



Beginning Ubuntu for Windows and Mac Users

Start Your Journey into Free and
Open Source Software

—

Third Edition

—

Nathan Haines

Apress®

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and Open Source Software**

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Beginning Ubuntu for Windows and Mac Users: Start Your Journey into Free and Open Source Software

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ISBN-13 (pbk): 978-1-4842-8971-6
<https://doi.org/10.1007/978-1-4842-8972-3>

ISBN-13 (electronic): 978-1-4842-8972-3

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Printed on acid-free paper

For Alexander, who eats everything, will try anything, and is constantly learning.

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About the Author

Nathan Haines is an author, instructor, speaker, and computer consultant who fell in love with Ubuntu in 2005, and helped found the Ubuntu California Local Community Team to share that excitement with others. As a current leader of the Ubuntu California Local Community team and a member of the Ubuntu Local Community Council, he works to help others share Ubuntu worldwide.

He got started in IT support during high school, when he got an after-school job helping the campus technician and later worked over the summer at his high school, then his school district, and finally at his college, learning technical writing along the way. He later taught computing classes to professionals and worked his way up to the highest levels of technical support and consumer service.

When not working with computers, he's more than likely admiring the latest Nintendo hardware, wishing he had more time for retro console and PC gaming, and indulging in linguistic curiosity by studying German or dabbling in Old English or Tolkien's constructed Elvish languages. The queue of sci-fi and fantasy books on his Kindle is probably growing instead of shrinking, although sometimes camping trips help with that.

Despite a knowledge of HTML that was forged in 1995 with Internet Explorer and Netscape Navigator 2.0, Notepad, a lot of browser refreshing, and stone knives and bearskins, he manages to keep a website online that is standards-compliant but always in need of updating at <https://www.nhaines.com/>.

As a translator and hybrid author who enjoys stiff drinks, moonlit walks on the beach, and five-star Amazon reviews on his books, he would love to hear from you at nathan@nhaines.com or nhaines@ubuntu.com.

About the Technical Reviewer

Didier Roche-Tolomelli is an Ubuntu Core Developer for many years. He started his Ubuntu journey in 2004, being active in the French Local Community Team. He then contributed more on a technical level, packaging for the desktop. Since then, he got involved in more and more core activities in Ubuntu: archive administrator and main inclusion reviewers. He is currently working at Canonical as a technical lead developer in the Ubuntu Desktop Enterprise team. During his spare time, he goes hiking, but also builds things with his hands. Recently, he started real-world hacking with 3D printing, rescuing broken items and making tailored crafted tools.

Acknowledgments

I was able to write this book thanks to the love and support of many people.

So thanks to all of the teachers and staff at school and college that got me started in computer support and technical writing—too many to mention, although I’m sorely tempted. Their encouragement of my interest in computers and programming and the opportunities they created set me down the path I’m on today.

Thanks to my family who have put up with my obsession for computers and video games even in a pre-Internet world. The cyberspace of the 1980s and 1990s that I once so clearly envisioned is very different from how we live today in how seamlessly we’ve woven it into our everyday lives. I think that turned out even better. Thanks, Michael and Sylvanna, Mom, John, Dad, Doris, Jon, Teasha, and Holland.

Thanks to all my friends who have meant so much to me along the way: David, Lutz, Anna, Emily, Casey, Kelly, Andy, Markus, Justin, Tom, Matt, Jerome, Patrick, Andrew, Leif Arne, Eric, Marshal, and all the others who have been a constant support and inspiration. Thanks especially to indie and hybrid author friends: Ralph, Ryan, and a couple of other Nathans, among others.

Thanks to Alexander, Blair, Claudia, and Jeffrey, because sometimes you *can* choose your family.

And of course, thanks to all of my Ubuntu family and friends: Neal, Jess, Robert, Melissa, Brendan, Lyz, Akkana, George, Steve, Richard, Jono, Stuart, George, José, Sujeevan, Daniel, David, Alan, Oliver, Ian, everyone on the Ubuntu Community Council, Gareth, Ilan, Orv, Tom, Justin, and everyone at SCaLE, and everyone else who has put up with my jokes and happily welcomed my contributions to the Ubuntu project. My work has been paid back many times over.

And thanks to everyone at Apress, who were wonderfully enthusiastic and patient throughout the entire adventure! Thanks, Louise, Christine, Jim, Mark, Karen, Jessica, James, and all the others I didn’t see who worked behind the scenes to make this book the best it could be.

ACKNOWLEDGMENTS

Finally, special thanks to Christopher B. Wright, who wrote the awesome book *Pay Me, Bug!*, released it under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 (CC BY-NC-SA 3.0) License, and then gave me permission to use the cover in Figure 3-21.

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Introduction

Ubuntu is a lot of things: an operating system, a software ecosystem, a development platform, a home computer solution, a server foundation, a cloud computing paradigm, an Internet of Things platform, and a community. Ubuntu and its community of developers, contributors, and enthusiasts help to make Ubuntu a first-class experience no matter where you find it.

In this book, we're looking at Ubuntu as an amazing desktop operating system. I'll nod at other possibilities here and there, but this book will help you feel at home with Ubuntu and get things done, whether you want to create business documents, relax with music or a movie, play some games, or just look at pictures of cats on the Internet.

What Makes Ubuntu So Great?

Ubuntu works a lot differently than Windows or OS X traditionally has. It has evolved separately from these proprietary operating systems, and that makes it both exotic and unfamiliar at times. And while the general concepts of windows and launcher icons are the same, there are a lot of underlying assumptions that make Ubuntu a very different experience. The main difference is the way that the Ubuntu, Free Software, and Open Source communities all come together to form the operating system you think of as Ubuntu. These combined efforts make Ubuntu a powerful way to get work done.

Ubuntu Is Built from Many Pieces

The first thing to know is that Ubuntu is built around an operating system kernel called Linux. The kernel is the program that is responsible for coordinating all of a computer's hardware and software. It manages hardware driver support, schedules how applications run and cooperate together and communicate with hardware, and takes care of a lot of behind-the-scenes details that we don't generally worry about when it comes to using a computer.

INTRODUCTION

The kernel itself doesn't do anything on its own. It lets other software run in a way that can be built around the operating system and not the specific hardware. This means that a lot of other software must be written to be used with the Linux kernel and distributed alongside that kernel in order to produce a working, controllable computer system.

There are a lot of working parts, and the first thing you'll usually hear about when you look online is the GNU project. The Free Software Foundation rewrote a lot of the Unix *userspace tools*, or the command-line utilities that one would use to work with Unix using a text interface. The goal was to provide utilities that could be freely used, examined, and distributed. When the Linux kernel was first published in 1991, the GNU userspace was quickly brought to Linux, and together they made a complete, freely distributable operating system that others could build on.

Because it takes a lot of software working together to create a working system, it is common to see references to a GNU/Linux operating system. I won't use that convention in this book, but GNU tools are a major underpinning of most modern Linux-based systems, and we'll be using a lot of them in [Chapter 5](#).

Since 1991, Linux has been bundled with other software and distributed in a way that makes it usable out of the box. Several projects began to form such distributed bundles in different ways, and these are now known as Linux distributions, or distros for short. The first distro to focus on creating a full computer system containing only Free Software was called Debian, and since 1993 it has gathered together a vast collection of freely redistributable software that runs on over 20 different computer architectures and can be further modified for use in other projects. Ubuntu builds upon Debian for each release.

Free Software is a term of art that refers to software that can be used for any purpose, commercial or private, and can be freely examined, modified, and redistributed to others. This allowed Linux to receive improvements from others and incorporate these changes so that everyone could benefit from them. It also allowed a more and more useful collection of software to be included along with the new kernel.

Ubuntu Is Linux for Human Beings

In 2004, a Debian developer named Mark Shuttleworth decided that he wanted to take Debian and focus on releasing on a consistent time-based schedule that would offer fresh software but with special attention given to polishing the user experience and providing high-quality language translations as well. Linux distros tended to include

massive amounts of software that you had to choose between during installation, and it often took three to five CDs worth of data to download before you could start an install. In the early 2000s, this was a lot of information to download. One of Ubuntu's initial goals was to fit on a single CD and provide a beautiful desktop with one web browser, one office suite, one email client, and so on. By doing so, the install process was simple and streamlined, but additional and alternative software choices were still only a few clicks away.

Another major goal was to build a community that embraced the African philosophy of *ubuntu*—humanity toward others. Thus, the Ubuntu Code of Conduct (<https://ubuntu.com/community/code-of-conduct>) set clear guidelines for how community members should treat each other. The idea that everyone should be treated with respect and newcomers should be welcomed and celebrated worked to create an online community that was much friendlier and respectful than a lot of other technical communities. It was such a successful example that Ubuntu spread very quickly and many technical communities have adopted their own codes of conduct.

As Ubuntu continued to mature, it further distinguished itself from its origins. While Ubuntu still depends greatly on the Linux kernel, the GNU userspace, the Debian distribution, and thousands of other software projects, it still brings these components together in a way that offers a stunning and unique desktop experience right out of the box. This collaboration also allows Ubuntu to provide security updates and bug fixes to all of the software it installs on your computer.

Ubuntu has been working to redefine the desktop experience, and the Unity desktop shell is a brilliant and bold new interface that dedicates almost your entire screen to your applications but keeps your favorite applications, indicators, and hybrid local and online searches at your fingertips. In addition, a single 3.6-gigabyte DVD download results in a comprehensive, complete computing experience in only about four gigabytes of space once installed on your hard drive. From there you can add other software as you see fit.

By knowing some of the history of Ubuntu, we can see how it can be so different than other operating systems. But these differences are often strengths. Because Ubuntu is freely distributable, you can download and try it for free. And the install disc that you download can also be installed on a USB drive instead of a DVD, and you can even run Ubuntu directly from the disc and give it a try before you actually choose to install it. That means that the best way to learn more about Ubuntu is to dive in and just try it. But it also means that an Ubuntu disc can be used to test and recover data from computers that aren't working too well, even if they're not running Ubuntu.

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A wide array of software that can be arranged to accomplish any task, dozens of supported languages, and a friendly, helpful community to turn to for support and exciting activities are just some of the things that make Ubuntu so great. The rest of this chapter will help you get Ubuntu installed and up and running so that you can experience it for yourself.

Ubuntu 22.04 LTS is the latest long-term support release of Ubuntu. It provides a platform for a lot of different experiences and will continue to receive security updates until April 2027. For simplicity's sake, this book is going to assume that you are running Ubuntu 22.04 LTS installed on a computer hard drive, and Chapter 1 is going to help you set this up. But as you explore Ubuntu and become more comfortable with it, you may want to use your computer in a different manner than Ubuntu assumes. There are various flavors of Ubuntu that come preinstalled with different software selections. They are useful in a lot of different circumstances but are all variations of Ubuntu. You could install Ubuntu and end up with the same configuration as any flavor just by adding and removing software. The next chapter will describe some of these differences as well.

If you do not already have an Ubuntu DVD, visit the Ubuntu website at ubuntu.com/ and download the Ubuntu Desktop installer. Every six months a new installer called a “point release” will be available that contains all updates to that point. At the time of publication, Ubuntu 22.04.1 LTS is the latest version.

Additional Resources

No book can cover everything, and this book cheerfully doesn't try to. Topics are covered in enough detail to get you started, but with Linux and Ubuntu, you can always dig a little deeper. Apress has an amazing assortment of books on all topics and for all skill levels and is a great place to look for comprehensive guides. In addition, there is an incredible amount of resources provided by the Ubuntu community—persons just like you who are sharing what they've learned—and I encourage you to explore them and to contribute back. We all make up Ubuntu together:

- The **official Ubuntu documentation** on your computer is also available online, along with additional community-maintained help (<https://help.ubuntu.com/>).

- **Ask Ubuntu** is a question-and-answer site where Ubuntu users can help each other. It's a great place to search for help and ask specific support questions (<https://askubuntu.com/>).
- The **Ubuntu community portal** is a great place to find ways to contribute back to Ubuntu and to find resources that can assist you (<https://community.ubuntu.com/>).
- Your **Ubuntu Local Community (LoCo) Team** is filled with friendly people who are crazy about Ubuntu, and they are happy to point you in the right direction if you want to meet other Ubuntu users or help share Ubuntu with others. You can find more about your local team and view upcoming Ubuntu events in your area at the Ubuntu LoCo portal (<https://loco.ubuntu.com/>).
- Your local **Linux User Group** is filled with Linux enthusiasts, many of whom are familiar with Ubuntu. Search for them online and join them at their next meeting!
- The **Ubuntu subreddit** is a fun place for readers to highlight and discuss Ubuntu news and community matters. Read the rules in the sidebar, and if I remove your support question with a gentle reminder to use Ask Ubuntu, it's not personal! (<https://reddit.com/r/Ubuntu/>)
- **Planet Ubuntu** is an aggregate of various personal and project-related blogs that share Ubuntu news regarding announcement, development, events, parties, and other interesting topics gathered from Ubuntu member blogs (<https://planet.ubuntu.com/>).
- **Ubuntu Blog** is Canonical's portal for news, partner announcements, and industry white papers and is a place to read about Ubuntu's place in the computing industry as a whole, as well as consumer products featuring Ubuntu (<https://ubuntu.com/blog>).

There's a great, big community out there, and we're all hoping that Ubuntu will help you be more productive, have more fun, and be happier. Don't hesitate to reach out if we can help! Just remember, you're a part of the Ubuntu community, too!

CHAPTER 1

Installing Ubuntu

All things considered, installing an operating system should really be difficult and arcane. It controls your computer. After starting everything up, it loads the drivers, runs every program, orchestrates how software and hardware work together, provides the computer-user interface, and determines how you will work with your machine.

But it's not.

Those days are over. Long gone are the days when you'd have to feed the computer the Initial Program Loader from punch cards, paper tape, or magnetic tape. Flicking front-panel switches to input a bootstrap program is another forgotten ghost of computing history. Searching for driver disks to have on hand to support your new graphics or sound card mostly isn't necessary anymore. Even just watching the monitor so you know when to swap to the next installation floppy or CD is a distant memory. Today, you insert a DVD or USB drive with the installer, boot up the computer, and away you go. Installing a modern operating system is done using the same pretty, graphical interface as the end result.

Ubuntu is like Windows and macOS in that the installation media contains a comprehensive set of drivers for most hardware devices found in a common home computer, and computers have enough storage space that the installer will set up a basic running system with a standard configuration. After everything's set up, you can make changes, but everyone gets the same starting point. This makes installation fast: a standard image can be installed to the hard drive. It also makes installation easy: other than language, region, time, and user information, once the installer knows where to install the OS, it doesn't need any additional information to start installing. So it starts installing while you answer those questions. And if you have an active network connection, it guesses at the region and time settings, too.

It's not time-consuming, either. Ubuntu can be installed in 20–30 minutes, depending on how fast your disks are, and if you run the installer after clicking “Try Ubuntu” from the installation media, you can even browse the Web or play Solitaire or Mines while you wait.

There are a lot of ways to install Ubuntu, so this chapter will make some assumptions. The first is that you are using the latest long-term support release of Ubuntu, which is 22.04 LTS. The second is that you are installing Ubuntu from a DVD or a USB drive that was (at least temporarily) dedicated to holding the Ubuntu installer. These same assumptions will be made throughout the entire book. If you are new to Ubuntu, this will provide a stable, reliable starting point as you become familiar with Ubuntu.

This isn't the only way to experience Ubuntu. Newer versions such as Ubuntu 22.10 will have more up-to-date software and minor enhancements, but will require updating to Ubuntu 24.04 LTS no later than July 2024. Ubuntu 22.04 LTS is supported until April 30, 2027, although Canonical offers an additional 5 years of support after that with an Ubuntu Advantage subscription. At the time of writing, this is free for personal use for up to three computers. Three months after every Ubuntu release, Ubuntu takes the latest hardware support from the latest release and all updates released for the LTS release and creates new installation images for the latest LTS. Thus, Ubuntu 22.04.1 LTS was released on August 11, 2022, and Ubuntu 22.04.2 LTS will be released on February 9, 2023. When you download an Ubuntu LTS release, it's always better to download the newest point release, because it will provide improved hardware support as well as software updates, so that you will have fewer updates to download once Ubuntu has been installed.

Tip Find out more about Ubuntu Advantage at <https://ubuntu.com/advantage>, and sign up for a free Ubuntu One single sign-in account and get free updated support for personal use on up to three computers.

Ubuntu also has quite a few “flavors” such as Kubuntu and Xubuntu, which keep the core Ubuntu system and replace the default user interface and applications to offer a different experience that is just as reliable. All of the applications described in this book will be available and run fine on any Ubuntu flavor, but much of Chapter 2 will no longer apply because these different interfaces have varying features and distinct workflows. There are ways to add additional desktop environments to an existing Ubuntu install and gain the benefits of a flavor, and this is explained in Chapter 6. And if you later find that you prefer a different flavor of Ubuntu, you can install it directly from scratch. This will give you a cleaner, simple base that's built around your favorite interface—and you can still install any additional software you need.

This chapter guides you through the basics: preparing to install Ubuntu 22.04 LTS, performing the actual installation, and optionally switching to more advanced graphics drivers—in case you need them for gaming or additional monitor support. The remainder of the chapter will offer a brief look at additional Ubuntu flavors, giving you an idea of the differences you can expect with those interfaces during installation and daily use.

Preparing to Install Ubuntu

The first thing you'll need to do is to download and prepare installation media for Ubuntu. These are usually distributed as DVD images, but you can also prepare a USB drive as well. Installation DVDs are much easier to create than USB keys, and sometimes you will receive a copy of Ubuntu with a book, from a library, from a friend, or from a local Linux User Group or Ubuntu Local Community team. If you have any trouble with this chapter, these are very useful resources to search for. The following steps are geared toward Ubuntu, but generally apply to the other flavors of Ubuntu as well.

System Requirements

Ubuntu requires a 64-bit computer. You will also need a computer that has 3D graphics acceleration, although most computers have this feature built in.

In order to install Ubuntu, you will need to have at least 8.6 GB of hard drive space available. That said, 25 GB is a more comfortable amount to allow for additional software and storage for your own content. You'll also be happiest with a computer that has at least 8 GB of RAM, although 4 GB should also be usable on older systems. If you're installing the Ubuntu desktop on a Raspberry Pi, you'll want to use a Raspberry Pi 4 Model B or Raspberry Pi 400. The Raspberry Pi 3 works well as a server, but only has 1 GB RAM and is too slow to run the Ubuntu desktop efficiently. (Some Ubuntu flavors such as Ubuntu MATE may work well on older Raspberry Pis, although you may need to consider an older release such as Ubuntu MATE 20.04 LTS.)

You can download the Ubuntu installer from <https://ubuntu.com/download/desktop>. It will be in the form of a DVD image with an .iso file extension. Be sure to read the Known Issues/Ubuntu Desktop section of the release notes to see if there are any issues you may want to know before you begin.

Creating an Ubuntu DVD

If you want to install Ubuntu from a DVD, insert a blank DVD into your computer. In Windows, you can right-click the downloaded file, choose “Show more options,” and choose the menu option that says “Burn disc image” to write the installer to a blank DVD. In Ubuntu, right-clicking the file and choosing “Write to Disc...” will accomplish the same thing. On either OS, you will want to make sure to check the “verify” option before burning the DVD, to guard against disc burning errors.

On macOS, you can run Disk Utility and then drag the downloaded file to the left pane where your hard drives are listed. Click the Ubuntu ISO and click the Burn icon in the toolbar, and the installer will be written to the blank DVD. Make sure to enable the option to verify the burned disc.

Once the disc is burned, you’ll be ready to use it to start Ubuntu on your computer. Use a felt-tip pen to label the disc “Ubuntu 22.04 LTS,” with an accurate point release number (such as “22.04.1 LTS”) if you downloaded a later version. With this DVD, you can run Ubuntu straight from the disc, which is a great way to demonstrate Ubuntu on a friend’s computer without changing it, or to do basic computing on a computer that has malware or viruses installed or is having trouble booting up. This makes it much more useful than a simple install disc, so after you’ve installed Ubuntu, you may want to keep it in a safe place so you can use it or lend it to friends in the future.

Creating a Bootable Ubuntu USB Drive

Preparing a USB drive to install Ubuntu is a bit more complicated, but if you want to install Ubuntu from a USB drive, you will need a drive with at least 4 GB free. The drive will be formatted and all data will be erased, and it will function the same as an Ubuntu DVD, although some drives can be configured with “persistence,” which means that settings and files will be saved to the USB drive for next time you boot from it.

Windows and macOS

On Windows or macOS (or other Linux distributions), you’ll need to download a special utility to copy the installer to the USB drive. You can download the balenaEtcher from www.balena.io/etcher/. Once you install or run balenaEtcher, it’s simple to use. Click “Flash from file,” and choose the Ubuntu image you previously downloaded. Then, click

“Select target.” You will see a list of removable drives. Carefully choose the USB drive you wish to write the Ubuntu installer to. Be very careful to choose the right drive, because if you choose an external hard drive, you can lose the files on that drive, and if choose your system disk, it can make your computer unbootable and lose the files on your computer. Once you have the image and target set, just click “Flash!” and balenaEtcher will prepare your USB drive.

Ubuntu

On Ubuntu, even if you are running it from a DVD or USB drive, open the GNOME Activities Overview and search for “Startup Disk Creator.” Chose an inserted Ubuntu DVD or downloaded ISO file and then select a USB drive from the list, and click “Make Startup Disk” to create a bootable USB drive. Any inserted Ubuntu DVD or ISO located in the Downloads folder will be listed automatically. If the “Make Startup Disk” option is grayed out, you may need to use a different USB drive or delete some files to clear enough space.

For a Raspberry Pi

If you want to install Ubuntu on a Raspberry Pi, you will have to copy the image to a microSD card or USB drive that the Raspberry Pi will boot from. First, download the Raspberry Pi Imager from www.raspberrypi.com/software/. Once Imager is installed, run it and click “CHOOSE OS.” If you’ve already downloaded the image from <https://ubuntu.com/download/raspberry-pi>, then scroll to the bottom of the list and choose “Use custom.” Then, choose the img file you downloaded. If you have not yet downloaded a Raspberry Pi image, Imager can do this for you automatically. Just choose “Other general-purpose OS” and click “Ubuntu.” There will be a brief delay while Imager checks for the latest versions of Ubuntu. Choose “Ubuntu Desktop 22.04 LTS (RPI 4/400).” Next, click “CHOOSE STORAGE” and pick a microSD card or USB drive to erase and install Ubuntu on. Your Raspberry Pi may or may not be set up to boot from a USB drive, so use a microSD card if you have one. Once you have selected a drive, simply click “WRITE” and Imager will set up the card or drive. Once it’s finished, simply insert the card into your Raspberry Pi 4 while it’s powered off, and turn it on.

Booting into Ubuntu

Every computer's startup process is different. It is determined by the computer manufacturer, but more specifically by the motherboard manufacturer. When a computer turns on, it runs special software that's built into the motherboard. Traditionally this was called the BIOS, but computers built today use UEFI.

Caution If you are installing Ubuntu alongside Windows, it is very important to make sure you boot the Ubuntu installer using the same technology: this is probably UEFI. If you are installing Ubuntu on a new computer with no operating system or replacing Windows on an old computer, then UEFI is preferable, but legacy BIOS boot won't cause a problem.

On any Mac system, insert the disc or USB drive, turn on the power, and hold down the Option key until you see a list of drives. Choose your Ubuntu media with the mouse or arrow keys, and continue booting.

On other computers, you will need to configure the BIOS or UEFI to boot from your disc or USB drive. There is no standard way of doing this, so you may need to consult your manufacturer's documentation for instructions. First, insert the disc or USB drive into your computer, and then turn it on. You can usually watch the startup screen for messages such as "Press <ESC> for startup menu," "F9 to change boot device," "F12 Boot Menu," or something similar. These will let you choose a device to boot from for the current boot only. You only have a couple of seconds to press the key, so plan to let the computer boot at least twice for you to be able to locate and read the message. If your installed OS begins to boot, let it finish before restarting the computer, and then use the OS's shutdown feature. If your computer has no OS (or if you are going to completely replace it with Ubuntu), then you can simply reboot at any time.

The other option you have is to change the boot search order in your BIOS or UEFI configuration. This will change your settings until they you change them again, and may be the only way to choose a different boot device. For this you want to search your startup screen for messages like "DEL to enter BIOS" or "F10 to enter setup." You should be able to find a boot options or advanced menu with a boot order option. You'll want to move your boot device type to the top or front. Sometimes USB drives are only listed if they are plugged in when the computer turns on. Once you have changed the startup order, follow the onscreen instructions to save your changes and boot or exit the configuration.

When your computer reboots, you will know that you were successful if you see a black screen with a simple menu, as shown in Figure 1-1.

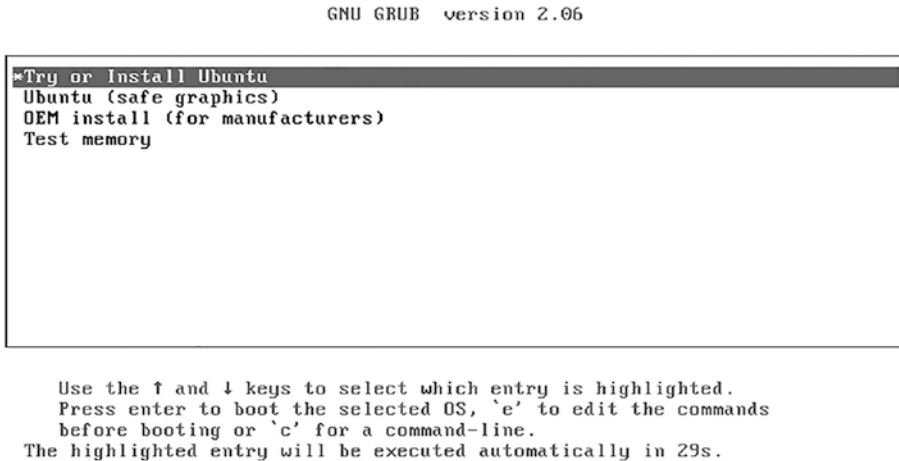


Figure 1-1. This is the Ubuntu bootloader screen. It means your computer has booted from your installation media

This menu allows you to do special things like run Ubuntu in a special compatibility mode (safe graphics) if your video card isn’t supported. It also lets you perform an “OEM install,” which can be useful if you’re setting up a computer for a friend or relative. If no keys are pressed for 30 seconds, the bootloader will start Ubuntu so that you can run Ubuntu from your install media or install it on your computer. If that’s what you want to do, you can simply press the Enter key with “Try or Install Ubuntu” highlighted and save yourself a few seconds.

Once you see the Ubuntu boot splash screen (Figure 1-2), Ubuntu is loading itself into your computer’s memory, and, after a few seconds, the Ubuntu installer will guide you through the next step in using Ubuntu.



Figure 1-2. *This screen means your computer is loading Ubuntu*

Installing Ubuntu

Canonical Ubuntu Desktop is the flagship of the Ubuntu project. Powerful and stable with an elegant user experience, this is where you should start if you have never run Ubuntu or Linux before. It features the GNOME Shell desktop interface, LibreOffice, Firefox, and Thunderbird, and is a suitable replacement for Windows and macOS in most casual desktop computer use cases.

Beginning the Install

Once Ubuntu has finished booting, it will display a welcome message (Figure 1-3). This is the first step of the Ubuntu installer, and one of only six or seven screens you will have to interact with to install Ubuntu on your computer. On the left hand side of the installer is a list of languages. From here you can easily choose the language you are most comfortable with and interact with Ubuntu in that language for the rest of the session. If you install Ubuntu, it will be installed in the language you choose on this welcome screen, although you can install additional languages after that.

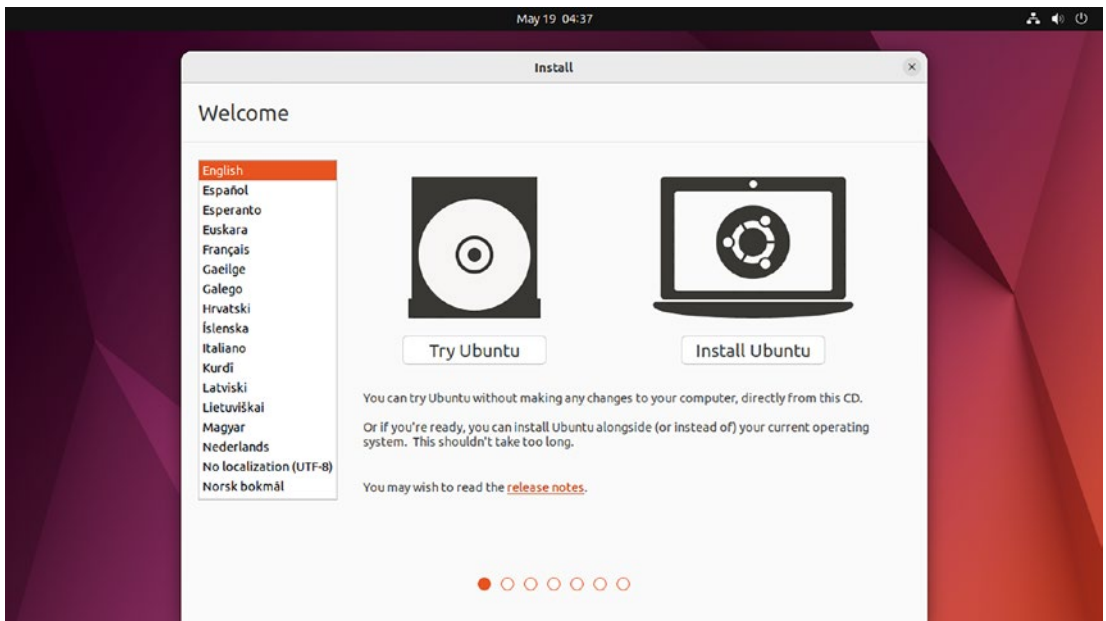


Figure 1-3. On the Welcome screen, you can easily pick a system language and try or install Ubuntu at your leisure

The first option, Try Ubuntu, will run a desktop interface with most of Ubuntu’s features and software available to you. Software updates are disabled at first, but you can run the default selection of programs and try out the Ubuntu’s custom GNOME desktop interface without installing it on your computer. This is a fantastic way to see if Ubuntu is compatible with your computer’s hardware and also allows you to try out newer versions of Ubuntu or different flavors before you upgrade. (Plus, you can browse the Web or play Solitaire if you decide to install Ubuntu after trying it.) The second option, Install Ubuntu, will allow you to confirm your keyboard layout and then immediately begin the installation process.

After you click “Install Ubuntu,” you can set your keyboard layout. The default selection is selected based on the language you chose on the installer’s first screen (not the location on the previous screen), so it’s quite likely that you won’t need to make any adjustments. If your keyboard doesn’t match the installer’s selection, then you can either select it from the list or click “Detect Keyboard Layout” and type a series of keys that will help Ubuntu narrow down the list of likely candidates for you. This shows characters in several different languages before asking some additional yes or no questions and should help you find something that matches your physical keyboard layout. Once you have made a selection, you can test your keyboard settings in the text field before clicking “Continue.”

If your computer has an active Ethernet connection, Ubuntu will try to use it to connect to the Internet. But if your computer has a supported wireless network card, Ubuntu will display a list of available networks that you can choose to connect to (see Figure 1-4). While your installation media has all of the software necessary for a complete installation, if you connect to your home network from here, the installer can download a list of the latest updates from Ubuntu’s servers and will download and install any outstanding security and translation updates. It will also save your connected wireless network to your newly installed system. Once you have decided on your network settings and click “Continue,” you’ll be offered some choices for your Ubuntu install.

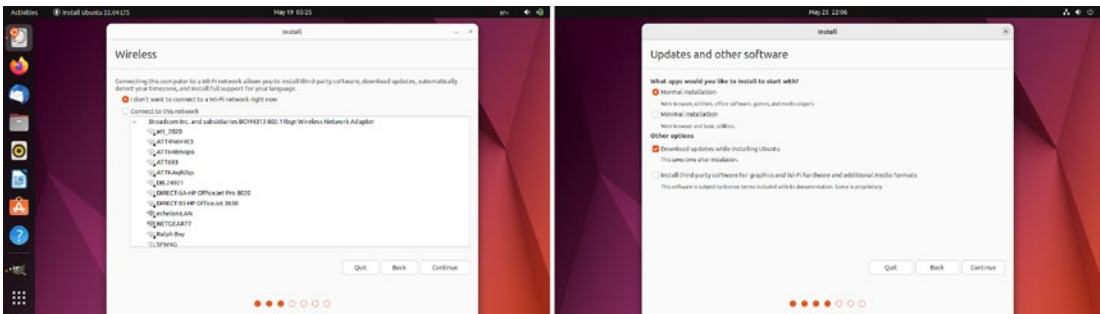


Figure 1-4. *Ubuntu will help you connect to the Internet and can download additional updates while installing*

The installer will install a basic, complete Ubuntu system, and you won’t have to choose various software packages during install. However, there are two optional choices that you can make on this screen that can install additional software.

The first option is “Download updates while installing.” This doesn’t update the entire system, but does download a list of the latest software available in Ubuntu. The installer will automatically update core software related to the install process to help ensure that installation goes smoothly, as well as any available security and language updates for the installed system. It will also update the catalog of software updates, so that you will be ready to download and install the latest bug-fix updates after your first boot.

The other option is “Install third-party software.” By default, Ubuntu is composed of software that is licensed with either a Free Software or open source license. This means that anyone can redistribute every component under relatively well-known terms. But occasionally some proprietary software is needed for a working computer system.