



ubuntu
linux for human beings

Ubuntu 10.04



The **Ubuntu Manual**

A beginner's guide

Created by the
Ubuntu Manual Team

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Introduction Ubuntu

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, 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.

More information on the online docs and the system docs can be found in [Chapter ??: ??](#).

Getting help

The Ubuntu Manual Team Launchpad Team page <https://launchpad.net/~ubuntu-manual>

Mailing List ubuntu-manual@lists.launchpad.net Project Wiki Page <https://wiki.ubuntu.com/ubuntu-manual>

Ubuntu

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.

Ubuntu

- Ubuntu is a community of people who work together to create a better operating system for everyone.
- Ubuntu is supported by Canonical, a company that provides professional support and infrastructure for the Ubuntu project.
- Ubuntu is a free and open source operating system, meaning that anyone can use, modify, and distribute it.
- Ubuntu is a community-driven project, meaning that the decisions are made by the people who use and contribute to the system.

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

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>

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.

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.

Ubuntu

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.

Ubuntu and Linux

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

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 ??](#) to learn more about GNOME and other desktop environments.

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 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.

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

Part I



1 Introduction

What is 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.

Ubuntu Server and Ubuntu Desktop are the two most common versions. Ubuntu Server is designed for use as a server, while Ubuntu Desktop is designed for use as a desktop operating system. Both versions are available in many different flavors, such as Ubuntu 10.04 LTS and Ubuntu 11.04 LTS.

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

How to get Ubuntu

There are several ways to get Ubuntu. The easiest way is to download the CD image from <http://www.ubuntu.com> or to use a torrent.

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

Ubuntu 10.04 LTS

Ordering a 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 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.

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

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 Live CD is a portable version of the operating system that can be run from a CD-ROM. It does not require installation on a hard drive and can be used to test Ubuntu before installing it. The Live CD is a good way to try Ubuntu on a computer that you don't want to install Ubuntu on. It also allows you to test Ubuntu on a computer that you don't have access to. The Live CD is a good way to test Ubuntu on a computer that you don't want to install Ubuntu on. It also allows you to test Ubuntu on a computer that you don't have access to.

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.

When you boot from the Live CD, Ubuntu will run in memory. You can use the BIOS to boot from the CD. The Live CD is a good way to test Ubuntu on a computer that you don't want to install Ubuntu on. It also allows you to test Ubuntu on a computer that you don't have access to.

When you boot from the Live CD, you will see the following screen:

The screen will show the Ubuntu logo and the text "Ubuntu Live CD". Press the `enter` key to boot from the Live CD.

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.

When you install Wubi, you will see the following screen:

- Select the size of the Ubuntu partition. The default is 10GB.
- Select the location of the Ubuntu partition. The default is the root of the hard drive.

Installing Ubuntu

When you install Ubuntu, you will see the following screen. The screen will show the Ubuntu logo and the text "Ubuntu Installer". Press the `enter` key to start the installation. The screen will show the progress of the installation. The screen will show the progress of the installation. The screen will show the progress of the installation. The screen will show the progress 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 窗口及任务栏

GNOME

GNOME 是 Ubuntu 的默认桌面环境。GNOME 的任务栏位于屏幕的顶部和底部。

任务栏

任务栏是位于屏幕顶部和底部的条。它们是可配置的，并可以包含菜单、通知区域、窗口列表，或大量的其他小部件。要添加、移除或移动一个小部件，请在任务栏上右键单击。某些区域（例如通知区域中的图标）可能有自己的右键单击菜单。

作为一个简单的例子，我们可以浏览添加启动器到任务栏。假设您经常使用来自 OpenOffice.org 的单词处理器，并希望能够在不经由菜单的情况下启动它。简单的方法是直接将菜单项拖放到任务栏的空空间中。 Alternatively, 您可以右键单击您希望启动器出现的位置，选择“添加到任务栏...”，然后“应用程序启动器...”并简单地找到正确的应用程序，在这种情况下是 OpenOffice.org 的 Word 处理器。

注意，选择“添加到任务栏...”窗口不会在您选择项目后立即关闭。这在 GNOME 的配置窗口中是一种常见的行为。它们立即应用设置，而不需要单击“应用”按钮，并且只在您告诉它们时才消失。

更改桌面外观

要更改您的桌面外观，请转到“系统”菜单，选择“首选项”然后“外观”项。

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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 **Network-Manager** 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.

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.

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.

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.

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 eth0” in the list and click it to attempt a connection. If “Auth eth0” is shown directly under “Wired Network” then your computer is set up correctly for DHCP.

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.

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 networks.

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

Understanding the folder list

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 contacts in real time. In Ubuntu you can use the **Empathy** application. To start Empathy, open the **Applications** menu, then choose **Internet** and then **Empathy IM Client**. Empathy currently supports the following account types AIM™, Gadugadu, Google Talk, Groupwise, IQC®, Jabber®, MSN®, Myspace®, qq®, XMPP™, Same-time®, Silc, SIP, Yahoo®, and Zephyr.

Running Empathy for the first time

When you open Empathy for the first time you will need to configure it with an account. When Empathy starts you will see the “Welcome to Empathy” window, this window gives you three options to choose from.

You have an account

If you have an account that you have used previously with another instant messaging program the select the **Yes, I'll enter my account details now** check-box. Choose the **Forward** button, this gives the next set of options. Choose your account type from the drop down box below **What kind of chat account do you have?** Next enter your account details in the text field, and in the proceeding text field enter your password. If you have another account to add then select the **Yes** check-box, and repeat the above process. When you have entered all the accounts leave the **No, that's all for now** check-box selected, and choose the **Apply** 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 choose 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** check-box and choose 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** check-box. Choose 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** check-box, and repeat the above process. When you have entered all the accounts leave the **No, that's all for now** check-box selected, and choose 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 choose 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** check-box and choose the **Apply** 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.

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** check-box. Choose 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 choose the **Forward** button.

Changing account settings

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

Adding an account

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

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 choose the **Save** button.

Removing an account

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

Adding a contact

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

4



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. **System-Info** 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), 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 reso-

lution *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 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 [??](#).
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.

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 ??: ??](#).

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**.

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 **??** section.

Note: You can open **Software Sources** from the **Software Center**. Simply go to **Edit Software Sources**.

□□□□□□□□□□□□□□□□ **Synaptic**

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.

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:

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

- **Install** any package in your repositories. You can even select which version of a package to install, but note that this option is not available for all the packages.
- **Reinstall** in case the package's contents have been damaged, or you just want to get the default version back.
- **Update** every time a new version of the package is released.
- **Remove** any package you no longer need.
- **Purge** when you wish to remove completely a package, including saved preferences and stored configuration files.
- **Fix** broken packages.
- **Check properties** of any package, such as version, contained files, package size, dependencies, and much more.
- **Read and save** markings in your computer.

Usage

Using this package manager is very simple once you understand the 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.



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, lets 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.

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.

- **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.

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.

Part II



7 □□□□□□□□□□□□□□

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what is a terminal?

A terminal is the Ubuntu equivalent to a command prompt in windows. It is used to enter commands which then perform an action. 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:

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.

sudo in the terminal

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.

Alternatively you can also use sudo with other commands, although it will still ask you for your password:

This is why you are normally not logged in as the root user when you open a new terminal.

updating ubuntu with the terminal

useful commands

8 □□□□□□□□□□□□□□□□

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 default settings. This is for a number of reasons:

- Linux has a clear divide between normal users and administration 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 users, root, which as 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 and can not be used directly to improve security. 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 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 execute 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 during a system update the desktop is faded out and a 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 ?? for details of how to do this.



Only users that need administration access should be given `sudo` permission. Do not add all users to the `sudoer` list 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 they can have separate settings, documents, and other files. If necessary, files can also be protected from being viewed or changed by non-administrators. See ?? 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 and common words and phrases.

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 password 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 ??: ??](#).

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 ??: ??](#). 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 repository are available from site such as [nd Launchpad PPAs](#) which can be added as described in [Chapter ??: ??](#). 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 a arbitrary source.

Whenever using a third party source considered how trustworthy the sources 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 ans 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 user 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 promote 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 directory.

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 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

Encryption

Files and Folders

Individual Files

Email

9 Troubleshooting

Introduction

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.

Effective Troubleshooting

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 ??: ??](#)). 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 ??: ?? \(Configuring the Ubuntu Repositories\)](#) to enable this repository.

```
$ sudo apt-get install msttcorefonts
```

Now, let Ubuntu know about the new fonts by entering

```
$ sudo fc-cache -fv
```

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, then open a terminal and enter

```
$ sudo apt-get install ubuntu-restricted-extras
```

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

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 □□□□□□□□□□□□□□□□□□□□□□□□ 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 the 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 offers 32-bit and 64-bit architectures. The 64-bit architecture is recommended for systems with 4GB or more of RAM.

Which architecture should I choose? Ubuntu recommends 64-bit for systems with 4GB or more of RAM.

- For systems with less than 4GB of RAM, the 32-bit architecture is recommended.
- For systems with 4GB or more of RAM, the 64-bit architecture is recommended.

For more information, see the Ubuntu website.

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

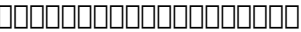
This manual is not intended as a complete introduction to everything you could want to do with your Ubuntu computer. For that, you should try looking at the official Ubuntu documentation available either through the blue help and support icon, or on <http://help.ubuntu.com>.

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
- 
- 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

GIMP is a free and open-source image editor. It is available on Ubuntu, Windows, Mac, and Linux. GIMP is a powerful image editor that can be used to create and edit digital art. It is a great alternative to Adobe Photoshop.

Features:

- Powerful photo enhancement
- Digital retouching
- Excellent hardware support for things like drawing tablets
- Available on Windows, Mac, and Linux

Grab it from the Software Center by searching for “GIMP”.

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

GNOME Do

Gnome Do is a free and open-source desktop search utility. It is available on Ubuntu, Windows, Mac, and Linux. Gnome Do is a great way to find files and applications on your desktop.

Features:

- 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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