarily manages device nodes in the /dev directory. At the same time, udev also handles all user space events raised when hardware devices are added into the system or removed from it, including firmware loading as required by certain devices.

DBUS

D-Bus is a message bus system, a simple way for applications to talk to one another. In addition to inter-process communication, D-Bus helps coordinate process lifecycle; It makes it simple and reliable to code a "single instance" application or daemon and to launch applications and daemons on demand when their services are needed.



PROC

This is where the Kernel keeps its settings and properties. This directory is created on ram and files might have write access (say for some hardware configurations). You can find things like:

- IRQs (interrupt requests)
- I/O ports (locations in memory where CPU can talk with devices)
- DMA (direct memory access, faster than I/O ports)
- Processes
- Network Settings
- ...

DETERMINE AND CONFIGURE HARDWARE SETTINGS

lsusb, lspci, lsblk, lshw,lsmod

System init (system)

Journalctl