# 5. Maintaining Filesystem Health

## What can damage a storage device's health?

- Physical Impact (Mostly Unrecoverable)
- Too many Read-Write operations over time (Fixable)
- Power Outages that may cause data corruptions

Most of the times the kernel checks the integrity of file systems before booting so that there isn't a problem
with it and if there's something wrong with it then the boot process will fail.
the partitions and their file systems are located in `/etc/fstab`. if there's something wrong then we should
check this file.

there is one thing we care about in this context (Maintaining Filesystem Health)about `/etc/fstab/`:

```
        cat /etc/fstab
        # <file system>            <mount point>  <type>  <options>  <dump>
<pass>
```

- `<pass>` :It is for checking the file system
  - `0` -> Do not check
  - `1` -> Check and if failed don't boot (High priority)
  - `2` -> Check but if failed still boot (Low priority)

## How to run a filesystem check without rebooting?

We can use `fsck` but there's a limitation and that is the partition we are checking should be unmounted.

```
        sudo fsck /dev/sdb1
```

- `-A` -> Check all disks
- `-t` -> Filesystem type(`ext3`, `xfs`, ...)

**It's best to use the tool specifically developed for checking a certain filesystem in some distros**

**`xfs` in Red Hat**

```
        sudo xfs_repair -L /dev/nvme0n2p1
```

```
```