1 Introduction

1.1 What is Ubuntu ?

Ubuntu, pronounced oo-BOON-too, is a freely available and open-source operating system rooted in Debian Linux. Canonical, founded by Mark Shuttleworth and a team of Debian developers in 2004, launched Ubuntu 4.10 in October of the same year. The term "ubuntu" comes from southern African Nguni languages and translates to "humanity to others." Canonical aimed to create a user-friendly desktop OS, succeeding in making Ubuntu highly regarded, especially among those new to Linux. Over time, Ubuntu has expanded its usage beyond desktops to servers, cloud platforms, and Internet of Things (IoT) devices.

2 Install Ubuntu desktop

2.1 Ubuntu desktop

Ubuntu Desktop refers to the version of Ubuntu designed for desktop computers (as opposed to Ubuntu Server, for example). It is a version of Linux meant to be used with a user-friendly graphical interface, suitable for everyday use on personal or professional computers.

2.2 Overview

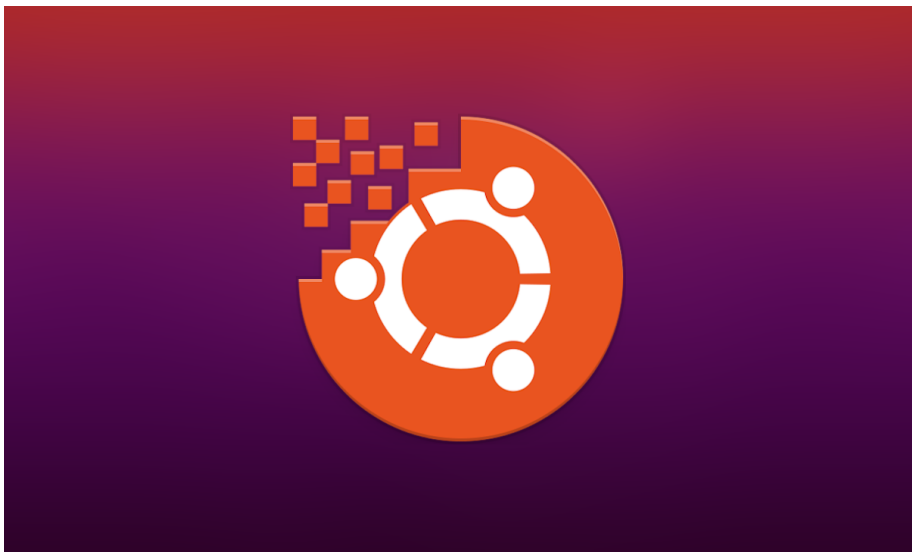

FIGURE 0.1 – How to install Ubuntu desktop

❖ **What you'll need**

* A laptop or PC with at least 25GB of storage space.

* A flash drive (12GB or above recommended).

2.3 Download an Ubuntu Image

You can download an Ubuntu image here. Make sure to save it to a memorable location on your PC ! For this tutorial, we will use the latest Ubuntu 24.04 LTS release (available on April 25th 2024) which uses the new Ubuntu Desktop installer that will be included in all future Ubuntu releases. If you are installing an older version of Ubuntu, such as Ubuntu 22.04 LTS, you will find that the visual presentation of the installer is different, but the overall flow should remain similar.

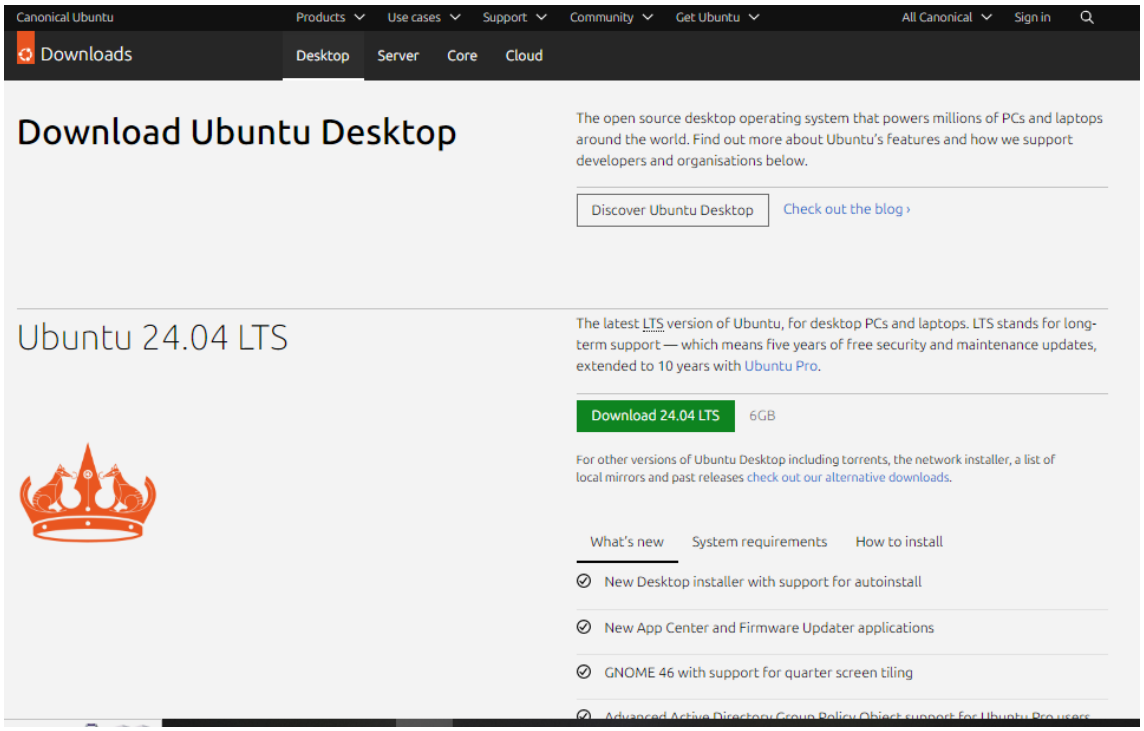

FIGURE 0.2 – Download Ubuntu 22.04 for desktops

2.4 Create a Bootable USB stick

To install Ubuntu Desktop, you need to write your downloaded ISO to a USB stick to create the installation media. This is not the same as copying the ISO, and requires some bespoke software. For this tutorial, we'll use "balenaEtcher", as it runs on Linux, Windows and Mac OS. Choose the version that corresponds to your current operating system, download and install the tool.

FIGURE 0.3 – Bootable USB

FIGURE 0.4 – Bootable USB stick

Select your downloaded ISO, choose your USB flash drive, and then click Flash ! to install your image.

2.5 Boot from USB flash drive

Insert the USB flash drive into the laptop or PC you want to use to install Ubuntu and boot or restart the device. It should recognise the installation media automatically. If not, try holding F12 during startup and selecting the USB device from the system-specific boot menu. Once the installer has initialized you will be invited to choose your language

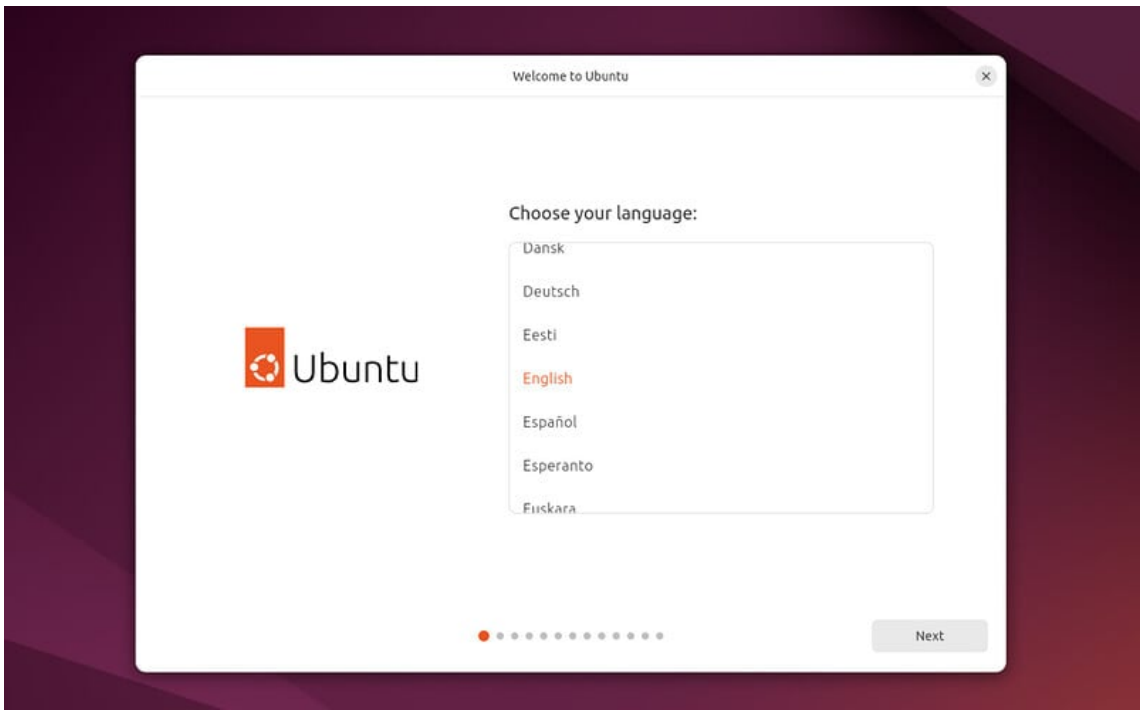

FIGURE 0.5 – Language

❖ **And then presented with the option to select any accessibility settings your require.**

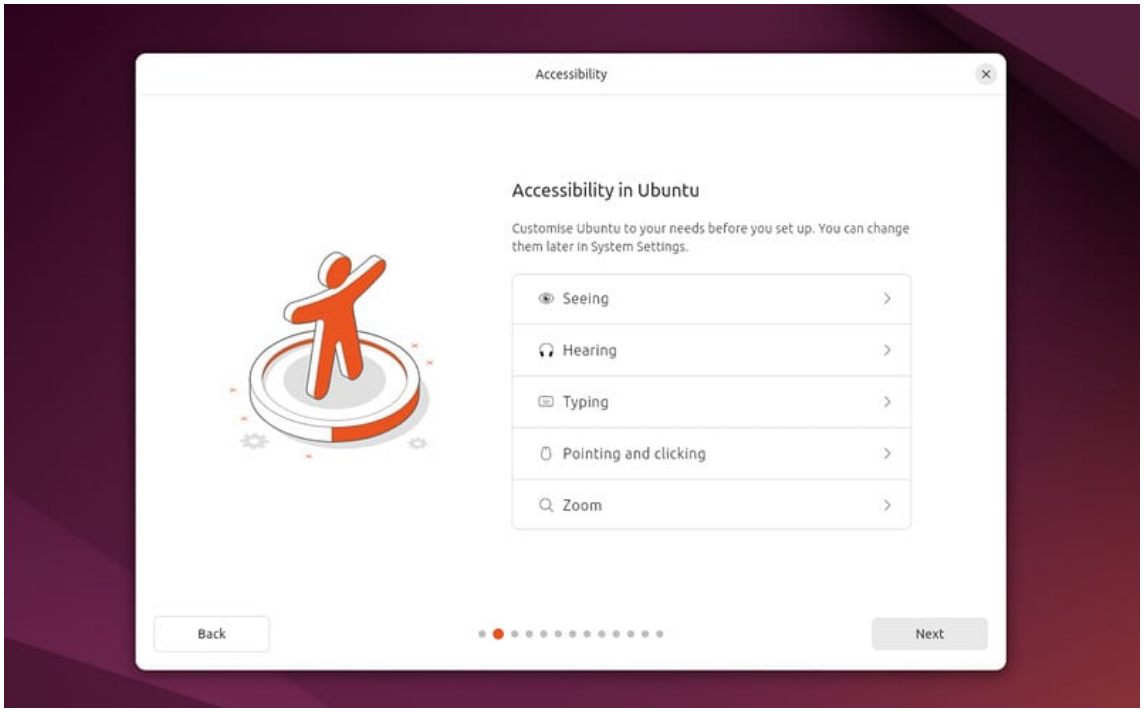

FIGURE 0.6 – Accessibility

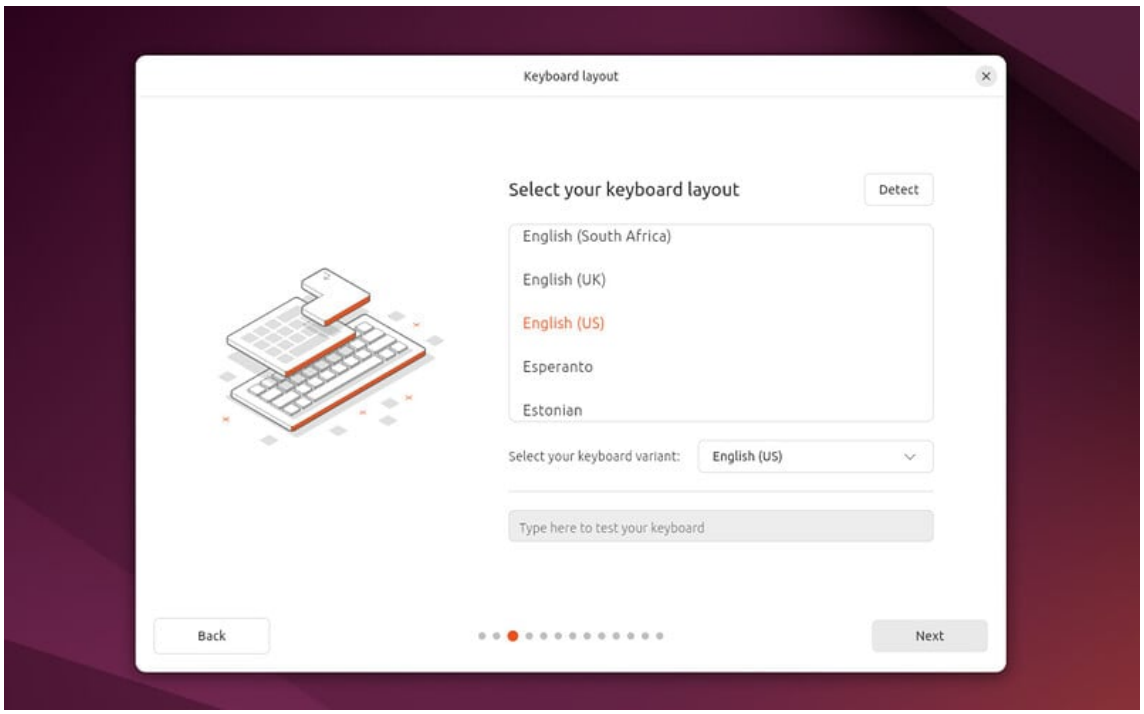

FIGURE 0.7 – keyboard layout

❖ **A connection to your network. This will allow Ubuntu to download updates and third party drivers (such as NVIDIA graphics drivers) during installation.**

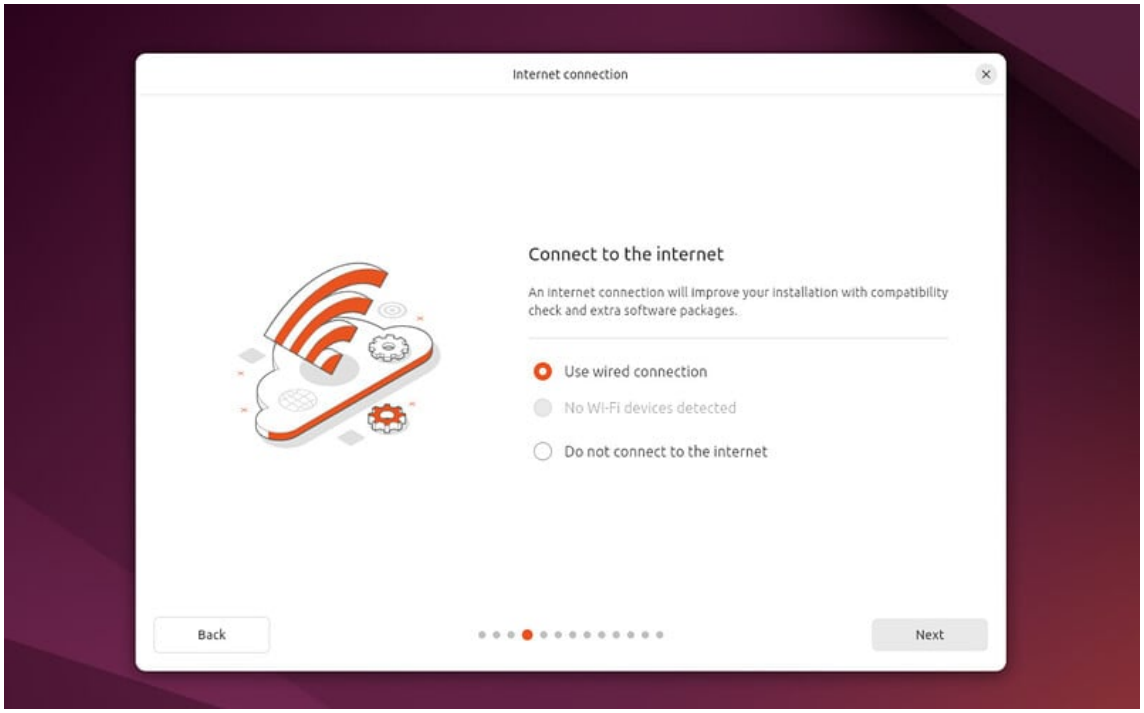

FIGURE 0.8 – Connection

❖ **You are then offered the choice to try or install Ubuntu.**

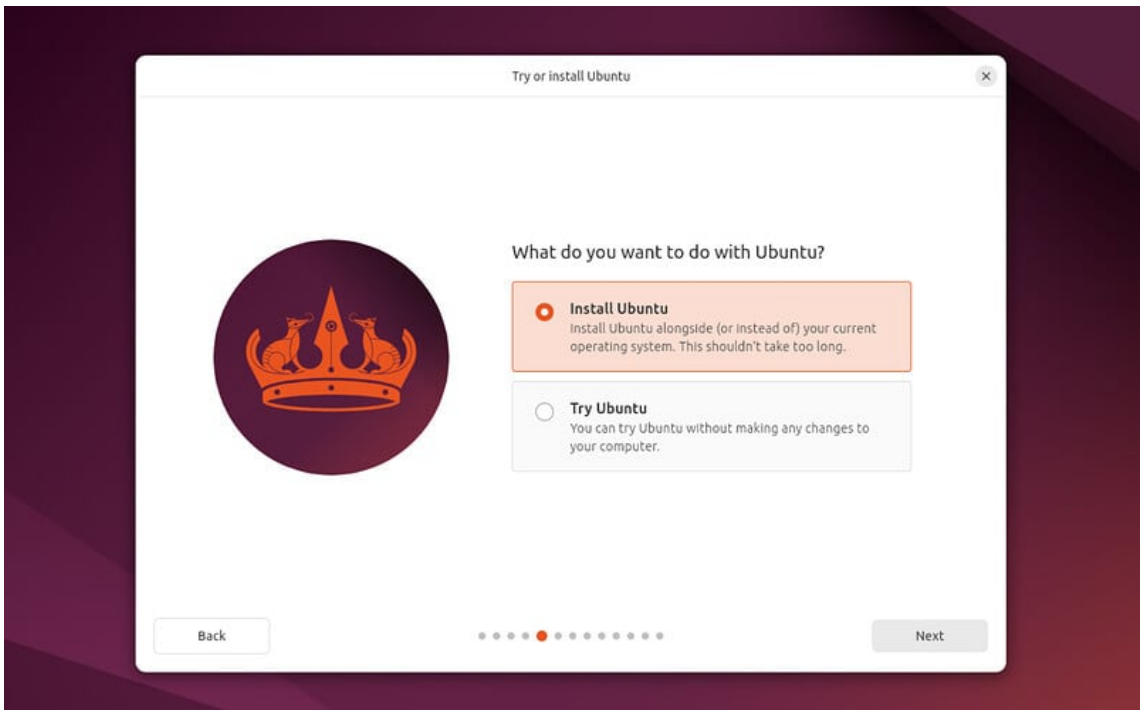

FIGURE 0.9 – Try or install Ubuntu

3 Installation Setup

You will be prompted to choose between Interactive installation and Automated Installation. The interactive option is the standard route, but more advanced users can use the automated installation option to import a configuration file from a web server to standardise multiple installs and add further customisations. An example tutorial for Automated installation is available here.

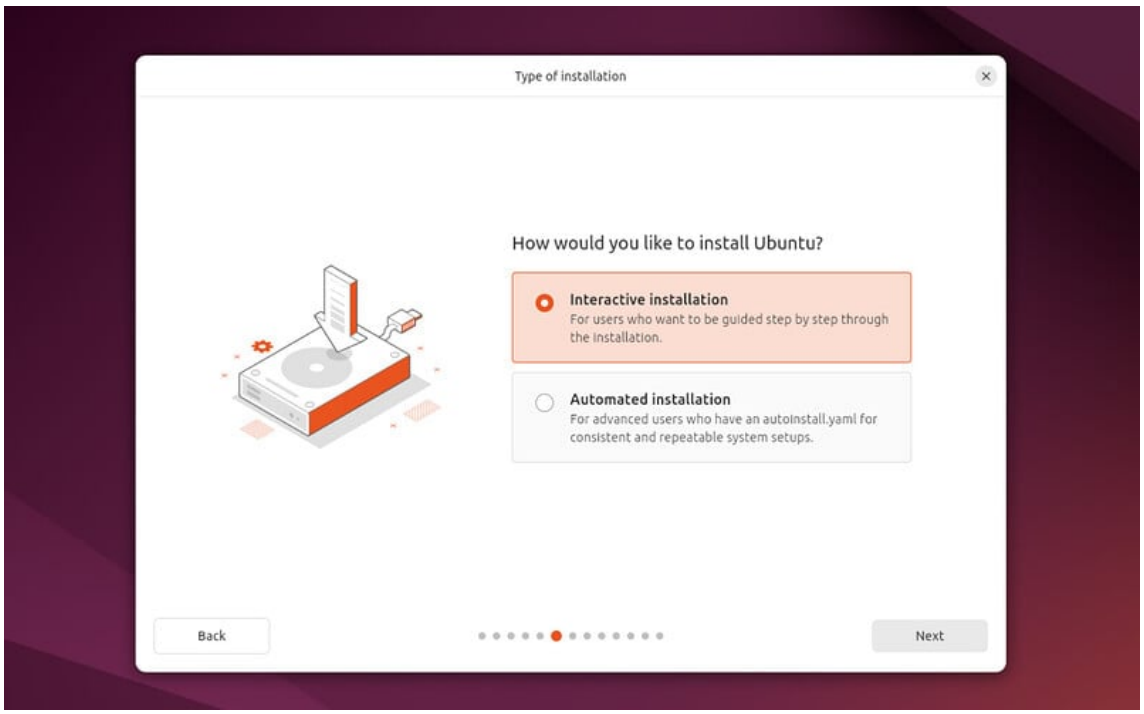

FIGURE 0.10 – How Would you like

You will be prompted to choose between the Default selection and Extended selection options. The default installation comes with the basic essentials to get started which you can then expand on after install using the App Center. The extended selection contains additional office tools and utilities, useful for offline situations.

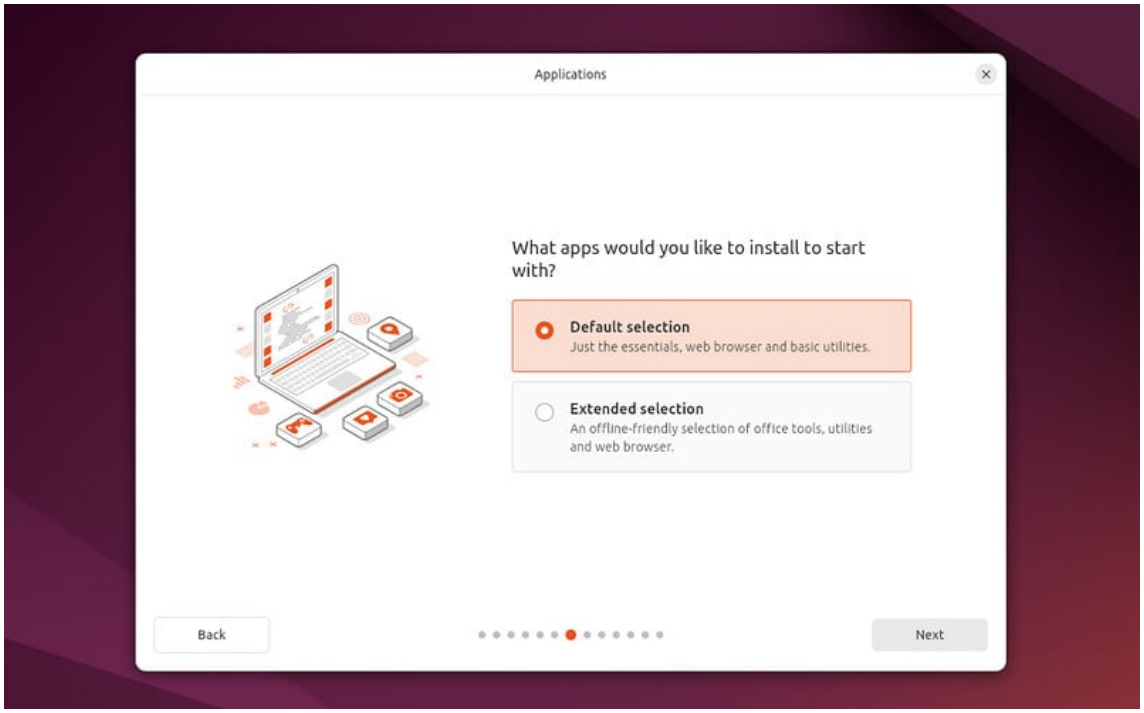

FIGURE 0.11 – Default selection and Extended selection

you will be prompted to install third-party software that may improve device support and performance (for example, Nvidia graphics drivers) and support for additional media formats. It is recommended to check both of these boxes.

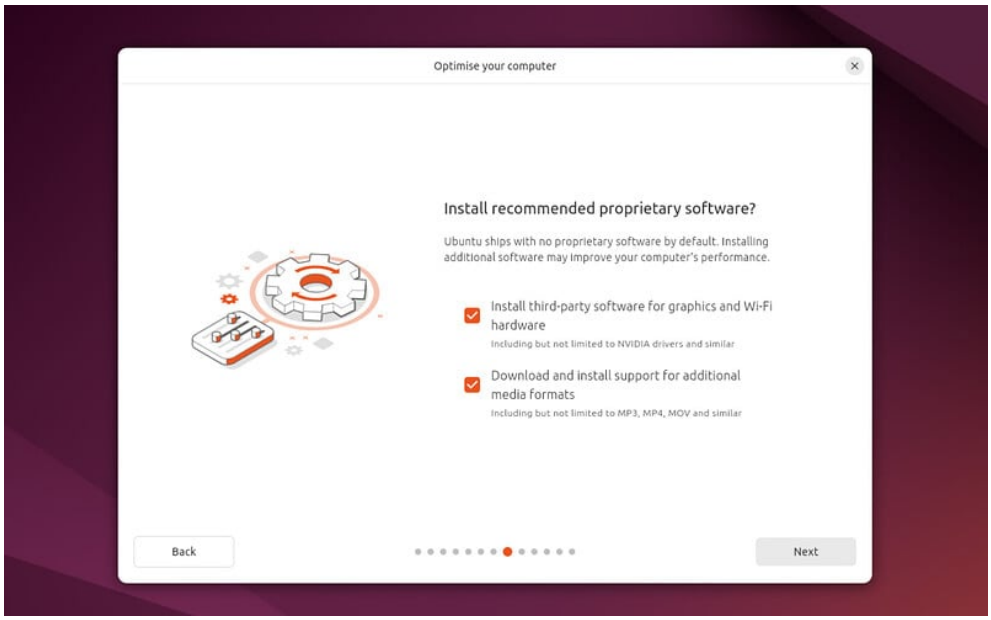

FIGURE 0.12 – Third-party software

4 Type of installation

This screen allows you to configure your installation. If you would like Ubuntu to be the only operating system on your hard drive, select Erase disk and install Ubuntu. If your device currently has another operating system installed, you will receive additional options to install Ubuntu alongside that OS rather than replacing it.

❖ In this step, I selected the language as English and proceeded by clicking on “Install Ubuntu”.

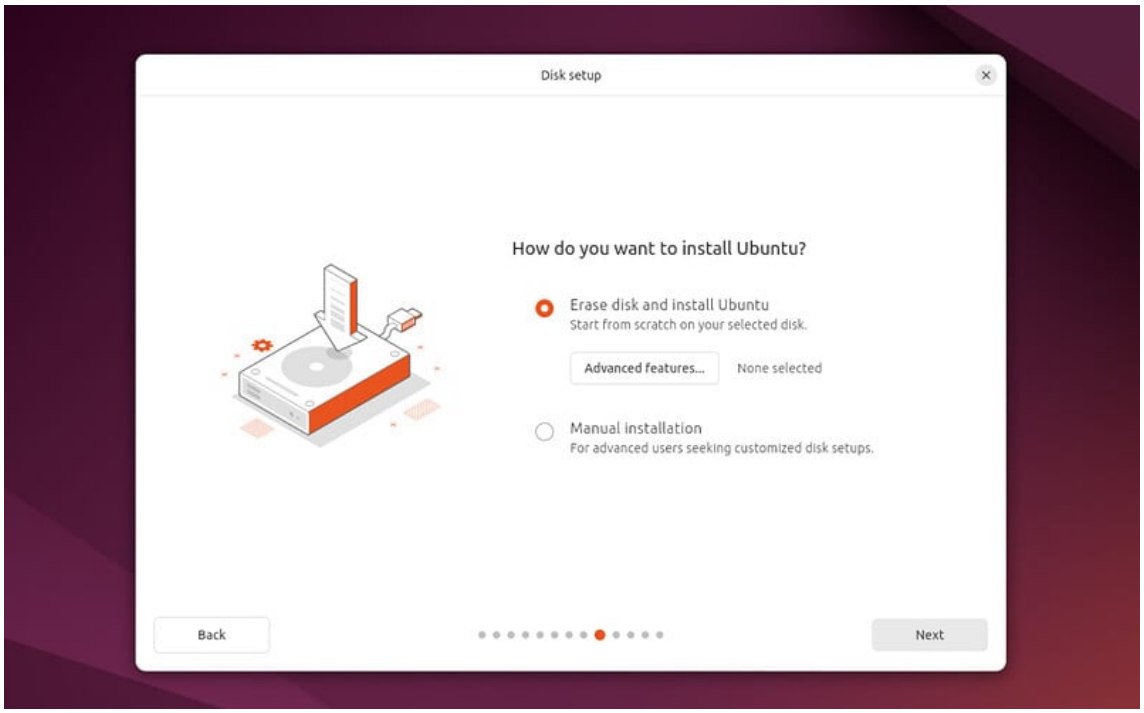

FIGURE 0.13 – How do you want

Let’s take a moment to review all of the above options in detail.

❖ **Installing Ubuntu alongside another operating system**

If you select this option you will be given a simple interface that allows you to select the drive you want to install Ubuntu on and a slider to determine the amount of disk space you would like Ubuntu to use. The available space is limited by the existing contents of the disk and is designed to avoid overwriting existing files. This view automatically selects the largest partition on the drive. For more fine-grained control you can switch to the Manual partitioning option that is detailed further down

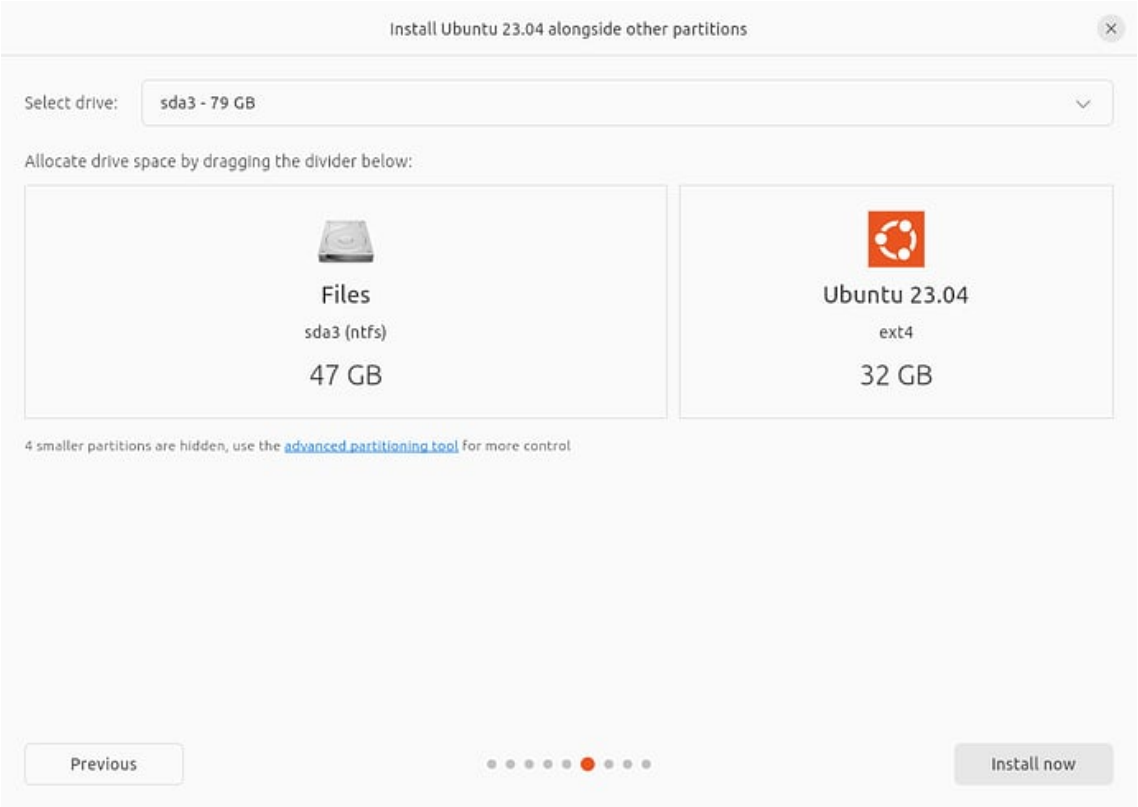

FIGURE 0.14 – The largest partition

❖ **Erase disk and install Ubuntu**

If you select this option Ubuntu will take up the entire disk space on the selected drive.

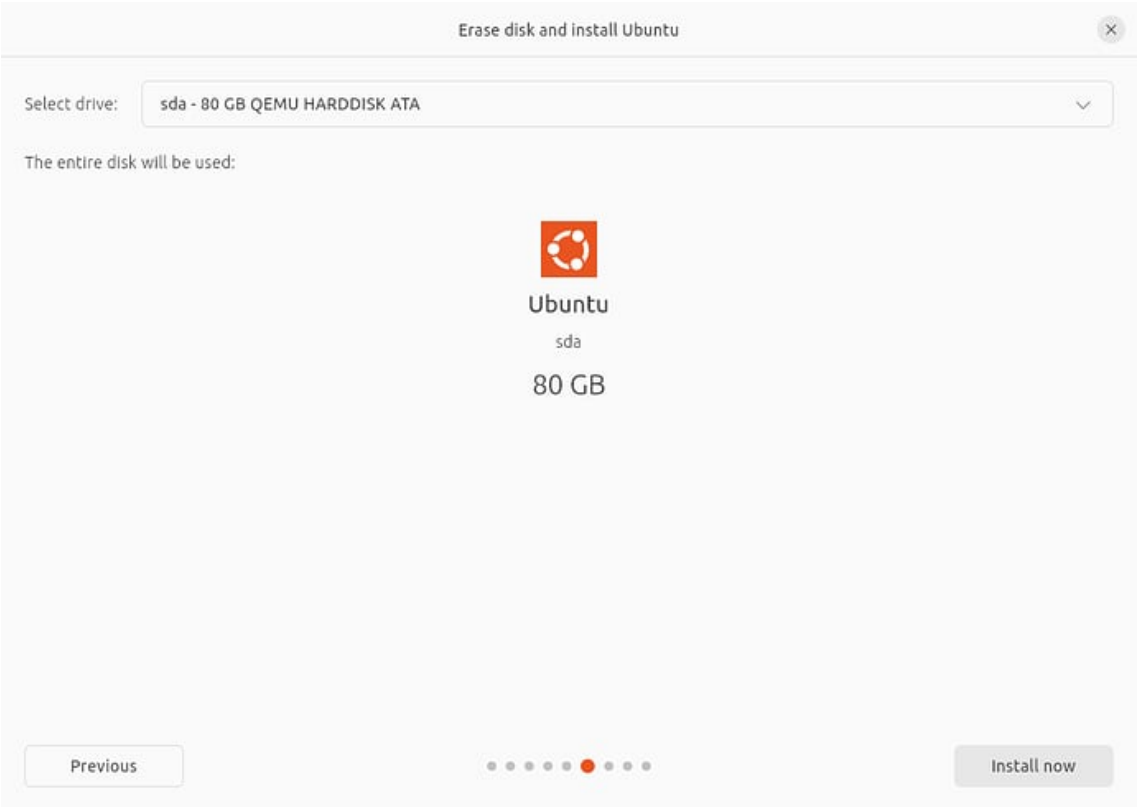

FIGURE 0.15 – Disk space

If your PC has multiple hard drives then this option allows you to install Ubuntu alongside an existing OS as long as they each have their own drive. Take care to ensure that you are selecting the right drive in this instance ! This option also allows you to encrypt your entire drive using LVM, ZFS or using the Trusted Platform Module on the device. To do this open the Advanced features option before proceeding to the above screen and select ‘Encrypt the new Ubuntu installation for security

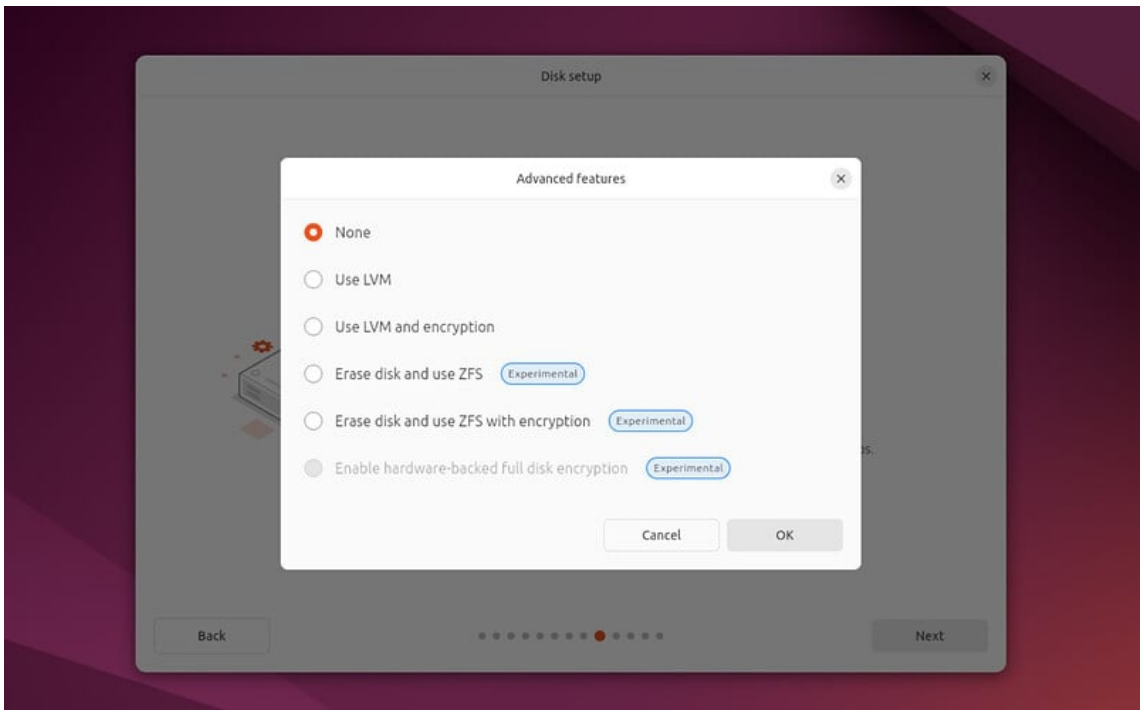

FIGURE 0.16 – Drive using

LVM stands for Logical Volume Management. By using LVM during the setup, it makes it easier to create and manage partitions post installation. ZFS allows users to create pooled storage volumes that span multiple drives as well as snapshorts and data repair features. It is a powerful option for advanced users. TPM-backed full disk encryption is a new, highly experimental feature of Ubuntu Desktop that currently supports only the generic kernel. This means that machines that require additional drivers to support webcams or NVIDIA graphics cards will not support this setup until additional features land after release. In addition, certain hardware vendors may have BIOS options enabled that alter the chain of trust. Please do not select this option unless you are comfortable debugging or re-installing in the event of an issue. If you select either LVM or ZFS based encryption you will be prompted to create a Security key that you will need to enter on boot before logging in with your user credentials.

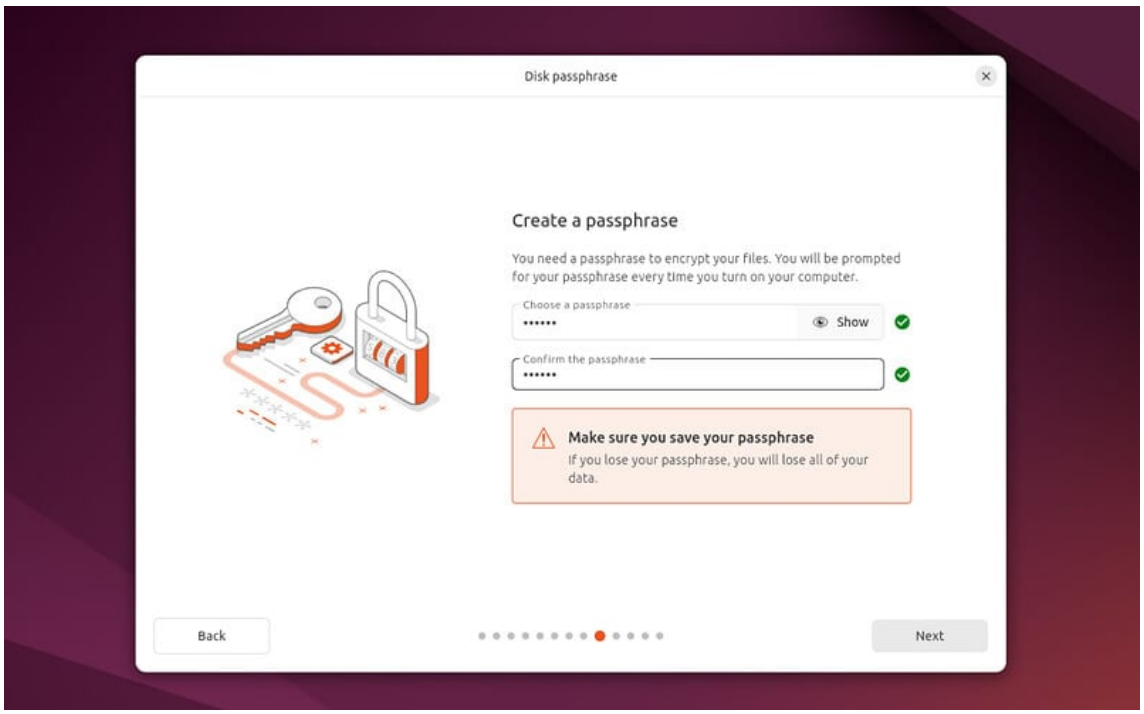

FIGURE 0.17 – Create a Security key

If you are using TPM-based Full Disc Encryption you will be prompted to run the command "snap recovery –show-keys" after installing to generate a recovery key.

❖ **Manual partitioning**

Manual partitioning is designed for advanced users who want to create specific configurations for their use-cases. As such we assume that these users will be comfortable with this interface and will not go into detail during this tutorial on specific setups. Here users can see all existing drives and partitions and create and manage new partition tables and configurations.

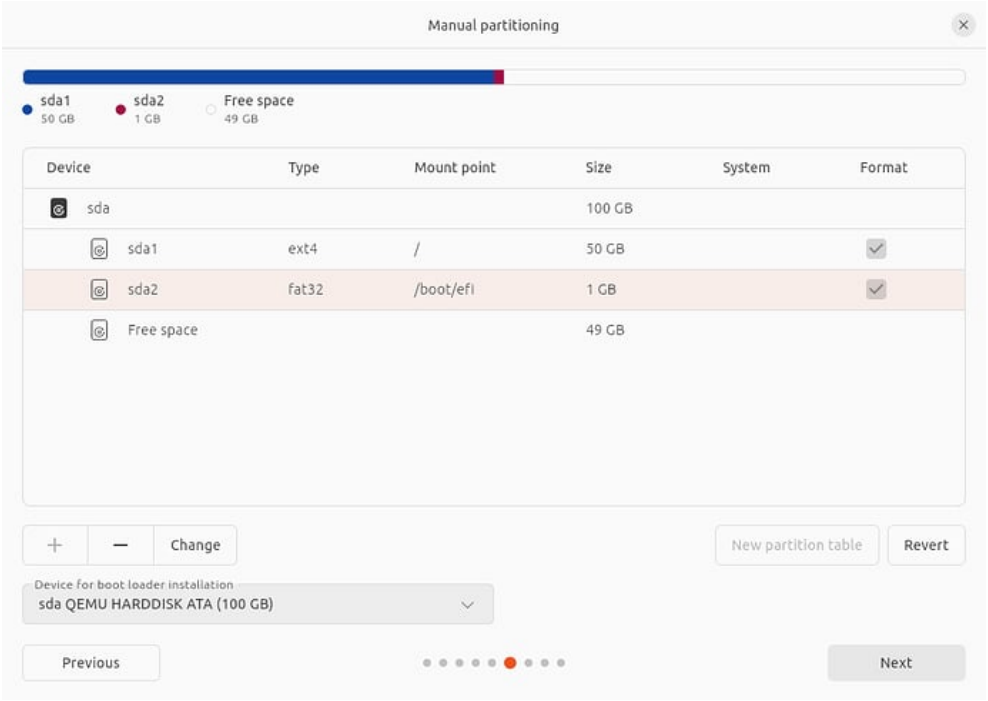

FIGURE 0.18 – Manual partitioning

❖ **(Alert) Windows BitLocker is enabled** If your device has Windows BitLocker Drive Encryption enabled then Ubuntu will not be able to gather the drive information it needs to install Ubuntu safely alongside Windows. If this is the case you will get a prompt to disable BitLocker in Windows before restarting the Ubuntu installer.

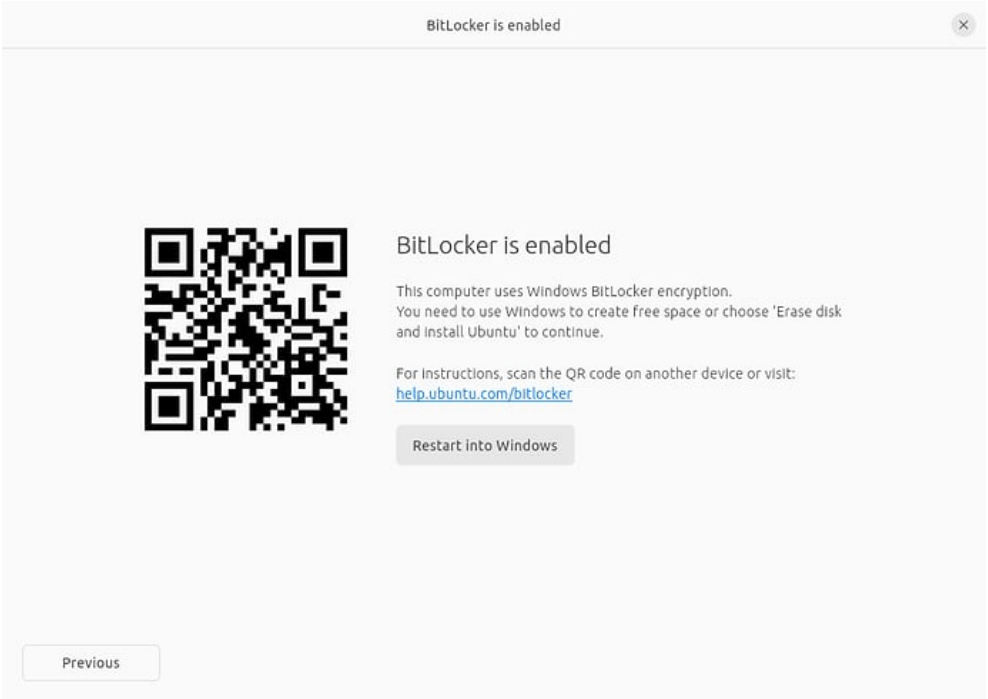

FIGURE 0.19 – BitLocker

5 Create Your Login Details

On this screen, you will be prompted to enter your name and the name of your computer as it will appear on the network. Finally, you will create a username and a strong password. You can choose to log in automatically or require a password. If you are using your device whilst travelling, it's recommended to keep "Require my password to log in" enabled.

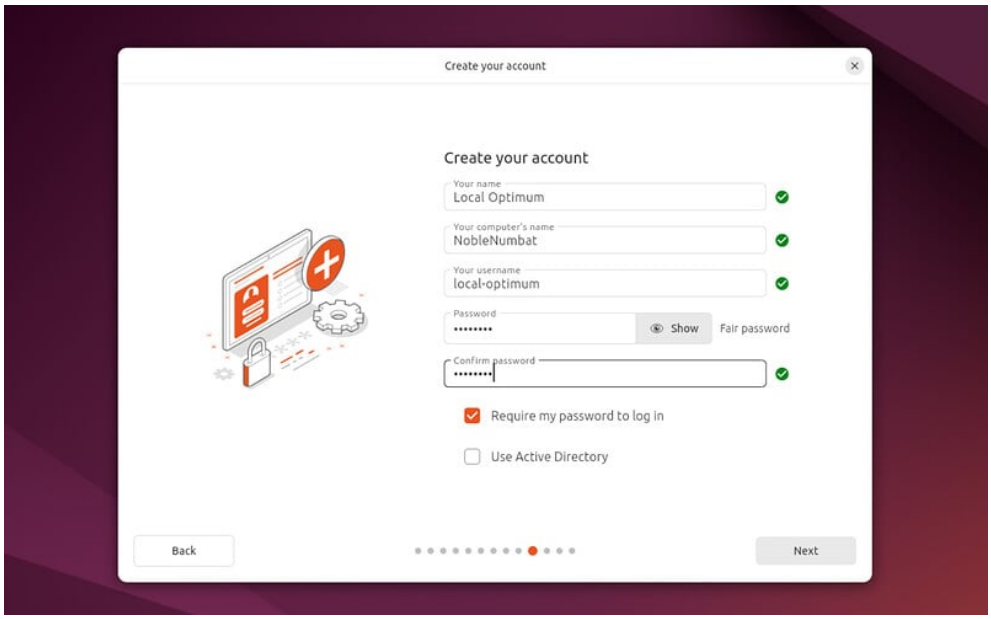

FIGURE 0.20 – Login Details

6 Choose your Location

Select your location and timezone from the map screen and click Continue. This information will be detected automatically if you are connected to the internet.

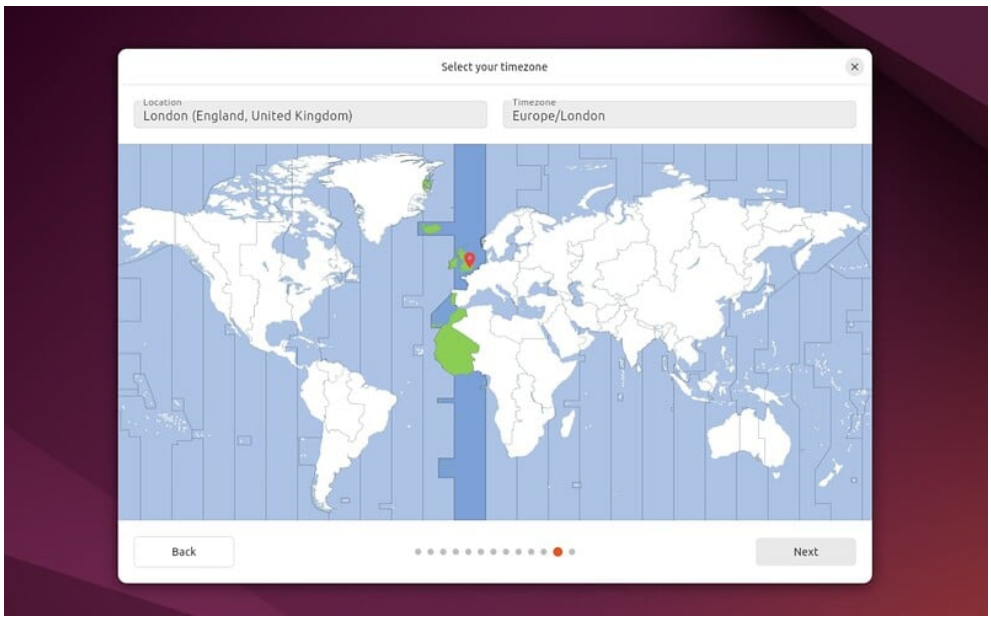

FIGURE 0.21 – Location

7 Ready to install

Clicking Next will take you to a summary of your installation configuration to give you a chance to confirm your setup before clicking Install.

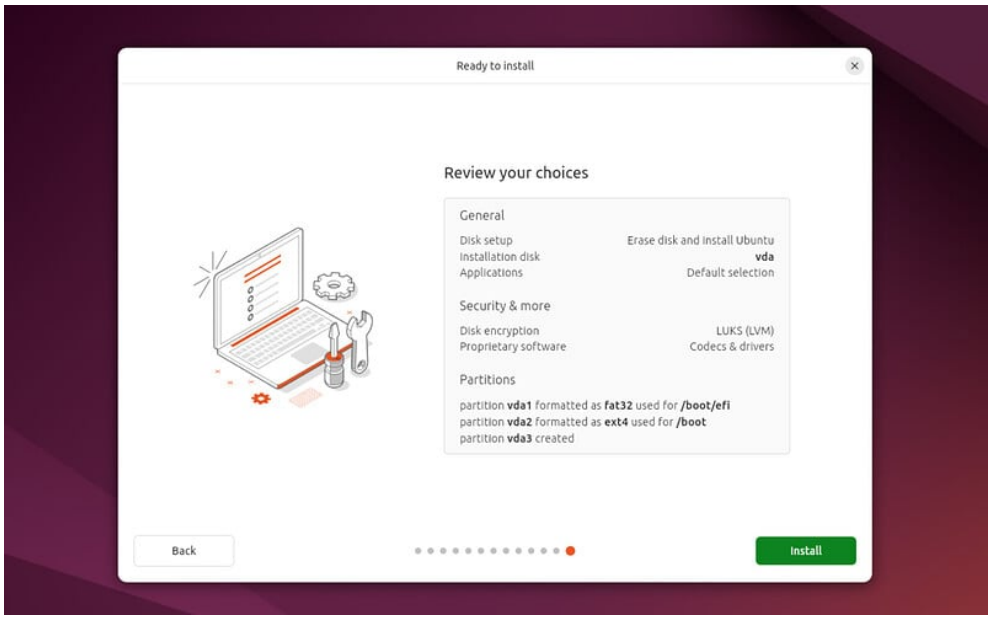

FIGURE 0.22 – Installation configuration

8 Complete the Installation

Sit back and enjoy the slideshow as Ubuntu installs in the background

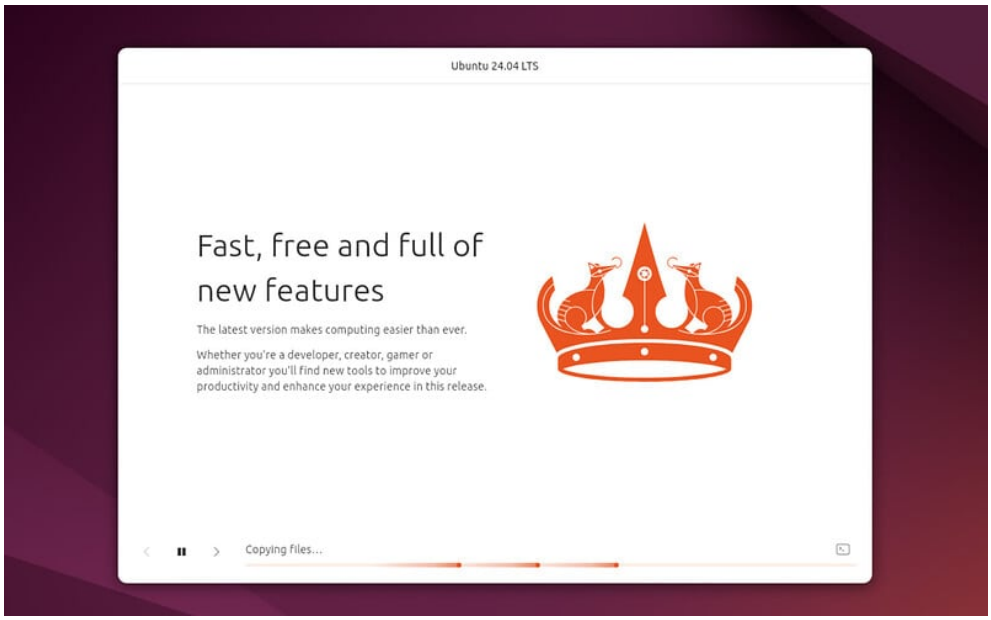

FIGURE 0.23 – background

Alternatively you can see a detailed output of the installation process by clicking the icon in the bottom right corner of the window. Once the installation has completed, you will be prompted to

restart your machine. Click Restart Now. When you restart, you will be prompted to remove your USB flash drive from the device. Once you've done this, press ENTER.Enter your encryption password if you created one.

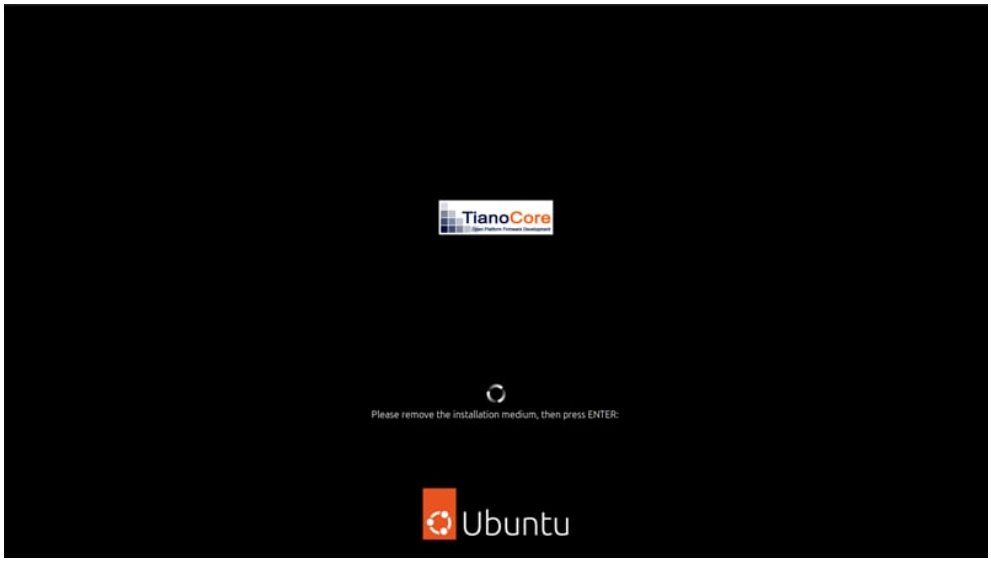

FIGURE 0.24 – Installation process

❖ **And that's it, welcome to your new Ubuntu Desktop**

FIGURE 0.25 – Ubuntu Desktop

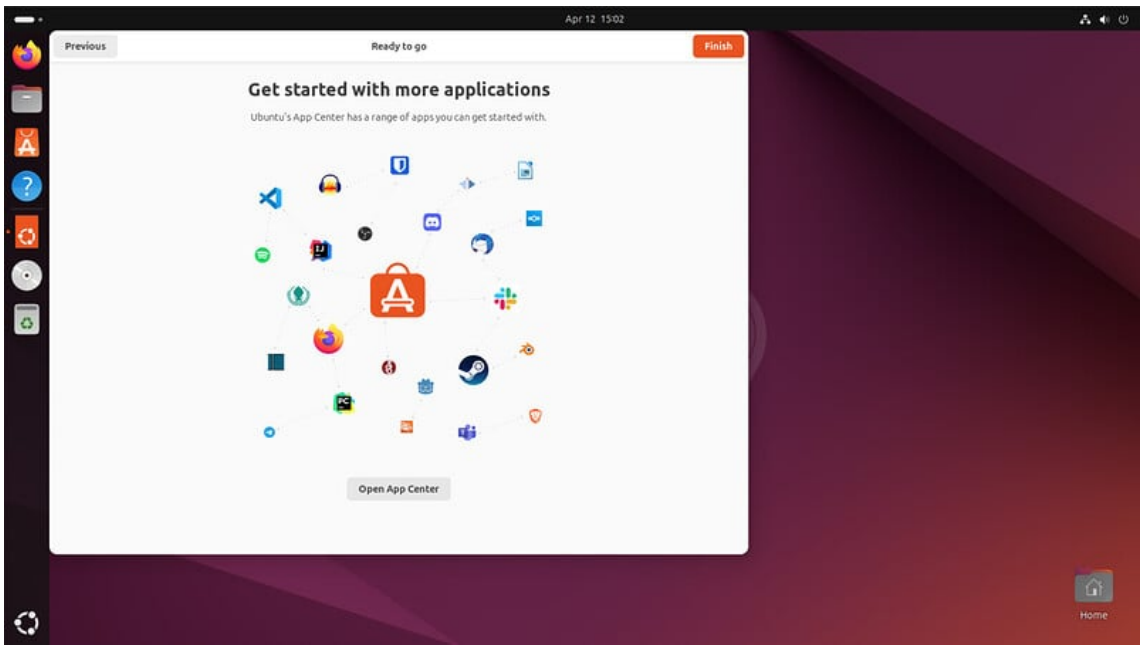

FIGURE 0.26 – Get Started