

Ubuntu CLI Cheat Sheet - 2025

Ubuntu 24.04 LTS "Noble Numbat"

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Overview

This Ubuntu CLI cheatsheet can help you learn how to use the command line efficiently and get started with DevOps, from basic file management to LXD virtualization and Ubuntu Pro.

System-Related Commands

1. System information
 - `uname -a`: Displays all system information.
 - `hostnamectl`: Shows current hostname and related details.
 - `lscpu`: Lists CPU architecture information.
 - `timedatectl status`: Shows system time.
2. System monitoring and management
 - `top`: Displays real-time system processes.
 - `htop`: An interactive process viewer (needs installation).
 - `df -h`: Shows disk usage in a human-readable format.
 - `free -m`: Displays free and used memory in MB.
 - `kill <process id>`: Terminates a process.
3. Running commands
 - `<command> &`: Runs command in the background.
 - `jobs`: Displays background commands.
 - `fg <command number>`: Brings the command to the foreground.
4. Service management
 - `sudo systemctl start <service>`: Starts a service.
 - `sudo systemctl stop <service>`: Stops a service
 - `sudo systemctl status <service>`: Checks the status of a service.
 - `sudo systemctl reload <service>`: Reloads a service's configuration without interrupting its operation.
 - `journalctl -f`: Follows the journal, showing new log messages in real time.
 - `journalctl -u <unit_name>`: Displays logs for a specific systemd unit.
5. Cron jobs and scheduling
 - `crontab -e`: Edits cron jobs for the current user.
 - `crontab -l`: Lists cron jobs for the current user.

File-Related Commands

1. File management
 - `ls`: Lists files and directories.
 - `touch <filename>`: Creates an empty file or updates the last accessed date.
 - `cp <source> <destination>`: Copies files from source to destination.
 - `mv <source> <destination>`: Moves files or renames them.
 - `rm <filename>`: Deletes a file.

2. Directory navigation
 - `pwd`: Displays the current directory path.
 - `cd <directory>`: Changes the current directory.
 - `mkdir <dirname>`: Creates a new directory.
3. File permissions and ownership
 - `chmod [who][+/-][permissions] <file>`: Changes file permissions.
 - `chmod u+x <file>`: Makes a file executable by its owner.
 - `chown [user]:[group] <file>`: Changes file owner and group.
4. Searching and finding
 - `find [directory] -name <search_pattern>`: Finds files and directories.
 - `grep <search_pattern> <file>`: Searches for a pattern in files.
5. Archiving and compression
 - `tar -czvf <name.tar.gz> [files]`: Compresses files into a tar.gz archive.
 - `tar -xzvf <name.tar.[gz|bz|xz]> [destination]`: Extracts a compressed tar archive.
6. Text editing and processing
 - `nano <file>`: Opens a file in the Nano text editor.
 - `cat <file>`: Displays the contents of a file.
 - `less <file>`: Displays the paginated content of a file.
 - `head <file>`: Shows the first few lines of a file.
 - `tail <file>`: Shows the last few lines of a file.
 - `awk '{print}' <file>`: Prints every line in a file.

Package-Related Commands

1. Package management (APT) [Debian icon]
 - `sudo apt install <package>`: Installs a package.
 - `sudo apt install -f --reinstall <package>`: Reinstalls a broken package.
 - `apt search <package>`: Searches for APT packages.
 - `apt-cache policy <package>`: Lists available package versions.
 - `sudo apt update`: Updates package lists.
 - `sudo apt upgrade`: Upgrades all upgradable packages.
 - `sudo apt remove <package>`: Removes a package.
 - `sudo apt purge <package>`: Removes a package and all its configuration files.
2. Package management (Snap) [Snap icon]
 - `snap find <package>`: Search for Snap packages.
 - `sudo snap install <snap_name>`: Installs a Snap package.
 - `sudo snap remove <snap_name>`: Removes a Snap package.
 - `sudo snap refresh`: Updates all installed Snap packages.
 - `snap list`: Lists all installed Snap packages.
 - `snap info <snap_name>`: Displays information about a Snap package.

Users & Group-Related Commands

1. User management
 - `w`: Shows which users are logged in.
 - `sudo adduser <username>`: Creates a new user.
 - `sudo deluser <username>`: Deletes a user.
 - `sudo passwd <username>`: Sets or changes the password for a user.
 - `su <username>`: Switches user.
 - `sudo passwd -l <username>`: Locks a user account.
 - `sudo passwd -u <username>`: Unlocks a user password.
 - `sudo chage <username>`: Sets user password expiration date.
2. Group management
 - `id [username]`: Displays user and group IDs.
 - `groups [username]`: Shows the groups a user belongs to.
 - `sudo addgroup <groupname>`: Creates a new group.
 - `sudo delgroup <groupname>`: Deletes a group.

Networking-Related Commands

1. Networking
 - `ip addr show`: Displays network interfaces and IP addresses.
 - `ip -s link`: Shows network statistics.
 - `ss -l`: Shows listening sockets.
 - `ping <host>`: Pings a host and outputs results.
2. Netplan configuration (read more at netplan.io)
 - `cat /etc/netplan/*.yaml`: Displays the current Netplan configuration.
 - `sudo netplan try`: Tests a new configuration for a set period of time.
 - `sudo netplan apply`: Applies the current Netplan configuration.
3. Firewall management
 - `sudo ufw status`: Displays the status of the firewall.
 - `sudo ufw enable`: Enables the firewall.
 - `sudo ufw disable`: Disables the firewall.
 - `sudo ufw allow <port/service>`: Allows traffic on a specific port or service.
 - `sudo ufw deny <port/service>`: Denies traffic on a specific port or service.
 - `sudo ufw delete allow/deny <port/service>`: Deletes an existing rule.
4. SSH and remote access
 - `ssh <user@host>`: Connects to a remote host via SSH.
 - `scp <source> <user@host>:<destination>`: Securely copies files between hosts.

LXD-Related Commands

LXD is a modern, secure, and powerful tool that provides a unified experience for running and managing containers or virtual machines. Visit <https://canonical.com/lxd> for more information.

sudo lxd init: initializes LXD before first use

1. Creating instances

- `lxc init ubuntu:24.04 <container name>`: Creates a lxc system container (without starting it).
- `lxc launch ubuntu:24.04 <container name>` : Creates and starts a lxc system container.
- `lxc launch ubuntu:22.04 <vm name> --vm` : Creates and starts a virtual machine.

2. Managing instances

- `lxc list`: Lists instances.
- `lxc info <instance>`: Shows status information about an instance.
- `lxc start <instance>`: Starts an instance.
- `lxc stop <instance> [--force]`: Stops an instance.
- `lxc delete <instance> [--force|--interactive]`: Deletes an instance.

3. Accessing instances

- `lxc exec <instance> -- <command>`: Runs a command inside an instance.
- `lxc exec <instance> -- bash`: Gets shell access to an instance (if bash is installed).
- `lxc console <instance> [flags]`: Gets console access to an instance.
- `lxc file pull <instance>/<instance_filepath> <local_filepath>`: Pulls a file from an instance.
- `lxc file push <local_filepath> <instance>/<instance_filepath>`: Pushes a file to an instance.

4. Using projects

- `lxc project create <project> [--config <option>]`: Creates a project.
- `lxc project set <project> <option>`: Configures a project.
- `lxc project switch <project>`: Switches to a project.

Ubuntu Pro-Related Commands

Ubuntu Pro delivers up to 12 years of security coverage, expanding Ubuntu's Long Term Support (LTS) commitment and adding management and compliance tooling. Visit ubuntu.com/pro to register for free on up to five machines.

1. Activating Ubuntu Pro
 - `sudo pro attach <token>`: Attaches your machine to Ubuntu Pro using a specific token. This token is provided when you subscribe to Ubuntu Pro.
2. Managing services
 - `sudo pro status`: Displays the status of all Ubuntu Pro services.
 - `sudo pro enable <service>`: Enables a specific Ubuntu Pro service, like ESM, FIPS, or Livepatch.
 - `sudo pro disable <service>`: Disables a specific Ubuntu Pro service.
3. Extended Security Maintenance (ESM)
 - `sudo pro enable esm-infra`: Activates Extended Security Maintenance for infrastructure packages, providing security updates beyond the standard release cycle.
 - `sudo pro enable esm-apps`: Activates ESM for applications, extending security coverage for specific applications.
4. Livepatch service
 - `sudo pro enable livepatch`: Enables the Livepatch service, which applies critical kernel patches without requiring a reboot.
5. FIPS mode
 - `sudo pro enable fips`: Enables FIPS (Federal Information Processing Standards) mode, enforcing strict cryptographic standards and practices.
6. Updating configuration
 - `sudo pro refresh`: Refreshes the Ubuntu Pro state to ensure the latest configuration and services are in place.
7. Detaching Ubuntu Pro
 - `sudo pro detach`: Detaches the machine from Ubuntu Pro, disabling all services.

Revisions table

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2025-10-23	Craig Bender	1.0	Initial draft