

What is a Bootloader in Linux?

Bootloader = The First Program That Runs When Your Computer Starts

When you turn on your system, the **bootloader is responsible for loading the operating system (like Kali Linux or Ubuntu) into memory.**

Where is Bootloader Stored?

- In **Master Boot Record (MBR)** or **EFI Partition** of your hard disk.

Boot Process in Linux:

Step	Role
BIOS/UEFI	Performs hardware checks
Bootloader	Loads the Linux kernel
Kernel	Controls hardware and loads the init process
Init System	Manages system services (like <code>systemd</code>)

Popular Bootloaders in Linux:

Bootloader	Used In
GRUB (GNU GRUB)	Kali Linux, Ubuntu
LILO	Old Linux Systems
Syslinux	Lightweight Systems

What Exactly Does the Bootloader Do?

Task	Purpose
Detects OS	Checks for installed OS
Loads Kernel	Loads Linux Kernel into RAM
Loads Initramfs	Temporary file system
Initializes the Kernel	Starts the boot process

Where is the Bootloader Stored in Kali Linux?

```
ls /boot/
```

In Hacking Terms:

Task	Purpose
Access GRUB	To Modify Boot Settings
Boot into Single-User Mode	Reset Root Password
Modify Kernel Parameters	Gain Privilege Escalation