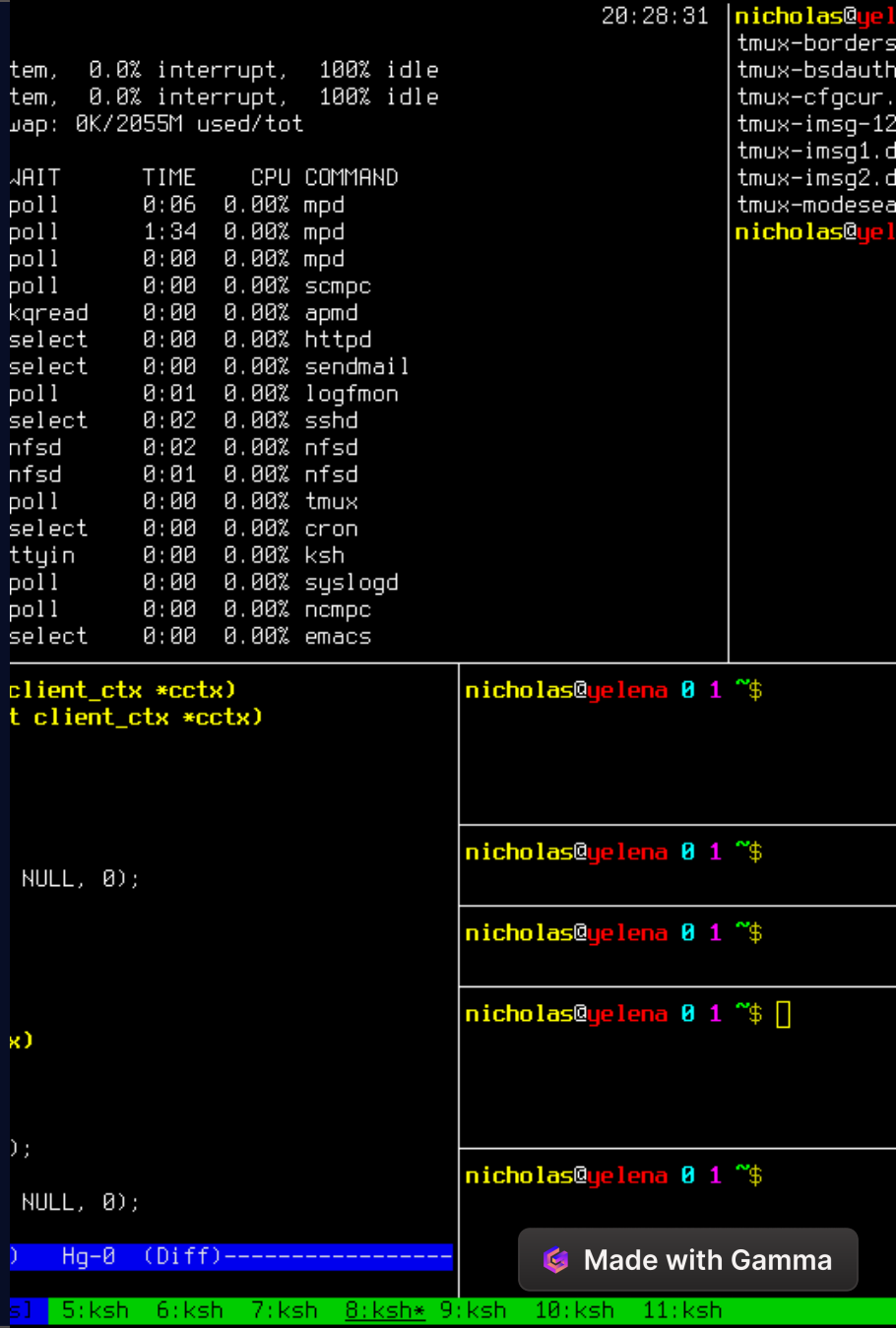
Disk Commands in Linux

Mastering basic disk-related commands is essential for any Linux system admin. Get familiar with these fundamental commands to easily manage and troubleshoot your filesystem.

by Vinitha Anumulapuri



df - disk free

What it does:

Displays free disk space statistics for all mounted filesystems.

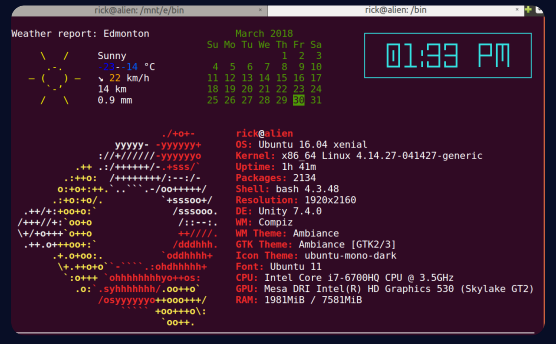
When to use it:

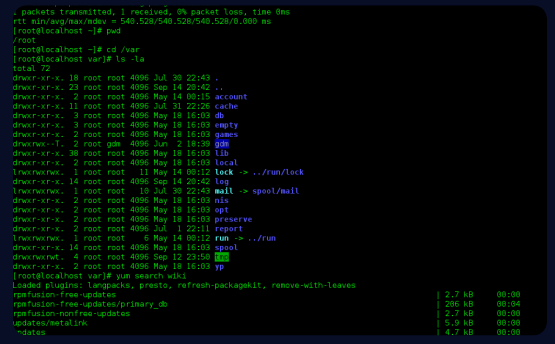
When you want to keep an eye on your system's disk usage and available disk space.

Pro tip:

Use the -h flag to make the output more human-readable.

du - disk usage





What it does:

Displays disk usage statistics for a specific file or directory.

When to use it:

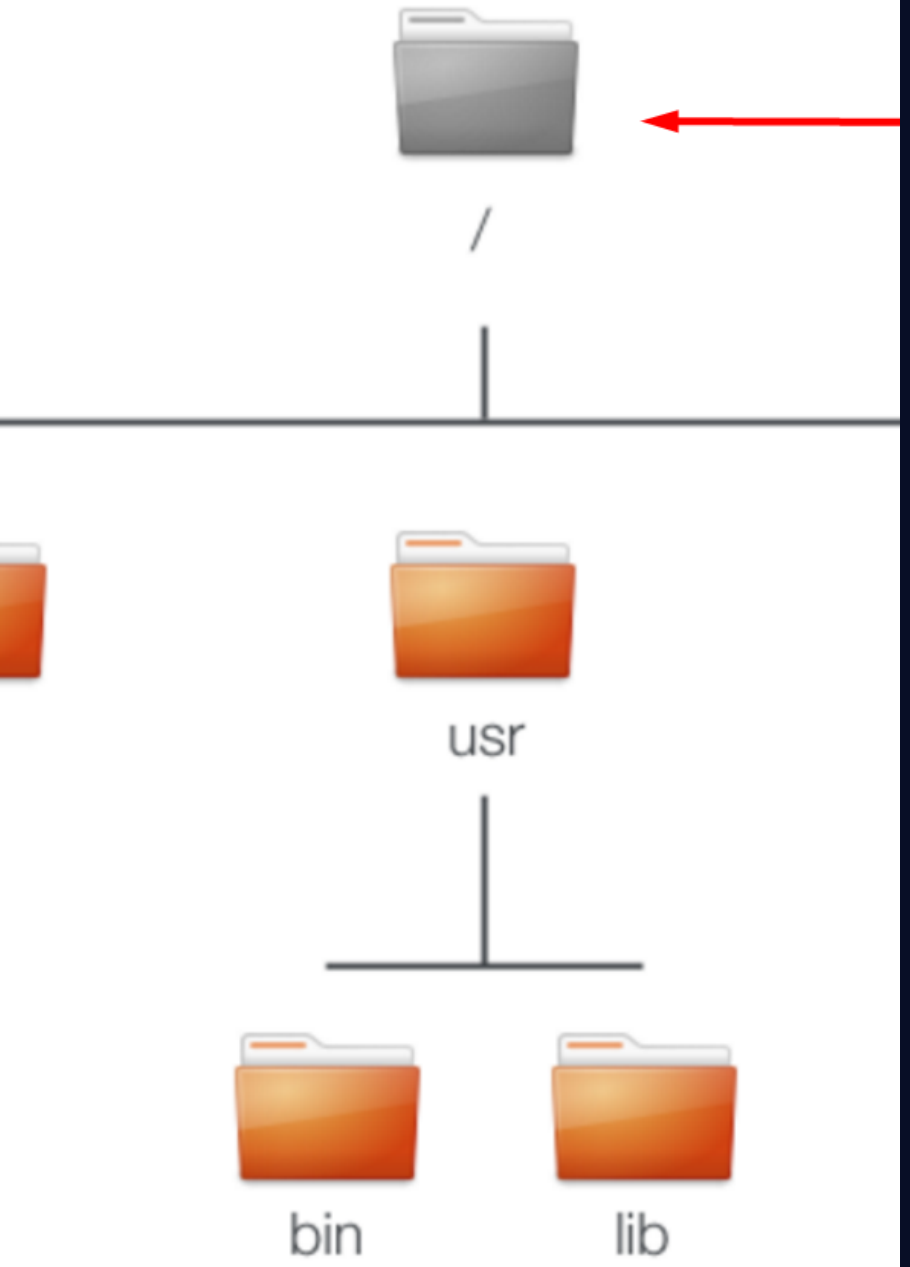
When you want to find out which directory or file is taking up the most space.

Pro tip:

Use the -s flag to display only a summary of disk usage.

fdisk - format disk

What it does:	Creates, resizes, and deletes partitions on a disk.
When to use it:	You want to configure your hard drive partitions.
Pro tip:	Make sure you have backups before performing any disk partitioning. This command can cause data loss if used incorrectly.



mkfs - make filesystem

1 **What it does:**

Creates a filesystem on a disk partition.

2 **When to use it:**

You have created a new disk or partition and want to format it with a specific filesystem.

3 **Pro tip:**

Use the -t flag to specify the type of filesystem you want to create, e.g. ext4.

mount

What it does:

Attaches a filesystem to the system's file hierarchy.

When to use it:

You want to make a filesystem available for use by the system.

Pro tip:

Make sure you have created the mount point directory before using this command.

umount

1

What it does:

Detaches a filesystem from the system's file hierarchy.

2

When to use it:

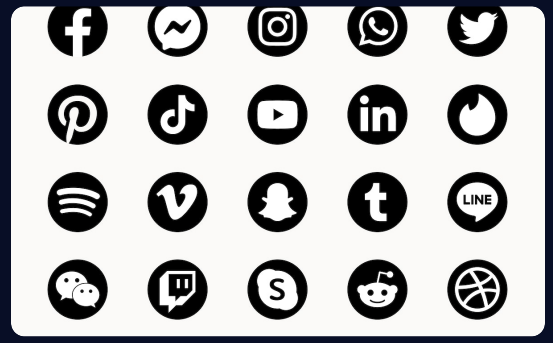
You want to make a filesystem unavailable for use by the system.

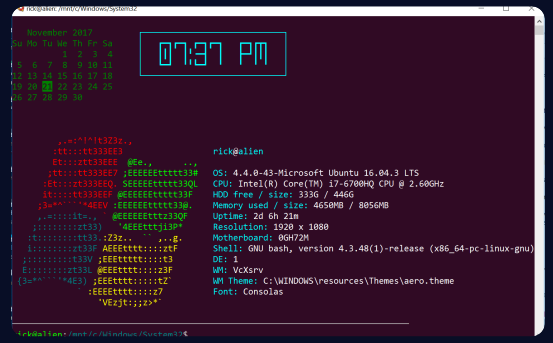
3

Pro tip:

Always make sure no files are in use before unmounting a filesystem.

sync





What it does:

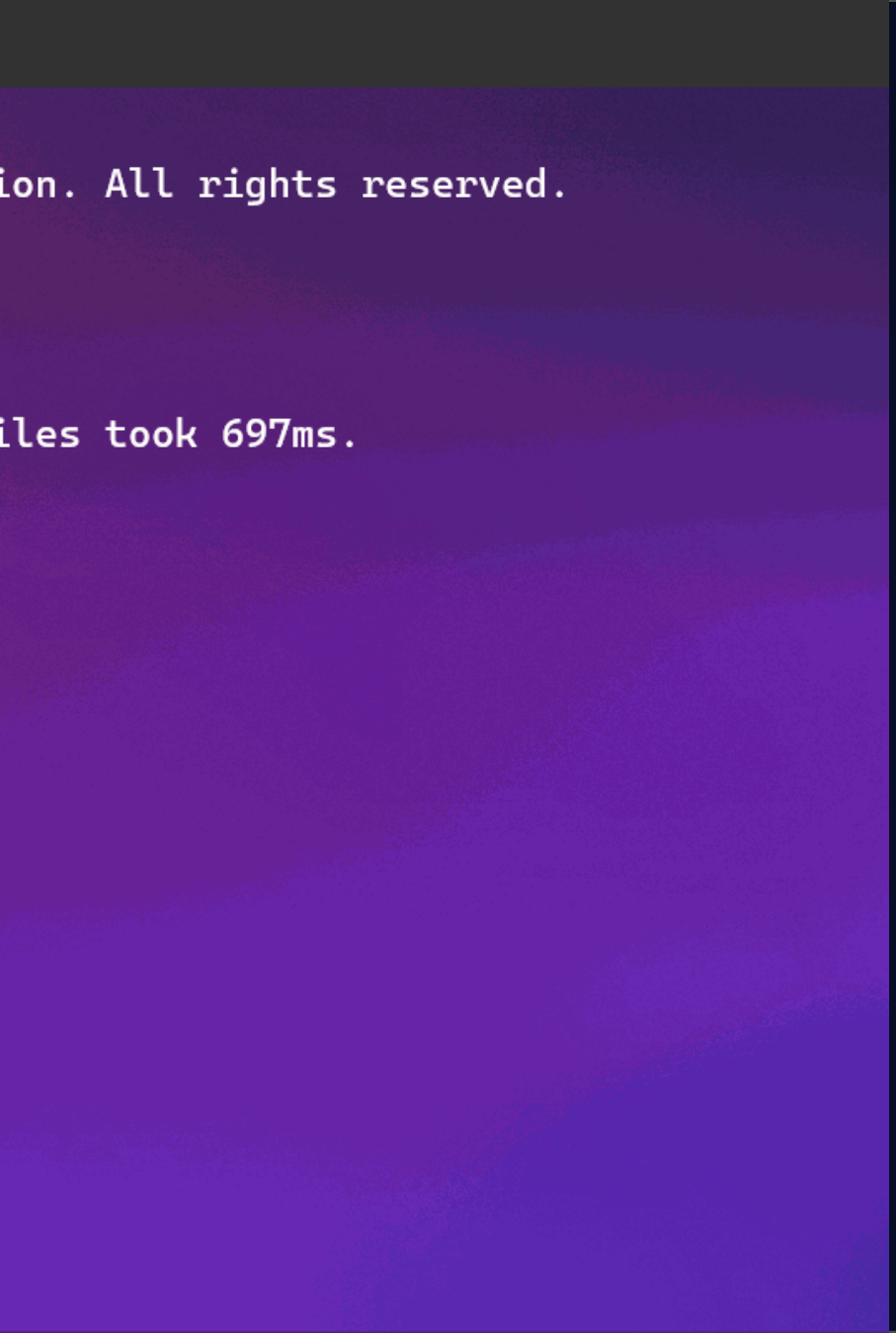
Flushes file system buffers to disk.

When to use it:

You want to make sure all data has been written to disk before removing it.

Pro tip:

Always use this command before removing or unmounting a disk or partition.



fuser

1 **What it does:**

Displays which process is using a file or directory.

2 **When to use it:**

You want to find out why a particular file or directory cannot be unmounted or removed.

3 **Pro tip:**

Combine with the -m flag to specify a mount point to search for processes using any file on that filesystem.

chown

What it does:

Changes the owner of a file or directory.

When to use it:

You want to change the owner of a file or directory.

Pro tip:

Be careful when changing ownership of system files, as it can cause issues with various applications.

chmod

1

What it does:

Changes the permissions of a file or directory.

2

When to use it:

You want to change the read, write, and execute permissions of a file or directory.

3

Pro tip:

Use symbolic notation with the `+`, `-`, and `=` operators to change permissions incrementally.

dd - disk dump

What it does:

Copies and converts files or blocks of data.

When to use it:

You want to create an exact backup of a disk or copy large amounts of data with specific block sizes.

Pro tip:

Be careful when using this command, as it has the potential to overwrite data and cause data loss.

fsck - filesystem check

What it does:

Scans and repairs a filesystem.

When to use it:

You suspect your filesystem may be corrupted or have data errors.

Pro tip:

Run this command with the -y flag to automatically answer "yes" to all prompts for fixing errors.