



**ubuntu**  
linux for human beings


Ubuntu 10.04



# Getting Started with Ubuntu

*Created by the*  
Ubuntu Manual Team

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# Contents

<b>Prologue</b>	<b>ix</b>
Welcome . . . . .	ix
What this manual is not . . . . .	ix
Contact details . . . . .	ix
Ubuntu philosophy . . . . .	x
The Ubuntu promise . . . . .	x
A brief history of Ubuntu . . . . .	x
Linux . . . . .	xi
Is Ubuntu right for you? . . . . .	xi
<b>I Start here</b>	<b>1</b>
<b>1 Installation</b>	<b>2</b>
Getting Ubuntu . . . . .	2
Downloading Ubuntu . . . . .	2
Ordering a free CD . . . . .	2
Installing Ubuntu . . . . .	2
The Live CD . . . . .	2
Using Wubi . . . . .	3
Installing Ubuntu to the hard drive . . . . .	3
<b>2 Around your Desktop</b>	<b>7</b>
The GNOME Environment . . . . .	7
Understanding the Desktop . . . . .	7
The Desktop . . . . .	7
The Top Panel . . . . .	7
The Notification Area . . . . .	8
The Bottom Panel . . . . .	8

Managing Windows . . . . .	9
Closing, Maximizing, Restoring, and Minimizing Windows . . . . .	9
Moving and Resizing Windows . . . . .	9
Switching Between Tasks . . . . .	9
Getting Help . . . . .	9
Using the Applications Menu . . . . .	10
Accessories . . . . .	10
Games and Applications . . . . .	10
Graphics . . . . .	10
Internet . . . . .	10
Office . . . . .	10
Sound and Video . . . . .	10
Ubuntu Software Center . . . . .	10
Using the System Menu . . . . .	11
Preferences . . . . .	11
Administration . . . . .	11
Browsing Files on Your Computer . . . . .	11
Places Menu . . . . .	11
Your Home Folder . . . . .	11
Nautilus File Browser . . . . .	12
The Nautilus file browser window . . . . .	12
Opening Files . . . . .	12
Copying and Moving Files and Folders . . . . .	13
Navigating Between Directories . . . . .	13
Creating New Folders . . . . .	13
Using Multiple Tabs and Multiple Nautilus Windows . . . . .	13
Searching for Files on Your Computer . . . . .	13
Customizing Your Desktop . . . . .	14
Appearance . . . . .	14
Windows . . . . .	14
Screensaver . . . . .	15
Accessibility . . . . .	15
Assistive Technologies . . . . .	15

Shutting Down Your Computer . . . . .	15
Logging Out . . . . .	16
Rebooting . . . . .	16
Shut Down . . . . .	16
Other Options . . . . .	16
<b>3 Default Applications . . . . .</b>	<b>17</b>
Getting online . . . . .	17
NetworkManager . . . . .	17
Establishing a connection . . . . .	18
Wired . . . . .	18
Wireless . . . . .	20
Dialup . . . . .	24
Other connection methods . . . . .	24
Browsing the web . . . . .	24
Starting Firefox . . . . .	24
Navigating web pages . . . . .	24
Tabbed browsing . . . . .	27
Searching . . . . .	28
Copying, saving, and printing pages . . . . .	30
Changing your homepage . . . . .	31
Bookmarks . . . . .	31
History . . . . .	32
Clearing private data . . . . .	32
Troubleshooting connection problems . . . . .	32
Using a different web browser . . . . .	32
Reading and composing email . . . . .	32
Running Evolution for the first time . . . . .	33
Around the Evolution workspace . . . . .	35
Checking and reading messages . . . . .	36
Composing and replying to messages . . . . .	36
Staying organized . . . . .	36
Managing your contacts . . . . .	36

Managing your schedule . . . . .	36
Keeping a task list . . . . .	36
Using instant messaging . . . . .	37
Running Empathy for the first time . . . . .	37
Changing account settings . . . . .	38
Editing contacts . . . . .	39
Communicating with contacts . . . . .	39
Sending and receiving files . . . . .	40
Changing your status . . . . .	41
Changing your picture . . . . .	41
Working with multimedia . . . . .	41
Viewing and editing photos . . . . .	41
F-spot layout . . . . .	41
Importing . . . . .	42
Organizing photos . . . . .	42
Editing Images . . . . .	42
Watching videos and movies . . . . .	43
Listening to audio and music . . . . .	43
<b>4 Preferences and Hardware . . . . .</b>	<b>44</b>
Using your devices . . . . .	44
Keyboard and mouse . . . . .	44
Keyboard . . . . .	44
Displays . . . . .	44
Hardware Drivers . . . . .	44
Setting up your Screen Resolution . . . . .	45
Connecting and using your printer . . . . .	45
Sound . . . . .	45
USB drives . . . . .	45
Burning CDs and DVDs . . . . .	45
Using a webcam . . . . .	46
Scanning text and images . . . . .	46
Other devices . . . . .	46
Firewire . . . . .	46
Bluetooth . . . . .	46

<b>5</b>	<b>Software and Packaging</b>	<b>47</b>
	Software Management in Ubuntu . . . . .	47
	Differences With Other Operating Systems . . . . .	47
	Package managers make your life easier . . . . .	47
	Different Ways to Obtain Software . . . . .	47
	Software Center . . . . .	48
	Installing Software . . . . .	48
	Removing Software . . . . .	49
	Making More Software Available . . . . .	49
	Synaptic Package Manager . . . . .	49
	Usage . . . . .	50
	Software Sources . . . . .	50
	Configuring the Ubuntu Repositories . . . . .	51
	Configuring Updates . . . . .	52
	Adding More Software Repositories . . . . .	53
<b>6</b>	<b>System Maintenance</b>	<b>55</b>
	Updating your computer . . . . .	55
	Cleaning Unused Packages . . . . .	55
	Clearing The Package Cache . . . . .	55
	Performing a File System Check . . . . .	55
<b>II</b>	<b>Advanced topics</b>	<b>56</b>
<b>7</b>	<b>The Command Line</b>	<b>57</b>
	understanding the terminal . . . . .	57
	what is a terminal? . . . . .	57
	using the command line . . . . .	57
	navigating directories . . . . .	57
	getting a list of files . . . . .	57
	moving things around . . . . .	58
	creating directories . . . . .	58
	deleting files and directories . . . . .	58

changing system settings . . . . .	58
what is sudo? . . . . .	58
advanced command line use . . . . .	58
aptitude or apt-get? . . . . .	58
terminal vs shell: what's the difference? . . . . .	58
<b>8 Security</b>	<b>59</b>
Why Linux is safe . . . . .	59
Security Basics . . . . .	59
Sudo . . . . .	59
Basic Security Precautions . . . . .	60
Users and Groups . . . . .	62
Setting up a Secure System . . . . .	63
Firewall . . . . .	63
Encryption . . . . .	64
<b>9 Troubleshooting</b>	<b>65</b>
Resolving Problems . . . . .	65
Troubleshooting Guide . . . . .	65
I installed Windows and can no longer start Ubuntu . . . . .	65
My login screen no longer appears when I turn on my computer or . . . . .	66
The graphics on my screen appear corrupted . . . . .	66
I forgot my password . . . . .	67
Some text looks incorrect or corrupted . . . . .	67
Where are my deleted files? . . . . .	68
I can't play certain audio or video files, or interact with some websites . . . . .	68
Everything on my monitor is too big or too small or . . . . .	68
How can I change my screen resolution? . . . . .	68
I would like to free up some disk space . . . . .	69
Getting More Help . . . . .	69



<b>10 Learning more about Linux</b>	<b>70</b>
What else can I do with Linux?	70
Free and Open Source software (FLOSS)	70
Other distributions	70
Choosing a version	70
32 bit or 64 bit?	71
Servers	71
Finding out more	72
Extra Applications	72
Cheese Webcam	72
The GIMP Image Editor	72
GNOME Do	73
Google Chrome	73
Jokosher Audio Editor	73
Pitivi Video Editor	73
Sun VirtualBox	73
VLC Media Player	73
Wine	74
<b>A License</b>	<b>75</b>
Creative Commons Notice	81
<b>Credits</b>	<b>82</b>
Team Leads	82
Authors	82
Artwork and Title Page	82
Editing, Formatting and Reference Checking	82
LaTeX, Bazaar Maintenance and Optimization	82
Wiki, IRC and Launchpad Maintenance	82
Translations	83
Firefox Guide	83

# Prologue

## Welcome

Welcome to the Ubuntu Manual.

This manual is intended to be an introductory guide to help new users get started with Ubuntu. Our goal is to cover the basics of Ubuntu — such as installation, desktop settings and popular applications — as well as provide an introduction to Linux and the power of open source. We designed the manual to be simple to follow, with step by step instructions and clear diagrams — 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.

Many people have contributed their time freely to this project. The manual is still a work in progress, and always will be. Whilst we try to make sure that instructions are not limited to specific versions, it is unavoidable that some things will change over the life of Ubuntu. Every time a new version of Ubuntu is released, we will revise this manual and make the appropriate changes. At the time of writing, the current version is Ubuntu 10.04 LTS.

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 current, informative and professional. Our contact details can be found below.

## What this manual is not

This manual is not intended to be a comprehensive Ubuntu instruction book. It is more like a quick-start guide, which we hope 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 from [help.ubuntu.com](http://help.ubuntu.com), produced by the Ubuntu Docs Team. The in-built system documentation in Ubuntu is also very useful for accessing help on specific topics. If something isn't covered here, chances are you will find the information you are looking for in one of those locations.

## Contact details

**The Ubuntu Manual Team** Launchpad Team page <https://launchpad.net/~ubuntu-manual>  
Mailing List [ubuntu-manual@lists.launchpad.net](mailto:ubuntu-manual@lists.launchpad.net) Project Wiki Page <https://wiki.ubuntu.com/ubuntu-manual>

More information on the online docs and the system docs can be found in [Chapter 10: Learning more about Linux](#).

## Ubuntu philosophy

The term ‘Ubuntu’ is a classical African concept that originated from the Bantu languages of southern Africa. It can be described as a way of connecting with others — living in 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 to collaborate on an international software project that aims to deliver the best possible user experience and feature-packed operating system available today.

### The Ubuntu promise

- 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, and could compete with other mainstream operating systems. With the Debian operating system as a code base, Shuttleworth began to build Ubuntu. Using his own funds, installation CD’s were freely 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 rose to become the most popular Linux distribution.

Now with more people working on the project than ever before, Ubuntu has seen continual improvement to it’s core features and hardware support, and has also gained the attention of large organizations worldwide. For example in (year????), 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 system to 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.

Canonical, the financial backer of Ubuntu, provides support for the core Ubuntu system. It has over 200 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>

Whilst large companies such as these 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 is installed on nearly 2% of the world's computers. While this figure may seem small, it equates to millions of users worldwide — and is growing each year.

## Linux

Ubuntu is built on the foundation of Linux, and is just one of many different Linux 'distributions'. Linux is a type of operating system, and is itself a member of the Unix family, one of the oldest types of operating systems dating back to the 1970s. Originating long before Microsoft Windows, the Unix operating systems have provided reliability and security in professional applications for almost half a century. Many servers around the world that hold information for popular websites, for example, Facebook and Google 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 system. Initially, Linux was entirely command line based. Early Graphical User Interfaces (GUIs) began to emerge in the late 1980s, but they were difficult to configure and clunky at best, meaning that only seasoned computer programmers knew how to use them. In the past decade however, user-friendly graphical desktop environments have come a long way. Ubuntu uses GNOME, one of the more popular desktop environments.

## Is Ubuntu right for you?

Ubuntu, and Linux in general, is very different from other common operating systems such as Microsoft Windows or Mac OS X. Before you decide whether or not Ubuntu is right for you, we suggest taking the following into account:

- Ubuntu is community based — it runs on the community, it is made by the community and maintained by the community. Because of this, support is not available down the road at your local computer store — most likely the employees have never even heard of Ubuntu. If something breaks, you will probably have to fix it yourself! Thankfully, the community is there to help. There are a lot of articles, guides, manuals and users on various internet forums that are willing to help out beginners to Ubuntu — and this is where you should turn if something goes wrong.
- Windows or Mac applications will not run on Ubuntu. For the vast majority of applications that most people use, there are suitable free alternatives available in Ubuntu. The rest are generally professional applications (such as the Adobe Creative suite) — if you absolutely cannot live without the latest Adobe software, then Ubuntu may not be for you.
- Game developers usually design games for the largest market, where they can make the most money. Since Ubuntu is not as widely used as Windows or Mac, most game developers do not usually develop for Ubuntu as there would be little profit for them in

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

See [Chapter 2: Around your Desktop](#) to learn more about GNOME and other desktop environments.

You may want to consider dual-booting, which allows you to run Ubuntu side-by-side with another operating system. See [Chapter 1: Installation](#).

doing so. If you're a heavy gamer, then Ubuntu may not be for you. If you like to play the odd game, then certain popular games will work under a Windows Emulator called Wine (see chapter XX). Of course, Ubuntu has games developed for it as well, which are easily installed through the Software Center.

**Part I**

**Start here**

# 1 Installation

## Getting Ubuntu

Ubuntu is available in many shapes and forms, allowing you to choose the version most specific to your needs. All Linux distributions, theoretically, are the same — just with different kernels and packages installed by default.

Server and Desktop editions will require different programs to suit the requirement, for example — a server will not require a media player, but a desktop system will. The user could configure their system themselves, but this would take time and effort — therefore Ubuntu ships several different versions that come with specific packages pre-installed, to make your life easier.

## Downloading Ubuntu

You have several options when it comes to downloading Ubuntu, the easiest, and most common way is to download the CD image directly from <http://www.ubuntu.com>. At the time of new releases, it may be faster to download Ubuntu using a torrent — the servers get clogged up when everyone upgrades at release time.

After you've downloaded the CD image, all you have to do is burn it to a CD.

## Ordering a free CD

You can order a free CD from Canonical if the above method seems too hard, or you have limited bandwidth or a slow connection. There is no shipping cost or charge to order a CD. Simply visit [www.ubuntu.com](http://www.ubuntu.com) and choose to get a free CD — you will have to create an account but this is very simple and not time consuming at all. Be warned, however — the CD usually takes about four weeks to ship, so if you need Ubuntu in a hurry, downloading it and burning it to a disc would be the best method.

## Installing Ubuntu

Ubuntu is easy to install. Installation is a very streamlined and fast process and most people should not have any difficulty getting their system up and running. Even though it's easy to install, we still include a step-by-step guide to ensure nothing goes wrong! However, we do suggest using the Live CD to test out Ubuntu before installing to see if you like it, and also to ensure that it plays nice with your hardware.

## The Live CD

Ubuntu has an excellent feature that allows you to test it out before you install, although it doesn't provide a full experience. It runs off the CD and your computer's RAM and so will

A **kernel** is the central portion of an operating system, responsible for running programs.

To find out more about different distributions, see Chapter 10

To find out how to burn a CD on your computer, refer to your operating system help or manufacturer help.

feel sluggish (because CD read speeds are a lot slower than a hard drive and a large chunk of your RAM is occupied by it), but it should give you an impression of what Ubuntu is like. The Live CD will let you test out all the default applications, play around with settings and surf the internet.

It's not only useful for you to get a feel for the OS, but also for you to check if it works properly with your computer hardware.

To boot from the Live CD, just insert the Ubuntu CD into your disk drive and boot into the CD. Boot priority is usually configurable in the BIOS, or most computers will give you the option of booting from CD by pressing a shortcut before the hard drive kicks in. See your manufacturers documentation for more information.

You will see a menu similar to this:

Choose the option "Try Ubuntu without any change to your computer" and press enter on your keyboard to boot into the Live CD off the disk itself.

## Using Wubi

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 large 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. It won't harm your Windows installation in any way.

There are a couple of things to keep in mind, however:

- If you install Ubuntu using Wubi, and decide you like it but find yourself running out of hard drive space, it is very difficult to increase the hard drive space without having to completely reinstall Ubuntu.
- The read/write times will not be as fast as if Ubuntu was installed directly onto your hard drive, instead of having to access the data through a virtual hard drive. It won't be hugely noticeable, however.

## Installing Ubuntu to the hard drive

To install Ubuntu directly to your hard drive, you will need to have at least 3GB free on a partition somewhere to install the base system. We recommend 10GB at least for extra programs and your own content. You can either install Ubuntu over Windows and erase Windows, or install it alongside Windows and choose to dual-boot. The option for this is given to you in the partitioning stage of the installation.



**Recommended system requirements:**

Ubuntu should run reasonably well on a computer with the following minimum hardware specification.

- 700 MHz x86 processor
- 384 MB of system memory (RAM)
- 8 GB of disk space
- Graphics card capable of 1024x768 resolution
- Sound card
- A network or Internet connection

**First steps of installation**

To get started, insert the Ubuntu CD into your disk drive and boot into the CD.

Choose your language with the arrow keys, and press enter to select one.

Press the down arrow so that `Install Ubuntu` is highlighted, then press enter on the keyboard.

Wait for a few seconds as the CD is loaded into your system memory.

Choose your native language and then click **forward** to continue.

Tell Ubuntu where you are located by clicking on your location. This will set the system clock for you. You can also use the **drop down list** at the bottom of the screen. Click **forward** to move on.

In this screen, you need to tell Ubuntu what keyboard you are using. For most people, the default option should be satisfactory. Click **forward** to continue once you have tested your keyboard.

**Guided partitioning**

This screen will allow you to choose where you want to install Ubuntu. If you want to delete your existing operating system, or the hard drive is already empty and you want to let the installer automatically partition the hard drive for you, select the second option, **Use the entire disk**.

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

Ubuntu will run on computers with lower specifications than these, but you will need to use the **alternate CD** to install Ubuntu.

All 64-bit (x86-64) PCs should be able to run Ubuntu. Use the 64-bit installation CD for a 64-bit-optimised installation.

You can choose **Check disc for defects** to make sure no errors were encountered when burning your CD. You can also test your memory by choosing **Test memory**.

### 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. But 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.

### Who are you?

Here you need to tell Ubuntu:

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

The first three steps are self explanatory. Choose a simple username, often just your first name, all lowercase. Your password should be strong so no one could easily guess it.

The name of your computer can be anything you like, although most people generally choose something like “john-desktop” or “john-laptop.” The main reason for this is to distinguish you from other computers on a network.

When choosing how to log in, you have three options:

### Log in automatically

Ubuntu will log in for you when you start up the computer. It means you don't have to enter your password to get into your computer - not recommended due to security reasons.

### Require my password to login

This option is the default - all you have to do is enter your password when you turn on your computer. It prevents unauthorized access to your computer.

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

Your home folder is where all of your personal details are stored. By choosing this option, Ubuntu will automatically enable encryption on your home folder, so that it cannot be accessed unless your password unlocks it. Even if someone had physical access to your hard drive, they would not be able to gain access without your password from your computer. It's very secure, and recommended.

### Confirm your settings and begin installation

Nothing you have actually specified yet has been written to the disk, so you need to make sure they all your details are correct and then click **Install** to begin the installation process.

Ubuntu will now install, and, as it does so, you will be presented with a slideshow that gives you an introduction to some of the default applications included with Ubuntu.

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

After the splash screen, you will see the login window:

Click your username and enter your password, then press enter or click **Log in** to log in to Ubuntu.

## 2 Around your Desktop

### The GNOME Environment

GNOME (abbreviation of GNU Network Object Model Environment) is a desktop environment (DE). The GNOME desktop environment is the default environment used in Ubuntu. Most of the desktop you see in front of you will be part of GNOME. Although the GNOME desktop environment is highly customizable (as is true with many of Ubuntu's features), we will deal with the default desktop, as described below.

### Understanding the Desktop

#### The Desktop

Much like Windows or Mac OS, Ubuntu has a desktop screen from which everything else originates. By default, the desktop will have panels at the top and bottom of the screen. The screen itself will have a wallpaper that is part of the default Ubuntu theme, known as the Human Theme. The desktop is highly customizable. You can move the panels to the sides of the screen, or remove them altogether and replace them with a dock similar to that of Mac OS X. You can change the wallpaper, and even place program launchers or file shortcut icons on the desktop. For now, we will look at the default screen 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

As previously mentioned, the default Ubuntu desktop has panels at the top and bottom of the screen. We will briefly look at the features on the top panel. Starting from the left, you will see three menu headings: Applications, Places, and System. After that, you will see two program icons; the Firefox web browser launcher, and the Ubuntu Help launcher. To the right of the panel you'll find the Notification Area, which is similar to the system tray in Windows. To the right of that is a menu with the name you entered during installation. This menu interfaces with the Empathy IM client, which is installed by default in Ubuntu 10.04. Finally, on the far right, is the power button icon. When you click on it, a menu drops down that offers options for locking down your computer, logging yourself out, restarting, or shutting it down completely.

The top panel is customizable. Just 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.

### The Notification Area

Just as Windows has the System Tray, Ubuntu has the Notification Area. The items that you'll find there include the volume adjustment, network indicator, Bluetooth indicator (if your computer has Bluetooth capability), new mail notification applet, and the date and time. Some programs will install an icon in the Notification Area when you first open them, such as Tomboy Notes, and other programs will put an icon there when modifications are made in the program. For example, if you adjust the settings in Open Office so that it will load in the background (for faster startup when you need to look at a document, etc.), an Open Office icon will appear in the Notification Area. Right-clicking any icon in the Notification Area will bring up a menu with options available. For example, right-clicking the volume icon will allow you to mute the speakers or access the Sound Preferences window, where you can not only adjust volume, but you can choose sound themes and check sound card and microphone settings. Features are also available when you left-click icons in the Notification Area. To adjust the volume, just click on the volume adjustment icon and the volume slider will appear. When you click on the date and time, a calendar drops down. If you use the Evolution mail client, you can click on a date on the calendar and it will open up your Evolution calendar on the date you clicked. Below the calendar is the Location box. Click the + sign to show the world calendar. To enter your location, click the Edit button. In the window that opens up, click the Add button. Type your location in the box. If you live in a major city, it may be on the list already. If your location isn't in the list, you can enter the latitude and longitude for your location (you can search on Google if you don't already have this information). Don't forget to select the time zone for your location. If your location is on the list, you will be able to display weather data for it below the calendar.

### The Bottom Panel

The bottom panel is where your open programs minimize to, much like the taskbar in Windows or the bottom portion of the OS X Dock. On the far left of the panel is the Show Desktop icon. When clicked, all programs on the screen will minimize and you will see your desktop. Click it again to re-open any windows you had open. On the far right side of the panel, you'll find the workplace switcher. By default, it is set for two workspaces (virtual screens, if you will). To switch workspaces, just click on the portion of the switcher that isn't highlighted. This makes it possible to, say, have a web browser open in one workspace, and a text document you're working on in the other workspace, thus reducing clutter on your screen. To add more workspaces, right-click on the icon 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). Also on the right side of the panel is the Trash Bin applet. This is much like the Recycle Bin in Windows or the Trash in OS X. Any files you delete go to the Trash Bin. To see the contents of the Trash Bin, click on it to open its window. Once the window is open, you can empty the trash by clicking on the Empty Trash button. You can

also empty the trash by right-clicking the Trash Bin and selecting Empty Trash from the menu.

## Managing Windows

Managing your program windows in Ubuntu works in much the same way as Windows and OS X. Your typical program window will have an icon or button of some sort in the top left corner of the window. When that button/icon is right-clicked, a menu will appear with some window options (i.e. Minimize, Maximize, Always on Top, etc). You will also notice that the name of the program or file is displayed on the top of the window frame.

### Closing, Maximizing, Restoring, and Minimizing Windows

To close a window, click on the “X” in the upper right corner of the window. Just to the left of the “X” is a box-shaped icon that when clicked will “maximize” the window, making it fill the entire screen. Click the maximize icon a second time, and the window will return to its original size. If you want to minimize the window to the lower panel, click the “-” icon. To display the window on the desktop again, click the spot on the lower panel where the window’s name is displayed.

### 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. 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.

## Switching Between Tasks

Ubuntu offers you two ways to switch between tasks when you have multiple windows open in a workspace. You can locate 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 you have the window you’re looking for.

## 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 icon (by default, the icon is 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. If you can’t find an answer to your question in the Help Center, you can reach out to the Ubuntu community through the Ubuntu Forum. 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 good resource for obtaining answers is Google. You may find that your question has been already been asked and answered just by using a few keywords in the Google search engine.

The Ubuntu Forums can be accessed at <http://ubuntuforums.org>.

## Using the Applications Menu

We mentioned earlier that the top panel contains three menu headers. 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: Default Applications](#) for more information about the included applications.

### Games and Applications

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 Quadrapassel (similar to Tetris).

### Graphics

Under the Graphics sub-menu, you'll find the F-Spot photo manager, OpenOffice Drawing, and some scanner applications.

### Internet

The Internet sub-menu is where you will find the Firefox web browser, Empathy IM client, and Ubuntu One, an online storage site that syncs with your Ubuntu data.

### Office

The Office sub-menu is where you will find your OpenOffice programs (word processing, spreadsheet, etc.), the Evolution mail client, and an on-line dictionary.

### Sound and Video

The Sound and Video sub-menu has programs for working with multimedia, such as the **Brasero Disk Burner**, **Totem Movie Player**, **Pitivi Video Editor**, **Rhythmbox Music Player**, and **Sound Recorder**.

### 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 free 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

See [Chapter 5: Software and Packaging](#) for more information about the Ubuntu Software Center

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.

## 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: Preferences and Hardware](#) for more detailed information about the options available in the System menu.

### Preferences

The Preferences sub-menu is where you go to modify the Appearance of the desktop and windows, assign a default printer, designate keyboard shortcuts, change the entries listed in the Main (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.

## Browsing Files on Your Computer

There are two basic 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.

### Places Menu

The Places menu is, essentially, 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



folder in the 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 that link to open a folder full of example documents, spreadsheets, and multimedia.

## Nautilus File Browser

Just as Windows has Windows Explorer and OS X has the 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:

- **Menu Bar:** The menu bar 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.
- **Icon Bar:** The icon bar has tools for navigation and a tool to make the contents of the window larger or smaller. A drop-down box 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 Icon Bar, you will see a representation of where you are currently browsing, similar to the “tree” you find on many forum sites. 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.

## 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

Copying files can be done 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 pop-up menu. When using the Edit menu in **Nautilus**, make sure you've selected the file (click on it to highlight 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 the CTRL key down and click 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. Another way of moving folders or files is to use the Copy 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 the name of a folder where it is listed just below the navigational icons. Double-clicking 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 in the file browser window (or on the Desktop) and select Create Folder from the pop-up menu, or select Create Folder from the File menu in **Nautilus**. If you wish to hide certain folders or files, just 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 drop-and-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 found that you can search for files on the computer by using the Search for Files feature on the Places menu in the top panel. We also discovered that you can use the **Nautilus** browser to search for files, as explained above. Some files or folders may have dot (.) in front of the file/folder name. Those files/folders are hidden files. To display hidden files in **Nautilus**, select "Show Hidden Files" from the View menu in the file browser or press CTRL+H.

You can view hidden files by clicking the "View" menu and then clicking "Show Hidden Files" or by pressing CTRL+H.

## Customizing Your Desktop

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

### Appearance

There are many things you can do with the desktop appearance. The panels can be moved from their top/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 taskbar disappear, select Autohide. The task bar will reappear when you place the cursor on the side 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 the System menu, 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 the button labelled "Add..." and find the picture 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 [GNOMElook.org](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 font rendering.

### 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 Human theme 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 [GNOMElook.org](http://GNOMElook.org) website, where you can download from a large selection of themes. To

You can also choose to delete the panels, and install a Mac OS X-style dock. Two dock programs available in the Ubuntu Software Center are Cairo-Dock and Avant Window Navigator (AWN).

add downloaded themes to the Themes tab, drop-and-drag the downloaded file into the Themes window (this will work for most themes). You can customize any theme: select the theme, and click 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 goes to a black 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 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 box is checked to activate the screensaver. The slider can be adjusted to set the idle time. For added security, you can check the Lock Screen When Screensaver Is Active box. This will require your login password to return to using the computer.

### Accessibility

Ubuntu has built-in tools that make using the computer easier for people with certain physical limitations. These tools can be found by clicking on 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.

### 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. You can also run **Orca** from the command line. To do this, open a Terminal (**Applications > Accessories > Terminal**), type **Orca** at the prompt and press Enter. **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 standby 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+DELETE keys.

**Logging Out**

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

**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 choose to Lock Screen (good if you need to leave your computer for a few minutes), set up a Guest Session for a friend to try Ubuntu, or Switch User to use another user account without closing your running applications.

# 3 Default Applications

## 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.

You can access all the functions of NetworkManager using its icon in the main 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.

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

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.

## 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.

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 menu shows a check next to **Enable Networking**.

Then, click the left mouse button on the NetworkManager icon. There should be an entry 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 etho” in the list and click it to attempt a connection. If “Auth etho” 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 NetworkManager 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”.

To set up the connection:

1. Under the connection name, make sure that the **Connect automatically** checkbox is checked.
2. Switch to the **IPv4 Settings** tab
3. Change the **Method** to “Manual”
4. Click 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
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 servers, separated by a spaces or commas
9. Click the **Apply** button 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 the **Close** button 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 show 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 NetworkManager 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 pop up 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.

If you know the password, type it in the **Password** field, and click 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, click the **Show password** check box 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 typed in 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 the **Cancel** button 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.

### 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 its 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 the NetworkManager icon in the top panel
2. Click the **Connect to Hidden Wireless Network** option. Ubuntu should open a window called “Connect to Hidden Wireless Network”.
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, pick 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 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.

#### 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 uncheck 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-check 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 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 the **Edit** button
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 checked, Ubuntu will detect the wireless network but will not automatically connect to it without you choosing it from the NetworkManager menu. Check or uncheck 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 the **Apply** button to save your changes and close the window. You can click the **Cancel** button to close the window without making changes.
12. Finally, click the **Close** button on the “Network Connections” window to return to the desktop.

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

### Troubleshooting common problems with wireless connections

#### 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.

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”.

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

### Browsing the web

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

#### Starting Firefox

To start Firefox, click on the **Applications** menu, then **Internet**, and select **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 select **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://” followed by one or more names that identify the address. One example is “http://www.ubuntu.com/”.

To navigate:

1. Click 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 — Google 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 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 the **Back** or **Forward** button.
- To go back or forward more than one page, click 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 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 use 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 select **Show All History**. Firefox should open a "Library" window, which should a list of folders. Click the folders to displays subfolders, or titles of web pages you've visited in the past. Click 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 the **Stop** button.

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

### Opening new windows

At times, you may want to have more than one browsing windows. 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, click the **File** menu, then select **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 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 bring up its popup menu. Select the **Open Link in New Window** option. A new window should open, containing the web page for the link you clicked.
- Hold down 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 the **New Tab** button on the right side of the last tab.
- On the menubar, click the **File** menu, and then select **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.
- Hold down 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, click the **File** menu, and then select **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, click the **History** menu, select **Recently Closed Tabs**, and then select 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 on the tab with your left mouse button and hold the mouse button as you 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. It is also possible to have a tab split off and become its own window.

To move a tab from one Firefox window to another already open window, click on the tab with your left mouse button, hold down the left mouse button, and then 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 on the tab with your left mouse button, hold down the left mouse button, and then 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 Google 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 in the **Search Bar**.
2. Type the phrase “*world cup*”. Your typing replaces any text currently in the Search Bar.
3. Hit Enter to search.

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

### Selecting search engines

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

To change the search engine, click the icon on the left side of the Search Bar. Select one of the other search engines in the list. Some search engines, like Google, 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 display a popup menu. Select 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

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 select **Edit > Find** to open the **Find Toolbar** at the bottom of Firefox.
2. Type 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 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 select **Edit > Find Again** from the menubar.

## Copying, saving, and printing 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. Select **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 display 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. Select **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 the **Save** button.

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. Select **Save Image As**. Firefox should open the “Save Image” window.
4. Choose a location for the saved image.
5. Type a file name for the image and click the **Save** button.

## 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.

To change your homepage:

1. Navigate to the page that you would like to become your new homepage.
2. Select **Edit > Preferences** from the menubar.
3. In the “Startup” section on the **Main** tab, which is shown by default, click 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 the **Close** button

## 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, select **Bookmarks** and then **Bookmark This Page**. A window will open. Provide a descriptive name for the bookmark, and click the **Done** button.
- Press **Ctrl+D**. A window will open. Provide a descriptive name for the bookmark, and click the **Done** button.

### Navigating to a bookmarked page

To navigate to a bookmarked page, select the **Bookmarks** item from the menubar, and then click on 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, select the **Bookmarks** item from the menubar, and then right-click your bookmark's name. Firefox should open a popup menu for your bookmark. Select 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, select the **History** item from the menubar. The menu should then display several of the most recent web pages that you were viewing. Click 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 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 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

### Troubleshooting connection problems

### Using a different web browser

### 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 the **Forward** button 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 the **Forward** button 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 the **Forward** button 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, select **IMAP** in the **Server Type** field. In the **Server** field, enter the internet name of your mail server. For example, **imap.gmx.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** field set to **No encryption**. Otherwise, select either **TLS encryption** or **SSL encryption** as recommended by your email provider.

After selecting these options, click the **Forward** button 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 the **Forward** button 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, select **POP** in the **Server Type** field. In the **Server** field, enter the internet name of your mail server. For example, **pop.gmx.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@gmx.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** field set to **No encryption**. Otherwise, select either **TLS encryption** or **SSL encryption** as recommended by your email provider. After selecting these options, click **Forward** to proceed to the next screen.

After selecting these options, click the **Forward** button 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 the **Forward** button 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.gmx.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, select the type of authentication from the **Type** field — the most common authentication type is “PLAIN”. Type your username in below, in the **Username** field, for example **joe.x.user**, or **joe.x.user@gmx.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** field set to **No encryption**. Otherwise, select either **TLS encryption** or **SSL encryption** as recommended by your email provider.

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

### Finalizing account options

On the next screen, “Account Management”, enter in 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 the **Forward** button. This will bring you to the “Done” screen. If you believe that you’ve entered the correct options, click the **Apply** button to finish setup. Otherwise, click the **Back** button to go back one or more screens to correct your settings, or the **Cancel** button 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 the **Yes** button if you plan on reading and sending email only with Evolution. Click the **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.

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.



## Listing messages

## Previewing messages

## 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.

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

### Viewing HTML mail

### Finding messages

### Subscribing to IMAP folders

## Composing and replying to messages

### Composing new messages

### Replying to messages

### Using signatures

## Staying organized

### Managing your contacts

#### Adding or editing a contact

#### Searching for contacts

### Managing your schedule

#### Viewing your calendar

#### Adding a new event

#### Working with others

### Keeping a task list

### Adding a task

### Completing a task

## 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, click **Applications** 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, IQC®, 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 the **Forward** button to continue.

On the next screen, choose your account type from the drop down box 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.

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 the **Forward** button to repeat the above process. When you have entered all the accounts leave the **No, that's all for now** option selected, and click the **Apply** button 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 the **Apply** button.

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 the **Apply** button.

### 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 the **Forward** button, this gives the next set of options.

Choose the account type that you would like to create from the drop down below **What kind of chat account do you want to create?** Currently you can only 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 your 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 the **Forward** button.

This then shows the "Please enter personal details" window. This allows you to talk to people who are on your local network either at home or in an office.

Enter your **First name** in the text field, enter your **Last name** in the next field, in the **Nickname** field enter your nickname. When you have filled all of the text field click the **Apply** button.

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 the **Apply** button.

### 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 an office, then you should select the **No, I just want to see people on-line nearby for now** option.

Click the **Forward** button, this gives the next set of options. Then enter your **First name** in the text field, enter your **Last name** in the next field, in the **Nickname** field enter your nickname. When you have filled all of the text field click the **Forward** button.

### Changing account settings

If you need to add more accounts after the first launch, then click the **Edit then Accounts** . This will give you the "Accounts" window.

### Adding an account

To add and account select the **add** button, this displays some options on the right hand window. Choose your account type from the **Protocol** drop down. Next enter your account name in the first text field. Then enter your password in the **Password** text field. Finally click the **Log in** button.

**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.

### 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. This shows the current settings for the account, once you have changed the details click the **Save** button.

### Removing an account

To remove an account select the account on the left hand side of the window and click the **Remove** button. This gives to the “Do you want to remove” window, if you want to remove the account click the **remove** button, otherwise click the **Cancel** button.

### Editing contacts

#### Adding a contact

To add an account click the **Chat** menu, then click **Add contact**, this opens the “New Contact” window.

In the **Account** dropdown choose the account that you want to add the contact to. You must add you contact to an account type that matched theirs.

For example if your contact’s address ends in “@googlemail.com” then you will need to add it to an account that ends in “@googlemail.com”. Likewise if the contact’s e-mail 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 add either their login id, username, screen name or e-mail address to the **Identifier** text field.

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

#### Removing a contact

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

If you still want to remove the contact click the **Remove** button, otherwise click the **Cancel** button.

### Communicating with contacts

#### Text

Choose the contact that you want to communicate with and double click their name, this will open a new window you can type your message in the text field at the bottom of the window.

When you have typed your message press the "Enter/Return" key on the key board, this send the message to your contact. If you are talking to 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 a microphone picture next to their name. Click the microphone icon and you will get a menu, click **Audio call**, this will give the "Call" window.

This window shows your picture on the right and your contacts picture on the left. You can finish the conversation by pressing the **Hang up** button.

### Video

If your contact has video chat capabilities then there will be a web-cam picture next to their name. If you click the icon then you will get a menu click **Video call**, this will open a "Call" window.

This window shows your web-cam in the top right and your contact's web-cam will be in the middle.

If you don't have a web-cam then your picture will show instead. You can finish the call by choosing 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 click the **Contact** menu and then click **Send file**.

This will open the "Select file" window, you then need to find the file that you wish to send and click the **send** button. A "File Transfers" window will open showing the chosen file and its progress.

When the file is complete you can close the "File Transfers" window.

### Receiving a file

When a contact is sending you a file the status icon to the left of the contact's name will flash with a paper plane.

To receive the file double click the contacts name, this will open the "Select a destination" window choose where you would like to save the file. Then click the **save** button, this opens the "File Transfers" window.

The "File Transfers" window shows you the progress of current file transfers. It also allows to stop files by choosing the **Stop** button, open files by choosing the **Open** button and clear the list by choosing the **Clear** button.

## Changing your status

Your status shows your contact's 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 at the top of the window.

The same drop down lets you set a custom status by choosing "Custom Message..." next to the icon that matches your status. Then type what you would like your status to say, and click the green tick.

## Changing your picture

Your picture is what your contacts will see next to your name in their contact list. This can be changed by choosing the **Edit** menu, then choosing **Personal Information**.

This will open up the "Personal Information" window. From the **Account** drop down choose the account that you want to change, then click the picture on the right hand side of the window.

The default is the outline of a person, this opens up the "Select Your Avatar Image" window. Find where you have saved the picture and then click the **Open** button. If you would like to return it to the default click the **No Image** button instead.

## Working with multimedia

### Viewing and editing photos

To view and edit photos you can use a program called F-spot this can be found by clicking the **Applications** menu, then **Graphics**, then **F-spot Photo Manager**. When you launch F-spot for the first time you will see the "Import" window, how to use this is covered in 'Importing'.

### F-spot layout

#### Version system

So 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 clicking the **Photo** menu, then **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 the **OK** button. A new version will have been created.

You can view previous versions by clicking the photo that you wish to view then clicking 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 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 the photo that you want to change, then click 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 click the **Photo**, then click **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 the **OK** button, if you don't want to rename the version click the **Cancel** button.

If when editing photos you may make a mistake and want to remove that version as you don't need it. To delete a version click the photo that you want to change, then click 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 delete. Then click the **Photo**, then click **Delete Version**, this will open the "Really Delete?" window. If you want to delete the version click the **Delete** button, if you don't want to delete the version click the **Cancel** button.

## 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 the **Import** button.

### Where f-spot save photos

When importing pictures in the "Import" the "Copy files to the Photos folder" depends on where the photos are saved.

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

If the "Copy files to the Photos folder" option is un-ticked then F-spot will not copy the pictures into the **Photos** folder.

### From file

To import photos that are saved on you computer click **Select Folder** from the **Import Source** drop down. This gives you the "Import" window, in this window navigate to the folder that the photos are in and click the **Open** button.

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 exclude importing photos from sub-folders buy clicking the **Include subfolders** option so that the option is un-ticked.

### From digital camera

## Organizing photos

### Editing Images

A photo might want to be edited to remove; something at the edge, discoloring, red-eye's or straighten a photo. To edit a photo click the one that you want to edit and then click the **Edit Image** button. This changes the side panel on the left of the "F-Spot" window. The

panel shows eight options **Crop**, **Red-eye Reduction**, **De-saturate**, **Sepia Tone**, **Straighten**, **Soft Focus**, **Auto Color**, **Adjust Colors**. Some of these options are explained in more detail in the next section.

**Crop**

**Red-eye Reduction**

**Straighten**

**Auto Color**

**Watching videos and movies**

**Listening to audio and music**



# 4 Preferences and Hardware

## Using your devices

### 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

### Sound

### USB drives

### Burning CDs and DVDs

**Using a webcam**

**Scanning text and images**

**Other devices**

**Firewire**

**Bluetooth**

# 5 Software and Packaging

## Software Management in Ubuntu

One of Ubuntu's main objectives is to deliver you the applications that you will need in a system-standard way, so that you can have software that is secure, stable and up-to-date, installed easily and rapidly. That is why Ubuntu uses an advanced software management system.

## Differences With Other Operating Systems

In other operating systems, to install a package you would normally obtain an installer file, from a CD or a download site on the Internet, and run it to install an application.

In Ubuntu, the same principle is followed, but the process varies a bit. To obtain a package, you just need to open the **Software Center**, and install the application you want with the click of a button. There are more than 25,000 packages available that you can install. All free and open-source. Find out more about **Software Center** in the respective section.

You will now probably wonder *which* applications will you be able to install. Well, Ubuntu's software all comes from **repositories**. After a clean install you will have only the official Ubuntu repositories in your **software sources**, but later on you can add as many repositories as you want. Learn how to in the **Software Sources** section.

## Package managers make your life easier

Package managers—like the **Software Center**—are the applications that interact with the repositories. The package managers will let you search for, view information about, install and remove applications, at least. Other additional actions or information you will be able to reach depend entirely on the package manager you are using.

The principal package managers that Ubuntu provides are the **Software Center** and the **Synaptic Package Manager**. To find out more about them, read the respective sections in this chapter.

## Different Ways to Obtain Software

Even though Ubuntu uses a systematic way to obtain software, that does not mean that it is the only way to do it. You can obtain your software through the following sources:

1. **Official repositories**, which is the standard method to get 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. Now, these repositories are not as convenient as the official ones: that the owner can put into them whatever he wants; 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 Linux, then you are probably accustomed to obtain software this way.

## Software Center

The **Software Center** is Ubuntu's main package manager. The main appeals of the **Software Center** are that it is a simple, organized, and intuitive package manager. It is designed with the purpose of requiring no guide or manual to its usage; however, we will guide you through some simple operations below.

First off, to open the **Software Center** go to **Applications > Ubuntu Software Center**.

### Installing Software

Now, installing applications, is two mouse clicks away. Once you find the software you are looking for,

1. *Click on the ➡ button to the right of the selected application.* You will be taken to the application's profile page. If you want to go back, you can click on the buttons on the top, they will most likely look like this: **Get Free Software > Selected Category > Selected application**.
2. *Click the **Install** button.* If you are not running as root, you will be asked to input your password. If your authentication was granted, you will be taken to the **In Progress** section while your application is installed.
3. *Wait until the application 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 **In Progress** section in the sidebar, and parentheses enclosing the number of uncompleted operations. While the application is installed, you can read details about the current operation, watch the progress bar fill out, or click the **<stock-cancel>** icon to cancel the operation.

Now you can run your application. Depending on the use of it, it will appear on the **Applications** menu, **System > Administration** or **System > Preferences**.

**Note:** If your password does not work, you are probably not permitted to install software on the computer. If you have further problems, please go to [Chapter 9: Troubleshooting](#).

## Removing Software

If you thought installing an application was easy enough, try removing one.

To remove an application, follow this instructions:

1. *Find the application you want to remove* (either by using the search bar or by filtering through categories).
2. *Go to its page* by clicking on the ➔ button to its right, on the application list.
3. *Click the **Uninstall** button.* If you are not running as root, you will be asked to input your password. If your authentication was granted, you will be taken to the **In Progress** section while your application is installed. Your application will now be either in process of removal or waiting in line for it, in the **In Progress** section.

Now, as with when you install a new application, when you remove one the menus get updated too. This is one of the assets of having an organized software management system on your side.

## 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 [Software Center](#) 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 practically the same purpose as the Ubuntu Software Center. Continue reading and you will determine whether you should use this application or the **Software Center** application in the previous section.

The **Synaptic Package Manager** is the most complete visual package manager available in Ubuntu. Through it, you will be able to access any package in your repositories; not just user applications.

**Note:** If you are not very familiar with advanced computing in Ubuntu you may probably want to stick with the **Software Center**.

This application will come in handy when you are looking to perform actions other than just installing and removing packages. The **Synaptic Package Manager** lets you:

- **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 principle 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 application, 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*—with different kinds of packages each. Read below what area does each repository cover.

- **Canonical-supported open source software (main)** - This repository contains all the open source packages that Canonical—the company behind Ubuntu—helps maintain.
- **Community-maintained open source software (universe)** - This repository contains all the open source packages that the community—the users of Ubuntu—helps maintain, or creates and convince Canonical that their software is good enough as to be in an official repository.
- **Proprietary drivers for devices (restricted)** - This repository contains all the drivers available to devices or hardware you may use with your computer.
- **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 places. 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 connection 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. <<<<< TREE

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 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. =====

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 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. >>>>> MERGE-SOURCE



- **Location.** Unless you want to use your country's Ubuntu server just because, your server's location should only be relative to the speed of the connection with it.

To select a server by country, click on the combobox of the current server. A window with all the countries with Ubuntu servers and the respective servers registered to them, will appear. Have fun.

- **Security.** This should not concern you at all, now that Ubuntu knows well who it trusts enough as to grant a copy of the repositories. 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 'Lucid Lynx'** inside the box.

## Configuring Updates

Because Ubuntu is a *very* customizable operating system, it lets you specify which kinds of updates you will want to be getting. To customize your updates, go to the **Updates** tab, in your **Software Sources** window.

### Ubuntu Updates

This is where you specify which kinds of updates you will like to get installed in your system. If you have doubts about any of the options, read a description of each below:

- **Important security updates** - These ensure that you get all the updates that make Ubuntu such a secure operative 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 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 system's behavior 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*. Now, every 4 normal releases — or 24 months, for that matter — Ubuntu releases a *long term support* release. Long term support releases, tagged as LTS releases, receive extra effort from the developers so they can be more stable, and thus be used by companies that need extra-reliable software.

## 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 labeled “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

### 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 copying 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 long list—about 25,000 items long—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 System Maintenance

## Updating your computer

### Cleaning Unused Packages

Over time Ubuntu's underlying packaging system, apt, can build up unused caches and packages. These caches, are stored package files from all of the packages that you have ever installed. After a while, this cache can grow quite large.

To clear out these cache stores you can either use the clean, or the autoclean option for **apt-get**. The clean command will remove every single cache item, where the autoclean command only remove cached items that can no longer be downloaded. Items that can no longer be downloaded are generally useless. To run these, head to a terminal and type:

```
$ sudo apt-get clean
```

Packages can also become unused over time. If a package was installed to satisfy a dependency of a program, and then that program was removed you no longer need the package. This means that it is useless and you can remove it with the autoremove option.

Go to a terminal and type:

```
$ sudo apt-get autoremove
```

to remove the useless packages.

### Clearing The Package Cache

### Performing a File System Check

## **Part II**

# **Advanced topics**

# 7 The Command Line

## understanding the terminal

### what is a terminal?

A terminal is the Ubuntu equivalent to a command prompt in windows. A terminal is the user interface that gives the user access to what is called a shell. One of the most popular of these and the one included by default in Ubuntu is BASH (Bourne Again SHell). It can be opened through the main menu by going to:

**Applications > Accessories > Terminal**

This is what the default terminal looks like in Ubuntu 10.04 Lucid Lynx:

Of course, while the default terminal is not very pretty it can be customized to suite your needs easily.

## using the command line

### navigating directories

The pwd command is short for Print Working Directory it is used to find out which directory you are currently in.

```
$ pwd
/home/your-username/
```

The cd command is short for Change Directory it is used to (you guessed it) change from one directory to another.

```
$ cd /directory/you/want/to/go/to/
```

### getting a list of files

The ls command is used to get a list of all the directories and files in a 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 /file/you/want/moved /directory/you/want/it/moved/to/
```

The cp command is used to copy a file from one directory into another.

```
$ cp /file/you/want/copied /directory/you/want/it/copied/to/
```

## creating directories

The mkdir command is used to create new directories.

```
$ mkdir name-of-new-directory
```

## deleting files and directories

The rm command is used to delete files.

```
$ rm file-you-want-deleted
```

The rmdir command is similar to the rm command except it is used to delete directories.

```
$ rmdir /directory/you/want/deleted/
```

## changing system settings

### what is sudo?

When you first install Ubuntu two user accounts are created, the one that you created and one called the root account, which is created automatically for you. The root account has privileges to modify the core system files and settings. By using sudo, you can borrow these privileges for administrative work, such as installing or removing software, creating or removing new users and modifying system files.

You can find out more about using sudo in [Chapter 8: Security](#)

## advanced command line use

### aptitude or apt-get?

### terminal vs shell: what's the difference?

There is an important difference between a terminal and a shell, a terminal provides input and output functionality and a shell processes the user's commands, the user accesses the shell through the terminal.

# 8 Security

This chapter introduces how to keep your Ubuntu computer secure.

## Why Linux is safe

In general Linux based systems such as Ubuntu are reasonably secure with setting installed by default. This is for a number of reasons:

- Linux has a clear divide between normal users and administrative users.
- Open source software allows security flaws to be easily detected.
- Security patches for open sources software are often released quickly.
- Many viruses target Windows based system and so do not affect Linux systems.

## Security Basics

This section describes basic security concepts and procedures.

### Sudo

Linux systems include a special user, root, which has full administration privileges. Where as a normal user can only access their own files and can not make changes to the system such as installing programs.

In Ubuntu the root account has been disabled to improve security and can not be used directly. Instead the initial user account created during the install process has permission to conduct administrative tasks by using the **sudo** command.

The sudo command allows a user to be given administration privilege for a specific task. The following example runs the apt-get clean command as an 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.*

In addition to sudo the Ubuntu Desktop has a graphical version of sudo for programs that require administration permissions. For example if a during a system update the



desktop is faded out and box asking for the user passwords appears; this is to grant administration privileges permission to the user.

Users must be given permission to use the `sudo` command, this can be done by adding users to the Admin group. See section [Users and Groups](#) for details of how to do this.



*Only users that need administration access should be giving `sudo` permission. Do not give administration all users to make administration easier.*

## Basic Security Precautions

### Separate User Accounts

When Ubuntu is installed, it is set up for a single person to use. If more than one person will use the computer, it is best for each person to have their own user account. This way each user can have separate settings, documents, and other files. If necessary, files can also be protected from being viewed or changed by other users without administrative privileges. See [Users and Groups](#) for how to add additional users.

### Passwords

Strong passwords are one of the simplest ways to increase the security of your computer. Passwords should not use names, common words and phases.

By default the minimum length of a password in Ubuntu is 4 characters. This can be changed by executing the following command, where the number following `min` and `max` are the minimum and maximum length of a password.

```
$ password required pam_unix.so nullok obscure min=6 max=8 md5
```

Regularly changing passwords also help to improve security. A users passwords can be set to expire after a given time. The current settings for a user password can be view by executing the following command.

```
$ sudo chage -l username
```

The following commands can be used to change the expiry date of a password.

Set the expiry date of the current password to 31st April 2010.

```
$ sudo chage -E 04/31/2010 username
```

Set the maximum number of days for a password to 90.

```
$ sudo chage -M 90 username
```

Set today as the last day for the current password.

```
$ sudo chage -d username
```

The options of these commands above can be combined into a single command.

```
$ sudo chage -E 01/31/2008 -M 90 -d username
```

### Locking the screen

When leaving your computer unattended lock the screen, this stops anyone using your computer and requires your password to unlock the screen. To lock the screen:

- Click the User Switcher in the top right of the panel and then press 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; these updates should be applied regularly. See [Chapter 6: System Maintenance](#) for how to update your Ubuntu computer.

#### Automatic Security Updates

Security Updates can be applied automatically. To do this:

1. Open Software Sources **System > Administration > Software Sources**.
2. Select the updates tab.
3. Under automatic updates, check the **check for updates** box and select the required frequency of updates.
4. Select **Install Security updates without notification**.

#### Trusting Third Party Sources

Normally adding applications to your computer is done using the Software Centre which downloads software from the Ubuntu repositories as described in [Chapter 5: Software and Packaging](#). However sometimes it is necessary to added software from other sources. For example when an application is not available in the Ubuntu repository or a newer version is needed to the one available.

Additional repositories are available from site such as nd Launchpad PPAs which can be added as described in [Chapter 5: Software and Packaging](#). Some applications can be

downloaded as .deb packages from a the website of a project. Alternately applications may be built from the source code for the application.

Using recognised sources such as a projects website, PPA or community repositories such as [s](#) more secure than downloading applications from an arbitrary source.

Whenever using a third party source considered how trustworthy the source is and be sure you know what you are installing.

## Users and Groups

Linux systems, as with most PC Operating Systems, support multiple users accounts. This allows each user to have a separate user account. Linux systems also have user groups, every user is a member of one or more groups. Every user also has a group with the same name as the user, of which the user is a member. Files and folders can be set to be accessible by a user and a group. By default a users files are only accessible by the user and system files are only accessible by the root user.

### Managing Users

Management of users and groups can be done using the User and Group administration application, **System > Administration > Users and Groups**

To make adjustments to the user and group setting click the keys icon next the word "Click to make changes". This will produce a prompt for your password to grant sudo privileges while using the User and Groups application.

**Adding a User** Click the **Add User** button and complete the dialog which appears. Privileges granted to the new user can be changed in the **Privileges** tab, but in most cases the defaults privileges will be adequate. To create the user click the **OK** button.

**Modify a User** Double click on a user in the list of users or select a user and click the **Properties** button. Change the details as required in the dialog that appears. Click **OK** to apply the changes.

**Delete a User** Select a user from the list and click the **Delete** button. This will deactivate the users account, but not remove the home folder.

### Managing Groups

Click the **Manage Groups** button to open the group management dialog.

**Adding a group** To add a group click the **Add** button. In the dialog window that appears enter the group name and select the members of 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 and 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 of a file or folder open Nautilus and navigate to the file or folder which need the group to be changed. 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 the **Permissions** tab and select the required group from the **Groups** dropdown box, and select close.

### Using the Command Line

User and group management can also be achieved by using the command line. It is recommended you use the graphical method above unless you have good reason to use the command line. For more information see the Ubuntu Server Guide <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 used protect your computer against unauthorized access by people on the Internet or your network. Firewalls block connections to your computer from unknown sources, which helps to prevent security breaches.

Uncomplicated Firewall (UFW) is the standard firewall configuration program in Ubuntu. It is a command line program, but there is a graphical interface for it called Gufw. See [Chapter 5: Software and Packaging](#) for how to install the Gufw package.

Once installed started Gfw **System > Administration > Firewall configuration**. To enable the firewall click the **Enable** check by default all incoming connections are denied. This should be suitable for most users.

If you are running servers on your system 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 usages the the **Preconfigured** tab can be used. Select allow from the first box and then select the program or service required.

The **simple** tab 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

Ubuntu includes a number of tools to encrypt files and folders. Two common methods will be covered here. For further information on using encryption with single files and email see the Ubuntu Community Help <https://help.ubuntu.com/community>.

### Home Folder

During the install process it is possible to chose to encrypted a user home folder, see [Chapter 1: Installation](#) for how to do this.

### Private Folder

If you have not chosen to encrypt a user home folder it is possible to encrypt a single folder in a users home folder named Private. To do this:

1. Install `ecryptfs-utils`.
2. Run `ecryptfs-setup-private` to setup the private folder.
3. Enter your login password when prompted.
4. Either choose a mount pass phrase or generate one.
5. Record both pass phrases 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 setup any files or folders in Private 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#RecoveringYourDataManually>

# 9 Troubleshooting

## Resolving Problems

Sometimes, things simply do not work as they are supposed to. From time to time, we have all encountered problems setting up and using our Ubuntu systems, but these glitches are generally easily fixed. Below, we offer a troubleshooting guide to help resolve basic problems that users may encounter while using Ubuntu. If you exhaust the troubleshooting advice below, there are plenty of other options for getting assistance and support. See [Section 9.3: Getting More Help](#) to learn about community support.

## Troubleshooting Guide

The key to effective troubleshooting is to work slowly and remain calm. Often, problems we encounter can be remedied rather easily, but becoming frustrated and dealing with the issue erratically can complicate the situation. Therefore, we advise that you work through your problem slowly and methodically, documenting the changes you make to your Ubuntu system. That way, you will always be able to roll back your work and also give fellow users information about your previous attempts, in the unlikely event that you should need to turn to the community for support.

### I installed Windows and can no longer start Ubuntu

When you first turn on your computer, Ubuntu or another operating system must also be started by the bootloader. When you installed Ubuntu, you installed an advanced bootloader called **GRUB** that allowed you to choose between the various operating systems on your computer, like Ubuntu, Windows and others. However, when you installed Windows, you removed GRUB, taking away the option of which operating system to start. You can easily restore GRUB and your bootloader choice by using the CD you used to install Ubuntu.

**Definition:** A **bootloader** is initial software that loads the operating system when you turn on the computer.

Insert your Ubuntu CD into your computer and restart, making sure to have your computer start the operating system that is on the CD itself (see [Chapter 1: Installation](#)). Choose your language and select **Try Ubuntu**. Wait while the software loads, and then open a terminal. You will have to use some code to restore your bootloader. On the **Applications** menu, click **Accessories**, and then click the **Terminal** item. Enter the following:

```
$ fdisk -l
Disk /dev/hda: 120.0 GB, 120034123776 bytes
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) is installed on device `/dev/sda1`, but your computer is booting to `/dev/sda2`. First, you need to create a place to manipulate your Ubuntu installation.

```
$ sudo mkdir /media/root
```

Now, you need to link your Ubuntu installation and this new folder.

```
$ sudo mount /dev/sda1 /media/root
```

If you've done this correctly, then

```

$ 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

```

Now, reboot your Ubuntu Live CD, removing the disk from the tray and enjoy your Ubuntu system once again!

## My login screen no longer appears when I turn on my computer or

### The graphics on my screen appear corrupted

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. Enter your username, press **Enter**, and then enter your password. Characters *will not* appear on the screen as you enter your password. Do not worry—this behavior is normal and was implemented for security purposes. Then, 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

Well, it happens to the best of us. Luckily, resetting your password is trivial. As the computer boots up, press **Esc** when you see the white-on-black screen with a countdown (the GRUB prompt). Select the **Rescue mode** option, which 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 along the lines of

```
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 enter 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.

### Some text looks incorrect or corrupted

If you are seeing some text that looks odd or fails to display entirely, the designer probably intended it to be viewed using Microsoft fonts. This can be fixed by installing the missing fonts, available in the Universe repository. See [Chapter 5: Software and Packaging](#) (Configuring the Ubuntu Repositories) to enable this repository.

Open the **Synaptic Package Manager** by navigating to the **System** menu in the top-left corner of the screen. Synaptic is listed under the **Administration** submenu. Enter your password when prompted. In the search box in the top toolbar of the application, enter **microsoft-fonts**. Mark the package **microsoft-fonts-installer** for installation. Click **Apply** in the top toolbar, then wait while Ubuntu installs the fonts.



Refreshing the troublesome page or reopening the offending document should fix the problem.

### Where are my deleted files?

You believe that you have hit the delete key and erased a file from your Ubuntu system! Do not worry. Just like other major operating systems, Ubuntu has a **Trash** folder where deleted files are stored. To access it, select the **Places** menu, click on **Computer** and then click **Trash** in the right-hand sidebar of the resulting window. To remove items from the trash, simply drag and drop them wherever you would like.

### I can't play certain audio or video files, or interact with some websites

Many of the formats used to deliver rich media content are **proprietary**, meaning they are not free to use, modify and distribute, like Ubuntu is. Therefore, the default Ubuntu installation does not include the ability to use these formats. If you still find yourself in need of a closed format, you may install the necessary files with one command. Make sure you have your Universe and Restricted repositories enabled. See [Chapter 5: Software and Packaging](#) (Configuring the Ubuntu Repositories) to enable this repository.

Open the **Synaptic Package Manager** by navigating to the **System** menu in the top-left corner of the screen. Synaptic is listed under the **Administration** submenu. Enter your password when prompted. In the search box in the top toolbar of the application, enter **ubuntu-restricted-extras**. Mark the package **ubuntu-restricted-extras** for installation. Click **Apply** in the top toolbar, then wait while Ubuntu installs the appropriate software.

Once this command has finished, your rich media content item should work properly.

### Everything on my monitor is too big or too small or

#### How can I change my screen resolution?

The image on every monitor is made up of millions of little colored dots. Changing the number of dots displayed is called changing the resolution and is generally done through software. 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.

The Ubuntu program **Display** allows users to change the resolution. Open it by navigating to the **System** menu in the top-left corner of the screen and then proceeding to the **Preferences** sub-menu, then selecting **Display**. The resolution can be changed using the drop-down menu within the program. Picking options higher up on the list, those with larger numbers, will increase the resolution.

Test out various resolutions by clicking **Apply** at the bottom of the window. Confirm or undo the change in settings in the resulting dialog window. When you have finished setting the screen resolution, click **Close**.

## I would like to free up some disk space

One easy way to clear some disk space is to remove the installation files of each package on your Ubuntu system. These files are known as the cache associated with each package. Removing these leftover files is easy and will not affect the normal operation of Ubuntu.

Open a **Terminal** by navigating to the **Accessories** sub-menu under the **Applications** menu in the top-left corner. Enter the following commands, entering your password when prompted.

```
$ sudo aptitude clean
...
$ sudo aptitude autoclean
```

## Getting More Help

This guide does not cover every possible workflow, task or issue in Ubuntu, nor was it ever meant to. If you require assistance beyond the information in the manual, there are 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>

# 10 Learning more about Linux

## What else can I do with Linux?

By now, you'll be able to use your Ubuntu desktop to do all your normal day to day activities like browsing the web and editing documents. But you may be interested to find out what else you can do with a Linux-based computer. Linux computers are powerful tools that can be put to a wide range of uses, only a small subset of which you'll ever need.

## Free and Open Source software (FLOSS)

It's well worth knowing a little bit about the philosophy that gives Linux its power. When you hear the word "Free" used in the context of software, it's often referring to "free as in speech". However, the dual meaning of the word "free" led to some people suggesting the phrase "open source" to describe the methodology behind Linux. You may also encounter the abbreviation "FLOSS", which stands for "Free, Libre, and Open Source Software". These terms all mean the same thing: anyone who wants to can download the source code for a program. This may not seem like a big deal, but it allows computer programmers all over the world to contribute to Free software projects, often leading to a better program. All of the programs that come with Ubuntu by default are Free software.

**Definition:** The **source code** of a program is the files that have been written to make the program.

## Other distributions

Ubuntu is only one version of Linux; there are lots more around. While they may look pretty different at first glance, they are all pretty similar under the covers.

There are two broad families: Debian based and Red Hat based. Ubuntu is based on Debian, as are Linux Mint, Xandros and Crunchbang Linux. Red Hat based distributions include Fedora, OpenSUSE, and Mandriva. The big difference between Debian-based and Red Hat-based distros is the package management system. Debian packages are .deb files, which Red Hat packages are .rpms.

**Distribution:** A distribution, or **distro**, is a set of Linux programs bundled together to make it easier to install and use.

There are also distros specialised for certain tasks. Examples of this include Mythbuntu, which is designed to be used on home media centres, and Ubuntu Studio, intended for multimedia production.

## Choosing a version

There are a number of different versions that you can choose, which one is right for you is up to you to decide:

- Ubuntu Desktop

- Kubuntu
- Ubuntu Server Edition
- Ubuntu Netbook Edition
- Kubuntu Netbook Edition
- Xubuntu

Ubuntu uses the Gnome (GNU Object Model Environment) desktop environment, while Kubuntu uses KDE and Xubuntu uses XFCE respectively. Gnome is the most common, and easiest to use — KDE provides more features, customization and settings, while XFCE is a lightweight desktop environment designed to run on older computers. This manual will focus on Ubuntu and Gnome.

The server edition doesn't come with a desktop environment, it is completely command line based.

The netbook editions are optimized for smaller screens.

### 32 bit or 64 bit?

Ubuntu is available in two flavors: 32-bit and 64-bit. This difference refers to the way computers process information, with 64-bit processing using a little bit of additional memory while gaining a little bit of additional performance.

Why should you choose one versus another? With Ubuntu, you will not see much difference for most common uses. The few times when you may want to be aware of the flavor that you choose are:

- If your computer is fairly old (made before 2007), you may want to install the 32-bit flavor
- If your computer has more than 4GB of memory (RAM), you may want to install the 64-bit flavor

In general, we recommend that you install the 64-bit flavor of Ubuntu.

### Servers

Almost all of your day-to-day work can be carried out on a normal Linux distribution. However, there are some tasks which need something more specialised. These include running a website or a mail system. For these, you are much better off using a specialised server distro and hardware. These computers are on all the time and use quite a lot of power. It is possible to run these things on a normal desktop computer, but this is recommended only for testing things out.

This is not the best place to explain in detail about how to run a secure webserver; for that, you'd be best off using the Ubuntu Server guide, found at <http://doc.ubuntu.com/ubuntu/serverguide/C/>.

## Finding out more

This manual is not intended as a complete introduction to everything you could want to do with your Ubuntu computer. For that, you should try looking at the official Ubuntu documentation available either through the blue help and support icon, or on <http://help.ubuntu.com>.

## Extra Applications

Ubuntu comes with many applications by default, but there are plenty more excellent applications available in the Software Center that do numerous tasks often better than the ones included by default. What follows is a short list of useful applications that we think you should try out.

### Cheese Webcam

If you've got a webcam on your laptop or attached to your computer, and you'd like to take cheesy photos of yourself and your friends, then Cheese is the application for you. It supports a lot of hardware and has features such as:

- Numerous effects
- Video recording
- Self timer
- Different resolutions
- Burst mode

You can find it in the Software Center by searching for "Cheese".

<http://projects.gnome.org/cheese/>

### The GIMP Image Editor

The GIMP Image Editor is the premiere image manipulation and enhancement program for Ubuntu. Akin to Adobe Photoshop for Windows and Mac, the GIMP lets you do everything you've been able to do in Photoshop, on Ubuntu — without the hefty pricetag.

Features:

- Customizable interface allows you to set up the GIMP the way you want
- Powerful photo enhancement
- Digital retouching
- Excellent hardware support for things like drawing tablets

- Great file format support
- And it's available for Windows and Mac as well!

Grab it from the Software Center by searching for "GIMP".

<http://www.gimp.org/>

### **GNOME Do**

Gnome Do allows you to get things done. You can quickly search for many items present on your desktop or the web, and perform useful actions on those items.

Features:

- Awesome plugins let you send emails, play music, search the internet and much more
- Swift and sleek interface integrates perfectly with your new desktop
- Support for different themes to truly customize your experience
- Also includes an optional Dock

Once again, available in the Software Center under "Gnome Do".

<http://do.davebsd.com/>

### **Google Chrome**

### **Jokosher Audio Editor**

### **Pitivi Video Editor**

### **Sun VirtualBox**

### **VLC Media Player**

VLC Media Player is an awesome open source media player that can handle almost anything you throw at it. You may be familiar with VLC already if you have used it on Windows, as it isn't solely developed for Linux systems. It can play almost all types of video codecs, as well as a tonne of audio codecs, and has support for lots of extra features such as DVD playback, recording, streaming music and lots more.

Install it from the Software Center by searching for "VLC".

<http://www.videolan.org/>

## Wine

Wine is an essential tool for Ubuntu users who wish to run Windows applications on their machines without the need of running a virtual machine such as VirtualBox. Although not every program will work under Wine, a lot of Windows software will work just as if they were running under an installation of Windows XP such as Microsoft Office, World of Warcraft and Counter Strike.

Install the version from the Software Center by searching for “Wine”, or get the latest version from their website:

<http://www.winehq.org/>

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## Firefox Guide

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# Index

## applications

- Assistive Technologies, 15
- Brasero Disk Burner, 10
- Empathy, 37
- Evolution, 32
- Mozilla Firefox, 24
- Nautilus, 12, 13
- NetworkManager, 17
- Orca, 15
- Pitivi Video Editor, 10
- Rhythmbox Music Player, 10
- Search for Files, 11
- Software Center, 47–50
- Software Sources, 49, 50, 52–54
- Sound Recorder, 10
- Synaptic Package Manager, 11, 47, 49, 50, 52
- Terminal, 15
- Totem Movie Player, 10
- Ubuntu Software Center, 10

apt-get, 55

Assistive Technologies, 15

Brasero Disk Burner, 10

## command line

- apt-get, 55
- ecryptfs-setup-private, 64
- sudo, 59

ecryptfs-setup-private, 64

Empathy, 37

Evolution, 32

Mozilla Firefox, 24

Nautilus, 12, 13

NetworkManager, 17

Orca, 15

Pitivi Video Editor, 10

Rhythmbox Music Player, 10

Search for Files, 11

Software Center, 47–50

Software Sources, 49, 50, 52–54

Sound Recorder, 10

sudo, 59

Synaptic Package Manager, 11, 47, 49, 50, 52

Terminal, 15

Totem Movie Player, 10

Ubuntu Software Center, 10