

**VISUAL QUICKPRO GUIDE**

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# **Red Hat Linux 6**

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**Harold Davis**

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### **Peachpit Press**

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# Part 1

# Installing

# Red Hat Linux 6

Part I covers installing Red Hat Linux 6 and the Gnome Desktop Environment. You'll find enough information in this part to quickly get up and running and to find your way around the desktop! You'll also learn how to install software, surf the Web, and much more. In fact, all the information you *really* need to use Red Hat Linux 6 is here.

**Chapter 1: Quick Start** explains how to get Red Hat Linux 6 running on a machine of its own. You may be amazed at how easy this is.

**Chapter 2: Detailed Installation Instructions** shows you how to install Red Hat Linux 6 on a machine that is also running Microsoft Windows. In addition, some advanced configuration and installation troubleshooting information is provided.

**Chapter 3: Configuring Gnome** shows you how to customize the Gnome desktop to your personal taste, and make the most of this powerful environment.

**Chapter 4: Email and the Web** tells you how to quickly connect to the Internet—and get up and running with the Netscape Communicator suite.

**Chapter 5: Linux Documentation** explains how to find more of the information you need.

Enough! It's time to get started with Red Hat Linux 6!

# Part 1

## Installing RedHat Linux 6

### Quick Start Installation.....3

- Gathering Information
- Securing Your Retreat
- Creating a Linux Boot Disk
- Installing Linux
- For the very first time...
- Summary

### Detailed Installation Instructions.....17

- Linux and Windows on the Same System
- Using FIPS
- DOS fdisk
- Linux fdisk
- Disk Druid
- Booting to Windows and Linux
- Different Types of Installations
- Configuring Your Video Card and Monitor
- Configuring a Printer
- Summary

### Configuring Gnome.....39

- Using the Gnome Control Center
- Using the Window Manager
- Working with Virtual Desktops
- Using Multimedia
- Using Peripherals
- Using Session Manager
- Switching Desktop Environments
- ConfigurationRebooting and Shutting Down
- Using the Menu Editor
- Configuring File Manager
- Choosing an Editor
- Setting the Panel Properties
- Using GnoRPM
- Summary

### Email and the Web.....65

- Becoming Root
- Configuring Your System with Control Panel
- Configuring a Modem
- Configuring a Direct Connection
- Configuring and Using Netscape Communicator
- Summary

### Linux Documentation.....77

- Applications and Help
- The Gnome Help Browser
- Finding Information on the Web
- The Linux Document Project
- Summary

# QUICK START INSTALLATION

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Linux is an extremely powerful operating system. It can be installed in a number of different configurations: for example, as a single desktop, as a file and print server, or with a custom combination of components. Linux can be installed to occupy the entire file system of your computer or to co-exist with another operating system (such as Microsoft Windows). This “Quick Start” chapter assumes that you will be turning your computer over to Linux in its entirety.

As you are quite possibly all too aware, Windows computers running on the Intel platform come with a mind-boggling array of hardware peripherals, components, and configurations. Although it is becoming somewhat more mainstream to purchase an Intel-compatible machine with Linux preinstalled, most likely you will be installing Linux on a machine running Windows.

The combination of a flexible and powerful operating system and the possibility of installation on a huge variety of hardware leads to complex installation issues.

As explained in the introduction, Linux itself is freely distributable software. A large part of the value added by Red Hat—and some other Linux vendors—is the software these vendors have added to make installation of the Linux operating system (and the software running on Linux) easier.

This “Quick Start” chapter is intended to show you how to install Linux using the CD that accompanies this book. It covers a typical installation and does not attempt to troubleshoot all possible problems. (You’ll find lots of information on customizing Linux in the other chapters in Part I of the *Red Hat Linux 6: Visual QuickPro Guide*.)

In other words, the goal of this chapter is to get you up and running on Linux with no pain and in no time at all.

## Gathering Information

Before you start installing Linux, you should gather information about your current hardware. Assuming that you are currently running Windows, one of the best sources of information is Windows itself. (I'll show you how to obtain this information in a moment.)

Other sources of information include

- ◆ Printed documentation—manuals—for your hardware
- ◆ The hardware itself (you may have to open your computer to find this)
- ◆ The system vendor: for example, Dell
- ◆ The manufacturer of a specific piece of hardware: for example, 3Com

### To obtain information about your current hardware from Windows:

1. Right-click the My Computer icon on your desktop.  
A pop-up menu will appear.
2. Choose Properties from the pop-up menu.  
The System Properties dialog box will open (**Figure 1.1**).
3. Select the Device Manager tab (**Figure 1.2**).  
The Device Manager tab displays a list of the hardware in your computer by category. A plus sign on the left of the category indicates that an item can be expanded to show more information.
4. Highlight an individual hardware component and click the Properties button to display more information about that specific piece of hardware (**Figure 1.3**).



**Figure 1.1** You can use the System Properties dialog box to learn about your hardware.



**Figure 1.2** Windows Device Manager provides a list of hardware categories that can be expanded to display individual hardware components.



**Figure 1.3** Clicking the Properties button displays detailed information about a specific hardware item.

## What you need to know

You should be prepared to supply the following hardware information. It's a good idea to write this down before you proceed:

- ◆ Your **mouse** type and, if it is a serial mouse, the port it is connected to
- ◆ **Disk controller** type(s) and, for SCSI devices, the make and model
- ◆ **CD-ROM** type
- ◆ The make and model of your **monitor** and, possibly, its horizontal and vertical refresh rates
- ◆ The make and model of your **video card**, its chip set, and the amount of RAM it uses
- ◆ The make and model of your **network interface card** (NIC)

## ✓ Tips

- Red Hat Linux 6 with the graphical Gnome desktop environment requires a minimum of 8MB of RAM and a minimum total of about 120MB of hard drive space. Clearly, your system will run better with more RAM (what else is new?). In addition, if you are going to install many of the components and applications that come with Red Hat Linux 6 and Gnome—such as those included in the default installations—you'll find the program taking up a great deal more space, perhaps as much as 450MB.
- **Warning!** The procedure outlined in this chapter replaces the Windows file system with the Linux file system. All the current data and applications on your hard drive will be lost, and unless you have made backups, there will be no way to retrieve them.
- **Warning!** Install at your own risk! The version of Red Hat Linux 6 on the CD-ROM bundled with this book does not come with free technical support from either Red Hat or Peachpit Press. That means if you install it, and something goes wrong, you have to figure out how to fix it using this book and the documentation on the CD-ROM and the Red Hat Web site ([www.redhat.com](http://www.redhat.com)). You can purchase technical support from Red Hat by calling 1-888-REDHAT1.

## Securing Your Retreat

Besides gathering information, another crucial piece of preparation is to secure your retreat by making (and testing) a Windows boot floppy. Typically, Windows is installed from a CD. To start the installation program, you'll need a floppy disk that can be booted and that can access the CD-ROM drive with the Windows installation disk.

Of course, it is likely that you will be so happy with Linux that you'll never want to go back to Windows. But on the off chance that you change your mind, you'll need the Windows boot disk.

### To create a Windows boot floppy:

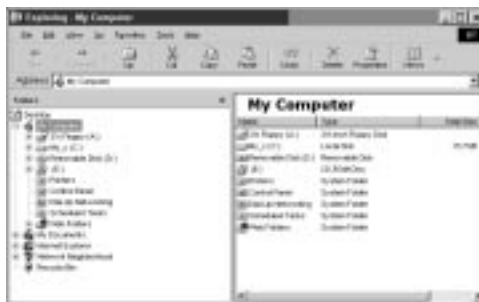
1. Place a floppy disk in your boot drive.
2. Right-click My Computer on your desktop and select Explorer from the pop-up menu.

Windows Explorer will open (**Figure 1.4**).

3. Select your boot floppy drive (usually drive A) in Explorer. Right-click it and select Format from the pop-up menu.

The Format dialog will appear (**Figure 1.5**).

4. Make sure that Copy System Files is checked (the system files are what make the floppy bootable). Click Start.



**Figure 1.4** To create a Windows boot disk, open Windows Explorer, select your floppy drive, and choose Format from the pop-up menu.



**Figure 1.5** By checking Copy System Files, you are telling Windows to create a bootable floppy disk.



**✓ Tip**

- Creating a bootable floppy disk may not be sufficient, depending on your system. To reinstall Windows, you'll need to be able to access the CD-ROM drive. Depending on your system, this may require drivers that are not copied with the system files as part of the process of creating a bootable disk. If this is the case for your system, you should determine from documentation which files are needed. Then, copy the appropriate files to your boot floppy. Make sure to add any required Windows configuration files such as `autoexec.bat` and `config.sys`. Finally, test your new boot floppy to make sure that you can access the CD-ROM drive, as detailed in the following sections.

**To test your Windows boot floppy:**

1. Make a note of the letter designation for your CD-ROM drive: for example, drive D.
2. Place the boot floppy in the drive.
3. Shut down Windows.
4. Turn your computer off and then on again.

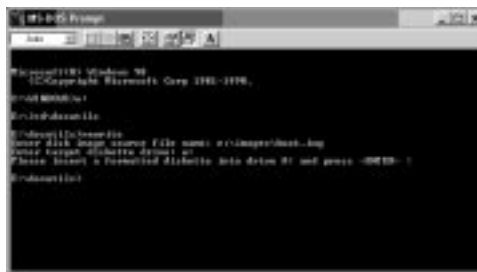
If the boot floppy is working, the computer will boot up to a DOS prompt with the designation for the floppy drive, usually A:.
5. Test that you can access the CD-ROM drive by typing at the A:> prompt the letter of the CD-ROM drive: for example, **D :**.

If the prompt now says D:>, and no error messages have appeared, you can access your CD-ROM drive from the boot floppy.

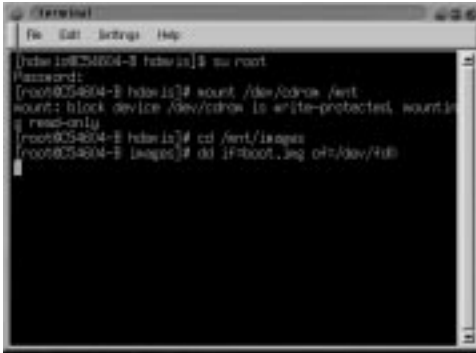
Before you can install Red Hat Linux from the CD bundled into the back of this book, you will need to create a Linux boot disk.

You can create a Linux boot disk using your Windows computer or using a computer already running Linux. (You may need the boot disk to upgrade an existing Linux installation or to install Linux on an additional computer.)

1. Place the Linux CD in the drive on your Windows machine.
2. Place a blank floppy disk in your boot drive.
3. Choose MS-DOS Prompt from the Programs menu found on the Start menu. A DOS Window will open (**Figure 1.6**).
4. Change to your CD-ROM drive. For example, if your CD-ROM drive is drive E, at the prompt enter **E**.
5. Change to the dosutils directory, by entering the following at the prompt:  
**cd\dosutils**.
6. Run the rawrite program by typing the following at the prompt: **rawrite**.
7. You will be prompted to enter the disk image source file name. Type **e:\images\boot.img**.
8. Press Enter on the keyboard.
9. You will be prompted for a target diskette. Type the name of the boot drive: for example, type **a:**.
10. Press Enter on the keyboard.
11. You will be prompted to place a floppy disk in the drive. Once you have done so, press Enter again, and the Linux boot disk will be created.



**Figure 1.6** You can use the rawrite program from within a DOS command prompt window to create a Linux boot disk.



**Figure 1.7** Under Linux, you can create a boot disk by copying the boot image to your floppy disk.

### ✓ Tip

- If you have a recent computer, it may feature a bootable CD-ROM drive. (You should check your system documentation to find out if this is the case.) If you can boot directly from your CD-ROM drive, you do not need to create a Linux boot disk and can start the installation process simply by placing the CD-ROM from the back of this book in your drive and restarting the computer.

### To create a Linux boot disk with Linux:

1. Open a Linux telnet window (**Figure 1.7**) or access the Linux command-line prompt.
2. If you don't have root (or superuser) privileges, type **su root** at the prompt and supply the root password.
3. Place the CD in its drive and *mount* it—that is, connect it to the rest of the Linux file system—by entering the following at the prompt: **mount /dev/cdrom /mnt**.
4. Change to the images directory on the CD by typing **cd /mnt/images**.
5. Place a blank disk in the floppy drive.
6. Copy the boot image to the floppy disk by typing  
**dd if=boot.img of=/dev/fd0**
7. If you want, unmount the CD by typing the following:  
**cd /**  
**umount /mnt**

### ✓ Tip

- The images directory on the CD-ROM distributed with *Red Hat Linux 6: Visual QuickPro Guide* contains disk images, not pictures.

# Installing Linux

Enough with preliminaries! It is time to install Linux.

## To boot the installation program:

1. Power down your computer.
2. With the CD-ROM in its drive and the Linux boot disk that you created in the floppy drive, turn the power back on.  
After a brief delay, a text-based boot screen will appear.
3. Press Enter to accept the default options.  
The installation program will begin.

### ✓ Tip

- If you don't press Enter, after one minute the installation program will start running with the default options.

## To run the installation program:

1. The first dialog box you'll see once the installation starts asks you to select a language to be used during the installation process (**Figure 1.8**). Use the arrow keys to highlight the language of your choice.
2. Press the spacebar to select the language.



**Figure 1.8** The first step in the installation process is to select a language that the program will use.



**Figure 1.9** You must specify the installation media, most likely a CD.

## Navigating the installation windows

Once the Red Hat Linux installation program begins, you will need to use your keyboard for navigation because the program does not respond to mouse commands.

The following keystrokes are used in the installation dialog boxes:

- ◆ Left, right, up, and down arrow keys move the cursor in the direction of the arrow.
- ◆ Tab, Alt+Tab cycle forward or backward through the options on the screen.
- ◆ Spacebar, Enter select options.
- ◆ F12 accepts the current values and moves to the next dialog box (equivalent to clicking OK).



**Figure 1.10** You can use the installation program to upgrade, which preserves your current data and configuration, or to perform a completely new installation.



**Figure 1.11** There are three classes of installation: Workstation, Server, and Custom.



**Figure 1.12** A Server-class installation deletes all the partitions on your hard drive.

3. Tab to the OK box and press Enter to select it.
4. In the next dialog box, select a keyboard type. If your keyboard is not on the list, the best choice is US.
5. You will be asked to choose an installation method (**Figure 1.9**). Choose Local CDROM and select OK.
6. The installation program will prompt you to make sure the CD is in place. Press Enter on the keyboard to verify that it is. If the installation program doesn't find your CD-ROM, reboot your computer with the CD-ROM in place and restart the installation program.
7. The program will probe your system to find and identify your CD-ROM drive. If your CD-ROM drive is controlled by a SCSI controller, you will be asked if there are additional SCSI controllers in your system. Select No (unless you have other SCSI controllers).
8. Choose whether you want to upgrade or perform a new installation (**Figure 1.10**). Upgrading will preserve applications and data files and existing configuration files (which will be renamed with a `.rpm`save extension). You should choose Upgrade only if your system is already running Red Hat Linux version 2.2 or greater.
9. In the next dialog box, you will be asked to choose the installation class (**Figure 1.11**). There are three choices: Workstation, Server, and Custom. A Workstation-class installation erases all current Linux partitions from your system. A Server-class installation erases *all* partitions from your system. A Custom-class installation gives you complete control over partitioning, and over which components are

(Continued...)

installed. See Chapter 2 for more information on Custom-class installations.

Tab to the Server check box and press the spacebar to select it.

10. Press the F12 key to continue to the next dialog box.
11. You will be warned that you are about to delete all the partitions on your hard drive, meaning that all your data will be lost (**Figure 1.12**). Tab to the OK box and press Enter to continue.
12. Select your mouse type and connection using the Tab key, arrow keys, and spacebar.
13. If the installation program detected a network card, you will be asked to configure networking (**Figure 1.13**). See Chapters 3 and 4 for more information.
14. Enter a password for root (**Figure 1.14**), also called the superuser. The root password must be at least six characters long. It gives access to the entire system—you should take care not to lose it and not to share it with any high-security-risk individuals.
15. You are given the opportunity to create a custom boot disk for the new system (**Figure 1.15**). Select Yes.



**Figure 1.13** You can configure networking during the installation process.



**Figure 1.14** You must supply a root password, which should be protected and not forgotten.



**Figure 1.15** You are given the opportunity to create a custom boot disk.



**Figure 1.16** If you decide to create a boot disk, you must insert a floppy disk in your drive (drive A in Windows is /dev/fdo in Linux).



**Figure 1.17** The installation program will attempt to identify your video subsystem.



**Figure 1.18** For the display to work properly, you'll need to identify your monitor.

16. At the prompt, insert a blank floppy disk (**Figure 1.16**).
17. You will be asked if you want X-Windows to start automatically at bootup. Select Yes. The installation program will attempt to identify your video adapter (**Figure 1.17**).
18. Select your video monitor from the list (**Figure 1.18**) using the Tab key, the arrow keys, and the spacebar. If your monitor is not listed, you can specify horizontal and vertical refresh rates directly. This procedure is covered in more detail in Chapter 2.
19. Remove the floppy drive from the disk so the system can reboot.

#### ✓ Tip

- If your monitor isn't listed and you don't have refresh rate information, try choosing a Dell monitor in the right size.

## For the Very First Time...

Provided you selected automatic start of X-Windows, when the installation program reboots after a startup process, you will see the Red Hat logon screen (**Figure 1.19**). Log on as root with the password you supplied during installation. Congratulations! You've successfully installed Red Hat Linux.



**Figure 1.19** After the installation completes, your system will reboot; you will then be ready to log on for the first time.

It's a bad idea to run your system as root. Once you've booted up, your first step should be to add yourself as a new user.

You'll also need to know how to reboot and shut down your new system.

### To add yourself as a user:

1. Open a terminal window, either by clicking the terminal icon on the Gnome panel or by choosing Gnome Terminal from the Gnome Utilities menu.
2. Click the Terminal window so that it has the focus of keyboard entries.
3. At the prompt, type **useradd jpublic**, where **jpublic** is your name.

### To add your password:

1. You must specify a password for your new user. You can use the **passwd** command to give *jpublic* a password. At the prompt, enter:

```
[root@linuxbear /root]#  
passwd jpublic
```

2. You'll be prompted to enter a password:  
**New UNIX password:**

3. You will be prompted to re-enter the password:  
**Retype New UNIX password:**  
**passwd: all authentication \_**  
**tokens updated successfully**  
[root@linuxbear /root]#

Note that when you enter the new password, it will not be echoed to the screen.

### To reboot:

With the Terminal window still open, type

```
shutdown -r now
```

### To shut down the system:

In the Terminal window, type

```
shutdown -h now
```

The system will proceed to shut down. When a message saying "Power Down" appears on the screen, it is safe to turn off the computer.



## Summary

In this chapter, you learned how to:

- ◆ Gather information about your Windows hardware.
- ◆ Create and test a Windows boot disk.
- ◆ Create a Linux boot disk using a Windows machine.
- ◆ Create a Linux boot disk using a Linux machine.
- ◆ Install Linux.
- ◆ Add a user.
- ◆ Add a user password.
- ◆ Reboot the system.
- ◆ Shut down the system.