Fedora Quick Start

Part of the challenge of moving to a new operating system is moving beyond any preconceived ideas about how things should work. If you have been locked into a Windows environment and this is your first move to Linux, you might start out by hunting for the My Documents and My Computer icons on your desktop, but without much success because you won’t find them there. Likewise, if you are used to a Mac OS X desktop, you might feel somewhat lost without the presence of the Dock to help launch applications. No matter, though; in this chapter, you will learn the fundamentals of working with Fedora so that you can comfortably progress through the rest of the book.

In this chapter, we look at how to find your way around your new desktop, what each of the menu options contain, and we take you through the preinstalled software. We also look at how to install new software, and more important, we ensure that your installed software is kept up-to-date with relevant patches and security updates. Connecting to a network, either wirelessly or through a physical connection, is something that is common to almost everyone, so we look at this later on in the chapter.

The Fedora Desktop

After you have logged in to Fedora for the first time, you will be greeted with the default desktop. It resembles something like that shown in Figure 2.1.

Along the top and bottom are panels, which can contain items such as menu options (like on the top panel) or other shortcuts such as the Web Browser icon to the right of the System menu. The main window contains three icons: Computer, Home, and Trash.
In Linux-speak, the tilde character (~) represents Home, or the folder that contains information that is specific to your login. So my home directory is called andrew's home, as this matches my login name. Your login name will differ, unless of course your name is Andrew, too!

It's useful to remember the tilde, especially when you come to the “Command-Line Quick Start” (Chapter 4) or the “Command-Line Master Class” (Chapter 32) because it will help you with navigating via the terminal.

Apart from these three icons, a set of shortcut icons is immediately to the right of the System menu; these represent five useful applications you may want to access quickly. You'll also see the clock farther along the top panel, as well as a Speaker icon representing the sound options. You may also see an icon denoting your network connection status; more on this as part of the “Configuring Wireless Networks” section.

At the bottom left of the screen is another small icon that is used to show your desktop. When you have many different windows open and you need to quickly access something on your desktop, you can click this icon and all the windows minimize, leaving you with your desktop. If you want, you can then click again on this icon and the windows all reappear.

The bottom-right side of the screen holds something that until recently was exclusive to UNIX/Linux platforms: the Workspace Switcher. You can click any of the four screens to access that screen.
Workspace Switcher—A Quick Primer

Workspaces are something that you probably haven’t come across in other operating systems, but you will see them a lot in Fedora and other Linux, FreeBSD, and UNIX systems. Essentially, Fedora creates four workspaces across which you can run several applications, depending on how you work. For instance, you could use workspace one for your word processor, workspace two for your spreadsheet, workspace three for your email, and workspace four for your configuration tools.

Accessing each workspace is as simple as clicking it in the Workspace Switcher. Fedora immediately switches to that workspace and displays whatever applications are present. Your desktop and any icons on it remain on the workspace, ready for your use.

Alternatively, if you want to use the keyboard to switch between workspaces, you need to press Ctrl+Alt and either the left or right cursor key to move left a workspace or right a workspace. Fedora keeps you in the loop as to which workspace is currently active by highlighting it in the Workspace Switcher. You can also see small windows open within the workspaces that have active applications.

Finally, in the bottom-right corner is the trash can, to which you can drag files to be deleted when you are ready. By default it is empty, but as you delete things, the trash can becomes full, indicating that there is something there.

Getting Around Fedora

As mentioned earlier, Fedora is the gateway to a better computing life. But getting to that better computing life means that you need to understand where Fedora stores things on its desktop. We have already covered the basics of what the desktop looks like, but in this section we go a little deeper and explore some of the menu options, as well as some of the tips and tricks you can use to get around Fedora.

The Menu Options

Fedora automatically creates three menu options for you along the top panel. These are Applications, Places, and System. Don’t be confused into thinking that the Fedora logo is a menu in itself; it is just part of the Applications menu.

The three menus hold different things, and it is important for you to understand where you can find specific applications, utilities, and shortcuts that you will use to interact with your system.

The Applications menu holds all the GUI applications that are currently installed on your system, arranged into predefined groups such as Accessories, Office, Internet, and so on. At the bottom of this menu is an entry that enables you to add or remove additional applications.

The Places menu enables you to quickly navigate to certain locations that are either local to your computer or, in the case of network server, that are on remote machines. You will also find options for searching as well as accessing recent documents in the Places menu.
The final entry is the System menu, which holds all the associated utilities that you need to administer your system, including options to log out and shut down your system. Two submenus under the System menu neatly separate systemwide changes from user-based changes. The Preferences submenu enables you to change settings that are specific to your user login, so they affect only you and not any other users. Administration, on the other hand, enables you to make systemwide changes such as adding printers, working with logical volumes, and modifying system services, to name but a few.

**Window Selector**

An important part of the Fedora desktop is the Window Selector (shown in Figure 2.2), which appears on the bottom panel by default. As you launch applications, they appear in the main desktop, and an icon and associated application name appear in the bottom panel. Each application appears in the panel for that specific workspace, enabling you to easily organize your applications. The Window Selector also enables you to quickly switch between windows by clicking each entry. By clicking each entry, you bring the associated window to the front of the screen. If you then click again on the entry, you minimize that application, and maximize it if you click it once more.

![Figure 2.2 Use the Window Selector to switch between open applications.](image1.png)

**The Computer Icon**

As an entry point to your system, the Computer icon is one tool for navigating through your system with the GUI interface. The interface itself is called Nautilus, and is the default file manager for Fedora. You will see a screen similar to that in Figure 2.3, although it may vary depending on whether you have additional drives and storage devices attached to your computer. You navigate through the file system by double-clicking each icon, opening the contents of the folder into a new window.

![Figure 2.3 Use Nautilus, Fedora's GUI file manager, to navigate through the directories on your file system.](image2.png)
The Home Icon

Fedora uses the UNIX method of assigning a home directory to every end user. The directories are collectively stored under the /home directory, so you may see entries for /home/andrew or /home/bernice. However, Fedora also creates a shortcut icon for each user that appears on her desktop when she logs in. This shortcut icon takes the user directly to her home directory, where she can store documents and files that are specific to her. All your personalized settings are stored under the home directory because they are specific to you.

NOTE

So we said that all your personalized settings are stored in your home directory, but when you open it up you find that you can’t see anything but the default directories. This is because all your personalized settings are stored in hidden folders, commonly prefixed with a period. Simply go to the View menu and select Show Hidden Files and suddenly you’ll see all the folders related to your settings.

In older releases, Fedora left the home directory pretty much empty (with the exception of the personalized settings, which are hidden), but now there are seven folders to help you organize your files. You don’t have to keep any of them, but they are there as a helping hand in your move to Fedora.

When you double-click a folder, the icon changes to denote that the folder’s contents are open in another window, as shown in Figure 2.4.

FIGURE 2.4 Keep track of which folders are open by looking at the folder icons.

If you find that you are working with a lot of folders, Nautilus has a handy feature that lets you close all folders, or just the parents of the folder with which you are currently working. Just select the File menu within the Nautilus window and select your desired option.
Accessing the Command Line

Throughout this book, you will see references to the command line, also known as the terminal. This is your way to execute commands directly, using a text-based input rather than a GUI utility.

Earlier versions of Fedora kept the Terminal application in the Applications, Accessories menu. Fedora 8 has changed this so that the Terminal now appears under Applications, System Tools, reflecting its status as a tool for accessing system settings and carrying out administration. You can use several terminal applications, but Fedora defaults to `gnome-terminal`, and unless you have a really good reason for switching, you should find it does everything you need.

Available Applications

If you have installed Fedora using the DVD supplied with this book, and used the default selection of packages (Productivity), congratulations; you now have a fully functional operating system, complete with word processor, spreadsheet, email client, calendar, instant messaging client, and other programs that will enable you to work with Fedora.

This section touches briefly on the different applications installed when you use the Productivity package set that is defined during the installation.

Office Suite

The office suite of choice for Fedora is OpenOffice.org. If you have hung around any Linux geeks for long enough, you are bound to have heard of this increasingly popular open source office suite. It comprises several components, but Fedora delivers word processing (Writer), spreadsheet analysis (Calc), and presentation delivery (Impress) out of the box. Chapter 6, “Productivity Applications,” looks at OpenOffice.org in more depth. You can access Writer, Impress, and Calc by clicking the shortcut icons in the top panel.

Internet Workstation

Linux was designed with communication in mind, and it is fitting that Fedora comes with a suite of Internet tools, including the popular Firefox web browser, Evolution PIM (Personal Information Management) software, Pidgin (instant messaging client formerly known as GAIM), and Ekiga (videoconferencing). You can launch Firefox by clicking the Firefox icon in the top panel bar, and can launch Evolution by clicking the Envelope icon, again in the top panel bar. Chapter 5, “On the Internet,” covers Internet applications.

Multimedia

Multimedia is a big thing these days, with many different people carrying USB flash drives full of music, photos, and other media types. Fedora itself includes the GIMP, a powerful graphic manipulation package, along with gThumb for managing your photo collections. It is also well served in the music department, offering a CD player, CD ripper, and media player to handle various free codec-based files. You are also able to
obtain software to watch DVDs and other proprietary video formats, although this may be illegal in your country.

**NOTE**

Fedora doesn’t ship with MP3 support as standard, nor does it include support for many of the standard formats found within Windows or Mac OS X. This is down to the patents that are used in the development of these formats, more commonly known as codecs. Inclusion of these codecs in Fedora is prevented due to the legality of the licenses and patents involved. However, all is not lost. Some third-party repositories offer plug-ins for the multimedia applications bundled with Fedora, which allow them to use additional codecs.

**Games**

Because Windows 386 included Reversi, it’s kind of been a given that most operating systems include some simple games. Fedora follows in this tradition with a selection of games and puzzles to provide a momentary distraction. We don’t actually cover the default selection of games because they’re pretty straightforward, but Chapter 9, “Games,” takes a look at some of the better known games available for Fedora.

**Keeping Your Software Up-to-Date**

With any operating system, it is important to ensure that you have the most recent bug fixes and patches, which are designed to make your applications even more stable.

Fedora makes updating your software extremely easy and relies on an application called **pup**, which can be found under Applications, System Tools as the Software Updater entry. In fact, when you log in to Fedora, **pup** automatically checks the configured software repositories to see whether any updates are available and then asks whether you want to download them. This is shown in Figure 2.5.

![Figure 2.5](image)

**pup** keeps an eye out for any updates and notifies you through an alert in the top panel.

The nice thing about updating with **pup** is that it updates all the software installed through Fedora at one time, as shown in Figure 2.6, instead of updating only the core operating system or certain parts of it.
FIGURE 2.6 Use `pup` to manually update your entire system.

The partner to `pup` is `pirut`, or the Add/Remove Software item under the Applications menu. This is Fedora’s default software management tool and allows you to install further software packages or remove them as necessary. `pirut` (shown in Figure 2.7) enables you to select using groups of packages (for example, Window Managers, Software Development), individual packages from a list, or by searching for specific packages.

FIGURE 2.7 `pirut` helps you manage your selection of software.
Configuring Wireless Networks

Wireless networking used to be a pig to configure for Linux, requiring a lot of complicated steps to connect to a wireless network. However, Fedora includes a great utility called NetworkManager that makes connecting to and managing wireless networks extremely easy. Thanks to the inclusion of several wireless chipset drivers in the Fedora Linux kernel, it is now very easy to connect to WEP-and WPA-encrypted wireless networks.

Fedora now includes support for Intel wireless chipsets out of the box, so if you have a Centrino notebook, you should have no problem connecting to a wireless network. This also extends to anyone who uses a device based upon the zd1211 chipset, which includes some USB adaptors. However, for Broadcom-based wireless systems, you need to retrieve the bcm43xx-fwcuter program to extract the firmware from the relevant driver file. Head on over to http://tinyurl.com/32tv5r to download drivers for earlier Broadcom chips, or go to http://tinyurl.com/36mbr5 to download firmware for later Broadcom chips. You are interested in the files that begin with WL, so copy them to a folder in your home directory.

NOTE

For the broadcom-wl-4.80.53.0.tar.bz2 file, you will need to double-click it because it is a compressed file. When Archive Manager opens, browse to broadcom-wl-4.80.53.0/kmod/ and copy both wl_apsta.o and wl_apsta_mimo.o to your home directory, either by dragging both files onto your Home icon, or by clicking Extract in the toolbar and browsing to your home directory.

Unfortunately it’s trial and error from here in, so you will have to try each file in turn to see if it enables your hardware. For the files wl_apsta.o and wl_apsta-3.130.20.0.o, you need to use the command bcm43xx-fwcuter; for the wl_apsta_mimo.o file, you need to use b43-fwcuter. Either way, the syntax is command file. So, for example, you might enter the following:

$ bcm43xx-fwcuter wl_apsta.o

You then press Enter to extract the firmware. After you have done this, you need to switch to root to move the extracted files to the location that Fedora requires them to be in. You change to root by issuing the command su and entering the root password when requested.

At the root prompt, enter the following command when you have used the bcm43xx-fwcuter command:

# mv *.fw /lib/firmware/

Or, if you used the b43-fwcuter command earlier, enter this command:

# mv b43 /lib/firmware/
At this point, you must restart your system to ensure that Fedora recognizes the new firmware. Go to System, Shutdown, and choose Restart.

When your system comes back up, it’s best to open a new terminal window (Applications, System Tools, Terminal) and enter the command `dmesg | grep bcm` or `dmesg | grep b43` depending on which tool you used to extract the firmware. You should see something similar to this:

```
b43-phy0: Broadcom 4306 WLAN found
b43-phy0 debug: Found PHY: Analog 2, Type 2, Revision 2
b43-phy0 debug: Found Radio: Manuf 0x17F, Version 0x2050, Revision 2
b43-phy0 debug: Adding Interface type 2
b43-phy0 debug: Loading firmware version 351.126 (2006-07-29 05:54:02)
b43-phy0 debug: Chip initialized
b43-phy0 debug: 30-bit DMA initialized
b43-phy0 debug: Wireless interface started
```

This means that Fedora has successfully recognized your Broadcom-based wireless card.

Now all you have to do is start NetworkManager to help you manage your wireless network. To do this, go to System, Administration and choose Services to see the Service Configuration tool shown in Figure 2.8.

![Service Configuration](image)

**FIGURE 2.8** Control the services that are loaded in Fedora using the Service Configuration tool.
You need to make sure that the check box is marked next to both NetworkManager and NetworkManagerDispatcher; as you check the boxes, click the Start button directly above them to start the services immediately. Finally, click the Save button in the toolbar, and close the Service Configuration tool by going to File, Quit. When you’ve done this, the NetworkManager icon appears in the notification area of your top panel (see Figure 2.9). This is the applet that handles and monitors network connections.

When you are ready, click the NetworkManager icon in the toolbar to connect to a wireless network. If your wireless access point broadcasts its SSID, it should appear in the list under wireless networks (similar to Figure 2.9). Simply click the required network and NetworkManager detects what encryption (if any) is in use and asks you for the passkey. Enter this and NetworkManager starts the wireless connection. The passkey is then stored in the default keyring (essentially a central way of managing security in Fedora); so if you have not yet used the keyring, you are asked to create a password. From now on, whenever you log in to Fedora, you will be asked for the key to unlock the keyring.

If for some reason your wireless network does not appear (you might have your SSID hidden), you have to use the Connect to Other Wireless Network option, which brings up the screen shown in Figure 2.10.

NetworkManager can handle WEP and WPA encryption, as well as enterprise variations of WPA. You are advised to use WPA encryption as it is the stronger of the two.

NetworkManager can also connect to Cisco VPN connections. You are able to specify connection settings as appropriate, or if you have access to a predefined configuration (PCF file) you can import it directly into NetworkManager.
FIGURE 2.10 Use NetworkManager to configure your wireless network connection settings.