

# Module 1 Cheat Sheet - Introduction to Linux

## Linux terminal tips

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Use tab completion to autocomplete pathnames and command names.

Scroll through your command history with the Up Arrow and Down Arrow keys to find and re-run a command you already used.

## Getting information

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Display the reference manual for the `ls` command:

1. `man ls`

## Browsing and navigating directories

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### Special paths

Symbol	Represents path to
<code>~</code>	home directory
<code>/</code>	root directory
<code>.</code>	present working directory
<code>..</code>	parent of present working directory

List files and directories in the current directory:

1. `ls`

List files and directories in a directory:

1. `ls path_to_directory`

## Return path to present working directory:

1. `pwd`

## Change the current directory to a subdirectory:

1. `cd child_directory_name`

Tip: Because `cd` looks in the current directory for `child_directory_name`, you don't need to type the entire path.

### Change the current directory:

Up one level: `cd ../`

To home: `cd ~` or `cd`

To some other directory: `cd path_to_directory`

### Change the current directory to another one at the same level:

Suppose you have two sibling directories within the same directory, `dir_1` and `dir_2`, and your present working directory is `dir_1`. To switch to `dir_2`, enter:

```
cd ../dir_2
```

Tip: Using `..`, you don't need to know the path to the parent directory to switch to a sibling.

### Change the current directory back to the directory you were in previously:

```
cd -
```

## Upgrading and installing packages

### Fetch and display up-to-date information about all upgradable packages:

1. `sudo apt update`

## Upgrade to the latest supported version of nano:

1. `sudo apt upgrade nano`

## Install Vim:

1. `sudo apt install vim`

## Creating and editing files

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### Create a new text file and open it with nano:

1. `nano file_name.txt`

| Tip: If the file already exists, nano simply opens it for editing.

## Summary & Highlights

Congratulations! You have completed this module. At this point, you know that:

- In the 1980s, GNU was developed at MIT. GNU stands for “GNU’s not Unix” and was made as a free, open source set of the existing Unix system tools. And in 1991, Linus Torvalds developed a free, open source version of the Unix kernel called Linux.
- Linux is widely used today in mobile devices, desktops, supercomputers, data centers, and cloud servers.
- Linux distributions (also known as distros) differ by their UIs, shell applications, and how the OS is supported and built.
- The design of a distro is catered toward its specific audience and/or use case. Popular Linux distributions include Red Hat Enterprise Linux (RHEL), Debian, Ubuntu, Suse (SLES, SLED, OpenSuse), Fedora, Mint, and Arch.
- The Linux system consists of five key layers: the UI, application, OS, kernel, and hardware. The user interface enables users to interact with applications. Applications enable users to perform tasks within the system. The operating

system runs on top of the kernel and is vital for system health and stability, and the kernel is the lowest-level software that enables applications to interact with hardware. Hardware includes all the physical or electronic components of your PC.

- The Linux filesystem is a tree-like structure consisting of all directories and files on the system.
- A Linux shell is an OS-level application that you can use to enter commands. You use a terminal to send commands to the shell, and you can use the ``cd`` command to navigate around your Linux filesystem.
- You can use a variety of command-line or GUI-based text editors such as GNU nano, vim, vi, and gedit.
- .deb and .rpm are distinct file types used by package managers in Linux operating systems.
- You can use GUI-based and command-line package managers to update and install software on Linux systems.