Ubuntu 12.04 LTS *Manual*

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Preface

Welcome to *Ubuntu 12.04 LTS Manual*. This manual is intended to provide a complete comprehensive guide about *Ubuntu 12.04 LTS* on your system. It covers everything starting from Installing Ubuntu to Customizing Ubuntu. This manual is intended for both users new to Ubuntu and power users. It is a work in progress which can be improved better with the help of the community. Hence there is an open call for editions. You can branch the code and make changes to it.

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Conventions used in this book

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Preparing Ubuntu

Chapter 1

About Ubuntu

This chapter is intended to provide a small background about Ubuntu. Section 1.1 explains why a user should use Ubuntu since this will define the purpose and reason for a user. Section 1.2 digs a little deeper to describe the people behind Ubuntu. While section 1.3 explains in great detail how the Ubuntu release system works and the difference between different types of Ubuntu releases. This chapter end with a section dedicated to learning to contributing back to Ubuntu.

1.1   Why Ubuntu?

This is certainly a valid and important question before proceeding the rest of this manual. Why Ubuntu? Current Ubuntu users would cite various reasons for this from the freedom of choice to it being free. But let's go through the main reasons why you should definitely give Ubuntu a serious try.

Free Ubuntu is and will always be free in the future. Ubuntu is developed by people all over the world embracing the principle of Free libre open-source software (FLOSS). This enables new software and updates to be available free of cost since they are written by volunteers and also the employees of Canonical, the parent company of Ubuntu. The code goes through an extensive review before they are uploaded to maintain the quality of the code.

No Viruses While using Ubuntu, you do not need to worry about installing any anti-virus programs since Ubuntu is completely free of viruses. Any security risks are fixed immediately due to an active community of Ubuntu users.

Community Support Need help using your system, the community is available everywhere around you to support you at all times. All this are done voluntarily by people passionate about Ubuntu. This Ubuntu manual you are reading is a proof of this statement.

Up to date software Ubuntu will always be up to date with updates released regularly to ensure that your system is secure and bug free. These regular updates will be always be available for free. You will be notified automatically when updates are available.

Beautiful, Polished, Stable These are the goals of every Ubuntu release. Your Ubuntu is designed with the help of the community and experts after extensive discussion. Ubuntu is regularly user tested to ensure that it is easy and simple to use while preserving its elegance and polish.

1.2   Who is behind Ubuntu?

Ubuntu was founded by Mark Shuttleworth, a South African entrepreneur coming up with their first release Ubuntu 4.10 codenamed Warty Warthog in October 2004. Ubuntu is backed by its parent company Canonical, also created by Mark Shuttleworth. Contributions to Ubuntu is shared by Canonical, other companies and the thousands of volunteers who bring their expertise to develop Ubuntu. Community members start small but gradually get more responsibility by earning the respect of the community. In short, Ubuntu is a community driven open source project. Ubuntu is built on the Debian base which in itself is strongly backed by the community

1.3   Ubuntu Releases

Before proceeding to explain about how Ubuntu is released, it would be good to understand the meaning of the word *cadence.*Cadence on its own means balanced and rhythmic flow. What does cadence mean in the world of Ubuntu? Quoting Ubuntu's founder Mark Shuttleworth, "Cadence is about releasing on a predictable rhythm." The Ubuntu team maintain a precise time rhythm in releasing a new version of Ubuntu. They release a new version of Ubuntu every six months. Let's now continue with the different types of Ubuntu releases.

As usual there is a new Ubuntu release every six months. However, not everyone would like to upgrade their system every six months. With this in mind, Ubuntu has two types of releases or should we say two versions of a release. There is a so called Long-Term-Support release (LTS) and normal releases. Cadence remains but types do change. Every two years there is a LTS release and in between these two years there are normal releases as usual. So the order of the release would be in the order shown in the figure 1.1.
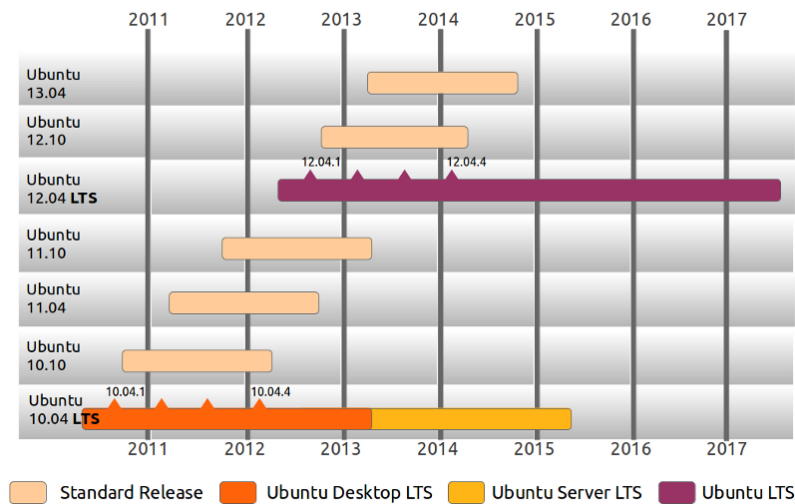

Figure 1.1: Ubuntu Release Cycle

Before explaining about the two types of a release, let us make a little digression and compare this with Windows updates since they can be compared with easily. When you have a fresh install of Windows on your computer you would have probably noticed that system constantly updates to be get security patches and provide bug fixes. These are basically support provided by Microsoft. How long will one version of Windows receive updates depends on how long Microsoft decides to support its development and upgrade. This is similar with Ubuntu and the two mentioned types of a release. Only here Canonical decides how long an Ubuntu release is supported.

Long-Term-Support (LTS) releases of Ubuntu are claimed to be stable versions since they are support by Canonical for five years. So, you can practically use them on your computer for five years of no worry. After that time, you will no longer receive security updates and is recommended to a new release of Ubuntu.

On the other hand, Normal releases are supported for eighteen months. This type of release is targeted at users who like to constantly update to get the latest features. While LTS releases are targeted at corporations and users who would like to stick to one release for as long as they can while still being supported.

To summarize everything mentioned above, you can see the Ubuntu release chart in figure 1.2 from the very first start of the Ubuntu project.

Let's explain figure 1.2 briefly. The Ubuntu project started in the year 2004. You can see that by looking at the numbers after Ubuntu (e.g. 4.10, 5.04). These numbers mark the year and month in which that version was released. Therefore, Ubuntu 4.10 was released in the year 2004 in October, Ubuntu 5.04 is released in the year 2005 in April and so on.
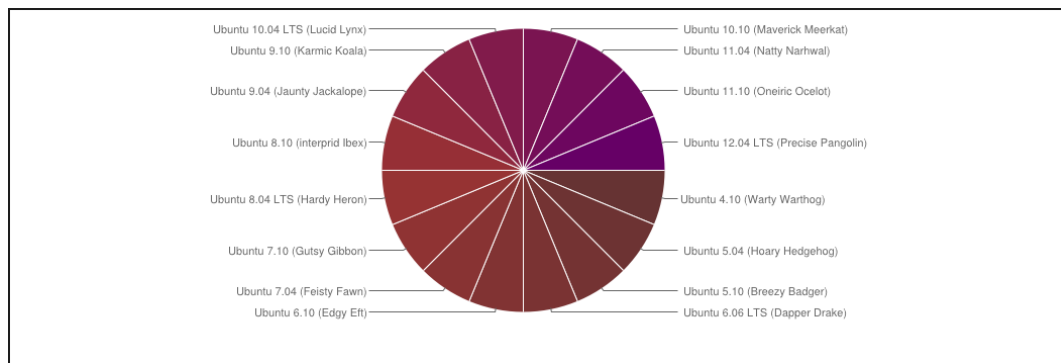
Figure 1.2: Ubuntu Releases

You would have also probably noticed that every release has an animal with an agnomen label (hint- Warthy Wartog). These are just code names of a certain release. It's something that Mark Shuttleworth came up with. The name stronly co-relates to the goals of that release. In this case, Ubuntu 12.04 is called Precise Pangolin because the focus of this release to polish the existing features to precision. For further reading, you are directed to see this youtube video here, where you can actually see what Mark Shuttleworth said about Ubuntu 10.04 Lucid Lynx (Ubucon2009).

1.4   Contributing to Ubuntu

If you are new to the open source world, this might be a bit surprising for you. You can actually contribute to the Ubuntu project. Ubuntu development is not done behind closed doors like other operating systems for instance Windows, Unix and Mac OSX. Of course, there are main contributors like the Canonical employees, but as part of the Ubuntu community you can also contribute in certain ways.

Certain ways to contribute to Ubuntu are,

Spread the word about Ubuntu The easiest and simplest way to contribute to Ubuntu is to let everyone know about Ubuntu. Currently, one of the major stoppers towards widespread use of Ubuntu is the lack of awareness of Ubuntu. You can play an important role in solving this problem by organising Ubuntu release parties or by just word of mouth.

Submit bug reports While using Ubuntu if you encounter any bug, submit a bug report so that the Ubuntu developers are aware of the issue. All bugs are reported and tracked in Launchpad. It is a bug tracker that aids the software team to collaborate on bug reports and provide fixes. You can submit bug reports via the terminal (you'll find out about terminal more later by reading this manual). Here we will just provide you with a link for further readings on how to send it via the terminal (TerminalBugReport)

Involve yourself in Ubuntu development After you get more comfortable with Ubuntu, you might have a wish to aid in developing it someday. Ubuntu has many projects like desktop, server, kernel etc. Contributing to Ubuntu development can take place in various levels. You can help by being a translator, programmer or by contributing as graphic designer. The options are endless. You can read more about contributing here. *Insert Link*

In the open source world you always start as a volunteer. Starting small, you can gradually climb the ladder from being a volunteer to perhaps an Ubuntu Member or a Canonical employee. Linus Torvalds started working on his pet project. This project turned big to be called the Linux kernel which can now be found everywhere from mobiles, computers to small chips. As one of the main Linux kernel maintainers, namely Greg Kroah-Hartman, said: "Once I was doing this for a hobby. Now I don't have a hobby."

Its entirely up to you. It is Free libre open-source software (FLOSS). You can decide if you want to contribute to the open source world and continue the FLOSS philosophy. That means that you can help it grow and develop. You can even fork Ubuntu, change it to your liking and share it with others. With open source you are not tied with licences, patents or any other kind of constrictions.

Chapter 2

Obtaining Ubuntu

In this chapter, let's look into how to obtain Ubuntu. First, the different steps to obtain Ubuntu are described in section 2.1, after which some preparatory steps to transfer Ubuntu to a removable medium like a CD or a USB are discussed.

2.1 Downloading Ubuntu

As described in section *about Ubuntu*, Ubuntu is a open source operating system. This means that anyone can distribute Ubuntu. However, for safety reasons it is always advisable to obtain Ubuntu through official channels. There are 3 different ways in which this can be achieved. It is possible to download Ubuntu from the official website through a direct link, a torrent file and by buying a CD.

2.1.1 Direct Link

You can download Ubuntu directly from their official website *here*. You press on the big orange button to start the download as can be seen in figure 2.1. By default, the Ubuntu website shows the latest release which in this case is Ubuntu 12.04. 64-bit is officially recommended. If you are not sure of what 32-bit or 64-bit means, it is best recommended to not change any option and just press Start Download.

Once pressed, it will download the latest Ubuntu version and save it as a *ISO* file. The *ISO* file is basically an archive file which you can burn to a CD using your favourite CD burning program.
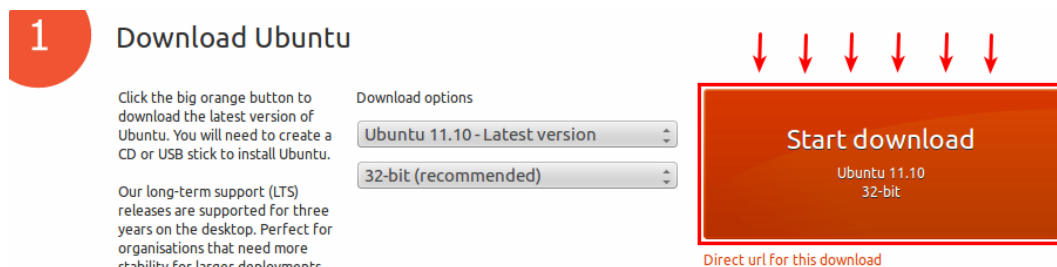

Figure 2.1: Direct link download

2.1.2 BitTorrent

BitTorrent is a peer-to-peer download network that sometimes enables higher download speeds and more reliable downloads of large files. You will need to install a BitTorrent client on your computer in order to download Ubuntu through this method. You can find all the bittorrent links *here*.

2.1.3 Buy CDs

If you have a slow internet connection you can always choose to buy the Ubuntu CD and have it shipped to you. However, note that the official CD are only available after a few weeks after a new Ubuntu release. You can buy the CD *here*. Remember that Ubuntu is completely free. The price covers the production cost of the CDs, excludes applicable VAT, postage and packaging only.

2.2   Burning Ubuntu to CD

When you download Ubuntu using a direct link or using a torrent as described in section 2.1.1 and 2.1.2, you finally are presented with a ISO file. Unlike a regular data file, the ISO file cannot be simply dragged and dropped or copied directly onto a disc. It needs to be burned in a specific way that expands/extracts the image so you have usable files on your disc. You can find detailed instructions on how to burn this ISO file into a CD *here*. The link provides instruction for Windows and Mac users as well.

2.3   Create a bootable USB disk

In previous chapter you have learned how to make a bootable CD. Story in this chapter is pretty much the same (actually it's purpose is the same). The main difference is media namely USB stick and BIOS adjustment (removable media has to be on the first place not CD or DVD). If you have a new computer then you might see something like USB CD or DVD together. In older computers, label in BIOS is just removable media. Important to mention, computers that are built before 2001 probably won't have USB listed on a boot device priority.

Platform that is going to be used here to make a bootable USB is prior LTS version Ubuntu 10.04 Lucid Lynx. Before you go further be sure that you have USB that holds 2 or more GB of capacity.

Steps to make a bootable USB stick are:

1. Step: connect your USB to your computer and download latest Ubuntu iso image

2. Step: run Startup disk creator application like shown in the illustration 3.3.2.
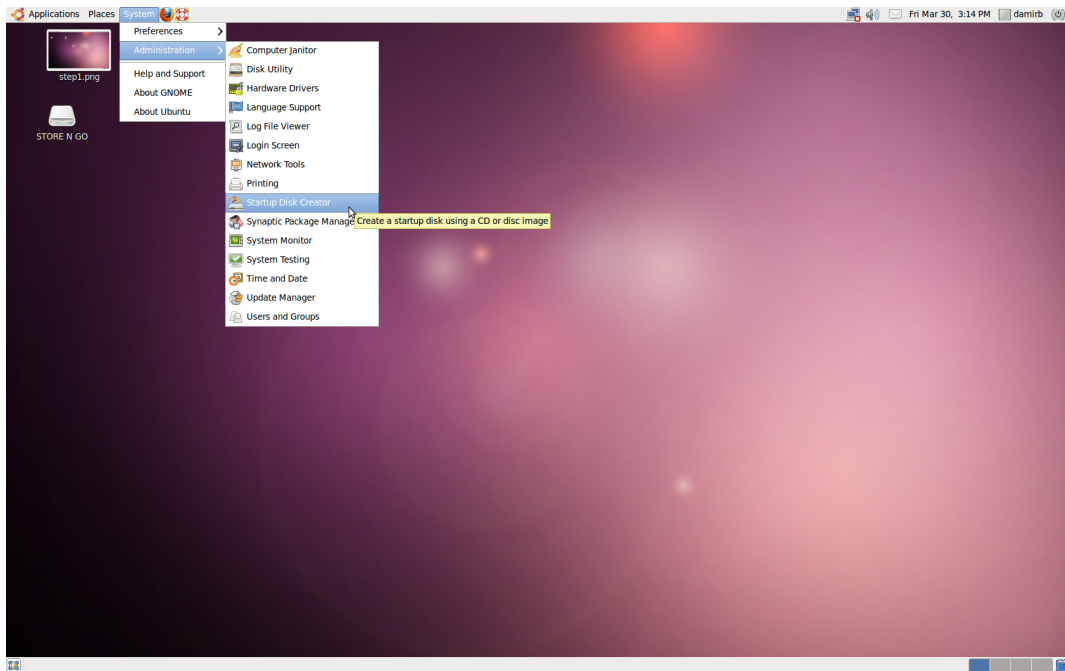

Figure 2.2: Direct link download

3. Step: after you have started application mentioned in a previous step, you should see something like illustration 3.3.3. You will notice that application recognized your media (USB)
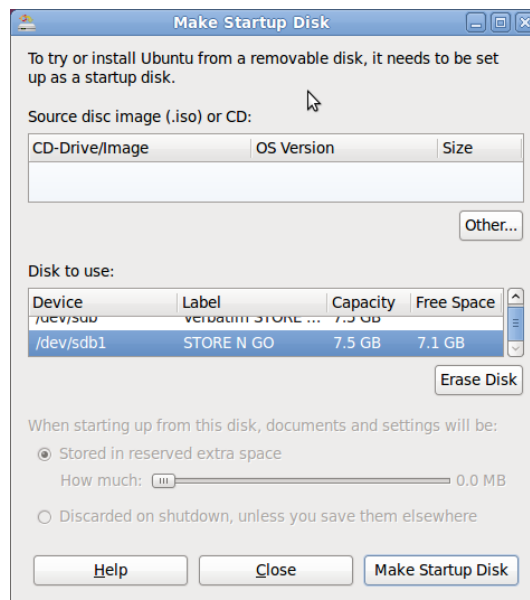

Figure 2.3: Direct link download

4. Step: choose your iso image (depends where you downloaded it or put it). In this example iso is on the desktop. You have to click on the button Other like shown in previous illustration so you could choose iso.
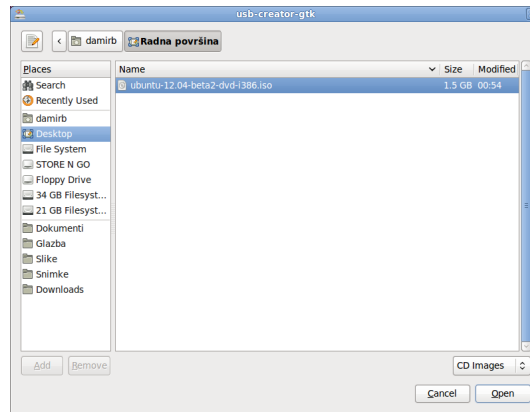
Figure 2.4: Direct link download

5. Step: After you have chosen iso and media, all you have to do is to click on a button Make startup disk. Don't worry if you are prompted with authentication dialog-box. Just type in your administrator password. Be sure that you do it fastly otherwise you'll have to repeat all steps again.
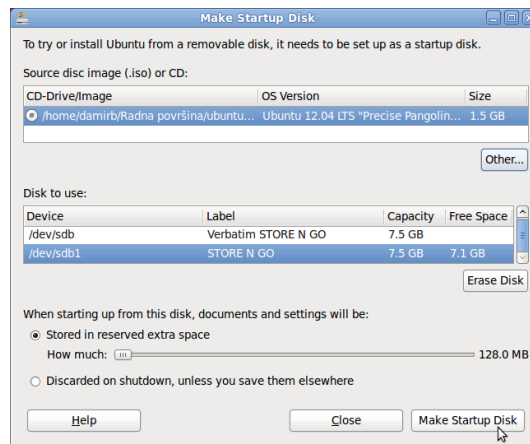

Figure 2.5: Direct link download

Now you will just have to wait untill tool converts your USB into a bootable USB. After that you can just restart your computer and you are ready to try Ubuntu Live. You can even install it if you know further steps. (Installation steps will be shown in the next chapter). Later on, if you decide that you do not want to have a bootable USB anymore, just format your USB.

Chapter 3

Installation

You should have by now obtained the latest version of Ubuntu as described in chapter 2.1. Its now time to try out Ubuntu on your system. If you have not installed an operating system before, do not worry since installing Ubuntu is extremely easy. The sections in this chapter are divided according to different case scenarios. This represents the first step in your journey into the world of Ubuntu. Let's try to make it as smooth as possible. Make sure to read this chapter carefully without skipping ahead.

3.1   Prerequisite Steps

Before proceeding to installing Ubuntu or any other operating system for that matter, it is necessary to know how to access your computer's BIOS. The BIOS decides which device to boot first. By default, it is set to boot from your hard disk since your current operating system is installed on your hard disk. However, since you are trying out a new operating system, you need to make the boot loader to boot from the CD first.

In order to access the BIOS setup, it is required to press a specific keyboard key. The keyboard key required to access your BIOS depends on your computer. You can check *Appendix A* for the different keyboard keys you need to press on your system. If your computer isn't listed, then you need to search for it online. Once you are in the BIOS setup, choose the CD option and press enter.

Before you begin to install Ubuntu, it is always recommended to back up all your personal data onto a separate external storage device as a backup.

3.2   Trying out Ubuntu Live

At this point, you may or may not have made your mind about installing Ubuntu permanently to your system. You do not have to install Ubuntu in order to try it out on your system. You can try out Ubuntu using the Live CD option which lets you run Ubuntu on your system without actually installing anything. This is helpful in trying out if Ubuntu works smoothly on your system and to experience Ubuntu before installing it.

Follow the steps below to try out Ubuntu using the Live CD option,

1. Insert the Ubuntu installation CD into your CD-ROM.

2. Power on your computer. You need to access the BIOS setup to make the computer to boot from your CD rather than the hard disk.

3. On booting your computer you are presented with the screen as shown in figure 3.4 . If you do not see this, then your computer is still booting from the hard disk rather than the CD.
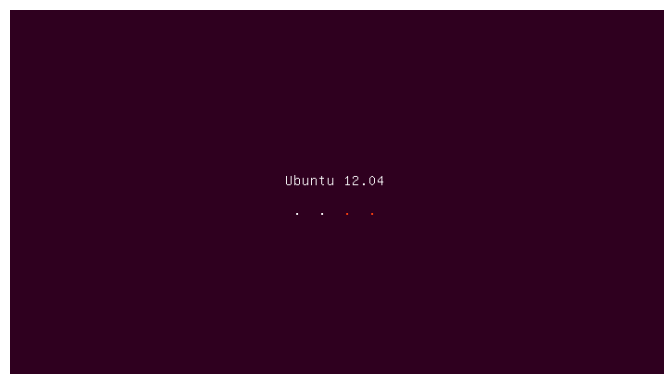

Figure 3.1: Ubuntu start up screen

4. Wait for Ubuntu to start up. Once the loading is complete, you are presented with the dialogue box as shown in figure 3.5 where you can choose to Try Ubuntu first without installing anything.
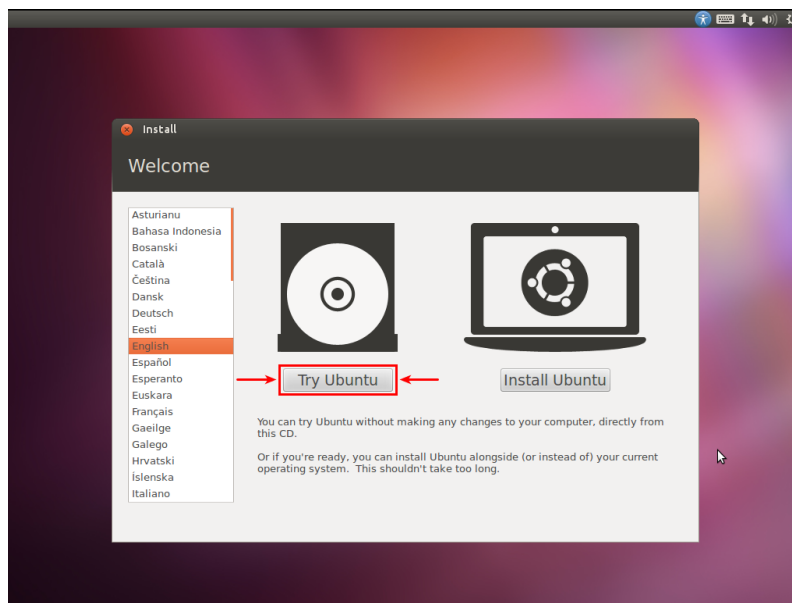

Figure 3.2: Try Ubuntu options

On choosing the "Try Ubuntu" option, you are presented with the Ubuntu desktop as shown in figure. You can use Ubuntu to test out its features to your liking. You can browser the web, check your email and launch applications. If you like what you are using, you can choose to install it permanently by clicking on the Install Ubuntu 12.04 icon present on the desktop. It has been highlighted in figure 3.3. The various installing steps are described in details in the following sections.

Figure 3.3: Ubuntu Desktop

3.3   Ubuntu as the only OS on the disk

In the previous sections you read about how to run Ubuntu's live CD and what to do before you can actually install Ubuntu (e.g. backup your data, BIOS adjustment). Are you ready for the next step? If not, don't worry you can read the entire manual first, and when you are comfortable with everything you will be ready not just for the Ubuntu installation process but the usage too. If you are ready please be sure that you have done everything connected with steps before installation. If you haven't done everything, this is your last chance to do it before you go further.

As is mentioned earlier in this chapter, this section will describe how to install Ubuntu as the only operating system on your computer.This installation scenario is much easier than when considering to install Ubuntu alongside with Windows. All you have to be sure is that you have done the proper BIOS adjustment and backup of your data on to some external storage media like CD, DVD, USB or external disk.

1. Turn on the computer and insert the Ubuntu installation CD into the CD-ROM. Ensure that the BIOS is set to boot from the CD. Wait for the BIOS to read the CD and recognise the operating system. If everything is done properly you'll be able to see the Ubuntu start up screen as shown in figure 3.4.
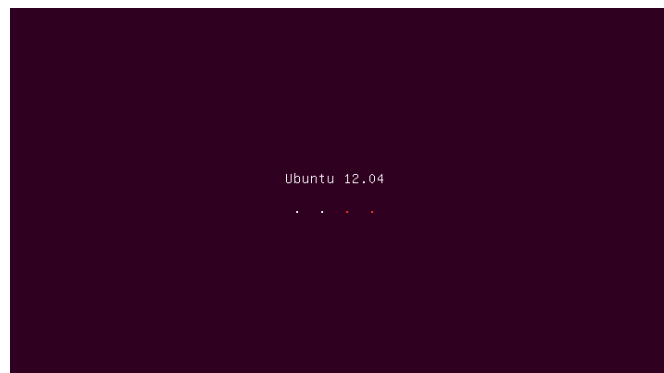

Figure 3.4: Ubuntu start up screen

2. Wait for Ubuntu to start up. Once the loading is complete, you are presented with the dialogue box as shown in figure 3.5 where you need choose to install Ubuntu. You can choose the installation language from the options shown on the left side.
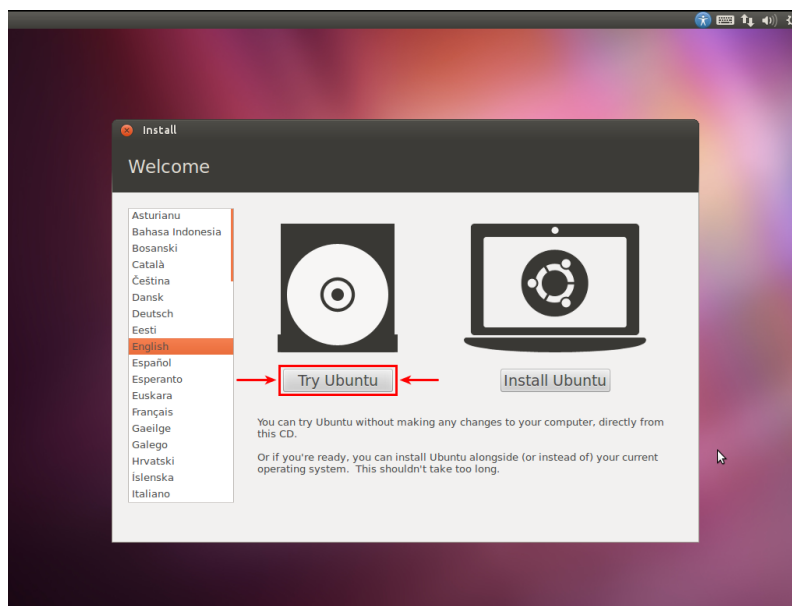

Figure 3.5: Try Ubuntu options

3. Ubuntu checks if your system has access to the internet, connected to the power supply (laptop) and has atleast 4.4 Gb hard disk space. You will be also be required to choose If you want to install third party software and updates during the installation.
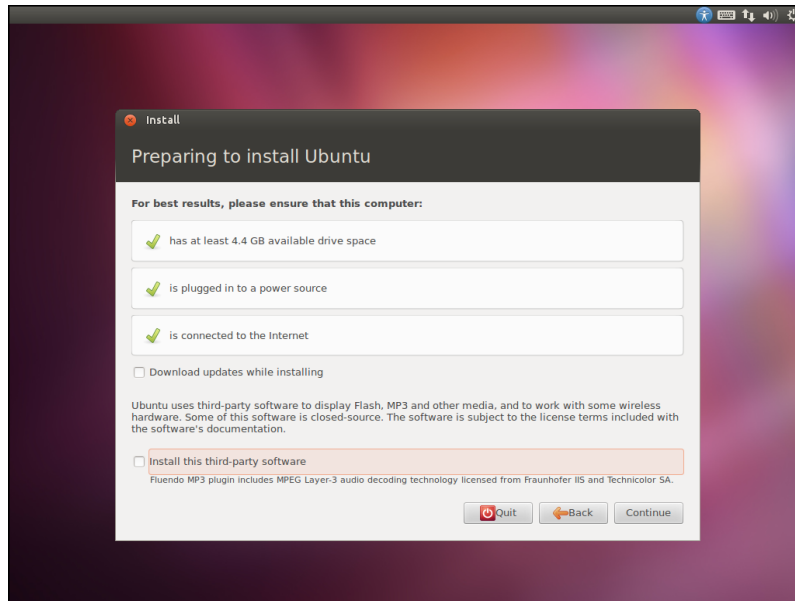

Figure 3.6: Installer Options

4. You are now presented with options to choose the type of installation you would like to perform. You can install Ubuntu alongside other operating systems (if you have any personal data, they will not be erased), Erase disk and install Ubuntu as the only operating system on your system or something else. If you have no other operating system installed on your system, then you will have only have the last two options. In this section which deals with Ubuntu as the only operating system, you need to choose the second option which removes any other operating system such as Windows XP, Vista or 7 and automatically does all the hard disk partitioning for you.
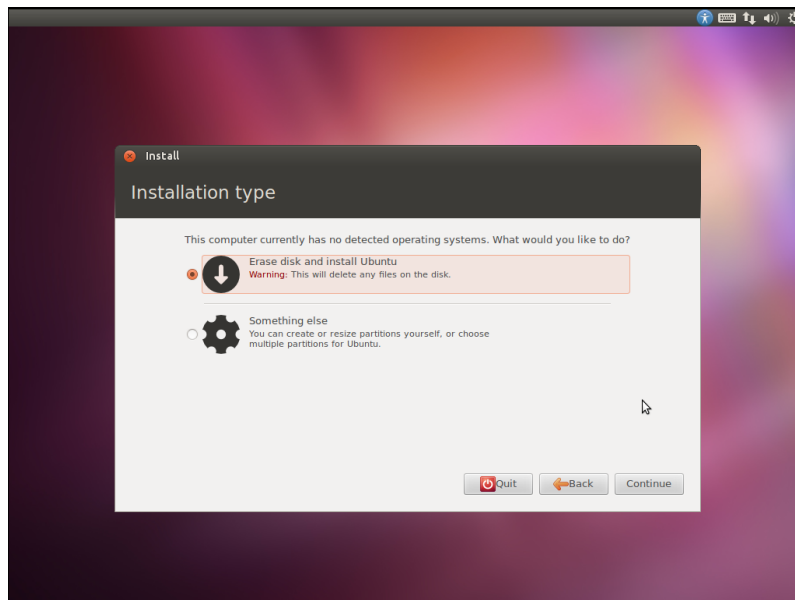

Figure 3.7: Installer Options

On choosing the Erase disk and install Ubuntu option, you are presented with the following screen. Click on Install Now to start the Ubuntu installation. Note that this is permanent. If you click on Install Now, the installer erases all your data and installs Ubuntu!
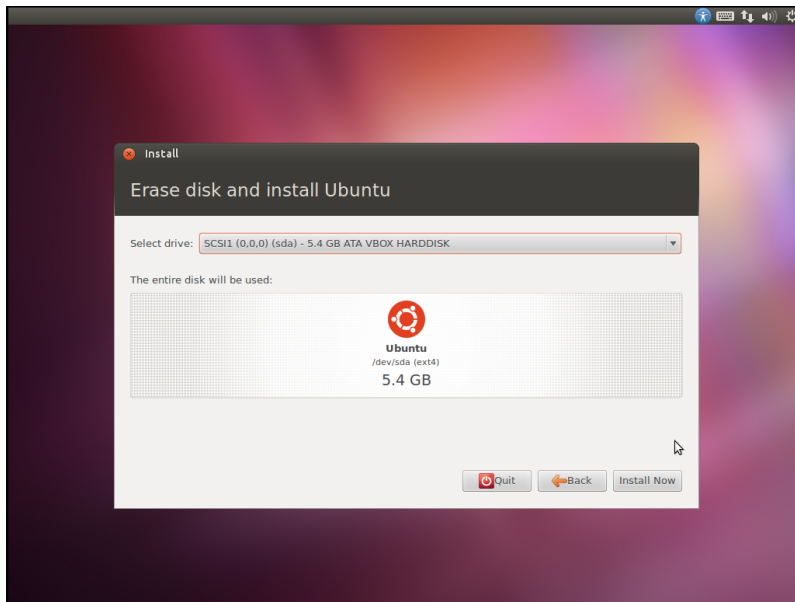
Figure 3.8: Installer Options

5. The previous step was the hardest. Now it is basically entering some personal information. You first need to choose your keyboard layout.
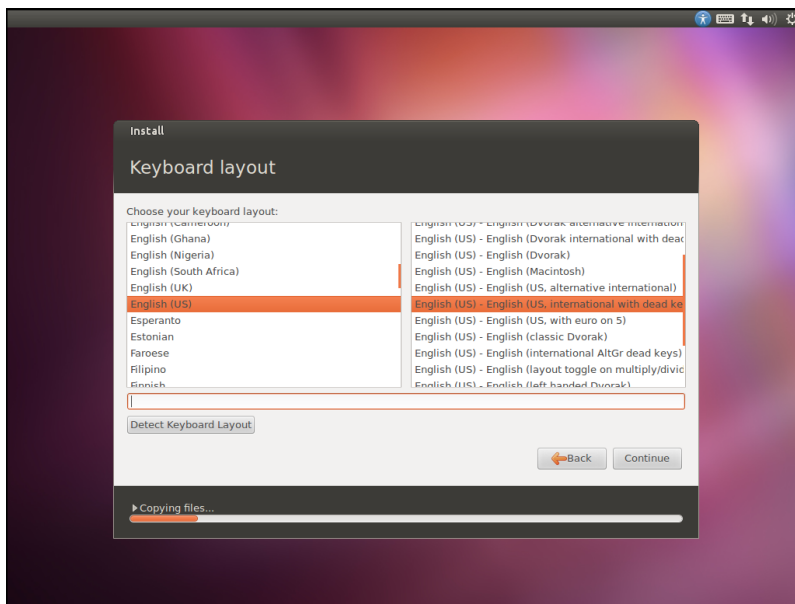

Figure 3.9: Installer Options

6. You need to enter the place where you live. This is to automatically get the timezone and set the correct time.
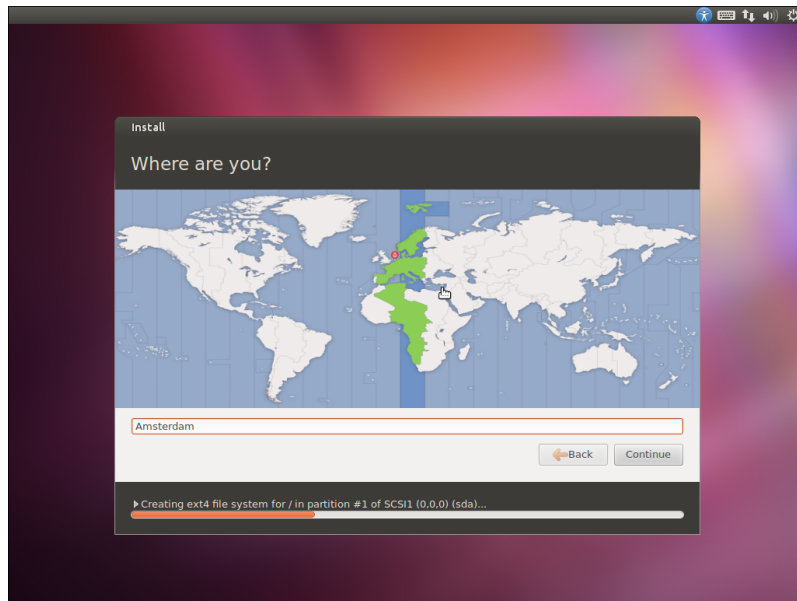

Figure 3.10: Installer Options

7. The last step and this is where you set the username, password and other options like requiring a password to login in.
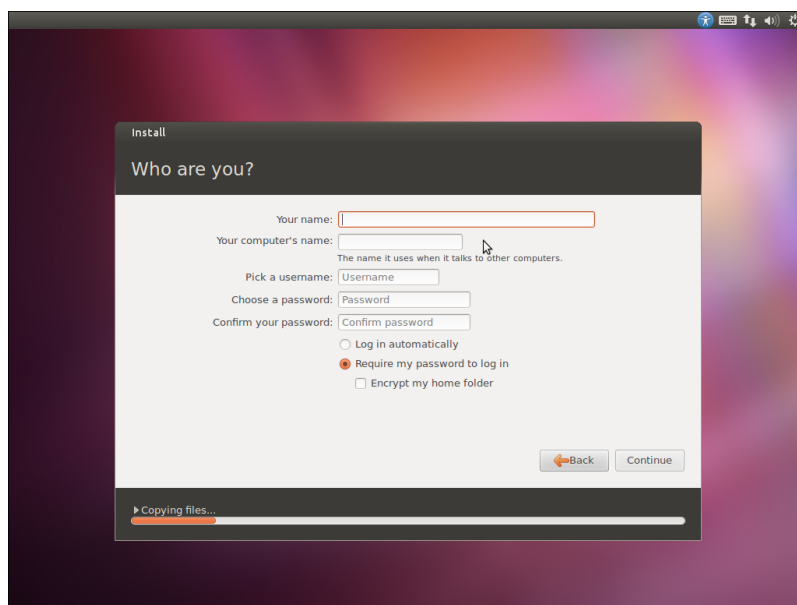

Figure 3.11: Installer Options

After you have entered all the required data click on the button Continue and wait for around 20 minutes. After the installation is done, reboot your computer, take the CD out. The new operating system is waiting to be used. Congratulations on your Ubuntu install.

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