




# Getting Started with Ubuntu 10.04



The Ubuntu Manual Team



Copyright © 2010 by The Ubuntu Manual Team. Some rights reserved. 

This work is licensed under the Creative Commons Attribution–Share Alike 3.0 License. To view a copy of this license, see Appendix A, visit <http://creativecommons.org/licenses/by-sa/3.0/>, or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

Revision number: 585      Revision date: 2010-03-24 19:56:00 -0400



# Contents

	Prologue	7
	Welcome	7
	Ubuntu philosophy	7
	A brief history of Ubuntu	8
	Is Ubuntu right for you?	9
	Contact details	10
	Conventions	10
1	Installation	11
	Getting Ubuntu	11
	Minimum system requirements	14
	Installing Ubuntu	14
	Using the Wubi installer	23
2	The Ubuntu Desktop	25
	Understanding the desktop	25
	Managing windows	28
	Switching between open windows	29
	Getting help	29
	Using the Applications menu	30
	Using the System menu	31
	Browsing files on your computer	32
	Nautilus file browser	32
	Searching for files on your computer	35
	Customizing your desktop	35
	Accessibility	39
	Shutting down your computer	40
3	Working with Ubuntu	41
	Getting online	41
	Browsing the web	50
	Reading and composing email	61
	Staying organized	73
	Using instant messaging	77
	Microblogging	83
	Viewing and editing photos	84
	Watching videos and movies	90
	Listening to audio and music	92

	Working with documents, spreadsheets, and presentations	97
	Taking notes	98
4	Hardware	101
	Using your devices	101
	Hardware identification	101
	Keyboard and mouse	101
	Displays	101
	Connecting and using your printer	103
	Sound	105
	USB drives	106
	Burning CDs and DVDs	106
	Using a webcam	109
	Scanning text and images	110
	Other devices	110
5	Software Management	113
	Software management in Ubuntu	113
	Using the Ubuntu Software Center	113
	Different ways to obtain software	116
	Synaptic Package Manager	116
	Software Sources	118
	Updates and Upgrades	119
	Adding more software repositories	120
6	The Command Line	123
	Introduction to the Terminal	123
	Ubuntu file system structure	124
	Getting started with the command line	125
	Introducing sudo	127
	Managing software through the Terminal	127
7	Security	131
	Why Ubuntu is safe	131
	Security basics	131
	Users and groups	133
	Setting up a secure system	135
8	Troubleshooting	137
	Resolving problems	137
	Troubleshooting guide	137
	Getting more help	144

9	Learning more	145
	What else can I do with Ubuntu?	145
	Open Source software	145
	Distribution families	145
	32 bit or 64 bit?	148
	Learning even more	148
A	License	149
	Creative Commons Notice	156
	Glossary	157
	Credits	159
	Index	163





# Prologue

## Welcome

Welcome to *Getting Started with Ubuntu*, an introductory guide written to help new users get started with Ubuntu.

Our goal is to cover the basics of Ubuntu (such as installation and working with the desktop) as well as guide you through some of the most popular applications. We designed this guide to be simple to follow with step-by-step instructions and plenty of screenshots, allowing you to discover the potential of your new Ubuntu system even if you are a novice computer user or migrating from another operating system for the first time.

Please bear in mind that this guide is still very much a work in progress and always will be. It is written specifically for Ubuntu 10.04 LTS, and although we have tried to not limit our instructions to this version it is unavoidable that some things will change over the life of Ubuntu. Whenever a new version of Ubuntu is released, we will incorporate these changes and also make available a new version of this guide.

*Getting Started with Ubuntu 10.04* is not intended to be a comprehensive Ubuntu instruction manual. It is more like a quick-start guide that will get you doing the things you need to do with your computer quickly and easily, without getting bogged down in technical details.

If you are after more detail, there are excellent resources available at <http://help.ubuntu.com>. Ubuntu's built-in system documentation is also very useful for accessing help on specific topics, and can be found by clicking **System ▸ Help and Support** in Ubuntu. If something isn't covered here, chances are you will find the information you are looking for in one of those locations. We will try our best to include links to more detailed help wherever we can.

More information about the online docs and the system docs can be found in [Chapter 9: Learning more](#).

## Ubuntu philosophy

The term “Ubuntu” is a traditional African concept that originated from the Bantu languages of southern Africa. It can be described as a way of connecting with others—living in a global community where your actions affect all of humanity. Ubuntu as we know it is more than just an operating system: it is a community of people that come together voluntarily to collaborate on an international software project that aims to deliver the best possible user experience.

## The Ubuntu promise

As taken from the Ubuntu website, <http://ubuntu.com>.

- ▶ Ubuntu will always be free of charge, along with its regular enterprise releases and security updates.
- ▶ Ubuntu comes with full commercial support from Canonical and hundreds of companies from across the world.
- ▶ Ubuntu provides the best translations and accessibility features that the free software community has to offer.
- ▶ Ubuntu core applications are all free and open source. We want you to use free and open source software, improve it and pass it on.

## A brief history of Ubuntu

Ubuntu was conceived in 2004 by Mark Shuttleworth, a successful South African entrepreneur, and his company **Canonical**. Shuttleworth recognized the power of Linux and Open Source, but was also aware of weaknesses that prevented mainstream use.

Shuttleworth set out with clear intentions to address these weaknesses and create a system that was easy to use, completely free (see **Chapter 9: Learning more** for the complete definition of “free”), and could compete with other mainstream operating systems. With the Debian system as a base, Shuttleworth began to build Ubuntu. Using his own funds at first, installation CDs were pressed and shipped worldwide at no cost to the end user. Ubuntu spread quickly and the size of the community rapidly increased, and it soon became the most popular Debian-based Linux distribution.

Now with more people working on the project than ever before, Ubuntu continues to see improvement to its core features and hardware support, and has gained the attention of large organizations worldwide. For example in 2007, Dell began a collaboration with Canonical to sell computers with Ubuntu pre-installed. Additionally in 2005, the French Police began to transition their entire computer infrastructure to a variant of Ubuntu; a process which has reportedly saved them “millions of Euro” in Windows licensing fees. By the year 2012, the French Police expect that all of their computers will be running Ubuntu. Canonical profits from this arrangement by providing technical support and custom-built software.

While large organizations often find it useful to pay for support services, Shuttleworth has promised that the Ubuntu desktop system will always be free. As of 2010, Ubuntu Desktop is installed on nearly 2% of the world’s computers. This equates to millions of users worldwide—and is growing each year.

Canonical, the financial backer of Ubuntu, provides support for the core Ubuntu system. Canonical has 310 paid staff members worldwide who ensure that the foundation of the operating system is stable, and also check all the work submitted by volunteer contributors. To learn more about Canonical, go to <http://www.canonical.com>.

For information on Ubuntu Server Edition, and how you can use it in your company, visit <http://www.ubuntu.com/products/whatisubuntu/serveredition/features>.

## What is Linux?

Ubuntu is built on the foundation of Linux, which is a member of the Unix family. Unix is one of the oldest types of operating systems and has provided reliability and security in professional applications for almost half a century. Many servers around the world that store data for popular websites (such as YouTube and Google.com) run some variant of a Unix system.

Linux was designed from the ground up with security and hardware compatibility in mind, and is currently the most popular Unix-based operating systems. One of the benefits of Linux is that it is incredibly flexible and can be configured to run on almost any device, from the smallest micro-computers and cellphones, to larger super-computers. Initially, Unix was entirely command-line based, until Graphical User Interfaces (GUIs) began to emerge in the early 1990s.

These early GUIs were difficult to configure and clunky at best, and generally only used by seasoned computer programmers. In the past decade however, Graphical User Interfaces have come a long way in terms of usability, reliability and appearance. Ubuntu is just one of many different Linux *distributions*, and uses one of the more popular graphical desktop environments called GNOME.

## Is Ubuntu right for you?

New users to Ubuntu may find that it takes some time to feel comfortable with the operating system. You will no doubt notice some similarities to both Microsoft Windows and Mac OS X, as well as some things that work very differently. Users coming from Mac OS X are more likely to notice similarities due to the fact that both OS X and Ubuntu originated from Unix.

Before you decide whether or not Ubuntu is right for you, we suggest giving yourself some time to grow accustomed to the way things are done—and expect to find some things that are different to what you are used to. We also suggest taking the following into account:

- ▶ **Ubuntu is community based.** That is, Ubuntu is made, developed and maintained by the community. Because of this, support is probably not available at your local computer store. Thankfully, the community is here to help. There are a lot of articles, guides, and manuals available, as well as users on various Internet forums and Internet Relay Chat (IRC) rooms that are willing to help out beginners. Additionally, near the end of this guide we include a troubleshooting chapter: [Chapter 8: Troubleshooting](#).
- ▶ **Many Windows or Mac applications will not run on Ubuntu.** For the vast majority of tasks that people use their computers for everyday, there are suitable alternative applications available in Ubuntu. However many professional applications (such as the Adobe Creative suite) are not developed to work with Ubuntu. If you rely on commercial software that is

Whilst modern graphical desktop environments have generally replaced early command-line based operating systems, the command-line can still be a quick and efficient way of performing many tasks. See [Chapter 6: The Command Line](#) for more information, and [Chapter 2: The Ubuntu Desktop](#) to learn more about GNOME and other desktop environments.

A Desktop Environment is a sophisticated and integrated User Interface that provides the basis for humans to interact with a computer using a monitor, keyboard and a mouse.

A popular forum for Ubuntu discussion and support is the Ubuntu Forums, <http://ubuntuforums.org>.

not compatible with Ubuntu, yet still want to give Ubuntu a try you may want to consider dual-booting.

- ▶ **Many commercial games will not run on Ubuntu.** If you are a heavy gamer, then Ubuntu may not be for you. Game developers usually design games for the largest market, where they can make the most profit. Since Ubuntu's market share is not as great as Windows or Mac, most game developers will not allocate resources towards making their games compatible with Ubuntu. If you just like to play a game every now and then, there is active game development within the community, and many high quality games can be easily installed through the Software Center. Additionally, some games developed for Windows will work in Ubuntu with a program called *Wine*.

See [Chapter 5: Software Management](#) to learn more about the Software Center. To learn more about dual-booting (running Ubuntu side-by-side with another operating system), see [Chapter 1: Installation](#). For more information on Wine, go to <http://www.winehq.org/>.

## Contact details

Many people have contributed their time freely to this project. If you notice any errors or think we have left something out, feel free to contact us. We will do everything we can to make sure that this manual is up to date, informative and professional. Our contact details are as follows:

### The Ubuntu Manual Team

Website: <http://www.ubuntu-manual.org/>

Email: [ubuntu-manual@lists.launchpad.net](mailto:ubuntu-manual@lists.launchpad.net)

IRC: #ubuntu-manual on [irc.freenode.net](http://irc.freenode.net)

## Conventions

# 1 Installation

## Getting Ubuntu

Before you can get started with Ubuntu, the first thing you will need to do is get hold of the Ubuntu installation CD. There are several options available to you for obtaining a copy of the CD, as follows.

### Downloading Ubuntu

The easiest and most common method for getting Ubuntu is to download the Ubuntu *CD image* directly from <http://www.ubuntu.com>. Simply head to the website and click the “Download Ubuntu” button at the top. You will be asked to select a download location, and then click the “Begin Download” button.

#### 32-bit vs 64-bit

You may notice that the default download button on the website says *Ubuntu Desktop 10.04 (32-bit)* underneath. If you are unsure what 32-bit means, don't worry. 32-bit will work on most computers, so if in doubt, simply proceed with the download. However if you know that your computer is capable of using 64-bit software, you may wish to try the 64-bit version instead. Simply click the **Alternative download options** button and make your selection.

### Downloading Ubuntu as a torrent

When a new version of Ubuntu is released, sometimes the servers can get clogged up with large numbers of people downloading or upgrading at the same time. If you are familiar with using torrents, you may wish to download the .torrent file by clicking **Alternative download options**, and obtain your copy of the CD image this way instead. You may see significant improvements to your download speed, and will also be helping to spread Ubuntu to other users worldwide. Again if you are unsure what a torrent is, simply stick with the default download options on the website.

### Burning the CD image

Once your download is complete you will be left with a file called *ubuntu-10.04-desktop-i386.iso* or similar (note: the i386 refers to the 32-bit version). This file is a CD image—a bit like a “snapshot” of the contents of a CD—which you will need to burn to a CD disc. To find out how to burn a CD image on your computer, refer to your operating system or manufacturer help. You

Many companies (such as Dell and System76) sell computers with Ubuntu pre-installed. If you already have Ubuntu installed on your computer, feel free to skip to [Chapter 2: The Ubuntu Desktop](#).

Choose the nearest download location to you to ensure maximum download speed. CD stands for Compact Disc and is a medium for storing data. One CD can store just over 700 MB of data.

32 bit and 64 bit are types of processor architectures. 64 bit is newer, and most recent computers will come with a 64 bit capable processor. See [Chapter 9: Learning more](#) for more information.

Torrents are a way of sharing files and information around the Internet via Peer to Peer file sharing. When a new version of Ubuntu is released, the Ubuntu servers can become very busy. If you know how to use torrents, we recommend that you download the CD image this way to take the load off the servers during periods of high demand.

can also find detailed instructions at <https://help.ubuntu.com/community/BurningIsoHowto>

## Ordering a free CD

The CD usually takes two to six weeks to arrive, depending on your location and the current demand. If you would rather start using Ubuntu sooner, you may prefer to follow the instructions above for downloading the CD image, and then burn it to a disc instead.

You are able to order a free CD from Canonical. This option may be preferred if you don't have access to a CD burner, have limited bandwidth, or a slow Internet connection. There are **no shipping costs or other charges when you order an Ubuntu CD**. Simply visit <http://shipit.ubuntu.com> to request your free Ubuntu Desktop Edition CD.

## The Live CD

The Ubuntu CD that you have downloaded and burnt to a disc (or had sent to you) functions not only as an installation CD for putting Ubuntu onto your computer, but also as a *Live CD*. A Live CD allows you to test Ubuntu without making any permanent changes to your computer by running the entire operating system straight from the CD.

The speed at which your computer can “read” information from a CD is much slower than reading information from a hard drive. Running Ubuntu from the Live CD also occupies a large portion of your computer's memory, which would usually be available for programs to access when Ubuntu is running from your hard drive.

Because of this, the Live CD experience will feel slightly slower than it does when Ubuntu is actually installed on your computer. However, running Ubuntu from the CD is a great way to test things out, and allows you to try the default applications, browse the Internet, and get a general feel for the operating system. It's also a great way to check that your computer hardware works properly in Ubuntu and that there are no major compatibility issues.

To try out Ubuntu using the Live CD, simply insert the Ubuntu CD into your CD drive and restart your computer. Most computers are able to detect when a “bootable” CD is present in your drive at startup—that is, a CD that will temporarily take precedence over your usual operating system. As your computer starts, it will run whatever information is stored on this bootable CD, rather than the information stored on your hard drive which your computer usually looks for.

Once your computer finds the Live CD and after a quick loading screen, you will be presented with the “Welcome” screen. Using your mouse, select your language from the list on the left, then click the button labelled **Try Ubuntu 10.04**. Ubuntu will then start up, running straight from the Live CD.

Note: You will be required to create a free online account with Launchpad before you can place your CD order. Once you have Ubuntu installed and running, you might need to use this account again for various purposes.

It is possible to purchase Ubuntu on CD from some computer stores or online shops. Have a look around your local area or on the Internet to see if someone is selling it near you. Even though Ubuntu is free software, it's not illegal for people to sell it.

In some cases, your computer will simply run as normal and appear not to recognize the Ubuntu CD is present as it starts up. This is ok, generally it means that the priority given to devices when your computer starts up needs to be changed. For example, your computer might be set to look for information from your hard drive first, and then to look for information on a CD second. In order to run Ubuntu from the Live CD, we need it instead to look for information from a CD first. Changing your boot priority is beyond the scope of this guide. If you need assistance to change the boot priority, see your computer manufacturers documentation for more information.

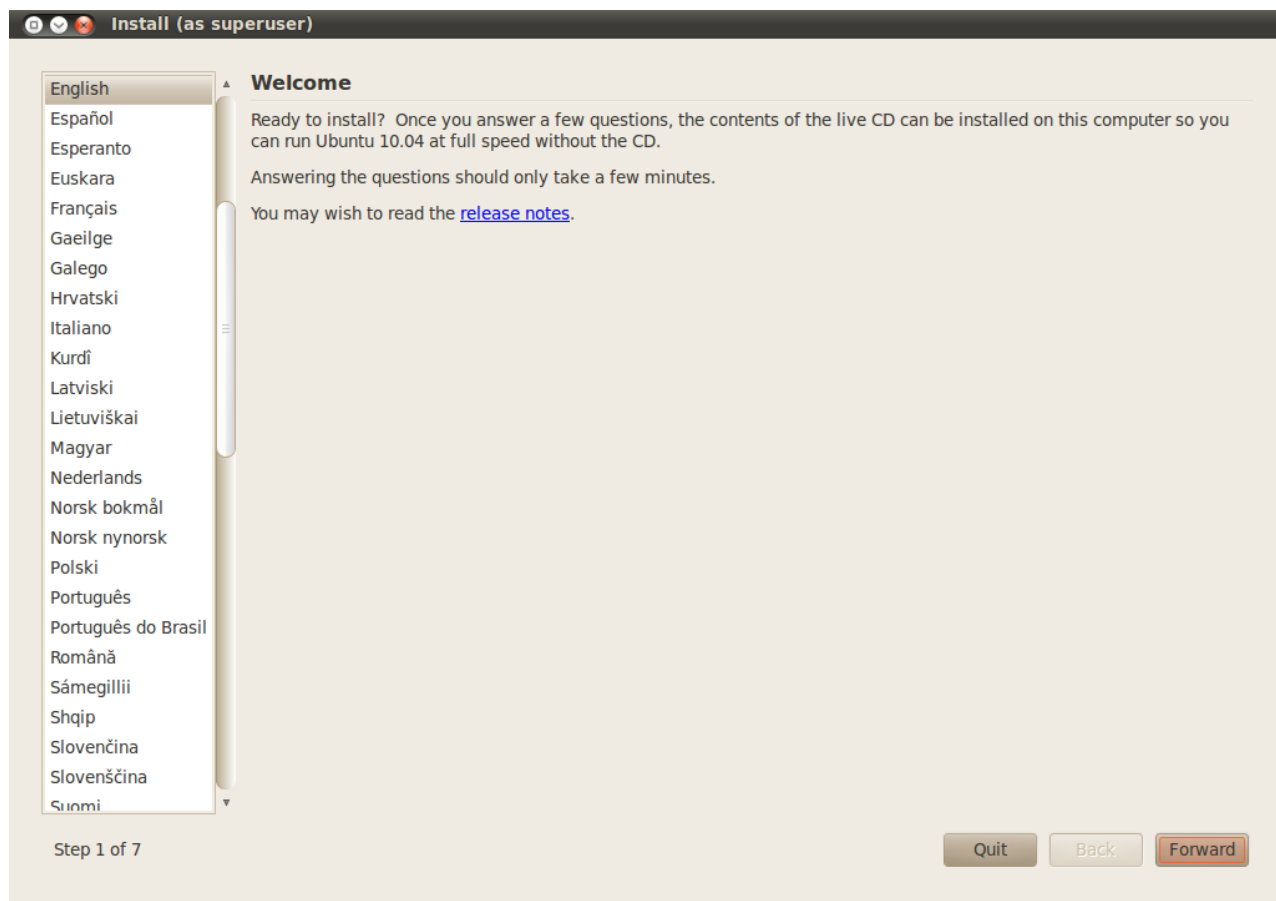


Figure 1.1: The welcome screen allows you to choose your language.

Once Ubuntu is up and running, you will see in front of you the default desktop. We will talk more about how to actually use Ubuntu in [Chapter 2: The Ubuntu Desktop](#), but for now feel free to test things out, open some programs, change settings and generally explore—any changes you make will not be saved once you exit, so you don't need to worry about accidentally breaking anything.

Once you are finished exploring, simply restart your computer by clicking the “Power” button in the top right corner of your screen (circle with a line through the top) and then select **Restart**. Follow the prompts that appear on screen, including removing the Live CD and pressing **Enter** when instructed, and then your computer will restart. As long as the Live CD is no longer in the drive, your computer will return to its original state as though nothing ever happened!

## Minimum system requirements

Ubuntu generally runs well on most computers. If you are unsure whether it will work on your computer, the Live CD is a great way to test things out first. For the more technically minded, below is a list of hardware specifications that your computer should ideally meet as a *minimum* requirement.

- ▶ 700 MHz x86 processor
- ▶ 256 MB of system memory (RAM)
- ▶ 3 GB of disk space
- ▶ Graphics card capable of 1024×768 resolution
- ▶ Sound card
- ▶ A network or Internet connection

## Installing Ubuntu

The process of installing Ubuntu is designed to be quick and easy, however we realize that some people may find the idea a little daunting. To help you get started we have included step-by-step instructions below, along with screenshots so you can see how things will look along the way.

At least 3 GB of free space on your hard drive is required in order to install Ubuntu, however 10 GB or more of free space is recommended. That way you will have plenty of room to install extra programs later on, as well as store your own documents, music and photos.

## Getting started

To get started, place the Ubuntu CD in your CD drive and restart your computer. If you have already tested out the Ubuntu Live CD, you should now be familiar with the initial “Welcome” screen that appears (refer to [The Live](#)

Alternatively, you can also use your mouse to double-click the “Install Ubuntu 10.04” icon that is visible on the Desktop when using the Live CD. This will start the Ubuntu installer.



CD above for more information). Again select your language on the left-hand side, then click the button labelled **Install Ubuntu 10.04**.

The next screen will display a world map. Using your mouse, click your location on the map to tell Ubuntu where you are. Alternatively, you can use the **drop-down lists** underneath. This allows Ubuntu to set up your system clock and other location-based features. Click **Forward** when you are ready to move on.

There are two other options presented on the “Welcome” screen: **release notes** and **update this installer**. Clicking on the blue underlined **release notes** will open a web page containing any important information regarding the current version of Ubuntu. Clicking **update this installer** will search the Internet for any updates to the Ubuntu Live CD that may have been released since the time it was downloaded.

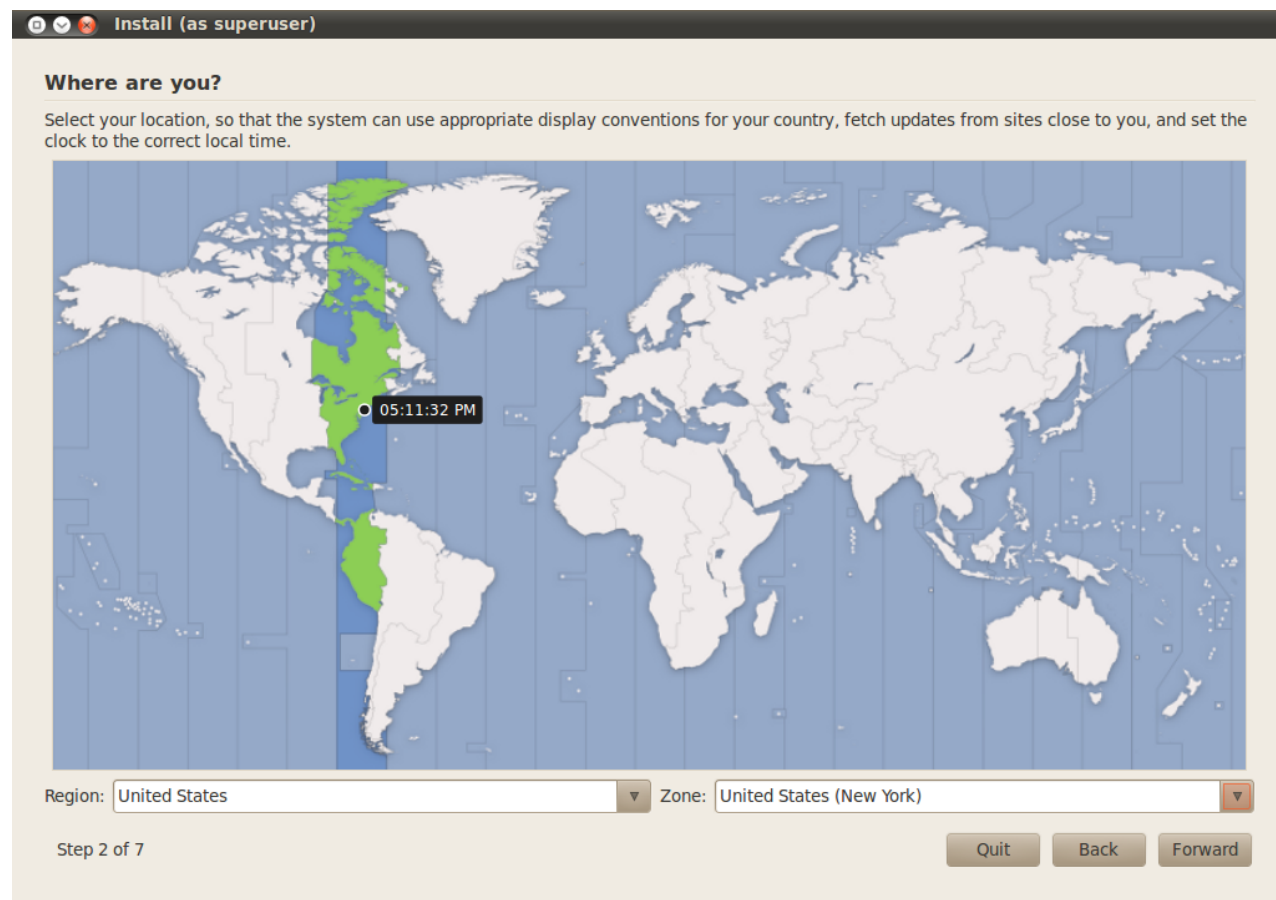


Figure 1.2: Choose where you live.

Next, you need to tell Ubuntu what keyboard you are using. Usually, you will find the suggested option is satisfactory. If you are unsure, you can click the **Guess** button to have Ubuntu work out the correct choice by asking you to press a series of keys. You are able to choose your own keyboard layout from the list. If you like, type something into the box at the bottom to make sure you are happy with your selection, and then click **Forward** to continue.

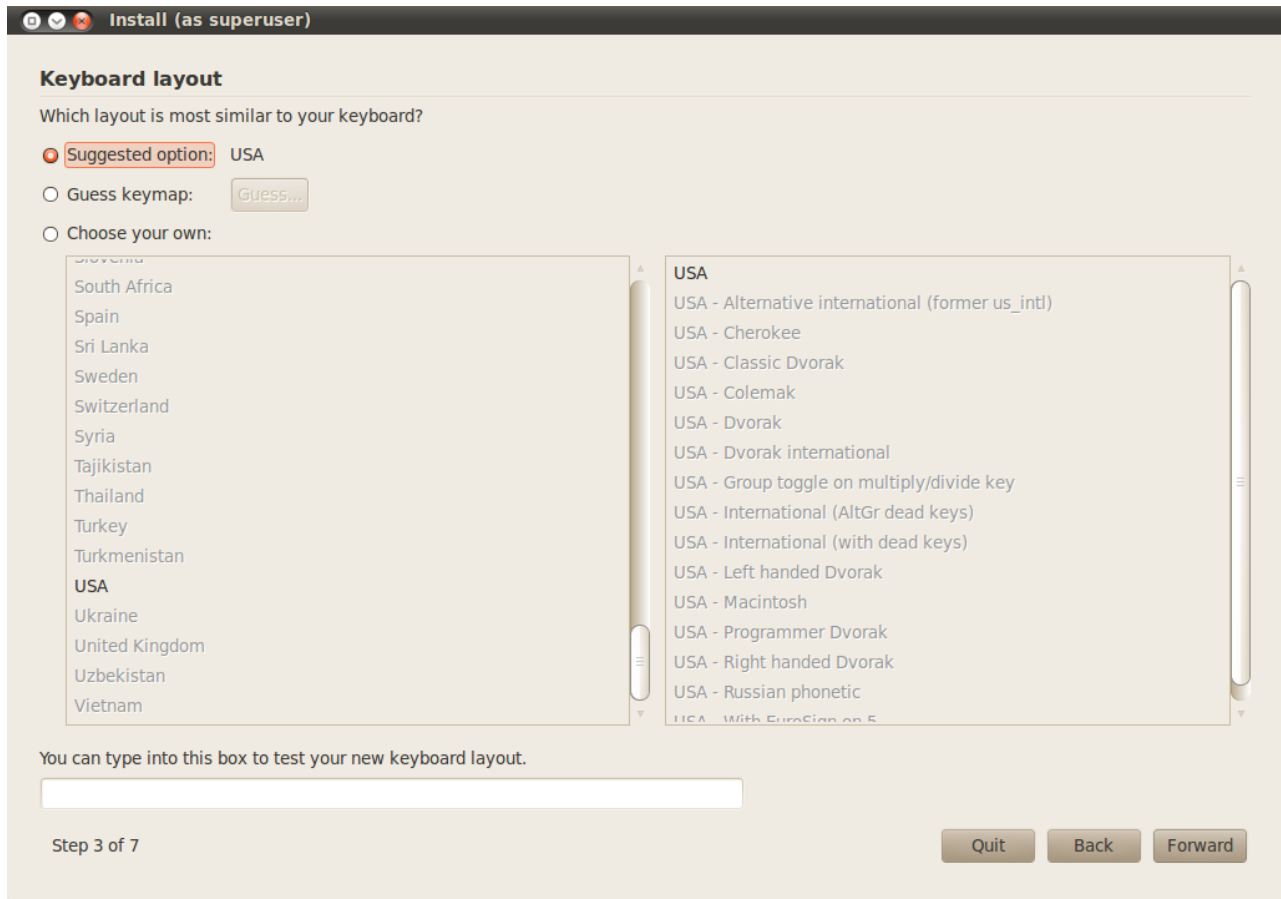


Figure 1.3: Check your keyboard layout is correct.

## Prepare disk space

This next step is often referred to as *partitioning*. Partitioning is the process of allocating portions of your hard drive for a specific purpose. When you create a partition, you are essentially dividing up your hard drive into sections that will be used for different types of information. Partitioning can sometimes seem complex to a new user, however it does not have to be. In fact, Ubuntu provides you with some options that greatly simplify this process.

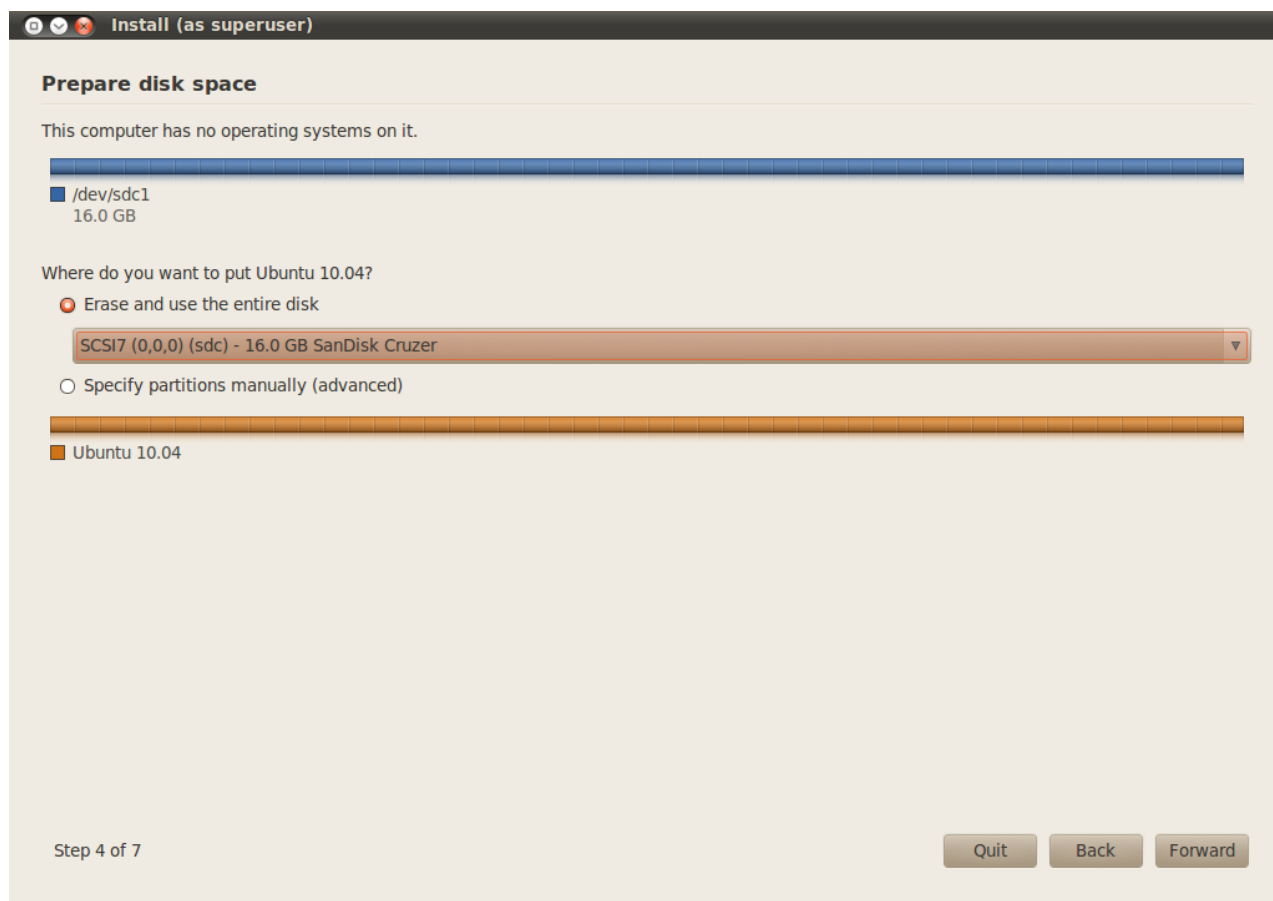


Figure 1.4: Choose where you would like to install Ubuntu. Many people installing Ubuntu for the first time are currently using either Microsoft Windows (e.g. Windows 7, Vista, or XP) or Mac OS X on their computer. Ubuntu provides you with the option of either replacing your existing operating system altogether, or otherwise keeping your existing system and installing Ubuntu side-by-side. The latter is called dual-booting. Whenever you turn on or restart your computer, you will be given the option to select which operating system you want to use for that session.

## Erase and use the entire disk

Use this option if you want to erase your entire disk. This will delete any existing operating systems that are installed on that disk (e.g. Windows XP), and install Ubuntu in its place. This option is also useful if you have an empty hard drive, as Ubuntu will automatically create the necessary partitions for you.

## Guided partitioning

If you already have another operating system installed on your hard drive, and want to install Ubuntu alongside it, choose the **Install them side by side, choosing between them each startup** option.

## Specifying partitions manually

This option is for advanced users to create special partitions or format the hard drive with other filesystems than the default one. It can also be used to create a separate /home partition, which is very useful in case you have to reinstall the whole system one day.

Once you are happy with the way the partitions are going to be set up, click the **Forward** button at the bottom to move on.

## Enter your details

Ubuntu needs to know some information about you so it can set up the primary login account on your computer. Your name will appear on the login screen as well as the *MeMenu*, which will be discussed further in [Chapter 2: The Ubuntu Desktop](#).

On this screen you will need to tell Ubuntu:

- Your real name
- Your desired username
- Your desired password
- What you want to call your computer
- How you want Ubuntu to log you in.

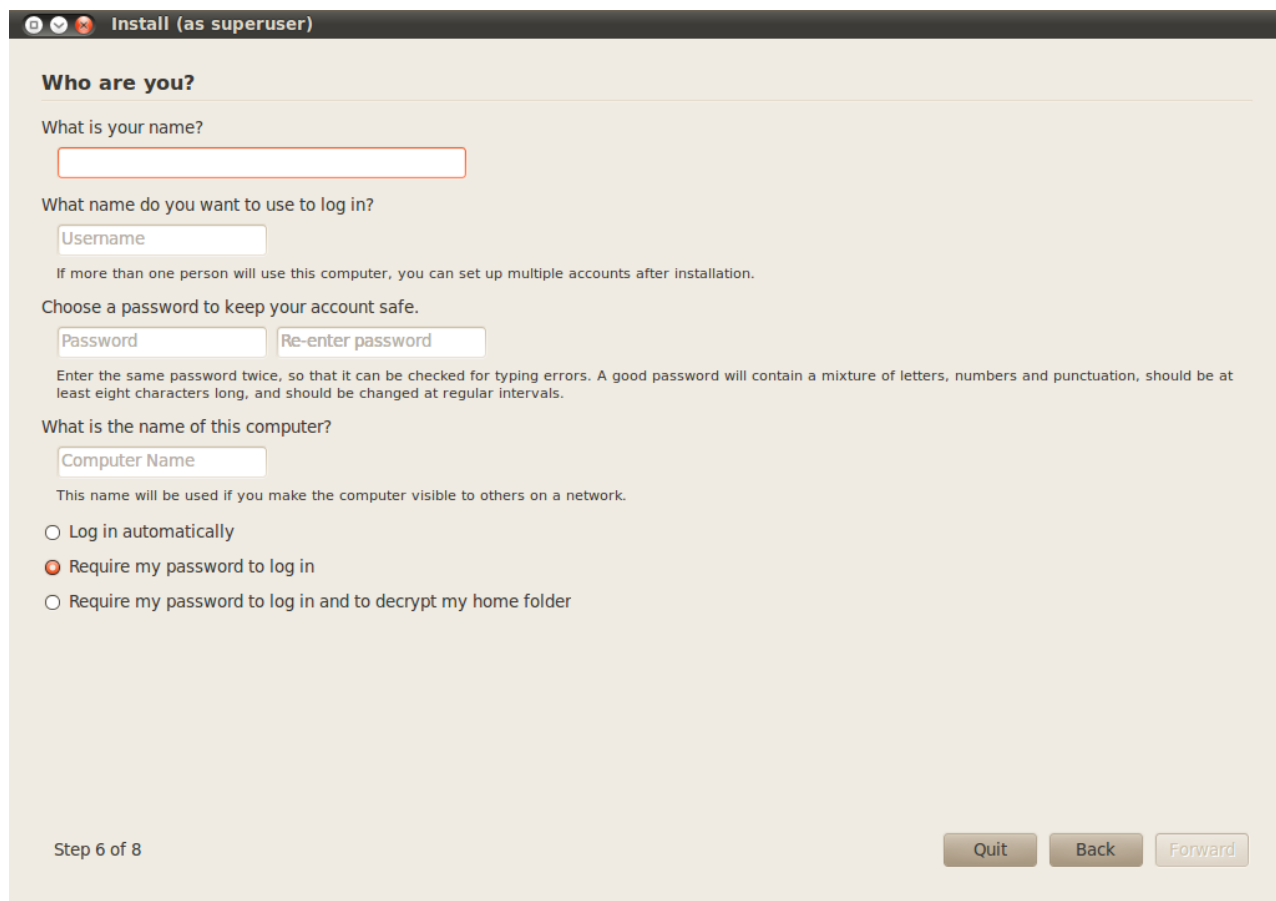
Type in your full name under “What is your name?” The next text field is where you select a username for yourself, and is the name that will be displayed at the Ubuntu login screen when you turn on your computer. You will see this is automatically filled in for you with your first name. Most people find it easiest to stick with this, however you can change it to whatever you like.

Next, choose a password and enter it into the first password field on the left. Avoid obvious passwords like your birthdate, wifes name, or the name of your dog—a mixture of letters, numbers, punctuation, and uppercase/lowercase will make for a more secure password. Type the same password again into the right field to verify (you should see a green tick appear if you have done this correctly).

Now you need to decide on your computer’s name. Again, this will be filled in for you automatically using the login name you entered above (it will say something like “john-desktop” or “john-laptop.”), however you can change this to whatever you like. Your computer name will mainly be used

Ubuntu installs a **home folder** where your personal files and configuration data are located by default. If you choose to have a separate home folder, then in the unlikely scenario where you have to reinstall Ubuntu, your personal files and configuration data won’t be lost.

To see how to set up a network, visit [Chapter 3: Working with Ubuntu](#).



**Install (as superuser)**

### Who are you?

What is your name?

What name do you want to use to log in?

If more than one person will use this computer, you can set up multiple accounts after installation.

Choose a password to keep your account safe.

Enter the same password twice, so that it can be checked for typing errors. A good password will contain a mixture of letters, numbers and punctuation, should be at least eight characters long, and should be changed at regular intervals.

What is the name of this computer?

This name will be used if you make the computer visible to others on a network.

Log in automatically

Require my password to log in

Require my password to log in and to decrypt my home folder

Step 6 of 8

Quit Back Forward

Figure 1.5: Setup a user account.

for identifying your computer if you are on a home or office network with multiple other computers.

Finally, at the bottom of this screen you have three options to choose from regarding how you want to log in to Ubuntu.

### Log in automatically

Ubuntu will log in to your primary account automatically when you start up the computer, which means you won't have to enter your username and password to get into your computer. This makes your login experience quicker and more convenient, however if privacy or security are important to you, this option is not recommended. Anyone who can physically access your computer will be able to turn it on and also access your files.

### Require my password to login

This option is selected by default, as it will prevent unauthorized people from accessing your computer without knowing the password you created earlier.

### Require my password to login and decrypt my home folder

This option provides you with an extra layer of security. Your home folder is where your personal files are stored. By selecting this option, Ubuntu will automatically enable encryption on your home folder, meaning that files and folders must be *decrypted* using your password before they can be accessed. Therefore if someone had physical access to your hard drive (for example, it was removed from your computer and connected to someone else's computer), they would still not be able to see your files without knowing your password.



*If you choose this option, be careful not to enable automatic login at a later date. It will cause complications with your encrypted home folder, and will potentially lock you out of important files.*

## Migration assistant

Need this section urgently

### Confirm your settings and begin installation

The last screen summarizes your install settings, including any changes that will be made to the partitions on your hard drive. Note the warning about data being destroyed on any removed or formatted partitions—if you have important information on your hard drive that is not backed up, now would be a good time to check that you have set up your partitions correctly. Once you have made sure that all the settings are correct, simply click on **Install** to begin the installation process.

You should not need to click the **Advanced** button unless you wish to change your bootloader settings or network proxy. These are more advanced tasks and beyond the scope of this guide.

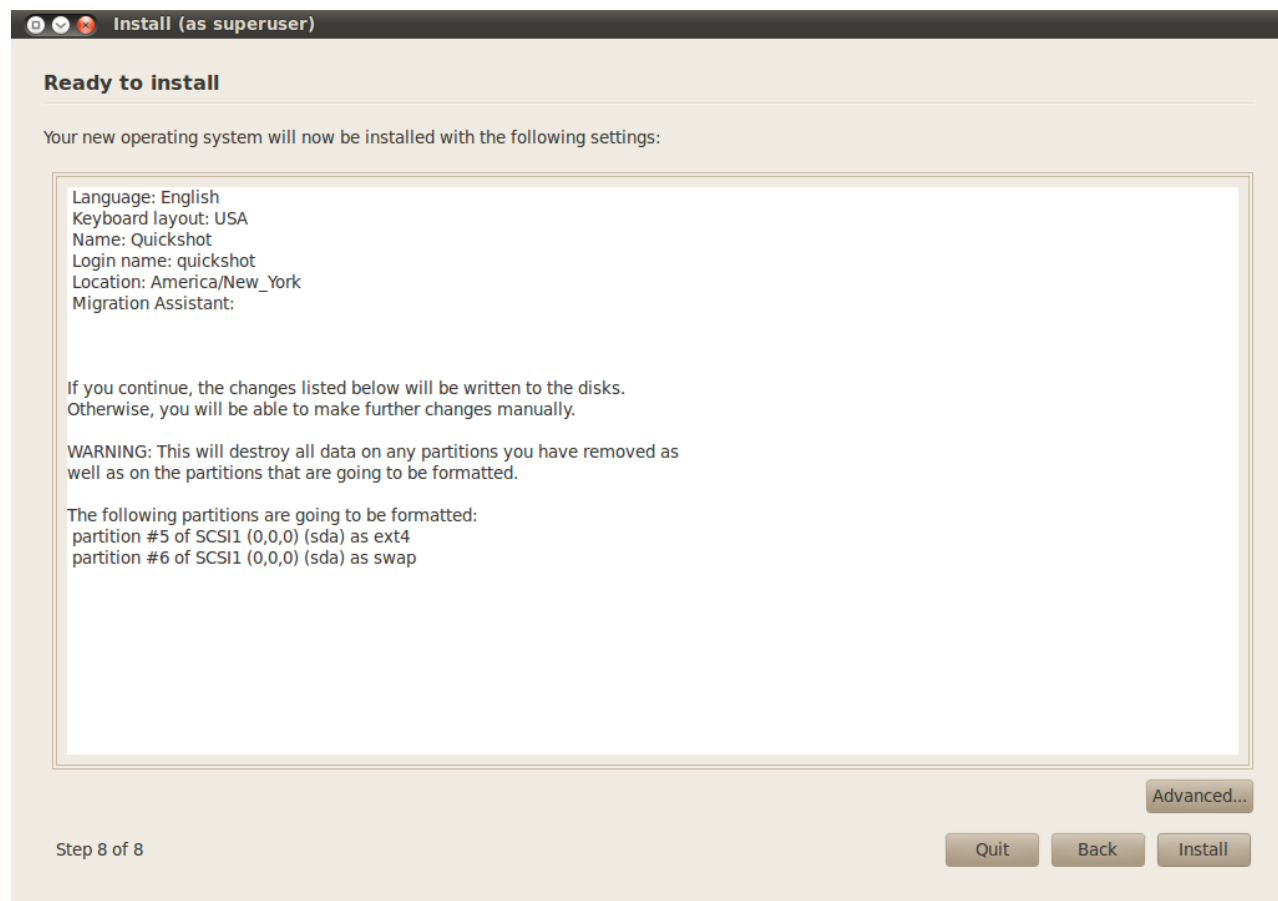


Figure 1.6: Check that everything is setup right.

Ubuntu will now install. As the installation progresses, you will be presented with a slideshow that gives you an introduction to some of the default applications included with Ubuntu. These applications are covered in more detail in [Chapter 3: Working with Ubuntu](#).

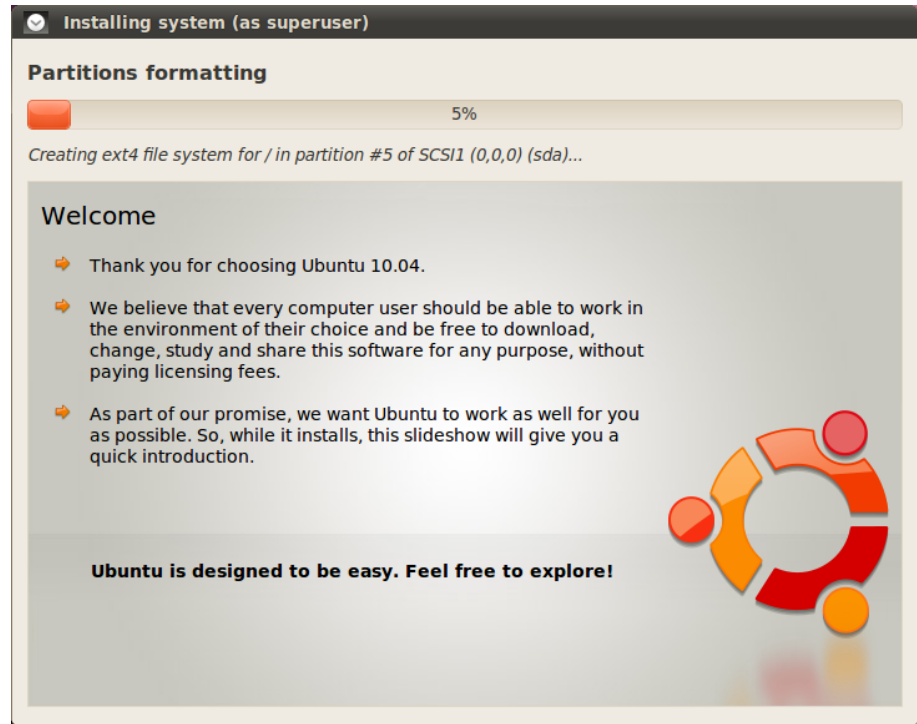


Figure 1.7: The first slide of the installation.

After approximately twenty minutes, the installation will complete and you will be able to click **Restart Now** to restart your computer and start Ubuntu. The CD will be ejected, so remove it from your CD drive and press Enter to continue.

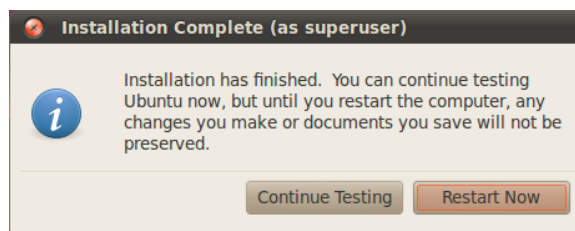


Figure 1.8: You are now ready to restart your computer.

Wait while your computer restarts, and you will then see the login window (unless you selected automatic login).



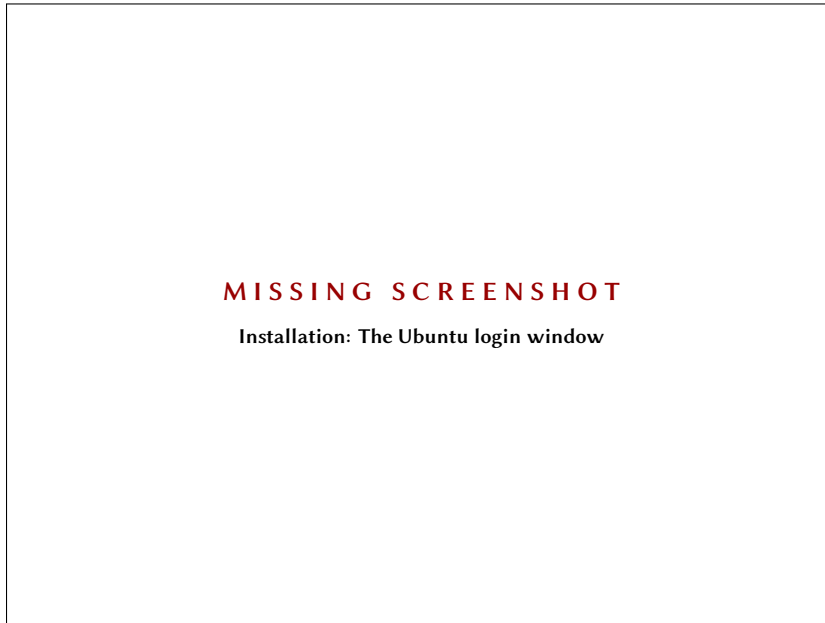


Figure 1.9: Installation: The Ubuntu login window

Click your username and enter your password, then press **Enter** or click **Log in**. You will then be logged in to Ubuntu and will be presented with your new desktop!

## Using the Wubi installer

Wubi stands for Windows Ubuntu Installer, and it allows you to install Ubuntu inside Windows. Once installed, Ubuntu will appear in your Add/Remove programs like any other application. When it installs Ubuntu, it will set up a series of files (called loop files) which you can specify in size, where it stores all of Ubuntu's data. It will also add an entry to the Windows boot loader, so when you reboot your computer you will be able to choose between Windows or Ubuntu.

It's a very simple way to dual-boot and test out Ubuntu running natively on your machine—and if you don't like it just uninstall Ubuntu from the Windows Add/Remove Programs menu. It won't harm your Windows installation in any way.

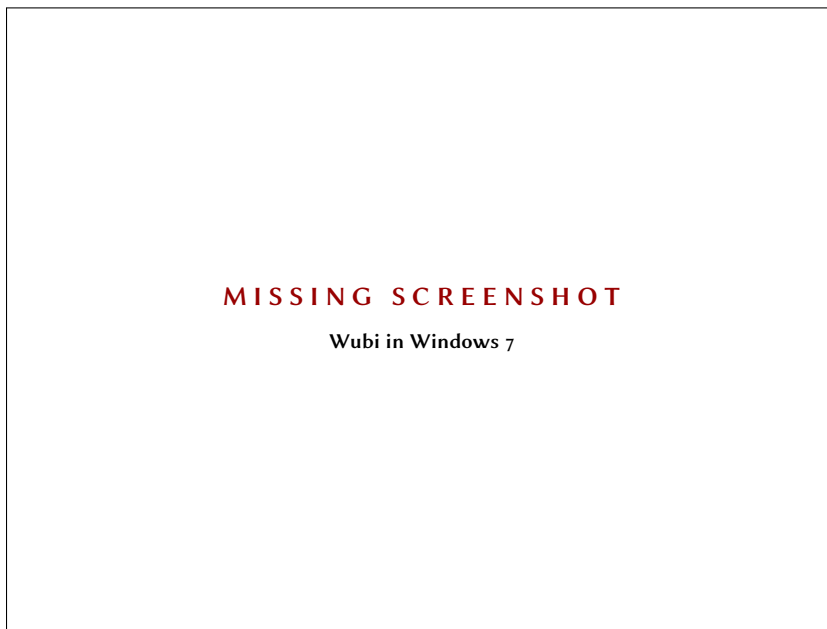


Figure 1.10: Wubi in Windows 7

## 2 The Ubuntu Desktop

### Understanding the desktop

At first glance, you will notice many similarities between Ubuntu and other operating systems such as Windows or Mac OS X. This is because they are all based on the concept of a Graphical User Interface (GUI)—that is, you use your mouse to navigate the desktop, open programs, move files, and perform most other tasks. In short, things are very visually oriented, which means it is important for you to become familiar with where and what to click in Ubuntu.

### GNOME

All GUI-based operating systems use a *desktop environment*. The term “desktop environment” encompasses many things, such as the look and feel of your system, as well as how the desktop is organized, laid out, and navigated by the user. In Linux distributions (such as Ubuntu), there are a number of desktop environments available for use. One of the more popular desktop environments is called GNOME, which is used by default in Ubuntu. KDE, XFCE, and LXDE are other popular desktop environments (used in Kubuntu, Xubuntu, and Lubuntu, respectively), and there are many more. As Ubuntu is based on GNOME, we will limit our discussion in this guide to exploring your GNOME desktop.

When you first log in to Ubuntu after installing it to your hard drive, you will see the GNOME desktop. Ubuntu is highly customizable, as is the GNOME desktop, but for now let’s just explore the default layout that is in front of you.

Firstly, you will notice there are two *panels*—one at the top of your desktop and one at the bottom. A panel is a bar that sits on the edge of your screen and contains various *applets*. These applets provide useful functions such as running programs, viewing the time, or accessing the main menu.

### The top panel

Starting from the left, you will see three menu headings—**Applications**, **Places**, and **System**—followed by two program icons. The first of these icons will open the **Firefox** web browser (see [Chapter 3: Working with Ubuntu](#) for more info), and the next will open the **Ubuntu Help Center**.

On the right side of this panel you will find the *Notification Area*, which is similar in function to the system tray in Windows, or the “menu extras” area on the Mac OS X menu bar. Next to this is the *MeMenu*, which will

Ubuntu 10.04 has an emphasis on Social from the Start and features social network integration in the desktop for sites like Twitter and Facebook.

To read more about other variants of Ubuntu, refer to [Chapter 9: Learning more](#).

Everything on a panel is an applet, even the main menu.

The **Ubuntu Help Center** is a highly useful resource. It provides a wealth of information about your Ubuntu system, and is always at your fingertips by simply clicking this panel icon (or navigating to **System ▶ Help and Support**).

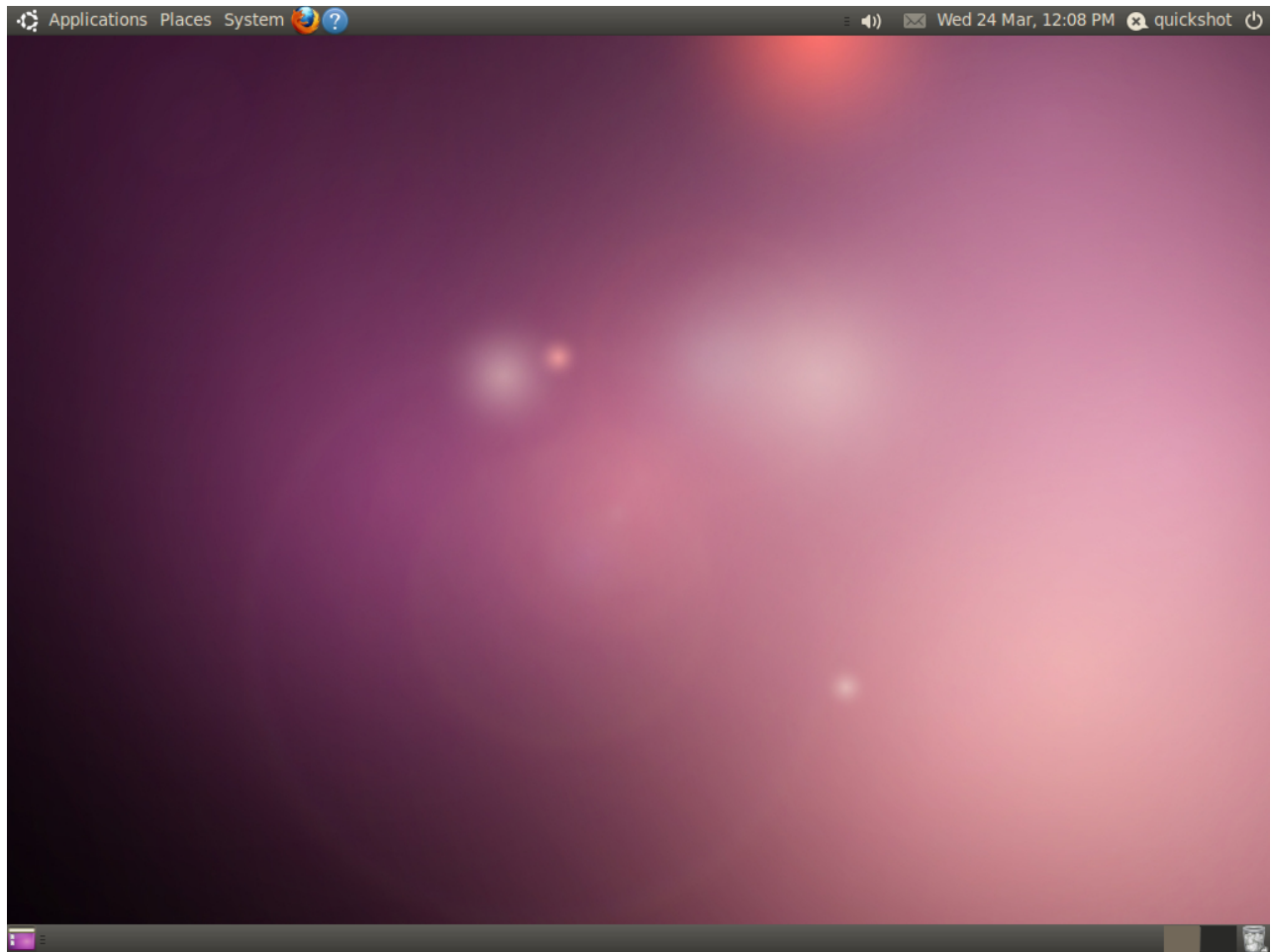


Figure 2.1: The Ubuntu 10.04 desktop.

display your username (the name you entered during installation) and is used to update social network sites like Twitter and Facebook as well as set your Instant Messaging status in **Empathy**. Finally, furthest to the right is the power button icon, which provides menu options for locking your computer, logging out, restarting, or shutting down completely.

### The Notification Area

Inside the Notification Area you will find the network indicator, volume adjustment, Bluetooth indicator (if your computer has Bluetooth capability), messaging applet, and the date and time. Some programs will also place an icon in the Notification Area when you open them.

Left-clicking icons in the Notification Area will bring up a list of options, and in some cases right-clicking an icon will also perform an action related to that program. For example, to adjust the volume, simply left-click once on the icon and a volume slider will appear. Click the date and time to open a small calendar, and then click a specific date to add a reminder to your calendar through **Evolution** (see [Chapter 3: Working with Ubuntu](#) for more information on **Evolution**).

When the calendar is expanded there is a button labelled **Locations**, which will open a small world map when clicked. Here you can further set up your location preferences by clicking **Edit**. In the window that appears, click **Add**, then type your location in the box. If you live in a major city it may be on the list already; if not, you can enter your latitude and longitude manually (try searching online if you don't have this information). Make sure your time zone is selected, then click **OK** to return to the preferences screen.

Feel free to explore the other options available under the **General** and **Weather** tabs if you like, then click **Close** at the bottom when you are done. If temperature information is available for your city, you will now see the current temperature displayed alongside the date and time in the Notification Area.

### The bottom panel

Ubuntu uses most of the bottom panel to display a list of all programs or windows that are currently open. These appear as horizontal buttons which can be clicked to *minimize* or *restore* the corresponding windows (see [Managing windows](#) below for more information).

On the far left of the bottom panel is a small icon that resembles a desktop. This *Show Desktop* button will minimize all open windows at once, giving you clear access to your desktop. This is particularly useful when you have many windows open at once and your desktop becomes cluttered. Clicking the same button again will restore these windows to their original position.

On the right side of the panel you will see some small boxes in a row; this is the *Workspace Switcher*. By default, Ubuntu 10.04 is set up with two

New notifications of emails and instant messages appear in the messaging menu applet. When you have a new message, the envelope icon will turn green.

To remove an applet, right click on it and select **Remove From Panel**.

To add a new applet to a panel, right click in a clear area on the panel and select **Add to Panel**.

workspaces.

Finally, the icon furthest to the right is the *Trash*, which performs a similar function to the Recycle Bin in Windows or the Trash in Mac OS X. Any files you delete are first sent to the Trash. To see the contents of the Trash, click on this icon. You can empty the trash by clicking on the **Empty Trash** button in the window that appears, or alternatively by right-clicking the Trash icon in the bottom panel and selecting **Empty Trash** from the menu.

## Managing windows

When you open a program in Ubuntu (such as a web browser or a text editor—see [Chapter 3: Working with Ubuntu](#) for more information on using programs), a *window* will appear on your desktop. If you have used another operating system before, such as Microsoft Windows or Mac OS X, you are probably familiar with the concept of a “window”—the box that appears on your screen when you start a program. In Ubuntu, the top part of a window (the *titlebar*) will have the title of the window in the center, and three buttons in the top left corner. From left to right, these buttons *maximize*, *minimize*, and *close* the window. Additionally, you can right-click anywhere on the titlebar for a list of other window management options.

### Closing, maximizing, restoring, and minimizing windows



Figure 2.2: The maximize, minimize, and close window buttons.

To *close* a window, click on the “X” in the upper left corner of the window—this will be the third button along. Immediately to the left of this is a downward-pointing arrow that is used to *minimize* the window to the bottom panel of your desktop. Once minimized the window will no longer be visible, however its corresponding button in the bottom panel will remain, indicating the program is still running in the background. Clicking this button will *restore* the window to its original position. Finally, the button furthest to the left of the titlebar will *maximize* the window, making it fill the entire screen. Clicking this button again will return the window to its original size.

### Moving and resizing windows

To move a window around the workspace, place the cursor on the top of the window, then click and drag the window while continuing to hold down the left mouse button. To resize a window, place the cursor on an edge or corner of the window so that it turns into a larger arrow, the resize icon. You can then click and drag to resize the window.

The GNOME desktop environment used in Ubuntu can provide two or more “virtual desktops”, or **workspaces**. Using these workspaces can reduce clutter by opening windows on separate desktops, without needing a separate monitor. For example, in order to organize your activities you may have your email open in one workspace and a text document you are working on in another. To switch workspaces, simply click on the boxes in the **workspace switcher** or use the keyboard shortcut Ctrl + Alt + right arrow or Ctrl + Alt + right arrow to switch workspaces quickly.

## Switching between open windows

There are two ways in Ubuntu to switch between open windows in a workspace. You can find the window on the bottom panel taskbar and click to bring it up on the screen, or you can use **Alt+Tab** to select the window you wish to work on. Hold down the **Alt** key, and keep pressing the **Tab** button until the window you're looking for appears on the desktop.

## Getting help

Ubuntu, just like other operating systems, has a built-in help reference, called the **Ubuntu Help Center**. To access it, click on the **Help** button, a blue circle with a white question mark (?) in the middle. You can also access it as “Help and Support” through the System menu on the top panel.

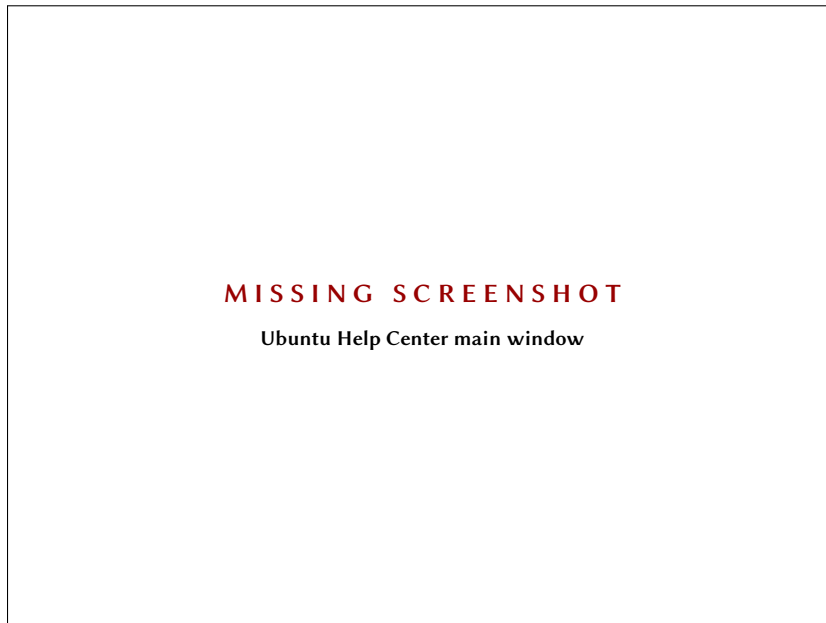
Many programs have their own help which can be accessed by clicking the **Help** menu in the application window.



Figure 2.3: This is the icon to click to look at the built in system help.

The Help button appears on the top panel and under the System menu by default. A similar icon may also appear in other places offering help for specific programs or other functions.

Figure 2.4: Ubuntu Help Center main window



If you can't find an answer to your question in this manual or in the Help Center, you can reach out to the Ubuntu community through the Ubuntu Forum (<http://ubuntuforums.org>). Many Ubuntu users open an account on the Forum to receive help. Later, as they gain knowledge of Ubuntu, they provide help to others. Another useful website is the Ubuntu Wiki (<https://wiki.ubuntu.com>), a website maintained by the Ubuntu community.

You may find that there are programs in the Applications menu that you don't use frequently, or just don't want to be displayed on the menu. To hide those applications (without deleting the actual programs), click on System menu and select **Preferences** > **Main Menu**. Find the applications in the right panel that you want to remove from the Applications menu, and click to un-check the box.

Should you choose to get help by searching the Web, please check any information you find using multiple sources, and only follow directions if you understand them completely.

## Using the Applications menu

There are three menu headers in the top panel. Let's take a look at those menus in a bit more detail, starting with the Applications menu.

### Accessories

The Accessories sub-menu has many programs that are suited for productivity, including **Calculator** and **Tomboy Notes**.

Other programs in Accessories include the **CD/DVD Creator**, **gedit Text Editor** (similar to Windows Notepad and OS X's TextEdit), **Search for Files** (we'll discuss that later), and **Take Screenshot**, which allows you to take a picture of your desktop screen.

See [Chapter 3: Working with Ubuntu](#) for more information about the included applications.

### Games

Ubuntu has several games built in for your entertainment. If you enjoy card games, check out **AisleRiot Solitaire**. Perhaps you're looking for more of a challenge: in that case, there's **gBrainy** and **Sudoku**. The Games menu also includes **Mahjongg**, **Mines** (similar to Windows Minesweeper game) and **Quadrappel** (similar to Tetris).

### Graphics

Under the Graphics sub-menu, you'll find the **F-Spot** photo manager where you can view, edit and share pictures you've downloaded from your camera. **OpenOffice Drawing** allows you to create images using the OpenOffice suite, and **Simple Scan** is a program for scanning images and documents from your scanner.

### Internet

The Internet sub-menu is where you will find the **Firefox** web browser where you can surf the Internet, the **Empathy** Instant Messenger client to allow you to talk to your friends and family, and **Ubuntu One**, a program that allows you to sync and backup your files across many different computers.

Instant Messaging (IM) is a means of text-based communication where you can hold a conversation with someone over the Internet, instantly.

### Office

The Office sub-menu is where you will find most of the OpenOffice suite to help you create formal documents, presentation or slideshows. Also under Office is the **Evolution** email client and an online dictionary. The full OpenOffice suite installed in Ubuntu by default consists of:

To learn more about OpenOffice and to get help with using the OpenOffice suite of applications, visit <http://openoffice.org>



- OpenOffice Word Processor
- OpenOffice Spreadsheet
- OpenOffice Presentation
- OpenOffice Drawing (located under the Graphics sub-menu)

## Sound and video

The Sound and Video sub-menu has programs for working with multimedia, such as:

- **Brasero** disc burner
- **Totem** movie player
- **Pitivi** video editor
- **Rhythmbox** music player
- **Sound Recorder**

More information on all of these programs can be found in [Chapter 3: Working with Ubuntu](#).

## Ubuntu Software Center

At the very bottom of the Applications menu is the **Ubuntu Software Center**. This application gives you access to a library of software that you can download. The main screen in the Software Center is similar to your Applications menu, for easy searching. If you know the name of the program you're looking for, just enter it in the search box on the top right of the Software Center window. The Software Center keeps track of programs that are installed on your computer. If you're simply curious as to what is available, you can explore the software available using the categories listed on the left side of the window.

Learn more about the **Ubuntu Software Center** in [Chapter 5: Software Management](#).

## Using the System menu

The system menu, located on the top panel, contains two important sub-menus. Those sub-menus, Preferences and Administration, make it possible for you to make modifications to how your system looks and works. Through the System menu, you can also open the Ubuntu Help Center (**Help and Support**), find out more about your GNOME desktop environment (**About GNOME**), and find out more about Ubuntu in general (**About Ubuntu**). The System menu and its sub-menus are the equivalent of the Control Panel in Windows and OS X's Systems Preferences.

See [Chapter 4: Hardware](#) for more information on setting up Ubuntu.

## Preferences

You can use the Preferences sub-menu to modify the appearance of the desktop and windows, assign a default printer, designate keyboard shortcuts,

change the entries listed in the Applications menu, edit network connections, and change mouse settings, among other options.

## Administration

The Administration sub-menu contains programs you can use to monitor computer performance, change disk partitions, activate third-party drivers, manage all installed printers, and manage how your computer receives updates from Ubuntu. This sub-menu also has the **Synaptic Package Manager**, which is a more technical resource for locating and downloading software packages.

Most of the options in the Administration menu will prompt you to enter your user password when you click on them. This is a security feature to make sure that only authorized people are allowed to change system settings. To learn more about security in Ubuntu, see [Chapter 7: Security](#).

## Browsing files on your computer

There are two ways to locate files on your computer. You can use the **Search for Files** tool in the Applications menu, under Accessories. You can also use the Places menu on the top panel. See [Nautilus file browser](#) for more details.

## Places

The Places menu is a list of commonly-used folders (such as Home Folder, Documents, Music, Downloads). You can also browse all disks on the computer by clicking on Computer in the Places menu. If you set up a home network, you will find a menu item to access shared files/folders. You can also access the **Search for Files** tool from the Places menu, and browse a list of recently opened documents.

## Your home folder

The home folder is where each user's personal files are located. When you installed Ubuntu, you entered a name to set up your user account. That same name is assigned to your Home Folder. When you open your personal folder, you will see that there are several folders there—Desktop (any files that are located on the Desktop), Documents, Downloads, Music, Pictures, Public, Templates, and Videos.

You will also see a link named Examples. Double-click on that link to open a folder full of example documents, spreadsheets, and multimedia.

You should open the example content to see how different types of files are displayed in Ubuntu.

## Nautilus file browser

Just as Windows has Windows Explorer and OS X has Finder to browse files and folders, Ubuntu uses the **Nautilus** file browser by default. We will now look at the features offered in **Nautilus**.

## The Nautilus file browser window

When you open a folder on the Desktop or from the Places menu, the **Nautilus** file browser window opens up. The standard browser window contains the following features:

- ▶ *Menubar*: The menubar is located at the top of the window. These menus allow you to modify the layout of the browser, navigate, bookmark commonly used folders and files, and view hidden folders and files.
- ▶ *Toolbar*: The toolbar has tools for navigation and a tool to make the contents of the window larger or smaller. A drop-down list gives you the option of switching the view from Icon View to List View or Compact View. The search icon (which looks like a magnifying glass) opens up a box so you can search for a file by name.
- ▶ *Additional Navigation Tools*: Just below the toolbar, you will see a representation of where you are currently browsing. This is similar to the history function of most browsers; it keeps track of where you are and allows you to backtrack if necessary. You can click on the locations to navigate back through the file browser.
- ▶ The *left pane* of the file browser has shortcuts to commonly-used folders. When you bookmark a folder, it appears in the left pane. No matter what folder you open, the left pane will always contain the same folders. This left pane can be changed to display different features by clicking the down arrow beside “Places” near the top.
- ▶ The largest, *central pane* shows the files and folders in the directory that you’re currently browsing.

If you bookmark a folder, it will appear in the Places menu.

If you start typing a location, **Nautilus** will change the navigation buttons into a text field labeled Location.

## Opening files

To open a file, you can either double-click on its icon or right-click and select Open With (program).

## Copying and moving files and folders

You can copy files through the Edit menu in **Nautilus** (either using Copy or Copy To), or by right-clicking on the file and selecting Copy or Copy to from the popup menu. When using the Edit menu in **Nautilus**, make sure you’ve selected the file (click on it to select it) before you click on the Edit menu. Multiple files can be selected by holding the left mouse button down while dragging the cursor across the files you want. The click-drag move is good when you are selecting files whose icons are grouped together. To select files that are not grouped together, hold down the `Ctrl` key while clicking on each file you wish to select.

To move files and folders around, locate the file or folder you want to move. Click-and-hold on the file or folder and drag it to the new location.

You can also use the keyboard shortcuts `Ctrl + C` and `Ctrl + V` to copy and paste files and folders.

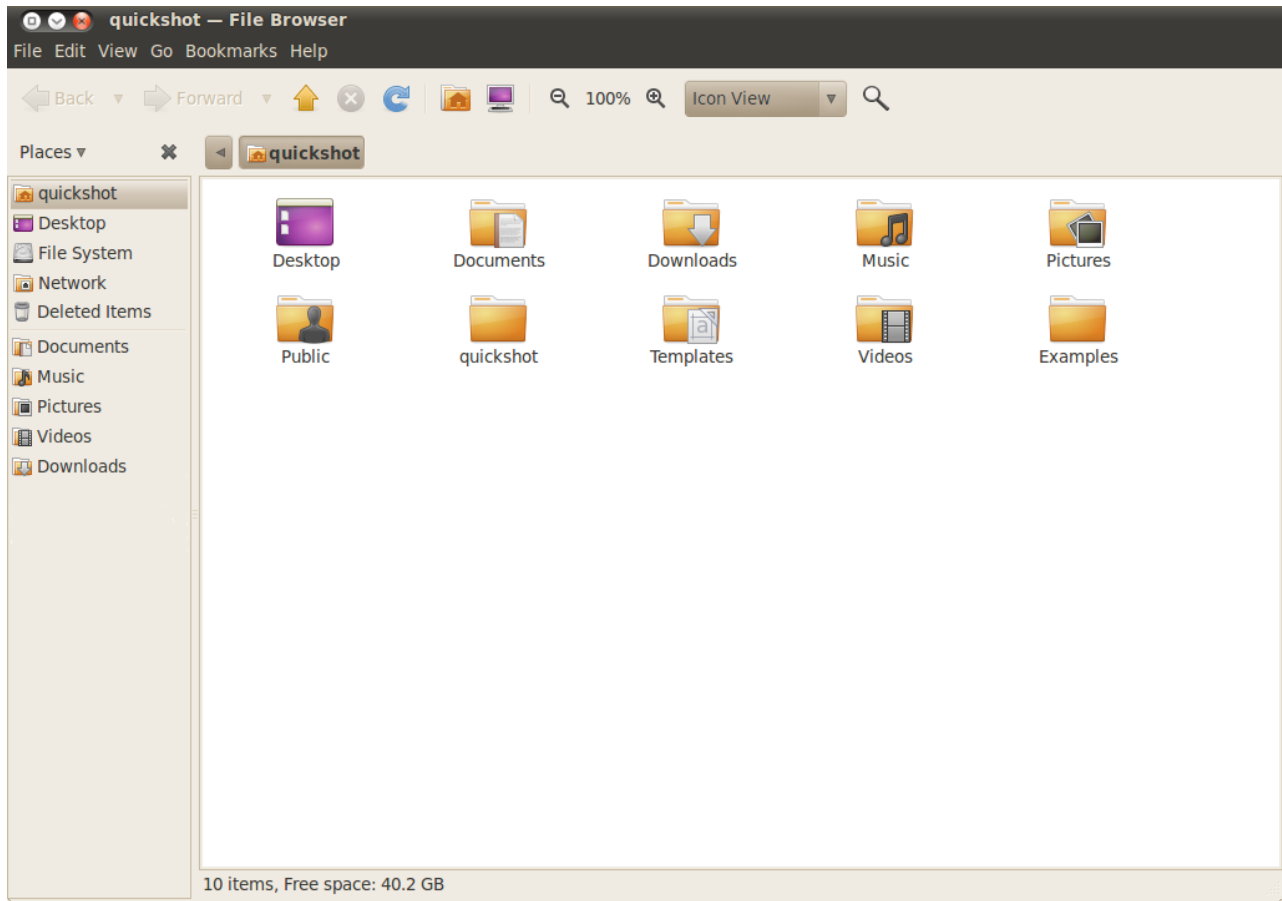


Figure 2.5: The default user folder layout.

Another way of moving folders or files is to use the Cut command, followed by Paste in the new location.

### Navigating between directories

To navigate between directories, use the bookmarks in the left pane of the **Nautilus** file browser. You can also retrace your steps by clicking on the name of a folder where it is listed just below the navigational icons. Double-clicking on a visible directory will cause you to navigate to it in **Nautilus**.

### Creating new folders

To create a new folder, you can either right-click on the file browser window (or on the Desktop) and select Create Folder from the popup menu, or select Create Folder from the File menu in **Nautilus**. If you wish to hide certain folders or files, place a dot (.) in front of the file name (i.e. “.Personal Finances”).

### Using multiple tabs and multiple **Nautilus** windows

The **Nautilus** file browser gives you the option to do tabbed browsing as an alternative to opening several **Nautilus** windows. To open new tabs in **Nautilus**, select New Tab from the File menu. If you prefer having separate **Nautilus** windows open, select New Window from the File menu.

You can move files and folders using the drag method using either separate windows or tabbed browsing. When you open a new tab, it will produce a second window of the current directory that you’re working in. To select a different directory for the new tab, navigate to the desired location using the left pane.

### Searching for files on your computer

Earlier, we mentioned that you can search for files on the computer by using the Search for Files feature on the Places menu in the top panel. You can also use the **Nautilus** browser to search for files, as explained above.

### Customizing your desktop

Now that you’ve been introduced to the GNOME desktop environment, let’s take a look at customizing its features.

The desktop itself will have a wallpaper that is part of the default Ubuntu theme, known as *Ambience*. The desktop is highly customizable. You can move the panels to the sides of the desktop, set the panels to autohide, and you can remove or add panels as you desire. By default, Ubuntu requires that you maintain at least one panel on the desktop. If you prefer a Windows

If you click on a file or folder with both the left and right mouse buttons at the same time, keep holding and drag it to your destination folder. When you let go of both mouse buttons, a menu will appear asking whether you want to copy, move or link the item.

Note that you can easily view hidden files by clicking the “View” menu and then clicking on “Show Hidden Files” or by pressing `Ctrl+H`, so this isn’t a security measure but a way of keeping folders tidy.

Cut removes the file from the source and pastes it into the destination.

Copy leaves the original file in the source folder and duplicates it to the destination.

Search for files quickly by pressing `Ctrl + F` in **Nautilus** and then typing what you want to find.

look, a panel at the bottom of the desktop can be set up to open and dock programs. If you prefer a Mac OS X look, you can keep the top panel and add an applications dock.

You can change the wallpaper and place program launchers or file shortcut icons on the desktop. For now, we will look at the default desktop and the options that it offers. As we move forward in this chapter, you will learn how to make some basic modifications to the desktop.

The top panel is customizable. Right-click on any open area of the panel to access the options menu. You can add applets to the panel for reference, information, or fun. You can also add program launchers to the top panel by opening the **Applications** menu. Once you find the program, drag it to an open space on the panel. In this way, the panel also serves as an applications dock. You can also adjust panel properties, such as orientation of the panel on the screen (top, bottom, left, right), panel size, and panel color and transparency.

To add more workspaces, right-click on the *Workspace Switcher applet* and select Preferences. For example, if you would like to have four workspaces you could select 2 rows by 2 columns (or 1 row by 4 columns).

## Appearance

There are many things you can do with the desktop appearance. The panels can be moved from their top or bottom positions to the sides of the screen, they can be set to hide, or you can change the panel color. To access these features, right-click the panel you want to modify and select Properties from the pop-up menu. The General tab has options to autohide, position the panel, and change the panel size. By default, the panels cover the entire length of the desktop. To change that, un-check the Expand box. To hide the panel on the left or right corner of the desktop, select the Show Hide Buttons. To put arrows on the hide buttons, check the Arrows on Hide Buttons box (by default, this box will be checked when you select Show Hide Buttons). To make the panel disappear, select Autohide. The panel will reappear when you place the cursor near the edge of the screen where the panel was before it hid. The Background tab in Panel Properties allows you to use the system theme (default setting), or select a color of your choosing. You can also set the transparency of the panels, or even select a picture or design from your files as a panel background.

Changing the desktop background is quite simple. You can either right-click on the desktop and select Change Desktop Background from the pop-up menu, or, from the top panel, select **System** ▶ **Preferences** ▶ **Appearance**. When the Appearance Preferences window opens up, click on the Background tab. You will see some stock backgrounds to choose from. If you are looking for something beyond these, you can use any picture on your computer as a desktop background. Click on the **Add...** button and find the picture

Some docks you can check out include Docky, Avant Window Navigator (AWN), and Cairo-Dock, all of which are available in the **Ubuntu Software Center**. See **Chapter 5: Software Management** for detailed instructions on how to find and install software.

you wish to use. Double-click on it, and the change will take effect immediately. Once you do this, the picture will become available in the Appearance Preferences. To find even more great desktop backgrounds, click on the “Get More Backgrounds Online” link at the bottom of the Appearance Preferences window. This link will open your web browser, and direct you to the <http://gnomelook.org> website.

You can also change the fonts through the Appearance Preferences window. Just click on the Fonts tab. You can individually set the font style and size for applications, documents, desktop items, window titles, and for anything using fixed width fonts. The Rendering section at the bottom of the Fonts window gives you four options for changing the way that fonts are drawn on your screen. Changing these may improve the appearance of text on different types of screens.

## Windows

The Appearance Preferences window has a Theme tab, where you can select a theme that will control the appearance of your windows, buttons, scroll bars, panels, icons, and other parts of the desktop. Ubuntu comes with nine themes to choose from, and the Ambience is selected by default. You can download additional themes by clicking the “Get More Themes Online” link on the bottom of the Themes window. The link will take you to the <http://gnomelook.org> website, where you can download from a large selection of themes. To add downloaded themes to the Themes tab, drag the downloaded file into the Themes window (this will work for most themes). You can customize any theme: select the theme, and click on the **Customize** button. This will allow you to mix elements of different themes, thus creating your own special theme.

## Screensaver

Ubuntu offers a selection of screensavers. By default, Ubuntu displays a blank screen after a period of inactivity. To select a different screensaver, click on the System menu on the top panel, select Preferences, and select Screensaver. This will open the Screensaver Preferences window. The available screensavers are listed on the left side of the window. When you select a screensaver, you will see a mini-preview in the window. To see how it will look on your screen, click the Preview button. To exit the preview, click on the **Leave Fullscreen** button on the top of the screen. The left and right arrow buttons in Fullscreen allow you to scroll through the available screensavers while still in full screen mode. Make sure that the “Activate Screensaver When Idle” option is selected to activate the screensaver. The slider can be adjusted to set the idle time. For added security, you can select the “Lock Screen When Screensaver Is Active” option. Ubuntu will ask you for your login password when you return to

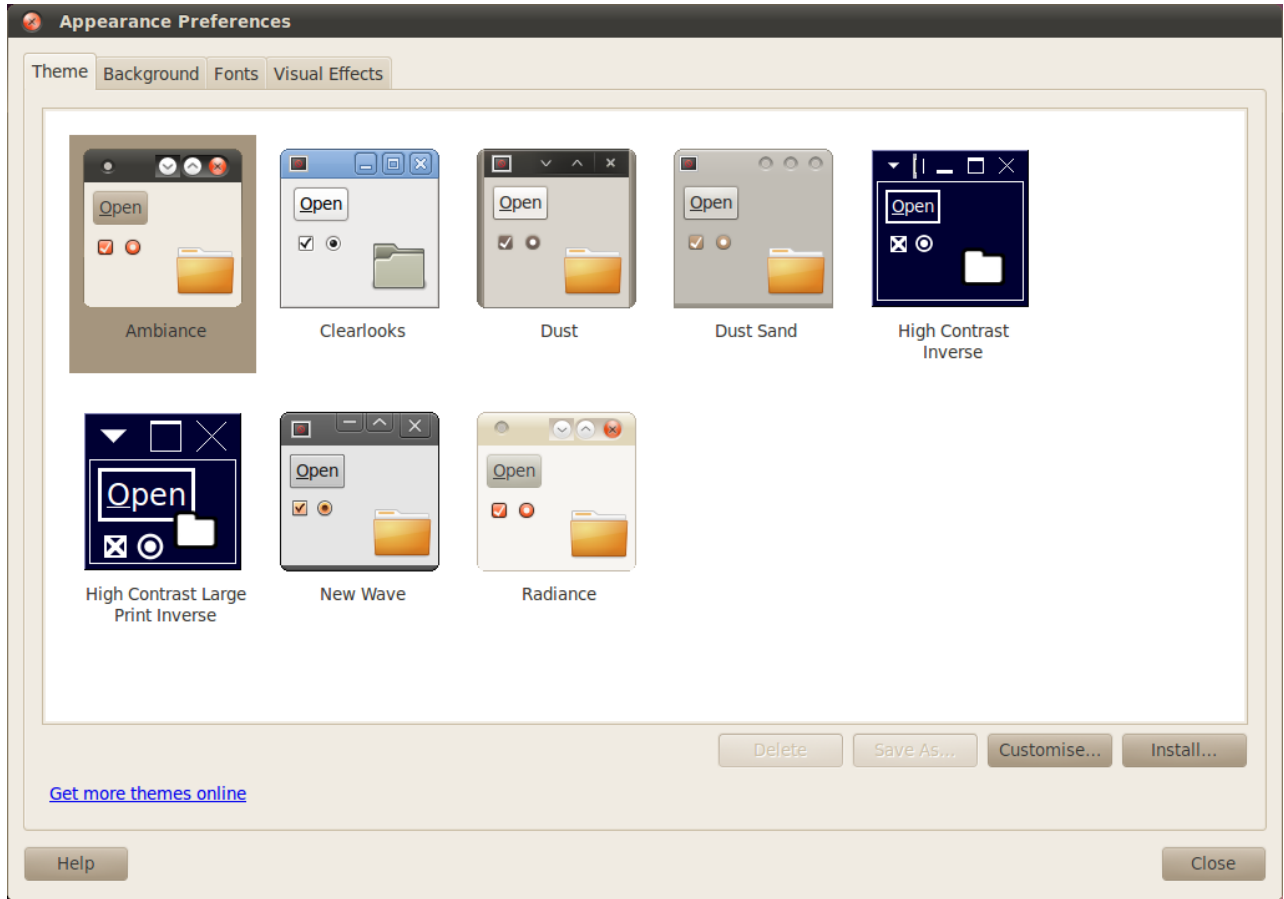


Figure 2.6: You can change the theme in the appearance preferences window.



using the computer. If the screensaver is active, you can return to work by pressing any key or moving your mouse.

## Accessibility

Ubuntu has built-in tools that make using the computer easier for people with certain physical limitations. You can find these tools by opening the System menu, then choosing Preferences, then **Assistive Technologies**. In addition to the **Assistive Technologies**, certain appearance tweaks, such as selecting high contrast themes and larger on-screen fonts can assist those with limited vision. You can also adjust keyboard and mouse settings through the Assistive Technologies window. Just click on the Keyboard Accessibility or Mouse Accessibility buttons in the Preferences section to access those features.

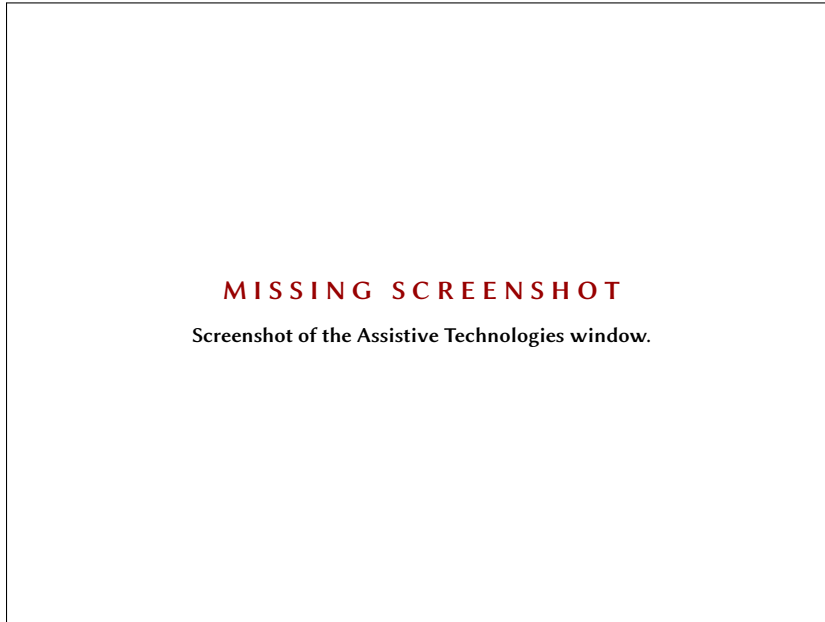


Figure 2.7: Screenshot of the Assistive Technologies window.

## Assistive Technologies

**Orca**, a tool for persons with visual impairments, is pre-installed on Ubuntu. To run **Orca**, Press ALT + F2, type **Orca** in the command box, and click on the **Run** button. **Orca**'s voice synthesizer will activate to navigate you through the various voice options, Braille, and screen magnification. Once you have selected all settings, log out of the computer. Once you log back in, the **Orca** settings you chose will automatically run every time you use your computer.

## Shutting down your computer

When you're done working on your computer, you can shut down the computer or place it in sleep mode through the Session Indicator applet on the far right end of the top panel. You can also access these options by pressing the `Ctrl+Alt+Del` keys.

### Logging out

To log out and leave the computer running, select **Log Out** from the Session Indicator menu.

### Sleeping

To save energy, you can put your computer into sleep mode, which will save its current condition and allow you to start more quickly while remaining on but using very little energy.

### Rebooting

To reboot your computer, select **Restart** from the Session Indicator menu.

### Shut down

To totally power down your computer, select **Shut Down** from the Session Indicator menu.

### Other options

From the Session Indicator menu, you can also select **Lock Screen** to require a password before using the computer again—this is useful if you need to leave your computer for some duration. You can also use the Session Indicator menu to set up a guest session for a friend to try Ubuntu, or to switch the desktop to let another use another user account without closing your running applications.

You can also lock your screen quickly by using the keyboard shortcut `Ctrl + Alt + L`.

# 3 Working with Ubuntu

## Getting online

Before you can use your computer to its fullest, you must make sure that you are connected to the Internet. This section of the manual will help you check or configure your Internet connection.

Ubuntu can connect to the Internet using a wired, wireless, or dialup connection. It also supports some more advanced connection methods.

A **wired** connection is used when your computer is physically connected to a router or an ethernet port via a cable. This is the most common connection for desktop computers.

A **wireless** connection is used when your computer is connected to the Internet via a wireless radio network, also known as Wi-Fi. It is common for laptop computers to use wireless connections, especially when on the go. In order to connect to a wireless connection you must have a working wireless network. This is usually the case if you've previously purchased and installed a **wireless router** or **access point**, or if you are in a place where a wireless network is already established.

A **dialup** connection is when your computer uses a **modem** and a telephone line to connect to an Internet service provider.

Ubuntu can also connect using mobile broadband, VPNs, or DSLs.

## NetworkManager

In order to connect to the Internet in Ubuntu, you need to use the **NetworkManager** utility. NetworkManager allows you to turn all networking on or off, and helps you manage your wired, wireless, and other connections.



Figure 3.1: This icon will show in the top panel when you are connected to a wired network.

You can access all the functions of NetworkManager using its icon in the top panel. Its icon may look different if you already have a connection, or if your connection is wired or wireless. If you hover your mouse over the icon, it should read “Wired connection...” or “No connection” or “Networking disabled” or something else related to networking or connections.

If you are currently connected to the Internet, you can click on the icon. This will bring up a list of network connections that are available to you, with your current connection highlighted in bold.

While this manual discusses only the Internet, connecting to office or other networks is usually performed in a similar manner.

**Note:** A VPN is a “Virtual Private Network”, and is sometimes used to help secure connections. DSLs are “Digital Subscriber Lines”, a type of a broadband connection.

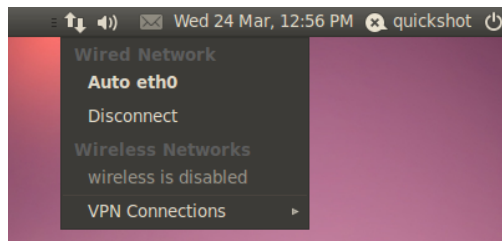


Figure 3.2: You can see the auto eth0 connection listed in the menu.

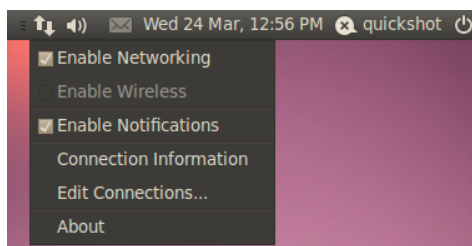


Figure 3.3: This is the menu when you right click the networking icon.

You can also right-click on the NetworkManager icon. This will open a menu where you can enable or disable networking, view technical details about your current connection, or edit all connection settings. In the image above, the check box next to “Enable Networking” is currently selected; you can deselect it to disable all network connections. This may be useful when you must shut off all wireless communication, for example in an airplane.

## Establishing a connection

In order to get online, you need to make sure that you have established a connection. There are many different ways to connect to the Internet with Ubuntu—some of these we will cover below.

### Wired

If you have an Ethernet wire running from a wall socket, a router, or some other device, then you will want to create a **wired network connection** in Ubuntu. This is the most common way for desktop and other stationary computers to connect to the Internet.

In order to connect with a wired connection, you need to know whether your network connection supports **DHCP**. This stands for “Dynamic Host Configuration Protocol”, and is a way for computers on your network to automatically receive IP addresses and related configuration. If you are unsure, try DHCP set up first; if this does not work then ask your network administrator for static address information.

**Note:** Are you already online? If the NetworkManager icon in the top panel shows a connection, then you may have successfully connected during the installation process. If so, you do not need to follow the rest of this section.

### Automatic connections with DHCP

If your network supports DHCP, you may already be online. To check if you are online, right-click on the NetworkManager icon in the top panel and select the **Connection Information** option.

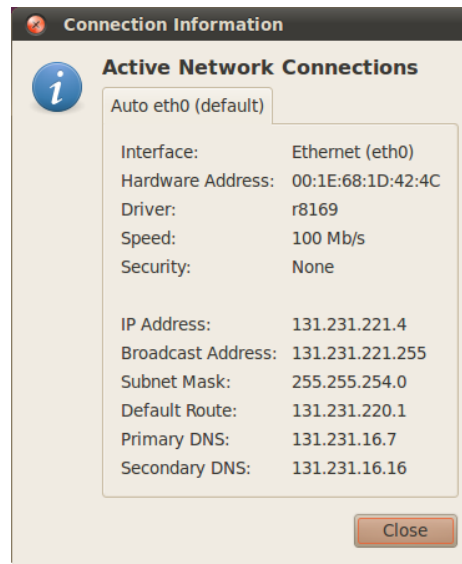


Figure 3.4: you can see you ip address and other information in this window.

You should see a window showing details about your connection. If your IP address is 0.0.0.0, or starts with 169.254, then DHCP did not successfully provide your computer an address. If it shows another address then most likely your connection was configured correctly.

If you cannot display the Connection Information window because the option on the NetworkManager menu is gray then your connection is not active. To see if your connection is turned on, verify that the **Enable Networking** option in the menu is selected.

Then, click on the NetworkManager icon. There should be an option for “Wired Network” in the menu that is displayed. If this option is followed by a gray word “disconnected” then find the option called “Auto eth0” in the list and choose it to attempt a connection. If “Auth eth0” is shown directly under “Wired Network” then your computer is set up correctly for DHCP.

If after following these steps you are still not online, you may want to check with your network administrator and possibly proceed with manual configuration with a static IP address.

### Manual configuration with static addresses

If your network does not support DHCP, then you need to know a few items of information before you can get online.

- ▶ **IP Address**—this will be your computer’s address. It is always given in the form of four numbers separated by decimal points. For example, 192.168.0.2
- ▶ **Network mask**—this tells your computer how large your local network is. It takes the same form as an IP address, but is usually something like 255.255.255.0
- ▶ **Gateway**—this is an IP address of your network’s router: where your computer sends data which gets sent on to the Internet
- ▶ **DNS servers**—one or more IP addresses of “Domain Name System” servers, which convert names like www.ubuntu.com into IP addresses like 91.189.94.156; one server is required, and any additional ones are used in case the first one fails.

If you do not already have these settings, you will need to consult your network administrator to receive them.

To manually configure a wired connection, right-click on the Network-Manager icon, and select **Edit Connections**. Make sure you are looking at the “Wired” tab in the “Network Connections” window that is displayed.

The list may already have an entry, such as “Auto eth0”, or having some other name. If a connection is listed, click on it and then click the **Edit** button. If no connection is listed, click the **Add** button instead.

If you are adding a connection, you first need to provide a name. In the “Connection name” field, please provide some name such as “Wired connection 1”.

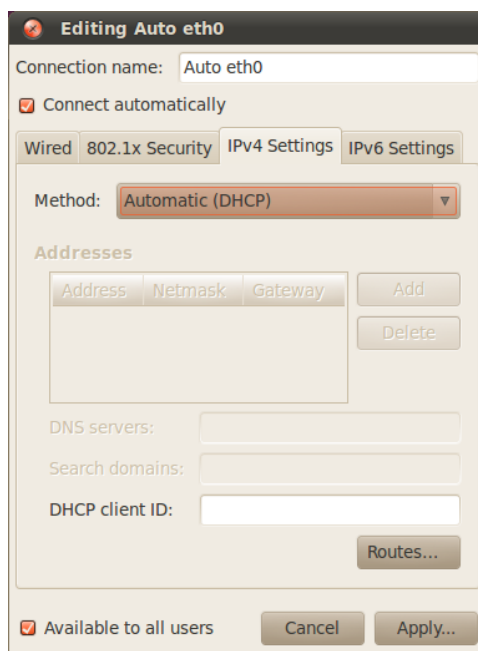


Figure 3.5: In this window you can manually edit a connection.

To set up the connection:

1. Under the connection name, make sure that the **Connect automatically** option is selected.
2. Switch to the **IPv4 Settings** tab.
3. Change the **Method** to “Manual”.
4. Click on the **Add** button next to the empty list of addresses.
5. Type in your IP address in the field below the **IP Address** header.
6. Click to the right of the IP address, directly below the **Network Mask** header, and type in your network mask. If you are unsure of your network mask, a mask of “255.255.255.0” is the most common.
7. Click to the right of the network mask, directly below the **Gateway** header, and type in your gateway address.
8. In the **DNS servers** field below, type in the addresses of your DNS server. If your network has more than one DNS server, enter them separated by spaces or commas.
9. Click **Apply** to save your changes.



*In some cases, you may need to enter a MAC address as well. This is entered on the “Wired” tab of the editing screen. A MAC address is a hardware address for your computer’s network card, and entering it is sometimes important for cable modem and similar connections.*

When you are once again at the “Network Connections” screen, your newly-added connection should now be listed. Click **Close** to return to the desktop. If you configured the connection correctly, the NetworkManager icon should have changed to show an active connection. Use instructions in the DHCP section, above, to check if your connection looks properly set up.

The final test of setting up your connection will come when trying to use a web browser, as described later in this chapter.

## Wireless

If your computer is equipped with a wireless (Wi-Fi) card, and you have a wireless network nearby, you should be able to set up a wireless connection in Ubuntu.

### Connecting to a wireless network for the first time

If your computer has a wireless network card, you should be able to connect to a wireless network. Most laptop and netbook computers have a wireless network card.

Ubuntu will usually detect available wireless networks. To see a list of wireless networks, click on the NetworkManager icon. Under the “Wireless Networks” heading, you should see a list of available wireless networks. Each network will be shown with a name on the left, and a signal meter on the right. A signal meter looks like a series of bars—the more bars that are shown

filled in, the stronger is the connection that your computer has to that wireless network.

A wireless network may be open to anyone to connect, or may be protected with network security. The list of available wireless networks should show a small icon of a “lock” next to the signal meter to the right of the name. You will need to know the correct password in order to connect to a secured wireless network.

To connect to a wireless network, click on one of the network names in the list. You should know which network you wish to connect to—it should be the one that you had set up when you installed your wireless router or access point. If you are in a place of business or education, the wireless network may be named with the name of the place.

If the network is open (the network signal meter did not have a lock next to it), a connection should be established within a few seconds. The Network-Manager icon in the top panel will display an animation while Ubuntu tries to connect to the network, and should then change to show signal meter bars once the connection is established.

Ubuntu will also show a notification message in the upper right of your screen informing you that a connection was established.

If the network is secured, Ubuntu will display a window called “Wireless Network Authentication Required”. This window means that the wireless network requires a password to allow a connection.



Figure 3.6: Type in your wireless network passphrase.

If you know the password, enter it in the **Password** field, and click on the **Connect** button. When typing, a password will be obscured to prevent people looking over your shoulder from seeing the typed-in password. If you prefer to see the password when typing it in, select the **Show password** option when typing your password.

After you click the Connect button, the NetworkManager icon in the top panel will display an animation while it tries to connect to the network. If you had entered the correct password, the NetworkManager icon should then change to show signal meter bars when the connection is established.



Much like for open wireless networks, Ubuntu will show a pop up message in the upper right of your screen informing you that a connection was established.

If you did not provide the correct password then the NetworkManager icon will display an animation, and then eventually once again display the “Wireless Network Authentication Required” window. You will now be able to provide the correct password, or click **Cancel** to abort your connection. If you do not know the password to the network you had selected, you will need to get the password from the network administrator.

Once you have a successful network connection established, Ubuntu will save this connection. This will make it easier to connect to the same wireless network in the future.

Will users get prompted for a keyring password here somewhere??

### Connecting to a saved wireless network

If you have previously successfully established a wireless connection, that connection’s password will be saved on your computer. This will allow you to connect to the same network without having to re-enter the password.

In addition, Ubuntu will automatically try to connect to a wireless network within range if it has is settings saved. This will work for both open and secured wireless network.

If you have multiple saved wireless networks in range, Ubuntu may choose to connect to one of them, while you may prefer to connect to another. In this case, click on the NetworkManager icon. You should see a list of wireless networks in range, along with their signal meters. Click on your desired network.

If the password and other settings have not changed, Ubuntu will connect to the wireless network you chose. If the password did change, Ubuntu will open the “Wireless Network Authentication Required” window. In this case, please follow instructions in the previous section.

### Connecting to a hidden wireless network

In some circumstances, you may need to connect to a hidden wireless network. These hidden networks do not broadcast their names—which means that they will not show up in the list of wireless networks in the NetworkManager menu. In order to be able to connect to a hidden network, you will need to get its name and its security settings from your network administrator.

To connect to a hidden network:

1. Click on the NetworkManager icon in the top panel.
2. Choose the **Connect to Hidden Wireless Network** option. Ubuntu should open the “Connect to Hidden Wireless Network” window.
3. By default, the **Connection** field should show “New..”—you can leave this unchanged.

4. In the **Network name** field, enter the name of the wireless network. This name is also known as an “SSID”. Please enter the network name exactly as it was given to you.
5. In the **Wireless security** field, select one of the options. If the network is open, leave this field as “None”. If you do not know the correct setting for the network you will not be able to connect to the hidden network.
6. Click on the **Connect** button.

The rest of the process should work exactly as in the section on the initial connection to wireless networks. Once set up according to the instructions above, the hidden network should show up in the list of saved networks.

verify that the hidden network does show up as described

### Disabling and enabling your wireless network card

Wireless access in Ubuntu is enabled by default if you have a wireless network card in your computer. In certain cases, for example on airplanes, you may need or be required to turn your wireless radio off.

To do this, right-click on the NetworkManager icon, and deselect the **Enable Wireless** option. Your wireless network will be turned off, and your computer will no longer search for available wireless networks.

To turn wireless networking back on, right-click on the NetworkManager icon, and click on the **Enable Wireless** option to re-select it. Your wireless network will be turned back on. Ubuntu will then search for nearby wireless networks and will connect to any saved networks within range.

### Changing an existing wireless network

At times, you may want to change the settings for a wireless connection that you have previously saved. Its password may have changed, or your system administrator asked you to change some networking or security settings.

To edit a saved wireless network connection:

1. Right-click on the NetworkManager icon and select **Edit Connections...**
2. A “Network Connections” window should open. Click on the **Wireless** tab to see a list of saved wireless connections
3. By default, this list shows connections in the order of most recently used to least recently used. Find the connection you want to edit, click on it, and then click **Edit**.
4. Ubuntu should open a window called “Editing *connection name*”, where *connection name* is the name of the connection you are editing. The window should display a number of tabs.
5. Above the tabs, you may change the **Connection name** field if you want to give the connection a more recognizable name
6. If the **Connect automatically** option is not selected, Ubuntu will detect the wireless network but will not automatically connect to it without you

choosing it from the NetworkManager menu. Select or deselect this setting as needed.

7. On the **Wireless** tab of the “Editing *connection name*” window, you may need to edit the **SSID** field. A “SSID” is the wireless connection’s network name—if set incorrectly, the network may not be detected and a connection may not be made. Please make sure that the SSID is set according to your network administrator’s instructions.
8. Below the SSID, you should see the **Mode** field. The “Infrastructure” mode means that you would be connecting to a wireless router or access point. This is the most common mode for wireless networks. The “Ad-hoc” mode is a computer-to-computer mode and is often only used in advanced cases.
9. On the **Wireless Security** tab of the “Editing *connection name*” window, you may need to change the **Security** field to the correct setting. A selection of **None** means that you are using an open network with no security. Other selections may require slightly different additional information:
  - ▶ **WEP 40/128-bit Key** is an older security setting still in use by some wireless networks. If your network uses this security mode, you will need to enter a key in the **Key** field that should appear after you select this mode. The key is usually entered as a sequence of digits 0 through 9 and letters A through F.
  - ▶ **WEP 128-bit Passphrase** is the same older security setting as the entry above. However, instead of a key, your network administrator should have provided you with a text passphrase—a password—to connect to the network. Once you select this security mode, you will need to enter your passphrase in the **Key** field.
  - ▶ **WPA & WPA2 Personal** is the most common security mode for wireless network connections at home and at businesses. Once you select this mode, you will need to enter a password in the **Password** field.
  - ▶ If your network administrator requires LEAP, Dynamic WEP, or WPA & WPA2 Enterprise security, you will need to have the administrator help you set up those security modes
10. On the **IPv4 Settings** tab, you may need to change the **Method** field from “Automatic (DHCP)” to “Manual”, or one of the other methods. For setting up manual settings (also known as static addresses), please see the section above on manual set up for wired network connections.
11. When you finish making changes to the connection, click **Apply** to save your changes and close the window. You can click **Cancel** to close the window without making changes.
12. Finally, click **Close** on the “Network Connections” window to return to the desktop.

is this true? or will it support a passphrase too here?

After making changes, your new settings should go into effect immediately.

TODO confirm if this is true

## Troubleshooting common problems with wireless connections

Needs to be written or removed

### Dialup

#### Other connection methods

There are other ways to get connected with Ubuntu.

With NetworkManager, you can also configure Mobile Broadband connections to keep online through your cellular or other mobile data carrier.

expand; it's actually pretty simple

You can also connect to DSLs (Digital Subscriber Lines), which are a method of Internet connection that uses your telephone lines and a “DSL modem”.

expand

You can also use NetworkManager to establish a VPN (Virtual Private Network) connection. These are commonly used to create secure connectivity to a workplace.

I think that in some areas, VPNs are used in addition to normal DSL/Cable/fibre connections to the home... if so, need to cover them here at least briefly

### Browsing the web

Once you have connected to the Internet, you should be able to browse the web with Ubuntu. **Mozilla Firefox** is the default application for browsing the web in Ubuntu.

#### Starting Firefox

To start Firefox, open the **Applications** menu, then choose **Internet**, and choose **Firefox Web Browser**.

If your keyboard has a “WWW” button, you can also press that button to start Firefox.

#### Navigating web pages

##### Viewing your homepage

When you start Firefox, you will see your home page. By default, you will see the **Ubuntu Start Page**.

To display more web content on the screen, you can use *Full Screen mode*. Full Screen mode condenses the Firefox’s toolbars into one small toolbar. To enable Full Screen mode, simply choose **View ▶ Full Screen** or press F11.

To go to your home page quickly, press **Alt+Home**.

##### Navigating to another page

To navigate to a new web page, you need to type its Internet address (also known as a URL) into the Location Bar. URLs normally begin with “http://”

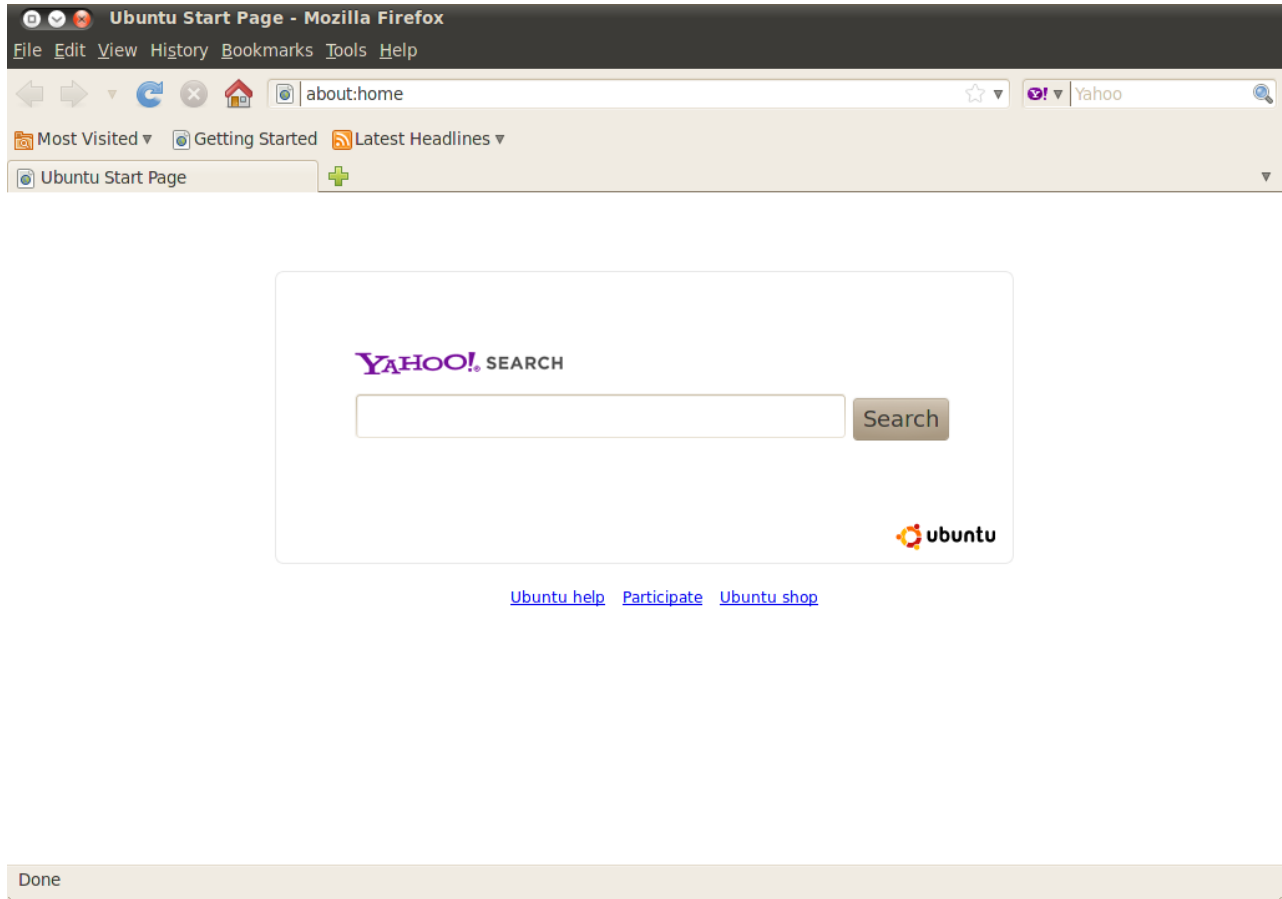


Figure 3.7: This is the default home page for Firefox web browser.

followed by one or more names that identify the address. One example is “http://www.ubuntu.com/”.



Figure 3.8: You can enter a web address in the location bar.

To navigate:

1. Click on the Location Bar to select the URL that is already there.
2. Type the URL of the page you want to visit. The URL you type replaces any text already in the Location Bar.
3. Press Enter.

To quickly select the URL of the Location Bar, press `Ctrl+L`.

If you don't know a URL, try typing something specific to the page you want to visit (for example a name or other search request) into the Location Bar and press Enter. This will search your preferred search engine—Yahoo by default—for that term, and take you to the web page that is the top result from the search.

### Clicking a link

Most web pages contain links you can click to move to other pages.

To click a link:

1. Move the mouse pointer until it changes to a pointing finger. This happens whenever the pointer is over a link. Most links are underlined text, but buttons and pictures on a web page can also be links.
2. Click on the link once. While Firefox locates the link's page, status messages will appear at the bottom of the window.

### Retracing your steps

If you want to visit a page you have seen before, there are several ways to do so.

- ▶ To go back or forward one page, click on the **Back** or **Forward** button.
- ▶ To go back or forward more than one page, click on the small triangles on the **Back** and **Forward** buttons. You should see a list of pages you've recently visited. To return to a page, select it from the list.
- ▶ To see a list of any URLs you've typed into the Location Bar, click on the down arrow at the right end of the Location Bar. To view a page, select it from the list.
- ▶ To choose from pages you've visited during the current session, open the **History** menu and choose from the list in the bottom section of the menu.

- ▶ To choose from pages you've visited during the past several sessions, open the **History** menu and choose **Show All History**. Firefox should open a "Library" window, which should a list of folders. Click on the folders to displays subfolders, or titles of web pages you've visited in the past. Click on a page's title to view that page.

### Stopping and reloading

If a page is loading too slowly or you no longer wish to view a page, click on the **Stop** button.

To reload the current page or to get the most up-to-date version, click on the **Reload** button or press **Ctrl+R**.

### Opening new windows

At times, you may want to have more than one browsing window. This may help you organize your browsing session better, or separate web pages that you are viewing for different reasons.

There are two ways to create a new window:

- ▶ On the menubar, open the **File** menu, then choose **New Window**
- ▶ Press **Ctrl-N**

Once a new window has opened, you can use it just like the first window—including navigation and opening tabs.

### Opening a link in a new window

Sometimes, you may want to click on a link to navigate to another web page, but do not want the original page to close. To do this, you can open the link you'd like to click in its own window.

There are two ways to open a link in its own window:

- ▶ Right-click on a link to open its popup menu. Choose the **Open Link in New Window** option. A new window should open, containing the web page for the link you clicked.
- ▶ Press-and-hold the **Shift** key while clicking the link. A new window should open, containing the web page for the link you clicked.

### Tabbed browsing

If you would like to visit more than one web page at a time, you can use *Tabbed Browsing* to navigate the web.

Tabbed browsing lets you open several web pages within a single Firefox window, each displaying in its own tab. This frees up space on your desktop since you don't have to have a window open for every web page you're currently visiting. You can open, close, and reload web pages in one place without having to switch to another window.

### Opening a new blank tab

There are three ways to create a new blank tab:

- ▶ Click on the **New Tab** button on the right side of the last tab.
- ▶ On the menubar, open the **File** menu, and then choose **New Tab**.
- ▶ Press **Ctrl+T**.

When you create a new tab, it will contain a blank page with the Location Bar focused. Start typing a web address (URL) or other search term to open a website in the new tab.

### Opening a link in its own tab

Sometimes, you may want to click on a link to navigate to another web page, but do not want the original page to close. To do this, you can open the link you'd like to click in its own tab.

There are three ways to open a link in its own tab:

- ▶ If your mouse has a middle button, or a wheel, click on the link with the middle mouse button or wheel. A new tab should open, containing the web page for the link you clicked.
- ▶ Click on the link with the left mouse button, and keep holding down the mouse button. Drag the link up to a blank space on the tab bar, and release the mouse button. A new tab should open, containing the web page for the link you dragged.
- ▶ Press-and-hold the **Ctrl** key while clicking the left mouse button on the link. A new tab should open, containing the web page for the link you clicked.

### Closing a tab

Once you are done viewing a web page in a tab, you can close that tab.

There are three ways to close a tab:

- ▶ Click on the **Close** button on the right side of the tab you want to close.
- ▶ On the menubar, open the **File** menu, and then choose **Close Tab**.
- ▶ Click on the tab you want to close with the middle mouse button, or the mouse wheel, if you have one.
- ▶ Press **Ctrl+W**.

### Restoring a closed tab

Sometimes, you have closed the wrong tab by accident, or for another reason would want to bring back a tab that you've recently closed.

To bring back a tab you've closed:

- ▶ On the menubar, open the **History** menu, choose **Recently Closed Tabs**, and then choose the name of the tab you want to restore.



- ▶ Press `Ctrl+Shift+T` to re-open the most recently closed tab.

### Changing the tab order

To move a tab to a different location on the tab bar, drag it there using your mouse. Click-and-hold on the tab and drag the tab to a new place on the tab bar. While you are dragging the tab, Firefox will display a small indicator to show where the tab will be moved.

### Moving a tab between windows

If you have more than one Firefox window open, you can move an open tab to a different window. You can also split a tab off to become its own window.

To move a tab from one Firefox window to another already open window, click-and-hold on the tab and drag it to the tab bar on the other Firefox window. When you release the mouse button, the tab will be attached to the new window.

To move a tab from one window into its own window, click-and-hold on the tab and drag the tab below the tab bar. When you release the mouse button, the tab will become a new window.

## Searching

You can search the web, or other collections, from within Firefox without first visiting the home page of the search engine.

By default, Firefox will search the web using the Yahoo search engine.

### Searching the web

To search the web in Firefox, type a few words into the Firefox Search Bar.

For example, if you want to find information about the *world cup*:

1. Click on the **Search Bar**.
2. Type the phrase “*world cup*”. Your typing replaces any text currently in the Search Bar.
3. Press `Enter` to search.

Search results from Yahoo for “world cup” should appear in the Firefox window.

### Selecting search engines

If you do not want to use Yahoo as your search engine in the Search Bar, you can change the search engine that Firefox uses.

To change the search engine, click on the icon on the left side of the Search Bar. Choose one of the other search engines in the list. Some search engines,

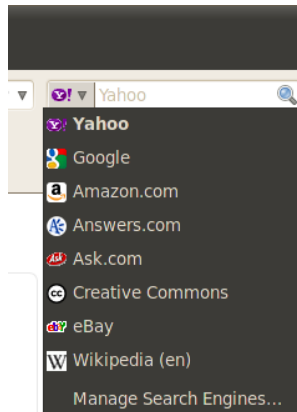


Figure 3.9: These are the other search engines you can use from the search Firefox bar.

like Yahoo, search the whole web; others, like Amazon.com, only search specific sites.

### Searching the web for words selected in a web page

Sometimes, you may want to search for a phrase that appears on a different web page. Instead of copying and pasting the phrase into the Search Bar, Firefox allows you to search the web for words you select within a web page.

1. Highlight any words in a web page using your left mouse button.
2. Right-click on the text you've highlighted to open a popup menu. Choose the option **Search [Search Engine] for "[your selected words]"**.

Firefox should open a new tab which should contain search results for your highlighted words using the currently selected search engine.

### Searching within a page

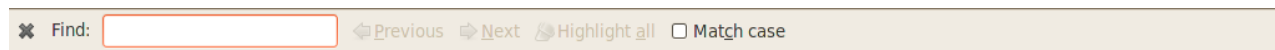


Figure 3.10: You can search within webpages using the find toolbar.

You may want to look for specific text within a web page you are viewing. To find text within the page you are currently viewing in Firefox:

1. Press **Ctrl+F** or choose **Edit • Find** to open the **Find Toolbar** at the bottom of Firefox.
2. Enter the text you want to find into the **Find** field in the Find Toolbar. The search automatically begins as soon as you type something into the field.
3. Once some text has been matched on the web page, you can:
  - Click **Next** to find text in the page that is below the current cursor position

- ▶ Click **Previous** to find text that is above the current cursor position.
- ▶ Click on the **Highlight all** button to highlight occurrences of your search words in the current page.
- ▶ Select the **Match case** field to limit the search to text that has the same capitalization as your search words.

To find the same word or phrase again, press F3 or choose **Edit ▸ Find Again** from the menubar.

## Copying and saving pages

With Firefox, you can copy part of a page so that you can paste it elsewhere, or save the page or part of a page as a file on your computer.

### Copying part of a page

To copy text from a page:

1. Highlight the text with your mouse.
2. Choose **Edit ▸ Copy** from the menubar.

You can paste the text into other programs.

To copy a link (URL) or an image link from a page:

1. Position the pointer over the link or image.
2. Right-click on the link or image to open a popup menu.
3. Choose **Copy Link Location** or **Copy Image Location**. If an image is also a link, you can choose either menu item.

You can paste the link into other programs or into Firefox's Location Bar.

### Saving all or part of a page

To save an entire page in Firefox:

1. Choose **File ▸ Save Page As** from the menubar. Firefox should open the "Save As" window.
2. Choose a location for the saved page.
3. Type a file name for the page, and click **Save**.

To save an image from a page:

1. Position the mouse pointer over the image.
2. Right-click on the image to display a popup menu.
3. Choose **Save Image As**. Firefox should open the "Save Image" window.
4. Choose a location for the saved image.
5. Enter a file name for the image and click **Save**.

## Changing your homepage

By default, Firefox will show the **Ubuntu Start Page** when you start Firefox. If you prefer to display another page when you start Firefox, you will need to change your homepage preference.

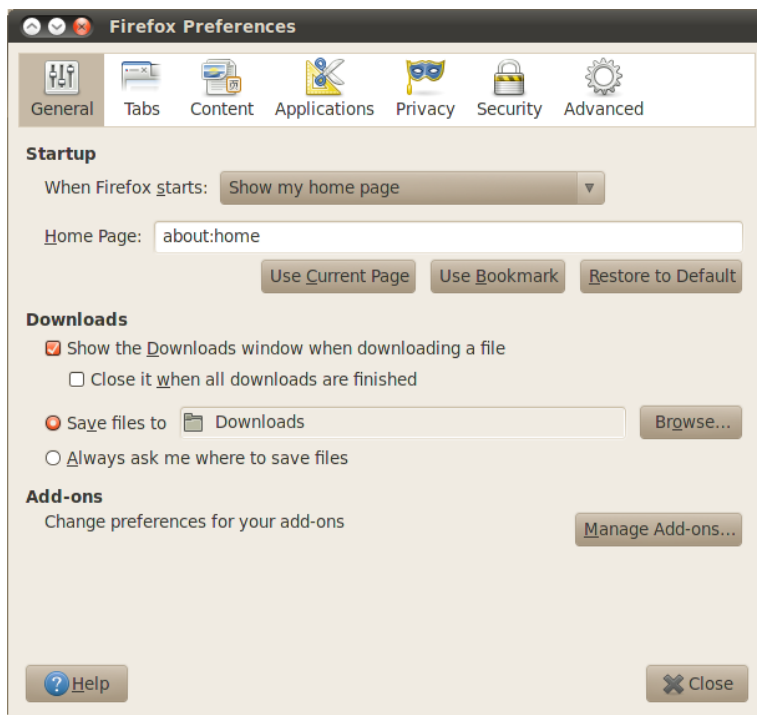


Figure 3.11: You can change Firefox settings in this window.

To change your homepage:

1. Navigate to the page that you would like to become your new homepage.
2. Choose **Edit ▶ Preferences** from the menubar.
3. In the “Startup” section on the **Main** tab, which is shown by default, click on the **Use Current Pages** button. If you had more than one tab open then all the tabs will be opened when Firefox starts.
4. Click **Close**.

## Bookmarks

When browsing the web you may want to come back to certain web pages again without having to remember the URL.

In Firefox, you can create *Bookmarks*, which are saved in the web browser and which you can use to navigate back to your picked web pages.

## Bookmarking a page

If you have navigated to a web page and would like to bookmark it for future visits, you will need to add the page as a bookmark.

There are two ways to bookmark a page:

- ▶ From the menubar, choose **Bookmarks** and then **Bookmark This Page**. A window will open. Provide a descriptive name for the bookmark, and click on the **Done** button.
- ▶ Press `Ctrl+D`. A window will open. Provide a descriptive name for the bookmark, and click on the **Done** button.

## Navigating to a bookmarked page

To navigate to a bookmarked page, open the **Bookmarks** menu from the menubar, and then choose your bookmark's name. Firefox should open the bookmark in the current tab.



*You can also press `Ctrl+B` to display bookmarks in a sidebar on the left side of the browser window. Press `Ctrl+B` again to hide the sidebar*

## Deleting a bookmark

If you would like to delete a bookmark that you have previously made, open the **Bookmarks** menu from the menubar, and then right-click on your bookmark's name. Firefox should open a popup menu for your bookmark. Choose the **Delete** option from the menu. Your bookmark should then be deleted.

## History

Whenever you are browsing the web, Firefox is saving your browsing history. This allows you to come back to a web page that you have previously visited without needing to remember the page's URL, or even bookmarking it.

To see your most recent history, open the **History** menu from the menubar. The menu should then display several of the most recent web pages that you were viewing. Choose one of the pages to return to it.

To see history from an older time, press `Ctrl+H`. Firefox should open a "sidebar" on the left side of the browser window, which should contain your browsing history categorized as Today, Yesterday, Last 7 days, This month, and then monthly for the times before that.

Click on one of the item categories in the sidebar to expand this category, and see the pages you've visited during that time period. Then, once you find the page you need, click on its title to return to it.

You can also search for a page by its title. Enter a few letters, or a word, in the **Search** field at the top of the history sidebar. The sidebar should then display a list of web pages whose titles match your search words. Click on the title of the page you need to return to it.

If you would like to hide the history sidebar again, press **Ctrl+H** again.

## Clearing private data

At times, you may want to delete all private data that Firefox stores about your browsing history. While this data is stored only on your computer, you may want to remove it if you share access to your computer.

To delete your private data, open the **Tools** menu from the menubar, and choose **Clear Recent History**. In the drop down list for the **Time range to clear**, choose how far back you would like Firefox to delete.

If you would like more control over what you clear, click on the **Details** text to display a list of options.

When done, click on the **Clear Now** button.

## Using a different web browser

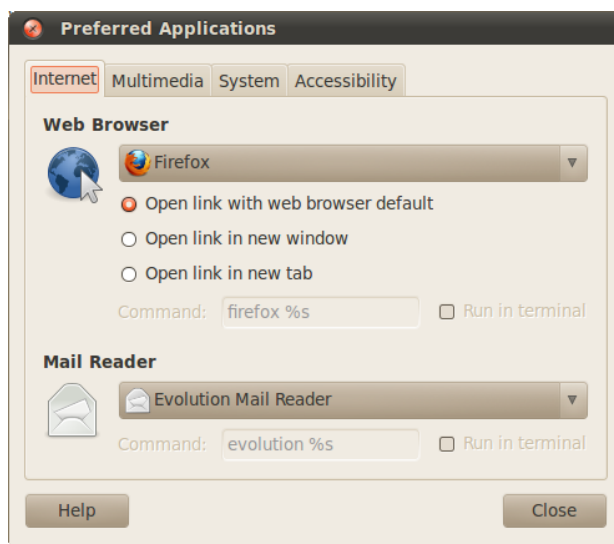


Figure 3.12: You can change the default browser in this window.

If you install a different web browser on your computer, you may want to have Ubuntu use that new browser by default when you click on links from emails, instant messages, and other places.

To change your preferred web browser, open the **System** menu from Ubuntu’s main menubar. Then, choose **System**, and choose **Preferred Applications**. Ubuntu should then open the “Preferred Applications” window.

In the “Web Browser” section, choose your new preferred web browser, and click **Close**.

## Reading and composing email

To send and receive email in Ubuntu, you can use the **Evolution** mail application. To start Evolution, open the **Applications** menu, then choose **Internet** and then **Evolution Mail**.

In addition to email, Evolution also can help manage your contact list, your calendar, and a list of tasks.



*You do not need to use Evolution if you are using a webmail system, such as Yahoo Mail, Hotmail, or Gmail. To access these services, use the Firefox web browser to access them on the web.*

## Running Evolution for the first time

When you start Evolution for the first time, you will need to configure it to connect to your email account.

When Evolution starts you should see the “Evolution Setup Assistant” window, welcoming you to Evolution. Click **Forward** to continue with the setup.

Next, on the “Restore from backup” screen, Evolution may ask you to restore from a previous backup. Since this is the first time you are running Evolution, you can click **Forward** to skip this step.

On the next screen, “Identity”, you need to enter your name and the email address you wish to use with Evolution. Enter your full name in the **Full Name** field, and the full email address in the **Email Address** field. You can fill in the optional information, or leave it unchanged if you desire. Click **Forward** when you are done.

Next, you should see the “Receiving Email” screen. On this screen, you need to provide Evolution with the details of your email servers. If you do not know these details, you will need to ask your network administrator or check with your email provider.

There are two common types of Internet email connections: IMAP, and POP. These are described below. In work environments there are sometimes other types, such as Microsoft Exchange or Novell GroupWise—for more information on those types of connections, please see the documentation for Evolution.

### Setting up an IMAP connection

IMAP connections allow you to manage your email remotely—the actual email and folders reside on your email server, while Evolution allows you to view, edit, and delete the messages and folders as needed.

If your email provider recommends an IMAP connection, choose **IMAP** from the **Server Type** drop-down list. In the **Server** field, enter the Internet name of your mail server. For example, **imap.example.com**. In the **Username**

field, enter the username that you use to log into your email system, for example **joe.x.user**.

Your email provider may specify the security settings you will need to use in order to receive email. If your connection does not use security, leave the **Use Secure Connection** drop-down list set to **No encryption**. Otherwise, choose either **TLS encryption** or **SSL encryption** as recommended by your email provider.

After choosing these options, click **Forward** to proceed to “Receiving Options” screen. While it is normal to leave all options unselected, you may want to select the **Check for new messages** option to have Evolution automatically check email on a regular basis.

When you are finished setting the options, click **Forward** to continue to the next screen.

### Setting up a POP connection

POP connections let you manage your email locally—Evolution will connect to your email provider and download any new messages you may have received, and store them in folders on your computer. The messages will be deleted off the server.

If your email provider recommends an POP connection, choose **POP** from the **Server Type** drop-down list. In the **Server** field, enter the Internet name of your mail server. For example, **pop.example.com**. In the **Username** field, enter the username that you use to log into your email system, for example **joe.x.user**, or **joe.x.user@example.com**.

Your email provider may specify the security settings you will need to use in order to receive email. If your connection does not use security, leave the **Use Secure Connection** drop-down list set to **No encryption**. Otherwise, choose either **TLS encryption** or **SSL encryption** as recommended by your email provider.

After choosing these options, click **Forward** to proceed to “Receiving Options” screen. While it is normal to leave all options unselected, you may want to select the **Check for new messages** option to have Evolution automatically check email on a regular basis.

You may also wish to adjust the Message Storage options, which determine what Evolution does after downloading email to your computer. Select the **Leave messages on server** option to have Evolution keep the messages on your email system after downloading them. This will allow you to use another computer to redownload all of your new messages. Select the **Delete after 7 days** option to have Evolution keep the messages for a few days, and delete them after a while. You can adjust the number of days that Evolution keeps the messages.

When you are finished setting the options, click **Forward** to continue to the next screen.



### Setting up your Sending options

The next screen should be the “Sending Email” screen. Here, you will need to configure your connection for sending email through your email provider.

The most common type of sending connection is SMTP, which is the default server type selected.

In the **Server** field, type in the name of the outbound mail server (also known as the SMTP server), as described by your email provider. For example, **mail.example.com**.

If your email provider requires authentication, select the **Server requires authentication** option. This is common for commercial email providers. In the “Authentication” section of the screen, choose the type of authentication from the **Type** drop-down list—the most common authentication type is “PLAIN”. Enter your username below, in the **Username** field, for example **joe.x.user**, or **joe.x.user@example.com**.

Your email provider may specify the security settings you will need to use in order to send email. If your connection does not use security, leave the **Use Secure Connection** drop-down list set to **No encryption**. Otherwise, choose either **TLS encryption** or **SSL encryption** as recommended by your email provider.

After choosing these options, click **Forward** to proceed to the next screen.

### Finalizing account options

On the next screen, “Account Management”, enter a descriptive name for this account. If you plan to use more than one email provider with Evolution, you will use this name to distinguish between the different accounts.

When finished, click **Forward**. This should open the “Done” screen. If you believe that you’ve entered the correct options, click **Apply** to finish setup. Otherwise, click **Back** to go back one or more screens to correct your settings, or click **Cancel** to abort setup and discard your account settings.

After you finish setup, Evolution may ask you if you would like to make it your default email client. Click **Yes** if you plan on reading and sending email only with Evolution. Click **No** if you plan on installing or using a different email program.

### Around the Evolution workspace

The Evolution window is divided into four parts. At the top are the menubar and toolbar. The menubar lets you access most of the functionality of Evolution, while the toolbar provides some convenient shortcuts to some of the most frequently used features.

On the left side of the window is the folder list. Every message that you send or receive will reside in one of the folders in this list.

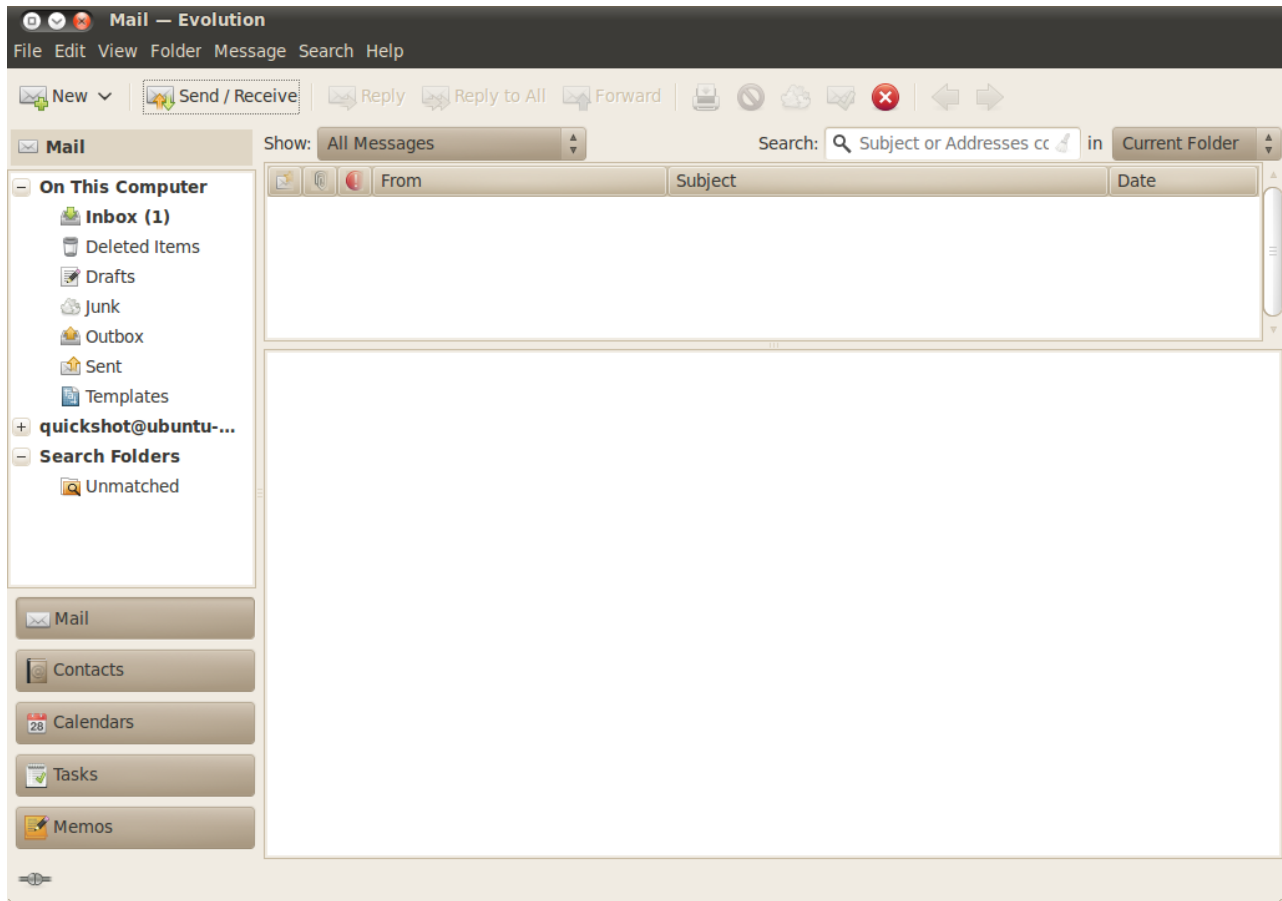


Figure 3.13: Evolution allows you to manage your mail, contacts and tasks.

Below the folder list on the left side of the window are the **Mail**, **Contacts**, **Calendars**, **Tasks**, and **Memos** buttons. When working with email, the **Mail** button is selected. The other buttons take you to other parts of Evolution.

On the right side of the window are the message list, and the message preview beneath it. The message list shows all of the messages in the currently selected folder, or matching your search request. The message preview shows the contents of your currently selected message in the list above the preview.

### Understanding the folder list

The folder list is the way that Evolution separates and categorizes your email. The first group of folders in the list is titled “On This Computer”. This set of folders are your *local* folders—they reside on your computer only. If you use POP servers to retrieve your email, any new message will be placed in the **Inbox** local folder.

You can click on any folder to see its contents appear in the message list on the right side of the window.

Each of the initial folders in the list is special:

- ▶ **Inbox** stores your incoming messages.
- ▶ **Drafts** stores messages that you’ve worked on, but have not yet sent.
- ▶ **Junk** stores messages that have been identified as being junk. Junk mail is also known as “spam”.
- ▶ **Outbox** contains messages that you’ve finished composing, but which have not been sent yet. For example, if you are working on your email while offline (such as in an airplane), you can still click the **Send** button on an email message that you finish writing. The message will be moved to the Outbox, and will remain there until the next time you are able to send and receive messages. Once you can send and receive messages, all email messages in the outbox will be sent out.
- ▶ **Sent** contains copies of messages that you had sent. Once a message from an Outbox is sent, it is copied to the Sent folder.
- ▶ **Templates** stores email message templates—partial messages that you have composed and saved as templates. You can use a message stored in the template folder as a starting point for other messages.
- ▶ **Trash** contains messages that you have deleted. By default, the trash will be emptied every time you exit Evolution.

If a folder contains any unread messages, the folder’s name will be displayed in bold, and the number of unread messages will be displayed in parentheses following the folder name.

If you use an IMAP server to retrieve your email, then your remote IMAP folders will be shown in the folder list below the “On This Computer” section. The list of remote folders will be shown with a heading of the name that you have given to the account. With IMAP, your email messages will arrive in your remote Inbox.

Towards the bottom of the folder list, Evolution will show a list of “Search Folders”. These are special folders that represent certain messages that match search rules. Please see the section on Finding Messages for more on search folders.

## Managing folders

In addition to the initial folders, you can create your own folders to manage your email.

To create a new folder, open the **Folder** menu, and then choose **New**. Enter a name for the folder that you would like to create. Then, from the list of folders below, select the *parent* folder. For example, if you would like your new folder to be placed under the Inbox then select the Inbox folder. If you select “On This Computer”, then your new folder will be placed under “On This Computer” in the folder list.

Once you’ve made your selection, click on the **Create** button to create the folder. Your new folder should now be in the folder list.

You can move folders that you have created. To do so, click on the folder that you would like to move, hold down the mouse button, and drag the folder to a new parent folder. Once the mouse cursor highlights a new parent folder, release the mouse button to finish the move.

You can also right-click on a folder, and choose the **Move...** option. Then, select the new parent folder, and click on the **Move** button.

To delete a folder, right-click on the folder and choose the **Delete** option. To confirm that you want to delete the folder, click on the **Delete** button.

## Checking and reading messages

### Checking mail

When you finish setup, or when you start Evolution in the future, Evolution will first try to connect to your email provider to check your email. In order to connect, Evolution will need to know your email account password, and will ask you for it.

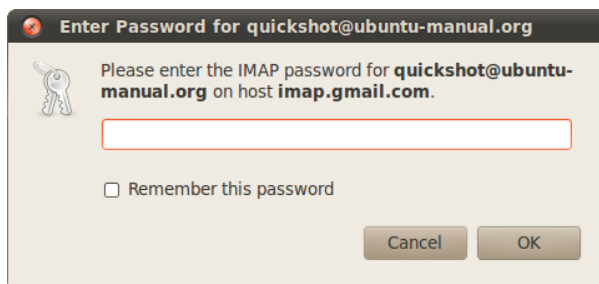


Figure 3.14: You need to enter your password to authenticate your account.

In the “Enter Password” window, enter your password and click “OK”. If you wish for Evolution to remember this password and not ask you in the future, you can select the **Remember this password** option.

Evolution will then show a “Send and Receive” window, showing the progress of the operation such as how many messages are being retrieved.

### Listing messages

The top right portion of the Evolution window is the message list. Here, you can see email messages for your currently selected folder, or matching your search terms.



Figure 3.15: Small view of the message list, showing column headers and a few email messages

By default, the message list shows six columns of information for each message. The first column is a read/unread indicator. If a message has been read, the column shows an icon of an open envelope. If a message has not been read, the icon will show a closed envelope.

The second column is an attachment indicator. If a message contains an attached file, Evolution will show an icon of a paperclip in this column. Otherwise, the column will be blank.

The third column is an importance indicator. If someone sends you a message marked with high importance, Evolution will show an exclamation mark in this column. Otherwise, this column will be blank.

The fourth column contains the sender of the message. Both the name and email, or just the email address, may be displayed in this column.

The fifth column contains the subject of the email message.

Finally, the sixth column is the date that the email was sent.

When you click on a message, its contents will be displayed in the preview pane below the message list. Once you select a message by clicking it, you can click on the **Reply** button in the toolbar to begin composing a reply message to be sent to the sender, or click on the **Reply to All** button to begin composing a reply message to be sent to the sender and other recipients of your selected message.

You can also click on the **Trash** button in the toolbar in order to put the message in the Trash folder, or on the **Junk** button to put the message as in the Junk folder. Note that Evolution, or your mail server, may automatically classify some mail as Junk.

In addition to the buttons on the toolbar, you can right-click on a message in the list. Evolution will open a menu with actions that you can perform for the message.

Sometimes, you may wish to take an action on multiple email messages (for example, delete multiple messages, or forward them to a new recipient). To do this in Evolution, press-and-hold the **Ctrl** key while clicking on multiple messages—the messages you click on will be selected. You can also click on one message to select it, then press-and-hold the **Shift** key and click on another message in the list. All messages in the list between the original selection and the one you just clicked on will be selected. Once you have multiple messages selected, right-click on one of them to perform your desired action.

Directly above the message list are the **Show** drop-down list, and the search options. You can use the **Show** drop-down list to filter your view to show only unread messages, or only messages with attachments, etc.

The search options will be covered in a later section.

## Previewing messages

When you select an email message, its contents will be shown in the preview pane below the message list.

The top of the preview pane will show the message header, which contains the sender, recipients, and subject of the message, as well as the date the message was sent. Below the header, Evolution shows the contents of the message itself.

If a message was sent with HTML formatting, some of the images may not be displayed when a message is previewed. To display the missing images, open the **View** menu from the menubar, then **Load Images**, or press **Ctrl+I**. If your Internet connection is active, the missing images should then load.

## Opening messages

At times, you may want to display multiple messages at the same time. To do so, you can open each message in a separate window instead of just viewing it in the preview pane.

To open a message in its own window, double click a message in the

Note that loading images may provide a way for the sender to track your receipt of the message. We do not recommend loading images in messages that you suspect are Junk.

message list. The message should then open in a separate window. You can go back to the message list and open another message, if needed.

In the open message window, you can use the options in the menubar or on the toolbar to reply to the message, categorize it, delete it, as well as perform other message actions.

## Finding messages

There are three ways to search for messages in Evolution: you can use the search option at the top of the message list, use the Advanced Search function, or create a search folder.

To use message list search, enter the text you want to find in the **Search** field at the top right of the message list, and press Enter. The list of messages will change to show only those messages containing the text you entered.

To the right of the search field you should be able to see a drop-down list of options such as “Current Folder”, “Current Account”, and “All Accounts”. By default, Evolution will use the “Current Folder” option and will only show you results within the folder you’ve got selected in the folder list on your left. If you choose the “Current Account” option, Evolution will search for messages in all folders within the current email account—such as all the folders “On This Computer” or in your IMAP folders, depending on your email setup. If you have multiple email accounts added to Evolution, choosing the “All Accounts” option lets you search for messages in all of your accounts.

If no messages match the text you’ve entered, you can edit the text and try searching again. To return to the folder display, open the **Search** menu from the menubar and then choose **Clear**, or instead erase all the text you’ve entered in the **Search** field and press Enter.

In some cases, you may want to search for messages using multiple criteria. For example, you may want to find a message from a particular user with some specific words in the subject of the message. In Evolution, you can perform this search using the Advanced Search function.

Search.png

To use Advanced Search, choose **Search ▶ Advanced Search**. Evolution should open the “Advanced Search” window. In the middle section of the window, specify your search criteria. For our example, to find messages from myfriend@example.com that contained “boat” in the subject, you would enter myfriend@example.com in the text field to the right of the drop-down list with “Sender” selected, and would enter boat in the text field to the right of the drop-down list with “Subject” selected. Then, click on **Remove** to the right of all lines that are unused, and click **OK** to perform the search. The message list should then only display messages that match your advanced search criteria.

When specifying the criteria for advanced search, you can click on the **Add Condition** button to add additional lines. You can also change the selection in the drop-down list at the beginning of each line to specify a different field



Figure 3.16: To use more search terms you can use the advanced search window.

to be checked, or change the drop-down with “contains” selected by default in order to have a different type of a match. Please refer to the Evolution help documents for more information.

In some cases, you may want to perform the same search request on a regular basis. For example, you may want to always be able to see all messages from myfriend@example.com regardless of which folder you’ve used to store the message. To help with this type of a search, Evolution allows you to create Search Folders.

To create a search folder, choose **Search ▶ Create Search Folder From Search** from the menubar. Give the folder a name by entering it in the **Rule name** field at the top. Then, specify search criteria in the same way as in Advanced Search. Below the criteria, pick which folders should be searched by this search folder—for example, you can choose “All local and active remote folders” to search in all of your account’s folders. When you are finished, click **OK**.

The new search folder should now be added to the list of search folders towards the bottom of the message list. If you click on the search folder to select it, you should be able to see a list of messages that match your search criteria.

### Subscribing to IMAP folders

If you use IMAP to retrieve your email, you should see a set of folders in the folder list on the left side of the window that is titled with the name of your IMAP account. Folders like Inbox, Drafts, Junk and others should be displayed in the folder list.



If you have other folders in your IMAP account, you will need to subscribe to them. If you subscribe to a folder, Evolution will download messages for that folder whenever you check your email.

To subscribe to a folder select **Folder** ▶ **Subscriptions** from the menubar. Evolution should open the “Folder Subscriptions” window. From the **Server** drop-down list choose your account name. Evolution should then show a list of folders in the list below.

Choose the folders you would like to subscribe to by selecting the check box to the left of the folder name. When you are finished, click **Close**. The folders will be updated the next time you check your email.

## Composing and replying to messages

In addition to reading email, you will likely want to reply to the email you read, or compose new messages.

### Composing new messages

To compose a new message, click on the **New** button on the toolbar. Evolution should open a “Compose message” window.

In the **To:** field, enter the email address of the destination—the contact to whom you are sending this email. If there is more than one contact to whom you are writing, separate multiple recipients with commas.

If a contact that you are addressing is in your address book, you can address them by name. Start typing the name of the contact; Evolution will display the list of matching contacts below your text. Once you see the contact you intend to address, click on their email address or use the down arrow key and then **Enter** to select the address.

If you would like to carbon-copy some contacts, enter their email addresses in the **Cc:** field in the same manner as the **To:** recipients. Contacts on the **To:** and **Cc:** lines will receive the email, and will see the rest of the contacts to whom an email was sent.

If you would like to send an email to some contacts without disclosing to whom your email was sent, you can send a blind carbon-copy, or “**Bcc**”. To enable **Bcc**, select **View** ▶ **Bcc Field** from the menubar. A **Bcc:** field should appear below the **Cc:** field. Any contacts entered in the **Bcc** field will receive the message, but none of the recipients will see the names or emails of contacts on the **Bcc** line.

Instead of typing the email addresses, or names, of the contacts you are addressing in the message, you can also select the contacts from your address book. To do so, click on the **To:**, **Cc:** or **Bcc:** buttons to the left of the text fields. Evolution should open the “Select Contacts from Address Book” window. Use the list on the left side of the window to select your contact, or type a few letters from your contact’s first or last name in the **Search** field to filter the list to only show matching contacts.

Once you identify the contact you would like to address, click on their name in the list. Then, click on the **Add** button to the left of either the “To:”, “Cc:”, or “Bcc:” fields on the right of the screen. Your selected contact will be added to that list. If you’ve added the contact in error, click their name in the list on the right, and click on the **Remove** button. When you are finished picking contacts, click **Close** to return to the composing screen.

Enter a subject for your email. Messages should have a subject to help the recipient to identify the email while glancing at their message list; if you do not include a subject, Evolution will warn you about this.

Enter the contents of your message in the big text field below the subject. There is no practical limit on the amount of text you can include in your message.

By default, new messages will be sent in “Plain Text” mode. This means that no formatting or graphics will be shown to the recipient, but the message is least likely to be rejected or displayed illegibly to the recipients. If you know that your recipient uses a contemporary computer and a modern email program, you can send them messages that include formatting. To switch to this mode, click the drop-down list button on the left side directly above the text field for the message contents. Change the selection from “Plain Text” to “HTML” to enable advanced formatting. When using HTML mode, a new toolbar should appear right under the mode selection that will allow you to perform advanced font styling and message formatting.

When you have finished composing your email, click on the **Send** button on the window’s toolbar. Your message will be placed in the Outbox, and will be sent when you next check your email.

### Attaching files

At times, you may want to send files to your contacts. To send files, you will need to attach them to your email message.

To attach a file to an email you are composing, click on the **Add Attachment** button at the bottom right of the email message window. Evolution should show the “Add attachment” window.

Select the file you would like to include in your message and click on the **Attach** button. Evolution will return you to the email message window, and your selected file should be listed in a section below the **Add Attachment** button.

### Replying to messages

In addition to composing new messages, you may want to reply to messages that you receive.

There are three types of email replies:

- ▶ **Reply** (or “Reply to Sender”)—sends your reply only to the sender of the message to which you are replying.

- **Reply to All**—sends your reply to the sender of the message, as well as anyone else on the To or Cc lines.
- **Forward**—allows you to send the message, with any additional comments you may add, to some other contacts.

To use any of these methods, click on the message to which you want to reply and then click the **Reply**, **Reply to All**, or **Forward** button on the toolbar.

Evolution should open the reply window. This window should look much like the window for composing new messages, but the To, Cc, Subject, and main message content fields should be filled in from the message to which you are replying. Each line in the message should be prefixed with a “>” character.

Edit the To, Cc, Bcc, Subject or main body as you see fit. When your reply is finished, click on the **Send** button on the toolbar. Your message will be placed in the Outbox, and will be sent when you next check your email.

### Using signatures

In order to give your messages a footer, Evolution allows you to use a “signature”. Signatures in email are a bit of standard text that is added to the bottom of any new messages or replies.

When composing or replying to a message, click on the **Signature** drop-down list below the toolbar just above the **To:** field. This list should contain any signatures that you have created, as well as an “Autogenerated” signature. If you select **Autogenerated**, Evolution will add two dashes, and then your name and email address to the bottom of the email message.

You can also specify some custom signatures. To create a signature, open the “Evolution Preferences” window by selecting **Edit • Preferences** from the menubar. On the left side of the Evolution Preferences window, select **Composer Preferences** and then select the **Signatures** tab.

Click on the **Add** to add a new signature. Evolution should then open the “Edit Signature” window. Give your signature a name, and enter the contents of your signature in the big text field below. When finished, click on the **Save** button on the toolbar (the button’s icon looks like a floppy disk). Your new signature’s name should appear in the list in preferences. Close the preferences window.

Your signature should now show up in the drop-down list in the compose/reply window.

Note that the two dashes are added automatically by Ubuntu, so there is no need to include them in your custom signature

### Staying organized

The **Evolution** application in Ubuntu can let you keep and manage a list of your contacts, maintain a calendar, and a task list.

If you have already set up Evolution with an email account, you do not need to do any further setup to use these features. If you do not wish to

use Evolution for email, you can still use it for managing your contacts or maintaining a schedule, as well as keep track of tasks and memos that you can create for yourself.

To start Evolution, open the **Applications** menu, then choose **Internet** and then **Evolution Mail**.

## Managing your contacts

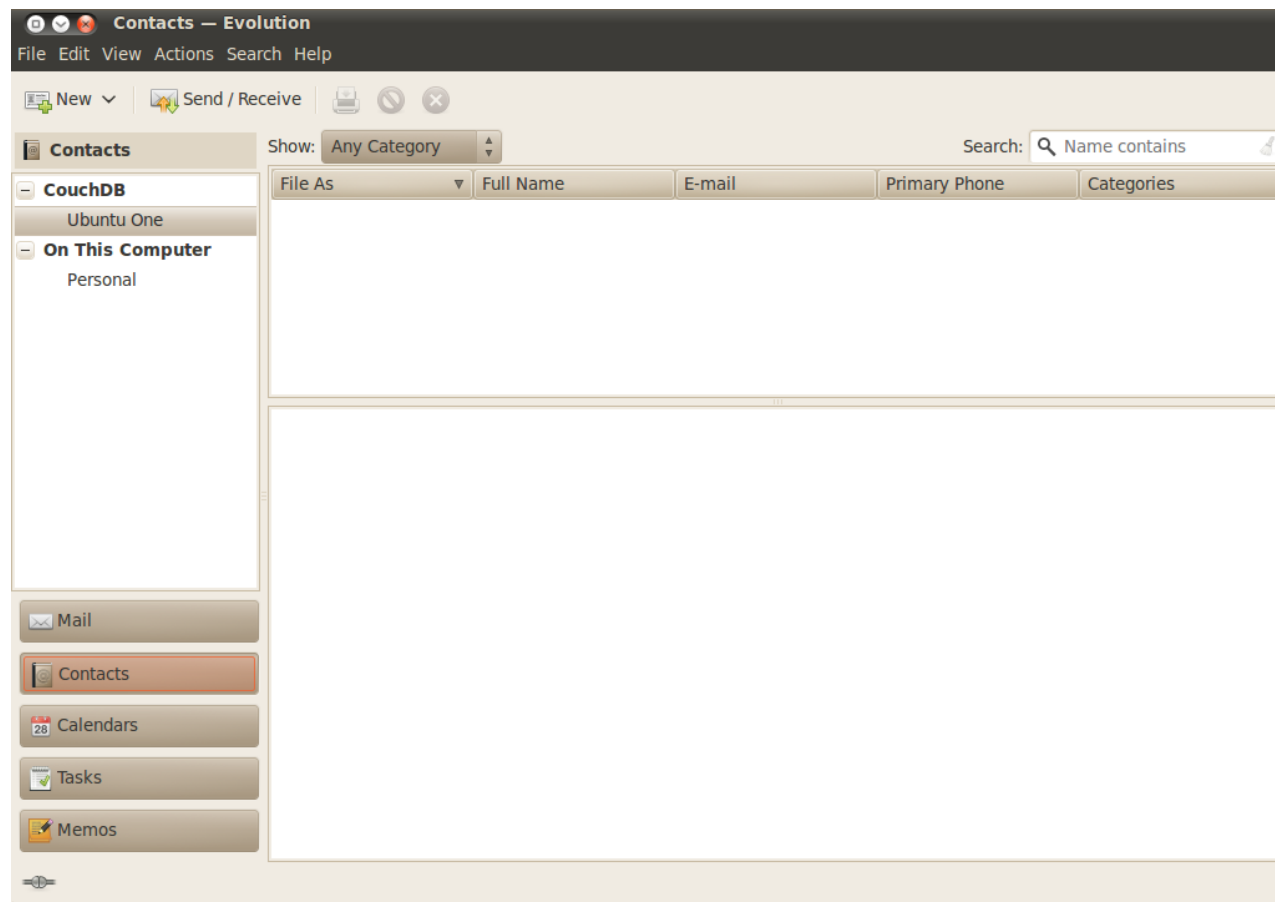


Figure 3.17: You can view, edit and add contacts.

If you would like to keep a list of your contacts—personal or professional contact information for people and organizations—you can manage these contacts in Evolution.

To view contacts, click on the **Contacts** button below the folder list on the left side of the Evolution window. The folder list on the left will be replaced by a list of address book types. Click on an address book, for example “Personal”.

The right side of the window will display a list of contacts. Click a contact to show the contact’s details in the lower portion of the right side of the

window.

If you use **Ubuntu One**, you may have two address books—a “Personal” address book stored on your computer, and an “Ubuntu One” address book. You can add contacts to either address book, though only the “Ubuntu One” address book is synchronized to your Ubuntu One account.

An address book is a collection of contacts and contact lists. It can either be stored on your computer, or on a remote server.

### Searching for contacts

To find a contact, type in a few a few letters from the contact’s first or last name in the search text box on the upper right of the window, and press Enter. The list below should change to only show contacts whose name matches your search term.

### Adding or editing a contact

To make changes to an existing contact, find the contact in the list and double-click on the entry. Evolution should open a “Contact Editor” window for the contact.

Switch between the different tabs in the contact editor to make changes to the contact. Click **OK** when you have finished making your changes.

To add a new contact, click on the **New** on the toolbar. Evolution should open the “Contact Editor” window. Enter the contact’s details in the contact editor window, and click **OK** when finished.

### Managing your schedule

If you like to manage your schedule with a computer, you can maintain this schedule in Ubuntu using Evolution.

To view your calendar, click on the **Calendars** button below the folder list on the left side of the Evolution window. The folder list on the left will be replaced by a list of calendars, and a mini-calendar showing the current month.

Evolution allows you to manage more than one calendar. For example, you could have a personal calendar and a school or work calendar. You can also subscribe to the calendar of a friend or family member who may choose to share their calendar with you.

Click on one of the calendars in the list. By default, you should have a “Personal” calendar in the list. The middle of the window should now show a view of the current day, showing all the hours of the current day.

If the calendar already has some events, Evolution will show the event in the day view between the hours when the event starts and finishes. You can double-click on the event to open its details, or drag the event to a different time or date to reschedule it.

In the day view, you can click on a different day on the mini-calendar on the left side of the screen. Evolution will then display that day in the day view.

You may also wish to see more than one day at a time. This will allow you to compare schedules on different days, or find a free day for an event you wish to schedule. In Evolution, you can click on the **Work Week** or **Week** buttons on the toolbar to see an entire week at the same time. Click on the **Month** button on the toolbar to see a view of the entire month—if an event is difficult to read due to the small space allotted to each day, you can hover your mouse over the event to have Evolution show the full title of the event. Finally, the **List** button on the toolbar shows upcoming appointments in a list, allowing you to see all of your upcoming appointments at a glance.

On the right side of the window, Evolution displays a list of tasks and memos. You can add a new task or memo to Evolution

### Adding a new event

The simplest way to add a new task is to click a time in the day view, and begin typing. An event “bubble” will appear, containing the text that you are typing. If you want to add a longer event, drag your mouse from the first time slot to the last before starting to type.



Figure 3.18: visual example of adding an event in the day view by typing

To add a new event without using the day view, click on the **New** button on the toolbar. Evolution should open the “Appointment” window. In the **Summary** field, enter a short title for the event as you want it to appear on the calendar. Optionally specify the location and enter a longer description if you would like. Make sure that the time and date, as well as the duration, are as you want them. Finally, click on the **Save** button on the toolbar to save this new event (the button looks like a floppy disk, and is the first button on the

toolbar).

### Scheduling a meeting

If you would like to schedule a meeting with one of your contacts, Evolution can assist you in sending out an invitation and processing replies.

To create a meeting invitation, choose **File ▶ New ▶ Meeting** from the menubar. Specify the subject, location, time and duration, and description as when you create a regular event.

You will then need to add attendees to this meeting. To add an attendee, click on the **Add** button. In the list of attendees, Evolution will add a new row—type the attendee’s email address or contact name.

When you are finished adding attendees, click on the **Save** button on the toolbar. Evolution should then ask you if you would like to send meeting invitations to your selected participants. Click **Send** to send out these invitations. The invitations will be sent the next time you check email in Evolution.

If your contact chooses to reply to the meeting invitation, Evolution will show you a new email message. In the body of the email message, Evolution will display an **Update Attendee Status** button. Click on that button to mark your contact as attending the meeting.

### Using instant messaging

Instant messaging allows you to communicate with people you know in real time. Ubuntu includes the **Empathy** application that lets you use instant messaging features to keep in touch with your contacts. To start Empathy, open the **Applications** menu from the menubar, then choose **Internet** and then **Empathy IM Client**.

Empathy lets you connect to many instant messaging networks. You can connect to AIM™, Gadugadu, Google Talk, Groupwise, ICQ®, Jabber®, MSN®, Myspace®, qq®, XMPP™, Sametime®, Silc, SIP, Yahoo®, or Zephyr.

### Running Empathy for the first time

When you open Empathy for the first time you will need to configure it with the details of your instant messaging accounts.

When Empathy starts you will see the “Welcome to Empathy” window. Choose the option corresponding to your situation.

#### You have an account

If you have an account that you have used previously with another instant messaging program then select the **Yes, I’ll enter my account details now** option. Then, click **Forward** to continue.

On the next screen, choose your account type from the drop-down list below **What kind of chat account do you have?**. Then, enter your account

details in the field below.

Depending on the account type that you choose, Empathy may request that you enter a username, or an ID for your account, followed by a password.

The screenshot shows a window titled "Empathy Accounts" with a sub-header "Enter your account details". The main content area contains the following elements:

- A question: "What kind of chat account do you have?"
- A dropdown menu currently set to "Google Talk".
- A question: "What is your Google ID?"
- A text input field with a red border, containing an example: "Example: user@gmail.com".
- A question: "What is your Google password?"
- A text input field.
- A question: "Do you have any other chat accounts you want to set up?"
- Two radio buttons: "Yes" (unselected) and "No, that's all for now" (selected).

At the bottom right of the dialog, there are three buttons: "Cancel", "Back", and "Forward".

Figure 3.19: Creating a new instant messenger account in Empathy.

If you do not remember your account information, you will need to visit the website of the instant messaging network to retrieve that information.

If you have another account to add then select the **Yes** option, and click **Forward** to repeat the above process. When you have entered all the accounts leave the **No, that's all for now** option selected, and click **Apply** to finish the setup process.

Next, Empathy should display the "Please enter personal details" screen. If you choose to fill out this information, you will be able to communicate with people who are on your local network either at home or in an office.

Enter your first name in the **First name** field, and your last name in the **Last name** field. Type in a way that you would like to be identified on your local network in the **Nickname** field. When you have filled all of the information, click **Apply**.

If you don't want to communicate with people on your local network, select the **I don't want to enable this feature for now** option and click **Apply**.

### You would like an account

If you don't have an account that you can use, then you can create one by selecting the **No, I want a new account** option. Click **Forward** to display the next set of options.

Choose the account type that you would like to create from the drop-down list below **What kind of chat account do you want to create?** You can



create either a Jabber® or a Google Talk account.

Next, enter the account name that you would like in the text field, and in the proceeding text field enter a password of your choice. If you would like to set up another account then select the **Yes** option, and repeat the above process.

When you have entered all the accounts leave the **No, that's all for now** option selected, and click **Forward**.

Empathy should display the “Please enter personal details” window. Providing this information allows you to communicate with people who are on your local network either at home or in the workplace.

Enter your **First name** in the text field, and enter your **Last name** in the next field. In the **Nickname** field enter a nickname by which you would like to be identified. When you have filled all of the text fields click **Apply** to save your settings.

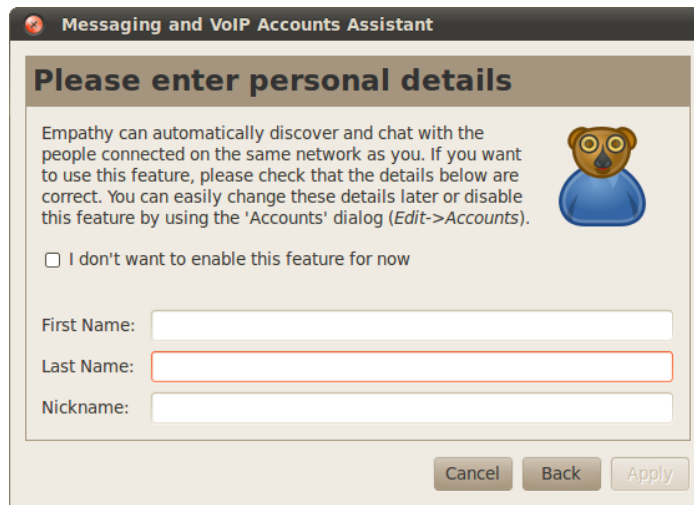
If you don't want to talk to people on your local network then select the **I don't want to enable this feature for now** option and click **Apply**.

### You want to talk to people nearby

If you would only like to communicate with people on your local network either at home or in the workplace, then you should select the **No, I just want to see people online nearby for now** option.

Click **Forward** to display the next set of options. Then enter your **First name** in the text field, and enter your **Last name** in the next field. In the **Nickname** field enter a nickname by which you would like to be identified. When you have filled all of the text fields, click **Forward**.

**Note:** If you wish to create another account type then you will need to visit the relevant website and follow the “You have an account” section.



**Messaging and VoIP Accounts Assistant**

**Please enter personal details**

Empathy can automatically discover and chat with the people connected on the same network as you. If you want to use this feature, please check that the details below are correct. You can easily change these details later or disable this feature by using the 'Accounts' dialog (*Edit->Accounts*).

I don't want to enable this feature for now

First Name:

Last Name:

Nickname:

Figure 3.20: You can talk to people nearby by entering you information.

## Changing account settings

If you need to add more accounts after the first launch, then open the **Edit** menu, then choose **Accounts**. Empathy will then display the “Accounts” window.

### Adding an account

To add an account click on the **Add** button. Empathy should display some options on the right hand side of the window. Choose your account type from the **Protocol** drop-down list. Next, enter your account name in the first text field. Then enter your password in the **Password** text field. Finally click on the **Log in** button to save and verify your settings.

### Editing an account

You might need to edit an account if you change the password or get the password wrong. Select the account you want to change on the left side of the “Accounts” window. Empathy should show the current settings for the account. Once you have made your changes, click **Save**.

### Removing an account

To remove an account select the account on the left hand side of the window and click on the **Remove** button. Empathy should open the “Do you want to remove” window. Click on the **Remove** button to confirm that you want to remove the account, or click **Cancel** to keep the account.

## Editing contacts

### Adding a contact

To add an account open the **Chat** menu, then choose **Add contact**. Empathy should open the “New Contact” window.

In the **Account** drop-down list choose the account that you want to add the contact to. You must add your contact to an account type that matches theirs.

For example if your contact’s address ends in “@gmail.com” then you will need to add it to an account that ends in “@gmail.com”. Likewise if the contact’s email ends in “@hotmail.com” then you would need to add it to an account ending in “@hotmail.com”.

When you have chosen the account that you wish to add the contact to, you will need to enter either their login id, username, screen name or email address in the **Identifier** text field.

Then, in the **Alias** text field, enter the contact’s name as you would like to see it in your contact list. Click **Add** to add the contact to your list of contacts.

## Removing a contact

Click on the contact that you want to remove and then open the **Edit** menu, then choose **Contact**, then **Remove**. This will open the “Remove contact” window.

Click on the **Remove** button to confirm that you want to remove a contact, or click **Cancel** to keep the contact.

## Communicating with contacts

### Text

To communicate with a contact, select the contact in Empathy’s main window and double-click their name. Empathy should open a new window where you can type messages to your contact, and see a record of previously exchanged messages.

To send a message to the contact, type your message in the text field below the conversation history.

When you have typed your message press the Enter key to send the message to your contact. If you are communicating with more than one person then all of the conversations will be shown in tabs within the same window.

### Audio

If your contact has audio capabilities then there will be an icon of a microphone next to their name. Click on the microphone icon to open a popup menu. Choose the **Audio call** option from the menu. Empathy should then open the “Call” window.

This window shows your picture on the right and your contact’s picture on the left. Ensure that your microphone and speakers are connected, and proceed with the audio conversation. You can finish the conversation by clicking on the **Hang up** button.

### Video

If your contact has video chat capabilities then there will be an icon of a webcam next to their name. Click on the icon to open a popup menu. Choose the **Video call** option from the menu. Empathy should then open the “Call” window.

This window shows your webcam view in the top right and your contact’s webcam will be in the middle.

If you don’t have a webcam then your picture will be shown instead. You can finish the call by clicking on the **Hang up** button.

## Sending and receiving files

### Sending a file

When you are in a conversation with a contact and you would like to send them a file, open the **Contact** menu and then choose **Send file**.

Empathy should open the “Select file” window. Find the file that you wish to send and click on the **Send** button. A “File Transfers” window will open showing the chosen file and its transfer progress.

When the file transfer is complete, you can close the “File Transfers” window.

### Receiving a file

When a contact wants to send you a file, the status icon to the left of the contact’s name will flash with an icon of a paper plane.

To receive the file double-click the contacts name. Empathy will open the “Select a destination” window. Choose a location where you would like Empathy to save the file, and click **Save**. Empathy should open the “File Transfers” window.

The “File Transfers” window shows you the progress of current file transfers. You can stop file transfers by clicking on the **Stop** button, open transferred files by clicking on the **Open** button, and clear the list of completed transfers by clicking on the **Clear** button.

### Changing your status

You can use your status to show your contacts how busy you are or what you are doing. You can use the standard statuses, which are “Available”, “Busy”, “Invisible” and “Off-line”. These can be changed in the main Empathy window from the drop-down list at the top of the window.

The same drop-down list lets you set a custom status by choosing “Custom Message...” next to the icon that matches your status. Type what you would like your status to say, and click on the green check mark.

### Changing your picture

Your picture is what your contacts will see next to your name in their contact list. The default picture is the outline of a person. You can change your picture by opening the **Edit** menu, then choosing **Personal Information**.

Empathy should open the “Personal Information” window. From the **Account** drop-down list choose the account that you want to change, then click on the picture on the right hand side of the window.

Empathy should open the “Select Your Avatar Image” window. Find the file containing your picture, and click **Open**. If you would like to return it to the default avatar, click on the **No Image** button instead.

## Microblogging

You can connect several microblogging services by opening the **Applications** menu, then choosing **Internet** and then **Gwibber Social Client**. Until you add accounts the “Social Accounts” window will open.

After you have added accounts you will see the “Social broadcast messages” window.

In this window in the **Add new** drop-down list you can choose the from Flickr™, Twitter™, StatusNet™, Qaiku, Facebook®, Friendfeed, Digg™ and Identi.ca .



Figure 3.21: Gwibber lets you add many different account types.

## Me menu

If you click your name in the top panel you will see the “me menu,” in the box below your name you can type a message to post on the sites that you have set up with Gwibber.

You can also change your account settings by clicking **Broadcast Accounts...**, this opens the “Social accounts” window.

## Changing accounts

To add more accounts after you have already added some. Click **Edit then Accounts**, the “Social Accounts” window will open.

## Adding accounts

In the “Social Accounts” click **Add...**, each account will need you to enter your account details. The details that you require for each account is detailed as follows.

**Flickr:** To set up a flickr account all you need is the account login id.

**Twitter:** Requires a user name and password.

**StatusNet:** A login id, domain and password is needed.

**Qaiku:** You will need an api-key, instructions for this are provided in the gwibber window. You will also need your login id.

**Facebook:** Click **Authorize**, then enter your email address and password and click **Connect**. If you want to be able to post on facebook from gwibber click **Allow publishing**, otherwise click **Don't allow**.

If you want gwibber to show your news feed you will need to click **Allow access**, otherwise click **Don't allow**. You will also need to allow status updates click **Allow status updates**, if you don't want gwibber to be able to update your status click **Don't allow**.

So that Gwibber can interact with facebook each time it is used it will need to have constant authorization. If not you will have to authorize it each time you use it. To allow constant authorization click **Allow**.

**FriendFeed:** A remote key is required for friend feed, Gwibber provides information on where to get one from. You will also need a login id.

**Digg:** A login id is all that is required for digg.

**Identi.ca:** A login id and password is required for Identi.ca

## Removing accounts

In the “Social accounts” window click the account that you want to remove and click **Remove**.

## How Gwibber displays accounts

Gwibber allows you to post to either all, one or a selection of accounts. This can be set at the bottom of the “Social broadcast message” window, each of the accounts that you can post with will have an icon. Clicking an icon so that it is greyed out means that you will not post to that account.

Once you have decided on which accounts you want to post to you can type your message in the text field above the icons, then click **Send**.

Each one of your accounts will have a set of icons to go with it, these are displayed on the left hand side of the “Social broadcast message” window. The set of icons that goes with an account has a background color, each one of these icons allows you to do tasks for that specific account.

## Viewing and editing photos

To view and edit photos in Ubuntu, you can use the **F-Spot Photo Manager** application. To start F-Spot, open the **Applications** menu, then choose **Graphics**, then **F-spot Photo Manager**. When you start F-Spot for the first time you will see the “Import” window—how to use this is covered in **'Importing'**.

By default, F-Spot displays your photos by date. You can view photos from a specific month by clicking on that month in the timeline near the top of the

window.

You can also play slide shows of your pictures by clicking on the Play button on the toolbar (this button looks like a green triangle).

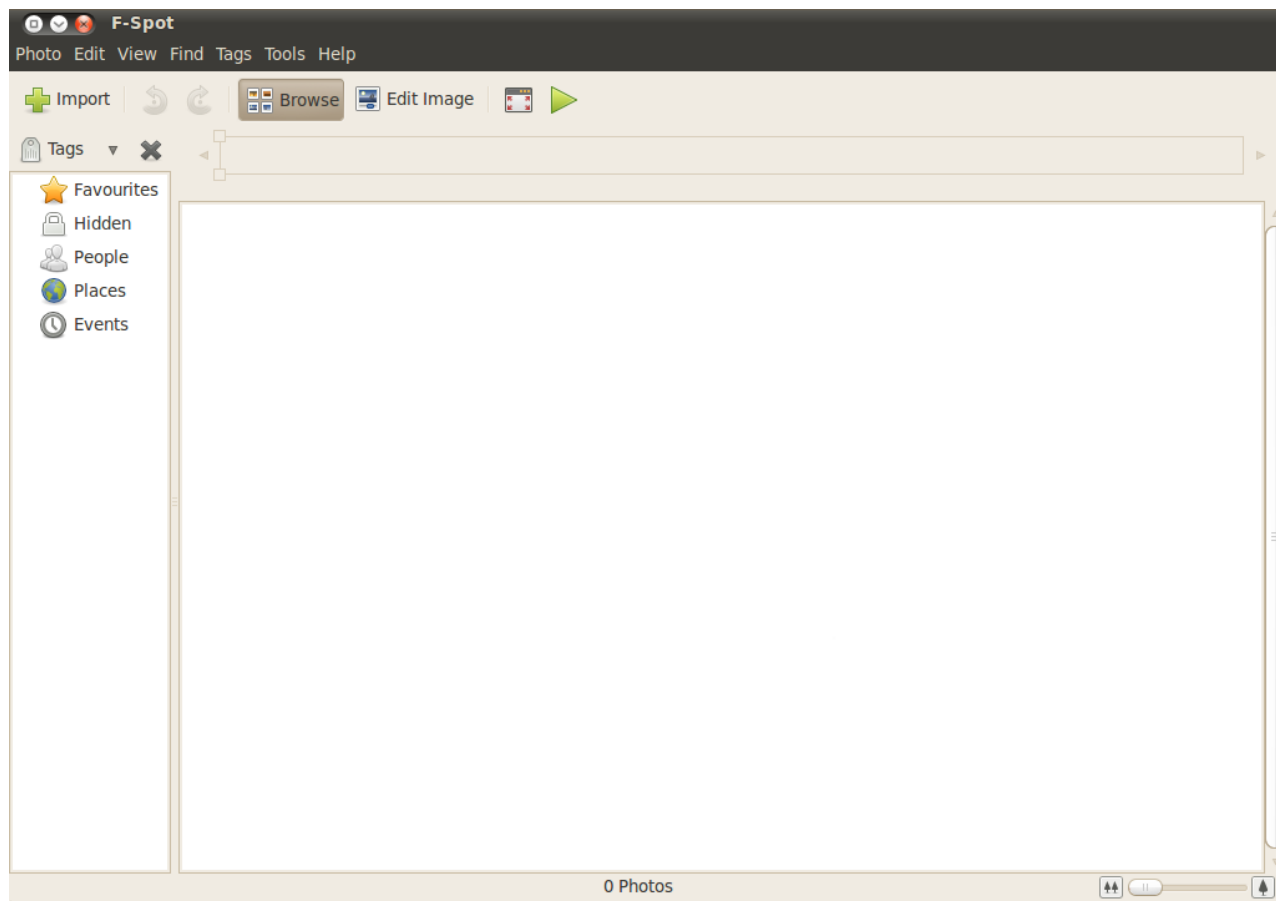


Figure 3.22: F-Spot lets you store, tag, and edit your photos.

A lot of this guide refers to the side bar on the left. If you can't see it, open the **View** menu, then choose **Components**, and choose **Sidebar**—making sure the option is selected.

### Version system

When you edit a photo, F-Spot creates a new version so that the original is not lost. You can create a new version by opening the **Photo** menu, then choosing **Create New Version....** This opens the “Create New Version” window. In the **Name** text field you can type what you would like to call the version and then click **OK**. A new version will then be created.

You can view previous versions of photos by clicking on the photo that you wish to view, then clicking on the **Edit Image** button. This changes the

side bar on the left to the “Edit” side bar. In the bottom left, the **Version** drop-down list allows you to choose previous versions of the photo.

You might want to rename a version so that you remember which version is which. To rename a version, click on the photo that you want to change, then click on the **Edit Image** button. This changes the side bar on the left to the “Edit” side bar. In the bottom left the **Version** drop-down choose the version of the photo that you want to rename. Then open the **Photo** menu, then choose **Rename Version**. This will open the “Rename Version” window. Enter the new name in the **New name** text field, then if you want to rename the version click **OK**. If you don’t want to rename the version, click **Cancel**.

When editing photos, you may make a mistake and may decide to remove that version as you no longer need it. To delete a version, click on the photo that you want to change, then click on the **Edit Image** button. This changes the side bar on the left to the “Edit” side bar. In the bottom left the **Version** drop-down list choose the version of the photo that you want to delete. Then open the **Photo** menu, then choose **Delete Version**. This will open the “Really Delete?” window. If you want to delete the version click **Delete**. If you don’t want to delete the version, click **Cancel**.

## Importing

When you launch F-Spot for the first time you will see the “Import” window. After the first launch you can import more photos by clicking on the **Import** button.

When you import some photos, only the photos that you have just imported are shown. To show all of your photos, click on the grey **X** to the right of the blue **Find**.

### Choosing where F-Spot saves photos

When importing pictures in the “Import” window, the **Copy files to the Photos folder** option determines where the photos are saved.

If the **Copy files to the Photos folder** option is selected then F-Spot will copy the photos into the **Photos** folder, which is within your **Pictures** folder. The pictures are then sorted by year, month and then date.

If the **Copy files to the Photos folder** option is unselected then F-Spot will not copy the pictures into the **Photos** folder.

### Importing from file

To import photos that are saved on you computer, choose **Select Folder** from the **Import Source** drop-down list. This opens the “Import” window. Navigate to the folder containing your photos and click **Open**.

When the loading bar says “Done Loading” all the photos in that folder and any sub-folders are then displayed in the “Import” window. You can



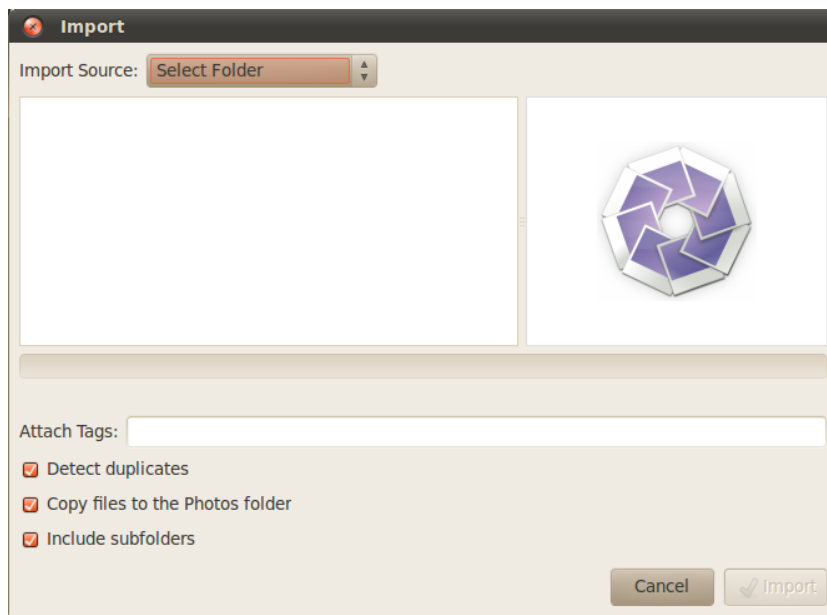


Figure 3.23: You can import all of your photos.

exclude importing photos from sub-folders by deselecting the **Include sub-folders** option.

All of the photos are imported by default, but you can choose to import only some photos. To do so, press-and-hold the **Ctrl** key while clicking the photos you do not want to import. Duplicates are automatically detected when the **Detect duplicates** option is selected.

You can attach tags by typing the names of the your current tags in the **Attach Tags** text field. If you want to use multiple tags then separate them with a comma.

Once you have chosen the photos that you want import, click on the **Import** button.

### From digital camera

To import photos from a digital camera, plug your camera into the USB port of your computer, and turn your camera on. If your camera is detected, Ubuntu should open a new window prompting you to import photos. Ensure that **Open F-Spot** is chosen in the drop-down list and click **OK**. This will show the “Import” window. In the **Import Source** drop-down list choose the option that looks like **...Camera**.

A “Select Photos to Copy from Camera...” window will open. You can then click the photos that you want to copy. All of the photos are selected by default but you can add or remove individual photos by pressing-and-holding the **Ctrl** key while clicking on photos to deselect them.

You can attach tags to all of them by clicking on the **Attach tag** option and

choosing the tag in the **Attach tag**: drop-down list. For more information about tags see “Organizing photos”

You can change where the files are saved in the **Target location** drop-down list. The default is the **Photos** folder—this is where F-Spot saves the photos.

Once you have chosen the photos that you want to import, click on the **Copy** button. The “Transferring Pictures” window should open, and will show the copying progress. When copying is complete, the progress bar will display **Download Complete**. Finally, click **OK** to show your photos in F-Spot

## Organizing photos

F-Spot makes finding photos of the same type easier by using tags. You can apply as many tags to a photo as you like.

To apply tags to photos, first select the photos. Then right-click on the photos and choose **Attach Tag**. Click the tag you want add to your photos. You can attach tags when importing photos, as covered in the “Importing” section.

You can make new tags by opening the **Tags** and choosing **Create New Tag...** This will open up the “Create New Tag” window. Enter the name of the tag in the **Name of New Tag**: text field. The **Parent Tag**: drop-down list allows you to choose the “parent” tag for your new tag.

## Editing Images

You may want to edit some of the photos you import into F-Spot. For example, you may want to remove something at the edge, some discoloring, fix red eyes, or straighten a photo. To edit a photo, click on the photo that you want to edit and then click on the **Edit Image** button. This changes the side bar on the left of the “F-Spot” window. The panel will show eight options: **Crop**, **Red-eye Reduction**, **De-saturate**, **Sepia Tone**, **Straighten**, **Soft Focus**, **Auto Color**, and **Adjust Colors**. Some of these options are explained in more detail in the next section.

## Cropping photos

You might want to crop a photo to change the framing or remove part of the edge of the photo. Click on the **Crop** on the left panel, then in the **Select an area to crop** drop-down list choose the ratio that you would like to crop with. You might want choose the ratio that matches the ratio that you would like to print, so that the photo is not stretched.

You can create custom constraints if one of the defaults does not meet your requirements. This is done by choosing **Custom Ratios** from the **Select an area to crop** drop-down list. This opens the “Selection Constraints” window. Click **Add** to place a new entry on the left of the window.

Once you have chosen your constraint, move the cursor to one conner of

the section of the photo that you want to keep. Click-and-hold the left mouse button and drag it to the opposite corner of the section that you want to keep. Release the the mouse button to finish your cropping selection.

To resize the cropping selection box, move the mouse until an arrow points to the side of the cropping selection box that you want to move. Click-and-hold the left mouse button, and move the mouse until the edge is in the right place.

All ratios work in portrait and landscape mode. To change between the two, you need to click on the edge of the cropping selection box as if you were to resize the box. Moving the cursor between top right and bottom left switches between portrait and landscape modes.

### **Red-eye Reduction**

If you have taken a photo and the flash caused the subject to have red eyes, you can fix this problem in F-Spot. First, click on the **Red-eye Reduction** button. Move the cursor to the one corner of the subject's eye and click-and-hold the left mouse button as you drag the cursor to the opposite corner of the eye. Then, release the mouse button.

This box can be moved by placing the cursor into the middle of the red eye selection box until a hand cursor is shown. Then, click-and-hold the left mouse button and move the selection box into the correct place. When it is in the correct place you can release the left mouse button.

To resize the box, move the mouse until an arrow points to the side of the red eye selection box that you want to move. Click-and-hold the left mouse button, move the mouse until the edge is in the right place.

When the box covers all of the red in one eye, click the **Fix** button. You will need to repeat the process for each of the subject's eyes that is affected.

### **Straighten**

If you have a photo where the subject is at an angle, you can straighten the photo with F-Spot. First, click on the **Straighten** button. Then move the slider until the picture is straight again. F-Spot will auto crop the picture to remove any white parts that occur due to the rotation. When you are happy that the picture is straight, click on the **Straighten** button.

### **Auto Color**

To automatically correct the coloring of a photo, click on the **Auto Color** button.

### **Exporting to web services**

F-Spot allows you to export you photos to a Web Gallery, Folder or CD and the following services; SmugMug©, PicasaWeb™, Flickr™, 23hq and

Zoomr™.

You can export to these services by selecting a picture and then opening the **Photo** menu, then choosing **Export to** and clicking the service that you require. This will open a window in which you can enter your account name and password for the service. This will allow you to upload pictures to this service.

## Watching videos and movies

To watch videos or DVDs in Ubuntu, you can use the **Movie Player** application. To start the Movie Player, open the **Applications** menu, then choose **Sound & Video**, then choose **Movie Player**. This will open the “Movie Player” window.

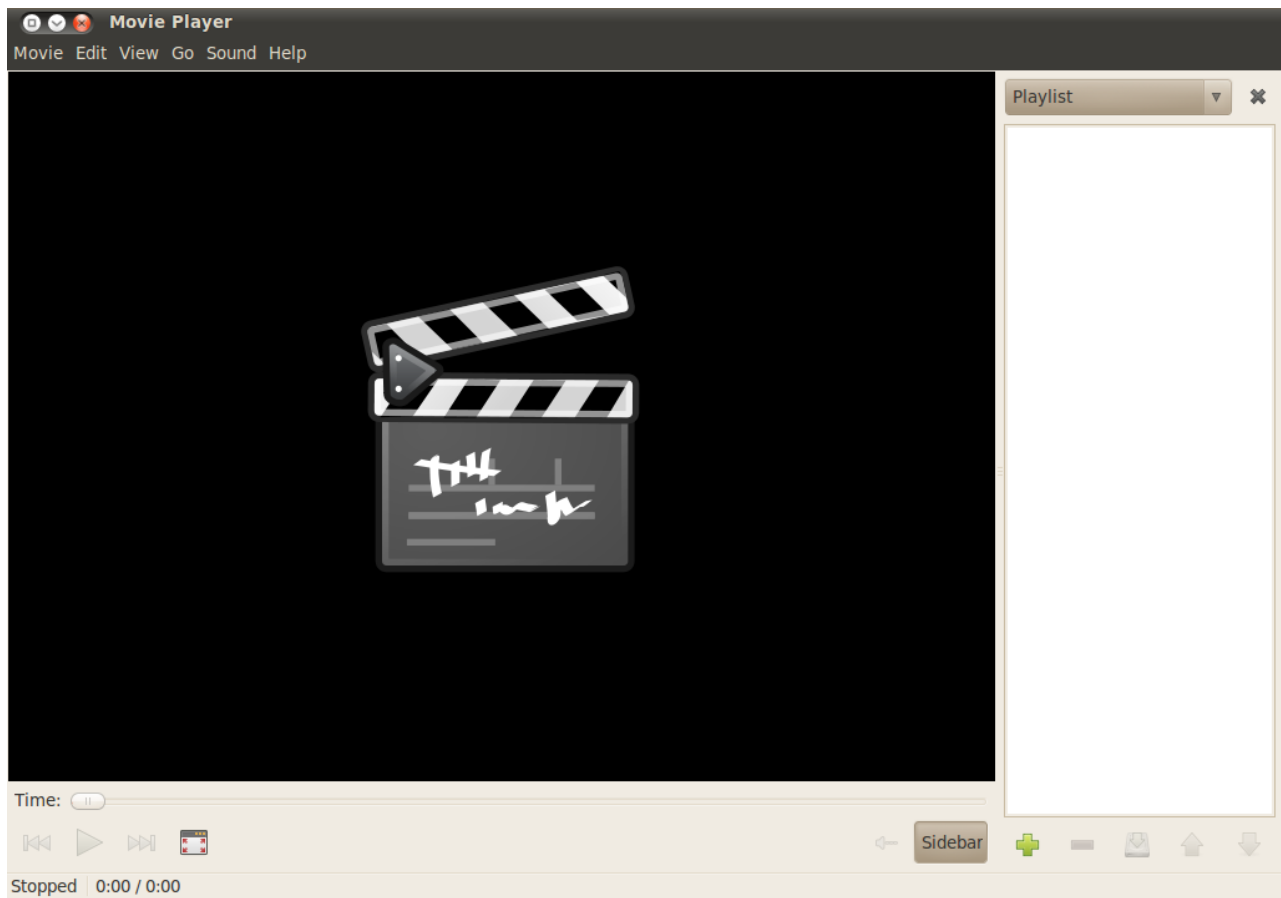


Figure 3.24: Totem plays music and videos.

## Codecs

Watching DVDs may require Ubuntu to install a “codec”, which is a piece of software that allows your computer to understand the contents of the DVD, and display the video.



*Legal Notice Patent and copyright laws operate differently depending on which country you are in. Please obtain legal advice if you are unsure whether a particular patent or restriction applies to a media format you wish to use in your country.*

So that you can play all videos and DVDs, you will need to install some codecs. This is done by enabling the **Multiverse** repositories (for how to do this see [Chapter ??: ??](#)).

Once you have enabled the repositories, open the **Applications** menu, then choose **Ubuntu Software Center**. When the “Ubuntu Software Center” window opens, use the search box in the top right and search for the following:

- gstreamer0.10-ffmpeg
- gstreamer0.10-plugins-bad
- gstreamer0.10-plugins-ugly
- gstreamer0.10-plugins-base
- gstreamer0.10-plugins-good
- libdvdread4
- libdvdnav4
- libdvdcss2

When you find each one, click on it and then if there is an **Install** button, click on it. If there is a **Remove** button, then it is already installed. Clicking on the **Install** button may open the “Authenticate” window. Enter your password in the **Password** text field. Once you have entered your password, click on the **Authenticate** button to will start the installation.

To finish codec installation, you also need to run a command in the terminal. Open the **Applications** menu, then choose **Accessories** and then choose **Terminal**. This will open the “Terminal” window.

Type the command as shown below.

```
$ sudo /usr/share/doc/libdvdread4/install-css.sh
```

Once you have typed the command, press Enter. You will be asked for your password—to authorize this action, type in your password and press Enter. Wait for the process to finish. Once it has finished you can close the “Terminal” window.

## Playing videos from file

Open the **Movie** menu, then choose **Open...** This will open the “Select Movies or Playlists” window. Find the file or files that you want to play and click on

For more information on the terminal see [Chapter 6: The Command Line](#)

the **Add** button. The video or videos will start playing.

## Playing a DVD

When you insert a DVD in the computer, Ubuntu should open the the “You have just inserted a Video DVD. Choose what application to launch” window. Make sure that **Open Movie Player** is chosen in the drop-down list and then click **OK**. The “Movie Player” window will open and the movie will start.

If the “Movie Player” window is already open, open **Movie** menu, then choose **Play Disc ....** and the movie will start.

## Listening to audio and music

Ubuntu comes with the **Rhythmbox Music Player** for listening to your music, streaming Internet radio, managing playlists and podcasts, and purchasing songs.

### Starting Rhythmbox

To start Rhythmbox, open the **Applications** menu, then choose **Sound & Video**, then **Rhythmbox Music Player**.

To quit Rhythmbox, choose **Music ▸ Quit** or press **Ctrl+Q**. Rhythmbox will continue to run if you choose **Music ▸ Close** or close the window. A few Rhythmbox tools (such as *Play*, *Next*, and *Previous*) are available from the Rhythmbox Music Player icon in the notification area (typically the top right of your screen). You can also choose *Quit* from this menu to shutdown Rhythmbox.

### Playing music

In order to play music, you must first import music into your library. Choose **Music ▸ Import Folder** or press **Ctrl+O** on your keyboard to import a folder of songs or **Import File** for single songs.

The *Rhythmbox Toolbar* contains most of the controls that you will use for browsing and playing your music.

If you want to play a song, select a track and choose the *Play* button (**Control ▸ Play** or **Ctrl+Space**) from the Toolbar. Clicking the Play button again will pause the song.

*Next* and *Previous* buttons are next to the Play button. These will play the next and previous songs in your library.

The Rhythmbox Toolbar also has options to enable or disable *Repeat* ((**Control ▸ Repeat** or **Ctrl+R**), *Shuffle* ((**Control ▸ Shuffle** or **Ctrl+U**), the *Artist/Album browser* ((**Control ▸ Browser** or **Ctrl+B**), and *Visualization*.

When you insert a CD into your computer, it will appear in the list of *Devices* in the *Side Pane*. Select the CD in the Devices list. Enable and disable



Figure 3.25: Rhythmbox application with a CD inserted

the Side Pane by choosing **View ▸ Side Pane** or F9. Rhythmbox will attempt to find the correct artist, album, and track names. To play the songs on the CD, choose the track and press Play.

To import the songs into your library, select the CD in the Devices list. You can review information about the CD, make any changes if needed, or un-check songs that you do not want to import.. The toolbar will display additional options to *reload album information*, *eject the CD*, and *copy the tracks to your library*. Press the Copy button to import the songs.

### Listening to streaming radio

Rhythmbox is pre-configured to enable you to stream radio from various sources. These include Internet broadcast stations (*Radio* from the Side Pane) as well as *Last.fm*. To listen to an Internet radio station, choose a station from the list and click Play. To listen to music from Last.fm, configure your *Account Settings*.

Streaming radio are radio stations that are broadcast over the Internet.

### Connect digital audio players

Rhythmbox can connect with many popular digital audio players. Connected players will appear in the Devices list. Features will vary depending on the player but common tasks like transferring songs and playlists should be supported.

## Listen to shared music

If you are on the same network as other Rhythmbox users (or any music player software with *DAAP* support), you can share your music and listen to their shared music. Choose *Shared* from the Side Pane for a list of shared libraries on your network. Clicking a shared library will enable you to browse and play songs from other computers.

## Manage podcasts

Rhythmbox can manage all of your favorite podcasts. Select *Podcasts* from the Side Pane to view all added podcasts. The toolbar will display additional options to *Subscribe to a new Podcast Feed* and *Update all feeds*. Choose **Music** > **New Podcast Feed**, **Ctrl+P**, or press the Subscribe button in the toolbar to import a podcast URL. Podcasts will be automatically downloaded at regular intervals or you can manually update feeds. Select an episode and click Play. You can also delete episodes.

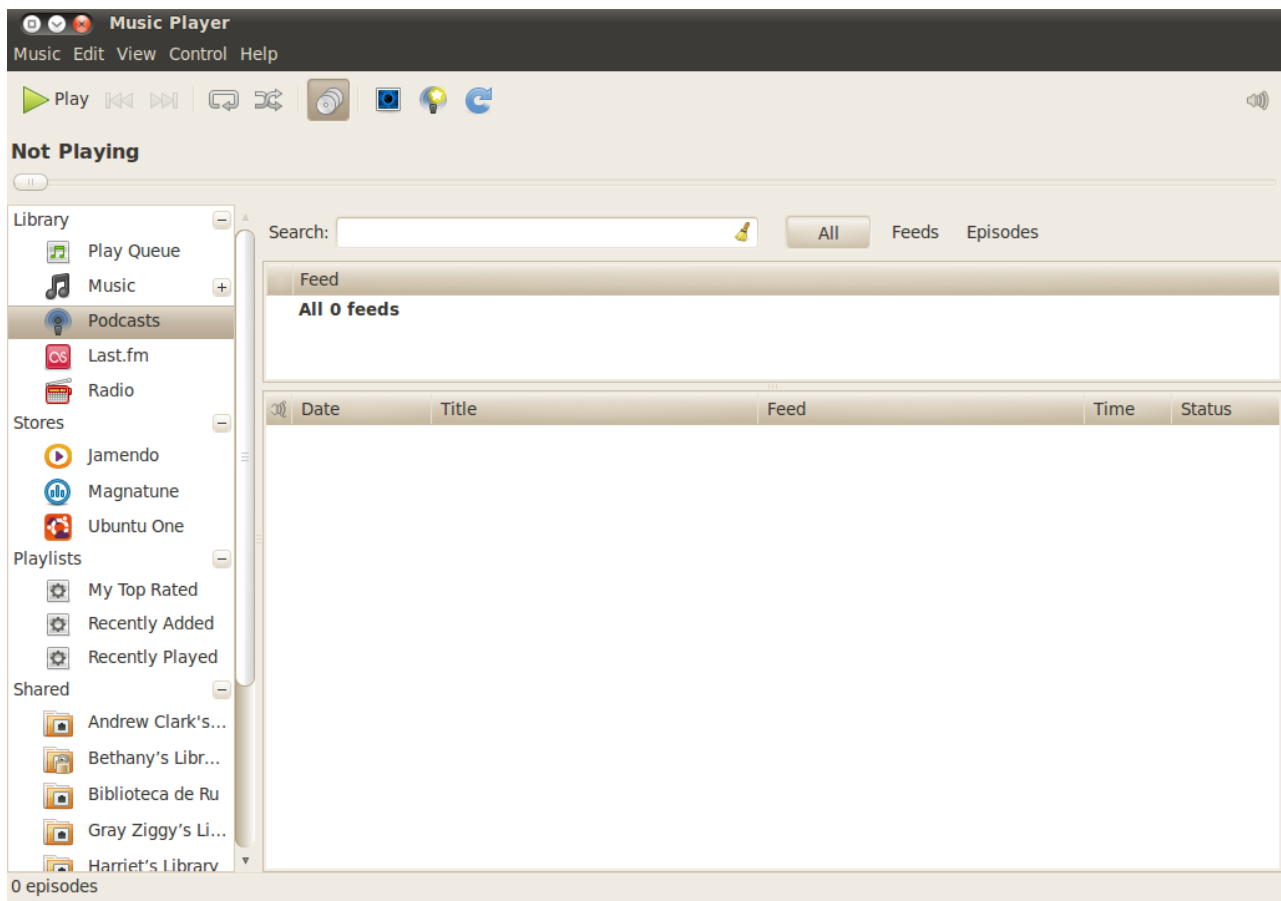


Figure 3.26: You can add and play your podcasts in Rythambox.



## Rhythmbox preferences

The default configuration of Rhythmbox may not be exactly what you want. Choose **Edit ▶ Preferences** to alter the application settings. The *Preferences* tool is broken into four main areas: *General*, *Playback*, *Music*, and *Podcasts*.

- ▶ *General options* include music filtering and sorting options and a configuration setting for toolbar button labels.
- ▶ *Playback options* allow you to customize the crossfading feature and define the buffer setting for streamed music from sources such as Internet radio and shared libraries.
- ▶ *Music options* define the *Library Location* on your computer where imported music is added, the *Library Structure* of how folders are created based on your imported music, and the *Preferred format* for imported music.
- ▶ *Podcasts options* define the *Download location* podcast episodes and the frequency to *Check for new episodes*.

## Managing your music

Rhythmbox supports creating playlists. Playlists are either static lists of songs that are played in order or can be automatic playlists based on your specific filter criteria. Playlists contain references to songs in your library. They do not contain the actual song file. If you remove a song from a playlist (*Remove from Playlist*), it will remain in your library.

To create a playlist, choose **Music ▶ Playlist ▶ New Playlist** or **Ctrl+N** and give the new playlist a name. You can then either drag songs from your library to the new playlist in the side pane or right-click on songs and choose *Add to Playlist* and pick the playlist.

*Automatic Playlists* are created almost the same way as static playlists — choose **Music ▶ Playlist ▶ New Automatic Playlist**. Next, define the filter criteria. You can add multiple filter rules. Finally, choose *Close* and give the new automatic playlist a name. Automatic Playlists will appear in your side pane with a different icon than any static playlists. You can update any playlist by right-clicking on the name and choosing *Edit...*

Rhythmbox supports setting song ratings. Select a song in your library and choose **Music ▶ Properties**, **Alt+Return**, or right-click on the file and choose *Properties*. Select the *Details* tab and set the rating by picking the number of stars. Other song information such as *Title*, *Artist*, and *Album* can be changed from the *Basic* tab. Choose *Close* to save any changes.

To delete a song, select it in your library and choose **Edit ▶ Move to Trash** or right-click on the song and choose *Move to Trash*. This will move the song file to your trash.

If you ever want to move a song (for example to another computer), choose the song (or group of songs) from your library and drag it to a folder or to

your desktop. This will make a copy in the new location.

## Rhythmbox plugins

Rhythmbox comes with a variety of plugins. These are tools that you can enable and disable that add more features to Rhythmbox. Examples include *Cover art*, *Song Lyrics*, and various music stores. A few plugins are enabled by default.

To view the list of available plugins, choose **Edit ▶ Plugins**. The *Configure Plugins* window allows you to enable or disable individual plugins, view descriptions, and configure additional options if they are available for the plugin.

## Music stores

Rhythmbox has three music stores which give you access to an extremely large catalog of music with a variety of licensing options.

The *Jamendo* store sells free, legal and unlimited music published under the six Creative Commons licenses. You can browse the catalog and play songs by choosing *Jamendo* in the *Stores* list in the side pane. More information about their catalog can be found at <http://www.jamendo.com/>.

The *Magnatune* store sells music from independent musicians. They work directly with artists and hand-pick the songs available. Their catalog is composed of high quality, non-DRM (no copy protection) music and covers a variety of genres from Classical and Jazz to Hip Hop and Hard Rock. You can browse the catalog and play songs by choosing *Magnatune* in the *Stores* list in the side pane. More information about their catalog and subscription service can be found at <http://www.magnatune.com/>.

The *Ubuntu One Music Store* sells music from major and minor music labels around the world. The store offers non-DRM (no copy protection) songs encoded in either high quality MP3 or AAC format. Ubuntu does not come with support for MP3 playback, but the store will install the proper codecs automatically for free. You can browse the catalog, play previews, and buy songs by choosing *Ubuntu One* in the *Stores* list in the side pane.

The Ubuntu One Music Store integrates with the Ubuntu One service. All purchases are transferred to your personal cloud storage and then automatically copied to all of your computers so an Ubuntu One account is required. The catalog of music available for purchase will vary depending on where you live in the world. More information about the Ubuntu One Music Store can be found at <http://one.ubuntu.com/>

## Audio codecs

Different audio files (e.g., MP3, WAV, AAC) require unique tools to decode them and play the contents. These tools are called codecs. Rhythmbox will

attempt to detect any missing codecs on your system so you can play all of your audio files. If a codec is missing, it will try to find the codec in online resources and guide you through installation.

## Rhythmbox support

Rhythmbox is a very popular music application used by many throughout the world. There are a variety of support resources available in many languages.

- ▶ Choose the **Help** button for a variety of support option and information about reporting Rhythmbox bugs.
- ▶ The Rhythmbox website - <http://projects.gnome.org/rhythmbox/>
- ▶ The Multimedia & Video category of Ubuntu Forums - <http://ubuntuforums.org/forumdisplay.php?f=334>

## Working with documents, spreadsheets, and presentations

Quite often, you may need to use your computer for work. You may have a need to use a word processor to write a document. You may need to work on a spreadsheet, do calculations on a table of data or create a data chart. You may want to work on slides for a presentation.

In Ubuntu, you can use the OpenOffice.org suite of applications for these tasks.

### Working with documents

If you need to work with documents, you can use the OpenOffice.org Word Processor. To start the word processor, open the **Applications** menu, choose **Office**, and then choose **OpenOffice.org Word Processor**. Ubuntu should then open the main window for the word processor. .

The OpenOffice.org Word Processor is also known as the OpenOffice.org Writer. Spreadsheet is also known as Calc, and Presentation is known as Impress.

### Working with spreadsheets

If you need to work with spreadsheets, you can use the OpenOffice.org Spreadsheet. To start the spreadsheet application, open the **Applications** menu, choose **Office**, and then choose **OpenOffice.org Spreadsheet**.

### Working with presentations

If you need to work with slides for a presentation, you can use the OpenOffice.org Presentation. To start the presentation application, open the **Applications** menu, choose **Office**, and then choose **OpenOffice.org Presentation**.

## Getting more help

Each of these applications comes with a comprehensive set of help screens. If you are looking for more assistance with these applications, press the F1 key

after starting the application.

## Taking notes

You can take notes in a program called **Tomboy Notes**, you can use it to make a shopping or a to do list. Click **Applications**, then click **Accessories** and click **Tomboy Notes**

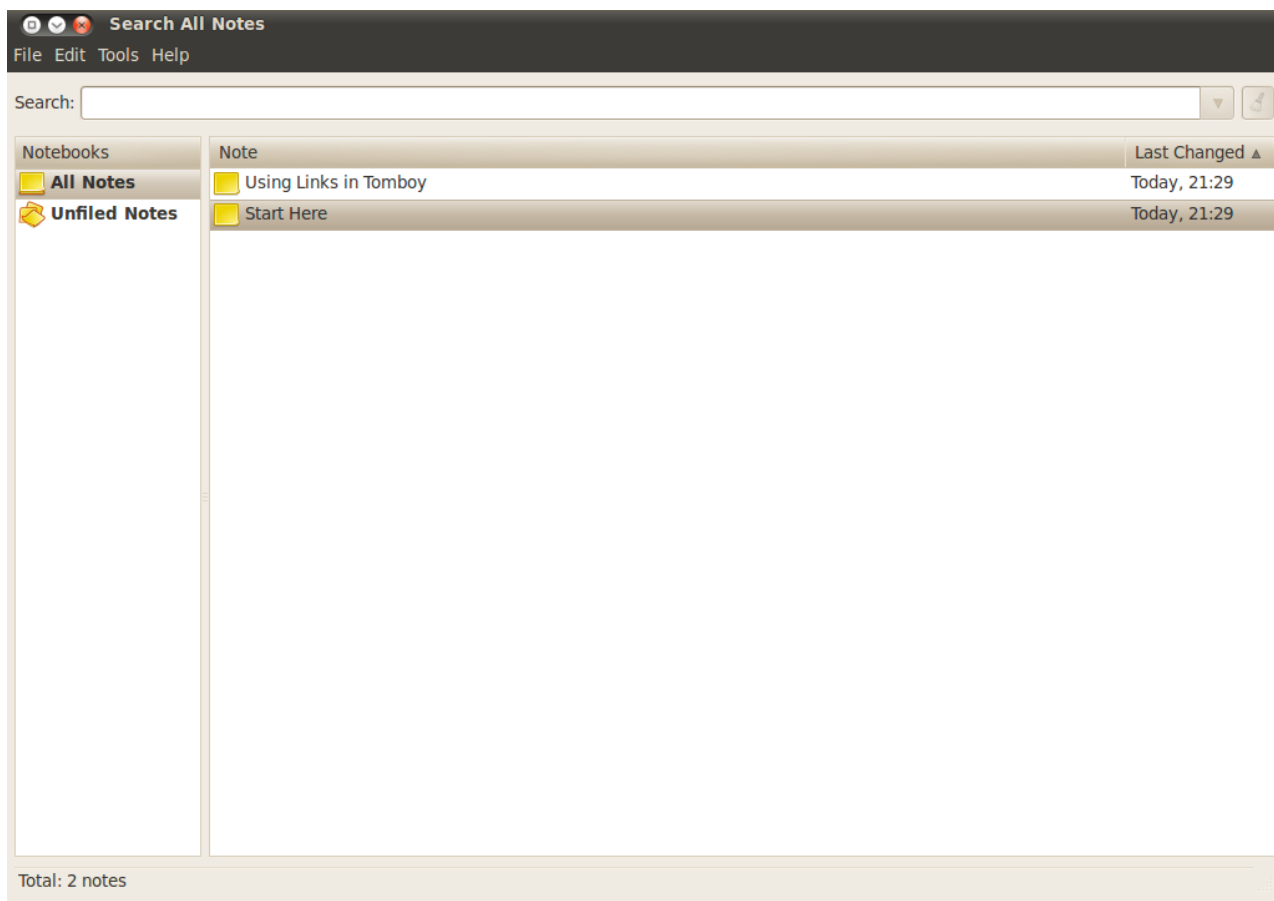


Figure 3.27: You can record information that you need to remember.

You can search all of your notes by typing a word in the **Search:** text field in the main tomboy window.

## Making notes

To create a new note click **File**, then click **New**, the “New Note” window will open.

The “New Note” window will contain a blue title “New Note” this can be deleted and changed to a title that makes the note more memorable. The main content of the note can be typed where it says “Describe your new note

here.” Once you have entered your text just close your note as all changes are automatically saved.

To delete the note click the red delete note button, this will open a “Really delete this note?” window. If you do want to delete the note click the **Delete** button, otherwise click the **Cancel** button.

You can add a note to a notebook by clicking the **Notebook** button and clicking the option next to the notebook that you want to move the note to.

## Organizing notes

You can organize your notes in Tomboy using “Notebooks,” This makes finding you notes quicker and in a more logical location. To create a new notebook click **File**, then **Notebooks**, and click **New Notebook...**

The “Create a new notebook” window will open, type the name of the notebook in the **Notebook name:** text field. Once you have typed the notebook name click the **Create** button.

The notebook will now show up in the sidebar of Tomboy Notes. You can click and hold on the note of your choice and drag it on top of the notebook that you want to move it to.

## Synchronizing

You can synchronize you notes with your Ubuntu One account, this means that you can access them across all of your ubuntu computer. You can also access them from <https://one.ubuntu.com/>.

To synchronize you notes click the **Edit**, then click **Preferences**, this will open the “Tomboy Preferences” window. Click the **Synchronization** tab and then in the **Service** drop down click **Tomboy Web**.

Next click the **Connect to Server** button, this will open a web page in **Firefox** you will need to enter the email address that you use for ubuntu one and your password. Then click the **Continue** button, then in the **Computer Name** text field enter a name that reminds you of that computer and click the **Add This Computer** button. Firefox will then display a page that says something similar to “Tomboy Web Authorization Successful”

Now back at the “Tomboy Preferences” window click the **Save** button. A new window will pop up asking if you want to “synchronize your notes now,” click the **Yes** button and the “Synchronizing Notes ...” window will show, once the synchronization is complete click the **Close** button.

If you want to synchronize the notes again click **Tools** and click **Synchronize Notes**. Your notes will start synchronizing, when they are done click the **close**



# 4 Hardware

## Using your devices

Ubuntu supports a wide range of hardware, and support for new hardware improves with every release.

## Hardware identification

To identify your hardware you can install the following application: Click **Applications**, scroll down to **Ubuntu Software Center**. When the “Ubuntu Software Center” window opens, use the search box in the top right and search for the following: “sysinfo.” Now click **More Info** and then click **Install** to install the application.

Now to run the application go to **Applications System Tools Sysinfo** the program should open up providing you with access to information about all your hardware on your system.

## Keyboard and mouse

The keyboard and mouse are essential input devices for a large number of computer users today. Being a very common piece of kit for many computer users has led to some variation in the mouses and keyboards on offer today. In this section we will look at the different settings of your keyboard and mouse which will be of great use to international users.

## Keyboard

The keyboard is likely to be one of the main ways that you interact with your computer. Without a keyboard this manual couldn't be written by the Ubuntu Manual team! Unfortunately not all keyboards are uniform in design, they can differ by country, by language or even by style. As an American if by mistake you purchase a keyboard from a UK retailer, then not only will you find that the

## Displays

### Hardware drivers

A hardware driver is a small bit of code packaged in a file, which tells your computer how to utilize a piece of hardware. Every component in a computer requires a hardware driver to function, whether it's the printer, DVD

player, hard disk, or graphics card. Your graphics device is the component in your computer that powers your display. When you're watching videos on YouTube or DVDs or simply enjoying the smooth transition effects when you maximize/minimize your windows, your graphics device is doing the hard work behind the scenes.

Majority of the Graphics Devices are manufactured by three well known companies: Intel®, AMD/ATI® and NVIDIA® corp. You can find your device manufacturer by referring to your computer manual or looking for the specifications of your particular model over the Internet. The Ubuntu Software Center houses a number of programs that allow detailed system information to be obtained. **SysInfo** is one such program that you can use to find relevant information about your System devices. Ubuntu comes with support for graphics devices manufactured by above companies, and many others, out of the box. That means that you don't have to find and install any drivers by yourself, Ubuntu takes care of it on its own.

In keeping with Ubuntu's philosophy, the drivers that are used by default for powering graphics devices are open source. This means that the drivers can be modified by the Ubuntu developers and problems with them can be fixed. However in some cases the proprietary driver (restricted driver) provided by the company may provide better performance or features that are not present in the open source driver written by the developer community. In other cases, your particular device may not be supported by the open source drivers yet. In those scenarios, you may want to install the restricted driver provided by the manufacturer.

For both philosophical and practical reasons, Ubuntu does not install restricted drivers from the start but allows the user to make an informed choice. Remember that restricted drivers, unlike the open source drivers for your device, are not maintained by Ubuntu. Problems caused by those drivers will be resolved only when the manufacturer wishes to address them. To see if restricted drivers are available for your system, click **System** in the top panel, go to **Administration** and find **Hardware Drivers**. If a driver is provided by the company for your particular device, it will be listed there. You can simply click **Activate** and use the driver if you want. This process will require an active Internet connection and will ask for your password.

The Ubuntu developers prefer open source drivers because they allow the problem to be identified and fixed by anyone with knowledge in the community. Ubuntu development is extremely fast and it is a good chance that your device will be supported by open source drivers. You can use the Ubuntu Live CD to check for your device compatibility before installing Ubuntu or go online in the Ubuntu forums to ask about your particular device. Another useful resource is the official online documentation ([help.ubuntu.com](http://help.ubuntu.com)), which contains detailed information about various graphics drivers and known quirks.



## Setting up your screen resolution

One of the most common display related tasks is setting up your screen resolution. Think of Screen Resolution in terms of displayable information on the your monitor/LCD; the higher the resolution, the better the result. Your monitor/LCD has a “native resolution,” which is the highest resolution it designed to work at. Ubuntu correctly identifies that screen resolution by itself and sets it for you. However, due to a huge variety of devices out there, sometimes it can make a mistake and set up an undesirable resolution.

To set up or just check your screen resolution, go to **System**. Click **Preferences** and find **Display**. The Display application shows you your monitor name and size, the screen resolution and refresh rate. Clicking on the displayed resolution *for e.g. 1024 x 768 (4:3)*, would open a drop-down menu from where you can select the resolution of your choice.

## Connecting and using your printer

You can add, remove, and change printer properties by clicking **System** then clicking **Administration** and then **Printing**. This shows the “Printing-localhost” window.

When you use and add printer it will need to be plugged in with a usb lead or connected to you network. It will also need to be switched on.

### Adding a local printer

If you have a printer that is connected to your computer with a usb cable then this is a local printer. You can add a printer by clicking **Server**, then clicking **New** then **Printer**. The “New Printer” window will open.

In the left hand pane of the “New Printer” window any printers that you can install will be listed. Select the printer that you would like to install and click **Forward**.

If your printer can automatically do double sided printing and it will probably have a duplexer. Please refer to the instructions that came with the printer if you are unsure. If you do have a duplexer you will need to make sure the **Duplexer Installed** option is checked and then click the **Forward** button.

You can now specify the printer name, description and location. Each of these should remind you of that particular printer so that you can choose the right one to use when printing. Finally click **Apply**.

### Adding a network printer

Make sure that your printer is connected to network with an Ethernet cable and is turned on. To add the printer You can add a printer by clicking **Server**, then clicking **New** then **Printer**. The “New Printer” window will open. Click

the “+” sign next to **Network Printer**.

If your printer is found automatically it will show under **Network Printer**. Click the printer name and then click **Forward**. Then in the text fields you can now specify the printer name, description and location. Each of these should remind you of that particular printer so that you can choose the right one to use when printing. Finally click **Apply**.

Otherwise you will need to know the protocol or details of your network printer.

### Setting default printer

The default printer is the one that is automatically selected when you print a file. To set a printer as default right click the printer that you want to set as default and click **Set As Default**

### Changing printer options

If you want to print on different size paper, change the printing quality or the media type this can be done by changing the printer options. The printer options can be changed by right clicking the printer and choosing **Properties**. The “Printer Properties” window will show, in the left pane choose **Printer Options**.

You can now change any of the options by changing the drop-down next to it, some of the options that you might see are explained.

#### Media Size

This is the size of the paper that you put into your printer tray

#### Media source

This is the tray that the paper comes from.

#### Output mode

This is very useful if you want to print in **Black Only Greyscale** to save on ink, or to print in **Color**, or **High Quality Greyscale**

#### Media type

Depending on the printer you can change between **Plain Paper**, **Automatic**, **Photo Paper**, **Transparency Film**, **CD or DVD Media**.

#### Print Quality

This specifies how much ink is used when printing, **Fast Draft** using the least ink and **High-Resolution Photo** using the most ink

## Sound

Ubuntu usually detects the audio hardware of the system automatically during installation. The audio in Ubuntu is provided by a sound server named PulseAudio. The audio preferences is easily configurable with the help of a very easy to use GUI which comes pre-installed with Ubuntu.

A volume icon which sits on the top right corner of the screen, provides quick access to different audio related functions. Left clicking on the volume icon shows up a slider button which you can move horizontally to increase/decrease volume. Right clicking on the volume icon allows you to choose between muting the sound and sound preferences. Selecting sound preferences opens up another window which provides access to sound themes, hardware, input and output preferences for sound. The sound preferences can also be found if you go to the **System** menu and highlight **Preferences**, you will see **Sound** in the drop down list.

The first tab which shows up by default is the sound themes. You can disable the existing sound theme or configure it with the options available. You can also add new sound themes by installing them from Software Center e.g. Ubuntu Studio Sound theme. You will get the installed sound themes from the drop down menu. You can also enable window and button sounds.

The hardware tab will have a list of all the sound cards available in your system. Usually there is only one listed, however, if you have a graphics card which supports HDMI audio it will also show up in the list. This section should be configured only if you are an advanced user.

The third tab is for configuring input audio. You will be able to use this section when you have an inbuilt microphone in your system or if you add an external microphone. A microphone is used for making audio/video calls which are supported by applications like Skype or Empathy. It is also used for the purpose of sound recording. You can increase/decrease and mute/unmute input volume from this tab. If there are more than one input devices (microphones), you will see them listed in the white box which reads "Choose a device for sound input." You must note that by default in any Ubuntu installation, the input sound is muted. So, you will have to manually unmute to enable your microphone to record sound or use it during audio/video calls.

The next tab is used for configuring the output audio. You can increase/decrease and mute/unmute output volume and select your preferred output device. By default, the volume in Ubuntu is set to maximum during installation. Here, again, if you have more than one output devices, it will be listed in the section which reads "Choose a device for sound output." The default output hardware, which is automatically detected by Ubuntu during start-up will be selected. If you wish to change to another sound source, once the selection is made, that device will become default unless changed. There is a new pulseaudio equaliser which is available from Launchpad for configuring different sound effects. It comes in handy while listening to music and/or

watching movies.

The last tab is for configuring volume options for each running application. This comes in very handy if you have multiple audio programs running e.g. if you have Rhythmbox, Totem movie player and a youtube video running at the same time, you will be able to increase/decrease, mute/unmute volume for each application from this tab.

## USB drives

## Burning CDs and DVDs

To create a CD or DVD click the **Applications** then click **Sound and Video** and click **Brasero Disc Burner**. This opens the “Brasero” window, this window has a side bar that gives you five options to choose from. Each one of these is explained.

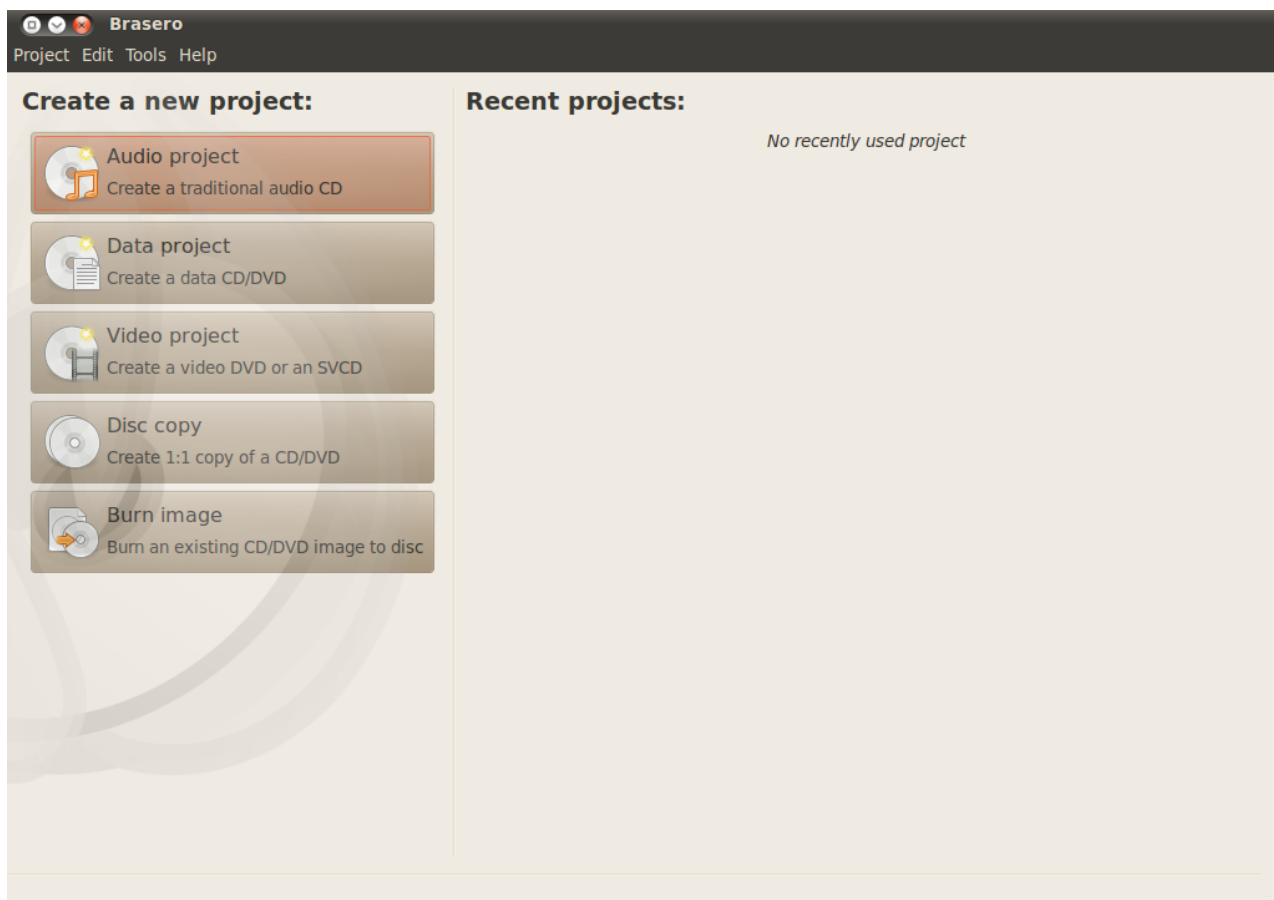


Figure 4.1: Brasero burns music, video, and data DVDs and CDs.

## Universal options

These options apply for all projects except **Disc copy** and **Burn Image**

### Adding files to a project

To add files to the list click the **Green +** button, this opens the “Select Files” window. Then navigate you way to the file that you want to add and click it and then click the **Add** button. Repeat this process for each file that you want to add.

### Saving a project

To save a project so that you can finish it later, click **Project** then click **Save**. The “Save Current Project” window will show, choose where you would like to save the project. Then in the **Name:** text field name the project so that you will remember it. Then click the **Save** button.

### Removing files

If you want to remove a file from the project, click the file in the list and click the **Red -** button. To remove all the files in the list click the **Broom shaped** button.

### Burning the disc

When you click the burn button you will see the “Properties of ...” window.

You can specify the burning speed in the **Burning speed** drop down. It is best to specify the highest speed of the disc.

To burn your project directly to disc, click the **Burn the image directly without saving it to disc** option. With this option selected, no image file is created and no files saved to the hard disk.

The **Simulate before burning** option is useful if you encounter problems burning discs. Selecting this option allows you to simulate the disc burning process without actually writing data to a disc—a wasteful process if your computer isn’t writing data correctly. If the simulation is successful, Brasero will burn the disc after a ten second pause. During that ten second pause, you have the option to cancel the burning process.

Temporary files are saved in the /tmp folder by default. Should you wish to save these files in another location, you will need to change the setting in the **Temporary files** drop down menu. Under normal conditions, you should not need to change this setting.

### Blanking a disk

If you are using a disc that has “RW” written on it and you have used it before, then you can blank it so that you can use it again. Doing this will cause

you to lose all of the data currently on the disc. To blank a disc, click the **Tools** menu, then click **Blank**. The “Disc Blanking” window will appear. In the **Select a disc** drop down choose the disc that you would like to blank.

You can enable the **Fast blank** option if you would like to shorten the amount of time necessary to perform the blanking process. However, selecting this option will not fully remove the files; if you have any sensitive data on your disc, it would be best not to enable the **Fast blank** option.

Once the disc is blank the “The disc was successfully blanked” window is shown click the **close** button to finish.

### Audio project

If you record your own music, then you may want to transfer this music onto an audio cd so your friends and family can listen. You can start an audio project by clicking **Project** then clicking **New Project** and then **New Audio Project**.

So that each file does not play straight after each other you can add a two second pause after a file. This can be done by clicking the file and then clicking the || button.

You can slice files into parts by clicking the **Knife** like button, this opens a “Split Track” window. The **Method** drop down gives you four options each one of these lets you split the track in a different way. Once you have split the track click the **OK**.

In the drop down at the bottom of the main “Brasero” window make sure that you have selected the disc that you want to burn the files to. Then click the **Burn...** button.

### Data project

If you want to make a back up of your documents or photos it would be best to make a data project. You can start a data project by clicking **Project** then clicking **New Project** and then **New Data Project**

If you want to add a folder you can click the **Folder** picture, then type the name

In the drop down at the bottom of the main “Brasero” window make sure that you have selected the disc that you want to burn the files to. Then click the **Burn...** button.

### Video project

If you want to make a dvd of your family videos it would be best to make a video project. You can start a video project by clicking **Project** then clicking **New Project** and then **New Video Project**

In the drop down at the bottom of the main “Brasero” window make sure that you have selected the disc that you want to burn the files to. Then click

the **Burn...** button.

## Disc copy

You may want to copy a disc so that you have another copy of

You can copy a disc clicking **Project** then clicking **New Project** and then **Disc copy**. This opens the “Copy CD/DVD”

If you have two CD/DVD drives you can copy a disc from one to the other, the disc that you want to copy to must be in the CD-RW/DVD-RW drive. If you have only one drive you will need to make an image and then burn it to a disc. In the **Select disc to copy** drop-down choose the disc to copy. In the **Select a disc to write to** drop-down either choose image file or the disc that you want to copy to.

## Image file

You can change where the image file is saved by clicking **Properties**, this shows the “Location for Image File”. You can edit the name of the file in the **Name:** text field.

The default save location is your home folder, you can change this by clicking the + next to **Browse for other folders**. Once you have chosen where you want to save it click **Close**.

Then back in the “Copy CD/DVD” window click **Create Image**. The “Creating Image” window will open and show the job progress. When it is complete click **Close**.

## Copy to disc

### Burn image

To burn an image, click **Project**, then **New Project**, and then **Disc copy**. This opens the “Image Burning Setup” window. Click the **Select a disc image to write** drop-down and the “Select Disc Image” window will appear. Navigate your way to the image you wish to burn, click it, and then click **Open**.

In the **Select a disc to write to** drop-down menu, click the disc to which you’d like to write, then click **Burn**.

## Using a webcam

Webcams come inbuilt into most laptops and netbooks these days. Apple desktops also have webcams inbuilt into the monitors. The other webcams are plug and play. Almost all new webcams are detected by Ubuntu automatically. You can configure webcams for individual applications such as skype and empathy from the application’s interface.

## Scanning text and images

Most of the time, Ubuntu will simply detect your scanner and you just be able to use it. To scan a document, you need to follow these steps:

1. Place what you want to scan on the scanner.
2. Go to **Applications** ▶ **Graphics** ▶ **Simple Scan**.

## Does my scanner work with Ubuntu?

There are three ways to see if you scanner works in Ubuntu:

1. Simply plug it in. If it is a newer USB scanner, it is likely that it will just work.
2. Check <https://wiki.ubuntu.com/HardwareSupportComponentsScanners> which is Ubuntu specific.
3. SANE project listing of support scanners. The SANE (Scanner Access Now Easy) project provides most of the backends to the scanning software on Ubuntu.

## Ubuntu can't find my scanner

There are a few reason why Ubuntu may give you a “No devices available message”:

- ▶ Your scanner is not supported in Ubuntu. The most common type of scanner not supported is old parallel port or Lexmark All-in-One printer/scanner/faxes.
- ▶ The driver for your scanner is not being autoloaded.

## Other devices

Two very important devices which comes preinstalled with most laptops and desktops these days are Firewire and Bluetooth.

### Firewire

Firewire port is a special type of port that make use of FireWire technology to transfer data. This port is generally used by camcorders and digital cameras. This port facilitates high speed data transfer. If you want to import video from your camcorder you can do so by connecting your camcorder to the firewire port. You will need to install a software called **Kino** which is available in **Ubuntu Software Center**. There is a very beautiful video tutorial available on how to use Kino at <http://www.youtube.com/watch?v=vtpfS8ZVgWE>.



## Bluetooth

Bluetooth is widely used on GPS devices, mice, mobile phones, headsets, music players, desktops and laptops for data transfer, listening to music, playing games and for various other activities. All modern operating systems support Bluetooth and Ubuntu is no exception. Bluetooth is easily configurable in Ubuntu via simple, easy to use GUI. Be it your system has inbuilt Bluetooth hardware or you are using a Bluetooth dongle, Ubuntu can recognize it all.

You can quickly access the Bluetooth preferences by right-clicking on the Bluetooth icon on the right-hand side of the top panel. It usually sits beside the volume icon. Right-clicking the Bluetooth icon gives a lot of choices which includes a one-click **Turn off Bluetooth** option.

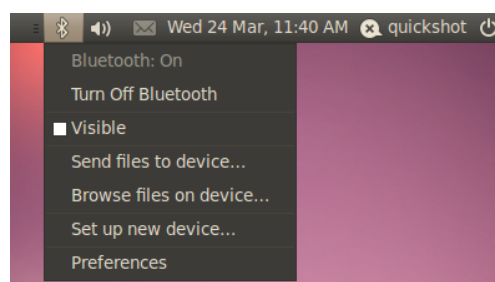


Figure 4.2: The Bluetooth applet menu.

The Bluetooth preferences can also be accessed from **System** ▶ **Preferences** ▶ **Bluetooth**. This **System** menu can be found on the top panel. If you want to setup a new device such as a mobile phone to synchronize with your computer, click on the option that reads **Setup new device...**

This will open up a new window for a new device setup. The setup is fairly straightforward.

When you click on forward, you will head over to the second screen which will show you how many Bluetooth devices are present within the range of your system. The list of available devices might take a minute or so to appear on the screen as your system will be scanning for the devices. The scan and display is in real time, which means, it will show up the device the moment it finds one. Click on the required Bluetooth device from the list of devices. Then, select the PIN number by selecting **PIN options**.

Three predefined PIN numbers are available but you can create a custom PIN if you like. This PIN you will need to enter on the device you will be pairing with this Ubuntu system.

Once the device has been paired, you will receive a "Setup completed" screen.

In Ubuntu, your laptop/desktop is hidden by default for security reasons. This means that your Ubuntu system can search other Bluetooth-enabled systems but they cannot search the Ubuntu system. You will have to enable

the option, if you want your bluetooth device to find your Ubuntu system. You can do this by selecting the option “Make computer discoverable” under bluetooth preferences. You can also add a fancy name for your bluetooth enabled Ubuntu system by changing the text under **Friendly Name**.

# 5 Software Management

## Software management in Ubuntu

On occasion, you might find that you need some additional software. You may decide to get an alternative web browser, or a different email client. You might need to do audio editing, or install some games.

Ubuntu is designed to make it easy to find and install software. Ubuntu keeps track of tens of thousands of different software packages, helps you install the ones you want, and then keeps them up to date.

## Differences from other operating systems

In most other operating systems, installing software requires you to purchase it in a store, or find and install software from a site on the Internet.

In Ubuntu, it is possible install software in the same manner. However, the best way is to make use of the software packages from the **Ubuntu Software Center**. The Software Center is a central location for software that the developers of Ubuntu have tested and determined to work with Ubuntu.

While other operating systems do not differentiate in the source of various software, Ubuntu has a concept of *repositories*. A repository is a catalog of software that is available to an operating system.

When you install Ubuntu, you will automatically have access to the official Ubuntu repositories. You can add additional repositories to access more software.

## Using the Ubuntu Software Center

The **Ubuntu Software Center** is the recommended way to install software in Ubuntu. The Software Center can help you install most of the applications that are available in the official repositories.

To start the Software Center, open the **Applications** menu and choose **Ubuntu Software Center**.

The Software Center window has two parts—a list of sections on the left, and a set of icons on the right. Each icon represents a *department*, which is a category of software. For example, the “Games” department contains “Sudoku.”

The sections on the left side of the window represent your current view of the Software Center’s catalog. Choose the “Get Free Software” section from the list to see software in the catalog, or “Installed Software” to see a list of software that is already installed on your computer.

Some software, such as command-line utilities and some advanced server tools may not be installed using the Software Center. You will need to use the Synaptic Package Manager to install these packages.

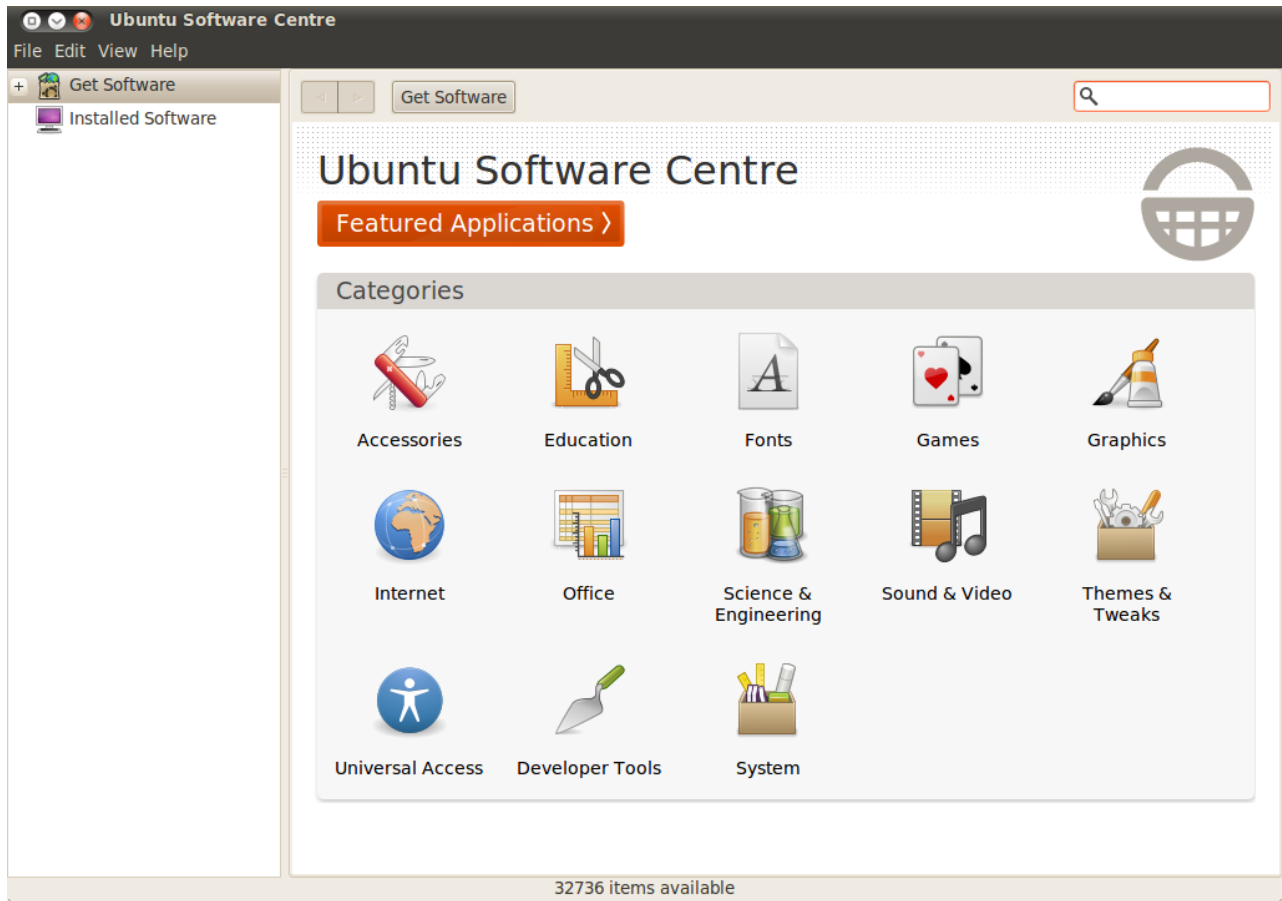


Figure 5.1: You can install and remove applications from your computer using the Software Center.

## Finding software

If you are looking for some software to install on your computer, you may already know the name of the software (for example, “Thunderbird” is a popular email client), or you may just know the category of software (for example, “audio editor” describes a number of software applications that can edit audio files).

To find software, you can either browse the Software Center catalog by department, or use the built-in search to look for software by name or keywords.

To browse the Software Center’s catalog, choose the “Get Free Software” section from the list on the left. The Software Center will display a list of departments such as “Office,” “Games,” or “Sound & Video.”

When you select a department, you will be shown a list of applications that fall into that category. Some departments have sub-categories—for example, the “Games” department has subcategories for “Simulation” and “Card Games.”

To move back or forth through categories, you can use the back and forward buttons or the navigational “breadcrumbs.”

Check out the Featured Applications department to see a list of highly recommended applications.

## Installing software

Installing applications is one click away, literally. Once you find the package you were looking for,

1. *Click on the **Install** button to the right of the selected package.* If you’d rather read more about the package before installing it, click on **More Info** instead; there is another install button embedded in the package’s page for you.
2. *Input your password on the authentication dialog.* This is one of the built-in security features that will only let authorized people to install software on your computer.
3. *Wait until the package is finished installing.* When operations—such as application installations and removals—are currently running, you will see an animated icon of rotating arrows to the left of the **In Progress** section in the sidebar. While waiting for the application to be downloaded and installed, you can head to that section to read details about the current operation, watch the progress bar fill out, or click the X icon to cancel the operation. You can also go back to the main software browsing window and queue other software to be installed.

Once everything is completed, your package is ready for usage. Ubuntu will place a launcher for it on your menu, filed under a matching category. Remember that if your application does not appear under the **Applications** menu, it may be located in **System ▶ Preferences** or **System ▶ Administration**, according to its usage intention.

Note that you will need to be connected to the Internet for the Software Center to work. To learn how to set up your connection, see [Chapter 3: Working with Ubuntu](#).

**Note:** If your password does not work, you are probably not authorized to install software on the computer. If you have further problems, please go to [Chapter 8: Troubleshooting](#).

## Removing software

Removing applications is just as easy as installing them. Once you find the application you wish to remove,

1. *Click on the **Remove** button* to the right of the selected application.
2. *Input your password in the authentication dialog.* If your authentication is granted, the application will be queued for removal under the **In Progress** section on the list to the left. Needless to say, you will also need administrator rights to remove packages.

Naturally, when you remove a package your menus will be updated accordingly.

**Note:** To completely remove a package and all its configuration, you will need to purge it. You can do this with the [Chapter ??: ??](#), or read more about purging on [Chapter ??: ??](#).

## Different ways to obtain software

Even though Ubuntu provides the Software Center and the official repositories to help you install software, there are other ways to get software installed.

1. **Official repositories**, the standard method of downloading software. By getting software through the official repositories you ensure that your software is free of viruses or any other malware, that it is stable, and that it works with Ubuntu.
2. **Third-party repositories** that you can add to expand your software sources. These repositories are not as reliable as the official ones: the repository maintainer can put whatever they want into them. There is no solid guarantee that the software inside them is secure, stable, or that it works with your system. Read more instructions on this matter at [Software Sources](#).
3. **Installers / deb packages** that you can download from software websites, CDs, USB drives, etc. This method is the most insecure of all. You should only obtain software this way when you trust the source. If you are new to Ubuntu, then you are probably accustomed to obtain software this way as it's similar to .exe files in Windows.

To see more information about Security in Ubuntu, visit [Chapter 7: Security](#).

## Making more software available

The **Software Center** will only list the applications available in the repositories of your software sources. To add more, or learn more about this, visit the [Chapter ??: ??](#) section.

**Note:** You can open [Software Sources](#) from the **Software Center**. Simply go to **Edit ▶ Software Sources**.

## Synaptic Package Manager

The **Synaptic Package Manager** serves a similar purpose as the Ubuntu Software Center, but gives you more control over dependencies and libraries. It also gives you more control about the actions you can perform on packages; it is the most complete visual package manager available.

**Note:** If you are not very familiar with advanced computing in Ubuntu you may wish to stick with the **Software Center**.

- ▶ **Install** any package in your repositories. You can even select which version of a package to install, but note that this option is not available for all the packages.
- ▶ **Reinstall** in case the package's contents have been damaged, or you just want to get the default version back.
- ▶ **Update** every time a new version of the package is released.
- ▶ **Remove** any package you no longer need.
- ▶ **Purge** when you wish to remove completely a package, including saved preferences and stored configuration files.
- ▶ **Fix** broken packages.
- ▶ **Check properties** of any package, such as version, contained files, package size, dependencies, and much more.
- ▶ **Read and save** markings in your computer.

## Usage

Using this package manager is very simple once you understand the basics behind it. Ideally, you will mark different actions to perform on different packages first, and then apply your changes. When you click the **Apply** button, the **Synaptic Package Manager** will do each of your marked actions, one by one. Then you will be free to close the program, or wait until the process is complete to make more changes.

To open the **Synaptic Package Manager** go to **System ▶ Administration ▶ Synaptic Package Manager**.

## Finding what you want

If you are having difficulties finding the package you are looking for, you may try the **Quick search** box, the **Search** button (which opens a search dialog) or sort by the categories in the left side pane.

You can use the **Reload** button when you have made changes to your software sources, such as adding or removing repositories, so that the package manager can notice the changes and act accordingly.

## Applying your changes

Once you find the package you are looking for, you can just open its right-click menu and there you will see listed all the actions you can perform on it. You can alternatively access these options through the **Package** menu.

When you are ready marking actions, click the **Apply** button and wait until the changes are made. Afterwards, you can close the application or mark more changes.

## Software Sources

The **Software Center**—or the package manager you are using—will list only applications that are available in the repositories of your software sources. You can add or remove repositories to your software sources with the **Software Sources** application.

To start off, let's open the **Software Sources** application in the **System ► Administration ► Software Sources**.

### Configuring the Ubuntu repositories

Ubuntu has four main repositories—which classify as the *official repositories*—which contain different types of packages.

- ▶ **Canonical-supported open source software (main)** - This repository contains all the open source packages that Canonical helps maintain.
- ▶ **Community-maintained open source software (universe)** - This repository contains all the open source packages that the community helps write and maintain.
- ▶ **Proprietary drivers for devices (restricted)** - This repository contains all the drivers available to devices or hardware you may use with your computer, which are non-free.
- ▶ **Software restricted by copyright or legal issues (multiverse)** - This repository contains all other software that, as the name suggests, might be illegal to use in some countries or states, so it's not enabled by default. However, you can still use it if you enable this repository, under your own responsibility.

The **Source code** checkbox should not be enabled unless you are used to building applications from source.

### Selecting the best software server

Ubuntu grants permission to many servers all across the world to host exact copies of the Ubuntu official repositories. Ubuntu does this so that wherever you are you may have a server that is close to you to guarantee the best download speed possible.

If your downloads are slow, you might be getting your software from the wrong server. There are some aspects you should consider before selecting your server:

- ▶ **Connection speed.** Depending on the physical distance between you and your server, the connection speed may vary. Luckily for you, Ubuntu had thought about this long ago, and thus provides a tool to select the server to which your computer connects the best.

To select the fastest server available for you, click the combobox of the current server and select the **Other** menu option. After you are taken to

**Building applications from source** is an advanced process that developers do to create packages. The only time you would ever need to build from source would be if you were using a custom kernel or want the latest version of an application that hasn't been packaged for Ubuntu yet. It's considered an advanced skill and therefore we don't cover building from source in this manual.



the server selection window, click on the **Select Best Server** button, to the upper right. You will have to wait for your computer to connect to all the servers and then select the server with which it had the fastest connection.

- ▶ **Location.** You should choose the server closest to your location to provide the best connection speed.

To select a server by country, click on the drop-down menu of the current server. A window with all the countries with Ubuntu servers and the respective servers registered to them will appear.

- ▶ **Security.** This should not concern you at all, as Canonical ensures the third party servers are trustworthy. However, if you still think you might be at risk with just any server, you could select one of the Ubuntu secure servers, such as the **Main server** or the <http://ubuntu.securedservers.com> server.

If you are not connected to the Internet, you may insert your CD to your computer and select the checkbox in the **Installable from the CD-ROM/DVD** box. Expect no more than the **Cdrom with Ubuntu 10.04** inside the box.

## Updates and Upgrades

Because Ubuntu is a *very* customizable operating system, it lets you specify which kinds of updates you want to download. To customize your updates, go to the **Updates** tab in the **Software Sources** window.

### Ubuntu updates

This is where you can specify what kinds of updates you will like to get installed in your system.

- ▶ **Important security updates** - These ensure that you get all the updates that make Ubuntu such a secure operating system time and time again when they are released. As the title suggests, it is important that you enable these updates.
- ▶ **Recommended updates** - These updates are not mandatory or important, but if you wish to keep your whole system up-to-date, you should consider enabling them.
- ▶ **Pre-released updates** - These updates are for those who just cannot wait whenever new versions of applications are out. Note that these updates have not being tested enough, so you may encounter problems with the updated applications. However, if you did encounter a problem, you could easily roll-back to the previous version, using the **Synaptic Package Manager**.
- ▶ **Unsupported updates** - These are the updates that the Ubuntu staff has not reviewed. Even though they are secure, as with the previous ones, you may encounter problems when using them.

## Automatic updates

Here you can customize your systems behaviour towards updates. You can customize whether it checks for updates or not, if it should install important updates right away (without asking for your permission), if it should only download them, or if it should only notify you about them. You can also customize the frequency with which your system checks for new updates.

## Release upgrade

Here you can customize which kind of system upgrades you will like to have available.

- **Never** - Choose this if you don't want to be notified about new Ubuntu releases at all.
- **Normal releases** - Choose this if you always want to have the latest Ubuntu release, no matter if it is Long Term Support or not. This option is recommended for normal home users.
- **Long Term Support releases only** - Choose this option if you need a release that will have—as the title suggests—support for a long time. If you own a company and you have Ubuntu as the operating system for your employees, you probably want to select this option.

**Note:** Every 6 months, Ubuntu releases a new version of the operating system. These are called normal releases. Every four normal releases—or 24 months—Ubuntu releases a Long Term Support (LTS) release. Long Term Support releases receive extra effort from the developers so they are more stable, and thus are used by companies that need extra-reliable setups.

## Adding more software repositories

As you have probably read before in this chapter, there is a way that you can get software, from a package manager, from third-party—or non-Ubuntu—repositories. These “third-party repositories” are called **PPAs**.

To add a PPA to your software sources, go to the **Other Software** tab in the **Software Sources** window.

**Definition:** A **PPA** is a Personal Package Archive, or a third-party repository. The PPAs are spaces where people host digital projects, such as applications, documents, and many more.

## What you will need

1. *The PPA intelligent URL.* To get it, go to the project owner's launchpad page, whether it is a team or a single launchpad user. When you are taken to the page, look for a header labelled “Personal Package Archives”; click on the link to the one that best matches the project you are trying to add a repository of. Then, you will be taken to a page titled “PPA for (...)”. Look for a link below, in bold font, similar to this one: **lp:package**. That's your PPA intelligent URL.
2. *The key file.* To get it, go to the same page where you got your PPA intelligent URL. Now, instead of copying that URL, click on **Technical details about this PPA** link. Then click the link below the “Signing key” header. Afterwards, make your last click on the 8-digit code. Copy all the text in the page and save it as a text file. That file is your key file.

**Note:** The key file is the security method used by Ubuntu to ensure that you are the one who is adding the PPA



Figure 5.2: Screenshot of PPA page on Launchpad.

### Adding the PPA and authorizing the key

After you have the requirements, adding a PPA is a two step procedure:

1. *Add the PPA* by clicking on the **Add...** button, and copy the *PPA intelligent URL* to the **APT Line** input box.
2. *Authorize the key* by going to the **Authentication** tab (in the **Software Sources** window) and clicking the **Import Key File...** button. That will open up a browser for you; find your key file and you are done.

Before closing **Software Sources**, read the next section.

### Getting ready to use it

Because Ubuntu needs to keep track of a large catalog of applications, it just does not attempt to update it with every small change you make. You have to update it every time you change a setting in **Software Sources**, such as adding a new repository/PPA.

Luckily for you, upon closing **Software Sources** you will be asked if you want to reload the software sources. To do so, click the **Reload** button. After **Software Sources** finishes reloading the database and closes itself, you will be able to access your package from any package manager.



# 6 The Command Line

## Introduction to the Terminal

Throughout this manual, we have focused primarily on the graphical desktop user interface. However in order to fully realise the power of Ubuntu, you may want to learn how to use the terminal.

### What is the Terminal?

Most operating systems, including Ubuntu, have two types of user interfaces. The first is a graphical user interface, also known as a *GUI*. This is the desktop, windows, menus and toolbars that you click to get things done. The second, and much older, type of interface is the command-line interface, also known as a *CLI*.

The *terminal* is Ubuntu's command-line interface. It is a method of controlling some aspects of Ubuntu using only commands that you type on the keyboard.

### Why would I want to use the Terminal?

For the average Ubuntu user, most day-to-day activities can be completed without ever needing to open the terminal. However the terminal is a powerful and invaluable tool that can be used to perform many useful tasks. For example:

- ▶ Troubleshooting any difficulties that may arise when using Ubuntu sometimes requires you to use the terminal.
- ▶ A command-line interface is sometimes a faster way to accomplish a task. For example, it is often easier to perform operations on many files at once using the terminal.
- ▶ Learning the command-line interface is the first step towards more advanced troubleshooting, system administration, and software development skills. If you are interested in becoming a developer or an advanced Ubuntu user, knowledge of the command-line will be essential.

### Opening the Terminal

You can open the terminal by clicking **Applications** ▶ **Accessories** ▶ **Terminal**.

When the terminal window opens, it will be largely blank apart from some text at the top left of the screen, followed by a blinking block. This text is your *prompt*—it displays your login name and your computer's name, followed by

In GUI environments the term “folder” is commonly used to describe a place where files are stored. In CLI environments the term “directory” is used to describe the same thing and this metaphor is exposed in many commands (i.e. “cd” or “pwd”) throughout this chapter.

The terminal gives you access to what is called a shell. When you type a command in the terminal the shell interprets this command, resulting in the desired action. There are different types of shells that accept slightly different commands. The most popular is called “bash”, and is the default shell in Ubuntu.

the current directory. The tilde (~) means that the current directory is your home directory. Finally, the blinking block is the *cursor*—this marks where text will be entered as you type.

To test things out, type `pwd` and press Enter. The terminal should display `/home/your-username`. This text is called the “output”. You have just used the “`pwd`” (print working directory) command, and the output that was displayed shows the current directory.

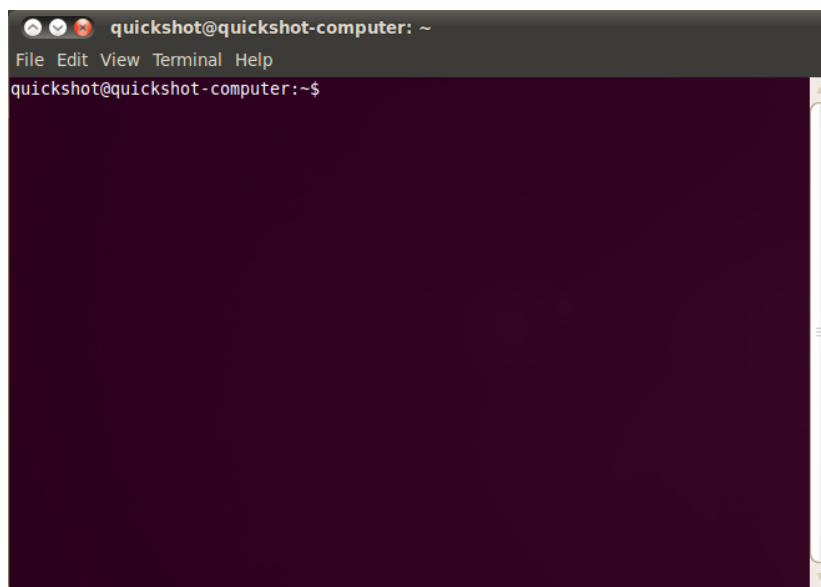


Figure 6.1: The default terminal window.

All commands in the terminal follow the same approach. Type in the name of a command, possibly followed by some *parameters*, and press Enter to perform the specified action. Often some output will be displayed that confirms the action was completed successfully, although this depends on the command. For example, using the “`cd`” command to change your current directory (see below) will change the *prompt*, but will not display any *output*.

The rest of this chapter covers some very common uses of the terminal, however there are almost infinite possibilities available to you when using the command-line interface in Ubuntu. Throughout Part II of this manual we will continue to refer to the command-line, particularly when discussing steps involved in troubleshooting and the more advanced management of your computer.

## Ubuntu file system structure

Stuff about the file system goes here...

Parameters are extra segments of text, usually added at the end of a command, that change how the command itself is interpreted. These usually take the form of `-h` or `--help`, for example. In fact, `--help` can be added to most commands to display a short description of the command, as well as a list of any other parameters that can be used with that command.

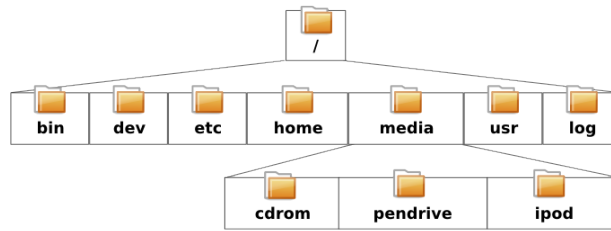


Figure 6.2: The file system structure in Ubuntu

## Getting started with the command line

### Navigating directories

The `pwd` command is short for *print working directory*. It can be used to display the directory you are currently in. Note that the prompt (the text just before the blinking cursor) also displays your current directory, so this command is not usually necessary.

```
$ pwd
/home/your-username/
```

The `cd` command is short for *change directory*. It allows you to change from one directory to another.

```
$ cd /directory/you/want/to/go/to/
```

For example:

```
$ cd " /Music/The Beatles/Sgt. Pepper's Lonely Hearts Club Band/"
```

Note the use of quotation marks around the command. We do this when there are spaces in the file location or folder names, so that the command line doesn't interpret a space as the end of the name.

### Getting a list of files

The `ls` command is used to get a list of all the files and directories that exist inside the current directory.

```
$ ls
directory1
directory2
file1.txt
file2.txt
```

## Moving things around

The `mv` command is used to move a file from one directory to another.

```
$ mv /move/this/file.txt /to/this/directory/
```

The `cp` command is used to copy a file from one directory into another.

```
$ cp /copy/this/file.txt /to/this/directory/
```

Note that the terminal is case-sensitive. For example, if you have a directory called `Directory1`, you must remember to include the capital letter whenever referring to it in the terminal, otherwise the command will not work.

## Creating directories

The `mkdir` command is short for *make directory*, and is used to create a new directory in the current directory or another specified location. For example, this command will make a directory called “newdirectory” inside the current directory:

```
$ mkdir newdirectory
```

This command will ignore your current directory, and instead make one called “newdirectory” inside a hypothetical directory called `/tmp/example/`:

```
$ mkdir /tmp/example/newdirectory
```

You could then “move into” this new directory (i.e. make it your current working directory), by using the `cd` command.

```
$ cd /tmp/example/newdirectory
```

## Deleting files and directories

The `rm` command is used to delete files. For example, to delete a file located in your current directory:

```
$ rm deleteme.txt
```

To delete a file located in another directory (i.e. not inside your current working directory), you would need to include the *path* to the file. In other words, you are specifying the file’s location. For example:

```
$ rm /tmp/example/deleteme.txt
```

The `rmdir` command is similar to the `rm` command, except it is used to delete folders. For example, this command would delete the directory called “newdirectory” that we created earlier.

```
$ rmdir /tmp/example/newdirectory/
```



## Introducing sudo

When Ubuntu is first installed two accounts are created; your primary user account, and a “root” account that operates behind the scenes. This root account has the necessary privileges required for modifying system files and settings, whereas your primary user account does not. Rather than logging out of your primary user account and then logging back in as root, the “sudo” command can be used to borrow root account privileges for performing administrative tasks such as installing or removing software, creating or removing new users, and modifying system files.

For example, the following command would open Ubuntu’s default text editor *gedit* with root privileges. This then allows you to edit important system files that would otherwise be protected. Your sudo password is the same password you use to login to your primary account, and is set up during the Ubuntu install process.

```
$ gksudo gedit
[sudo] password for username:
Opening gedit...
```



*The sudo command can give you virtually unlimited access to important system files and settings. It is important you only use sudo if you understand what you are doing. You can find out more about using sudo in [Chapter 7: Security](#).*

When using sudo in the terminal, you will be prompted to enter your password. You will not see any dots, stars or other characters appearing in the terminal as you type your password, however don’t be put off—this is an extra security feature to help protect you from any prying eyes.

## Managing software through the Terminal

In Ubuntu there are a number of ways to manage your software. GUI tools such as the Ubuntu Software Center and Synaptic Package Manager were discussed in [Chapter ??: ??](#), however many people prefer to use the *apt* command (Advanced Packaging Tool) to manage their software from within the terminal. Apt is extremely versatile and encompasses several tools, however the most commonly used apt tool is the *aptitude* command.

### Using aptitude

Aptitude is used for installing and removing packages from your system. It can also be used to refresh the list of packages available in the repositories, as well as download and install any new updates for your software.

### Updating and upgrading

The *aptitude update* command can be used to quickly refresh the list of packages that are available in the default Ubuntu repositories, as well as any additional repositories added by the user (see [Chapter ??: ??](#) for more information on repositories).

```
$ sudo aptitude update
```

You can then use *aptitude safe-upgrade* to download and install any available updates for your currently installed packages. It is best to run *aptitude update* prior to running *aptitude safe-upgrade*, as this will ensure you are getting the most recent updates available for your software.

```
$ sudo aptitude safe-upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be upgraded:
tzdata
1 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Need to get 683kB of archives.
After this operation, 24.6kB disk space will be freed.
Do you want to continue [Y/n]?
```

The terminal will give you a summary of what packages are to be upgraded, the download size, and how much extra disk space will be used (or freed), and then ask you to confirm before continuing. Simply press “y” then Enter, and the upgrades will be downloaded and installed for you.

### Installing and removing

The following command would be used to install VLC media player using *aptitude*:

```
$ sudo aptitude install vlc
[sudo] password for username:
```

To remove VLC, you would type:

```
$ sudo aptitude remove vlc
```

Notice the `sudo` command before the `aptitude` command. In most cases it will be necessary to use `sudo` when installing software, as you will be modifying protected parts of your system. Many of the commands we will be using from here on require root access, so expect to see `sudo` appearing frequently.

### Cleaning up your system

Often software in Ubuntu depends on other packages being installed on your system in order to run correctly. If you attempt to install a new package and these *dependencies* are not already installed, Ubuntu will automatically download and install them for you at the same time (provided the correct packages can be found in your repositories). When you remove a package in Ubuntu however, any dependencies that were installed alongside the original package are not also automatically removed. These packages sit in your system and can build up over time, taking up disk space. A simple way to clean up your system is to use the *aptitude autoremove* command. This will select and remove any packages that were automatically installed but no longer required.

```
$ sudo aptitude autoremove
```

### Adding extra software repositories

Sometimes you might want to install some software that isn't in the official repositories but may be available in a what's called a *PPA*, ppa's or Personal Package Archives contain software that you can install simply by adding that ppa to your system, in versions of Ubuntu prior to Ubuntu 9.10 adding a ppa to your system meant typing several really long commands in to a terminal, however in Ubuntu 9.10 and later adding a ppa is as easy as typing one short command into a terminal.

```
$ sudo add-apt-repository ppa:example/ppa
```

Now that you have installed a ppa you can just install software from it the usual way using the *aptitude install* command.



# 7 Security

This chapter discusses ways to keep your Ubuntu computer secure.

## Why Ubuntu is safe

Ubuntu is secure by default for a number of reasons:

- ▶ Ubuntu clearly distinguishes between normal users and administrative users.
- ▶ Open source software like Ubuntu allows security flaws to be easily detected.
- ▶ Security patches for open source software like Ubuntu are often released quickly.
- ▶ Many viruses primarily target Windows-based systems and so do not affect Ubuntu systems.

## Security basics

This section describes basic security concepts and procedures.

### Permissions

By default, Ubuntu includes a special user account, “root,” which has full administration privileges. While regular users can only access their own files, they cannot make critical changes to the system. Even tasks such as installing applications require users to input passwords before proceeding.

In Ubuntu, the root account has been disabled to improve security and cannot be used directly. Instead, the initial user account created when installing Ubuntu has permission to conduct administrative tasks by using the **sudo** command. This command allows a user to temporarily become a “super-user” and grants administrative privileges for a specific task.

The following example runs the apt-get “clean” command as a super-user:

```
$ sudo apt-get clean
```



*sudo should only be used when needed. Operations that can be completed without sudo should be executed as the normal user.*

The Ubuntu Desktop has a graphical version of sudo for programs that require administration permissions. For example: During a system update, the desktop will fade out and a box asking for the user’s password will appear.

Entering the password grants the user permission to perform actions that require administrative privileges.

Users must be given permission to use the `sudo` command. This can be done by adding users to the Admin group. See [Users and groups](#) for details on how to do this.



*Only users that need administration access should be given sudo permission. We do not recommend granting administrative privileges to all users.*

## Basic security precautions

### Separate user accounts

When Ubuntu is installed, it is automatically configured for a single person to use. If more than one person will use the computer with Ubuntu on it, each person should have her or his own user account. This way, each user can have separate settings, documents, and other files. If necessary, you can also protect files from being viewed or modified by other users without administrative privileges. See [Users and groups](#) to learn how to create additional users accounts.

### Passwords

Using strong passwords is one of the simplest ways to increase the security of your computer. Your password should not contain names, common words or common phrases. By default, the minimum length of a password in Ubuntu is four characters. We recommend a password with more than the minimum number of characters.

### Locking the screen

When leaving your computer unattended, lock the screen. This prevents anyone from using your computer. Unlocking the screen requires your password. To lock the screen:

- ▶ Click the user switcher in the right corner of the top panel, then select **Lock Screen**, or
- ▶ Press **Control+Alt+L** to lock the screen. This keyboard shortcut can be changed in **System ▶ Preferences ▶ Keyboard Shortcuts**.

### System updates

Ubuntu provides software and security updates, and you should apply these updates regularly. See [Chapter ??: ??](#) for how to update your Ubuntu computer with the latest security updates and patches.

## Trusting third party sources

Normally, you will add applications to your computer via the Software Center, which downloads software from the Ubuntu repositories as described in [Chapter ??: ??](#). However, it is occasionally necessary to add software from other sources. For example, you may need to do this when an application is not available in the Ubuntu repository, or when you need a newer version of the one available in the Ubuntu repository.

Additional repositories are available from sites such as [getdeb.net](#) and Launchpad PPAs, which can be added as described in [Chapter ??: ??](#). You can download the .deb packages for some applications from their respective project sites on the Internet. Alternately, you can build applications from their source code (an advanced method of installing and using applications).

Using only recognized sources such as a project’s site, PPA, or various community repositories (such as [getdeb.net](#)) is more secure than downloading applications from an arbitrary (and perhaps less reputable) source. When using a third party source, consider how trustworthy you consider the source, and be sure you know exactly what you’re installing on your computer.

## Users and groups

Like most operating systems, Ubuntu supports multiple users accounts. This feature allows each person using your computer to have a separate user account. Ubuntu also supports user groups. Every user is a member of one or more groups, and every user has a group with the same name as the user (of which the user is a member). You can configure some files and folders to be accessible only by a user and a group. By default, a user’s files are only accessible by that user; system files are only accessible by the root user.

## Managing users

You can manage users and groups using the **Users and Groups** administration application. To find this application, click:

**System** ▶ **Administration** ▶ **Users and Groups**

To adjust to user and group settings click the keys icon next the phrase “Click to make changes.” You will need to input your password in order to make changes to user and group settings.

*Adding a user* Click the **Add** button which appears underneath a list of the current user accounts that have already been created.

Type in the new username and select relevant options then click **OK**.

A new dialog box will appear asking you to enter a password for the user you have just created. Complete the relevant fields as you see fit, then click **OK** to proceed. Privileges you grant to the new user can be altered in “Users

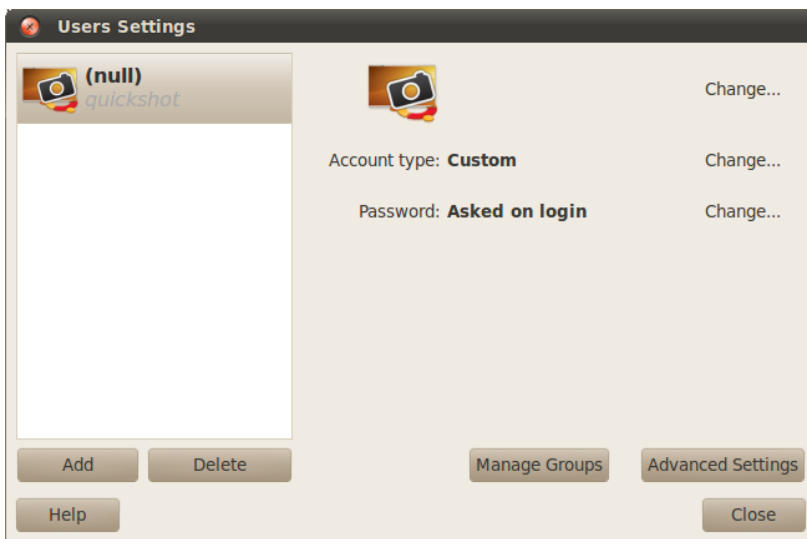


Figure 7.1: Add, remove and change the user accounts.

Settings”.

*Modifying a user* Click on the name of a user in the list of users, then click on the **Change...** button, which appears next to each of following options:

- ▶ Account type:
- ▶ Password:

For more advanced user options click the **Advanced Settings** button. Change the details as required in the dialog box that appears. Click **OK** to apply the changes.

*Deleting a user* Select a user from the list and click the **Delete** button. This will deactivate the user’s account, but not remove the user’s home folder.

## Managing groups

Click the **Manage Groups** button to open the group management dialog box.

*Adding a group* To add a group, click the **Add** button. In the dialog box that appears, type the group name and select the names of users you’d like to add to the group.

*Modifying a group* To alter the users in an existing group, select a group and click the **Properties** button. Select and de-select the users as required, then click **OK** to apply the changes.

*Deleting a group* To delete a group, select a group and click **Delete**.



## Applying groups to files and folders

To change the group associated with a file or folder, open **Nautilus** and navigate to the appropriate file or folder. Then, either select the folder and use the **File** ▶ **Properties** menu item, or right click on the file / folder and select **Properties**. In the Properties dialog that appears, click the **Permissions** tab and select the desired group from the **Groups** dropdown box. Then close the window.

## Using the command line

You can also modify user and group settings via the command line. We recommend you use the graphical method above unless you have good reason to use the command line. For more information on using the command line to modify users and groups, see the Ubuntu Server Guide at <https://help.ubuntu.com/9.10/serverguide/C/user-management.html>

## Setting up a secure system

This section describes how to use additional security programs to increase the security of your system.

### Firewall

A firewall is an application that protects your computer against unauthorized access by people on the Internet or local your network. Firewalls block connections to your computer from unknown sources. This helps prevent security breaches.

Uncomplicated Firewall (UFW) is the standard firewall configuration program in Ubuntu. It is a program that runs from the command line, but a program called Gufw allows you to use it with a graphical interface. See [Chapter ??: ??](#) to learn more about installing the Gufw package.

Once it's installed, start Gfw by clicking **System** ▶ **Administration** ▶ **Firewall configuration**. To enable the firewall, click the **Enable** checkbox. By default, all incoming connections are denied. This setting should be suitable for most users.

If you are running servers on your Ubuntu system, then you will need to open the ports these services use. If you do not know what this means, then you are probably not running any servers and you should not open any ports.

To open a port click the **Add** button. For most purposes, the **Preconfigured** tab is sufficient. Select **Allow** from the first box and then select the program or service required.

The **simpletab** can be used to allow access on a single port, and the **Advanced** tab can be used to allow access on a range of ports.

## Encryption

You may wish to encrypt your sensitive personal data—for instance, financial records—by encrypting it. Encrypting a file or folder essentially “locks” that file or folder by encoding it with an algorithm that scrambles it until it’s properly decoded with a password. Encrypting your personal data ensures that no one can open your personal folders or read your private data without your express permission.

Ubuntu includes a number of tools to encrypt files and folders. This chapter will discuss two of these. For further information on using encryption with either single files or email, see Ubuntu Community Help documents at <https://help.ubuntu.com/community>.

### Home folder

When installing Ubuntu, it is possible to encrypt a user’s home folder. See [Chapter 1: Installation](#) for more on doing this.

### Private folder

If you have not chosen to encrypt a user’s entire home folder, it is possible to encrypt a single folder—called **Private**—in a user’s home folder. To do this:

1. Install `ecryptfs-utils`.
2. Run `ecryptfs-setup-private` to set up the private folder.
3. Enter your login password when prompted.
4. Either choose a mount passphrase or generate one.
5. Record both passphrases in a safe location. **These are required if you ever have to recover your data manually.**
6. Logout and Log back in to mount the encrypted folder.

After the **Private** folder has been set up, any files or folders in it folder will be encrypted when written to the disk.

If you need to recover your encrypted files manually see <https://help.ubuntu.com/community/EncryptedPrivateDirectory>.

# 8 Troubleshooting

## Resolving problems

Sometimes, things simply do not work as they should. Luckily, problems encountered while working with Ubuntu are easily fixed. Below, we offer a guide to resolving basic problems that users may encounter while using Ubuntu. If you exhaust the troubleshooting advice below, see [Getting more help](#) to learn about seeking support from the Ubuntu community.

## Troubleshooting guide

The key to effective troubleshooting is working slowly and methodically, documenting changes you make to your Ubuntu system at every step. This way, you will always be able to roll back your work—and give fellow users information about your previous attempts, in the unlikely event that you should need to turn to the community for support.

## Ubuntu failing to start after installing Windows

Occasionally you may install Ubuntu and then decide to install Microsoft Windows as a second operating system running side-by-side with Ubuntu. While this is supported by Ubuntu, you may find that after installing Windows you may no longer be able to start Ubuntu.

When you first turn on your computer, a program called a “bootloader” must start Ubuntu or another operating system. When you installed Ubuntu, you installed an advanced bootloader called **GRUB** that allowed you to choose between the various operating systems on your computer, such as Ubuntu, Windows and others. However, when you installed Windows, you removed GRUB, thus removing the ability to choose which operating system you’d like to use. You can easily restore GRUB—and regain the ability to choose your operating system—by using the same CD you used to install Ubuntu.

First, insert your Ubuntu CD into your computer and restart it, making sure to have your computer start the operating system that is on the CD itself (see [Chapter 1: Installation](#)). Next, choose your language and select **Try Ubuntu**. Wait while the software loads. You will need to type some code to restore your bootloader. On the **Applications** menu, click **Accessories**, and then click the **Terminal** item. Enter the following:

```
$ sudo fdisk -l
```

```
Disk /dev/hda: 120.0 GB, 120034123776 bytes
```

**Definition:** A **bootloader** is initial software that loads the operating system when you turn on the computer.

```
255 heads, 63 sectors/track, 14593 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
```

Device	Boot	Start	End	Blocks	Id	System
/dev/sda1		1	1224	64228+	83	Linux
/dev/sda2	*	1225	2440	9767520	a5	Windows
/dev/sda3		2441	14593	97618972+	5	Extended
/dev/sda4		14532	14593	498015	82	Linux swap

Partition table entries are not in disk order

This output means that your system (Linux, on which Ubuntu is based) is installed on device /dev/sda1, but your computer is booting to /dev/sda2 (where Windows is located). We need to rectify this by telling the computer to boot to the Linux device instead.

To do this, first create a place to manipulate your Ubuntu installation:

```
$ sudo mkdir /media/root
```

Next, link your Ubuntu installation and this new folder:

```
$ sudo mount /dev/sda1 /media/root
```

If you've done this correctly, then you should see the following:

```
$ ls /media/root
bin dev home lib mnt root srv usr
boot etc initrd lib64 opt sbin sys var
cdrom initrd.img media proc selinux tmp vmlinuz
```

Now, you can reinstall GRUB:

```
$ sudo grub-install --root-directory=/media/root /dev/sda
Installation finished. No error reported.
This is the contents of the device map /boot/grub/device.map.
Check if this is correct or not. If any of the lines is incorrect,
fix it and re-run the script ``grub-install``.
(hd0) /dev/sda
```

Finally, remove the Ubuntu disc from your CD-ROM drive, reboot your computer, and enjoy your Ubuntu system once again.

## Ubuntu doesn't present the login screen on boot

The simplest and easiest way to correct this issue is to order Ubuntu to reset the graphics configuration. Press and hold **Control**, **Alt** and **F1**. You should now see a black and white screen with a prompt for your username and password.

**Note:** The device (/dev/sda1, /dev/sda2...) we are looking for is identified by the word "Linux" in the System column. Modify the instructions below if necessary, replacing /dev/sda1 with the name of your Linux device.

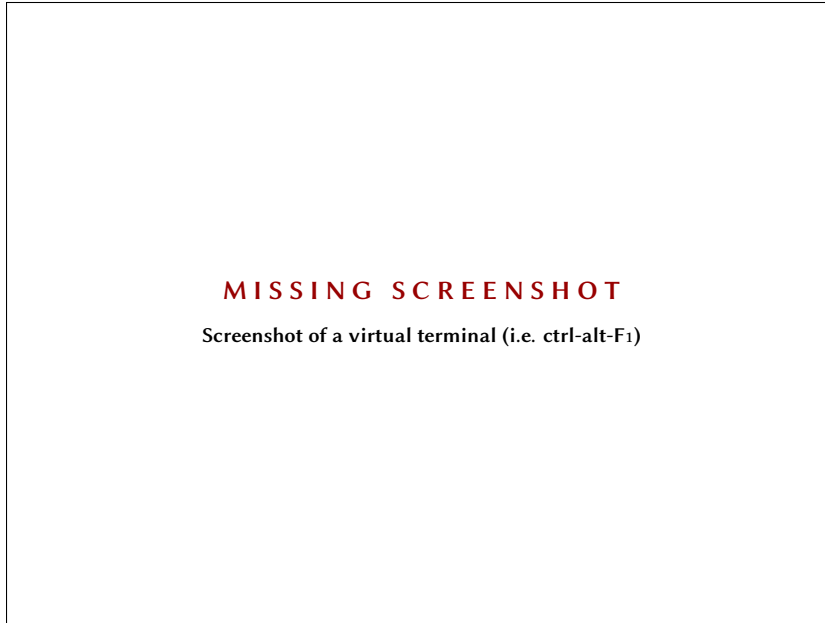


Figure 8.1: Screenshot of a virtual terminal (i.e. ctrl-alt-F1)

Enter your username, press **Enter**, and then enter your password. (Characters *will not* appear on the screen as you enter your password. Don't worry—this behavior is normal and was implemented for security purposes.) Next, enter the following code and press enter:

```
$ sudo dpkg-reconfigure -phigh xserver-xorg
```

Enter your password at the prompt, as above. Allow Ubuntu to process the command, then enter:

```
$ sudo reboot now
```

Ubuntu will reboot, and your login screen should be restored.

## I forgot my password

If you forget your password in Ubuntu, you will need to reset it using the “Rescue mode”.

To start Rescue mode, shut down your computer, then power it up. As the computer starts up, press **Esc** when you see the white-on-black screen with a countdown (the GRUB prompt). Select the **Rescue mode** option using the arrow keys on your keyboard. Rescue mode should be the second item in the list.

Wait while Ubuntu starts up. You *will not* see a normal login screen. Instead, you will be presented with a terminal prompt that looks something



Figure 8.2: GRUB screen with Rescue Mode option highlighted

like:

```
root@something#
```

To reset your password, enter:

```
$ passwd username
```

Replace “username” above with your username. Ubuntu will prompt you for a new password. Enter your desired password, press enter and then type your password again, pressing enter after you are done. (Ubuntu asks for your password twice to make sure you did not make a mistake while typing.) Once you have restored your password, return to the normal system environment by entering:

```
$ init 2
```

Login as usual and continue enjoying Ubuntu.

### I can't find my deleted files

If you've deleted a file by accident, you may be able to recover it from Ubuntu's “Trash” folder. This is a special folder where Ubuntu stores deleted files before they are permanently removed from your computer.

To access the “Trash” folder, select the **Places** menu, and choose **Computer**. Ubuntu will open the “Computer - File Browser” window. Choose

**Trash** from the list of places in the left-hand sidebar of the window. To remove items from the trash and restore them to your computer, simply drag them wherever you would like (we recommend a location such as your home folder).

## How do I clean Ubuntu?

Over time, Ubuntu's software packaging system can accumulate unused packages or temporary files. These temporary files, also called caches, contain package files from all of the packages that you have ever installed. Eventually, this cache can grow quite large. Removing them allows you to reclaim space on your computer's hard drive for storing your documents, music, photographs, or other files.

To clear the cache, you can use either the *clean*, or the *autoclean* option for a command-line program called **apt-get**. The *clean* command will remove every single cached item, while the *autoclean* command only removes cached items that can no longer be downloaded (these items are often unnecessary). To run *clean*, open **Terminal** and type:

```
$ sudo apt-get clean
```

Packages can also become unused over time. If a package was installed to assist with running another program—and that program was subsequently removed—you no longer need the supporting package. You can remove it with *autoremove*.

Load **Terminal** and type:

```
$ sudo apt-get autoremove
```

to remove the unnecessary packages.

## I can't play certain audio or video files

Many of the formats used to deliver rich media content are **proprietary**, meaning they are not free to use, modify and distribute with an open source operating system like Ubuntu. Therefore, Ubuntu does not include the capability to use these formats by default; however, users can easily configure Ubuntu to use these proprietary formats. For more information about the differences between open source and proprietary software, see [Chapter 9: Learning more](#).

If you find yourself in need of a proprietary format, you may install the files necessary for using this format with one command. Before initiating this command, ensure that you have Universe and Restricted repositories enabled. See [Synaptic Package Manager \(Configuring the Ubuntu Repositories\)](#) to learn how to do this.

Open the **Ubuntu Software Center** by selecting it from **Applications**. Search for **ubuntu-restricted-extras** by typing “ubuntu restricted extras” in the search box on the right-hand side of the Ubuntu Software Center’s main window. When the Software Center finds the appropriate software, click the arrow next to its title. Click **Install**, then wait while Ubuntu installs the appropriate software.

Once Ubuntu has successfully installed software, your rich media content should work properly.

### How can I change my screen resolution?

The image on every monitor is composed of millions of little colored dots called pixels. Changing the number of pixels displayed on your monitor is called “changing the resolution.” Increasing the resolution will make the displayed images sharper, but will also tend to make them smaller. The opposite is true when screen resolution is decreased. Most monitors have a “native resolution”, which is a resolution that most closely matches the number of pixels in the monitor. Your display will usually be sharpest when your operating system uses a resolution that matches your display’s native resolution.

The Ubuntu configuration utility **Monitors** allows users to change the resolution. Open it by choosing **System** from the Main Menu, then choosing **Preferences** and then **Monitors**. The resolution can be changed using the drop down list within the program. Picking options higher up on the list (for example, those with larger numbers) will increase the resolution.

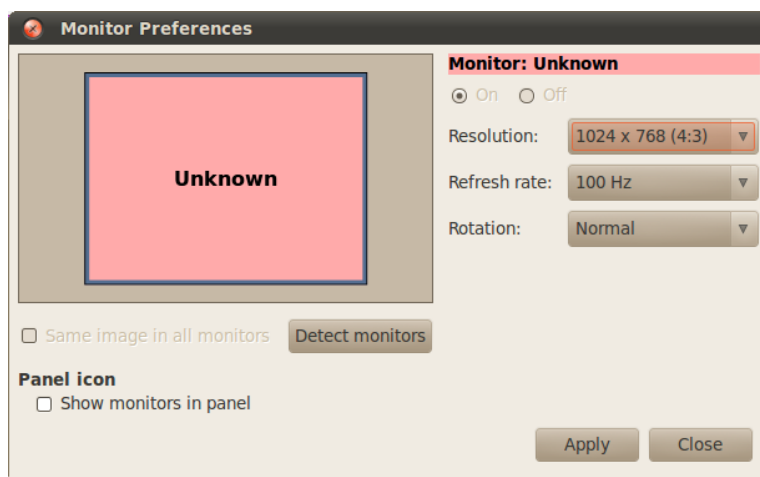


Figure 8.3: You can change your display settings.

You can experiment with various resolutions by clicking **Apply** at the bottom of the window until you find one that’s comfortable for you. Typically the highest resolution will be the native resolution. Selecting a resolution and clicking **Apply** will temporarily change the screen resolution to the se-



lected value. A dialog box will also be displayed. It allows you to revert to the previous resolution setting or keep the new resolution. The dialog box will disappear in 30 seconds, restoring the old resolution.

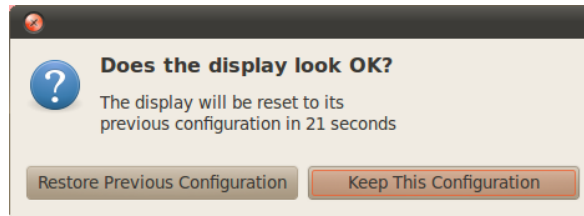


Figure 8.4: You can revert back to your old settings if you need to.

This feature was implemented to prevent someone from being locked out of the computer by a resolution that distorts their screen and makes it unusable. When you have finished setting the screen resolution, click **Close**.

### Ubuntu is not working properly on my Apple MacBook or MacBook Pro

When installed on notebook computers from Apple—such as the Macbook or MacBook Pro—Ubuntu does not always enable all of the computer’s built-in components, including the iSight camera and the Airport wireless Internet adapter. Luckily, the Ubuntu community offers documentation on fixing these and other problems. If you are having trouble installing or using Ubuntu on your Apple notebook computer, please follow the instructions at <https://help.ubuntu.com/community/MacBook>. You can select the appropriate guide after identifying your computer’s model number. For instructions on doing this, visit the web page above.

### Ubuntu is not working properly on my Asus EeePC

When installed on netbook computers from Asus—such as the EeePC—Ubuntu does not always enable all of the computer’s built-in components, including the keyboard hotkeys and the wireless Internet adapter. The Ubuntu community offers documentation on fixing these and other problems. If you are having trouble installing or using Ubuntu on your Asus EeePC, please follow the instructions at <https://help.ubuntu.com/community/EeePC>. This documentation page contains information pertaining specifically to EeePC netbooks.

### My hardware is not working properly

Ubuntu occasionally has difficulty running on certain computers, generally when hardware manufacturers use non-standard or proprietary components. The Ubuntu community offers documentation to help you troubleshoot many issues that may arise from this situation, including problems

with wireless cards, scanners, mice and printers. You can find the complete hardware troubleshooting guide on Ubuntu's support wiki, accessible at <https://wiki.ubuntu.com/HardwareSupport>. If your hardware problems persist, please see [Getting more help](#) for more troubleshooting options or information on obtaining support or assistance from an Ubuntu user.

## Getting more help

This guide does not cover every possible workflow, task or issue in Ubuntu. If you require assistance beyond the information in the manual, you can find a variety of support opportunities online. You can access extensive and free documentation, buy professional support services, query the community for free support or explore technical solutions. More information is available here: <http://www.ubuntu.com/support>

# 9 Learning more

## What else can I do with Ubuntu?

By now, you should be able to use your Ubuntu desktop for all your daily activities—like browsing the web and editing documents. But you may be interested in learning about other versions of Ubuntu you can integrate into your digital lifestyle. In this chapter, we'll provide you with more detail about versions of Ubuntu that are specialized for certain tasks. To do this, we'll first discuss the technologies that make Ubuntu a powerful collection of software.

## Open Source software

Ubuntu is open source software. Simply put, open source software is software whose source code isn't owned exclusively by any one person, group or organization, but is rather made freely available for download. This makes Ubuntu different from proprietary software, which requires users to purchase licenses before they are able to use the software on their computers. Microsoft Windows and Adobe Photoshop are examples of proprietary software.

Computer users can share and distribute open source software without fear of breaking intellectual property laws. They can also modify open source software to suit their individual needs, improve it, or translate it into other languages—as long as they release their changes to others who might wish to do the same. Because open source software is developed by large communities of programmers distributed throughout the globe, it benefits from rapid development cycles and speedy security releases (in the event that someone discovers bugs in the software). In other words, open source software is updated, enhanced, and made more secure every day as programmers all over the world continue to improve it.

Aside from these technical advantages, open source software also has economic benefits. Most open source programs cost nothing to obtain or run. Users needn't purchase a license to run Ubuntu, for example.

To learn more about open source software, see the Open Source Initiative's open source definition, available at <http://www.opensource.org/docs/definition.php>

## Distribution families

Ubuntu is one of several popular operating systems based on GNU/Linux (an open source operating system). While other versions of GNU/Linux, or “distributions,” may look different from Ubuntu at first glance, they share

**Definition:** The **source code** of a program is the files that have been written to make the program.

**Definition:** **Proprietary software** is software that cannot be copied, modified, or distributed freely.

similar characteristics because of their common roots.

GNU/Linux distributions can be divided into two broad families: the Debian family and the Red Hat family. Each family is named for a distribution on which subsequent distributions are based. For example, “Debian” refers to both the name of a distribution as well as the family of distributions derived from Debian. Ubuntu is part of the Debian family of distributions, as are Linux Mint, Xandros and Crunchbang Linux. Distributions in the Red Hat family include Fedora, OpenSUSE, and Mandriva.

The most significant difference between Debian-based and Red Hat-based distros is the system each uses for installing and updating software. These systems are called “package management systems.” Debian software packages are .deb files, while Red Hat software packages are .rpm files. For more information about package management, see [Chapter ??](#).

You will also find distributions that have been specialized for certain tasks. Next, we’ll describe these versions of Ubuntu and explain the uses for which each has been developed.

### Choosing amongst Ubuntu and its derivatives

Just as Ubuntu is based on Debian, several distributions are subsequently based on Ubuntu. Some of these are made for general use, and each differs with respect to the software included as part of the distribution. Others are designed for specialized uses.

Four derivative distributions are officially recognized and supported by both Canonical and the Ubuntu community. These are:

- ▶ **Ubuntu Netbook Edition**, which is optimized for netbook computers.
- ▶ **Kubuntu**, which uses the *KDE* graphical environment instead of the GNOME environment found in Ubuntu.
- ▶ **Edubuntu**, which is designed for use in schools.
- ▶ **Ubuntu Server Edition**, which is designed for use on servers, and typically is not used as a desktop operating system (because users must interact with it via the command line).

Three other officially recognized derivatives of Ubuntu are available. These include:

- ▶ **Xubuntu**, which uses the *XFCE* graphical environment instead of the GNOME environment used by Ubuntu.
- ▶ **Ubuntu Studio**, which is designed for creating and editing multimedia.
- ▶ **Mythbuntu**, which is designed for creating a home theater PC with MythTV (an open source digital video recorder)

For more information about these derivative distributions, see <http://www.ubuntu.com/products/whatisubuntu/derivatives>.

**Distribution:** A distribution, or “**distro**”, is a operating system made from open source programs, bundled together to make them easier to install and use.

**Definition: Package management systems** are the means by which users can install, remove, and organize software installed on computers with open source operating systems like Ubuntu.

## Using Ubuntu Netbook Edition

Ubuntu Netbook Edition is a version of Ubuntu designed specifically for netbook computers. It is optimized for computing devices with small screens and limited resources (like the energy-saving processors and smaller hard disks common among netbooks). Ubuntu Netbook Edition sports a unique interface and features a collection of software applications particularly useful to on-the-go users.

Because many netbooks do not contain CD-ROM drives, Ubuntu Netbook Remix allows users to install it on their computers using USB flash drives. To learn more about using a flash drive to install Ubuntu Netbook Edition on a netbook computer, visit <https://help.ubuntu.com/community/Installation/FromImgFiles>.

## Using Ubuntu Server Edition

The Ubuntu Server Edition is an operating system optimized to perform multi-user tasks. Such tasks include file sharing and website or email hosting. If you are planning to use a computer to perform tasks like these, you may wish to use a specialized server distribution in conjunction with server hardware. It is possible to run a server distribution on a desktop computer, but we recommend doing this only for testing purposes.

This manual does not cover the process of running a secure webserver or performing other tasks possible with Ubuntu Server Edition. For details on using Ubuntu Server Edition, refer to the manual at (<http://www.ubuntu.com/products/whatIsubuntu/serveredition>).

## Using Ubuntu Studio

This derivative of Ubuntu is designed specifically for people who use computers to create and edit multimedia projects. For instance, it features applications to help users manipulate images, create musical compositions, and edit video. While users can install these applications on computers running the desktop version of Ubuntu, Ubuntu Studio makes them all available immediately upon installation.

If you would like to learn more about this derivative of Ubuntu (or obtain a copy for yourself), visit <http://ubuntustudio.org/home>.

## Using Mythbuntu

Mythbuntu allows users to turn their computers into entertainment systems. It helps users organize and view various types of multimedia content—like movies, television shows, or video podcasts. Users with TV tuners in their computers can also use Mythbuntu to record live video.

To learn more about Mythbuntu, visit <http://www.mythbuntu.org/>.

## 32 bit or 64 bit?

As mentioned earlier in this manual, Ubuntu and its derivatives are available in two versions: 32-bit and 64-bit. This difference refers to the way computers process information. Computers capable of running 64-bit software process information using more memory than computers running 32-bit software. These computers can gain performance enhancements by running 64-bit software.

Why choose one over another? Pay attention to the version you select in the following cases:

- ▶ If your computer is fairly old (made before 2007), then you may want to install the 32-bit version of Ubuntu. This is also the case for most netbooks.
- ▶ If your computer has more than 4GB of memory (RAM), then you may need to install the 64-bit version in order to use all the installed memory.

## Learning even more

This manual is not intended as an introduction to everything you might wish to do with your Ubuntu computer. For more information regarding specialized tasks, please see the official Ubuntu documentation available either through the blue help and support icon, or at <http://help.ubuntu.com>.

# A License

THE WORK (AS DEFINED BELOW) IS PROVIDED UNDER THE TERMS OF THIS CREATIVE COMMONS PUBLIC LICENSE (“CCPL” OR “LICENSE”). THE WORK IS PROTECTED BY COPYRIGHT AND/OR OTHER APPLICABLE LAW. ANY USE OF THE WORK OTHER THAN AS AUTHORIZED UNDER THIS LICENSE OR COPYRIGHT LAW IS PROHIBITED.

BY EXERCISING ANY RIGHTS TO THE WORK PROVIDED HERE, YOU ACCEPT AND AGREE TO BE BOUND BY THE TERMS OF THIS LICENSE. TO THE EXTENT THIS LICENSE MAY BE CONSIDERED TO BE A CONTRACT, THE LICENSOR GRANTS YOU THE RIGHTS CONTAINED HERE IN CONSIDERATION OF YOUR ACCEPTANCE OF SUCH TERMS AND CONDITIONS.

## 1. Definitions

- (a) “Adaptation” means a work based upon the Work, or upon the Work and other pre-existing works, such as a translation, adaptation, derivative work, arrangement of music or other alterations of a literary or artistic work, or phonogram or performance and includes cinematographic adaptations or any other form in which the Work may be recast, transformed, or adapted including in any form recognizably derived from the original, except that a work that constitutes a Collection will not be considered an Adaptation for the purpose of this License. For the avoidance of doubt, where the Work is a musical work, performance or phonogram, the synchronization of the Work in timed-relation with a moving image (“synching”) will be considered an Adaptation for the purpose of this License.
- (b) “Collection” means a collection of literary or artistic works, such as encyclopedias and anthologies, or performances, phonograms or broadcasts, or other works or subject matter other than works listed in Section 1(f) below, which, by reason of the selection and arrangement of their contents, constitute intellectual creations, in which the Work is included in its entirety in unmodified form along with one or more other contributions, each constituting separate and independent works in themselves, which together are assembled into a collective whole. A work that constitutes a Collection will not be considered an Adaptation (as defined below) for the purposes of this License.
- (c) “Creative Commons Compatible License” means a license that is listed at <http://creativecommons.org/compatiblelicenses> that has been approved by Creative Commons as being essentially equivalent to this License, including, at a minimum, because that license: (i) contains

terms that have the same purpose, meaning and effect as the License Elements of this License; and, (ii) explicitly permits the relicensing of adaptations of works made available under that license under this License or a Creative Commons jurisdiction license with the same License Elements as this License.

- (d) “Distribute” means to make available to the public the original and copies of the Work or Adaptation, as appropriate, through sale or other transfer of ownership.
- (e) “License Elements” means the following high-level license attributes as selected by Licensor and indicated in the title of this License: Attribution, ShareAlike.
- (f) “Licensor” means the individual, individuals, entity or entities that offer(s) the Work under the terms of this License.
- (g) “Original Author” means, in the case of a literary or artistic work, the individual, individuals, entity or entities who created the Work or if no individual or entity can be identified, the publisher; and in addition
  - (i) in the case of a performance the actors, singers, musicians, dancers, and other persons who act, sing, deliver, declaim, play in, interpret or otherwise perform literary or artistic works or expressions of folklore;
  - (ii) in the case of a phonogram the producer being the person or legal entity who first fixes the sounds of a performance or other sounds;
  - and, (iii) in the case of broadcasts, the organization that transmits the broadcast.
- (h) “Work” means the literary and/or artistic work offered under the terms of this License including without limitation any production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression including digital form, such as a book, pamphlet and other writing; a lecture, address, sermon or other work of the same nature; a dramatic or dramatico-musical work; a choreographic work or entertainment in dumb show; a musical composition with or without words; a cinematographic work to which are assimilated works expressed by a process analogous to cinematography; a work of drawing, painting, architecture, sculpture, engraving or lithography; a photographic work to which are assimilated works expressed by a process analogous to photography; a work of applied art; an illustration, map, plan, sketch or three-dimensional work relative to geography, topography, architecture or science; a performance; a broadcast; a phonogram; a compilation of data to the extent it is protected as a copyrightable work; or a work performed by a variety or circus performer to the extent it is not otherwise considered a literary or artistic work.
- (i) “You” means an individual or entity exercising rights under this License who has not previously violated the terms of this License with respect to the Work, or who has received express permission from the Licensor to exercise rights under this License despite a previous violation.



- (j) “Publicly Perform” means to perform public recitations of the Work and to communicate to the public those public recitations, by any means or process, including by wire or wireless means or public digital performances; to make available to the public Works in such a way that members of the public may access these Works from a place and at a place individually chosen by them; to perform the Work to the public by any means or process and the communication to the public of the performances of the Work, including by public digital performance; to broadcast and rebroadcast the Work by any means including signs, sounds or images.
  - (k) “Reproduce” means to make copies of the Work by any means including without limitation by sound or visual recordings and the right of fixation and reproducing fixations of the Work, including storage of a protected performance or phonogram in digital form or other electronic medium.
2. Fair Dealing Rights. Nothing in this License is intended to reduce, limit, or restrict any uses free from copyright or rights arising from limitations or exceptions that are provided for in connection with the copyright protection under copyright law or other applicable laws.
3. License Grant. Subject to the terms and conditions of this License, Licensor hereby grants You a worldwide, royalty-free, non-exclusive, perpetual (for the duration of the applicable copyright) license to exercise the rights in the Work as stated below:
- (a) to Reproduce the Work, to incorporate the Work into one or more Collections, and to Reproduce the Work as incorporated in the Collections;
  - (b) to create and Reproduce Adaptations provided that any such Adaptation, including any translation in any medium, takes reasonable steps to clearly label, demarcate or otherwise identify that changes were made to the original Work. For example, a translation could be marked “The original work was translated from English to Spanish,” or a modification could indicate “The original work has been modified.”;
  - (c) to Distribute and Publicly Perform the Work including as incorporated in Collections; and,
  - (d) to Distribute and Publicly Perform Adaptations.
  - (e) For the avoidance of doubt:
    - i. Non-waivable Compulsory License Schemes. In those jurisdictions in which the right to collect royalties through any statutory or compulsory licensing scheme cannot be waived, the Licensor reserves the exclusive right to collect such royalties for any exercise by You of the rights granted under this License;
    - ii. Waivable Compulsory License Schemes. In those jurisdictions in which the right to collect royalties through any statutory or compulsory licensing scheme can be waived, the Licensor waives the

exclusive right to collect such royalties for any exercise by You of the rights granted under this License; and,

- iii. Voluntary License Schemes. The Licensor waives the right to collect royalties, whether individually or, in the event that the Licensor is a member of a collecting society that administers voluntary licensing schemes, via that society, from any exercise by You of the rights granted under this License.

The above rights may be exercised in all media and formats whether now known or hereafter devised. The above rights include the right to make such modifications as are technically necessary to exercise the rights in other media and formats. Subject to Section 8(f), all rights not expressly granted by Licensor are hereby reserved.

- 4. Restrictions. The license granted in Section 3 above is expressly made subject to and limited by the following restrictions:
  - (a) You may Distribute or Publicly Perform the Work only under the terms of this License. You must include a copy of, or the Uniform Resource Identifier (URI) for, this License with every copy of the Work You Distribute or Publicly Perform. You may not offer or impose any terms on the Work that restrict the terms of this License or the ability of the recipient of the Work to exercise the rights granted to that recipient under the terms of the License. You may not sublicense the Work. You must keep intact all notices that refer to this License and to the disclaimer of warranties with every copy of the Work You Distribute or Publicly Perform. When You Distribute or Publicly Perform the Work, You may not impose any effective technological measures on the Work that restrict the ability of a recipient of the Work from You to exercise the rights granted to that recipient under the terms of the License. This Section 4(a) applies to the Work as incorporated in a Collection, but this does not require the Collection apart from the Work itself to be made subject to the terms of this License. If You create a Collection, upon notice from any Licensor You must, to the extent practicable, remove from the Collection any credit as required by Section 4(c), as requested. If You create an Adaptation, upon notice from any Licensor You must, to the extent practicable, remove from the Adaptation any credit as required by Section 4(c), as requested.
  - (b) You may Distribute or Publicly Perform an Adaptation only under the terms of: (i) this License; (ii) a later version of this License with the same License Elements as this License; (iii) a Creative Commons jurisdiction license (either this or a later license version) that contains the same License Elements as this License (e.g., Attribution-ShareAlike 3.0 US); (iv) a Creative Commons Compatible License. If you license the Adaptation under one of the licenses mentioned in (iv), you must comply with the terms of that license. If you license the Adaptation under

the terms of any of the licenses mentioned in (i), (ii) or (iii) (the “Applicable License”), you must comply with the terms of the Applicable License generally and the following provisions: (I) You must include a copy of, or the URI for, the Applicable License with every copy of each Adaptation You Distribute or Publicly Perform; (II) You may not offer or impose any terms on the Adaptation that restrict the terms of the Applicable License or the ability of the recipient of the Adaptation to exercise the rights granted to that recipient under the terms of the Applicable License; (III) You must keep intact all notices that refer to the Applicable License and to the disclaimer of warranties with every copy of the Work as included in the Adaptation You Distribute or Publicly Perform; (IV) when You Distribute or Publicly Perform the Adaptation, You may not impose any effective technological measures on the Adaptation that restrict the ability of a recipient of the Adaptation from You to exercise the rights granted to that recipient under the terms of the Applicable License. This Section 4(b) applies to the Adaptation as incorporated in a Collection, but this does not require the Collection apart from the Adaptation itself to be made subject to the terms of the Applicable License.

- (c) If You Distribute, or Publicly Perform the Work or any Adaptations or Collections, You must, unless a request has been made pursuant to Section 4(a), keep intact all copyright notices for the Work and provide, reasonable to the medium or means You are utilizing: (i) the name of the Original Author (or pseudonym, if applicable) if supplied, and/or if the Original Author and/or Licensor designate another party or parties (e.g., a sponsor institute, publishing entity, journal) for attribution (“Attribution Parties”) in Licensor’s copyright notice, terms of service or by other reasonable means, the name of such party or parties; (ii) the title of the Work if supplied; (iii) to the extent reasonably practicable, the URI, if any, that Licensor specifies to be associated with the Work, unless such URI does not refer to the copyright notice or licensing information for the Work; and (iv) , consistent with Section 3(b), in the case of an Adaptation, a credit identifying the use of the Work in the Adaptation (e.g., “French translation of the Work by Original Author,” or “Screenplay based on original Work by Original Author”). The credit required by this Section 4(c) may be implemented in any reasonable manner; provided, however, that in the case of a Adaptation or Collection, at a minimum such credit will appear, if a credit for all contributing authors of the Adaptation or Collection appears, then as part of these credits and in a manner at least as prominent as the credits for the other contributing authors. For the avoidance of doubt, You may only use the credit required by this Section for the purpose of attribution in the manner set out above and, by exercising Your rights under this License, You may not implicitly or explicitly assert or

imply any connection with, sponsorship or endorsement by the Original Author, Licensor and/or Attribution Parties, as appropriate, of You or Your use of the Work, without the separate, express prior written permission of the Original Author, Licensor and/or Attribution Parties.

- (d) Except as otherwise agreed in writing by the Licensor or as may be otherwise permitted by applicable law, if You Reproduce, Distribute or Publicly Perform the Work either by itself or as part of any Adaptations or Collections, You must not distort, mutilate, modify or take other derogatory action in relation to the Work which would be prejudicial to the Original Author's honor or reputation. Licensor agrees that in those jurisdictions (e.g. Japan), in which any exercise of the right granted in Section 3(b) of this License (the right to make Adaptations) would be deemed to be a distortion, mutilation, modification or other derogatory action prejudicial to the Original Author's honor and reputation, the Licensor will waive or not assert, as appropriate, this Section, to the fullest extent permitted by the applicable national law, to enable You to reasonably exercise Your right under Section 3(b) of this License (right to make Adaptations) but not otherwise.

#### 5. Representations, Warranties and Disclaimer

UNLESS OTHERWISE MUTUALLY AGREED TO BY THE PARTIES IN WRITING, LICENSOR OFFERS THE WORK AS-IS AND MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND CONCERNING THE WORK, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR THE ABSENCE OF LATENT OR OTHER DEFECTS, ACCURACY, OR THE PRESENCE OF ABSENCE OF ERRORS, WHETHER OR NOT DISCOVERABLE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO SUCH EXCLUSION MAY NOT APPLY TO YOU.

6. Limitation on Liability. EXCEPT TO THE EXTENT REQUIRED BY APPLICABLE LAW, IN NO EVENT WILL LICENSOR BE LIABLE TO YOU ON ANY LEGAL THEORY FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES ARISING OUT OF THIS LICENSE OR THE USE OF THE WORK, EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### 7. Termination

- (a) This License and the rights granted hereunder will terminate automatically upon any breach by You of the terms of this License. Individuals or entities who have received Adaptations or Collections from You under this License, however, will not have their licenses terminated provided such individuals or entities remain in full compliance with those licenses. Sections 1, 2, 5, 6, 7, and 8 will survive any termination of this

License.

- (b) Subject to the above terms and conditions, the license granted here is perpetual (for the duration of the applicable copyright in the Work). Notwithstanding the above, Licensor reserves the right to release the Work under different license terms or to stop distributing the Work at any time; provided, however that any such election will not serve to withdraw this License (or any other license that has been, or is required to be, granted under the terms of this License), and this License will continue in full force and effect unless terminated as stated above.

#### 8. Miscellaneous

- (a) Each time You Distribute or Publicly Perform the Work or a Collection, the Licensor offers to the recipient a license to the Work on the same terms and conditions as the license granted to You under this License.
- (b) Each time You Distribute or Publicly Perform an Adaptation, Licensor offers to the recipient a license to the original Work on the same terms and conditions as the license granted to You under this License.
- (c) If any provision of this License is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this License, and without further action by the parties to this agreement, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.
- (d) No term or provision of this License shall be deemed waived and no breach consented to unless such waiver or consent shall be in writing and signed by the party to be charged with such waiver or consent.
- (e) This License constitutes the entire agreement between the parties with respect to the Work licensed here. There are no understandings, agreements or representations with respect to the Work not specified here. Licensor shall not be bound by any additional provisions that may appear in any communication from You. This License may not be modified without the mutual written agreement of the Licensor and You.
- (f) The rights granted under, and the subject matter referenced, in this License were drafted utilizing the terminology of the Berne Convention for the Protection of Literary and Artistic Works (as amended on September 28, 1979), the Rome Convention of 1961, the WIPO Copyright Treaty of 1996, the WIPO Performances and Phonograms Treaty of 1996 and the Universal Copyright Convention (as revised on July 24, 1971). These rights and subject matter take effect in the relevant jurisdiction in which the License terms are sought to be enforced according to the corresponding provisions of the implementation of those treaty provisions in the applicable national law. If the standard suite of rights granted under applicable copyright law includes additional rights not granted under this License, such additional rights are deemed to be included in the License; this License is not intended to restrict the license of any

rights under applicable law.

## **Creative Commons Notice**

Creative Commons is not a party to this License, and makes no warranty whatsoever in connection with the Work. Creative Commons will not be liable to You or any party on any legal theory for any damages whatsoever, including without limitation any general, special, incidental or consequential damages arising in connection to this license. Notwithstanding the foregoing two (2) sentences, if Creative Commons has expressly identified itself as the Licensor hereunder, it shall have all rights and obligations of Licensor.

Except for the limited purpose of indicating to the public that the Work is licensed under the CCPL, Creative Commons does not authorize the use by either party of the trademark “Creative Commons” or any related trademark or logo of Creative Commons without the prior written consent of Creative Commons. Any permitted use will be in compliance with Creative Commons’ then-current trademark usage guidelines, as may be published on its website or otherwise made available upon request from time to time. For the avoidance of doubt, this trademark restriction does not form part of the License.

Creative Commons may be contacted at <http://creativecommons.org/>.

# Glossary

*Canonical* Canonical, the financial backer of Ubuntu, provides support for the core Ubuntu system. It has over 310 paid staff members worldwide who ensure that the foundation of the operating system is stable, as well as checking all the work submitted by volunteer contributors. To learn more about Canonical, go to <http://www.canonical.com>. 8





# Credits

This section is a work in progress.

## The Ubuntu Manual Team

This manual wouldn't have been possible without the efforts and contributions from the following people:

### Team Leads

Benjamin Humphrey—Team Lead  
Kevin Godby—Lead TeXnician  
Jamin Day—Head of Editing  
Brayn Behrenshausen—Editor  
Ilya Hayksinson—Author coordinator  
Josh Holland—Translation maintenance  
Thorsten Wilms—Title page, Artwork  
Adnane Belmadiaf—Website development  
Luke Jennings—Quickshot development  
Neil Tallim—Quickshot development  
Simon Vermeersh—Quickshot development

### Authors

Benjamin Humphrey	Ryan Macnish	Elan Kugelmass
Josh Holland	Ilya Haykinson	Luke Jennings
Joe Burgess	Matt Griffin	
Kelvin Gardiner	Wolter Hellmund	

### Artwork and Title Page

Thorsten Wilms	K.Vishnoo Charan Reddy
Wolter Hellmund	Kris Klunder

### Editing, Formatting and Reference Checking

Jamin Day	Anmol Sarma	Benjamin Humphrey
-----------	-------------	-------------------

### LaTeX, Bazaar Maintenance and Optimization

Josh Holland                      Kevin Godby                      Joe Burgess

## Wiki, IRC and Launchpad Maintenance

Benjamin Humphrey              Joe Burgess                      Kevin Godby

## Translations

Triwanto	Johannes von Scheidt	hfzorman
Anwar Mohammed	Marcos	Trutxo64
Manuel Iwansky	Jadi	YannUbuntu
RJQ	Marcelo Poli	Meridius
Dmitriy Belonogov	Tomas Velecky	Daniel Schury
Hollman Enciso	Javier Herranz	Sebastian Held
Josh Holland	Carl Roberson	
Ing. Forigua	Shushi Kurose	

## Quickshot developers

Benjamin Humphrey              Tommy Brunn

## Firefox Guide

Chris_Ilias	jehurd	djstsys
Bo	cl58	mozilla_help_viewer_project
underpass	kjhass	

## Special Thanks

Martin Owens—for providing much valued feedback  
Jono Bacon—for getting right behind the project  
Joey-Elija Aleximedithya—for promoting the project on [omgubuntu.co.uk](http://omgubuntu.co.uk)  
The Ubuntu Forums community—for their help in our research





# Index

- About GNOME, 31
- About Ubuntu, 31
- AisleRiot Solitaire, 30
- applications
  - About GNOME, 31
  - About Ubuntu, 31
  - AisleRiot Solitaire, 30
  - Assistive Technologies, 39
  - Brasero, 31
  - Calculator, 30
  - CD/DVD Creator, 30
  - Empathy, 30, 77
  - Empathy., 27
  - Evolution, 27, 30, 61, 73
  - F-Spot, 30
  - F-Spot Photo Manager, 84
  - Firefox, 25, 30
  - gBrainy, 30
  - gedit Text Editor, 30
  - Help and Support, 31
  - Mahjongg, 30
  - Mines, 30
  - Movie Player, 90
  - Mozilla Firefox, 50
  - Nautilus, 32, 33, 35, 135
  - NetworkManager, 41
  - OpenOffice Drawing, 30
  - Orca, 39
  - Pitivi, 31
  - Quadrassel, 30
  - Rhythmbox, 31
  - Rhythmbox Music Player, 92
  - Search for Files, 30, 32
  - Simple Scan, 30
  - Software Center, 116, 118
  - Software Sources, 116, 118–121
- Sound Recorder, 31
- Sudoku, 30
- Synaptic Package Manager, 32, 116, 117, 119
- Take Screenshot, 30
- Tomboy Notes, 30
- Totem, 31
- Ubuntu Help Center, 25, 29
- Ubuntu One, 30, 75
- Ubuntu Software Center, 31, 36, 110, 113, 142
- apt-get, 141
- Assistive Technologies, 39
- Brasero, 31
- Calculator, 30
- CD/DVD Creator, 30
- command line
  - apt-get, 141
  - ecryptfs-setup-private, 136
  - sudo, 131
- ecryptfs-setup-private, 136
- Empathy, 30, 77
- Empathy., 27
- Evolution, 27, 30, 61, 73
- F-Spot, 30
- F-Spot Photo Manager, 84
- Firefox, 25, 30
- gBrainy, 30
- gedit Text Editor, 30
- Help and Support, 31
- Mahjongg, 30
- Mines, 30
- Movie Player, 90
- Mozilla Firefox, 50
- Nautilus, 32, 33, 35, 135
- NetworkManager, 41
- OpenOffice Drawing, 30
- Orca, 39
- Pitivi, 31
- Quadrassel, 30
- Rhythmbox, 31
- Rhythmbox Music Player, 92
- Search for Files, 30, 32
- Simple Scan, 30
- Software Center, 116, 118
- Software Sources, 116, 118–121
- Sound Recorder, 31
- sudo, 131
- Sudoku, 30
- Synaptic Package Manager, 32, 116, 117, 119
- Take Screenshot, 30
- Tomboy Notes, 30
- Totem, 31
- Ubuntu Help Center, 25, 29
- Ubuntu One, 30, 75
- Ubuntu Software Center, 31, 36, 110, 113, 142