

Hillingdon u3a Computer Club

Can I use Linux ?

What it is and How to use it

August 2025



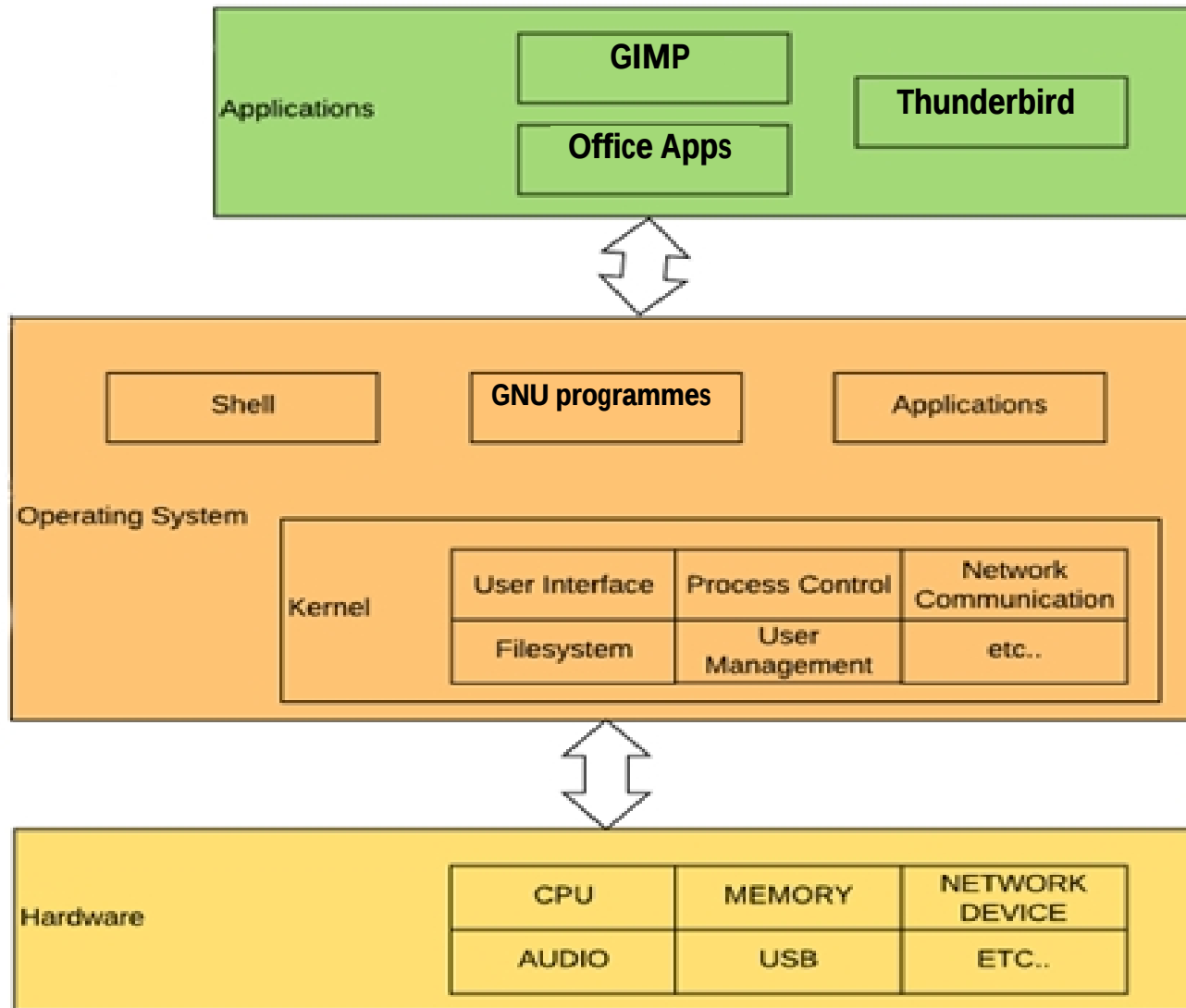
u3a
Hillingdon

What is Linux

- A free and open-source operating system
- In simplest terms, it's an operating system.
- It is the software on a computer that enables applications and the computer operator to access the devices on the computer to perform desired functions.
- The operating system (OS) relays instructions from an application to, for instance, the computer's processor. The processor performs the instructed task, then sends the results back to the application via the operating system.
-



What is Linux



Where did come from

- In 80's, Microsoft's DOS was the OS for PC
- Apple MAC being more GUI was better but expensive
- UNIX better but very expensive so used commercially
- Computer pioneers wanted a UNIX based OS but cheaper
- DOS, MAC and UNIX were licenced so no modification was possible without paying high license fees



Where did come from

- Linux began in 1991 as a personal project of a Finnish student, Linus Torvalds who wanted to create a new free operating system kernel.
- The Linux kernel was born and since the initial release of its source code in 1991, it has grown from a small number of C files under a license prohibiting commercial distribution to version 6.16.1 as at August 2025
- It now has more than 16 million lines of source code and is under the GNU General Public License



Where did come from

- GNU STANDS FOR(GNU's NOT UNIX)
- Established in 1984 by Richard Stallman, who believes that software should be free from restrictions against copying or modification in order to make better and efficient computer programs



Windows
71.83%

Unknown
9.62%

OS X
8.71%

macOS
4.91%

Linux
3.9%

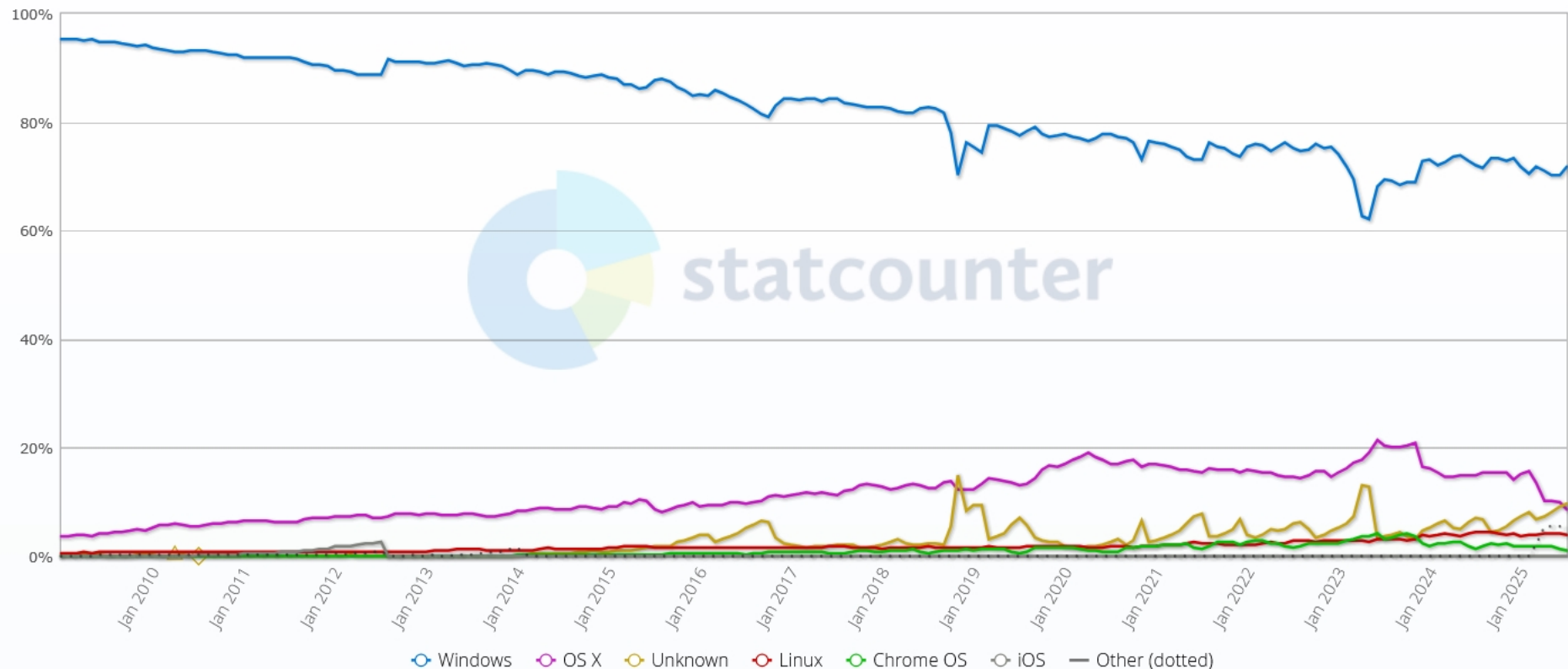
Chrome OS
1.02%

Desktop Operating System Market Share Worldwide - July 2025

Desktop Operating System Market Share Worldwide

Jan 2009 - July 2025

[Edit Chart Data](#)



Other Statistics

- **Linux** now powers **49.2%** of all cloud systems globally
- **78.5%** of **developers** worldwide use Linux
- **100%** of the **top 500 supercomputers** in the world run
- The **Linux kernel** now has over **34 million lines** of code
- **Red Hat Enterprise Linux** is on **43.1%** enterprise Linux servers.
- **27.6 million** active Linux users
- **62.7%** of IoT developers are building firmware on Linux



Why Linux

- **Open-source:** Free to use, modify, and share
- **Secure:** Strong user permissions and active community patches
- **Stable & Reliable:** Runs servers for years without crashes
- **Customizable:** Desktop, server, embedded systems
- **Community Support:** Huge ecosystem of forums and documentation



Why Linux

- For Mint
- It has a basic requirement of
- 1GHz dual-core Intel or AMD 64bit processor,
- 2GB of RAM,
- 20GB of storage space, and needs just a
- 1024x768-pixel monitor.



Where it's Used

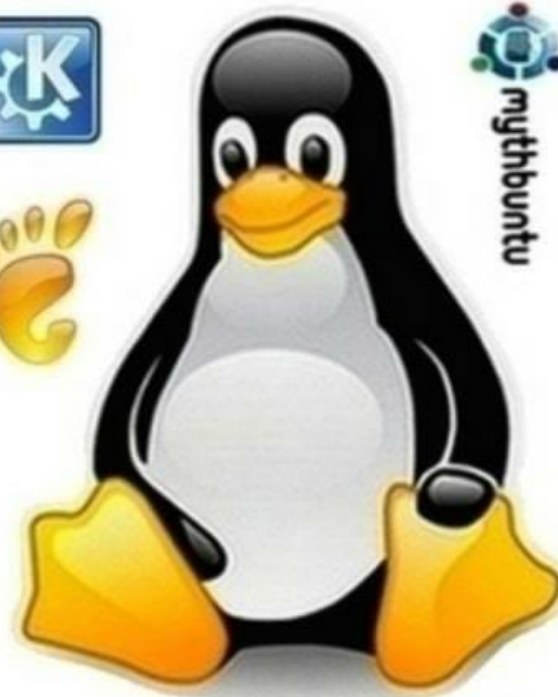
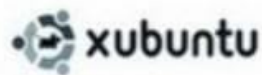
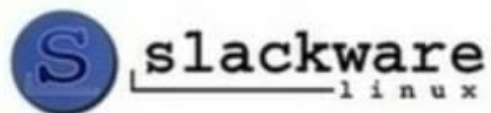
- **Servers** (web, database, cloud)
- **Smartphones** (Android is based on Linux)
- **Supercomputers** (Top 500 supercomputers run Linux)
- **IoT Devices** (routers, smart TVs, cars)
- **Desktops/Laptops** (Ubuntu, Mint, Fedora, etc.)



What's a Distribution

- A distribution – often shortened to distro
- An overarching operating system which includes the kernel, the graphical interface, the code that interfaces between different hardware elements and so on.
- But while Ubuntu, Fedora, Mint and the like are “distros”, your Ubuntu distro might be significantly different to mine.





Beginner-friendly



Ubuntu
Based on Debian



Pop!_OS
Based on Ubuntu



elementary OS
Based on Ubuntu (LTS)



Mint
Based on Ubuntu



Zorin
Based on Ubuntu



Solus
[Independent]

Intermediate



Garuda Linux
Based on Arch



EndeavourOS
Based on Arch



Manjaro
Based on Arch



MX Linux
Based on Debian



Fedora
Based on Red Hat



OpenSUSE
[Independent]

Hard mode



Arch
[Independent] – DIY



Gentoo
[Independent] – DIY



Slackware
[Independent]



Linux From Scratch
[Independent] – DIY



Qubes OS
Based on Fedora – Security



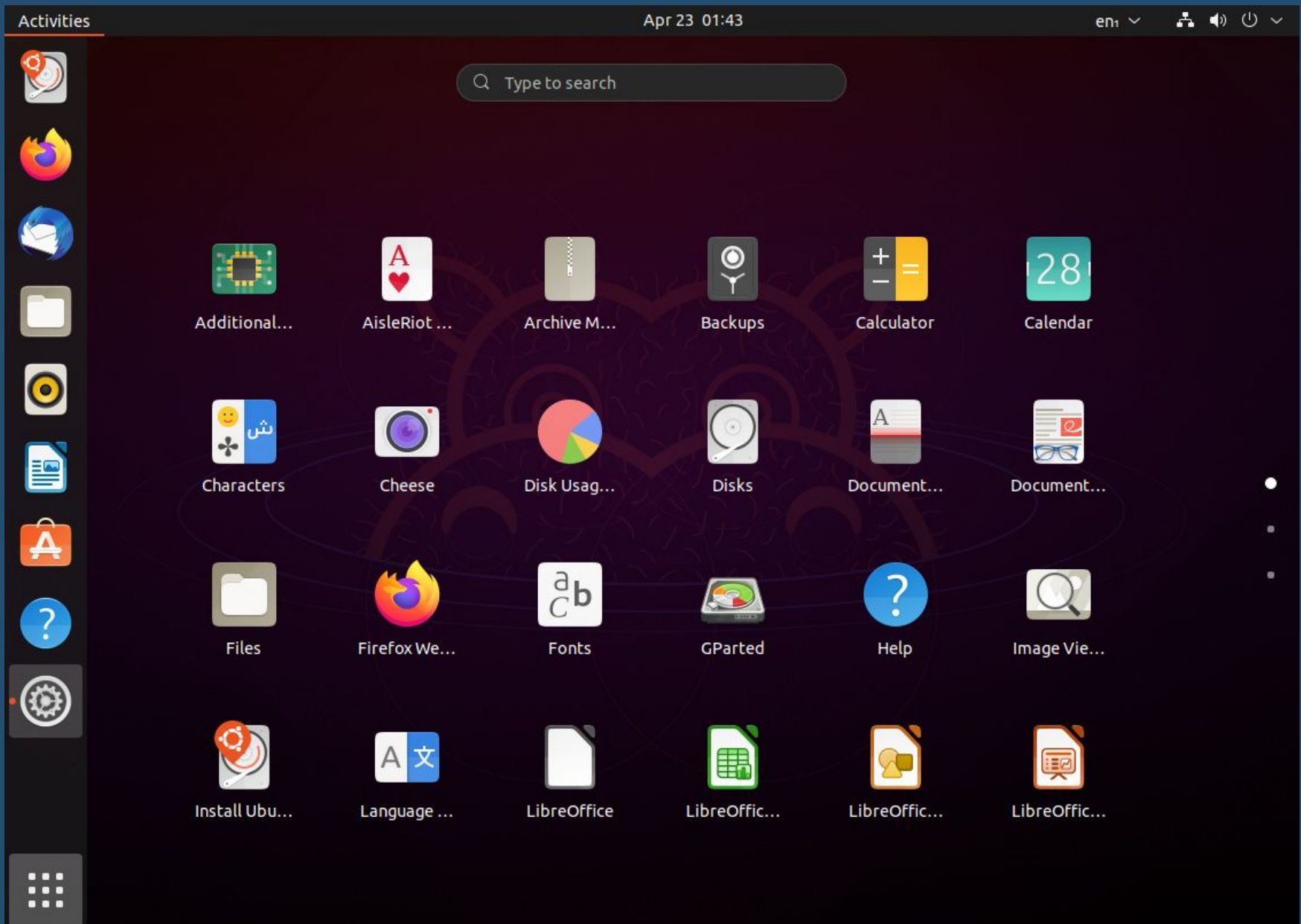
NixOS
[Independent] – DIY

What's a Distribution

- The desktop in Linux can depend on the distro. The advantage of the Linux design is that the desktop is a separate package.
- Linux distro's will guide you towards their preferred environment
 - – Gnome for Fedora,
 - – KDE for Manjaro,
 - – Cinnamon for Linux Mint
- But it's rare that you can't switch to another if you prefer.
- Ubuntu alone is available with Gnome, KDE (as Kubuntu), LXQt (as Lubuntu), Budgie, Mate, Cinnamon, Xfce and others.



A desktop view of some of the Apps that run on Linux



Let's Install Linux Mint

We need a PC, Flash drive (8 GB or more) and an ISO file.

1. We use a 'Boot from USB' app like Rufus or BalenaEtcher to install the ISO file to the Flash Drive.
2. Decide which distro you want & download it's ISO file.
 - Each file will be available for a variety of processor architectures, so make sure you choose the appropriate one for your laptop i.e. x86-32, x86-64 or AMD64.
3. Plug in the Flash drive & open the 'Boot from USB App'

NOTE : ** THIS WILL DELETE ALL THE DATA ON THE FLASH DRIVE **



Rufus 4.9.2256 (Portable)

Drive Properties

Device
[Dropdown]

Boot selection
Disk or ISO image (Please select) [Dropdown] [SELECT]

Partition scheme [Dropdown] Target system [Dropdown]

▼ Show advanced drive properties

Format Options

Volume label
[Text Box]

File system [Dropdown] Cluster size [Dropdown]

▼ Show advanced format options

Status

READY

[START] [CLOSE]

0 devices found

Using Rufus

- Choose Device
- Navigate to and select the ISO file
- Click Start
- It should less than 5 minutes
- When finished, eject the drive and get ready to plug it into the device that the new OS is to be installed on.

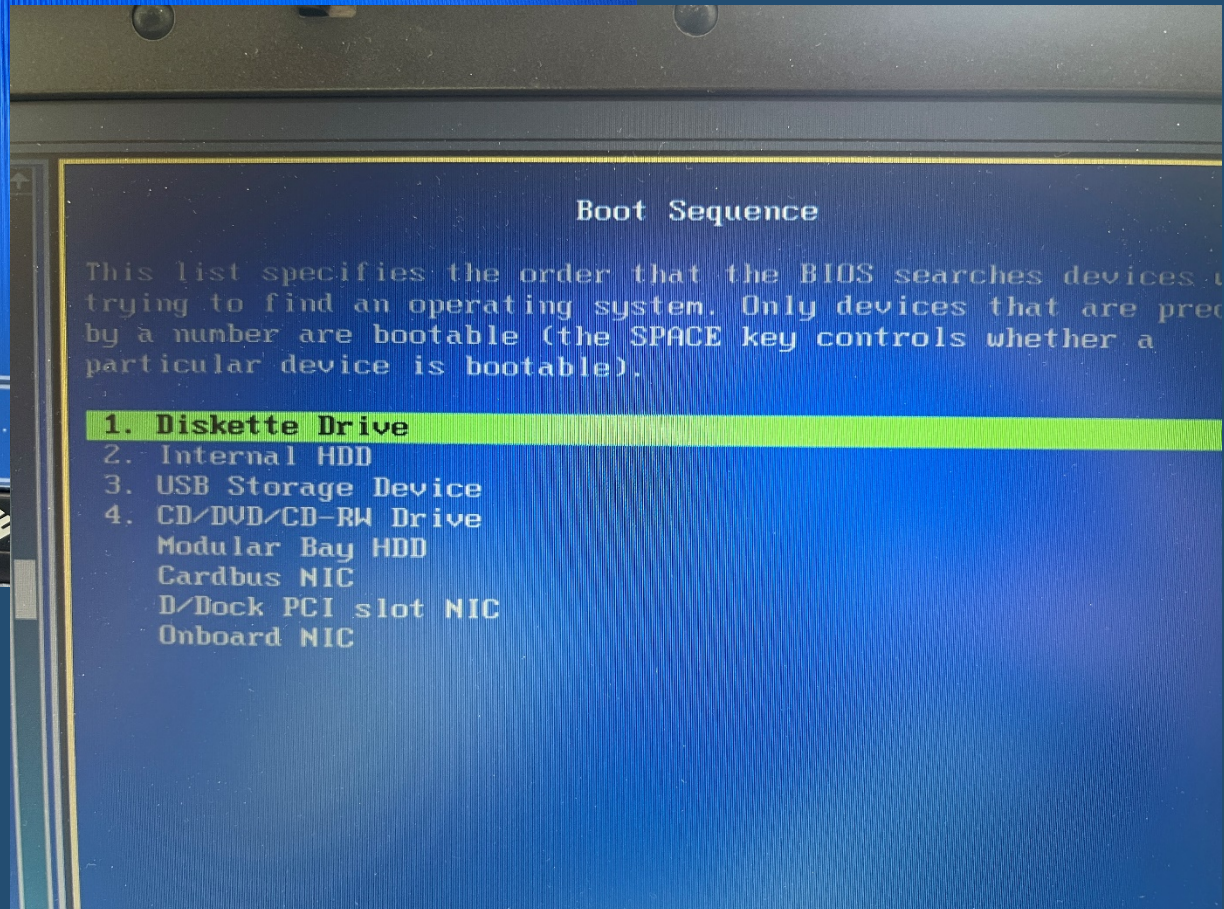
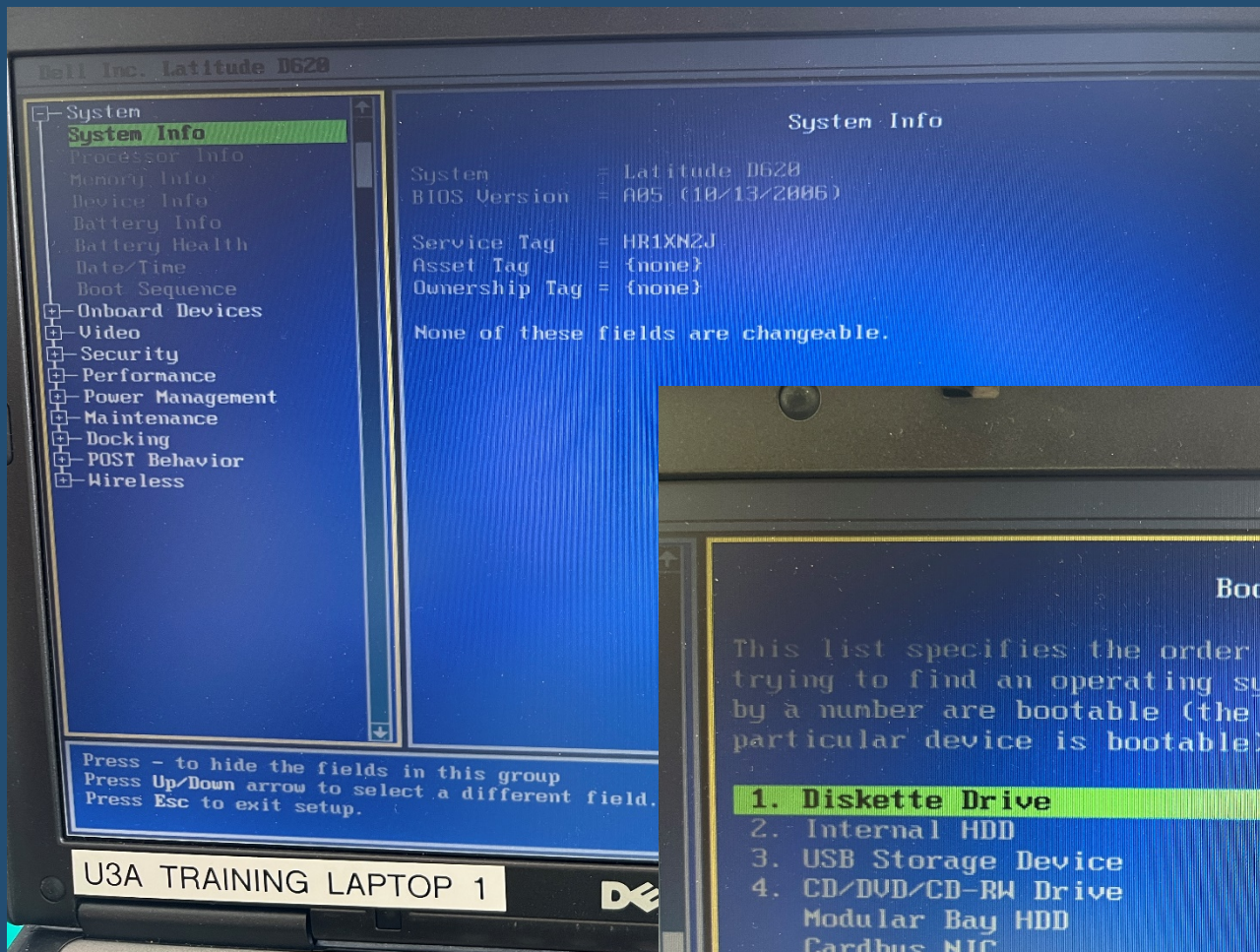
balenaEtcher

Select target 1 found

✓	Name	Size	Location
✓	SanDisk Ultra USB Device	30.8 GB	D:_E\

[Cancel] [Select 1]

Then check your Laptop BIOS to ensure you can boot from a USB drive



**** WARNING ****

At this point you must make sure you've backed up or saved elsewhere, any data on the Laptop or PC that you need to keep.

This process will reformat the Laptop's HDD and delete all data on it.

THIS WILL DELETE ALL THE DATA



Let's Install Linux Mint

Now start or reboot the Laptop

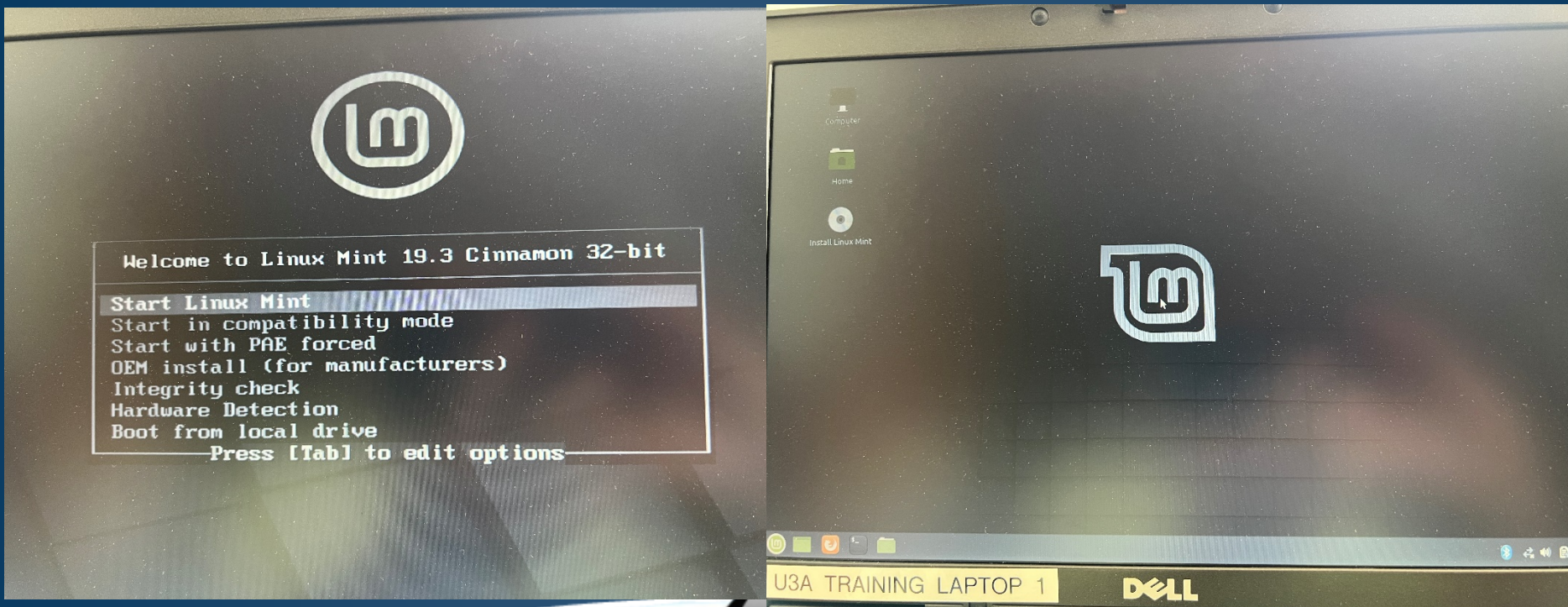
You might just boot from Flash Drive but you might have to select the Boot option to start from an external drive. This is usually shown briefly during the boot process. If it isn't, common options are F2, F10, F11 or F12. Search online for your specific motherboard or computer manufacturer.

What happens next depends on the build of Linux you're installing. Some will launch a dedicated installer immediately, but many will initiate a live environment in which you can use most of the operating system's features directly. This may be overlaid by a dialog offering to install the OS, or there may be a shortcut to this on the desktop. In either case, initiate the process.

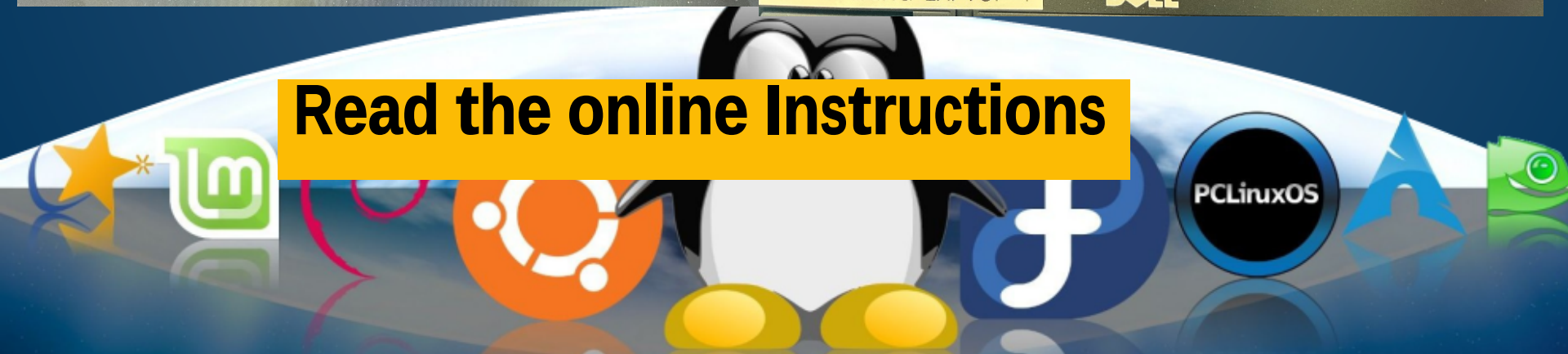


Let's Install Linux Mint

With Linux Mint



Read the online Instructions



Demo Time



References

- https://linuxmint-installation-guide.readthedocs.io/_/downloads/en/latest/pdf/
- <https://www.gnu.org/>
- <https://www.linuxmint.com/>
- <https://rufus.ie/en/>
- <https://etcher.balena.io/>
- <https://www.rankred.com/best-linux-distros/>
- <https://www.linux.org/pages/download/>



The End

And Remember, It's Free !!

