# Introduction

Monitoring disk space usage is crucial for system administration. Linux provides tools like **du** (disk usage) and **df** (disk free) to check available space, analyze storage consumption, and prevent disk exhaustion.

# Common Practical Examples

## 1. Checking Available Disk Space

### Display disk usage of mounted filesystems

df -h

### Show disk space in bytes

df -B1

### View inode usage instead of disk space

df -i

### Check disk usage for a specific filesystem

df -T /dev/sda1

## 2. Checking Directory and File Space Usage

### Display disk usage of a directory

du -sh /var/log

### Show usage for all subdirectories

du -h --max-depth=1 /home

### Find the largest files in a directory

du -ah /home | sort -rh | head -10

### Summarize total usage of a directory

du -csh /var/www

## 3. Monitoring Disk Space in Real-Time

### Watch disk space changes every 10 seconds

watch -n 10 df -h

### Identify which directory is consuming the most space

ncdu /

# Additional Notes

* **df** is best used for checking free space on entire filesystems.
* **du** helps in identifying large directories and files.
* **ncdu** (if installed) provides an interactive way to navigate disk usage.
* Regular monitoring prevents sudden disk space shortages that can affect system performance.