CHAPTER 2

Installing Ubuntu

- Choosing Your Ubuntu Version
- Getting Ubuntu
- Booting and Installing
- Installing from the Alternate Install CD
- Installing from within Windows
- Summary

IF YOU ARE READING THIS, it is probably safe to assume that you have decided to give Ubuntu a try. You will find that Ubuntu is flexible and powerful not only as an operating system but also in how you evaluate and install it.

Trying Ubuntu is simple. The Ubuntu desktop CD is a special "live" CD. You can use this disk to run Ubuntu from the CD itself without Ubuntu removing or even interacting with your hard disk. This is ideal if you are already using another operating system like Windows or Mac OS X; you can try Ubuntu by running it from the CD, and you don't have to worry about it overwriting the data on your hard drive or changing any part of your current operating system unless you intentionally choose to do so.

Choosing Your Ubuntu Version

The developers behind Ubuntu have worked to make the software as easy and flexible to install as possible. They understand that people will be installing Ubuntu on computers with varying purposes (desktops, servers, laptops, and so on) and using different types of computers (PCs and Macs, 32-bit and 64-bit computers, and so on). To cater to as many people as possible, there are two Ubuntu CDs that can be used. The DVD with this book is equivalent to the downloadable desktop CD but with additional packages included for your convenience.

- **Desktop:** The desktop CD is the one recommended for *desktops* and *laptops*. With this CD, you can boot Ubuntu from the CD and, if you like it, you have the option to install it to your hard drive. Note that running from the disk without installing directly to the hard drive is the default option to help prevent accidental data loss.
- **Alternate install:** The alternate install CD is recommended for use in any scenario where the desktop version is unusable (e.g., not enough RAM) or for those with more advanced needs (e.g., automated deployments or special partitioning requirements). With this CD, you boot into an installer and then run Ubuntu when the installation is complete.

Ubuntu 12.04 officially supports three main computer types, or architectures, and a couple of additional variations:

- **i386:** This supports all Intel or compatible processors except those that require AMD64. This includes current Apple hardware. If you are not certain which you need, use this one. It will work on either 32-bit or 64-bit systems, so it is the default choice.
- **AMD64:** If you know you are using a processor based on the AMD64 or EM64T architecture (e.g., Athlon64, Opteron, EM64T Xeon, or Core2), you should choose this version because it will be a bit more efficient on your hardware.
- **ARM:** ARM is a low-powered chip commonly found in cell phones and similar mobile devices. ARM Inc., the makers of ARM, and Canonical have an agreement to build the entire Ubuntu archive on ARM, which makes Ubuntu the first major distribution to support ARM as a standard rather than custom device–specific distribution, such as OpenWRT is for routers. For a list of the current ARM chip version being supported and other information, please see wiki.ubuntu.com/ARM.

TIP **Where to Download**
If you lose the installation disk that accompanies this book, or if you want to use some of the other options available, such as installation from a USB drive (discussed later in the chapter), you will find what you need at help.ubuntu.com/community/GettingUbuntu.

TIP **What about PowerPC and Others?**
PowerPC and a few other architectures are not officially supported, but do have unofficial builds available. See help.ubuntu.com/12.04/installation-guide/index.html for current details.

Other Ubuntu Distributions

In addition to the official Ubuntu release, some distributions are based on Ubuntu but are slightly different. Here are some examples:

- **Kubuntu:** Kubuntu is Ubuntu, but instead of using the default interface, Kubuntu uses the KDE desktop. See http://kubuntu.org or Chapter 9 for more information.
- **Ubuntu Server Edition:** Ubuntu Server Edition makes Ubuntu easy to install and use on servers. It initially focused on making certain

that the highest quality server applications were available for easy installation and configuration, including MySQL, Apache, and others. The most recent work has improved the cloud computing capabilities of Ubuntu Server via the Ubuntu Enterprise Cloud. See Chapter 8 for more information.

- **Xubuntu:** The Xubuntu distribution replaces the default interface with the Xfce 4 environment. Xubuntu is particularly useful for those of you who want to run Ubuntu on older hardware as it has lighter system requirements. See http://xubuntu.org or Chapter 9 for more information.
- **Edubuntu:** Edubuntu is a derivative of Ubuntu aimed at educational use and schools. To install it, you should first install the default desktop version of Ubuntu. Then use either the downloadable add-on Edubuntu CD or the Ubuntu Software Center in your Applications menu on the desktop to install the Edubuntu environment and applications. See Chapter 9 for more information.

TIP **Downloading Edubuntu**
You may download the Edubuntu add-on CD and learn more about Edubuntu at www.edubuntu.org.

With a range of different distributions and options available, Ubuntu is flexible enough to be used in virtually all situations.

Is It Still Ubuntu?

Some of you may be reading about Kubuntu, Ubuntu Server Edition, and Xubuntu and wondering how different they are from the regular Ubuntu release. These distributions differ mainly in which applications and user interface are included. As such, they may differ quite a bit, especially in the user interface look and feel, but the underlying OS and software install system is the same.

Getting Ubuntu

Ubuntu is an entirely free OS. When you have a copy of it, you can give it to as many people as you like. This free characteristic of Ubuntu means that it is simple to get a copy. If you have a high-speed Internet connection,

go to www.ubuntu.com/download, and follow the instructions. You can select a desktop or alternate install CD image and download it.

TIP See the upcoming Burning a CD section for details on how to create your Ubuntu CD from the file you just downloaded. You can also create a bootable USB stick, as described in the Creating a Bootable USB Stick section, just below Burning a CD.

If you are willing to wait, you can buy authorized Ubuntu CDs at www.ubuntu.com/download/ubuntu/cds.

Burning a CD

When you download an Ubuntu CD, you download a special .iso file, which is the same size as a CD (around 650MB). This file is an "image" of the installation CD. When you burn the .iso file to the CD-ROM, you have a complete installation CD all ready to go.

TIP **Which Image?**
When you are reading about .iso files, you will often see them referred to as CD images. The term *image* here does not refer to a visual image such as a photo or picture but to an exact digital copy of the contents of a CD.

You need to use a CD-burning application to burn your .iso file to the CD correctly. Inside the application should be a menu option called Burn from Disk Image or something similar. The wording and details will vary according to the program you use to burn the image. You should select the .iso file, insert a blank CD, and after a few minutes, out will pop a fresh Ubuntu installation CD.

To give you a head start, the following subsections present instructions for burning a CD in some popular tools.

In Windows 7 To burn your image using Windows 7, follow these steps.

1. Right-click on the icon for your downloaded .iso image and select Open with > Windows Disc Image Burner.
2. Select a writable CD/CVD drive from the drop-down box.
3. Click Burn.

In Older Versions of Windows with ISO Recorder To burn your .iso file with the freely available ISO Recorder, first go to http://isorecorder.alexfeinman.com, and then download and install ISO Recorder. To burn your image, follow these steps.

1. Insert a blank CD into your CD writer.
2. Locate the .iso file you downloaded, right-click it, and select Copy Image to CD.
3. Click Next, and the recording process begins.
4. When the image has been written, click Finish to exit ISO Recorder.

In Mac OS X To burn your image using Mac OS X, follow these steps.

1. Load the Disk Utility application (found in your Utilities folder).
2. Insert a blank CD, and then choose Images > Burn and select the .iso file.

In Ubuntu To burn your image using Ubuntu, follow these steps.To burn your image using Mac OS X, follow these steps.

1. Insert a blank CD into your CD writer.
2. In the File Browser, right-click on the file you just downloaded, and choose Write to Disk. The Write to Disk dialog box opens.
3. In the dialog box, choose your CD writer and speed, and then click on Write. The Writing Files to Disk Progress dialog box opens, and File Browser begins writing the disk.

TIP **Use the Right Option**

Be sure to use the Burn from Disk Image or similar option rather than just copy the .iso image onto the CD to be burned. If you just burn the file directly, you will have a CD containing the single .iso file. This won't work.

The Burn from Disk Image function takes the .iso file and restores all the original files from the installation CD onto the disk. This ensures you have a proper installation CD.

Creating a Bootable USB Stick

To create a bootable USB stick, follow these directions for your current operating system.

TIP **Use the Right Size USB Stick**
Use a USB stick with at least 2 GB of free space.

In Windows To create your bootable USB stick using Windows, follow these steps.

1. Download the USB installer provided by pendrivelinux.com at www.pendrivelinux.com/universal-usb-installer-easy-as-1-2-3/ and follow the installation instructions.
2. Insert your USB stick into the computer and run the USB installer from pendrivelinux.com.
3. Select Ubuntu Desktop Edition from the drop-down menu.
4. Click Browse and select the Ubuntu .iso image you downloaded.
5. Select the USB drive for installation and click Create.

In Mac OS X The Ubuntu download page recommends that Mac users install using a CD because the workarounds required to create a bootable USB stick on OS X are complex.

In Ubuntu To create your bootable USB stick using Ubuntu, follow these steps.

1. Insert your USB stick into the computer.
2. Open the Dash (see Chapter 3 if you don't yet know what the Dash is) and search for Startup Disk Creator. Click the icon for Startup Disk Creator to run the program.
3. Select your downloaded Ubuntu .iso image. If your downloaded .iso image does not automatically appear in the list in Startup Disk Creator, click Other to select it.

4. Select the USB stick in the bottom box.
5. Click Make Startup Disk.

NOTE You will need to have administrative privileges on your computer to use the USB Startup Disk Creator.

Booting and Installing

This section begins with instructions for running Ubuntu from the desktop CD that you burned earlier, from the DVD that came with this book, or from a bootable USB stick. You can explore and test Ubuntu without making any changes to your hard drive. If you don't like it, reboot and remove the CD/DVD/USB stick to return to what you already have.

TIP **Try before You Buy**
Take some time to test before you make the permanent decision to erase your hard drive and current operating system and install Ubuntu. Once you do so, you cannot recover old files or return to how things were. This is why you are given the opportunity to test from the CD/DVD or USB stick. Take advantage of the opportunity and make sure you like what you see.

Place your CD or DVD into your CD/DVD drive or your bootable USB stick into a USB port, and reboot your computer. If your computer does not boot from the CD/DVD, you should enter your computer's BIOS and change the boot order to ensure that the boot medium you are using is first in the boot order. Save your BIOS changes, and then restart again.

TIP **BIOS Problems**
If you have problems configuring your BIOS to boot from the CD, you should consult the manual. If you don't have the manual, visit the manufacturer's Web site, and see if you can download the manual.

After a few seconds, the Ubuntu logo and boot screen appear and then you are presented with a list of languages on the left of the screen and two options on the right. Use your mouse to select your language. Then decide

whether you want to Try Ubuntu 12.04, which allows you to try out Ubuntu without making any changes to your computer and install it later if you decide you want to, or whether you want to install Ubuntu 12.04, which will jump straight into the installer. Select the first option, and Ubuntu will begin to boot. After a minute or so, the Ubuntu desktop will appear, and you can use the system right away. Under this scenario, the system is running from the CD and will not touch your hard disk. Do bear in mind that because Ubuntu is running from the CD, it will run slower than if it were installed to your hard disk.

NOTE **CD/DVD/USB Stick**
It takes a lot of space to write to a CD/DVD/USB stick every time. For simplicity and easier reading, unless explicitly stated, assume we mean any of the three throughout the remainder of this chapter when we refer to the live or install CD.

If you decide you want to install the system permanently on your computer's hard disk, there are two ways you can do so:

1. Double-click the Install icon located on the left side of the desktop.
2. Reboot and select Install Ubuntu from the initial menu.

TIP If you choose to install from the live CD while running Ubuntu, you can continue to use the computer while the install is happening. If you choose to reboot, the process will go a bit faster.

Using either option, an installer application will walk you through the steps to permanently install your Ubuntu system. The remainder of this chapter describes each part of the process.

Migration

Ubuntu provides a migration assistant, which aims to ease your transition to your new OS. If a supported OS is found during installation, you are presented with a list of accounts and the features that can be migrated. If you choose to migrate anything, you must provide details for the new user to whom the features will be migrated.

TIP It is recommended that you back up any important files before you perform the installation. Although Ubuntu installations can safely resize Windows partitions, this is not guaranteed, and installations can result in data loss, so it is wise to be careful.

Language

The first screen you are presented with when you boot the computer introduces you to the installation program and asks you to select your language, as shown in Figure 2-1, and whether you want to Try Ubuntu (run the operating system from the CD without changing anything on your hard drive, which we suggest for first time users before committing to an installation) or whether you want to Install Ubuntu.

Ubuntu supports a huge range of different languages. Select your language from the list, and then click Install Ubuntu to continue with the installation.

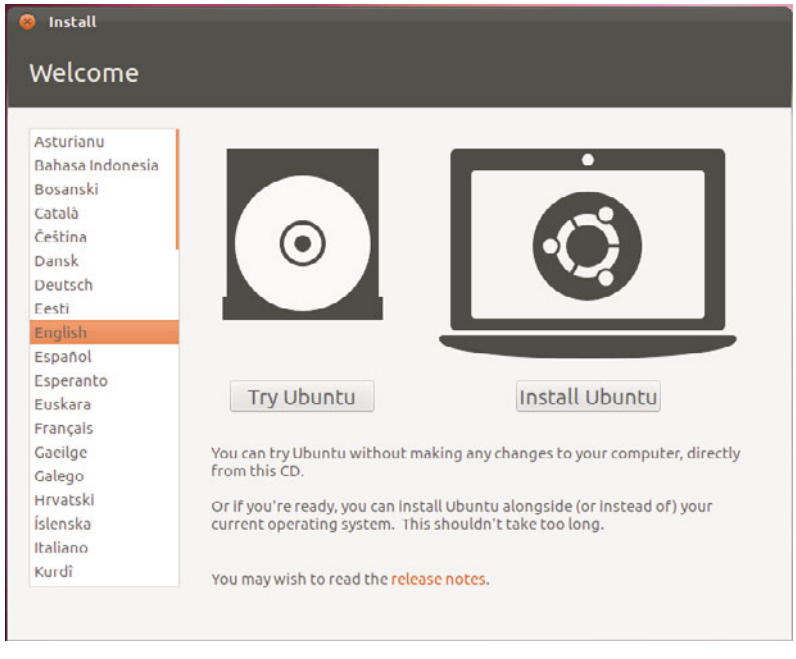

Figure 2-1 Pick your language.

Preparing to Install Ubuntu

You will be informed of the install requirements, as in Figure 2-2. We strongly suggest selecting the option to Download Updates While Installing because this option will end your installation with an up-to-the-minute current system that includes any existing security updates or bug fixes. A nice feature is that these updates will be downloaded while installation is in process, in parallel to other operations, so it happens with great efficiency.

You may also choose to install third-party software to enable your computer to play certain media files immediately after installation. This will also save you time later, although some users may not want to install closed-source software and will choose not to enable this option. Click Continue after making your selection(s).

Allocate Drive Space

To prepare your hard disk to store the Ubuntu system and your files, hard disks are divided into partitions. Each partition reserves a specific portion

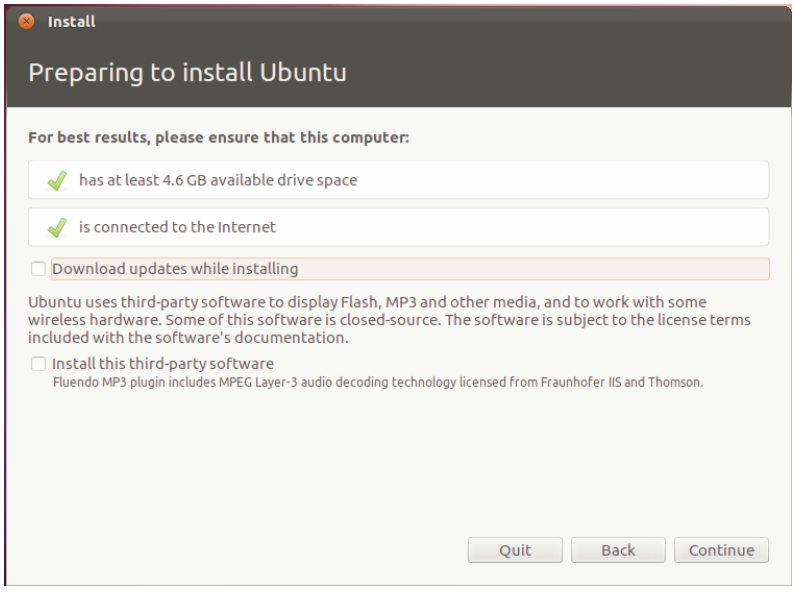

Figure 2-2 Preparing to install Ubuntu

of the hard disk for use by a particular operating system. As an example, you may use the entire hard disk for your new Ubuntu system, or you may share the disk so that both Windows and Ubuntu are installed. This shared scenario is known as *dual-booting*. In a dual-booting situation, your hard disk typically has Windows partitions as well as Linux partitions, and when it boots it gives you a menu so you can select whether to boot Windows or Linux.

In this part of the installer you create the partitions for your new system. This can be the trickiest part of the installation and can also be the most dangerous. If you have existing partitions (such as a Windows installation) on the disk, it is highly recommended that you back up your important files.

TIP **Seriously, We Mean It**
Really, really, really do back up any important files. If you make a mistake in this part of the installation, you could lose your files and stop your system from booting.

Deciding How You Would Like to Set Up Your Partitions Before You Create Them If you have a clear idea of how your hard disk should be partitioned, it is easier to get everything up and running quickly.

These are the most common methods of partitioning.

- **Only Ubuntu on the disk:** If you are installing only Ubuntu on the disk and are happy to wipe the *entire disk*, your life is simple. Ubuntu can do all the work for you.
- **Dual-booting:** If you are installing to a computer that will have multiple operating system options, you will partition your hard drive and install each operating system to its own partition.

Regardless of whether you will install only Ubuntu on the disk or you will dual-boot, you need to either confirm that Ubuntu may use the entire disk or enter your desired partitioning scheme, beginning in Figure 2-3.

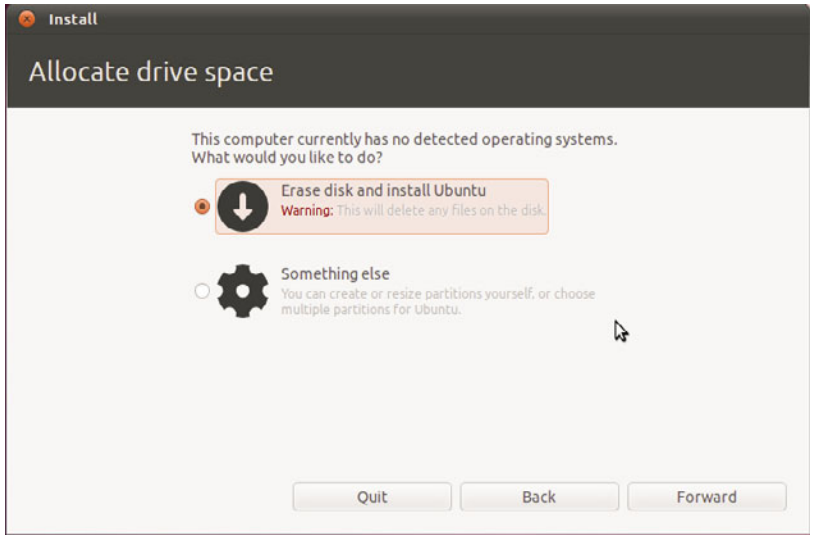

Figure 2-3 Allocate all drive space to Ubuntu

Ubuntu Only If you are happy to erase your entire hard disk, select Erase Disk and Install Ubuntu. If you choose this option, skip ahead to the next section of the book, Installation Begins.

Manual Partitioning If you will install only Ubuntu or will dual-boot with an existing operating system but want more control over the process, you must set the partitions manually. To do this, select Something Else and click Forward to continue. You will see the screens shown in Figures 2-4, 2-5, and 2-6.

The main part of this screen displays available drives and configured partitions. Clicking on a drive or partition changes the actions available to you below the list. Select the relevant disk to add partitions to. The disks are listed by device name in the order they are connected within your computer.

QUICK TIP The name of the device indicates how it is connected to your computer. For example, hda is the first IDE drive, and sdb is the second SCSI or SATA drive.

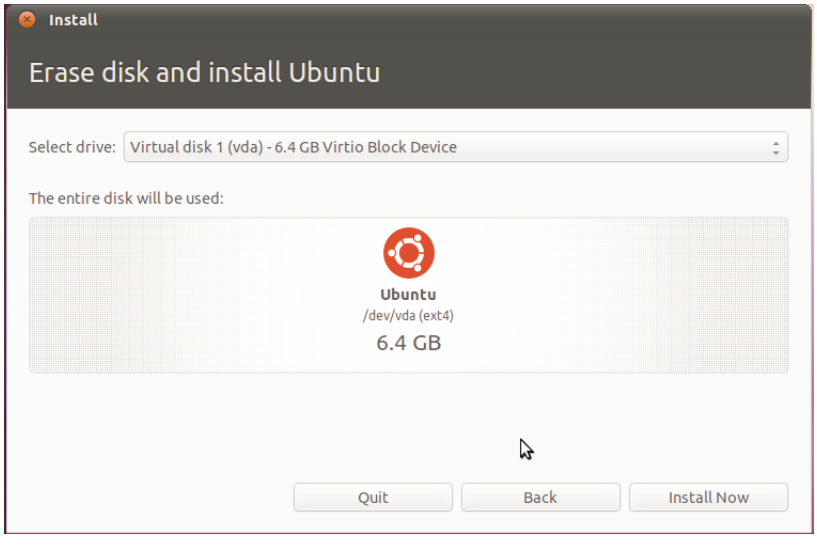

Figure 2-4 Erase disk and install Ubuntu

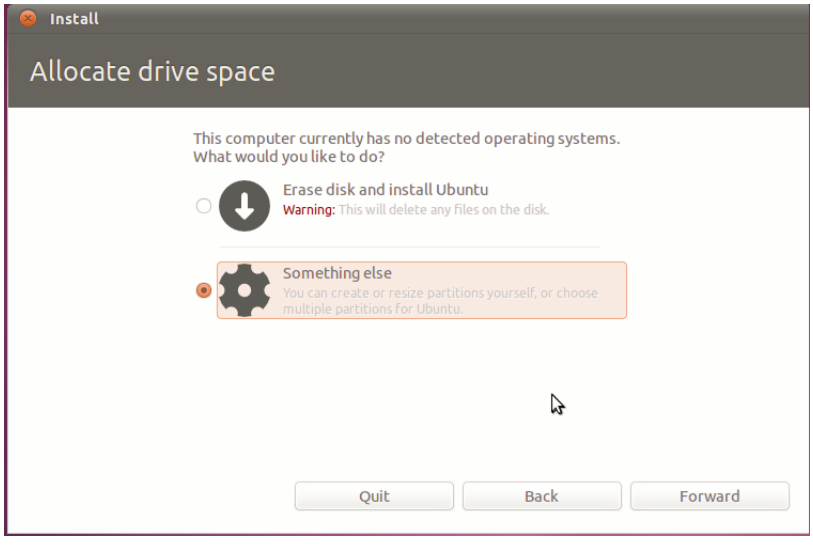

Figure 2-5 Allocate drive space another way

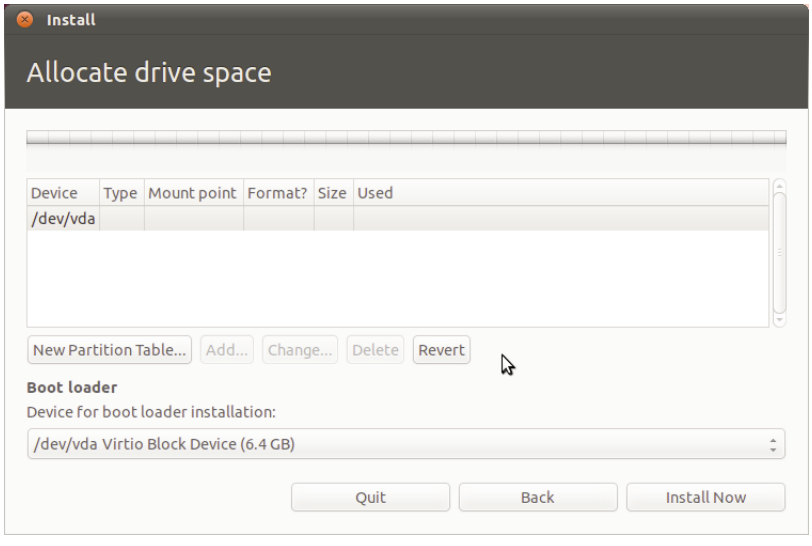

Figure 2-6 Create partitions manually

Before you begin, you should prepare the disk for your partitions. If you want to completely wipe a disk, right-click on the name of the device (/dev/sda in Figure 2-6), then click New Partition Table. You'll be asked if you're sure, so click Continue. The disk is now filled with unallocated data. Now you can add your Ubuntu partitions.

To add a partition, click a free space entry in the list and then click the New button. A new window appears like that shown in Figure 2-7.

Set the values according to your requirements. The Type combo box lets you select which one of the many filesystem types you want the partition to use. The default filesystem included with Ubuntu is ext4, and it is recommended that you use ext4 for any Ubuntu partitions. Although ext4 is a good choice for Ubuntu, you cannot read an ext4 partition in Windows. If you need to create a partition that is shared between Windows and Ubuntu, you should use either the FAT32 filesystem or NTFS.

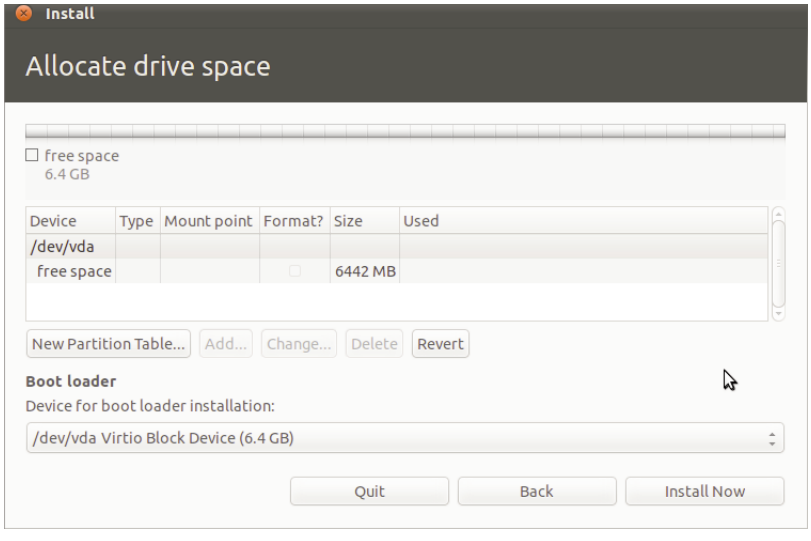

Figure 2-7 Configuring a partition

Use the Mount Point combo box to select one of the different mount points, which tells Ubuntu where the partition should be used. You need to have a root partition, which has a mount point of /. Click OK to finish configuring this partition.

Once you've completed configuring all your partitions, click Forward to proceed with the installation. Please note that if you have read all of these comments on partitioning and feel a bit overwhelmed or confused, you don't need to worry. You may simply use the default settings given by the installer and all will work well.

Installation Begins

At this point, the installation begins. While it progresses, you are asked some questions to customize your installation appropriately. Doing this concurrently saves time.

Tell the installer where in the world you live (Figure 2-8).

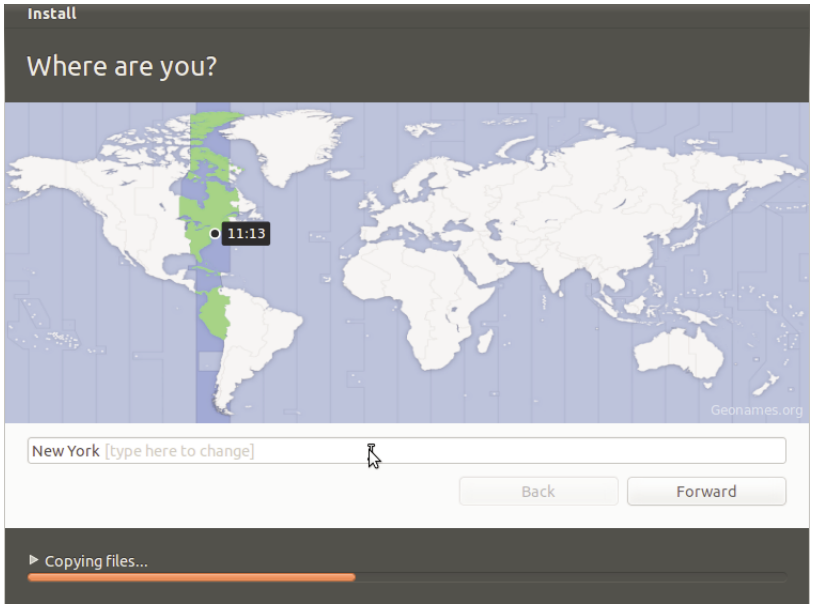

Figure 2-8 Click the map to select a location.

You can select your location in one of several ways. First, you can hover your mouse over the time zone on your part of the world map to select your location. When you are happy with the time zone selection, click it, and select the city nearest to you. Alternatively, use the Selected City drop down to find the city nearest to you.

When you are done, click Continue.

Configuring Your Keyboard

The next screen (shown in Figure 2-9) configures your keyboard.

The installer will suggest a keyboard option for you based on your location choice, but you may choose a different one if you desire. You can also use the box at the bottom of the window to test whether your keyboard layout works. Try typing some of the symbols on your keyboard (such as “, /, |) to make sure they work. If you press a symbol and a different one appears, you have selected the wrong keyboard layout.

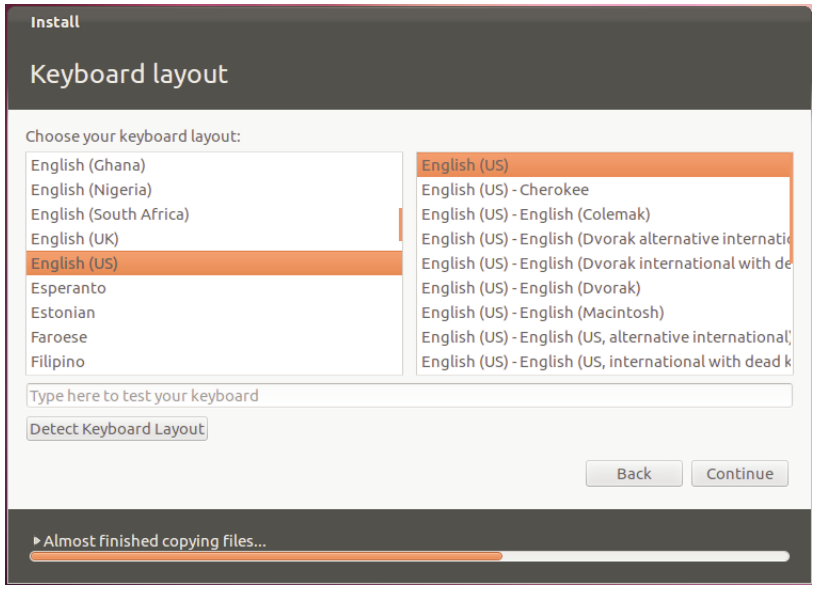

Figure 2-9 Select the correct keyboard to ensure the symbols on the keys work correctly.

Identification

The next step is to enter some details about you that can be used to create a user account on the computer (Figure 2-10).

In the first box, enter your full name. The information from this box is used in different parts of the system to indicate who the user is behind the account.

Enter a computer name in the last box. Also called a "hostname," this is a single word that identifies your current machine. This is used on a local network so that you can identify which machine is which.

Hostnames can be great fun. Many people pick themes for their hostnames, such as superheroes, and name each computer on their network after a superhero (Superman, Batman, Spiderman, and so on). Think of a fun hostname theme you can use. For many people, this ends up being the hardest part of the install!

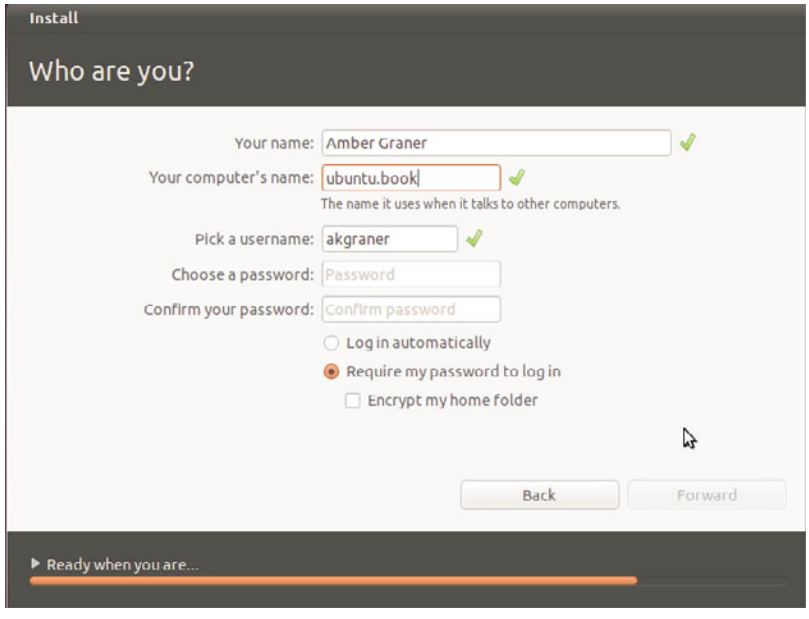

Figure 2-10 Enter your personal details to create your user account.

In the next box, set a username for yourself (the installer will provide a suggestion based on your full name). Your username should be something easy to remember. Many people either use their first name or add an initial to their first or last name (such as jbacon or jonob). Each username on your computer must be unique—you cannot have two accounts with the same username. Usernames must begin with a lowercase letter—only lowercase letters and numbers are permitted after that.

In the next two boxes, add a password and then confirm it. This password is used when you log in to your computer with the username you just created. When choosing a password, follow these simple guidelines.

- Make sure you can remember your password. If you need to write it down, keep it somewhere secure. Don't make the mistake of putting the password somewhere easily accessible and known to others.
- Avoid using dictionary words ("real words") such as "chicken" or "beard" when choosing a password, and try to input numbers and punctuation.

- Your password should ideally be longer than six letters and contain a combination of letters, symbols, and numbers. The longer the password and the more it mixes upper and lowercase letters, numbers, and symbols, the more secure it is.

Here you also have the option to encrypt your home folder. Select this to make the contents unreadable without a password. Note that if you lose the password, your data will be unrecoverable.

When you have added all the information, click Continue.

To learn more about the cool things in your new operating system, view the slide show that appears as installation finishes (Figure 2-11).

Finishing Up

From here, as the Ubuntu software continues to be installed on your computer, you are shown a slideshow containing useful and interesting infor-

Figure 2-11 Slide show users can watch as installation finishes to find out more about Ubuntu.

mation about the operating system. At the end of this process, you are asked to restart your computer. You are now finished and can skip ahead to Chapter 3 to get started with using Ubuntu.

TIP **Better Use of Your Valuable, Valuable Time**
One of the great benefits of the desktop live CD installer is that while the files are being copied from the disk, you can still use the system. Instead of sitting at your computer staring at the progress bar, you can play a few games to while away the time.

Installing from the Alternate Install CD

Although the desktop CD is ideal for installing Ubuntu, you may want to use the traditional installer method to install the system. This method involves booting the alternate install CD, running through the installer, and then starting the system. This kind of installer is ideal for installation on older hardware.

To get started, put the CD in the drive, and restart your computer.

Select the Install Ubuntu option with the arrow keys, and press Enter. After a few moments, the installation process begins by asking you to choose a language. Select from the different languages by using the up and down arrow keys, and then use the Tab key to jump to the red buttons to continue through the setup.

TIP **Installing a Server**
You can obtain a third version of Ubuntu that is especially tailored for server environments. For more information about this version, see www.ubuntu.com/server, or read Chapter 8 for more details about running Ubuntu as a server.

Choosing Your Spot in the World

Next you are asked to specify your location. First you need to choose your language.

Then you need to pick which country you are in, again pressing Enter to accept your choice.

Now you need to select your keyboard layout. Keyboard layouts vary across the world to take into account the many and varied symbols and letters used in different countries. Even if you are using the typical Latin character set (as used in most European countries, America, Africa, and Australia), there are variations and additions (e.g., German umlauts). You can let Ubuntu detect your layout for you, or you can choose from a list of options. If you want your layout detected, you will be asked a series of questions until a guess can be made. If the guess is wrong, you can repeat the process. Otherwise, choose your keyboard layout from the options available.

Hardware

Next, the system will attempt to load the rest of the installer and to detect hardware. In most situations, this happens without prompting you for anything, although sometimes you might need to provide input such as choosing a primary network device. Once this is set up, your computer will also configure itself with your local network—if possible. If it cannot configure itself with a local network, it will tell you this and you'll have the option of configuring it manually or choosing to not configure it at that time. You can always come back and change things later once the installation is done.

Setting the Hostname and Time Zone

You are next asked for a hostname for the computer.

Use the text box to add your own hostname, or use the default Ubuntu hostname if required. Feel free to let your imagination go wild, and create a theme for your hostnames (such as superheroes).

After choosing a hostname, you will be asked to select your time zone. Choosing this should be a fairly straightforward operation.

Creating Partitions

The system will then read your disks to find out the current partition information. You will be asked to create or select partitions for Ubuntu to

install on to. Creating partitions is the most challenging part of the installation routine. Before you partition your disk, think about how your partitions should be organized.

You are given a number of partition options:

- Guided—Use Entire Disk
- Guided—Use Entire Disk and Set Up LVM
- Guided—Use Entire Disk and Set Up Encrypted LVM
- Manual

In most cases, you probably want to use the Guided—Use Entire Disk option. This will erase everything on the hard drive in your computer and set everything up for you. The second option, Guided—Use Entire Disk and Set Up LVM, allows you to use the Logical Volume Manager (LVM). The third is identical to the second option but also employs disk encryption, which will make your data safer and more secure in some circumstances. Finally, if you want to set up specific partitions, use the Manual option.

Let's look at each of these options in turn and how they are used.

Guided—Use Entire Disk When you select this option, your entire disk is partitioned automatically. The installer tells you that a primary and logical partition will be created, and then it asks if you want to go ahead and create the partitions. Click Yes, and you are done.

Guided—Use Entire Disk and Set Up LVM Configuring LVM is covered in Chapter 8.

Guided—Use Entire Disk and Set Up Encrypted LVM Configuring LVM is identical to the previous option except that it also uses a secure encryption layer to provide additional security and protection for your data. If you choose to do this, during the process you will be asked to provide a passphrase. Be very careful to choose one that is impossible to guess and that you will also remember. You will need to use this passphrase to access your data every time you boot the computer, and if you lose or forget the

passphrase, all your data will be permanently inaccessible. There is no way to recover a lost or forgotten encryption passphrase.

TIP **Disk Encryption**
You may also decide to encrypt specific partitions manually. Simply choose "Use Physical Volume for Encryption" in the "Use As:" option. Note: You never want to encrypt the boot partition.

Manual Select this option if you want to create your own partitions manually. Here you can create a number of different types of partitions, set their sizes, and configure their properties. Creating these partitions is not done in the same graphical way as the live CD installer, so it is a little more complex. However, doing so is still largely a process of selecting something and pressing Enter.

Depending on your configuration (and the options you selected), you are given a number of options from which to choose:

- Configure Software RAID
- Configure the Logical Volume Manager
- Guided Partitioning

QUICK TIP Discussion of software RAID and the Logical Volume Manager is covered in Chapter 8.

Your disk is listed below these options, and it may display a few existing partitions. If you want to delete the existing partitions, select each one, press Enter, and select Delete the Partition. When you have deleted some partitions, you should see a FREE SPACE line. The FREE SPACE line is used to create new partitions. If the disk was empty already and you don't see a FREE SPACE line, select the hard disk, and press Enter. When it asks if you want to create an empty partition table, click Yes. You should now see the FREE SPACE line.

To create a new partition, select the FREE SPACE line, and press Enter. In the next screen, click Create a New Partition, and press Enter. Now enter the size the partition should be. You can use gigabytes (GB) and megabytes

(M) to indicate size. For example, 4.2 GB is 4.2 gigabytes, and 100 M is 100 megabytes. You can also use a percentage or just add `max` to use the entire disk. Add the size, and then press the Tab key to select Continue. Press Enter. You are next asked whether the partition should be primary or logical. It is likely that you will want a primary partition. Make your choice and continue.

If this is the first partition, you are asked if the partition should be at the beginning or end of the disk. It is recommended that when creating the root partition (known as /) on older computers, it should be placed at the beginning of the disk. This gets around some potential BIOS problems on older hardware. On newer computers, this is no longer a problem, and you can put the partition where you like on the disk.

On the next screen to display, you can configure some settings for the partition.

Table 2-1 describes the settings.

When the partition is configured, choose the Done Setting Up the Partition option.

You can now select FREE SPACE again (if there is free space left, of course) to create another partition. When you have finished partitioning, click the Finish Partitioning and Write Changes to Disk option.

The system will now install the Ubuntu core to your newly partitioned disk. Depending on the speed of your computer and your CD drive, this installation could take some time.

Configuring a User

The next part of the installation routine configures a user for the computer. This user role is important because it not only can be used as a normal user but also has the ability to use `sudo` to perform system administrator tasks.

You are first asked to enter a full name for the user (such as Matthew Helmke). Next you are asked for a username, or one will be picked for you

Table 2-1 Partition Settings

Setting	Description	Example
Use as	This is the type of filesystem. For a normal Ubuntu system, ext4 is recommended.	ext4
Format the partition	This setting appears when editing an existing partition.	yes
Mount point	This specifies which part of the filesystem will live on the partition. See earlier in this chapter for details about the kind of partitions you should set up.	/
Mount options	A number of options can be passed to the mount point, although the default setting should be fine.	defaults
Label	A text label describes the partition. Usually it is set to the same value as the mount point.	/
Reserved blocks	This is the percentage of the filesystem reserved for the super-user; 5% is a good default.	5.00%
Typical usage	This option can be used to optimize how the filesystem is organized, although the standard setting is typically used.	standard
Bootable flag	Does this partition contain the kernel and bootloader? If this is the root partition (known as /), set this to *on*.	on

from your full name (such as matthew). If you want another username, enter it there. Finally, you are asked to enter a password for the user and asked to repeat the password for verification.

QUICK TIP A good password will have at least eight characters, will use both uppercase and lowercase letters, will use at least one number, will use at least one nonletter character like & or @, will not spell a word that can be found in a dictionary, and will also be easy for you to remember while being difficult for others to guess. A modified phrase can work well, something like Gimm1e@x3ss could work well, although that one may still be a bit too obvious ("give me access" is not much better than "password").

Finishing Up

At this point, the installation routine will install the full system for you. After this, the computer will reboot, and the installation will be complete.

Installing from within Windows

Another way to install Ubuntu is to use Ubuntu Windows Installer, or Wubi. This is perhaps the easiest of all methods. Go to www.ubuntu.com/getubuntu/download-wubi and download the program and run it within Windows. Then answer the questions that come up and wait. The process can take a long time because it will download the entire installation .iso, but once finished, a dialog box will appear telling you that you need to reboot. When you do, you will find that you will boot to a menu giving you the option to boot into either Windows or Ubuntu. More detailed information is available at the link above.

Summary

In this chapter we outlined several methods for installing Ubuntu. Once this task is complete, you are ready to move on to more interesting topics. The next chapter will help you get started.

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