

Supporting IDE and SATA Disks

LPIC-2: Linux Engineer (201-450)

Objectives:

At the end of this episode, I will be able to:

1. Identify SATA and IDE disks in Linux.
2. Modify disk parameters to suit a particular workload.

Additional resources used during the episode can be obtained using the download link on the overview episode.

- IDE and SATA Maintenance Tasks

- Ensure disk detection and function
- Modify performance settings
- Check for pre-failure errors

- Identifying Disks

- `lsblk`
- `sudo lshw -class disk`
 - **`lshw` - List Hardware**
 - IDE and SATA both show up as ATA Disks

- Disk Parameters

- Allow tweaking the disk to fit a specific workload
- Examine disk parameters
 - `sudo apt install hdparm`
 - `sudo hdparm -I /dev/sda`
 - **`-I` Information**

- Example: Enable/Disable Write Cache

- Write cache is not desirable with many databases
- Configuring write cache
 - Check if write cache is supported
 - `sudo hdparm -W /dev/sda`
 - Enable
 - `sudo hdparm -W 1 /dev/sda`
 - Disable
 - `sudo hdparm -W 0 /dev/sda`

- SMART

- **Self-Monitoring Analysis and Reporting Technology**
- Checking SMART
 - `sudo apt install smartmontools`
 - `sudo smartctl -i /dev/sda`
- Query current health status

- `sudo smartctl -H /dev/sda`

- Execute a SMART test

- `sudo smartctl -t <test> /dev/sda`
- Tests
 - short (1-2 minutes)
 - long (10+ minutes)

- View SMART results

- `sudo smartctl -a /dev/sda`
- Log results are at the bottom