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My macOS™
Sierra Edition

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John Ray is a life-long fan of Apple products; he has been an avid Mac user since its inception in 1984. He relies on OS X both at work and at home because it is a robust, flexible platform for programming, networking, and design. Over the past 17 years, John has written books on OS X, iOS development, Linux, web development, networking, and computer security. He currently serves as the Director of the Office of Research Information Systems at The Ohio State University. When he isn’t writing, he is either recreating a marine disaster in his living room, watching Arduinos go up in smoke, or planning a highly elaborate project that will quadruple his carbon footprint.
This book is dedicated to Mimo (my puppy) and cheap rugs from Amazon.com.
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Prologue: Getting Started with the Mac

This book explains how your Mac and the latest edition of the macOS operating system, Sierra, are used to create your ideal working environment. If you’ve never worked with a Mac before, macOS is the name applied to Apple’s desktop operating system—like “Windows” on a PC. iPhones and iPads run iOS, and Macintosh computers run macOS. Prior to 2016, macOS was known as OS X—and you’ll likely still see remnants of this name in various nooks and crannies of the system.

Before you can begin climbing the Sierras, let’s start by reviewing the hardware capabilities of your system and the prerequisites necessary to use this book.

Getting to Know the Mac Hardware

Each model of Mac includes a wide array of ports and plugs for connecting to other computers, handheld devices, and peripherals such as printers and external displays. For new systems, like the retina USB-C MacBook, you need to use an expansion adapter (sold by Apple) to access additional ports.

I refer to your hardware options by name throughout the book, so it’s a good idea to familiarize yourself with the possibilities now:

- **Ethernet**—Ethernet provides high-speed wired network connections with greater speeds and reliability than wireless services. Your Mac can support a very fast version of Ethernet, Gigabit Ethernet, that makes it a first-class citizen on any home or corporate network.
- **FireWire 800**—FireWire 800 is a peripheral connection standard available on some systems (or via adapter) that was frequently used to connect external storage and video devices.
- **Mini DisplayPort**—The DisplayPort enables you to connect external monitors to your Mac. Although few monitors support the DisplayPort standard, you can get adapters from Apple for connecting to both VGA and DVI interface standards.
- **HDMI**—HDMI is the standard for high-definition televisions and displays. Almost all Macs include HDMI ports or support adapters for outputting HDMI.
- **Thunderbolt**—The highest-speed interconnect available on a personal computer, Thunderbolt allows monitors, storage units, and other devices to be daisy-chained together. This means that each device connects to the next device, rather than all having to plug into a separate port on your Mac. Thunderbolt uses the same connector and is compatible with Mini DisplayPort.
- **USB 2.0/3.x**—Universal Serial Bus is a popular peripheral connection standard for everything from mice to scanners to hard drives. Mac models released after mid-2012 support USB 3.0, the next, much faster, evolution of USB.
- **SD card slot**—SD (Secure Digital) RAM cards are a popular Flash RAM format used in many digital cameras. Using the built-in SD RAM slot, you can create a bootable system “disk” that you can use to start your computer in an emergency.
- **Audio in**—A connection for an external microphone.
- **Audio out**—An output for headphones, speakers, or a home theater/amplifier system.
- **802.11ac**—The fastest standard currently available for consumer wireless network connections. Your Mac’s wireless hardware can connect to any standards-based wireless...
access point for fast, long-range Internet access.

- **Bluetooth**—Bluetooth connects peripheral devices wirelessly to your Mac. Unlike 802.11ac, Bluetooth has a more limited range (about 30 feet, in most cases), but it is easier to configure and doesn’t require a specialized base station.

- **SuperDrive**—An optical drive that can be used to write CDs and DVDs.

- **Retina displays**—The Retina display is an extremely high-resolution display on Apple’s new (2014 and later) MacBook and iMac lines. The display offers near-laser-printer quality resolution at the expense of larger application sizes.

- **Force Touch**—The Force Touch-enabled trackpad gives users the ability to trigger actions by applying different levels of pressure to their trackpad. Force Touch is available on all 2015 and later MacBooks, on MacBook Pros, and on the Magic Trackpad.

So what does your computer have? Apple’s hardware lineup changes throughout the year, so your features depend on the model and the date it was made. Be sure to consult your owner’s manual for a definitive description of what is included in your system.

### Built-In Batteries

If you have a portable Mac, its usefulness depends on the built-in battery. Apple has eliminated user-serviceable batteries from all its portable devices. This means that you now get a higher-capacity battery with a longer runtime, but in the event of a failure, you can’t repair it yourself.

To replace the battery, you need to visit your local Apple store or registered service center. The battery can be replaced in the store, while you wait, for approximately $130.

### Special Keyboard Keys

Take a look across the top of your keyboard. Notice that even though there are “F” (function) designations on the keys, there are also little icons. The keys marked with icons provide system-wide control over important Sierra features:

- **F1, F2**—Dim and brighten the display, respectively
- **F3**—Start Mission Control and display all application windows
- **F4**—Open the Launchpad
- **F5, F6**—Dim and brighten the backlit keyboard, if available
- **F7, F8, F9**—Act as Rewind, Play, and Fast Forward controls during media playback
- **F10, F11, F12**—Mute, decrease, and increase volume

The Eject key is located in the far-right corner of the keyboard and is used to eject any media in your Mac’s SuperDrive—if it has one!

### Accessing the Function Keys

If you’re using an application that requires you to press a function key, hold down the Fn button in the lower-left corner of the keyboard and then push the required function key.

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### What You Need to Know
If you’re holding this book in your hand, you can see that it contains a few hundred pages packed with information about using your Mac with Sierra. You might also notice books dedicated to the same topic and sitting on the same shelf at the bookstore that include a thousand pages or more! So what’s the difference?

My macOS doesn’t cover the basics of using a computer; you already know how to drag windows around the screen and move files by dragging them from folder to folder. Instead, this book focuses on using and configuring the core features of macOS—file sharing, Internet access, social networking, calendaring, and entertainment.

If you’re switching from Windows, you might encounter a few unique features of macOS. Review these features in the next few sections.

The Menu Bar
The menu bar is universally accessible across all running applications and contains a combination of the Apple menu, which is used to access common system functions; the active application’s menus; and menu items, which are global utilities for controlling and monitoring system functions.

The Dock
The Dock is the starting point for many of your actions when using the Mac. Part application launcher, part file manager, and part window manager, the Dock gives you quick access to your most frequently used applications and documents without requiring that you navigate the Finder to find things on your hard drive.
The Finder

In Windows, Explorer provides many of your file management needs. In macOS, you work with files within an ever-present application called Finder. The Finder starts as soon as you log in to your computer and continues to run until you log out.

To switch to the Finder at any time, click the blue smiling icon at the left end of the Dock.
Tags
Don’t like trying to fit all your files in a folder structure that doesn’t make sense? In Sierra, you don’t have to. Create tags that represent different attributes of your files (Projects, Important, Personal, and so on) and then apply as many or as few as you’d like. Once applied, you can view your files by tags rather than having to dig through folders.
Tabs

Applications in Sierra don’t have to open multiple windows for different documents, web pages, and so on. Instead, Apple has implemented system-wide support for tabs, which you enable by choosing Show Tab Bar from an application’s View menu. Tabs let you navigate between different pieces of content within a single window. If this is a new concept, read Chapter 1, “Managing Your Desktop,” for more information—but afterward, keep your eyes open, because you can make use of them in many applications under Sierra.
The Launchpad
Applications are installed in folders, nested in folders, or even just lumped together with no organization at all. For simple setups, this is fine. After you’ve accumulated a few years of downloads, however, finding what you’re looking for becomes difficult. The Launchpad offers a consolidated view of all your applications and even lets you group them logically, without having to worry about what folders they’re in.
Mission Control

The power-user feature called Mission Control is easy for anyone to use. With Mission Control, you can manage all your running applications and their windows in a single consolidated display. You can even create new workspaces to hold single or split-screen apps, or navigate between existing workspaces.
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Spotlight is a systemwide tool for locating and launching *anything* on your Mac. Use it to quickly locate, preview, and load documents; start applications; find movie show times and trailers; and even look up information from Wikipedia.
The App Store (and Security)
If you’ve used a modern smartphone or tablet, you’ve almost certainly used an “app store” of some sort. The Mac App Store is fully integrated with the operating system and provides fast access to screened and safe applications that are installed, updated, and even removed through a simple point-and-click process. Sierra also implements security controls to prevent undesirable software installation.
The Notification Center and Today View

Does your Mac need to tell you something? If so, it lets you know in the Notification Center. The Notification Center/Today view, activated by clicking the far right side of the menu bar, shows alerts from your applications that help you stay on top of important events. New mail, software updates, meeting invitations, and more are consolidated in this area and presented in a unified fashion.

A special “Today” view contained within the Notification Center gives you instant access to upcoming events in your day and even lets you access widgets for simple tasks—like performing calculations.
System Preferences
Many configuration options for features in this book require you to access the Sierra System Preferences. The System Preferences application (accessible from the Dock or the Apple menu) is the central hub for system configuration. You can do everything from setting your password to choosing a screen saver in the System Preferences application.
Window Controls
Sierra provides three controls at the top of each window. At the top left are the Close, Minimize, and Fullscreen controls. The Close control shuts the window; Minimize slides the window off the screen and into the Dock; and the Fullscreen control switches many applications into a unique full-screen or split-screen view (click and hold)—sometimes with a very different interface.

Traditionally, the “third” button on Mac windows has been “resize,” which sizes windows to fit the content. You can still access this by holding Option when clicking the Fullscreen button.
Contextual Menus
If you’re new to macOS, you might find it hard to believe that the Mac has a “right-click” (also known as the “secondary click”) menu in its operating system—and it’s been there for a long time! You can invoke contextual menus by right-clicking using a mouse, control-clicking with your mouse or trackpad, or clicking with two fingers simultaneously on a trackpad.
Contextual menus are rarely required in any application, but they can give you quick access to features that might otherwise take more clicks. On new Force Touch trackpads, you can use a hard press on your trackpad to access some features previously exposed via secondary clicks.
Gestures

Gestures are motions that you can make on your trackpad to control your computer. In Sierra, gestures are used heavily to navigate between applications and access special features. Gestures can help you navigate web pages, resize images, and do much more with just your fingertips. In fact, without gestures, you’ll likely miss out on all macOS has to offer.
Go Further: Don’t Like A Gesture? Change It!

If you don’t like a touch, a click, a force click, or a swipe that you find in Sierra (including how contextual menus are activated), it’s likely that there is an alternative. The Trackpad System Preferences panel provides complete control over your “touching” macOS experience—something you can read about in the “Changing Trackpad and Mouse Options” section of Chapter 11, “Making the Most of Your Mac Hardware.”

Siri and Dictation

Don’t like typing? With Sierra, you don’t have to. Sierra now supports commanding your Mac through Siri and dictation into any application where you would normally type. While Siri always requires an Internet connection, dictation is performed either “in the cloud” or locally on your Mac (with an optional install). You learn more about Siri in Chapter 1, and about dictation in Chapter 11.

Emoji

I’m officially old. I know this because I don’t understand the allure of emoji—at least not in the same way as the new generation of computer users. If you love using emoji, never fear—it’s quick and easy to access the emoji library in Sierra. Just choose Edit, Emoji & Symbols from any application where you can type rich text to be presented with a visual emoji/symbol picker that makes it simple to find the exact little face to represent your mood.
Apple’s iCloud and its corresponding Apple ID deserve special attention during your foray into Sierra. iCloud provides services such as calendars, notes, and reminders that you can use to synchronize information across multiple Macs and multiple iOS devices. It also offers free email, a means of locating your Mac (if you lose it), a tool for controlling your system from remote locations, and even an online office application suite! You don’t need to use iCloud, but you’ll see references to it, like the one shown here, as you navigate the operating system.
To use iCloud, you must establish an Apple ID to authenticate with the service. If you’ve installed Sierra, chances are you’ve created an Apple ID in the process and already have everything you need to start using iCloud. If you aren’t sure whether you have an Apple ID or you want to generate a new one, I recommend visiting https://appleid.apple.com/ and using the web tools to verify, or start, your setup.

You learn more about configuring iCloud in Chapter 4, “Setting Up iCloud and Internet Accounts.”

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**iCloud Everywhere**

Because iCloud makes many of your Sierra features more useful, it is referenced throughout this book. The information doesn’t fit into a single category, so I discuss it in the places where I hope you’ll find it most useful.

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**Windows Compatibility**

If you have a Mac, you have a powerful Intel-based computer in your hands—a computer capable of natively running the Windows operating system. The goal of this book is to make you comfortable using your Mac with Sierra, but I’d be remiss in my authoring duties if I didn’t mention the options available for running Windows on your hardware.
Boot Camp
Boot Camp is included with Sierra and gives you the capability to install and boot Windows directly on your Mac. Put simply, when you do this, your Mac becomes a Windows computer. Switching between Sierra and Windows requires a reboot, so this option is best if you need to work in Windows for extended periods of time.
Apple’s Boot Camp Assistant (found in the Utilities folder within the Applications folder) guides you through the process of partitioning your Mac for Windows, creating a disk of drivers for Windows, and configuring your system to boot into Windows or macOS.
You can install Boot Camp at any time, as long as you have enough room (about 28GB) for a Windows installation.

Virtualization
Another solution to the Windows compatibility conundrum is the use of virtualization software. Through virtualization, you can run Windows at near-native speeds at the same time you run Sierra. Some virtualization solutions even go so far as to mix Mac and Windows applications on the same screen, blurring the lines between the operating systems.
Unlike Boot Camp, virtualization runs operating systems simultaneously. Virtualization requires more resources and has lower performance than a Boot Camp solution, but it is more convenient for running an occasional application or game.

Consider three options for virtualizing Windows on your Mac:

- **VMWare Fusion** ([www.vmware.com](http://www.vmware.com))—A stable solution from a leader in virtualization software. VMWare Fusion is rock solid and fully compatible with a wide range of virtual “appliances” available for VMWare on Windows.

- **Parallels Desktop** ([www.parallels.com](http://www.parallels.com))—The widest range of features available of any virtualization solution for macOS, including near-seamless integration with Mac applications.

- **VirtualBox** ([www.virtualbox.org](http://www.virtualbox.org))—Free virtualization software that offers many of the same features of VMWare and Parallels. VirtualBox is not as polished as the commercial solutions, but it’s well supported and has excellent performance.

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**Other Operating Systems**

Virtualization isn’t limited to running Windows. You can also run other operating systems, such as Linux, Chrome, and Solaris, using any of these solutions. In fact, if you have enough memory, you can run two, three, or more operating systems simultaneously.
1. Managing Your Desktop

In this chapter, you learn how to organize and work with your Desktop and files, including:

- Organizing files using the Dock
- Navigating folders within the Dock’s Grid view mode
- Customizing the Finder sidebar and toolbar
- Creating Finder tabs
- Organizing with file tags
- Viewing the contents of files with Quick Look
- Searching for files and information with Spotlight
- Keeping track of application events with Notifications
- Working with Siri
Your Mac is a powerful machine, capable of working with hundreds of different types of files and managing gigabytes upon gigabytes of data. Back when I got my first 128K Mac (with a floppy disk), you barely needed folders because only a few files fit on a disk. Today, if you try to count the number of files on your system at any given point in time, the numbers will come back in the hundreds of thousands. The world is more complex, and so are our computers.

To keep things tidy, you can take advantage of a variety of tools built into Sierra that make working with files and applications fun and efficient, and keep you up to date on how your system and applications are performing. You’ll see that regardless of how you use your Mac, Sierra can make both your work and play easier and more intuitive.

**Organizing in the Dock**

The Dock serves as application launcher, filer, and process manager. It enables you to launch applications and documents with a single click, place documents in folders, and even navigate the contents of folders without using the Finder. It also displays running applications so you can easily switch between them. Configuring your Dock to suit your working style and habits can be a big time saver because you don’t have to dig through folders within folders just to find a single file.

The Dock is divided into two parts: applications, and files and folders. Applications are on the left of the faint broken line; files and folders are on the right (or top/bottom, if the Dock is oriented vertically). Indicator dots are shown under each active application. If you happen to forget what an icon represents, hover your cursor over the icon to see its name.

**Add and Remove Items from the Dock**

Adding files and folders to the Dock is a simple process of dragging and dropping.

1. Use the Finder to locate the icon you want to add to the Dock.
2. Drag the item from the Finder window to the appropriate side of the Dock (apps on the left, docs and folders on the right). As you drag the icon into the Dock, the existing icons move to make room for the addition. Release your mouse when you’re happy with the new location.

3. You can rearrange Dock items at any time by dragging them to another position in the Dock.
4. To remove an icon from the Dock, click and drag the icon out of the Dock—holding it until the word “Remove” appears—then release.
Keep Your Apps Handy

If you start an application and decide you want to keep it in the Dock, click and hold the icon of the running application, and then choose Options, Keep in Dock from the menu that appears.

Use Folders and Stacks in the Dock

Folders in the Dock behave differently from files or applications. When you click a folder residing in the Dock, the contents of the folder are displayed above it in one of three different styles—a Fan, Grid, or List. Additionally, the folder icons themselves can be shown as a simple folder or a stack of files, with your most recent file at the top.

Configure Folders and Stacks

You can dramatically change the behavior of folders and stacks in the Dock by using the configuration options.

1. After adding a folder to the Dock, right-click or Control-click the folder to open the menu to configure its behavior.
2. Choose to Display as a Folder or Stack to customize the appearance of the icon on the Dock.
3. Choose Fan, Grid, List, or Automatic to set how the content is displayed when you click the icon in the Dock. The Automatic setting chooses the best option based on the number of items in the folder.
4. Finally, to customize the sorting of the displayed items, choose an option from the Sort By section.
Navigate Files and Folders in Grid Mode

The Folder Grid mode offers the most functionality for navigating your files. You can navigate through a scrolling list of files, and you can open additional folders.

1. Click a folder in the Dock that has been configured to Grid mode. A grid popover appears above the folder icon.

2. Scroll through the available files, if needed.

3. Click a folder’s icon to navigate into that folder.

4. The Grid refreshes to show the contents of the folder.

5. Click the back arrow in the upper-left corner to return to the previous “parent” folder.
6. Click Open in Finder if you want to open the current folder as a window in the Finder.

Customize the Dock’s Appearance
The Dock helps keep your desktop nice and tidy by giving you a place to put your commonly used files and folders, but it also takes up a bit of screen space. You can easily customize the Dock’s appearance to make it as unobtrusive as possible.

1. Open the System Preferences panel, and click the Dock icon.
2. Use the Size slider to change the size of the Dock.

3. Click the Magnification check box. Use the corresponding slider to set the magnification of the icons as you mouse over them in the Dock.

4. Use the Position radio buttons to control the location of the Dock on the screen.

5. To control the way windows animate to and from the Dock, click the Minimize Windows Using drop-down menu to choose between the Genie and Scale effects.

6. Use the Prefer Tabs When Opening Documents drop-down menu to have applications default to opening tabs never, always, or only when the application is in full screen mode. You see tabs in action in the task “Use Finder Window Tabs.”
7. Click the Double-Click a Window’s Title Bar check box and use the menu to choose whether a double-click zooms the window to fit the content or minimizes into the Dock.

8. Check the Minimize Windows into Application Icon check box to help conserve space in the Dock by putting minimized windows into their applications’ Dock icons.

9. By default, application icons “bounce” in the Dock while they’re opening. Uncheck the Animate Opening Applications check box to disable this behavior.

10. Click Automatically Hide and Show the Dock if you’d like the Dock to disappear altogether when you’re not using it.

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**Hiding the Dock**

To quickly hide the Dock, press **Command+Option+D**. To access Dock settings outside of the System Preferences, right-click the divider line between applications and folders/trash.
11. Check Show Indicators for Open Applications if you’d like a dot to appear under applications that are running.

**Dark-Themed Dock**

You can switch your Dock and menu bar from the frosted glass look to a dark theme using the General Preferences panel. Open the panel and check the Use Dark Menu Bar and Dock option.

**Go Further: Hiding Even More!**

If you like the extra screen space provided by hiding the Dock, you can also have the menu bar hide automatically using the Automatically Hide and Show Menu Bar check box in the General preferences.

**Customizing Finder Windows**

Like the Dock, Finder windows provide an opportunity to configure single-click shortcuts to your
information. The Finder sidebar and toolbar can be customized with your own files as well as default system shortcuts.

**Configure the Sidebar’s System Shortcuts**

To change the sidebar’s default shortcuts, you need to use the Finder preferences.

1. Open the Finder using its icon in the Dock and choose Finder, Preferences.

2. Click the Sidebar icon at the top of the Finder Preferences window.

3. Use the check boxes beside Favorites, Shared, Devices, and Tags to configure which folders, network computers, connected hardware, and file tags should be displayed.

Manually Modify the Sidebar

In addition to the predefined shortcuts, you can easily add your own icons to the sidebar.

1. To add an icon to the sidebar, first make sure the item’s icon is visible in a Finder window.
2. Drag the icon to the Favorites area in the sidebar. If you are not dragging a folder, hold down
3. A blue line appears to show where the item will be placed. Release your mouse button to add the item to the list.

4. The icon appears in the sidebar.

5. Rearrange the icons in the sidebar by clicking and dragging them up and down.

6. Remove existing sidebar entries by right-clicking (or Control-clicking) their icons and choosing Remove from Sidebar. Alternatively, just click and drag them from the sidebar—an X appears when the icon is ready to be removed.
Modify the Finder Toolbar

Like the sidebar, the Finder window’s toolbar can hold shortcuts to files, folders, and applications.

1. Open the Finder window containing the file or folder you want to work with.
2. Drag the icon you want to add into the toolbar while holding down the Command key. The other interface elements shift to make room for the new addition.
3. To move an icon to a new location on the toolbar, hold the Command key down, and then click and drag. Drag the icon off the toolbar—until a puff of smoke appears—to remove it altogether.
Toolbar and sidebar items can serve as drag destinations as well as clickable shortcuts. For example, to file a document in a folder, you can drag it to a folder in the sidebar. To save a document to a file server, you can drag it onto a shared drive, and so on.

Use Finder Window Tabs
For years your web browser has had tabs to help you browse without having dozens of windows open at a time. In Sierra, the Finder and many other applications offer the same feature. You can open a new tab in a Finder window by following these steps.

1. Make sure that a Finder window is open. It doesn’t matter what view it is showing.

2. Choose File, New Tab (Command+T) from the menu bar.
3. A new tab appears in the Finder window.
4. After the first tab appears, you can add new tabs by clicking the + icon at the right of the tab bar.
5. You can use each tab as a unique window and browse different parts of the file system in each.
6. Close a tab by positioning your cursor near its left side and clicking the X box that appears.
Ever-Present Tabs in (Many of) Your Apps

If you like seeing the tab bar all the time (even if you don’t have multiple tabs open), you can choose Show Tab Bar from the View menu. This makes the + icon always visible, so adding new tabs becomes easier. This is also how many applications that haven’t officially supported tabs until Sierra make the tab feature available. You can also have macOS default to using tabs in applications (or not), by adjusting the Tab preferences in the Dock preference panel, as described earlier in this chapter.

Open Tabs with a Click

In the Safari web browser (read about it in Chapter 5, “Accessing Email and the Web”), you can open new tabs just by holding Command and clicking. You can do the same with the right preferences set in the Finder. To do this, just complete the following:

1. Choose Finder, Preferences from the menu bar.
2. Make sure the General tab is selected.
3. Check Open Folders in Tabs Instead of New Windows.
5. From this point forward, when you hold Command while double-clicking a folder, the folder
Opens in a new tab rather than a window.

***Go Further: Tabs Are a Drag***

Although it might not seem intuitive, you can drag items from one tab to another. For example, to drag files between tabs in the Finder, start dragging the file into the tab where you want to drop it and keep holding your mouse/trackpad button down. After a few seconds the other tab opens, enabling you to continue your drag. Additionally, when you grab a tab itself and drag it out of the window, a new Finder window is created.

**Arranging and Grouping Files**

You might have noticed that this book doesn’t take a bunch of time to tell you about how to sort files, open folders, and all the typical things you do on a computer. Why? Because they work exactly the way you’d expect on a modern operating system. That said, Sierra has some interesting ways of looking at files that you might not be aware of.

**Use All My Files**

If you’ve ever wanted to view all the files you have, the All My Files group will help you. This feature displays, quite literally, all your files in your personal account, including files stored in iCloud (see Chapter 4, “Setting Up iCloud and Internet Accounts,” for more details). To view your files, follow these steps:

1. Make sure the Favorites section of the Finder sidebar is expanded.
2. Click the All My Files icon, or choose Go, All My Files from the menu bar.
3. All the files that belong to you are shown in the Finder window.

4. Use the view icons to change between icon, list, column, and cover flow views, respectively. Granted, this isn’t the most exciting feature in the world, but when coupled with the Arrange By feature (covered in the next task), it becomes far more interesting.
Arrange a Finder View
You’re probably used to clicking a column heading and sorting files by name, date, modified, or other attributes. This is expanded in macOS with the Arrange By feature. Using Arrange By, you can view your files arranged by more “human” categories, such as the files you’ve opened today, in the last week, and so on.

1. Open the finder view you want to arrange.
2. Use the Arrange By menu to select a category for grouping your files.
3. Different groups are separated by horizontal lines.

4. When in icon view mode, swipe left or right on a multitouch trackpad or Magic Mouse to scroll through a cover flow-like view of the icons within a grouping.

5. Click the Show All link to turn off the cover flow scrolling and show all the items within the window.
Making Arrangements
To set a default arrangement (among other things) for a folder, choose View, Show View Options from the menu bar when viewing the folder.

Assign Tags
When choosing an arrangement for a view, you might notice a Tags category. This feature offers the ability to assign tags to your files and folders. These can be anything you want, such as Important, Projects, and so on. They are arbitrary text descriptions that you establish and can use to label any of your files or folders, no matter where they exist on your system.
1. Select a file or folder in a Finder window.
2. Click the Tags button in the Finder toolbar.
3. Either type in a new tag, or choose an existing tag from the menu.
4. Click outside the menu to assign the tag.

>>>Go Further: Macos Loves Tags

Truth be told, there are a million and one ways to assign tags. You can do it using the method
just described; you can add tags by clicking the filename on a window in many applications; you can assign tags by choosing Finder, Get Info when a file or folder is selected. I could write a whole chapter on adding tags, but I suggest you find a method you prefer and stick with it.

**Remove Tags**
After you start adding tags, you’ll quickly discover that you can add as many tags to an individual file or folder as you want. As a result, you might want to remove a tag you added in error.

1. Select a file or folder in a Finder window.
2. Click the Tags button in the Finder toolbar.
3. All of the assigned tags appear in the field at the top of the drop-down menu.
4. Click to highlight a tag, and either press delete or drag it to the trash.
5. Click outside of the menu to save the new tag list.
View Tags

After you’ve assigned tags, you can view them using the Tags section in the Finder sidebar.

1. Make sure the Tags section is visible.
2. Click the tag you want to view or click All Tags if your tag list is long and the one you want isn’t visible.
3. Files and folders matching the tag are displayed.
Spotting Tags

If the tag has an assigned color, it appears as a color-coded dot beside the file in many of the standard Finder views.

4. You can drag new files and folders into the window to assign them to the tag. (I told you there are a million ways to assign tags!)
When you open files, notice that Tags now appear in the sidebar within the File Open dialog box. You can use these to quickly view all the files matching a tag and open a file without having to find its folder.

The “Finding Information with Spotlight” section later in this chapter explains how Spotlight can be used to search for files matching certain tags and other criteria (for example, “All images with the tag ‘Vacation’ created between the dates of June 2016 and November 2017”).

Manage Tags
To see, edit, and assign colors to your tags, use the Finder preferences.

1. Choose Finder, Preferences from the menu bar.
2. Click the Tags tab at the top of the Preferences window.
3. Use the check boxes to control which tags are visible in the Finder sidebar.
4. Click the circle beside a tag to choose a color for it.
5. Click a tag’s name to edit it.

6. Drag Tags to the rectangular list of Tags at the bottom to have quick access to them through Finder contextual menus or the Finder’s File menu (yet another way to add tags to files and folders!).
Missing Tags?
If the Tags section is missing from your Finder sidebar, you might have disabled it accidentally. You can add back the Tags section using the Sidebar Finder preferences (Finder, Preferences).

Previewing Document Contents
Launching applications takes time and resources. Frequently, when you want to open a file, all you really want is to see the contents of the file. Using the equivalent of X-Ray vision, called Quick Look, you can view many of your documents without the need to open an application.

View a File with Quick Look
Using Quick Look doesn’t require anything more than your mouse and a press of the spacebar.
1. Select a file from the Finder or desktop by clicking once, but don’t open it!
2. Press the spacebar to open Quick Look.
3. Click the circle with double arrows to expand Quick Look to fullscreen.
4. Use the Share menu to send the file via email, add images to iPhoto, and so on.

5. Some files might show additional controls above or below the preview when in fullscreen mode. When multiple images are selected, for example, fullscreen mode includes a button to play a slideshow.
6. Press the spacebar again to exit Quick Look (not shown). Note that if you are in fullscreen mode, you need to press Escape (Esc) on your keyboard or press the onscreen >> (two arrows facing each other) button to exit fullscreen mode before exiting Quick Look.

>>>Go Further: Instant Slideshows!

If you start Quick Look on multiple files, you can run a slideshow. The fullscreen Quick Look window includes play, forward, and backward arrows to start and control the slideshow. You
can also use an index sheet icon (four squares) to show previews of all the files in a single Quick Look window (also available in windowed mode). Quick Look even works on music and video files, enabling you to play back media without opening a dedicated application.

Add a Finder Preview Panel
macOS offers the ability to keep a Quick Look preview panel open in any Finder window.

1. To add a file preview to your Finder, first make sure you have a Finder window open.

2. Choose View, Show Preview.
3. A preview of the currently selected file is shown on the right side of the Finder window. Notice that this also provides yet another way to add tags to a file!

4. Click and drag the divider at the left edge of the preview area to change the size of the preview.
Preview Files Using Finder Icons
The Finder includes Quick Look–like capability for some files just by mousing over them.

1. To preview a file using icons, make sure you’re in icon view mode.

2. Mouse over the file, and use the controls that appear to navigate the contents of the file. As with Quick Look, even media files can be played in this manner.
Adjust Icon Size

For quick access to a slider for changing your icon sizes, choose View, Show Status Bar from the menu bar. Alternatively, you can adjust a window’s icon size by choosing View, Show View Options from the menu bar.

Finding Information with Spotlight

When the Finder’s file organization features can’t help you find what you want, the amazing Spotlight
search system makes it simple. Spotlight can search across files, email messages, the built-in dictionary, and even Internet resources to find information.

**Search for Files and Information**
You can start a Spotlight search at any time, without needing to launch any additional applications.

1. To start a search, press Command+Space, or click the magnifying glass icon in the upper-right corner of your screen. A search field appears in the center of the screen.

2. Begin typing in the search field.

3. As you type, files, images, folders, and even Internet sources that match your terms are displayed in a list. You can even type the names of movies, or queries such as “weather in Cleveland, OH” to find information using Internet sources.

4. Click a result to see a preview on the right.

5. Double-click a matched item in the list to open the item.
Quick Launching via Spotlight

You can use Spotlight searches to quickly launch applications. Begin typing the name of the application in the search, wait until a match appears, and then press Return. Your application launches!

Customize Spotlight Searching
Spotlight searches can turn up tons of information—more, perhaps, than you’d like. To choose exactly what you want to display, configure the Spotlight System Preferences panel.

1. Open the Spotlight System Preferences panel.

2. Within the Search Results panel, check items you want to be returned as part of the search results. Uncheck the items you want to exclude.
3. To restrict what volumes are searched, click the Privacy button. You can choose to have Spotlight ignore specific folders or disks.

4. Click the + button to choose a folder or disk that you don’t want to be searchable. Alternatively, drag folders directly from the Finder into the Privacy list.

5. Click Keyboard Shortcuts to change how Spotlight is started or disable keyboard shortcuts altogether.
Save Searches as Smart Folders in the Finder

Spotlight file searches can be saved and reused in the form of Smart Folders. If you’d like to create a search that shows all your image files—regardless of where they are stored, for example—you can create and save a Show All Images search.

1. Use a Finder window’s search field to type the name or content of a file you want to find.
2. Choose what the search should include (such as a filename). The default is to include file
3. Adjust whether you want to search your entire Mac (indicated by the words “This Mac”), just the folder you’re currently in, or any connected devices or network drives.

4. Use the + and – buttons below the search field to add or subtract additional search criteria lines.

5. Use the pop-up menu at the start of each search line to configure search attributes such as file, kinds, or size.

6. To add even more search criteria, choose Other. A window listing the available search attributes displays. Choose an attribute and click OK.

7. When you’re satisfied with your search, click the Save button.
8. You are prompted for a name for the search and where it should be saved.
9. Click Add to Sidebar.
10. Click Save.
11. If you choose to add the search to your sidebar, it is accessible immediately from your Finder window. Otherwise, you need to navigate to the saved location and double-click the search’s Smart Folder icon to run it again.
Less Is More  
After you’ve configured a few search criteria beyond the text for the filename or file content, you can erase the search text and Sierra includes all of the files that match your other criteria.

Managing Your “Today” and Notifications  
At any given time, both you and your computer have quite a bit going on—mail being checked, potential FaceTime invites, software updates, bills to calculate, calendars to watch, and so on. Sierra’s Notification Center contains a view of system notifications (alert messages, warnings, and so on) along with a view called “Today” that you can customize with information and tools you use every day. The Notification Center keeps you in touch with your virtual and real lives—without needing to leave the Finder.

Receive Notifications  
To receive a notification, you technically don’t need to do anything, but you should know what to expect:

1. Notifications, as they occur, appear along the right side of the display.
2. Most notifications go away after a few seconds and require no interaction. Some might include options to immediately react to the notification. Clicking the buttons performs the action described.
View Notifications in Notification Center

If a notification “goes away” before you have a chance to read it, you can catch up with the latest notifications in the Notification Center.

1. Click the bulleted list icon in the upper-right corner of the menu bar. You can also open the Notification Center with a trackpad gesture by sliding two fingers to the left, starting from the right side of the trackpad.
2. The Notification Center slides over the desktop.
Today

- **CALENDAR**
  Important Meeting
  Important Place

- **FACETIME**
  1m ago
  Anne Groves
  Missed FaceTime Call

- **AIRMAIL 2**
  4m ago
  pandora@pandora.com
  The music is yours Pandora | Get the most out of your stations Make the Music Yours Tap the personalization ic...

- **AIRMAIL 2**
  33m ago
  ShopRunner
  Labor Day deals up to 60% off + Free 2-day shipping Our favorite Labor Day deals plus get it all shipped fast & free...

- **AIRMAIL 2**
  39m ago
  Dennis Weaver at The Prepared Pantry
  Start your day with luscious fruit—on pancakes, German pancakes, and painenkoeken I love this time of year! I...

- **AIRMAIL 2**
  39m ago
  13Deals - Coffee
  K-cups...29 cents...while they last...
  Yup, you can pay 65 cents in stores for k-cups, OR you can stock up for 29 ce...

- **MACRUMORS.COM**
  44m ago
  What to Expect From Apple's September 7 E
  We're just a few days away from Apple's annual fall event, where we expect to see the launch...
3. Switch to the notifications (if needed) view by clicking the Notifications button at the top.
4. Clicking a notification reacts appropriately—clicking a missed FaceTime call, for example, opens FaceTime and returns the call.

5. To dismiss an application’s notifications, click the X icon in the upper-right corner of its list of notifications.
6. Click the X icon above all the notifications to clear everything.
7. To close the Notification Center, click the desktop or the menu bar icon, or slide two fingers to the right on the trackpad.
Customizing the Notification Display

You can customize how each application presents notifications (or whether they present notifications at all) in macOS.

1. Open the Notifications System Preferences panel.
2. Choose an application to customize from the list on the left.
3. Use the alert style buttons to choose from None (no visual at all), Banners (automatically close), and Alerts (stay on the screen until manually dismissed).
4. Check Show Notifications on Lock Screen if you want to see the notifications when your Mac’s screen is locked.
5. Uncheck Show in Notification Center if you prefer to not receive any notifications (visual or audio) from the application.
6. Check the Badge App Icon check box to show the count of notifications (such as new messages) on the application’s icon.
7. Check Play Sound for Notifications to enable the application to provide an audio alert.
8. Select whether to Sort Notification Center manually or according to the time a notification was received. If sorting manually, you can drag the icons up and down in the application list to choose how they appear in the Notification Center.
Quick Settings Access Within Notification Center

In the lower-right corner of the Notification Center itself is a small gear icon. Clicking this button opens the Notification Center preferences.

Activating Do Not Disturb Mode

If you’re like me, you probably have (potentially) several dozen apps wanting to tell you something via notification. For the times you’d prefer not to hear all the sounds and see the notification windows, you can activate a Do Not Disturb mode that lasts until the next morning. Begin by opening
the Notification Center, and then follow these steps:

1. Scroll the Notification Center content down. (It doesn’t matter which Notification Center section you’re in.)

2. An On/Off button is revealed. Switch it Off to quiet your notifications or On to let them be seen and heard.

3. The Notification Center icon becomes dimmed when in Do Not Disturb mode.
Friday, September 2nd

Partly Cloudy currently. It's 72°; the high today was forecast as 75°.

WEATHER

6:13 PM
Wakeman

6:13 PM
Delaware

FIND MY FRIENDS

Marlene Ray
Home — 24m ago

Jack Derifaj
Lennox Town Center — 24m ago

Anne Groves
Columbus, OH — 11m ago
Do Not Disturb Me NOW!

Want to activate Do Not Disturb mode in a flash? Just hold the option key and click the Notification Center icon in the menu bar. The icon grays to show it is disabled. Repeat the process to turn it back on.

Customize Do Not Disturb Mode

It’s simple to activate Do Not Disturb when you need it, but you can customize the feature to automatically activate in situations where you typically don’t want notifications to appear.

1. Open the Notifications System Preferences Panel.

2. Select the Do Not Disturb option.

3. Provide a time range (and check the check box) to automatically apply Do Not Disturb during a common time period (for example, night time).

4. Click When the Display Is Sleeping to activate Do Not Disturb when your Mac’s screen is asleep.
5. Check When Mirroring to TVs and Projectors to keep notifications from showing up when you’re displaying content on a TV or a projector.

6. Use the Allow Calls from Everyone to allow any contact to call you via FaceTime during Do Not Disturb hours.

7. Click the Allow Repeated Calls check box to disable Do Not Disturb for individuals who have called repeatedly (in case of potential emergencies).

Using Notification Center’s Today View
Also available in the Notification Center is the Today view. The Today view doesn’t show you
system notifications, but it does keep you up to date on your real-world events, and it gives you access to commonly used utilities for communicating with social networks, checking your calendar, and much more.

Work in the Today View
You can access the Today view anytime the menu bar is visible. Just follow these steps:

1. Open the Notification Center.
2. Click the Today button at the top of the Notification Center column. This is the default view when your Mac boots.
3. Widgets are included to show you a summary of your day, the weather, stocks, calendar events—even the location of your friends if they have iOS devices. If widgets are off your screen, you can scroll up and down to view them.
4. Position your cursor over a widget’s name (here, Weather) to reveal an i icon that, when clicked, configures features of that widget.
5. Close the Today view by clicking the desktop or the Notification Center icon in the upper-right of the screen.
Friday, September 2nd

Partly Cloudy currently. It's 72°; the high today was forecast as 75°.
The Notification Center’s Today view can serve as your interface to social media. If you add social networking accounts (see Chapters 4 and 7), you automatically get a widget added to the Today view for interacting with those accounts.

Manage Today View Widgets

The Today view isn’t static. You can customize it by rearranging widgets and adding new widgets from the Mac App Store. To manage the Today view, follow these steps:

1. Open the Notification Center and click Today to switch to the Today view.
2. Click the Edit button at the bottom of the view; an additional column appears.
Friday, September 2nd

Partly Cloudy currently. The high will be 75°. Clear tonight with a low of 50°.

The first thing on your calendar today is "Important Meeting", in 2 minutes.

WEATHER

4:28 PM
Wakeman
73°

4:28 PM
Delaware
73°

FIND MY FRIENDS

Marlene Ray
Lorain, OH — now
92 mi

Jack Derifaj
Home — now
19 mi

Anne Groves
Upper Arlington, OH — now
15 mi

Sage Ray
Home, Columbus — 40 min
17 mi

Edit
3. Click the – buttons to remove widgets.
4. The right column displays available widgets to add. Click + beside a widget name to add it to your Today view.
5. To the right of each widget within the Today view is an icon consisting of three lines. Click and drag on these icons to move widgets up and down in the view.
6. Click Done to save your edits.
Using Siri

One of the most useful features of Sierra is also one of the easiest (or most difficult) to describe—Siri. In Sierra, you can talk to your Mac and have it perform actions in response. You can even use Siri to create custom widgets that are added to the Today view in Notification Center.

So, why is Siri both easy and hard to describe? It’s easy because you press a button and start talking. That’s everything you need to know to get started. It’s difficult because Siri can do many things, and it’s impossible to describe them all in the space allotted in this book!

Enable and Configure Siri

When you set up Sierra on your Mac, you’re prompted to enable Siri – Apple’s voice activated personal assistant. You can change your mind at any time, and configure how Siri works on your system, by opening the Siri System Preferences panel.

To configure Siri, follow these steps:

1. Open the Siri System Preferences panel.

2. Use the Enable Siri check box to enable or disable Siri entirely.
3. Use the Language drop-down menu to set the language you’ll be using when talking to Siri.

4. Use the Siri Voice drop-down menu to choose the voice Siri uses when responding to you (male, female, accent, and so on).

5. If you’d prefer that Siri be your silent partner, turn off the Voice Feedback.

6. If you have an external Microphone you want to use, use the Mic Input menu to choose it.

7. By default, Siri can be activated using a Dock icon, a menu bar icon, and by holding Option and Space simultaneously. If this doesn’t suit your typing style, use the Keyboard Shortcut menu to choose an alternative shortcut.

8. Uncheck the Show Siri in Menu Bar check box if you’d prefer that the Siri icon not take up additional room in your menu bar.

9. Close the System Preferences.
Talking to Siri

To use Siri, just click the Siri icon in the menu bar, Dock, or use the keyboard shortcut (Hold Option+Space). For example:

1. Click the Siri icon in the dock to have Siri start listening.

>>>Go Further: Hey Siri!

Unfortunately, Siri on macOS doesn’t currently support saying “Hey Siri” to launch Siri...at least not without a little effort. Using the accessibility features of the OS, you can trigger Siri using any phrase you’d like. Read more about this trick at https://9to5mac.com/2016/07/15/how-to-enable-hands-free-hey-siri-voice-activation-on-macos-sierra/.
2. The Siri window appears and waits for input.

3. Ask Siri a question, or to perform a task. For example, “Search the Web for pictures of Pomeranians”. Be silent for a few seconds or click the Siri window to finish the request.

4. The Siri window updates to show the response. In many cases you can interact with the response window, such as dragging images or icons.

5. Click the X icon in the upper-left corner of the Siri window when finished.
"Search the web for pictures of Pomeranians"

Here are some images of 'Pomeranians' I found on the web:

WEB IMAGE SEARCH

Pomeranians

See more images in Safari

Images subject to copyright

OTHER SOURCES
Making a Siri Widget

Many requests you make of Siri are useful enough to use repeatedly. With this in mind, Apple created the ability to turn many Siri responses into a widget that you can add to Notification Center’s Today view. Follow these steps to create your very own customized Siri widget that shows all the files you worked on in the last week:

1. Click the Siri icon in the Dock or menu bar.

2. Say “Show me the files I worked on in the last week” when the Siri window appears.

3. Siri shows the search results.

4. Click the + icon in the upper-right corner of the results to add them to Notification Center.
"Show me the files I worked on in the last week."

I found these files that were modified from last week.

- 9780789757883_ch12.doc
- Chapter 12
- 9780789757883_ch12.doc
- Chapter 12
- Chapter 13
- Chapter 13
- Sierra_FM
  - Front Matter
- Sierra_FM
  - Front Matter
- FMfig00.jpg
  - Front Matter
- FMfig00.jpg
  - Front Matter
- 13fig59
  - Modified Aug 26, 2016, 6:23 PM
- 13fig57
5. The Notification Center opens, displaying the new widget. You can interact with it just like any other macOS widget.
Friday, September 2nd

Partly Cloudy currently. The high will be 75°. Clear tonight with a low of 50°.

The first thing on your calendar today is “Important Meeting”, and it started 8 minutes ago.
Siri can do *many* things—you just need to start asking. You can say, for example “Search the Web for pictures of Pomeranians” and get back thumbnails of results. You can even drag those thumbnails into other applications to instantly download and use the images. What’s even cooler is if you *just* ask “Search for pictures of Pomeranians,” and you happen to have a Pomeranian and photos of her on your Mac (I do), Siri finds them instead!

Rather than try to describe every possible search, take a look at [http://www.apple.com/siri/](http://www.apple.com/siri/), or simply ask Siri “What can I ask you?” for more than a few ideas.
In this chapter, you learn how to take control of your applications and windows, including:

- Finding your way around Mission Control
- Managing applications and windows
- Creating new spaces
- Launching applications with Launchpad
- Creating application groups in Launchpad
- Uninstalling applications through Launchpad
- Managing auto open and save features

As applications become more complex, so does the task of managing them. Software is installed everywhere, windows are spread out over your desktop, and just trying to find your way through the
maze of information overload can be nightmarish. Sierra attempts to bring the madness under control by way of Mission Control.

Mission Control, combined with features such as Spaces, Launchpad, fullscreen apps, auto application, and window restoration, makes it easy to navigate the most cluttered computer. The biggest problem? Many of these features are hidden until you invoke them. In this chapter, you learn how to do just that!

**Maintaining Order of Application Windows with Mission Control**

One of the big benefits of modern operating systems is that they enable you to run multiple applications at once. Unfortunately, no matter how much screen space we have, we always need more! To help manage the ever-expanding collection of windows that you need to work within, Apple provides Mission Control as part of macOS. Mission Control helps you view your running apps, see the windows they have open, and even expand the amount of desktop real estate you have available.

As you’re about to see, in Mission Control terms, a “space” is a single screenful of information. It can be your typical desktop, a full-screen app, or even additional desktop views that you create.

**Open and Close Mission Control**

To manage Mission Control and access its features, follow these instructions:

1. Slide three fingers up your trackpad, double-tap two fingers on the Magic Mouse, or press the Mission Control key (F3) on your keyboard. Mission Control opens. Spaces appear on the top; the current space is in the center of the screen.

2. Slide three fingers down on the trackpad, double-tap two fingers on the mouse, or press the Mission Control key again. Mission Control closes.
Docking Mission Control
If you prefer to start Mission Control by clicking, you can use the Mission Control icon. It’s in the Dock on machines without a multitouch trackpad—but you can add it from the Applications folder on any Mac.

Navigating Applications and Windows
When you start Mission Control, your current space (probably your desktop, if you’re starting Mission Control for the first time) is front and center, along with representations of each app running in the space and its windows.

To switch between applications and their windows, do the following:

1. Start Mission Control.
2. Click a window to exit Mission Control and bring the chosen window to the front.

3. To preview the contents of a window, position your pointer over the window and then press the spacebar. Press the spacebar again to hide the preview.
Go Further: I Miss My Application Icons and Window Groupings!

In previous versions of macOS, Mission Control grouped application windows by application. This is turned off, by default, in El Capitan and Sierra. If you want to re-enable this feature, skip ahead to the section “Configure Mission Control Features and Shortcuts” later in this chapter.

Create and Populate a New Space

Modern applications look like the cockpit controls of advanced aircraft; it can be overwhelming finding your way around a single application—let alone 10. With Mission Control, you can create new desktop spaces dedicated to whatever applications you’d like. To do so, start Mission Control and follow these steps:

1. Move your mouse to the upper-right corner. The top of the screen expands to show thumbnails of your spaces, and a + button appears as your mouse approaches the corner. Click it.
2. A new space is created and a depiction of its contents is added to the top of Mission Control.

3. Drag application windows from the current space to the thumbnail of the new space.
Switch Between Spaces
After you’ve created a new space, you can switch to it via Mission Control or using a trackpad gesture:

1. Start Mission Control.
2. Click the space thumbnail you want to display, or swipe left or right with three fingers to move between spaces.
3. Click the background to exit Mission Control.
Desktop Pictures and Spaces
To set a desktop picture in the Finder, right-click on the Desktop and choose Change Desktop Background. Each space can even have a separate desktop, making it easy to tell them apart.

Even Faster Space Switching
The fastest way to switch between Mission Control spaces is without even starting Mission Control. Swipe left or right with three fingers on your trackpad (or two fingers on the Magic Mouse) at any time to move between spaces.

Close a Space
It’s so easy to create spaces, you might find yourself with some extra ones you need to get rid of. To close out a space, follow these steps:

1. Start Mission Control.
2. Position your cursor over a space at the top of the screen.
3. An X appears in the upper-left corner of the space thumbnail. Click the X to close the space. Any windows within it move back to the primary desktop space.
Create Fullscreen Application Spaces
Spaces are great for providing more, um, space for your windowed applications, but they also serve as a “container” for your fullscreen apps. Rather than a fullscreen application eating up one of your desktop spaces, it automatically creates a new dedicated space when it starts and removes it when it stops.

1. Click the green double-arrow button in the upper-left corner of an application window to enter fullscreen mode.
2. A new space is created and is visible in Mission Control.
3. Switch to and from the space exactly as you would any other. When you’re done using the fullscreen app, either quit the application or exit fullscreen mode by pressing the Escape key or moving your cursor to the top left of the screen and clicking the green button again. The space is automatically removed from Mission Control.
Create Split-Screen Application Spaces
Sierra has the ability to create split fullscreen spaces—that is, a space shared by two fullscreen applications (very similar to an iPad). To do this, follow these steps:

1. Click and *hold* the green double-arrow button in the upper-left corner of an application window to enter fullscreen mode.

2. While continuing to hold the mouse/trackpad button, drag the window to the left or right of the screen. The screen side highlights to show it is selected.
3. Release the mouse button to enter split-screen mode with the application.

4. Sierra displays the options for your second application window (other open apps) beside the app you’ve chosen. Click a window to expand it to fill the second half of the screen.
5. Drag the divider line to change the amount of screen space allocated to each app.
6. Switch to and from the split-screen space exactly as you would any other. When you’re done using either app, quit the application or exit splitscreen mode by pressing the Escape key or by moving your cursor to the top left of the screen and clicking the green button again. The space is automatically removed from Mission Control once both apps have exited.
If you’re working with an app and you want to quickly add its window to another space (or turn it into its own fullscreen space), drag the window up “past” the top of the menu bar. Mission control automatically launches and allows you to drag the window into an existing space, on top of an existing fullscreen space, to create a split-screen space, or to the right of any existing spaces to create a new space.

Choose Between Application Windows
When you just need to navigate your windows, the Mission Control Application windows option comes in handy. Using this, you can show all your application windows, or just the windows for a specific program, with a single click.

1. To display all the windows open within an application, click and hold an active application’s icon in the dock and choose Show All Windows. Alternatively, press Control+down arrow.
2. The screen refreshes to show miniature versions of your windows. Minimized windows appear in the bottom portion of the display; active windows appear at the top.

3. Press the Tab key to switch between active applications, limiting the miniaturized windows to the highlighted application.

4. Click a window to select it and move it to the front.
**Show the Desktop**

Sometimes you need quick access to the files on your desktop, and rearranging windows (or using the Finder’s Hide menu) isn’t very efficient. Mission Control’s Show Desktop feature comes in handy here:

1. To clear all the windows off the screen so that you can temporarily work with the desktop, press F11 (you need to hold down the function key).

2. You can now work within the desktop with no obstructions. Press F11 again to return the windows to their original positions.
If Only Real Life Were So Easy...

To quickly drop a file from the Finder into another application (such as an attachment into an email message), start dragging a file while the desktop is cleared, press F11 to return the windows to the screen, and then finish dragging and dropping the file into an
Configure Mission Control Features and Shortcuts
If you have a specific way of working and want to customize how Mission Control or any of its features is activated, just follow these steps:

1. Open the System Preferences application, and click the Mission Control panel icon.

2. Uncheck Automatically Rearrange Spaces Based on Most Recent Use if you prefer that Sierra keeps your spaces in the same order you add them, regardless of your usage patterns.

3. In most cases, leave When Switching to an Application, Switch to a Space with Open Windows for the Application check box checked. This indicates that when you switch to an application (using the Dock or Command+Tab), you automatically switch to the space that contains its open windows.

4. If you prefer application windows to be grouped under their application icon in the Mission Control display, check Group Windows by Application.

5. If you’re lucky enough to have multiple monitors connected to your Mac, check Displays Have
Separate Spaces to have each display act as a separate work area with its own collection of fullscreen apps and workspaces. To use the monitors as a single unified space, uncheck this option.

6. Use the Dashboard pop-up menu to choose whether Dashboard should be its own space, displayed as a transparent overlay, or turned off entirely.

7. At the bottom of the panel, use the pop-up menus to configure keyboard and mouse button combinations to invoke the Mission Control features and Dashboard.

8. To trigger these features by moving the mouse to the screen corners, click the Hot Corners button.
9. Use the pop-up menus beside each screen corner to choose among the different options. After you’ve made a selection, just move the mouse into that corner to invoke the feature.

10. Click OK when finished.

11. Close the System Preferences.
**Dashboard?! What the Heck Is That?!!**

In step 6 of the previous task, I mentioned a feature called *Dashboard*. Dashboard is a legacy feature that defaults to “off” on new systems. It provides widgets very similar to the Today view in the Notification center. You can enable it (and use it) by following the preceding steps, but be aware that it will likely be disappearing in future versions of macOS.

**Remember Your Gestures!**

As you know, you control Mission Control through gestures, and these aren’t set in stone! Use the trackpad or Mouse System Preferences panels to configure the gestures used by Mission Control.

**Managing and Launching Applications with Launchpad**

Whereas Mission Control helps you find your way through your windows, the Launchpad eliminates the need to open them. Launchpad brings iOS-like application management to your Mac. Instead of digging through folders to launch an application, you simply start Launchpad and all your installed apps are visible in one place. No digging required.

**Start Launchpad**

Like Mission Control, Apple wants to keep Launchpad at the ready. Unlike other applications, it takes
no time to start and can be invoked through a gesture:

1. Open Launchpad by performing a pinching gesture with your thumb and three fingers on your trackpad. Alternatively, press the Launchpad key (F4), or click the Launchpad icon in the Dock or in the Applications folder.

2. The Launchpad appears, blurring out your background.

3. Reverse the pinching gesture, or click the background to exit Launchpad.

Navigate Launchpad
If you’ve used an iPad or an iPhone, you immediately know how to navigate Launchpad. If you haven’t, don’t worry—it takes about a minute to learn everything you need to know.

1. Open Launchpad to access your applications.

2. Click an application icon to launch it.

3. Click a folder icon to open it.
4. Click outside the folder to close it.

5. There can be multiple pages of icons, represented by the dots at the bottom center of the screen.

6. Move between pages by swiping left or right with your fingers, clicking the dots, or clicking...
Search Launchpad

If you can’t find an application you’re looking for, you can easily search for it directly in Launchpad.

1. Open Launchpad.

2. Click to type in the search field.

3. Enter a few characters of the name of the application you’re looking for.

4. Launchpad refreshes to show the search results. The best match is highlighted.
Rearrange Icons
The Launchpad display is completely customizable. To rearrange the icons on your screen, follow these instructions:

1. Open Launchpad.
2. Click and drag the icon to a new location—even a new page. Release the mouse to place the icon.
Launchpad suffers from a bit of an identity crisis. It follows the same “click and hold to enter icon wiggle mode,” just like iOS. This behavior, however, isn’t necessary for rearranging or even deleting icons as it is in iOS. Whether you use it is up to you and completely superficial. You can even make the icons wiggle manually by pressing and holding the Option key on your keyboard.

Create New Folders
Unlike folders in the Finder, Launchpad folders are created on the fly and automatically disappear when all their contents are removed. To create a folder in Launchpad, follow these steps:

1. Open Launchpad.
2. Drag an icon on top of another icon that you want to group it with.

3. A new folder is created and opened, and the icons are added.

4. Click the title of the folder to rename it.

5. Click the background outside the folder to close it.
The Folder That Wasn’t There

Folders you create or delete in Launchpad do not alter your file system. They are purely logical groupings and do not affect the location of your actual files.

Delete Folders
To remove a folder from Launchpad, follow these instructions:

1. Open Launchpad.
2. Click the folder that you want to remove.

3. The folder opens.

4. Drag each item out of the folder.
5. When you reach the last item, the folder vanishes automatically.
Delete Applications

In addition to providing a quick way to access your applications, Launchpad offers an easy way to uninstall applications that you’ve installed from the Mac App Store. (See Chapter 10, “Installing and Managing Applications and Extensions on Your Mac,” for details.)

1. Open Launchpad.

2. Click and hold on the icon until an X appears in the upper left, and click the X. (Alternatively, drag the item to the Trash icon on the Dock.)
3. You are prompted to confirm the deletion.
4. Click Delete. The application is uninstalled from your system. You can reinstall it through the App Store if needed.

**Need More Space? Delete Your Apps.**

Sierra can help you save space by identifying and removing applications you don’t use. To learn more about this feature, read “Optimizing Storage” in Chapter 11, “‘Making the Most of Your Mac Hardware.”

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**It’s Not All Good: The Not-So-Universal Uninstaller**

You can only use Launchpad for uninstalling applications you’ve added through the Mac App Store. To remove other apps, you need to revert to the old-school method of using an uninstaller (if one came with the application) or manually dragging the application files to the trash.

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**Managing Auto Open and Save Features**

Sierra offers some unique features that save you time when you boot your system after some downtime, start an application you use frequently, or even just save files. Although these can be useful, they can also be disconcerting to users who expect more conventional behavior—such as explicitly choosing when to open applications and save files.

**Toggle Application Auto Open**

By default, applications and windows open at login exactly as you had them when you shut down your computer. This is a nifty feature, but it also means you might have software starting at boot that you didn’t intend. You can toggle this feature on and off by following these steps:

1. Choose Log Out from the Apple menu.
2. Uncheck Reopen Windows When Logging Back In to disable automatic application startup, or check the box to re-enable it.

3. Click Log Out or Cancel. Your preference will be maintained regardless of your choice.
Set Window Restoration
In addition to restoring applications, Sierra can restore the open files and windows that you were using when you quit an application. By default, this feature is turned off, but you can easily toggle it on.

1. Open the System Preferences application and click the General icon.
2. Uncheck Close Windows When Quitting an App. This causes your applications to save their current state when they quit. Check the box to disable the behavior.

3. Close the System Preferences.
>>>Go Further: Temporarily Enable or Disable Window Saving
If you’re not sure you want to use the window restoration feature, or you don’t want to use it with specific applications, you can temporarily toggle it on and off. To do this, just hold down the Option key when quitting your application. The Quit menu selection changes to Quit and Keep Windows or Quit and Close All Windows, depending on your setting in the General preferences panel.

Enable Manual File Saving
When you start working in Sierra, you notice something “missing” when you work with files:
Frequently, you aren’t asked to save them when you close them. Sierra automatically saves your files, even if you prefer that it didn’t. To change this, complete these steps:

1. Open the System Preferences application and click the General icon.

2. Check Ask to Keep Changes When Closing Documents.

3. Close the System Preferences.
3. Connecting Your Mac to a Network
In this chapter, you learn how to get your Mac online, including tasks like:

- Connecting to wired networks
- Connecting to secure wireless networks
- Configuring network address, DNS, and routing information
- Verifying network connections
- Creating VPN connections
- Managing multiple connections with Locations

Being connected to a network gives you access to information, files, and services such as email or the Web. Your Mac comes with the latest networking technology, 802.11ac Wi-Fi and gigabit Ethernet, making it a snap to connect to existing wired or wireless networks.
This chapter explores the connection options available to you on your Mac.

**Connecting to a Wired Network**

The most common type of network connection in the business world is a wired Ethernet connection. The cables used to connect to the network look like oversized phone connectors and, as luck has it, plug directly into your Mac’s Ethernet port. (New Air and Retina Mac owners need to buy Apple’s USB or Thunderbolt Ethernet adapter.) Almost all current Macs support Gigabit Ethernet, making them capable of exchanging information at extremely high speeds.

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**It’s Not All Good: Befriend Your Network Administrator**

There aren’t many things that upset a network administrator more than a person who attempts to guess at the proper configuration of his computer when attaching it to a network. An improperly configured computer can potentially disrupt an entire network, so please make sure you have all the information you need from your administrator or ISP before attempting the configurations in this chapter!

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**Make an Ethernet (Wired) Connection**

On a network set up to automatically configure your computer using DHCP, the most complicated thing you need to do is plug in the network cable!

1. Open the System Preferences panel and click the Network icon.

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2. The Network preferences panel displays. All of the active network interfaces are listed here. Red dots indicate that no connection is present on the interface.
3. Plug the network cable into the back of your Mac. After a few seconds, the interface should update, showing a green dot for an active connection. The pane to the right of the interfaces displays the information that your computer is using to communicate online.
Connecting to a Wireless Network
When wireless network cards first started appearing, they were limited to portable computers. Over the past decade, however, Wi-Fi has taken off as a networking standard for both laptops and desktop computers. Current wireless network speeds are approaching wired connections, so, slowly but surely, wireless is taking over.
Apple makes your wireless life easy. Your Mac comes ready (and able) to connect to wireless networks with a minimal amount of fuss. Using the built-in AirPort wireless card in your Mac, you can connect to almost any type of wireless network.

>>>Go Further: Wireless Network Types
The latest Macs can make use of 802.11ac, 802.11n, 802.11a, 802.11b, and 802.11g networks! This represents the full range of consumer and business wireless networking standards. Your
Mac is also capable of talking to a wide range of 802.1x authentication protocols and encryption methods. Setup is usually automatic, so you won’t need to know the specifics unless your administrator tells you otherwise.


**Find and Connect to a Wireless Network**

If you haven’t already made a wired connection, your Mac’s Wi-Fi (wireless) card will be active and searching for networks that it can connect to.

1. If your Mac finds an available network, it prompts you to make a connection.

2. Choose the network name to which you want to connect. Note that the network signal strength and security are denoted by icons to the right of the name. If a lock is present, the network requires authentication. This is covered in “Authenticate on a Wireless Network” later in this chapter.

3. Click Join to connect to the selected network.
4. If you’ve been given the specific name of a network (called an SSID) by a network administrator and it doesn’t appear in the available networks list, click the Join Other button to enter the name and attempt to find the network.

It’s Not All Good: Things Not Working?

If you’ve successfully connected to a wireless network, but it doesn’t seem to work, you might need to configure the network settings manually. Keep in mind that you need to get those settings from your wireless network administrator.

If this is the case, skip ahead to the “Manually Configuring Network Settings” task.
Manually Choose a Wireless Connection
If you want to manually choose a wireless network connection, you can use the Wi-Fi menu in your menu bar.

1. The Wi-Fi menu displays a list of all of the available wireless access points, their signal strengths, and their security requirements.

2. Choose the network name to which you want to connect from the list. If you’re connecting to a network that shows a lock icon, it requires authentication. This topic is covered in “Authenticate on a Wireless Network” later in this chapter.

3. If you want to connect to a network using only its name, choose Join Other Network to enter the name and attempt the connection.

>>>Go Further: Alternative Wi-Fi Configuration
If you’d prefer to manage all your network connection information in one place, you can access these same options by opening the Network System Preferences panel and selecting the Wi-Fi interface.

You can also use the Show Wi-Fi Status in Menu Bar check box to remove or add (if it’s missing) the Wi-Fi status menu item.
Authenticate on a Wireless Network
When your Mac connects to an open (unsecured) network, it works immediately. If you’re connecting to a network that is secure, however, you need to authenticate, which means you need to provide a password or other identifying information.

1. If you attempt to connect to a network that has a security requirement, you are prompted for a password.

Look for the Lock
Secure networks are usually denoted by a lock icon next to the network’s signal strength icon. (Refer to the previous task.)

2. Enter the password (or other information, depending on the security settings).
3. Click Show Password if you’d like to see the password instead of dots while you type.
4. To make sure that the network can be used again in the future without requiring that you retype the password, check the Remember This Network box.
5. Click Join to finish and connect to the network.
Disable (and Enable) Wireless Networking

Not everyone wants to have wireless networking always enabled. It can potentially expose you to network attacks on poorly secured wireless networks. Disabling the Wi-Fi network interface, and re-enabling it, is just a menu option away.

1. To disable the Wi-Fi card, choose Turn Wi-Fi Off from the Wi-Fi status menu.
2. The Wi-Fi menu updates to an outline of the usual multiline symbol. The Wi-Fi hardware is now powered down.

3. To re-enable the Wi-Fi card, choose Turn Wi-Fi On from the Wi-Fi status menu.

Need More Wi-Fi Detail? No Problem.
To see all the stats about your Wi-Fi connection, hold Option while clicking the Wi-Fi menu. You’ll see signal strength, speed, and more!
Manually Configuring Network Settings

Network connections, when automatically configured, seem to work almost like magic. Your computer finds a signal (wired or wireless), makes a connection, and everything just “works.” Behind the scenes, however, there are a handful of network settings that make this happen. If a network doesn’t support auto-configuration using a protocol known as DHCP, you need to make these settings manually.

Your network administrator needs to provide the following settings in order to manually set up your network:

- **IP Address**—A numerical address that uniquely identifies your computer.
- **Subnet Mask**—A value that helps your computer determine what network it is on.
- **Router**—The address of a device that moves network traffic between other local computers and remote networks (such as the Internet).
- **DNS**—The address of a device providing domain name lookups to your network. This service translates human-readable names (such as www.apple.com) into IP addresses and vice versa.
- **Proxy Settings**—A device that sends and receives network traffic on your behalf, acting as a middleman for services.

Configure TCP/IP and Proxy Settings

To manually change your TCP/IP and Proxy settings, follow these simple steps:

1. Open System Preferences and click the Network panel icon.

2. The network panel opens, showing all the available interfaces. Click the interface you want to configure (usually Ethernet or Wi-Fi).

3. Click the Advanced button to view the full manual interface for network settings.
4. The Advanced configuration screen appears. Click TCP/IP in the button bar to access the common TCP/IP network settings.
5. Use the Configure IPv4 drop-down menu to change your settings to be configured Manually.
6. Enter the IP address, Subnet Mask, and Router, as provided by your network administrator.
7. Click DNS in the button bar to change your domain name server settings.

8. Click the + button below the DNS Servers list to add a new server to the list. Your ISP or network administrator usually provides at least two addresses to use; be sure to type it exactly as provided. (Use the – button to remove unused DNS Servers. Search Domains are not required unless specified by your administrator.)
9. If your network requires the use of a proxy, click the Proxies button in the button bar. If not, skip ahead to step 13.

10. Click the check boxes beside the protocols that you want to configure.

11. Click the protocol names to configure each proxy. Setup fields appear to the right of the protocol list.

12. Enter the proxy information as provided by your network administrator.

13. Click OK to exit Advanced setup.
14. Click Apply to activate and begin using your new network settings.
Switching to Automatic Configuration
To revert to the default “automatic” configuration of a network interface, you need to select Using DHCP from the Configure IPv4 drop-down menu.

Activate PPPoE for DSL Connections
In some cases, typically when using a DSL modem, you need to activate PPPoE (Point-to-Point Protocol over Ethernet) to make a connection.

1. Open System Preferences and click the Network panel icon.
2. Select your active Ethernet interface.
3. Choose Create PPPoE Service from the Configure IPv4 drop-down menu.
4. Choose a name for the connection. (The default, PPPoE, is fine.)
5. Click Done.
6. Enter the PPPoE information as provided by your ISP. Choose to remember the password if desired.

7. Click the Show PPPoE Status in Menu Bar check box to add a convenient menu option for connecting and disconnecting to the service.

8. Click the Advanced button.
9. Click PPP to open a variety of options for configuring your connection.

10. To help maintain a stable connection, check Connect Automatically When Needed and uncheck the Disconnect check boxes if desired.

11. If required by your ISP, configure the TCP/IP settings manually as described in the “Configure TCP/IP and Proxy Settings” task.

12. Click OK to close the Advanced settings.
13. Click Connect to begin using the PPPoE interface you’ve configured.
Making Connections with Cellular Data Modems and iOS Devices

When you’re on the go, you have a variety of options available to stay connected with your Mac. Cellular modems are fast, small, and convenient. On the other hand, you probably already have an iPhone or iPad, don’t you? Sierra can work with both of these devices to get your Mac online with a minimal amount of hassle.

There are a wide variety of WWAN (Wireless Wide Area Network) modems that work out of the box with Sierra—you’ll need to check with the vendor for support, but most popular USB modems support OS X.

Configure a WWAN Modem for Use with Your Mac

Using a supported WWAN modem is easy, as long as the card has been properly provisioned by your service provider!
1. Plug the WWAN modem into your computer (not shown).
2. Open the System Preferences panel and click the Network icon.

3. The Network panel opens, showing the new device. Make sure it is selected in the interface list.
4. Configure the settings using the information provided by your ISP. In most cases, you won’t need to do anything.
5. Click the Show WWAN Status in Menu Bar check box to display a menu item for the card.
6. Choose to connect automatically, if desired.
7. If you have been given specific network settings instructions by your ISP, click the Advanced button and enter the options as described in the previous section, “Manually Configuring Network Settings.”
8. Click Apply to begin using your WWAN card.
Manage Your WWAN Connection

If you chose to add the WWAN status to your menu bar as described in the previous section, you can use it to monitor and manage your connection.

1. The WWAN menu bar displays the signal strength of your device.
2. Use the Connect and Disconnect options under the menu to connect or disconnect from the Internet.
Use Your iOS Instant Hotspot

Sierra provides the ability to quickly access your iOS device’s cellular Internet connection—assuming your plan already includes support for personal hotspots.

To use this feature, you don’t need to do anything except make sure that your devices are signed into the same iCloud account (see Chapter 4, “Setting Up iCloud and Internet Accounts”) and that your iOS device is on and has a cellular connection. From there, just open the Wi-Fi menu and select the personal hotspot item that appears.

That’s it. No more configuration, no passwords—you’re immediately online! Use the Wi-Fi menu to monitor the signal strength and battery life of your iOS device.
Creating Virtual Private Network Connections
You have many different ways to connect to networks wherever you are. Many companies, however, only give you access to certain resources when you’re connected directly to their networks. This puts a small crimp on the idea of “working at home” or “on the go.”

To get around the access problem, many organizations provide Virtual Private Network (VPN) servers. Using a VPN server, your Mac can use its current network connection (wireless, wired, or using a WWAN card) to securely connect to your company’s network. You are able to access all the same resources that you see when you’re sitting in your office chair.

Create a VPN Connection
Sierra supports three types of VPN connections: L2TP, Cisco IPSec, and IKEv2. You need to find out from your network administrator which option is right for you, along with the settings you need to make the connection.

1. Create a new VPN connection by opening the System Preferences and clicking the Network icon.
2. Click the + button at the bottom of the interfaces pane.
3. Choose VPN as the interface.
4. Set the VPN type to the type specified by your network administrator.
5. Enter a meaningful name for the VPN service, such as “Work VPN.”
6. Click Create.
7. A new VPN interface is created and added to the list of network interfaces. Make sure the VPN interface is highlighted.

8. Configuration options appear on the right side of the Network preferences panel. Enter the server address and account information provided by your network administrator.

9. Click the Show VPN Status in Menu Bar check box. This adds a menu item to the menu bar so you can quickly connect and disconnect from a VPN.

10. Click the Authentication Settings button.
11. You are prompted for a method of authentication. Enter a password and information as directed by your network administrator

12. Click OK.
13. If you have been given specific network settings by your network administrator, click the Advanced button and enter the options as described in “Manually Configuring Network Settings.”

14. Click the Connect button to connect to the VPN.
Managing Your VPN Connection

If you’ve chosen to show the VPN status in your menu bar, you can use the menu item to quickly connect and disconnect at any time. In addition, you can show the amount of time you’ve been connected, in case connection charges apply.

Managing Multiple Connections with Locations and Configurations

If you have a Mac, chances are you’re not one to sit still. One day you might be connecting from a
beach in Maui, and the next from a coffee shop in Columbus, Ohio. To help keep things straight, Sierra includes Configurations and Locations—two important tools for keeping multiple sets of network information.
For interfaces such as VPNs or other devices that might have multiple “versions” of their settings, you can create configurations. A configuration holds information such as the server you’re connecting to and your specific network settings.
A location, on the other hand, has a much broader scope. Locations enable you to create new configurations across all your interfaces and swap them out instantly. Creating a new location is like establishing an entirely new network setup—making instant reconfiguration a snap.

**Create Configurations**

To create a configuration, do the following:

1. To create a configuration (if supported by your network interface), first open the System Preferences and click the Network icon.

2. Click the interface for which you want to create a new configuration.
3. Using the Configuration pop-up menu, choose Add Configuration.

4. Enter a name for the configuration.

5. Click Create. You may now configure the network interface as described earlier in this chapter.
6. Your new settings are stored and accessible under the configuration name you provided so that you can easily switch from one to another. (You can also remove or rename configurations under this menu.)
Add and Use Locations
Locations are like configurations on steroids. Lots of steroids. Using locations, you can create entirely new sets of network interfaces and options and switch between them easily.

1. Open the System Preferences and click the Network icon.
2. The default location of Automatic is set at the top of the network panel.
3. Choose Edit Locations from the Location drop-down menu.
4. A dialog box that lists any configured locations displays.

5. Click the + button to add an entry for a new location. (Use – to remove locations you no longer want.)

6. Type a name to describe the location, such as “Office Intranet.”

7. Click Done.
8. All your network settings are now set to their defaults for the new location. All VPN connections and other interfaces are gone. You are, in effect, starting fresh with configuring your Mac network setup.

9. Configure your network settings as described earlier in this chapter.

10. After you’ve completed your setup, you can switch between locations using the Location dropdown menu within the System Preferences Network panel. Remember that you can return to your original network settings by choosing the location named “Automatic.”
Seeking Automated Network Assistance

The Sierra operating system provides a few automated tools to help you configure and diagnose your Mac’s network settings. Be aware that the automated tools might not be able to fully set up your connection, and if you have complicated network configurations, you might want to manage the settings manually anyway. Let’s review what you need to do to use these tools.

Launch Diagnostics
To launch the diagnostics system, follow these steps:

1. Open the System Preferences panel and click the Network icon.

2. Click the Assist Me button at the bottom of the window.
3. Click Diagnostics in the dialog box that displays.
4. Choose the Network interface on which you wish to run diagnostics. If you’ve configured locations, you are first prompted to choose your location.

5. Click Continue.
6. Review the results and follow the onscreen instructions.
Launch the Setup Assistant
To launch the setup assistant, follow these steps:

1. Open the System Preferences panel and click the Network icon.
2. Click the Assist Me button at the bottom of the window.
3. Click Assistant in the dialog box that appears.
4. Provide a location where you will be using the network connection. This process creates a new location, as described in the earlier section, “Add and Use Locations.”

5. Click Continue.
6. Choose the type of connection you are making.
7. Click Continue.
8. Follow the onscreen instructions to let Sierra attempt to configure your network settings for you.
It’s Not All Good: Don’t Discount Your Admin!

It is impossible for me to stress this enough: Your network administrator or ISP is your best resource for correcting network problems. Using the assistant tools in Sierra is not a silver bullet; if you don’t have the information required to make a network connection (IP address, and so on), it won’t “just work”!
4. Setting Up iCloud and Internet Accounts
In this chapter, you learn about iCloud services and unified account management in Sierra, including:

- Activating iCloud services
- Understanding what iCloud is and does
- Getting to know interesting iCloud services
- Navigating iCloud Drive
- Using iCloud Photo Sharing
- Managing your myriad Internet accounts

One of the coolest features of Sierra isn’t really located on your Mac; it’s “in the cloud.” iCloud enables you to keep all of your information in sync in your digital life. Your iPhones, iPads, and Mac—coupled with iCloud—make up the perfect digital workplace and playground.

In this chapter, you find out how to establish and configure iCloud accounts and get to know some of the basics of using iCloud services, including the all-new iCloud Drive. You also learn how Sierra manages all of the accounts that you may use on popular social network sites, email, and online...
Setting Up iCloud

One of the most convenient features of using multiple Apple devices is the difficult-to-describe iCloud service. iCloud provides data synchronization between your computers and iOS devices (such as synchronizing your files, web browser bookmarks, passwords, and even credit card information). It also gives you free email, contact storage, and beautiful online office applications, and it even provides the ability to connect to your home Macintosh from your work computer. Best of all, all you need to do to use iCloud is establish an account and click a few check boxes.

Integrated iCloud

I mention iCloud where relevant throughout this book, but keep in mind that Apple is continuously upgrading iCloud services and adding new features. The goal is for your computing life to be more intuitive and seamless without having to worry about what is going on in the background.

The first step in using iCloud is configuring your Mac to log in to your account. If you have an Apple ID, chances are you already have an iCloud account. If not, the setup process guides you along the way.

Configure iCloud for the First Time

To access your iCloud account for the first time, follow these steps:

1. Open the iCloud System Preferences panel. A sign-in window displays.
One-Time Deal

Note that you only need to follow these steps once—after that, you remain logged in even if you reboot your Mac.

2. Enter your Apple ID and password, or click Create Apple ID to generate a new safe ID.
3. Click Sign In to log in to the iCloud service.
4. iCloud prompts to automatically install basic services—contacts, calendar, reminders, notes, and bookmark syncing as well as Find My Mac. You can either enable these now, or you can do so later by following the instructions in the “Activate iCloud Services” task.

5. Click Next.

6. You might be prompted for information as some services start. If you’re using Find My Mac,
for example, you’re prompted to allow Location Services. Click Allow to move on.

7. You are shown the list of active iCloud services. Close the System Preferences, or proceed to the next section to learn more about the available services.
Browse iCloud Services

Your iCloud account comes with many free services that work across your macOS systems and iOS (iPhone/iPad) devices. The following list summarizes the available services at the time of this writing:

- **iCloud Drive**—This makes it possible to save files to iCloud rather than your local hard drive. Using this feature, you can start editing a document on one machine and finish it up on another (discussed later in this chapter in the “Using iCloud Drive” section). Beginning with Sierra, you can even automatically keep your entire Desktop and Documents folders synced with iCloud Drive.

- **Photos**—Photos automatically makes the photos you take on your iPhone or iPad available on your Mac (and vice versa) and enables you to share albums with anyone. (This is discussed later in this chapter in the “Using iCloud Photos” task.)

- **Mail**—When activated, Mail sets up an email account associated with your iCloud account. This will be an @iCloud.com address that you established when registering for an Apple ID (discussed in Chapter 5, “Accessing Email and the Web”).

- **Contacts**—Moves your contacts to iCloud storage, making them accessible and editable on any device that has iCloud configured. (See Chapter 8, “Managing Who, Where, When, and What,”
Activate iCloud Services
To activate an iCloud service, first make sure you have completed the task “Configure iCloud for the First Time” and then follow these simple steps:

1. Open the iCloud System Preferences panel.
2. Click the check boxes in front of the services you want to use. If prompted to provide access to additional system services (Find My Mac requires you to grant access to your location, for instance), click the appropriate response.

3. Close System Preferences when satisfied with your selections.
More Storage Is a Click Away

At the bottom of the service list is a bar showing how much storage you have left. By default, iCloud includes several gigabytes of free storage, but storing documents and data, backups of your iOS devices, and other information can eat up the space quickly. Click the Manage button to browse the applications using iCloud storage (and selectively delete their documents) or buy more storage space—up to 2TB!

Exploring Unique iCloud Services

It’s easy to describe the use of features like Contacts and Safari bookmark syncing, and they fall neatly into place in many of this book’s chapters. A few “unique” iCloud services are important to cover but don’t quite fit as cleanly elsewhere. One such service, for example, enables you to find your Mac on a map, should it be lost or stolen. Another provides direct access to your contacts, events, and mail from a web interface no matter where you are. Rather than leave these topics out, they are covered in the following tasks.

Access iCloud Applications Online

After you activate iCloud services like Mail, Calendar, and Reminders, you can log in to Apple’s online iCloud service and use web applications that resemble their Mac counterparts. To access iCloud applications, do the following:
1. Open a current version of a web browser (Safari, Edge, Internet Explorer 8+, Firefox, or Chrome) and browse to www.iCloud.com.

2. Enter your Apple ID and password.

3. Click the Keep Me Signed In check box if you’d like to be able to access iCloud from your computer without logging in again.

4. Click the arrow to log in.

5. Click the icon of the application you want to launch.
Automatic Saves
Use the web application as you would the desktop version. If your app makes changes to data, those changes are pushed out to all your iCloud-connected devices.

6. Click the iCloud menu (upper-left corner) to jump to other applications.
7. Close your browser when finished.
Use Find My Mac
To turn on Find My Mac and make your Mac location available via the iCloud website, follow these steps:

1. If you haven’t already, activate Find My Mac using the technique described in “Activate iCloud Services,” earlier in this chapter.
2. If prompted, click Allow on the Allow Find My Mac to Use My Location dialog (not shown).
3. If you need to find your Mac, go to iCloud.com in a browser on any Internet-connected device and log in. Click Find iPhone. You might be prompted for your login a second time (not shown).
4. Click All Devices to show the list of tracked devices.
5. Click the name of your Mac in the list.
6. The Mac’s location is highlighted on the map.

7. The web app displays options for sending a message/playing a sound on the computer, locking it, or wiping the contents of the hard drive.
Use iCloud Drive
The iCloud Drive feature of iCloud makes it easy to work on a document in one location, and then open it again in another. If you’ve used other “cloud drives” like Box, Dropbox, or OneDrive, this works in much the same way, but with a few Mac-like features.
When you first set up Sierra, it might have asked if you want to store your Desktop and Documents in iCloud Drive. If you chose to do this, two of your most commonly used file storage locations are now “in the cloud” and accessible on all your devices. If not, you’ll need to dig a bit to activate this feature.

Activate iCloud Drive’s Desktop and Documents
Before starting, activate iCloud Drive using the steps described at the end of the “Activate iCloud Services” section, earlier in this chapter. Next, open the iCloud System Preferences panel and follow these steps:

1. Click the Options button beside iCloud Drive.
2. Make sure the Documents tab is selected at the top of the window.

3. Click the check box beside Desktop & Documents Folders. Other check boxes represent other applications or system components that are storing data in iCloud.

4. If you’d like Sierra to move older documents off of your Mac (and into iCloud) to help save space, make sure Optimize Mac Storage is selected.

5. Click Done.

6. Close the Preferences window.
Optimizing Won’t Make Everything Disappear

If you choose to have Sierra optimize your Mac storage, don’t worry—old files aren’t going to just “go missing.” You still see their icons, but they just don’t take up any space. To download files that iCloud has moved from your local drive, follow the steps in the “View and Manage iCloud Syncing Status” task later in this chapter.

Navigate iCloud Desktop and Documents

If you choose to use iCloud Desktop and Documents folders, you’ve changed a fundamental way in which your Mac functions. Let’s take a look at what that actually means.

1. Before you activate iCloud Desktop and Documents, notice that the Finder has a single iCloud Drive entry in the Favorites category of the Finder sidebar.
2. Your Desktop and Documents folders are “local” only and are also visible in the Finder sidebar’s Favorites category.

3. After activating iCloud Desktop and Documents, iCloud Drive, Desktop, and Documents are moved to their own “iCloud” category.

4. You can interact with these folders as you always have—using the sidebar or the Go menu. The difference is that a copy of the folder contents will be synced to iCloud. A pie-chart progress meter indicates files uploaded to the cloud.
5. If you activate iCloud Desktop and Documents folders on multiple Macs, your Desktop files and Documents are available everywhere! Just think—all your desktop clutter can be shared (and maybe multiplied) between every Mac you own! (Not shown.)

Navigate the Rest of iCloud Drive
Regardless of whether you use the Desktop and Documents option of Sierra, the rest of the iCloud Drive is available for storing files. Access it by following these steps:

1. Click iCloud Drive in the Finder sidebar or choose it from the Go menu.
2. Within the iCloud Drive, you see folders for each application you use. By default, files created by these applications are saved within their own folders.

Arrange as Needed
Organize your iCloud Drive as you see fit. You don’t have to save files within folders named for your applications (or within any folder at all, for that matter). This is simply how Apple keeps things arranged by default.

3. Drag folders and files from outside the iCloud Drive into the iCloud Drive, and they will appear on your other iCloud-connected devices.
4. Drag folders and files out of the iCloud Drive to move them to your local computer.
5. When prompted, click Move to confirm that you really want to move the files out of iCloud Drive.
Open iCloud Files within an Application

iCloud Drive files can always be opened by double-clicking in the Finder, the same as any other file, but when you go to open them in an application, things look a bit different. To open a file that you’ve saved in iCloud (from any iCloudconnected device), first complete the actions you normally would to open a file within an application of your choosing and then follow these steps:

1. Use the sidebar to select iCloud Drive.

2. Double-click the folder for the application that created the file (if following Apple’s default organization), use the drop-down menu at the top of the dialog box to choose the application name, or click the application name under the iCloud heading in the sidebar.
3. Select the file you want to open.
4. Click Open. The file opens and you can begin working with it wherever you left off, no matter which device you were using.
When It’s in iCloud, It’s in iCloud

When you open and edit a file in iCloud, it stays in iCloud. You don’t need to worry about moving it from your local computer to iCloud after editing it, or anything of the sort. Just think of iCloud storage like any other disk, except that you have access to it no matter where you are or what iCloud-enabled device you are using.

Save iCloud Files from an Application

To save a file to iCloud from within an application, just edit the file as you normally would and then follow these steps when it’s time to save:

1. Choose File, Save (or Save As/Move if editing a file you’ve already saved).
2. Double-click the folder for the application that created the file (if following Apple’s default organization), use the drop-down menu at the top of the dialog box to choose the application name, or click the application name under the iCloud heading in the sidebar. This stores the file in a directory specifically for that application.

3. Provide a name for the file.

4. Click Save.
View and Manage iCloud Syncing Status

As you move files to and from iCloud, they don’t instantly appear on your other devices. If you are offline, your files are queued for upload later.

It takes a while for files to be copied to iCloud, or to be copied down to your local device. To check the syncing status, do the following:

1. If iCloud Drive network activity is taking place, you see a pie-chart showing how much data needs to be transferred.
2. Click the pie-chart to open a dialog showing the upload and download activity.

3. Click the X icon to stop syncing until later.

4. Files that haven’t been downloaded to your computer, or that Sierra has moved off of your computer to save space, are still visible, but they aren’t actually located on your computer (indicated under the icon).

5. Download a file that isn’t stored locally by right-clicking the file and choosing Download Now.
Open iCloud Files on the Web

If you save a file to iCloud using Pages, Keynote, or Numbers on your Mac or iOS device, you can open and edit the file with nothing more than your web browser. To do this, make sure you’ve added the files you want to access to iCloud Drive and then follow the steps in the earlier task “Access iCloud Applications Online.”

1. Use the iCloud webpage to choose the application whose files you want to open.
2. The application opens, displaying all the files you saved to iCloud from your Mac.
3. Double-click the file you want to work with.
4. The file opens and you can begin working with it directly in your browser.
iCloud Drive integrates so cleanly with macOS that you don’t have to worry about whether something is “in the cloud” when you go looking for it. Spotlight and Finder searches (including the “All My Files” feature of the Finder) automatically include the files stored on your iCloud Drive.

Using iCloud Photos
Another extremely useful (and fun) feature of iCloud is iCloud Photos. Using the iCloud Photo feature, you can keep your entire Photo Library online and share photos with anyone—across iOS and macOS devices.

Enable iCloud Photo Sharing
To get started, enable and configure Photo Sharing in iCloud. To enable the service, follow these steps:
1. Open the iCloud System Preferences Panel so that Photos is visible.
2. Click the Options button beside Photos.
3. Check the iCloud Photo Library check box to keep your entire photo library in iCloud.
4. Click the My Photo Stream check box to keep all of your latest photos synced between devices. (This is only necessary if you have older devices that don’t support the iCloud Photo Library.)
5. Enable the iCloud Photo Sharing option to share photos with individuals whom you select.
6. Click Done.
7. Close the Preferences window.
Delete Once, Delete Everywhere!

The iCloud Photo Library is great because every photo is available on every device—but that comes with an important implication. If you delete a photo from your iCloud Photo Library on one device, it deletes from everywhere. Thankfully, there is a Recently Deleted album that temporarily holds these photos in case you make a mistake.

View iCloud Photos
To view your shared photos and photo library, you need to use Photos, which comes with Sierra. You learn more about Photos in Chapter 9, “Organizing Your Media.”

1. Open Photos from the Dock, Applications folder, or Launchpad.
2. Click the Photos category (or an Album) on the left to show all your photos in chronological order. If iCloud Photo Library is enabled, *all* your photos are shown, even those you’ve just taken on your iPhone!

3. Use the entries under Shared to view photo libraries that you’re sharing or that are being shared with you (and activity, such as comments, within those libraries).
To share your photos with others, you also use the Photos application. Open Photos, then follow these steps:

1. Navigate to a photo album or select a group of photos from the Photos section or from within an album.
2. Click the Share button. You can share all the photos from a specific Moment (a date) by using
3. Choose iCloud Photo Sharing.

4. Enter a comment to describe the shared photos.

5. Uncheck Live Photo if you don’t want the shared photos to be Apple’s proprietary Live Photo format. Live Photos display a short snippet of video before and after the frame you captured and can eat up disk space quickly.

6. Choose an existing shared album, or click New Shared Album to create a new shared album.
7. Enter the name of the album, the addresses for people who should be able to access the shared album, and any comments.

8. Click Create to begin sharing!
What Happens When Someone Shares With You?
When someone shares photos with you, you receive a notification on your devices and an email. After you accept the sharing request, the library appears in Photos.

Interact with Shared Photos
Shared photos are interactive. To leave or view comments on a shared photo album, open Photos and then follow these steps:

1. Use the Shared section on the left to access your shared photo libraries and libraries that have been shared with you.
2. Navigate to a photo in a shared Album.
3. The comment bubble in the lower-left shows the number of comments left on a photo, or a + to show that you can add a comment. Click the bubble.
4. Click the smiley face to “like” a photo.
5. Click the Add a Comment field to begin typing a new comment.
6. Click Send to add the comment. It will be visible to anyone who has access to the shared photos.
Getting Started with Accounts

For all the fun and information the Internet has brought us, it has also created a mess in terms of managing all the accounts we use to communicate online. If you’re like many people, you have multiple email accounts—possibly one through iCloud, one from work, and even others you use for personal email or online services. You have accounts for chatting with instant messenger. You have accounts for sharing contacts and calendars. In other words, you have multiple usernames and passwords that need to be configured in different applications, just so you can be connected.

In macOS, Apple has recognized the problem of account overload and worked to consolidate all your online account management in a single centralized preferences panel: Internet Accounts. Here you can set up email, instant messenger, Exchange, Calendar, and other account types—without needing to figure out where they’re managed in your individual applications.

I show the use of this panel as needed in the relevant chapters, but let’s take a very brief look at how you interact with this tool on your Mac.

More iCloud Settings?

When you use the Internet Accounts panel to manage your accounts, it also includes iCloud. The iCloud settings in this panel are identical to what you configured in the
Add an Account
To add an account for an online service (email, contacts, calendars, Exchange, and so on), follow these steps:

1. Open the Internet Accounts System Preferences panel.

2. Choose an online service provider that you want to configure by clicking its name. Select Add Other Account from the bottom of the list to pick from additional service types.
3. Provide the credentials you use to log in to the account.
4. Choose which applications you want the account to be able to interact with on your Mac. Click Done when you’re finished.
5. The completed account is listed in the preferences panel with its settings available on the right.
6. Close System Preferences when finished.
Exploration Is Rewarded!

Although the Internet Accounts panel is a great place for establishing new accounts and performing high-level configuration, you might still find yourself needing to dig for various esoteric settings (such as specific server addresses, proxies, and other technical tweaks) within your individual Internet applications.
5. Accessing Email and the Web

In this chapter, you learn how to use your Mac for common Internet uses, including:

- Connecting to email servers
- Using filters, VIPs, and Smart Mailboxes
- Browsing the web
- Managing tabs
- Viewing picture-in-picture video
- Online shopping with Apple Pay
- Using Safari extensions

The Internet (for better or worse) is everywhere we turn. To be effective in our professional (and frequently social) lives, we need best-of-breed Internet tools on our Macs. The good news is that we’ve got ’em.

In this chapter, you find out how to use some of the unique features of the Mail and Web applications in macOS. Even if you’re working in a Microsoft-centric environment, you’ll find that your Mac’s tools are up to the job.
Getting Started with Mail

The first thing that many of us do when we have an Internet connection is check our email. Email is now a way to exchange rich media—such as photos, files, and movies—in addition to a way to exchange written messages. The email application, Mail (found in the Dock or Applications folder), is provided with your Mac. With Mail, you can connect to a variety of different mail servers, including Microsoft Exchange, with only a few clicks of your mouse.

Things You Need Before Setting Up an Email Connection

As with the networking information in Chapter 4, configuring your email account isn’t a matter of guessing. Apple’s Mail application can automatically set up many popular email services (such as Exchange, Google, Yahoo!, and iCloud), but if you’re connecting to a corporate email server, you should collect as much information as possible from your email system administrator or ISP before proceeding. This includes your email address, password, email server, email server type (POP, IMAP, or Exchange), and SMTP server:

- **Incoming mail server**—The server that you connect to when retrieving your email.
- **Incoming mail server type**—The type of server that you’re connecting to. Apple’s Mail application supports Exchange, IMAP, and POP servers.
- **Outgoing (SMTP) server**—The server that sends your messages.

Note that if you’ve already activated iCloud email, your account is already set up! You don’t need to do anything else.

Add a Common Email Account

If you have an email account that Sierra recognizes, configuration couldn’t be easier—you just need your email address, name, and password to make a connection. Sierra attempts to identify and configure your account. If for some reason it fails, you can continue with a manual configuration.

1. Open the Internet Accounts System Preferences panel.
2. Choose an email service that you want to configure by clicking its name on the right.
3. The Add Account window displays. Type your email address and password for the account.
4. Click Sign In.
5. macOS attempts to automatically configure your account. If additional features are determined to be available from the email provider, they are listed in the window. Choose which services you want to use by checking/unchecking the check boxes.

6. Click Done to finish adding the account.
7. The newly configured email account appears in the account list.
8. Click Details to edit the basic account settings if, for example, you want to change your display name or the name of your account.
9. Close the preferences and begin using your account in Mail.
Add a Non-Standard Account
Email accounts provided by your ISP or other third party will likely require a custom setup. To configure a non-standard account, follow these steps:

1. Open the Internet Accounts System Preferences panel.
2. Click Add Other Account at the bottom of the accounts list.
3. Click Mail Account after the list refreshes.

4. The Add Account window displays. Type your name, email address, and password for the account.

5. Click Sign In.

6. macOS attempts to automatically configure your account. If it cannot identify the type of server, it displays a screen for manually defining your mail server addresses.
7. Enter the server addresses, type, and authentication information supplied by your email provider.

8. Click Sign In.

9. If additional features are determined to be available from the email provider, they are listed in the window. Choose which services you want to use by checking/unchecked the check boxes, and then click Done.
10. Use the summary screen to edit the basic account settings if, for example, you want to change your display name or the name of your account.

11. Close the preferences and begin using your account in Mail.
Troubleshooting and Fine-Tuning Your Connection

To troubleshoot your account settings, from within Mail choose Window, Connection Doctor. Your Mac tests all your email account settings and shows you exactly where any errors are occurring.

You can access additional advanced settings for email accounts by opening the Mail preferences (Mail, Preferences from the menu bar) and choosing the Accounts tab.

Multiple Email Addresses, One Account

It isn’t uncommon for one email account to have multiple addresses associated with it. I might have a single account with addresses, such as myMac@placeforstuff.com or johnray@me.com, which I want to appear when I send a message. To configure multiple addresses for a single account, open Mail’s preferences, click Accounts, and then click the account for which you want to add an alias. Use the Email Address pop-up field to choose Edit Email Addresses. You’re presented with a form for adding as many addresses as you’d like. These addresses are then available in a pop-up menu when you
Finding Your Way Around Mail

After your email account is configured, Mail connects and retrieves your messages. The Mail application workspace is split into three columns, from left to right: mailboxes, a message list, and message content.

On the left, the mailbox list shows different mailboxes (or folders) for categorizing your messages. Apple has decided to conserve as much space as possible by hiding the mailboxes by default. There’s also a quick hide/show mailboxes button to show the mailbox column and links to the important mailboxes (Inbox, Sent, and so on) directly below the toolbar.

When you click a mailbox, the message list refreshes to show all of the email within the mailbox, including a several-line preview of the contents. Any message that you click in the Message list is displayed in the message content area on the right.

Now that you know the basics of finding your way around Mail, take a look at the common tasks you should familiarize yourself with.
Reading Email
Reading messages is typically a matter of finding a message in the message list, clicking it, and reading. Even so, you can improve the experience by taking advantage of several tools built into Mail.

Additionally, macOS supports iOS-like gestures in Mail’s message list. To delete a message, swipe with two fingers to the left while the cursor is over the message in the message list. To mark a message as unread, swipe with two fingers to the right.

Sort Mail
You’re certainly used to sorting information by clicking column headings, right? In the Mail application, however, the default message list doesn’t have columns, so you need to follow this approach:

1. Use the Sort By drop-down menu above the message list to choose a message attribute to use as
1. Use the same menu to set the order of your sorting preferences.

2. Viewing Additional Attributes

Much as you can set the mail attributes you want to use for sorting, you can also set the attributes displayed in the message list. Choose View, Message Attributes from the menu bar to set which attributes will be visible in the message list items.
Filter Mail
Filtering messages is similar to sorting, but it hides or shows messages based on various filter criteria (such as being unread). To use filtering, do the following:

1. Click the Filter button at the top of the message list.
2. The message list updates to use the filter criteria (by default, showing only unread messages).
3. Click the filter criteria (by the Filtered By heading) to choose other criteria.
4. Turn off filtering by clicking the Filter icon again (not shown).

Preview Attachments
In Chapter 1, “Managing Your Desktop,” you learned about the Quick Look system for previewing
files in the Finder. In Mail, if your message contains an attachment, you can also use the Quick Look system.

1. Choose a message with an attachment—represented by a paperclip in the message list.
2. Position your cursor near the top of an email to show buttons for interacting with the message.
3. Click the Attachment button.
4. Select Quick Look from the menu that appears.

5. A Quick Look window appears, displaying the selected content.
Accessing Email and the Web

In this chapter, you learn how to use your Mac for common Internet uses, including:

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- Using Filters, VIPs, and Smart Mailboxes
- Browsing the Web
- Muting noisy tabs
- Viewing Picture-In-Picture Video
- Online shopping with Apple Pay
- Using Safari extensions

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Getting Started with Mail

The xe "email:email accounts"xe "Mail:email accounts"first thing that many of us do when we have an Internet connection is check our email. Email is now a way to exchange rich media[md]such as photos, files, and movies[md]in addition to a way to exchange written messages. The email application, Mail (found in the Dock or Applications folder), is provided with your Mac. With Mail, you can connect to a variety of different mail servers, including Microsoft Exchange, with only a few clicks of your mouse.

Things You Need Before Setting Up an Email Connection

Save Attachments

You can easily save one or more attachments to your Mac’s hard drive, and even add images to Photos, directly from Mail.

1. Choose a message with an attachment—represented by a paperclip in the message list.
2. Position your cursor near the top of the message and click the Attachment button.
3. A menu appears, enabling you to Save All, choose an individual file to save, or, if applicable, add the file to Photos.
4. Alternatively, find the icon for the attachment at the bottom of your message, and drag it outside the window to save it to your desktop.
View Web Pages within an Email

Have you ever gotten a link to a web page in email and wanted to view it without having to launch Safari? In macOS, you can. To preview a web link directly in Mail, follow these steps:

1. Position your cursor over the link within the message content, but do not click!
2. A small downward-pointing arrow appears to the right of the link. Click it.
3. A pop-over window appears displaying the web page.
4. Click Open with Safari to open the full page in your web browser, or click Add to Reading List to save the page to your Safari reading list.
Using Data Detectors

The icon that appears at the end of a web link in mail (and the subsequent preview of the page) is an example of a macOS “Data Detector” in action. You might notice other icons next to dates, addresses, phone numbers, and so on. Clicking these icons will perform similar helpful actions, such as setting appointments, adding information to a contact, or tracking shipments.
Email conversations can grow quite lengthy with back-and-forth replies. To help keep long conversations under control, Mail, by default, collapses your conversations into a single entry in your message list. You can expand the entry to show the individual messages whenever you need to see one.

1. Conversations are denoted by a number and double-arrow within an entry in the message list.
2. Click the message list entry to show all the messages in the conversation within the content area.

3. To focus on a single message, click the number and double-arrow in the message list to show a list of individual senders and dates.
4. Click the individual name/date to show only that message.

It's Not All Good: Silence the Conversation!

Many people find the conversation view to be disorienting in Mail. If you’re one of those people, you can turn it off entirely by choosing Organize by Conversation from Mail’s View menu.

>>>Go Further: See My Smiling Face!

To see your friends’ (and other contacts’) photos beside each message summary in the message list, open Mail’s preferences (Mail, Preferences from the menu), and within the Viewing section, click the Show Contact Photos in the Message List check box.

Manage Spam Filtering

Mail can learn (with some help) which messages in your inbox are spam and then filter similar messages so you don’t have to see them. To manage your spam filtering, follow these steps:

1. Choose Mail, Preferences from the menu bar.
2. Click the Junk Mail toolbar icon.
3. Click Enable Junk Mail Filtering to turn on spam filtering. You can disable it by unchecking this box at any time.
4. Choose where Mail should file spam messages. Moving messages to the Junk mailbox is a good choice.
5. To help prevent getting false positives, use the spam exemptions to identify types of messages that you don’t consider to be spam.
6. If your ISP offers spam filtering (and you trust it), make sure the Trust Junk Mail Headers in Messages option is set.
7. Close the preferences.
Classifying Spam
If you receive spam mail, select it and click the Junk icon (thumbs-down icon) in the Mail toolbar. This classifies messages as spam. When new messages recognized as spam come in, they are automatically placed in the Junk folder. If good mail is accidentally classified as spam, use the thumbs-up icon in the toolbar to tell Mail it made a mistake.

Change How Often Mail Is Retrieved
You can force Mail to retrieve messages using the Get Mail toolbar button, but to change the frequency with which it forces a check, you need to access the preferences.

1. Choose Mail, Preferences from the menu bar.
2. Click the General icon in the preferences toolbar.

3. Use the Check for New Messages pop-up menu to set how frequently Mail looks for new messages. Automatically is best for most mail servers.
Composing Email

Email today is a bit more than just typing a message—it can include sending photos, files, or even professionally designed invitations and announcements. Mail on your Mac enables you to do all of these things.

Send Messages with Attachments

Mail can attach any type of file to your messages with ease. Follow these steps to add Windows-compatible attachments to a Mail message.

1. Start a new message by clicking the Compose New Message icon (pencil and paper) in the
Mail toolbar or reply to or forward an existing message.

2. If you want to re-attach any attachments from the original message (in the case of a reply), click the Include Attachments icon (paperclip on paper) in the New Message window.

3. Add new attachments by clicking the Include Attachments icon (paperclip) in the New Message window.

4. Choose the files or folders to send from the File Chooser dialog. Select multiples by holding
down the ⌘ key and clicking.

5. Click Options to show additional options.

6. Check the Send Windows-Friendly Attachments check box to ensure that anyone (regardless of their platform choice) can open the attachments.

7. Click Choose File to add the attachments.
8. Compose the message as normal and then click the Send icon (the paper airplane).
Attaching Pictures from Photos

To quickly attach photos from the Photos app, click the Photo Browser button to open a small window that shows your photo galleries. Choose your photos and drag them into the message to attach them! If you have photo files in the Finder, you can drag the files directly into your messages as well.

Annotate Attachments with Markup

Sierra includes a Markup extension for images. When working with an image in an email (added as an attachment or automatically included when replying to a message with an image), you can access tools to quickly annotate the image without leaving Mail.

1. Position your cursor over the image; a down arrow appears in the upper-right corner. Click the arrow.
2. Choose Markup from the menu.
3. The Markup window displays.
4. Use the Freehand tool to add freehand drawings and fancy arrows to the image.
5. Use the Shapes tools to access a variety of geometric shapes along with a magnifying loupe.
6. Click the T icon to insert a line of text over the image.
7. Use the signature tools to add your signature to the image.
8. Use the line width, line color, fill color, and font menus located to the right of the tool icons to change the appearance of your markups.

9. When finished annotating, click Done.

10. The modified image is inserted into the message and is ready to send!
Extend Yourself

The Markup tool is an example of a macOS extension. It adds features to an application without changing the application itself. You can find and download additional extensions from the App Store. Read Chapter 10, “Installing and Managing Applications and Extensions on Your Mac,” for more details!

Use Stationery Templates

If you’d like to send an invitation or a fancy greeting, you can make use of prebuilt templates, called Stationery, that come with the Mail application. Stationery is available whenever you begin composing a new message:

1. Start a new message by clicking the Compose New Message icon (pencil and paper) in the Mail toolbar.
2. Click the Show Stationery icon (paper with dots) in the New Message toolbar.
3. Choose a category of templates on the left side of the Stationery bar.
4. Click the thumbnail of the template you want to apply.
5. Click to edit the text within the template.
6. If the template contains images, replace them by dragging photo files from the Finder onto the template image or use the Photo Browser button to locate an image and drag it in.

7. Click the Send icon (the paper airplane) when you are finished with the message.
Changing Templates
After you change the content of a template, you can choose another template and your changes will be maintained as much as possible.

Create Signatures
When you send a lot of email, you probably get a bit tired of typing the same thing at the end of each message—your name, email, and other contact information. To add this information automatically to the end of each message you write, create a signature.

1. Choose Mail, Preferences from the menu bar.
2. Click the Signatures icon in the preferences toolbar.
3. Choose an account with which the signature should be used, or choose All Signatures to not associate the signature with a specific account.
4. Click + to add a new signature.
5. Type a name for the signature.
6. Enter the text for the signature in the space to the right.
7. Click Always Match My Default Message Font so that the signature always matches the font you’re using.
8. If you’re adding the signature to an account, use the Choose Signature drop-down menu to choose which signature is automatically added when you write a message. You can also manually choose a signature using the Choose Signature drop-down menu in the message composition window.

9. Click Place Signature Above Quoted Text to have Mail position your signature above earlier (quoted) text when replying to messages.

10. Close the Mail Preferences window.
Adding a vCard

To attach your personal information to your signature as a virtual business card, you can drag a card out of your Contacts application into the signature.

Managing Your Email with Mailboxes

Email can be overwhelming, especially if you have several different accounts and dozens of incoming messages each day. To help you cope with the incoming mail, you can create mailboxes in which to file or copy messages. You can also set up Smart Mailboxes that automatically display messages that match certain criteria.

Create Mailboxes
To create a new mailbox, follow these steps:

1. Position your cursor over the Mailboxes label in the mailbox list.
2. Click the + button that appears.

3. Using the Location pop-up menu, choose where the mailbox should be stored. You see all of your existing Mailboxes in the menu, as well as On My Mac. Choosing an existing location creates the new mailbox inside that location.
4. Enter a name for the new mailbox.
5. Click OK.
6. The new mailbox is created and displayed in the mailbox list.
**Make Room for Your Mail**

Remember: Because the mailbox display eats up a bunch of room on your screen, Apple has made it simple to hide and show the mailbox column using the Mailboxes button in the upper-left corner of the Mail window. In addition, you can quickly change between your Inbox, VIPs, Sent, Drafts, and Flagged folders using the links directly in the Mail toolbar.

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**Delete and Rename Mailboxes**

If you find yourself with extra mailboxes or mailboxes that are no longer serving their original purposes, you can delete or rename them.

1. Right-click the mailbox you want to change in your mailbox list.
2. Choose Delete Mailbox or Rename Mailbox as needed. Any messages stored in a mailbox being deleted are also deleted.

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**Nesting Folders**
Even though you chose where to put your mailbox when it was first created, you can easily move it within your mailbox hierarchy. Mailboxes can be moved inside of other mailboxes by clicking and dragging their folder icons into (or out of) another mailbox.

**File Messages in Mailboxes**
Mailboxes are only useful if you file your messages in them. You can copy or move messages one at a time or en masse to a mailbox. You can do this either manually, as described here, or automatically using Smart Mailboxes or Email Rules, discussed in the tasks following this one.

1. Select a message by clicking it in the message list. You can select a contiguous range of messages by holding down Shift and clicking another message, or select several scattered messages by holding down the Command key, \(⌘\), and clicking multiple messages.

2. Move the messages to a mailbox by dragging them onto the desired mailbox. To copy—rather than move—the messages, hold down the Option key while you’re dragging the messages. The messages are moved (or copied) to the other mailbox.
Filing without Dragging

If you have a large number of mailboxes or just find the process of dragging to the 
mailbox list to be cumbersome, you can select the messages and then use Move To or 
Copy To from the Messages menu to file the email without any dragging required.

Automatic Email Organization with Smart Mailboxes

Much as smart folders in the Finder can help you keep track of files that share certain attributes, 
Smart Mailboxes can do the same for your email. Using information such as the sender, recipient, and 
even attachment names, you can group messages in a Smart Mailbox, regardless of what mailbox, or 
even what email account, they’re associated with. Apple includes one Smart Mailbox by default—
Today—showing all the messages you’ve looked at today.

1. Hover your mouse over the Smart Mailboxes heading in the mailbox list and then click the + 
icon that appears.

2. Type a name for the mailbox.

3. Choose whether the mailbox should match any or all conditions.

4. Configure your search criteria. Use the first pop-up menu to choose a message attribute (such as 
   Subject), the second to choose a comparison, and the field (where applicable) to provide the 
   value that you are comparing against.

5. Use the + and – buttons to add or remove additional criteria.

6. To include messages from the Trash mailbox or Sent mailbox, click the appropriate Include 
   Messages check boxes.

7. Click OK when you’re finished configuring the Smart Mailbox.
8. The new mailbox is created and displayed in the Smart Mailboxes section within the mailbox list.
Nesting Smart Mailboxes
Smart Mailboxes can’t be arranged hierarchically inside one another as normal mailboxes can. To create a hierarchy of Smart Mailboxes, you must create a Smart Mailbox Folder (Mailbox, New Smart Mailbox Folder). This special folder is added to the Smart Mailboxes section and can be used to organize any Smart Mailboxes you create.

Keep Track of Your Very Important People with VIP Mailboxes
Mail includes a feature that makes it very simple to track and view all messages from a specific person—the VIP Mailbox. VIP Mailboxes are like smart folders, but with a targeted purpose—showing you all messages from an individual person. To create a VIP mailbox, follow these steps:

1. Choose a message from a sender you want to designate as a VIP.
2. Position your cursor beside the sender’s name in the content window and click the star that appears.
3. The sender is added to a new VIP mailbox.
4. Clicking the VIP mailbox shows all messages from the sender.

5. Click the star in the content view again, or right-click the VIP in the VIP mailbox and choose Remove from VIPS to remove VIP status.
Search for Messages
Mail makes it easy to quickly search all of your email for particular content, and to turn that search into a Smart Mailbox for future reference.

1. Type the text you are looking for into the search field in the upper-right corner.
3. Using the links below the toolbar, click the mailbox where the search should be performed.
4. The results appear in the message list.

5. Click Save to save the search as a Smart Mailbox. (See steps 2–8 of the “Automatic Email Organization with Smart Mailboxes” task.)

6. Alternatively, click the X button in the search field to clear the search results.
Write Email Rules

If you’d prefer to have messages filed to actual mailboxes rather than Smart Mailboxes, or perform other actions (play sounds, etc.) you can write email rules. Email rules can file messages, highlight messages in the message list, and even forward them to another account. To write a rule, follow these steps:

1. Choose Mail, Preferences from the menu bar.
2. Click the Rules icon in the preferences toolbar.
3. Click Add Rule.
4. Enter a description for the rule so that you can identify it later.
5. Use the Any pop-up menu to choose whether any or all rules must evaluate as “true” in order for the rule’s actions to be carried out.
6. Configure the conditions under which the rule executes. The first pop-up menu chooses what is evaluated, the second chooses the comparison to be made, and the field at the right is the value that should be used in the comparison.
7. Use + or – to add or remove additional conditions.
8. Configure the actions that are performed when the conditions are met.
9. Use + or – to add or remove actions.
10. Click OK to save the rule.
11. Close the preferences.
Web Browsing in Safari

Although similar in many ways to other web browsers, Safari offers a few unique features that set it apart. You can open Safari from its icon on the Dock or Launchpad, or from the Applications folder. Safari has seen dramatic improvements over the past few years. Safari uses a web browsing engine called Webkit that was, although not an Apple product, engineered by mostly Apple developers. This engine is the same engine on many platforms, including WebOS, some versions of Android, Adobe Air, and others. This means that Safari is treated as a standard rather than an exception, by most websites.

It's Not All Good: Bring Your Own Flash

If you’re browsing with Safari and your web pages seem a bit “bare,” it might be because Sierra doesn’t include Adobe Flash by default. To add the Flash plug-in to your browser, visit http://www.adobe.com/products/flashplayer/ in Safari.

Manage Your Bookmarks, Bookmarks Menu, Favorites, and Reading List

In Safari, there are many areas where you can store links to content for easy access. Understanding
them can be a bit of a challenge.

First, there is the Bookmarks menu, which appears under the Bookmarks menu item. Next are Favorites displayed in the main Safari window when opening a new window (and under the URL when you’ve clicked within it). These are intended to be quick access items that you use frequently.

Third is a sidebar that contains a master view of bookmarks. This includes groups for your favorites, the Bookmarks menu, and anything else you want to add that shouldn’t be included in the Favorites or Bookmarks menu view.

Think we’re done? Nope. There’s still more! The sidebar, in addition to the master Bookmarks view, also contains the Reading List (denoted by an icon of eyeglasses). It holds pages and links that you want to visit at a later time but aren’t planning to keep as a permanent bookmark.
When Safari first starts, it displays the Favorites view with the sidebar active. If you set up access to a social networking site via macOS (see Chapter 7, “Being Social with Messages, FaceTime, Twitter, and Facebook”), your sidebar takes on an additional type of information: shared bookmarks. Bookmarks posted by friends on your social networking accounts are automatically visible in the sidebar.

It’s Not All Good: Searching for Search?
The first time you start Safari, you might notice something is missing—the Search field. Apple has taken the approach of many other browsers and combined the search with the URL field. To go to a particular URL, type in a URL. To perform a search, type in the search terms. It can be a bit disconcerting at first, but it works just fine.

To adjust your search options (including choosing a search provider other than Google), visit the Search area within the Safari Preferences (Safari, Preferences).
Add a Web Page to Bookmarks, Bookmarks Menu, Favorites, or Reading List

To add a web page to the Reading List, Bookmarks, or Favorites, you simply need to know what site you want to bookmark, and then follow these steps:

1. Visit the site you want to bookmark by typing its address into the URL field.
2. Click and hold the + button to the left of the URL.
3. Choose where to file the bookmark (Reading List, Favorites, Bookmarks Menu, Bookmarks, or a folder within one of these areas).

Organize Bookmarks, Favorites, and the Bookmarks Menu

After you’ve added a few bookmarks, you can re-categorize them using these steps:

1. Choose Bookmarks, Edit Bookmarks from the menu.
2. A list of all the bookmarks, including Favorites, and the Bookmarks Menu are displayed.
3. Click the New Folder button to add a new folder, if desired.
4. Provide a name for the folder by clicking the highlighted field and typing.

5. Drag bookmarks from anywhere in the list into the order you want. You can drag them into
folders, or even place folders inside other folders.

6. To view the contents of a folder, simply click the arrow beside it, and the bookmarks contained are displayed.
Manage Your Reading List

After you add things to your list, you want to read them, right? To manage your list, just follow these steps:

1. Open the Safari sidebar.
2. Click the Reading List icon to open the Reading List.
3. Click a Reading List entry to load the page in Safari.
4. While hovering over an entry, swipe to the left and click remove to delete it.
Mysterious Universe
mysteriousuniverse.org
The latest news from beyond the mainstream.

How Fox News Changed American Media and Political Dynamics by Br...pers.ssrn.com
The creation of Fox News in 1996 was an event of deep, yet unappreciated,...

All Categories
ebay.com
Skip to main content eBay Shop by category Enter your search keyword A...

Rave Login - Campus emergency alert system
getrave.com
Change Site User Name Forgot your username? Password Forgot your pas...

What Our Customers Say:
partition-recovery.com
Active Partition Recovery restores deleted & fixes damaged partitions, v...

'Star Wars: The Force Awakens:' Five burning questions
cnn.com
At long last, "Star Wars: The Force Awakens" is here, and fans have walke...
5. Click the Hide/Show Sidebar icon again to hide the list when you’re finished.

Sidebar-Free Reading List Additions

If you get in the habit of using the Reading List, Apple provides some shortcuts to make additions while you’re browsing. Shift-click links to add them to the Reading List, or press Shift-D to add your current page to the list. If you’re more of a click-and-drag person, you can drag individual links to the sidebar.

Consuming Web Content

It might seem that there isn’t much else a web browser could do beyond displaying a web page. Each year, however, Apple adds new features to make browsing faster and easier—and to keep up with (or ahead of) the competition.

View All Tabs

Safari supports tabbed windows (File, New Tab), just like many other applications in Sierra. By default, links that open a new window open a new tab instead. You can also hold Command while clicking a link to force it to open in a new tab. Unfortunately, web browsing is one instance where tabs can quickly get out of hand—with dozens stretching across your screen.

If you find yourself lost in tabs, you can view all the tabbed web pages at once in a pretty scrolling view. To do this, follow these steps:

1. Click the Show All Tabs icon at the far right of the Safari toolbar, or perform a pinch gesture on the Magic Trackpad.
2. The tabs appear in a grid view so you can easily identify your content.
3. Click within a page to go to that page.
4. Click the + page to create a new empty tab.
5. Use the links at the bottom to browse to tabs open on your other iCloud-connected devices.
Fine-Tuning Your Tabs

To fine-tune your tabbed browsing behavior (or disable it entirely), use the Tabs section of the Safari Preferences. (Choose Safari, Preferences, from the menu bar.)

Enable the Safari iCloud Service

Browsing tabs across your devices requires the Safari service to be active on your iCloud account. This is managed in the iCloud preferences panel.

Silence Tabs

Ever find yourself browsing the Web, only to hear audio coming from somewhere? Rather than forcing you to search through your tabs to silence unwanted sounds, Safari makes it easy:

1. When you hear audio, look for the speaker icon at the right side of a tab. Click the speaker to
toggle the sound off and on.

2. Alternatively, click the speaker icon in the address field to toggle the sound in all tabs off and on.

**Pin Tabs**

If you want to create a set of tabs that exist each time you start Safari, you can “pin” them. Follow these steps to pin and unpin your favorite sites:

1. Open the site you want to pin in a new tab.
2. Right-click the tab and choose Pin Tab.

3. A miniature version of the tab appears on the left. Add as many pinned tabs as you want.
4. Right-click a pinned tab and choose Unpin Tab to convert it to a normal tab or close to remove it altogether.

View PDFs Online
In macOS, Apple has included a helpful PDF viewer that makes reviewing PDF documents a breeze. When you click a PDF link, the viewer opens. To control the viewer, follow these steps:

1. Position the cursor near the bottom center of the browser window to show the PDF controls.
2. Click + or – to zoom in and out.
3. Click the Preview icon to open the PDF in the Preview (an Image/PDF viewer) application.
4. Click the Download button to save the PDF to your Downloads folder.
Use Picture-in-Picture Video

For over a year, iOS has had the ability to display video in a window that stays on top of the screen, no matter what you’re doing. Apple brings this feature—called Picture-in-Picture (PiP)—to Sierra. When watching a video, you can easily move it to a separate window that detaches from your web browser and floats in the corner of your screen. To use Picture-in-Picture, follow these steps:

1. Begin playing a video.
2. Click the Picture-in-Picture button.

3. The video detaches from the window and plays in a floating window.

4. Drag the sides of the window to resize the video.

5. Click and drag inside the window to move it between the corners of your screen (or drag it to the very edge of the screen to keep it playing, but mostly hidden).

6. Click the X icon in the upper-left corner to close the video entirely.

7. Use the Play (or Pause) icons to play and pause the video.

8. Click the overlapping rectangle icon to rejoin the video to the window from which it originated (cancelling Picture-in-Picture).
**Positioning Anywhere**

By default, the PiP window sticks to the corners of your screen. To put it anywhere, hold the Command (⌘) key while dragging it.

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**Distraction-Free Reading with Reader**

Web pages, unfortunately, are rarely dedicated to getting you just the information you need. They are filled with ads and other distracting content, and frequently require you to click multiple links to get the whole story. To provide a distraction-free reading experience, Apple includes a Reader feature with Safari that strips out all the unnecessary cruft. To use Reader, follow these instructions.

1. When viewing a web page with a story you want to read, check to see if the Reader icon (four horizontal lines) is visible on the left of the URL field. Click it.
2. You are now viewing a clean version of the content.
3. Click the AA button in the address field to access font and background color controls.
4. Click the Reader icon again to close Reader.
It’s Not All Good: Disabled Reader Icon? C’est la Vie!

The Reader feature of Safari does not work with all articles—only those that it can correctly identify and reformat. If the button shows up as disabled, Reader can’t work with the content you’re viewing and no amount of reloading or fiddling with settings is going to help.

Using Apple Pay for the Web

If you have an Apple Pay enabled iPhone or Apple Watch, your Mac’s Safari browser might be able to let you use your device to authenticate an Apple Pay payment. Your device must be in close proximity to your Mac for this to work, otherwise you might not even see an Apple Pay option.

Enable Websites to “See” Apple Pay Devices

Websites can display an Apple Pay button based on the proximity of your iPhone or Apple Watch to your computer—but you must first grant them permission to check for Apple Pay capability:
1. Choose Safari, Preferences from the menu.

2. Click the Privacy button.

3. Check Allow Websites to Check if Apple Pay Is Set Up.

4. Close the preferences.
To use Apple Pay when checking out of an online store, you must have your iPhone or Apple Watch near your computer and be using a site that supports Apple Pay. Assuming those prerequisites are met, follow these steps to check out:

1. Shop as you normally would. An Apple Pay button appears when checking out. Click the button.
2. The site displays a dialog with your payment and shipping information.
3. Use the pop-up menus to choose between different payment and contact options.
4. Your device prompts for your confirmation of payment. Follow the instructions on your device to complete the transaction.
Resting Your Fingers with Autofill

When interacting with websites, you’ll find yourself typing the same thing over, and over, and over, and... you get the picture. To help with the repetitive nature of online forms, Safari provides tools for auto-entering information into websites and for sharing that information between your different devices.

Save and Share Account Information

In Sierra, if you’ve enabled the Keychain option in iCloud (see Chapter 4, “Setting Up iCloud and Internet Accounts”), Safari tracks auto-completion information, stores credit cards, and shares all of the data between all your devices.

1. Browse to a login form on a website where you’d like to log in and enter your login information.
2. Safari prompts to save your information.
3. Choose to save the information, or not.

Manage AutoFill Data
In addition to the information stored as you browse, Safari can also fill in forms using your Address Book data or credit card information that you store. To manage all of this data, you need the Safari Preferences:

1. Choose Preferences from the Safari menu.
2. Click the AutoFill button on the toolbar.

3. Check the sources of information you want to use for auto-completing web forms.

4. Click the Edit button to edit that category of information. (Editing the Contacts information opens Address Book.)

5. Close the preferences.
Edit AutoFill Usernames and Passwords

To edit usernames and passwords that you’ve stored while browsing, complete the steps in “Managing AutoFill Data” and then do the following:

1. Click the Edit button beside User Names and Passwords.

2. Use the Search field to locate stored information.

3. Click a stored URL and press delete to remove it.

4. Click Show Passwords for Selected Websites to display passwords in clear text. (You’re prompted for your password if you haven’t authenticated recently.)

5. Close the preferences.
Not all websites support ApplePay, so you still need to enter credit cards occasionally. When you’re checking out on a typical e-commerce site, Safari might prompt you to save credit card details. To edit and manage the saved information, complete the steps in “Manage AutoFill Data” and then follow these additional steps:

1. Click the Edit Button beside Credit Cards.
2. Select a card and click Remove to delete it.
3. Click Add to create a new card entry.
4. Fill in the data for each field.
5. Click Done to save the card.
6. Close the preferences.
And All the Rest...

The final type of AutoFill information you can edit is Other forms. This is just other information that Safari stores as you provide data on various web forms. If you click the Edit button for Other forms, you have the ability to browse for web addresses and remove stored data, edit or view the data.

Choosing What to Share... and What Not to Share

The Internet is a great place to explore, but browsing the Web frequently poses one of two problems—each the polar opposite of the other. We either want to share the content that we’re looking at with someone else, or we absolutely don’t want to share what we’re doing with anyone. Safari makes it easy to keep control of your privacy—either sharing with others or keeping others from knowing too much about your activities.

Share with Others

To share the page you’re currently reading with someone else via email or Messages, you can use the Safari Share icon.

1. Click the Share icon when browsing a page you like.
2. Choose to share the page via one of the methods displayed.
3. When sharing via email, a new email is created and you can choose whether to share a Reader version of the page, the full web page, a PDF of the page, or just the link!
More on Sharing

Sharing, including how to add Twitter to the Share menu, is covered in more detail in Chapter 6, “Sharing Files, Devices, and Services,” and Chapter 9, “Organizing Your Media.”

Enable Private Browsing

When private browsing is enabled, no website content is saved to your Mac—it’s as if you were never there:

1. Choose File, New Private Window from the menu bar.
2. Use the new Safari window as you would normally, but your session is private—as indicated by a dark background in the URL field.

3. Close the window when finished browsing.
Why Private?
Enabling private browsing is useful if, for example, you share a computer with other people, and there’s a chance that they might stumble upon something in your web history that you’d prefer they didn’t (holiday gift orders, for example).

Protect Your Mac and Yourself Online
Safari offers several tools to help protect you from fraudulent activity online. To ensure that you have the most secure browsing experience possible, complete the following configuration:

1. Choose Safari, Preferences from the menu.
2. Click the Security toolbar icon.
3. Check the check box beside Warn When Visiting a Fraudulent Website.
4. Check the check box beside Block Pop-up Windows.
5. Click the Privacy toolbar icon.

6. Be sure that the Cookies and Website Data option is set to Allow from Websites I Visit.

7. Choose whether Safari should deny all access to your location information, or to prompt you if a website requests it. Note that some online services can provide valuable customized information using your location.

8. Click Ask Websites Not to Track Me to request that your website visits be logged as little as possible. Note that web service providers might not pay attention to this setting.

9. To remove all information stored on your computer by the sites you’ve visited, click Manage Website Data and then Remove All. You might want to repeat this from time to time.
10. Use the Notifications Preferences section to manage which websites can post notifications to the Notification Center.

11. Close the Safari Preferences.
Go with What You Know
As a general rule, you should never download files online unless you trust the source. By default, Safari opens files that it has identified as safe. If you prefer to prevent Safari from opening any file it downloads, you can find this option under the General Safari Preferences.

Extending Safari’s Capabilities with Extensions
Safari supports developer-created extensions that can add functionality to your browsing experience—such as the ability to quickly access Twitter, eBay, and other services without leaving your current web page. Safari extensions are supported by the individual developers, so after you install one, you need to refer to the documentation for further support.

Install an Extension
Installing extensions doesn’t require anything more than clicking a link on a website.
1. Choose Safari, Safari Extensions from the menu bar.

2. An Apple website opens listing all registered extensions.

3. Use the website to browse to an extension you are interested in and then click the Install Now button beside the extension.
4. After a few seconds, the extension is installed and activated. Depending on how it works, you might see a new button or area added to the Safari toolbar. Follow the developer’s instructions to use the extension.
Manage Extensions

To manage the extensions you’ve installed—including configuring them, if configuration is necessary—use Safari Preferences. Follow these steps to access your extension preferences:

1. Open the Safari Preferences by choosing Safari, Preferences from the menu bar.
2. Click the Extensions button in the top of the Preferences window.
3. Click an individual extension to view its configuration options (if any).
4. Use the check box in front of each extension to enable or disable individual extensions.
5. Click Uninstall to remove a selected extension entirely.
6. Make sure that the Automatically Update check box is selected to ensure that your extensions are updated as needed.
7. Close the preferences when finished.
“Awesome Screenshot” can read, modify, and transmit content from all webpages. This could include sensitive information like passwords, phone numbers, and credit cards.
6. Sharing Files, Devices, and Services
In this chapter, you learn how to use your Mac to share and access resources over a network, including:

- Sharing files and folders using AirDrop and File Sharing
- File sharing with Windows computers
- Setting Share Permissions
- Using the Share menu to quickly share files online
- Sharing and accessing network printers
- Sharing your screen and viewing remote systems
- Turning your Mac into an Internet Access Point

Your Mac is a self-contained workstation that packs all the power you need into a highly integrated package—and one that is fully capable of integrating with new or existing networks. Sierra can share and access a variety of resources with other computers on your network. Files and folders can be
shared with other Macs and Windows PCs; printers can be shared with other Macs; even your screen can be made available to other computers on your network.

To make the most use of the information in this chapter, the assumption is that you’ve already established a network connection and have connected any printers or scanners to either your Mac or another Sierra- or El Capitan-based Macintosh on your network. You might want to refer to Chapter 3, “Connecting Your Mac to a Network,” and Chapter 12, “Using Sierra with Your iDevices,” for more details on networking and peripherals, respectively.

**File Sharing on Your Mac**

The most common network activity (beyond email and web surfing) is file sharing. Your Mac comes ready to share files using several popular protocols. AFP (Apple Filing Protocol) and SMB (Simple Message Block) are the most popular. AFP, as the name suggests, is a Mac-to-Mac file sharing protocol, but recently Apple has switched to SMB as the preferred protocol. SMB is traditionally used in Windows environments and offers significant performance improvements over AFP.

In addition to the protocols for sharing files, you also have different methods for how you share them. Traditional file sharing requires that you turn on file sharing, choose what you want to share, tell another person how to connect, and so on. With Sierra, your Mac includes a zero-configuration version of file sharing called AirDrop. AirDrop enables you to share files wirelessly with other users who are in your vicinity—with no setup required!

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**Authenticate to Make Changes!**

Many of the settings in this chapter require you to authenticate with macOS before the settings can be made. If you find yourself in a situation where a setting is grayed out, click the padlock icon in the lower-left corner of the window to authenticate and make the necessary change.

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AirDrop is a fast and easy file-sharing system that enables you to send files to another Macintosh without any setup—no usernames, no passwords, nothing except a Wi-Fi adapter that is turned on! Unlike traditional file sharing, AirDrop’s simplicity does present a few challenges that might make it less than ideal for your particular file-sharing situation. Specifically, AirDrop requires the following:

- All computers sharing files must be using the Lion (or later) operating system.
- All systems must have recent wireless-AC or N Wi-Fi hardware—2011 or later Macs work fine. To see if your older model Mac is supported, visit [https://support.apple.com/en-us/HT203106](https://support.apple.com/en-us/HT203106).
- Your computer will not be able to browse the contents of other systems; it can only send files.

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**AirDrop Everywhere**

AirDrop works with iOS clients! To learn more about this feature, be sure to check out Chapter 12, “Working with Transparency.”

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**Configure AirDrop**

Before you get started using AirDrop, you might want to make a few changes to help restrict or open
access to the service. To modify who can see you (and whom you can see!), complete the following:

1. Open a new Finder window and make sure the Favorites sidebar section is expanded.
2. Click the AirDrop icon.
3. Click the Allow Others to Find Me option to choose whether you are visible to everyone, just people in your contacts, or no one.
4. Click the Don’t See Who You’re Looking For? link to enable support for some older Macs.
5. After making your changes, you should see other AirDrop clients begin to appear in the AirDrop window.
Send Files with AirDrop
To use AirDrop, be sure that your Wi-Fi adapter is turned on (see Chapter 3 for details), identify the files that you want to share with another person, and then follow these steps:

1. Open a new Finder window and make sure the Favorites sidebar section is expanded.
2. Click the AirDrop icon to browse for other macOS computers or iOS devices.
3. Other devices are shown using the owner’s avatar picture (set in Address Book) as their icon.
4. Drag the files you want to transfer to the icon of another computer or device.
5. You see “Waiting” below the remote computer’s icon while the receiving user confirms the transfer.

6. The files are copied to the remote system. A blue circle around the receiving computer indicates progress.

7. Close the AirDrop window to stop being visible on the network. After you’ve closed the AirDrop window, you can go your merry way. You don’t need to disconnect or change your network settings. You’re done!
Receive Files with AirDrop

Receiving files with AirDrop is even easier than sending them. When a nearby macOS user wants to send files to your Mac, follow these steps:

1. Open a new Finder window and make sure the Favorites sidebar section is expanded.
2. Click the AirDrop icon to become visible to other AirDrop users.
3. When prompted to receive files, click Accept or Accept & Open to accept the transfer, or Decline to cancel.
4. The files are transferred to your Downloads folder.
5. Click the X on the downloading file or folder to cancel the download, or click Cancel in the notification that appears.
6. Close the AirDrop window to stop being visible on the network. That’s it! Your AirDrop session is automatically ended when the window closes.
No AirDrop? Your Mac Might Be Too Old.

AirDrop uses peer-to-peer ad hoc wireless networking, which is only supported in recent Macs (2011 and later) and some older models. Visit https://support.apple.com/en-us/HT203106 to see all the supported Mac models.

Although this might seem limiting, this hardware is what makes it possible to communicate with zero configuration and without using a common Wi-Fi access point.

Use the Share Menu to Send via AirDrop

The Share menu is a relatively new user interface (UI) element and feature in macOS. It enables applications to share files and folders from almost anywhere.

1. Select a file (or open a file) within an application.
2. Look for the Share icon. Click it to show the Share menu.
3. Select AirDrop from the list of sharing options.
4. A new window appears listing all nearby users with AirDrop open in the Finder.
5. Enable support for older Macs, if necessary, by clicking the Don’t See Who You’re Looking For? link.
6. Click the person or machine you want to send the file to.
7. The copy begins as soon as the recipient accepts the transfer. Click Done to exit and the copy continues in the background.
Beyond the ‘Drop

The Share menu is much more powerful than just sharing via AirDrop. We look at a few other sharing scenarios that use this feature later in this chapter.

>>>Go Further: Sharing with Handoff and Universal Clipboard

Later in this book (Chapter 12, to be exact), you learn about two features—Handoff and Universal Clipboard—that enable you to easily move information between an iOS device and a Mac. Guess what? Those features also work between Macs! You can copy some text on your laptop and paste it on your iMac (or vice-versa). Because this feature was created to integrate macOS and iOS, it’s covered later—but you can use it in a Mac-only environment as well!

Configuring Traditional File and Folder Sharing

When AirDrop won’t do (you need to browse another computer’s files or share with Windows/older
Macs), you need to turn to the traditional file-sharing features built into macOS. Sierra provides consolidated controls for sharing files, regardless of what type of computer you want to share them with. You set up file sharing by first enabling sharing for your Mac and then choosing the protocols available for accessing the files. Finally, you decide which folders should be shared and who should see them.

**Enable File Sharing**

Before your Mac can make any files or folders available over a network, you must enable File Sharing.

1. In the System Preferences, click the Sharing icon.

2. Click the check box in front of the service labeled File Sharing.

3. The details about your sharing configuration are displayed on the right side of the sharing window.

4. Close the Sharing Preferences panel, or continue configuring other sharing options.
Choose File Sharing Protocols

Files can be shared over AFP (legacy macOS) or SMB (current macOS and Windows). If possible, stick to SMB for the best speeds.

To choose which protocols can be used to access the files on your Mac, follow these steps:

1. In System Preferences, click the Sharing icon.
2. Click the File Sharing service label.
3. Click the Options button to display the available sharing protocols.
4. Check or uncheck the protocols that you want to use. If you are only sharing between Sierra machines, all you need is SMB.

5. If you want to use SMB to share specifically with Windows systems, you must enable each account for access. Within the Windows File Sharing section, check the box in front of each user who should be allowed to connect.
6. Enter the password for each account and click OK.
7. Click Done.

8. Close the Sharing Preferences, or continue configuring sharing options.
Go Further: What is with the Account Check Boxes and Passwords for Windows File Sharing?

To share with Windows clients, the Sierra SMB implementation requires that user accounts and passwords be stored in a different format than how they are used natively by macOS. By enabling or disabling accounts for Windows File Sharing, you are creating the user authentication information that Windows users need to connect.

Select Folders and Permissions

After enabling file sharing and choosing the protocols, your next step is to pick the folders that can be shared. By default, each user’s Public folder is shared and accessible by anyone with an account on your computer. (See Chapter 14, “Securing and Protecting Your Mac,” for configuring user accounts.)

1. In the System Preferences, click the Sharing icon.
2. Click the File Sharing service label.
3. Click the + button under Shared Folders to share a new folder.
4. Find the folder you want to make available and then click the Add button.
5. Close the System Preferences, or continue configuring sharing options.
Set Folder Access Permissions

By default your user account has full access to anything that you share. The default user group named Staff, and everyone with an account on the computer, has read-only access.

To change who can access a file share, complete the following steps:

1. In the System Preferences window, click the Sharing icon.
2. Click the File Sharing service label.
3. Click the Shared Folder name that you want to modify.
4. Click the + button under the Users list to add a new user (or – to remove access for a selected user).
5. A window for selecting a user displays. Within the Users & Groups category, pick the user or group and click Select.
6. Use the pop-up menu to the right of each user in the Users list to choose what the user can do within the shared folder.
7. Close the System Preferences.
What Permissions Can Be Applied to a Shared Folder?

Shared folders can have the following permissions set on a per-user or per-group basis:

- **Read & Write**—Grants full access to the folder and files within it. Users can add, edit, and delete items within the folder.

- **Read Only**—Provides read/copy access to the files in the folder, but users cannot modify or delete the original files, nor can they create new files or folders.

- **Write Only (Drop Box)**—Allows users to write to the folder, but not see its contents.

- **No Access**—Available only for the Everyone group; disables access for all user accounts except those explicitly granted access in the permissions.

Browse and Connect to Network Shares

Browsing and connecting to a local network share to find shared files you want to access is similar to browsing through the folders located on your Mac. To browse for available network shares, do the following:

1. Open a new Finder window and make sure the Shared sidebar section is expanded.
2. Click the computer that is sharing the folders and files that you want to access.
3. If you have not logged into the computer before and saved your password, a list of the publicly
accessible file shares is displayed in the Finder window.

4. Click the Connect As button on the upper right of the Finder window.

5. Enter the username and password that you have established for accessing files on the server.

6. Click Remember This Password in My Keychain to enable browsing directly to the file shares
   in the future.

7. Click Connect.
8. The file share list updates to display all the shares that your user account can access. Double-click the share you want to use.
9. The share is mounted as a disk and can be used as if it were local to your Mac.
Browsing Large Networks

If there are many different computers sharing files on your network, you can browse them in a Finder window rather than the Finder sidebar. To open a Finder window that browses your network, choose Go, Network from the menu bar or click the All icon within the Shared section of the Finder sidebar.

>>>Go Further: One Password to Rule Them All

You might notice when connecting to other Sierra, El Capitan, Yosemite, or Mountain Lion servers that you are given the option of connecting with your Apple ID and iCloud Password. This works if your account has had an Apple ID associated with it on the remote server. This association is made when first creating a user account on a macOS system. Existing users can opt-in to using their Apple ID and iCloud password by opening the Users & Groups System Preferences panel and then clicking the Change Password button and selecting the Use iCloud Password button.

Connect to Remote Shares

Sometimes file shares aren’t directly browseable because they’re hiding their available shares, or they are located on a different network from your Mac. To access remote shares by URL, follow these steps:
1. When you create a new file share on your Mac, Sierra provides you with a list of URLs that can be used to access that file share (see step 3 of “Enabling File Sharing”). You can use these URLs to directly access a file share rather than browsing.

2. Choose Go, Connect to Server from the Finder menu.
3. Enter the URL for the file share in the Server Address field.
4. Click + if you want to add the server to the list of favorite servers.
5. Click Connect to connect to the server and view the available shares.
Talking the (Windows) Talk

Your Windows friends might give you network shares to connect to in the format `\servername\sharename`. You can translate this into a “Mac-friendly” URL by adding the prefix “smb:” and reversing the direction of the slashes—that is, `smb://servername/sharename`.

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Sharing Files via the Share Menu

Sierra includes a way of sharing files from almost anywhere via the Share menu. You can use a Share menu (indicated by an icon of an arrow pointing out of a rectangle) to quickly send a file through a variety of different means, including AirDrop (discussed earlier in this chapter), Messages, and other online services.

Share Files via Messages

A simple example of the Share menu is using it to share a file via Messages. To do this, either open the file or select it in the Finder, and then follow these instructions:

1. Click the Share icon.
2. Choose Messages from the drop-down menu.
3. A panel appears with the file added as an attachment.
4. Add the user to whom you want to send the file.
5. Click Send to send the file and get back to work!
Upload Files to an Online Service

Using Sierra, you can now share your files with the world via a number of online services—such as Facebook, Vimeo, and Flickr—without even needing to touch a web browser. Vimeo is a great popular destination for videos on the Internet, so I’ve used that as the example.

1. Locate the movie file you want to upload, and click the Share icon.

Before You Upload

To upload a video to the online service of your choice, first make sure you’ve added an account for the service as described in Chapter 4, “Setting Up iCloud and Internet Accounts.”

2. Choose the online destination (in this case, Vimeo) from the pop-up menu.
3. Enter a title, description, and a set of keywords (called Tags) to describe the video.

4. Set the video as Personal, if desired. This limits viewing of the video to individuals who you share it with via the Vimeo website. Please note that these settings may vary between the various online services supported in Sierra.

5. Click Publish.
6. The Movie Export window appears and displays the status of the encoding process.

7. When finished, a link to the video is displayed. Your movie is available online.
Cutting It Down to Size
To trim a video before sharing it, click the Share icon and choose Edit, Trim from the menu bar. You can move the start and end points of your video clip to wherever you’d like and then trim off the extra.

Sharing Printers
Sharing a printer is a convenient way to provide printing services from one Mac (with a printer) to another. With Sierra, printer sharing just takes a few clicks and then your system acts as if it has a physical printer attached.

Enable Network Printer Sharing
To share a printer, you must first have the printer connected and configured on your Macintosh (see Chapter 12 for details). After the printer is set up and working, follow these steps to make it available over a local network:

1. In the System Preferences window, click the Sharing icon.
2. Click the check box in front of the Printer Sharing service.

3. Within the Printers list, click the check boxes in front of each printer you want to share. The printers are immediately made available to everyone on your network.

4. Close the System Preferences, or continue setting sharing preferences.
Set Printer Sharing Permissions

Any shared printer is initially available to anyone with a computer connected to your network. To restrict access to specific user accounts on your computer, do the following:

1. In the System Preferences window, click the Sharing icon.
2. Click the label for the Printer Sharing service.

3. Highlight the name of the shared printer that you want to configure.

4. Click the + button to select a user that can print to your printer. (Use – to remove access for a user you added previously.)
5. A window is displayed to select a user. Choose the user or group and click Select.
No Access for Everyone

The Everyone group can’t be removed from the Users list. To remove access for Everyone, the group must be toggled to No Access.

6. Toggle the pop-up menu beside the Everyone group to No Access to keep everyone except the listed individuals from being able to access the printer.

7. Close the System Preferences.
To access a printer that is being shared by another Mac, first make sure that both computers are on and connected to the same network and then follow these steps:

1. Choose File, Print from the menu bar within an application of your choice.
2. The Printer dialog box appears. Click the Printer drop-down menu to see the options.

3. If you haven’t used the shared printer before, select the printer from the Nearby Printers section of the drop-down menu.
4. Sierra automatically connects your Mac to the printer and configures it. This might require Sierra to connect to the Internet to download drivers.
5. Choose the options for the document you are printing and then click Print. The printer behaves exactly as if it were connected directly to your computer. The next time you print, the printer will be available directly in your main printer list.
Printing to Protected Printers

If you set up specific user accounts that can access the printer, you are prompted for a username and password the first time you print. You can, at that time, choose to save the printer connection information to your keychain, which eliminates the need to authenticate for subsequent use.

Sharing an Optical Drive

If you’re using a DVD-less Mac (which is most of them!) you can use another Macintosh on your network to share a CD or DVD inserted into its drive. This gives you the ability to install software and access files even if you don’t have a physical drive connected.

Enable DVD Sharing
Enable DVD Sharing
From a Macintosh with a DVD drive available, follow these steps to turn on optical drive sharing:

1. In the System Preferences window, click the Sharing icon.

2. Click the check box in front of the DVD or CD Sharing service.

3. Click the Ask Me Before Allowing Others to Use My DVD Drive check box to prompt you when other people attempt to access your optical drive.

4. Close the System Preferences.
Access a Shared Optical Drive
To access a shared optical drive from your DVD-free Mac, do the following:

1. Open a new Finder window and make sure the Devices section in the Finder sidebar is expanded.
2. Click the Remote Disc item in the Devices sidebar area.
3. Double-click the computer that is sharing the DVD you want to use.
4. If the DVD is not immediately visible, click Ask to Use to prompt the host computer that you’d like to use its drive.

5. After access has been granted, the available DVD or CD is listed. Double-click the DVD or CD to begin using it.
Can I Access a Shared Optical Drive Even if My Mac has a DVD Drive?

Yes, but not without a few changes. You need to open the Terminal application (found in the Utilities folder in the Applications folder) and then type in the following two lines to enable optical drive sharing:

```bash
defaults write com.apple.NetworkBrowser EnableODiskBrowsing -bool true
defaults write com.apple.NetworkBrowser ODSSupported -bool true
```

Reboot your computer after entering these commands.

Sharing Your Mac Screen

Chapter 8, “Managing Who, Where, When, and What,” includes instructions on how to share your Macintosh’s screen using Messages, but there are many instances where you might want to access another Mac’s display without having to start a chat.

Built into Sierra is a standards-based screen-sharing system. Using screen sharing, you can access your Mac’s display from anywhere on your local network or, in some cases, from anywhere in the world. Sierra even has the ability to share a computer’s “screen” even if someone else is using the computer. The screen-sharing software can now automatically create a virtual screen that you can see and use while the person sitting in front of the computer continues to see their own desktop!

Enable Screen Sharing

To configure another Mac so that you can access its screen from your Mac, you initially need direct access to the other computer:

1. In the System Preferences window, click the Sharing icon.
2. Click the check box in front of the Screen Sharing service.
3. A URL that you can use to connect to your computer is displayed on the right side of the sharing pane.
4. Close the System Preferences, or continue setting sharing preferences.
Set Screen Sharing Permissions
After screen sharing is enabled, choose who can access the display. Initially, only administrative users can view your screen.

1. In the System Preferences window, click the Sharing icon.
2. Click the Screen Sharing service label.

3. Choose whether All Users on the computer can access its screen, or click Only These Users to restrict access to specific individuals or groups.

4. Use the + button to choose a user or group that should be granted access, or use – to remove a user or group that you had previously added.
5. A window for selecting a user displays. Choose the user or group and click Select.
6. For additional control, click the Computer Settings button.

7. In the dialog box that appears, click Anyone May Request Permission to Control Screen to allow anyone to access the display if the person sitting in front of the computer grants them access.

8. To provide access to your Mac’s screen using a standard VNC (Virtual Network Computing) client, click the VNC Viewers May Control Screen with Password check box and provide a password that grants access to those users.

9. Click OK.

10. Close the System Preferences.
VNC Is Everywhere

There are VNC clients available for Windows, Linux, and even platform-independent Java. If you want to access your Mac’s screen from another operating system, check out TightVNC (www.tightvnc.com).

Access the Screen of a Local Mac

To access the shared screen of a Mac on your local network, make sure that your Mac is connected to the network and then follow these steps:

1. Open a new Finder window and make sure the Shared sidebar section heading is expanded.
2. Click the computer whose screen you want to access.
3. Click Share Screen.
4. Enter your username and password on the remote system, if prompted.
5. Click Remember This Password in My Keychain to store the password and enable passwordless connections in the future.
6. Click Connect to begin using the remote display.
7. If another person is using the computer, you can ask to share the display with them, or connect to a new virtual display. Click whichever approach you prefer and click Connect.
8. The remote display is shown in a window on your Mac.
9. Toggle between controlling and observing with the Control Mode icons in the toolbar.

10. Use the Scaling Mode icon to view the screen fullsize or shrink it to fit your window.

11. Use the Clipboard icon to choose how to transfer your clipboard to and from the remote system, or simply share the clipboard.

12. Drag files to and from the remote system to transfer them to (and from!) your computer.

13. Close the window when you’re finished using the remote system.
Remote Password Changes

When connecting to a remote Mac system, you see a Change Password button in the connection dialog. Clicking this button gives you the ability to change your password on the remote system.

Capture the Moment

If you’d like to take screenshots of the remote system, you can add a screenshot button to the toolbar by choosing View, Customize Toolbar from the menu bar. You can also take a screenshot directly by choosing Connection, Save Screen Capture As.

Access Remote Computers and Non-Macs

If you can’t browse to a computer to access its screen, or you need to connect to a non-Macintosh computer, you can do so using almost the same process as you used to connect to a remote file share:

1. When you’re sharing a screen on your Mac, Sierra provides you with a URL that can be used to access your screen, even if you can’t browse to it on the network.
2. Choose Go, Connect to Server from the Finder menu bar.
3. Enter the screen-sharing URL in the Server Address field. Alternatively, if you only have an IP address (such as 192.168.1.100), prefix the IP address with vnc:// to create a properly formed URL (for example, vnc://192.168.1.100).

4. Click + if you want to add the server to the list of favorite servers.

5. Click Connect to connect to the remote server’s screen.
6. Enter a username (and/or password), if prompted, and click Connect.

7. The remote display is shown in a window on your Mac.
VNC for Windows/Linux

To connect to a Windows or Linux computer, you need to first install a VNC (Virtual Network Computing) server on the computer whose display you want to share. TightVNC (www.tightvnc.com) is an entirely free Open Source option that works on both Windows and Linux platforms.

>>>Go Further: There are a Lot of Places Like Home

The Shared portion of the Finder sidebar shows you the computers on your local network. This is great for accessing things around you, but what about accessing your computer at home or from work?

You could use the address of your home computer to access it remotely, but you’d need to remember the address and have your home network configured correctly.
Sharing Your Internet Connection

Your Mac is a perfect Internet-sharing platform because it includes both Ethernet and wireless network connections. You can, in a matter of minutes, create a wireless network using just your computer and a cable or DSL modem.

Share Your Connection

To share your connection with other Macs, PCs, or devices, you need a minimum of two network interfaces on your system—such as Ethernet and Wi-Fi. Assuming you meet that qualification, you can share one network interface to the other by following these steps:

1. In the System Preferences window, click the Sharing icon.
2. Click the Internet Sharing service label. (Note: The check box is initially disabled!)

3. Use the Share Your Connection From drop-down menu to choose how you are connected to the Internet (Ethernet, Airport, iPhone, and so on).

4. Within the To Computers Using list, click the check boxes in front of each of the interfaces where the connection should be shared.

5. If you’re sharing a connection over your Wi-Fi card, a Wi-Fi Options button appears. Click this button to configure how your computer presents itself wirelessly.

6. Set the name of the wireless network you are creating.

7. Leave the channel set to the default.
8. If you want to enable password protection for the network, choose WPA2 Personal from the Security drop-down menu, and then provide a password.
9. Click OK to save your settings.

10. Click the check box in front of the Internet Sharing service.
11. Close the System Preferences.
12. Connect to the new wireless network from other computers as described in Chapter 3. You should set the other computers to configure themselves automatically rather than manually configuring the network (not shown).

Keep a Switch Handy
If you’re sharing your connection over Ethernet, you need to connect a switch to your Mac’s Ethernet port and then connect the other computer systems/devices to the switch.
7. Being Social with Messages, FaceTime, Twitter, and Facebook
In this chapter, you learn how to use your Mac to be social online, including:

- Instant messaging in Messages
- Video and audio conferencing with FaceTime
- On-the-fly screen sharing
- Posting updates to Twitter and Facebook

In addition to providing methods of sending and consuming content, the Internet (and Sierra) gives us many ways to be social. Using the tools built into macOS, you can send instant messages, conduct video chats, send tweets, and keep in touch with Facebook.

In this chapter, you find out how to use many of the features of Messages, FaceTime, and macOS social networking options. These will help you stay on top of current events in your friends’ lives and interact with people around the world.

**Instant Messaging with Messages**
When email isn’t conversational enough, instant messaging can take over. Your Mac comes with a first-rate instant messaging application called Messages. You can use Messages for encrypted text messaging, audio conferencing, video conferencing, and even screen-sharing. If you have an iCloud, Google Hangouts, Jabber, or AIM (AOL Instant Messenger) account, you’re ready to go.

There are two ways to use Messages, although both are integrated (poorly) into the same interface. First, you can use Apple’s iMessage protocol to send and receive messages on all your iOS devices and Macs simultaneously. Using this approach, you can start a conversation on Messages on your iPad and then pick it up immediately on your Mac. If you enable an iMessage account, you don’t even have to start Messages to receive notifications. As long as your Mac is online, you can receive messages from your friends and colleagues.

The second way to use Messages is with a traditional instant messaging account—such as AIM, Yahoo! Messenger, or Google’s Hangouts. The process is similar to using an iMessage account, and once you’ve started a messaging session, you’ll be using the same interface regardless.

To keep things straight in your mind, remember that if I talk about using an iMessage account or sending an iMessage, I’m referring to Apple’s Mac and iOS messaging system. If I write IM, I’m referring to a traditional instant messaging account (Google, AIM, Yahoo).

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iMessage, iCloud, iConfused?!

Apple has not done a very good job of keeping their messaging terminology understandable. An iMessage “account” isn’t any different from your iCloud account. If you have an iCloud ID established, you sign into your iMessage account using your iCloud ID. It’s the same thing.

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Adding Accounts to Messages

Unlike many macOS applications that are usable even if you don’t sign into iCloud, Messages requires at least one messaging account to be active before you can do anything. When you first log in to your Sierra account, you’re prompted to log in to iCloud. If you do, Messages is set up for you. If you don’t, Messages won’t be set up—and will remain unconfigured even if you sign into iCloud later! For that reason, I’m presenting Messages (and later FaceTime) as if you’re starting it without any configuration. If you already signed in with iCloud when you first logged in to Sierra, just skip over the account setup!

Configure Your Account During Startup

Unlike other accounts, to configure an iCloud account to work with Messages, you need to use the application itself (there isn’t even an option for it in the iCloud panel!). The easiest way to do this is during the first run, like this:

1. Start Messages from the Dock, Launchpad, or Applications folder.
2. Enter the Apple ID (and password) you want to use with the iMessage protocol; otherwise, skip to step 4.

3. Click Sign In and then skip to step 5 (or read ahead to step 4).

4. Click Not Now if you just want to set up a traditional IM account.
5. By default, the email address associated with your Apple ID can receive iMessages. Uncheck addresses to remove them. To add other addresses, edit your account settings after this initial setup as described in the next task.

6. Choose whether you want your contacts to receive acknowledgment when you read messages sent using the iMessage protocol.

7. Click Done to begin using Messages.
Edit Your iMessage Account Settings

To manage an iMessage account after you’ve first started the Messages application, use the Messages preferences. Follow these steps to manage your settings:

1. Choose Messages, Preferences from the menu bar.
2. Click the Accounts toolbar icon.
3. Select the iMessage account entry.
4. Use the Enable This Account check box to enable or disable the account.
5. Check Send Read Receipts if you want your contacts to see when you’ve read their messages.
6. Click Add Email to add a new account that can receive iMessages.
7. Close the preferences when finished.
Add a Traditional IM Account to Messages

If you want to configure IM for Google, AOL, or Jabber, I recommend using the Messages application. You can do this in the Internet Accounts preferences panel, but you’ll miss dozens of configuration options.

1. Open Messages and choose Add Account from the Messages menu.
2. Choose the online service that provides your IM account by clicking the radio button by its name.
3. Click Continue.
Multiple IM Accounts? No Problem!

Adding multiple IM accounts to Messages is no problem—just repeat the steps in the last task. The Messages buddy list window combines your buddy lists into a single consolidated list.

4. Fill in the requested information in the setup wizard that appears.
5. Click Sign In.
Edit Your Traditional IM Account Settings
After adding a traditional (Google, AIM, Yahoo, and so on) IM account to Messages, you can set additional options for the service. Follow these steps to manage your settings:

1. Choose Messages, Preferences from the menu bar.
2. Click the Accounts toolbar icon.

3. Choose the IM account (AIM is shown here).

4. Use the Enable This Account check box to enable or disable the account.

5. Additional settings vary by service and provide other customizations for your account. If you don’t know what these do, it’s best to just leave them alone.

6. Close the preferences when finished.
Logging in to (and out of) Your IM Account

When Messages has an account configured, you’re ready to start Messages and begin chatting immediately. To manually log out of or in to your IM accounts, you simply need to set your status.

1. Click the status message in the lower-left corner of the Messages window.
2. Choose Offline to log out.
3. Choose any other status to log back into your IM account.
4. Choose Invisible to log in but hide your availability from other people.
One Mood, One Status
If you configure multiple instant messaging accounts, you see a special option in the status menu: Use Same Status for All Accounts. Choosing this ensures that whatever status you choose is reflected on all of the accounts in use.

>>>Go Further: Adding a Messages Status Menu
To add a Messages status menu to your menu bar, open the Messages Preferences and click Show Status in Menu Bar within the General settings. This gives you the ability to log in and out of your IM accounts when Messages isn’t running. Remember, however, that you can’t log out of your iMessage account; it is always active unless you explicitly deactivate it in the Messages preferences.

Configuring Your IM Identity
If you’re using traditional IM services (AIM, Yahoo!, and so on), you should customize your identity to better represent your online presence. With Messages, it’s simple to set custom status messages and pictures to reflect your current mood.

Set the Messages Picture
Because your Mac has a camera built in, you can swap your IM picture whenever you want. Just smile and click, and instantly your buddies see a new image.

1. Choose Window, Buddies to open the IM buddy list.
2. Click the picture in the upper-right corner of the Messages buddy list.
3. Choose from a picture from Recents or Defaults, or click Camera to use your Mac’s camera to take a new photo.
4. Click to select a picture from the chosen category (not needed if using the camera.)
5. Click Edit to change the cropping of the photo, if desired.
6. Click Done to start using the new picture.
Configure Custom Status Messages

Your status message can convey your state of mind, ask a question, or present some other information to your buddies. To configure a new status message, follow these steps:

1. Click the status pop-up menu, either in your buddy list or in the main Messages window.
2. Choose Edit Status Menu.
3. Click + or – under the Available or Away lists to add or remove status messages.
4. Click OK to save your status message settings.
Managing Your IM Buddy List
Sending messages to your friends on Macs and iOS devices requires that you know their iCloud addresses or have them listed in your Contacts application. If you’re using an IM account, however, you need to make sure that your buddy list is kept up to date with the people with whom you want to chat.

A buddy list contains all the people you want to chat with (and possibly some you don’t). With each buddy is a display of his status (Away, Available, Idle, and so on) and an icon to indicate his chat capability.

Add Buddies
To initiate an IM chat with someone, you must first add her to your buddy list.

1. Click the + button at the bottom of the buddy list.
2. Choose Add Buddy.
3. If you have a contact card for the person you want to add, click the disclosure arrow in the lower-right corner of the window to display your contacts, and then find and click the person’s name.
4. Enter your buddy’s screen name (Account Name).
5. Enter a first and last name for your addition, and choose a group, if any are available. Think of groups as a “folder” for your buddy. (See the next task for more information on groups.)
6. Click Add.

Add Groups
As your IM buddy list grows, you might want to consider organizing your buddies into groups, such as friends, family, co-workers, and so on. Adding new groups is similar to adding new buddies.

1. Make sure View, Use Groups is selected in the Messages menu bar.
2. Click the + button at the bottom of the buddy list.
3. Choose Add Group.
4. Enter a name for the new group.
5. Click Add.
6. Drag buddies within the buddy list into the group where you want them to appear.
Recent Buddies

By default, a group called Recent Buddies is added to your buddy list after you start chatting with people. This group contains all the new contacts you’ve communicated with recently. You can disable this group within the Messages IM account settings.
Communicating with Messages
With Messages, through an iMessage account, you can communicate with your friends and colleagues using text and file attachments, such as images—or you can even share your screen. Messages also works with FaceTime (discussed in the next section) to initiate voice and video calls.
When using traditional IM accounts, Messages supports a similar range of features. If you have both an iMessage and an AIM account, for example, you can video conference with your friends across Mac and Windows platforms.

Start a Chat
To initiate an IM or iMessage chat with one or more buddies, make sure that the Messages window is visible (Window, Messages) and follow these steps:

1. Click the New Chat button.
2. A new empty conversation appears in the list on the left.
3. Click the + button to choose from a list of your contacts or your IM buddy list.
4. Alternatively, begin typing in the To field. Messages autocompletes as you type and shows you the different accounts you can use to communicate with someone. Click the contact (and communications method) you want.

Double-Click to Chat
If you’re viewing your buddy list, you can also initiate an IM chat by double-clicking a buddy or clicking his name and then clicking the A (for text chat) button at the bottom of the buddy list.
5. Type a message to your friend, press Return, and wait for a response.

6. If your friend initiates a chat with you, it appears as a new conversation on the left side of the Messages window. Click it to switch to that conversation.

Consolidate or Separate Messages

Messages automatically consolidates your chats into a single window of conversations. To move a chat to a separate window, double-click one of the conversations in the Messages window. It becomes its own standalone chat window.

>>>Go Further: iOS, macOS, and SMS

If you’ve connected your iOS device and macOS (as described in Chapter 12, “Using macOS with Your iDevices”), you’re able to select a contact’s phone number and send him or her text messages through your iPhone! You even see incoming text messages appear directly in your Messages window.

Send Emoji in Messages
Emoji are important (to many people), and it’s easy to add them to outgoing messages. To use the Apple Emoji Picker to insert emoji in your messages, follow these steps:

1. Click the emoji button when typing a message.
2. Use the categories at the bottom of the picker to switch between types of emoji.
3. For greater detail, click the Expand button to see a larger version of the Emoji Picker with plain-text descriptions of each emoji.

4. Use the Search field in either view to search for specific types of emoji. For example, type “frown” to show different styles of frowny faces.
5. Click an emoji to insert it into your outgoing message.
6. Click and hold on an emoji to set a skin tone before inserting it. This works on some emoji—you just need to try it to find out.

7. Sierra enlarges messaging emoji so that you (and your recipients) can clearly see them.
Send Audio Snippets
Sometimes it’s easier to record a response and send it to your contact than it is to type out what’s on your mind. To record audio, follow these steps:

1. Click the Microphone icon at the right side of the message field.
3. Click the Stop icon to finish the recording.

4. Click Send to send the recording to your friend.

5. Click Cancel if you’ve changed your mind.

6. The recording appears in your conversation with a clickable “keep” link underneath it. If you don’t click this link, the recording will be deleted after a few minutes.
Send Tapback Responses
New in Sierra is a feature called Tapback. Tapback lets you quickly send a simple reaction to something that has occurred in a conversation (even something you said). Send a quick thumbs up or haha! to save yourself a valuable 2 seconds of typing:

1. Click and hold on the background of a chat bubble.
2. The Tapback selector appears.
3. Choose the Tapback response you want to send.
4. The Tapback appears in the conversation.
Transfer Files over Messages
Messages provides a convenient mechanism for sending files while chatting. You can send individual files or even entire folders just by dragging them into Messages.

1. Find the file or folder that you want to share.
2. Drag the file to the chat window. Files such as images are displayed inline in the chat and can be previewed without opening the file.

Confirming File Transfers
If someone attempts to transfer a file to you over Messages, you must click the download within the chat window to accept the file. By default, all transferred files are saved in the
>>>Go Further: Adios, Buddy!

When you’re done talking to someone (or don’t want to talk to them at all), hover over their name on the left of the Messages window to show an X; click it to close the conversation. If you find yourself constantly bugged by someone, check out the Blocked and/or Privacy settings available for your IM account by choosing Messages, Preferences from the menu bar, and then clicking the Accounts icon in the toolbar. Depending on the type of account you’re using, you should be able to block the offending individual.

Start a Chat via Notification Center

macOS includes the ability to send a message via Notification Center—even if Messages isn’t running. To use this nifty feature, follow these steps:

1. Open Notification Center.
2. Click the Messages (speech bubble) icon in the Notification Center pane. It’s located in a widget called Social.
3. In the dialog that appears, type the name of a contact to message. Notification Center auto-completes the name as you type.

4. Enter your message below the To line.
5. Click Send to transmit the message.
Notifications make it easy to stay on top of conversations without having Messages front and center. To respond to an incoming chat request, follow these steps:

1. If you’re in another application with no windows open, the Messages icon in the Dock updates with a count of the messages you have waiting and a notification appears.

2. Click the notification to reply.

3. Type a reply and press Return or click Send.
Voice, Video, Screen Sharing, and Location
Hidden in Messages is the ability to initiate chats that go well beyond just “texting” and to view useful information about your conversation partner. You can start video and audio chats, share your screen, ask to share your chat partner’s screen, or even see their location in real-time.
Unfortunately, the features available in a given conversation depend on what devices are in use and the capabilities of your chat partner’s device and connection.
The good news is that Messages does not allow you to initiate connections unless it thinks they will be successful. It all depends on the hardware, software, and network being used.

Start a Voice or Video Chat
When creating a voice or video chat, regardless of your system capabilities or those of your chat partners, Messages shows only the relevant options.

1. Enter a chat with the individuals you want to include in an audio or video session.
2. Click the Details link in the upper-right corner of the chat window.
3. You see icons for the available voice (a phone) and video (a camera) chat options listed. Click one.
4. If multiple communication options are available, you see a menu from which you choose the approach you want to use.
5. Your audio/video chat begins. A FaceTime audio chat is shown here.

Silence Your Enemies (or Keep Your Friends Informed)

When you click the Details link for someone, you see a check box labeled Do Not Disturb. If you check the box, you will not be alerted if the person tries to contact you. No beeps, no rings, nothing.

On the opposite end of the spectrum is a check box that reads Send Read Receipts. If you enable this option, the person you’re chatting with is able to see when you’ve read the message they send you—letting them know that you’re paying attention, even if you don’t respond immediately.

It’s Not All Good: Where Did My Multiway Video Chats Go?

Remember when Apple promoted multiway video chats? I do. Unfortunately, that feature is only available when signed into AIM and can be accessed using the camera icon within the AIM buddy list (Window, Buddies). Select the individuals you want to chat with by Command+clicking their names and then clicking the camera icon.

Start a Screen-Sharing Session

If you’ve ever found yourself in the position of having to troubleshoot technical problems remotely, you’ll appreciate the ability to share your buddy’s screen. Using this tool, you can control the other person’s computer as if you were sitting directly in front of it.

1. Begin a chat with the individual you want to include in a screen-sharing session.
2. Click the Details link in the upper-right corner of the screen.
3. Click the Screen Sharing icon (overlapping rectangles).
4. Choose whether you want to request access to your buddy’s screen or if you want to share your screen.

5. After the request is accepted, you (or your buddy) have access to the remote screen. You can observe the desktop as if you were sitting in front of the computer.
6. Click the Control button (cursor) to take control of the remote computer.
7. Close the window to close the session.
Go Further: Remote Support via Messages

When sharing a screen, Messages also starts a simultaneous audio chat, which makes it easy for you to talk through issues with the remote party. To learn more about the screen sharing utility, be sure to read Chapter 6, “Sharing Files, Devices, and Services.”

View Your Friend’s Location

If you’re chatting with a friend who has an iOS device, and they like you enough to share their location with you via Find Friends (an app built into iOS), you can see their location on a map via the Messages app:

1. Begin a chat with the individual you want to find.
2. Click the Details link in the upper-right corner of the screen.
3. A map appears showing their location.
Review Files and Photos Shared in a Conversation

When you chat with someone and share files and photos, they tend to get lost as the chat progresses. Rather than having to scroll back through the conversation to find them, we can once again turn to the Details link in Messages:

1. Chat with someone and exchange a few files.
2. Click the Details link in the upper-right corner of the screen.
3. Use the tabs at the bottom of the pop-up window to view the photos or files that have been shared.
4. You can click and drag a file or photo to another application or the Finder to save it.
Video Calls with FaceTime

Similar to an iMessage account in Messages, FaceTime is an always-running video chat service that bridges your iOS devices and your Macs. FaceTime starts automatically if someone places a FaceTime call, and it simultaneously rings on as many Macs, iPhones, and iPads as you want.

Zero Configuration

As with iMessage, FaceTime does not require configuration beyond providing an email address that your friends can “call.”

To place a call with FaceTime, you need to have the address or phone number of a FaceTime-
compatible contact—preferably stored in the Contacts application. (See Chapter 8, “Managing Who, Where, When, and What,” for more information.) In other words, make sure your family and friends have an iOS device or a Mac and have configured FaceTime.

**Set Up FaceTime**
The first time FaceTime starts, you need to provide it with an Apple ID for registration. After the initial ID is entered, you can associate as many email addresses as you want with your Apple ID. Follow these steps to add FaceTime addresses:

1. Open FaceTime from the Dock, Launchpad, or Applications folder.

2. Enter your Apple ID and password.

3. Click Sign In.
4. FaceTime logs in, and you’re ready for calls.
Place Calls
When you’ve got yourself a few equipped friends, follow these steps to call them over FaceTime:

1. Click the + button at the top of the FaceTime window, or begin typing a name.
2. Browse your contacts. When you find the person you want to call, click her name.
3. The contact appears in the FaceTime window with Phone and Camera icons to the right. Click the Camera icon to initiate a video chat or the phone icon to start a voice-only chat.
4. If the call is connected, you are able to see and talk to the other person. Otherwise, skip to step 7.

5. Use the button at the bottom-right corner of the window to mute the call, or use the button at the bottom-left corner to go full screen.

6. Click End to hang up when you’re finished talking.
7. If the call does not connect, you’re given the options of messaging the other person or calling back (redialing).
Keep on Typing
If the person you want to talk to isn’t in your contacts, type out their full email address or phone number in the field at the top of the FaceTime window. Once a complete address
or phone number is entered, you’re given the same calling options as if the person were in your contacts list.

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**See Your Surroundings**

By default, the FaceTime camera takes a portrait image. If you want to see more of your surroundings, you can rotate to landscape mode by choosing Video, Use Landscape (Command+R) from the menu bar.

---

**Receive a FaceTime Call**

If you’ve ever received a call on an iPhone, you’ll be right at home receiving FaceTime calls on your Mac:

1. When an incoming call registers, FaceTime displays a notification—no need to start the application.
2. Click Decline to ignore the call.
3. Click Accept to begin talking.
4. Click and hold Decline to reply with Messages or to remind yourself to call back.
5. Click Reply with Message to send an instant message to your caller, rather than start a video chat.
Did I Miss a Call?

If you're wondering whether someone tried to contact you while you were away, the FaceTime icon shows a count of your missed calls. You can find out details about the missed calls by accessing the call list, our next task.

Access Your Call List
FaceTime keeps a list of all incoming and outgoing calls, even if you aren’t around your computer when a call comes, so that you can check later to see who called.

1. Click the Video button at the top of the FaceTime window for video calls or click Audio for voice-only calls. Each tab also shows a count in parentheses of missed calls since you last checked (not visible here).

2. All incoming and outgoing calls are shown. Missed calls display in red.

3. Click an entry to place a call.

4. Click the i icon at the right side of an entry to view that person’s contact information.

Disable FaceTime
Disable FaceTime
FaceTime is great, but as with a phone, sometimes you want to just ignore it. If you’re having one of those days, you can disable FaceTime on your Mac so that it won’t ring if someone tries to call.

1. Choose Turn FaceTime Off (Command+K) from the FaceTime menu.

2. FaceTime is now disabled on your Mac (not shown).

>>>Go Further: Remember Do Not Disturb!

Turning on Do Not Disturb (see Chapter 1, “Managing Your Desktop”) keeps FaceTime from “ringing” your machine. You can effectively use Do Not Disturb to silence FaceTime for short periods of time, if you prefer that approach.

Update Account Information
If you’ve registered several FaceTime accounts and want them all to ring on your Mac, you need to edit the preferences to list all the email addresses you have. To do this, follow these steps:

1. Open the FaceTime Preferences by choosing FaceTime, Preferences from the menu.
2. Click Add Email to add an alternative email account.

**Verifying Your Email**

If you have not registered that address with Apple, you need to check your inbox for an email with a clickable link for verifying your address. Repeat this step for as many addresses as you want to use with your FaceTime installation.

3. Use the Start New Calls From menu to pick the address or phone number to use as your caller ID.

4. Use the Ringtone menu to set the sound that plays for incoming calls.

5. Click the Blocked button at the top of the window to manage the FaceTime “block” list. These are people who are ignored if they try to call you via FaceTime.
6. Use the + and – buttons to add and remove individuals from the block list.
7. Close the preferences when done.

Using Twitter and Facebook Posting Support
Sierra has baked-in Twitter support to make sending tweets as easy as clicking a button in many of your favorite applications. Facebook users can also get in on the fun by posting to their timeline and
Enable Twitter
To see the tweeting options in macOS, you must first enable Twitter. To do this, follow these steps:

1. Open the Internet Accounts System Preferences panel.

2. Click the Twitter service link on the right.
3. Enter your Twitter username and password.
4. Click Next.
5. Read the service notices and then click Sign In.
6. Check Notifications to receive alerts in Notification Center when you have new Twitter messages or mentions.

7. Check Share Menu to add a Sharing Extension to Sierra, enabling you to tweet from almost any app with a Share menu.

8. Click Update Contacts to pull Twitter usernames and photos into your system-wide Contacts list.

9. Close the Internet Accounts and System Preferences.
Enable Facebook
To enable Sierra to post Facebook updates, follow these steps:

1. Open the Internet Accounts System Preferences panel.
2. Click the Facebook service link on the right.
3. Enter your Facebook username and password.
4. Click Next.
5. Read the Facebook conditions and click Sign In.
6. Click the Contacts check box to add Facebook friends to your Contacts application.
7. Click Calendars to tie your Facebook calendar into the Calendars application.
8. Check Notifications to receive alerts in Notification Center when you have new Facebook messages.
9. Check Share Menu to enable posting from almost any app with a Share menu.
10. Click the Update Contacts button to pull Facebook photos into your system-wide Contacts list.
   Be aware that you might end up with Facebook information overriding Twitter information, or
vice versa.

11. Close the System Preferences.

>>>Go Further: Wait, There’s More!

If you’ve opened the Internet Accounts panel, you’ve probably noticed that there are account options for more than just Twitter and Facebook. LinkedIn, Vimeo, and others are available for you to add. Why aren’t they covered here? Because they work identically to Facebook and Twitter. If you can activate one, then you can activate them all!

Post from the Finder and Other Apps
You can send tweets and post Facebook updates from any application that has been updated to support Sierra’s social networking implementation. For example, suppose you want to post a photo from the Finder. To compose the update, do the following:

1. Select or open an image (if you want to attach an image to the tweet or Facebook update).
2. Click the Share icon.
3. Choose Twitter or Facebook from the drop-down menu. (This example uses Twitter.)

4. A composition window appears with the attachment (if any) in the upper-right corner. Enter your tweet/update here.

5. Click the Add Location button to add your current location to the post.

6. Click Post.
Post via Notification Center
Sierra also has the ability to post updates via Notification Center. To use this nifty feature, follow these steps:

1. Open Notification Center.
2. Click the Today button.
3. Click the social network sharing buttons at the top of the pane (within the Social widget).
Monday, September 12th

Fair currently. The high will be 81°. Clear tonight with a low of 55°.
4. In the field that appears, type the message to post.
5. Depending on the social network, other controls, such as visibility and location sharing, might be present.
6. Click Post to send your update.
Monday, September 12th

Fair currently. The high will be 81°. Clear tonight with a low of 55°.

SOCIAL

Facebook

Friends

Add Location

Another day, another puppy! #amirite?

Cancel

Post
No Buttons, No Problem

If you don’t see buttons for your social networking sites inside the Notification Center’s Today view, make sure that you’ve added accounts (as described in this chapter) and that the Social widget is active in the Today section of the Extensions System Preferences panel (see Chapter 10, “Installing and Managing Applications and Extensions on Your Mac,” for details).

>>>Go Further: Being Social is a Two-Way Street

You know how to post to Facebook and Twitter from Sierra, but that’s only part of social networking; you also need to be able to read posts that others send to you. To receive updates from your friends and followers on Facebook and Twitter, configure Notification Center, as described in Chapter 1. Apple has included Notification Center settings for Twitter and Facebook that let you receive and view updates right on your desktop. Of course, you’ll still want a browser handy to access all the features of these popular sites, but macOS has you covered for the basics.
In this chapter, you learn how to use your Mac to manage everything from contacts and meetings to road trips, including:

- Adding contacts to Contacts
- Finding your way with Maps
- Creating calendars in Calendar
- Adding appointments to calendars
- Making lists in Reminders
- Keeping your thoughts in order with Notes

One of the joys of owning a Mac is that it is productive “out of the box.” You can integrate with enterprise calendaring and address book systems, plan meetings, even get directions—all using the
built-in utilities. Sierra makes these tools accessible to everyone, regardless of skill level. If you’ve ever been intimidated by Microsoft Outlook, don’t worry—macOS makes you just as productive without needing an encyclopedic reference book.

In this chapter, you get the hang of the basics of the Contacts, Maps, Calendar, Reminders, and Notes apps. This suite of tools helps us keep our digital lives in tune with our real lives, and it does so in a simple and elegant way.

>>>Go Further: The Invisible, Ever-Present, iCloud

The apps in this chapter share a unique characteristic that can be a bit confusing to new users—that is, where they store their information. If you’ve never set up iCloud, Exchange, or a Google account on your computer, you probably aren’t connected to any form of network storage. In this case, the data created in each application is stored locally on your Mac.

In practice, however, it’s pretty difficult to get through setting up a Mac with Sierra without establishing a free iCloud account. If you’ve established an iCloud account (see Chapter 4, “Setting Up iCloud and Internet Accounts,” for details), chances are that the information in the applications discussed in this chapter is synced with an iCloud server.

What makes this confusing is that the applications provide very little in terms of visual cues to show that you are using iCloud services for your data. The good news is that it really is transparent, and using iCloud means you can access this information from a web browser wherever you are! If you aren’t sure whether you’re using iCloud, now is a good time to jump back to Chapter 4 so you can ensure you’re making the best use of this important suite of macOS utilities.

Managing Contacts

Many of the applications you use on your Mac send information to, or receive information from, other people. Sierra offers a central contact database that you can access in Mail, Calendar, Messages, FaceTime, and other programs. Appropriately enough, you manage this database through an application called Contacts (found in the Applications folder).

Contacts acts as a digital Rolodex, pulling together personal and business contacts. With it you can also connect to enterprise directory servers for accessing centralized company personnel listings. The Contacts application is similar to many other macOS applications, providing a drill-down view from a group list, to a contact list, and, finally, to contact details.
Adding Groups
When you first start Contacts, there is a single pseudo-group available: All Contacts. The group displays any contact available in Contacts. To make the most efficient use of Contacts, you should add groups for the different types of contacts you use—businesses, coworkers, family, friends, doctors, and so on. Like Mail, Contacts can use rules to create Smart Groups.

Emailing to a Group
Contacts groups are more than just organizational tools; they also add functionality to applications that support them. After you’ve defined a group, you can use it in Mail as your message recipient, effectively sending the email to everyone in the group!

Create a Group
To create a new group, decide what you’d like it to be called, and then follow these steps:

1. Open Contacts from the Dock, Launchpad, or Applications folder.
2. Click and hold the + button at the bottom of the Contacts window.
4. A new “untitled group” is added. Type a name for the group.
Create a Smart Group
If you’d like to use search criteria to define your Contacts groups, you’re in luck! Contacts supports Smart Groups, which are capable of pulling contacts together from multiple different groups and even network accounts:

1. Choose File, New Smart Group from the menu bar.
2. Enter a name for the new Smart Group.
3. Use the first drop-down menu from the selection lines to choose a contact attribute.
4. Use the second drop-down menu to set criteria.
5. Enter the value to use in the comparison in the text field at the end of the selection line.
6. Use the + and – buttons to add or remove additional selection criteria.
7. Click OK when you’re satisfied with your group definition.
8. The new group is added and automatically shows the contacts based on the criteria you defined.
Adding Contacts
The bulk of what you’ll do with Contacts is entering contacts. When it comes to people, one size contact does not fit all. For your family, you might want to store email addresses, instant messaging screen names, and birthdays. But for business contacts, you might only be interested in an address and a phone number. Contacts adapts to the information that you want to store.

Create a New Contact
To create a new contact, gather all the information you have available for the person, then do the following:

1. Click the group name to which the contact should be added.
2. Click the + button at the bottom of the window.
3. Choose New Contact from the pop-up menu.
4. A new No Name contact is added, and the empty contact details display. Use the fields in the
detail view to enter information for the contact.

5. Click Company to classify the entry as a business rather than a personal contact.

6. Set the context for the card’s fields (for example, choose home, work, or cell for a phone
number) using the pop-up menu in front of each field.
7. If you’d like to store additional information for the contact, click and hold the + button again, choose More Fields, and choose the type of field to add.

8. Click the Done button at the bottom of the contact details to save changes to the contact.
Moving and Editing Contacts

If you find that you’ve filed your contact in the wrong group, just drag and drop the contact name into another group. You can re-edit contact details at any time by selecting them and clicking the Edit button below the details pane.

Set a Profile Picture

Profile pictures can help you visually identify individuals in your Contacts and are even displayed in Mail or shown on your iOS device if you sync Contacts. To set a picture for a contact, complete these steps:

1. Find and select the contact that you want to associate with an image.
2. Click the circle with the contact’s initials (or the existing profile picture) within the card details.
3. Click the + icon.
4. Click the Camera label to take a new picture and then skip ahead to step 6.
5. Alternatively, use the Defaults, Photos, or Photo Booth options to select from default macOS images, Photos albums, or Photo Booth pictures.
6. Click Save to finalize the contact’s custom image.
Auto Information Gathering

Sierra helps you keep your contacts as information-rich as possible by finding and presenting data that it thinks is relevant to a contact. For example, you might see fields displayed that you never explicitly added to a contact, but that your system found in email. To explicitly add or remove this information from a contact, follow these steps:

1. Look for fields with an i icon beside them. These have been automatically added.
2. Click the i to show details about where the data was gathered.
3. Click Add to Contact to store the field permanently or Ignore to delete the association.
Disabling Information Scraping
If you find the idea of personal information being gathered “behind the scenes” a bit creepy (or inaccurate), you can disable this feature by opening the Contacts preferences and unchecking Show Contacts Found in Apps in the General section.

Create “My” Card
Many system applications and utilities need to identify information about you. To tell Contacts who you are, enter a new contact for yourself, and then follow these steps:
1. Find and select your name in the Contacts.

2. Choose Card, Make This My Card from the menu bar.
The Importance of Me

You need a functional “My” card to fully use Calendar, so be sure to set this if you have any intention of using Calendar.

Edit the Contact Template

If you find that you constantly need to add new fields to contacts, you might want to consider modifying the default contact template. Changing the default gives you a starting place for all future contacts.

1. Choose Contacts, Preferences from the menu bar.
2. Click the Template icon in the Preferences toolbar.
3. Use the Add Field drop-down menu to add additional fields to the contact template.
4. Click the double arrows to open the pop-up menus in front of each field to set the context for fields displayed in the template.
5. Close the Contacts Preferences window when you’re finished.
Search Contacts
When you aren’t sure of an exact name or where you filed a contact, you can quickly search across all your groups and contact data.

1. Click the name of the address group to search.
2. Type in the search field.
3. As you type, the contact list is filtered to show only matching contacts.
Detect and Merge Duplicates
Over time you might find that you’ve created several Contacts entries for a single person. To identify and merge duplicate cards, follow these steps:

1. Choose Card, Look for Duplicates from the menu bar.
2. Contacts analyzes your contacts and presents you with the option to merge identified duplicates.
3. Click Merge to fix the duplicates.
Merging Cards

If you manually identify two or more cards that need to be merged, select the cards, and then choose Card, Merge Selected Cards from the Contacts menu bar.

Use Server-Based Contacts

If you’ve already set up iCloud (see Chapter 4), you’re automatically using server-based contacts that sync across all your iCloud-connected devices.

Contacts isn’t just limited to keeping information on iCloud. It can also synchronize with Google, Yahoo! contacts, and connect to enterprise directory servers such as Exchange and standard LDAP servers. You can even pull contact data from social networking sites such as Twitter and Facebook. Using a central server means that changes and updates are available immediately for everyone who is connected.

Set Up Server Contacts

Organizations provide central enterprise contact directories that you can access via Contacts.

To configure non-iCloud server-based contacts, follow these steps:

1. Use the Internet Accounts System Preferences panel to establish an account with your service provider, and then select the service from the account list (Exchange is shown here).
2. Make sure that Contacts is selected in the list.
3. Close the System Preferences.
4. The new server appears in the Contacts group list. You can click to select groups within it and from there create new groups if desired.
Share Contacts via Email, Messages, and AirDrop

To share a contact via email, messages, or AirDrop, you can use the macOS Share button. For detailed information on Share buttons, refer to Chapter 6, “Sharing Files, Devices, and Services.” For now, be aware that the basic process works like this:

1. Navigate to a contact that you want to share.
2. Click the Share button to show the sharing options.
3. Choose the method of sharing that you’d like to use.
4. Your choice launches the appropriate supporting application and attaches the note for sending.
In addition to sharing contacts, you can also export the contact information directly to a vCard. These are small files that store all the information for one or more contact entries. Just highlight the entries in Contacts, and then drag them to your desktop. A vCard file is created with all of the contact data.

To import a vCard, reverse the process. Drag a received vCard into Contacts (or double-click it), and it is imported automatically.

Print Addresses
When you need to use actual paper for your communications, Contacts provides several useful print options for printing your contacts onto envelopes or labels.

1. Select individual contacts or contact groups to print.
2. Choose File, Print from the menu bar.
3. Click the Hide/Show Details button so that the full print dialog window appears.
4. Use the Style pop-up menu to select an output format (Mailing Labels, Envelopes, and so on).
5. Set any of the additional configuration options for the style you’ve chosen.
6. Click Print to output the contact information in the selected style.
Finding Your Way with Maps
Sierra continues the tradition of macOS in providing great software for managing your who, when, and what—but it now can help you with the where. macOS uses Maps, a simple, fun, and fast way to access mapping information on your Mac.

Start and Navigate Maps
To start using Maps, you need an active Internet connection, and your Wi-Fi needs to be enabled if you want your system to automatically locate your current position. To get started, follow these steps:

1. Start Maps from the Applications folder, Dock, or Launchpad.
2. After a few seconds, a basic map loads in standard view.
3. You can pan the map by clicking and dragging—or by dragging two fingers on a trackpad.
4. Use the +/- buttons to zoom in and out.
5. Click and drag within the compass to rotate the entire view.

Using Map Views
If you’ve ever used Google Maps (or any other online mapping service) you’ll be right at home with Maps. There are a variety of different views that you can access from the Maps toolbar and the Show menu.
Choose a View Mode
Like your maps flat, like a book? Want to see photography of a given area? How about a combination? Using Maps, you can have all of this, just by clicking a button.

1. Click the Map button to show a traditional “atlas”-style map with roads, points of interest, and so on.

2. Click Transit to show public transit routes rather than roads.

3. Click Satellite to show the area using satellite photography.
4. Use the Show menu in the lower left to add labels. This is similar to Google Maps and shows a combination of satellite photography with overlaid roads and points of interest.
View Maps with 3D Flyover
In addition to the standard map views, you can also look at many large cities in full 3D. To see the map in 3D, follow these instructions:

1. Navigate to a point you want to view in 3D.
2. Click the 3D button in the compass to toggle the display to 3D.

3. Switch to Satellite mode to view a nearly photo-realistic image of the location.
Tilting Your 3D World
While viewing a map in 3D, you can click and drag up and down in the compass to change the amount of “tilt” with which the map is displayed. You can also hold Option and click and drag anywhere on the map to tilt the view.

>>>Go Further: Taking a Virtual Tour
When viewing some 3D locations (try Golden Gate Bridge, for example), you see a message at the bottom of the window that reads 3D Flyover Tour and has a Start button beside it. Click Start to see an animated tour of the location. Click End to stop the tour and return to the normal map.

It’s Not All Good: No 3D for You!
If you switch your view to 3D and it looks decidedly “flat,” it’s because 3D data doesn’t yet exist for your location. There’s not much to do about this but wait until Apple acquires the right information for your area.

Finding Places
How good would a map be if you couldn’t find things on it? Using Apple Maps, you can quickly locate your position, companies, points of interest, people, and so on.
Find Yourself
Without needing to be a Zen guru, Apple Maps can help you find yourself in the world. Although not as precise as GPS, your macOS computer can use Wi-Fi to find its general location (usually within a few blocks). To use this feature, follow these steps:

1. While viewing any map, click the arrow icon at the left of the Search field.

2. The map zooms in, placing a blue dot on your location.

Closer Please
Don’t worry—the map does zoom closer than shown in this example. I manually zoomed out to reduce the amount of competing clutter on the screen.
Find Contact Entries

Although finding yourself can be handy, finding others is likely more useful. To locate any address (personal or business) stored within the Contacts application, complete the following:

1. Click the Search field in the Maps toolbar.
2. Click the Favorites entry at the top of the list that appears.
3. Choose an entry in the Address Book and click it.
4. Click the address for the entry that you want to view.

5. The map zooms in and highlights the chosen address.
Search the Map
If the place you want to locate isn’t in your Address Book, you can just search for it.

1. Type into the search field at the top of the Maps window.
2. As you type, potential matching searches appear below. Choose one, or press return when finished typing.
3. The search results are displayed on the left.
4. Click one you want to view.
5. The chosen location is highlighted on the map.

Working with Points of Interest
You’ve seen how to find places, but how about finding out about places? Maps can help with that as well. You might be surprised at how much Maps can do for you!
See Point of Interest Details
There’s more to a location than just a marker on a map. To see more detail for any point on the map, follow these instructions:

1. Find a location on the map that you want to view. Click the i icon.

2. The location pop-over window expands to show photos and additional information.
3. Click the Directions button to open the directions pane, showing how to reach the location.
4. Click Add to Favorites (heart button) to add a bookmark to the location.
5. Click Share, Add to Contacts to add a new contact to your Address Book for the location.
6. Click any of the links in the popover window to place a phone call, open the organization’s website, and so on.
The Rock & Roll Hall of Fame
Museum · 133 mi
★ ★ ★ (468) on Yelp

Directions (2 hr 11 min drive)

Add a Photo
Photos on Yelp

+1 (216) 781-7625

rockhall.com

1100 E 9th St
Cleveland, OH 44114-10ND
United States

WIKIPEDIA

The Rock and Roll Hall of Fame and Museum is a museum located on the shore of Lake Erie in downtown Cleveland, Ohio, United States. It is dedicated to archiving the history of some of the
If you notice information that isn’t correct, scroll to the bottom of the pop-over window and click Report an Issue (not shown).

**Make Your Own Point of Interest**

Sometimes Apple Maps won’t have the information that you want. Apple, for example, doesn’t know your favorite fishing hole, or in which tree you hid the ransom money. To accommodate your activities, you can create your own points on the map (called Marked Locations) by following these steps:

1. Right-click on the map where you want a point to be located.
2. Choose Drop Pin from the pop-up menu that appears.

3. A new point of interest pop-over window appears; you can interact with it like any other point.
Share a Point of Interest

If you find yourself viewing something on your Mac and want to see it on your iOS device, no problem. You can use the Share button to share a location via email, or just send it directly to your phone or iPad. To do this, just follow these steps:

1. Locate the point of interest you want to use.
2. Click the Share button.
3. Choose the method or device that you want to use to share.
Share Your Anywheres, Anytime
You can share what you’re looking at in the Maps window at any time by using the Share button in the Maps window.

Traveling with Maps
The last trick that Maps has up its sleeve is the ability to view turn-by-turn directions, transit instructions, and even the traffic that you’ll encounter if you follow them. Let’s start by looking at
Get Directions
To get directions from point A to point B, you only need to click. Use the following steps to get where you need to be.

1. Click the Directions button to show the directions panel on the left.
2. Enter an address or location in the Start field (or leave it blank to use your current location).
3. Enter an address or location in the End field.
4. Use the Drive, Walk, and Transit buttons to choose between driving, walking, and public transit directions.
5. Quickly swap the start and end fields by clicking the squiggly line to the right of the fields.
6. If multiple paths are shown, click the path you want to take.
7. The turn-by-turn instructions are shown on the left.
8. Click an individual step of the directions to show a close-up of your route—including lane guidance.
Share the Path!

Remember, using the Share button at the top of the Maps window, you can share your location and complete route with your iOS device.

Show Traffic Indicators
If you’re wondering about the traffic on your favorite road, Maps has you covered. Use this simple process to see when it’s safe to leave your house.

1. Navigate to the location you want to check for traffic conditions.
2. Use the Show menu in the lower left to add Traffic.
3. Orange and red dotted lines indicate slow or stopped traffic.
Working with Schedules in Calendar

Much of our lives revolve around adhering to a schedule. Calendars, in whatever form we use them, keep us informed of upcoming appointments, holidays, birthdays, and anniversaries. Your Mac can serve as your scheduling work center. The Calendar application (found in the Applications folder) is a fast and well-connected way to keep your life in order.

Calendar’s general operation is similar to other Sierra applications. Clicking the Calendar button displays a list of calendars to which you have access. Selecting a calendar in the calendar list displays the content of the calendar to the right. Double-clicking a calendar entry shows the details of the entry. The four buttons at the top (Day, Week, Month, Year) coupled with the View menu control the appearance of the calendars.
Despite its simple styling, Calendar works just as well for managing calendars located on your Mac as it does interacting with Exchange, iCloud, Facebook, Google, and other standards-based enterprise calendaring systems.

Adding Calendars
The first step in using Calendar is to create the calendars that you use to store your events. Two calendars are already created: Home and Work. If you’ve established an iCloud account and turned on Calendar syncing, these are iCloud-based calendars. If not, they are stored locally on your Mac. Use these default calendars or create new calendars, depending on how you want to categorize your events.

Create New Calendars
To create a new calendar (locally or on a server), follow these instructions:

1. Open the Calendar application from the Dock, Launchpad, or Applications folder.

2. Click the Calendars button to show the list of calendars (if they are hidden) on your Mac.
3. Click File, New Calendar from the main menu bar. You might have to choose iCloud (or another calendar provider) if you’ve set up another calendar account.
4. A new Untitled calendar is added at the bottom of the calendar list. Type to replace Untitled with whatever name you’d like.

5. Verify that the check box next to the calendar is selected so that calendar entries are visible.

**Go Further: Local Versus Network Calendars**

By default, Calendars works with iCloud (see Chapter 4 for details) for storing and sharing.
your calendars across devices. If you don’t have iCloud set up, calendars are stored on your Mac. Additionally, you might have access to network calendars through your workplace or Google accounts.

Depending on how your system is set up, the menus in the Calendar application might change slightly. For example, if you are using calendars hosted on multiple network servers (iCloud and your office’s Exchange calendar server, for instance), when you choose to create a new calendar, you are given the option of choosing which server should hold it. Only when no server accounts are available is the On My Mac (locally) option visible.

Additionally, Calendar supports the notion of local calendar groups (go to File, New Calendar Group) when working with local calendars. Using calendar groups, you can organize clusters of calendars and enable or disable all of them at once. The bad news? As soon as you use iCloud or another network service, this option completely vanishes.

**Connect to Server-Based Calendars**

By default, your Mac uses the iCloud service to provide free shared calendaring that you can use across your Mac and iOS devices. Many businesses (and individuals), however, use Exchange Server or Google Calendars to provide shared calendars and scheduling. For that reason, let’s first cover connecting to a calendar server.

As you’d expect, calendar services are configured through the Internet Accounts preferences, as described in Chapter 4. To connect to a calendar server, follow these steps:

1. Use the Internet Accounts System Preferences panel to establish an account with your service provider, and then select the service from the account list.
2. Make sure that Calendars is selected in the list.
3. Close the System Preferences
4. Calendar displays a new section with any calendars located on the server.
Subscribe to a Public Shared Calendar

Another calendar type is a shared calendar. These read-only Internet-published calendars are available for TV show schedules, holidays, sports team game dates, and other useful information. To subscribe to a shared calendar, copy the URL for the calendar and then follow these steps:

1. Choose File, New Calendar Subscription from the Calendar menu bar.
2. Enter the URL for the calendar to which you’re subscribing.

3. Click Subscribe. If prompted, enter a login name and password to access the calendar, and then click OK to continue.

4. Set a name, color, and storage location for the calendar.

5. If there are any embedded Alerts or Attachments in the calendar (this depends entirely on the person making the calendar available), you might want to strip them out. Click the Remove check boxes to make sure you get only calendar data.

6. To enable the calendar to automatically update, choose an Auto-refresh time.

7. Click OK.
8. The shared calendar appears in your calendar list.
Go Further: It’s your Birthday or a Holiday!

By default, Calendar shows three other calendars, even if you haven’t added any. The first is the Found in Apps calendar—displaying events that Mail thinks it found in your email messages or other communications. The US Holidays calendar displays holidays in the United States. A third special calendar added by default—Birthdays—displays birthdays for the individuals in your Contacts (address book) application.

View Calendars

After you’ve set up one or more calendars in Calendar, you can view their contents. To view a calendar in the calendar list, follow these steps.

1. Click the check box in front of the calendars you want to view.
2. Use the Day, Week, Month, and Year buttons to narrow or expand your calendar view.
3. Use the arrows to move forward or backward by day, week, month, or year, depending on the current view. You can always navigate by month using the arrows by the mini-calendar in the lower-left corner.
4. Click Today to jump to today’s date.
Working with Events

What good is a calendar if you don’t have the ability to add events? In Calendar, events can be anything you’d like—birthdays, outings, reminders, anything—as long as they are associated with a date. If you’d like to include other people in the event, you can even send out invitations that are compatible with other calendaring systems, such as Exchange.

Create a New Event

Events can hold a large number of attributes that describe what the events are, when they are, where they are located, and so on. All you need to know to create an event, though, is the date and a name for the event:

1. Navigate to the day on which the event takes place.
2. Switch to Day or Week view.
3. Click and drag from the start time to the end time to create the event. The default event name, New Event, is highlighted automatically.
4. Type a name and location for the event.
5. Click the drop-down in the upper-right corner of the event information to choose which calendar should hold the event.
Double-Click to Add an Event

You can add an event in the month view of the calendar by double-clicking a day. This method creates a new event on that date and then opens an edit window for that event.

Use the Quick Event Feature

The Calendar application also supports a simple way of creating events without any calendar navigation at all. Quick Event provides simple, plain-text entry of new events directly from the Calendar toolbar. To use this feature, follow these steps:

1. Click and hold the + icon in the Calendar toolbar.
2. Choose the calendar that should contain the new event.
3. In the Create Quick Event field that appears, type a description of the event, such as “Dinner on November 12th at 7pm,” and press return.
4. A new event is added and opened for additional editing.
Edit Event Information
To edit the information for an event that you’ve created, first find the event on the calendar where you added it, and then follow these steps:

1. Find and double-click the event you want to edit.
2. An event summary window appears.
3. Click any of the available fields to change values such as start or end time, location, notes, and so on.
4. Click off the event when you are finished editing. Your changes are visible in the Day view’s summary pane or when you click the event again.
Browse and Schedule

Need to browse your calendar while editing an event? No problem. To turn the edit event pop-over window into a separate window, just click near the top and drag off of the calendar.

It's Not All Good: Where Are All of My Event Attributes?!

When you see the edit event pop-over window, you might ask yourself, “Where in the world are all the fields I need?” Sierra collapses these into the different sections shown in the pop-over window. For example, if you want to see settings for receiving alerts prior to an event,
just click the date—it expands to show all the date- and time-related options. Be sure to click around to find all the different fields you can edit for an event.

Sending Event Invitations
Calendar can work directly with Mail to send invitations for your events. When the invitees respond, their attendance status is updated directly in Calendar. Use the previous task to find and start editing an event, and then follow these steps to send invitations for that event:

1. Click the Add Invitees link.

2. Enter email addresses in the field that appears, just as you would in Mail, pressing return after
Checking Availability

If supported by your calendar server (such as Exchange), you can view an individual’s availability for events by selecting an event and then choosing Window, Availability Panel from the menu bar.

3. An icon appears in the upper-right corner of the event to show that invitations have been sent. A question mark indicates that responses haven’t been received from all invitees.
Setting Optional Attendees and Resending Invitations

After you’ve added an invitee to an event, you can click the name in the event summary or edit screen to show a drop-down menu that enables you to flag the person as an optional attendee or to re-send an invitation.

Accept Invitations
You can easily add to your calendar invitations that you receive. Even though invitations are sent through email, Sierra’s Mail program works with Calendar to automatically transfer the invitations to the Calendar Notifications area where you can act on them.

1. When a new invitation arrives, the Calendar application icon updates to show the count of invitations in the Dock.

2. The event is shown with diagonal lines through it in the Calendar to indicate it has not yet been added.

3. Click the Notification button to show the notification panel in Calendar. This is only visible when invitations are pending.

4. Use the Maybe, Decline, and Accept buttons to respond to the invitation.
5. Declined invitations are removed from your calendar; accepted and tentative invitations are added.
Accept Invitations Through Notification Center

When event invitations come in, you can quickly access them through notifications:

1. When a new invitation arrives, a notification appears.
2. Click Accept to accept the invitation without opening the Calendar app.
Confirm “Found in App” Invitations

When someone sends you an email with text like “Hey, wanna grab lunch Tuesday at 1pm?” Mail (and other apps) automatically parse the text to help you add an event. You can transform these suggested events into “real” events by doing the following:

1. Open the email in the Mail application.
2. Click the Add link to the right of the identified event.
3. Edit whatever details you want in the window that appears.
4. Click Add to Calendar to add the event to the calendar.
5. If you’re already in the Calendar app, you can find these automagically identified events under the Found in Apps calendar, where you can edit and move them around like any other event.
Changing Your Event Status

If you change your mind about an event, you can edit it in Calendar and change the My Status field to Accept, Maybe, or Decline.

Search Events

If you’re a heavy scheduler, or have dozens of enterprise calendars to manage, sometimes it’s useful to be able to quickly search for events, which is a breeze in Calendar.

1. Make sure the check boxes are selected for the calendars you want to search.
2. Enter your search terms in the Search field.
3. As you type, search options are displayed; pick the best option from the drop-down list or just press Return.
4. The results of the search are displayed in a pane at the right of the Calendar window. Click an entry to jump to that event.

5. Click the X in the search field to clear the search results.

Print Calendars
Despite our best efforts, sometimes we can’t take our Macs (or even our iPads and iPhones) everywhere. When you need your calendar information in paper form, Calendar does an amazing job of printing calendar and itinerary views.

1. Choose File, Print from the Calendar menu bar item.
2. Set the view you want to print.
3. Set a time range for the calendar being printed.
4. Click the check boxes beside each calendar to print.
5. Select which options should be added to the printed page.
6. Click Continue, which takes you to available printing options; after selecting options, you are ready to print.
Remembering with Reminders
Beyond simple events that happen on a given date, day-to-day life often requires that you keep track of multiple to-do lists in your head—from home repairs that need to be done to birthday shopping lists to grocery store visits. Using the Reminders app, you can create your own digital to-do lists and even make them contextually aware of your location—prompting you with reminders that apply only at home or the office.
Reminders are organized into lists of related items. You can have as many lists as you want, but you need to have at least a single list to contain reminders at any given point in time. By default, you start with a single list called Reminders.

Create a List
To create a new reminder list, follow these steps:

1. Open Reminders from the Dock, Launchpad, or Applications folder.
2. If the Lists aren’t visible, choose Show Sidebar from the View menu.

3. Click the + Add List button near the bottom of the Reminders window.

4. A new list appears with the name selected. Type a new name and press return. The list is added and ready to be used.
Nothing Is Set in Stone

To rename a list, click its name in the left column in Reminders. It immediately becomes editable. Delete lists by clicking to select them and then pressing your Delete key.

Add a Reminder

After you’ve created a list, you’ll want to fill it with individual reminders. To create a new reminder within a list, complete the following actions:
1. Click to select the list to which you want to add a reminder.
2. Click the + button in the upper-right corner of the Reminders window.
3. The cursor moves to a new line in the reminder list. Type the name for your reminder.
4. Press return to add additional reminders, or click an empty line to end editing.

Set Reminder Attributes, Including Location
A reminder can be more than just a title in a list—it can contain a date, a location, a repeating schedule, and more. Set the attributes for a reminder by doing the following:
1. Hover your pointer over a reminder item. An i icon appears near the right side of the reminder.

2. Click the i to show the reminder settings.

3. Use the title field to change the name of the reminder.

4. Click the On a Day check box to set a specific date/time for the reminder.

5. Use the date/time field to configure when the reminder is shown.

6. Use the Repeat drop-down list to set a recurring schedule.

7. Click the At a Location check box to receive the reminder when leaving or arriving at a given location.

8. Enter an address to be used in conjunction with the location-aware reminders.
9. Set whether the reminder occurs when arriving or leaving.
10. Drag the handle on the circle in the map to change how close you need to be to the location to receive the reminder.
11. Set a priority for the reminder using the priority pop-up menu.
12. Use the Note field to set any additional notes related to the reminder.
13. Click Done to save the reminder.
Location Reminders Require Your Location!

The first time you use reminders based on a location, you might be prompted to enable Location services. Click Open Privacy Preferences when prompted, or follow the instructions in Chapter 14, “Securing and Protecting Your Mac.”

Mark Reminders as Complete
When you’re done with a reminder, you’ll want to indicate that it is completed. To set the completion status of a reminder, follow these steps:

1. Click the list that contains the reminder you want to complete.
2. Click the check box to the left of the reminder.
3. The reminder moves to a Completed section of the list, which you access by clicking Show.

Don’t Want to Do It? Just Delete It!
To delete a reminder or a reminder list (rather than having to actually follow through on it), just highlight it and press your Delete key.

Finding Reminders
Because reminders can be created across many different lists and many different dates, it’s helpful to
be able to quickly search your lists to figure out what you are supposed to be remembering, and when you should be remembering it. Thankfully, Reminders makes it easy to search all your lists and all your reminder dates very quickly.

**View Reminders by Date**

If you’ve set dates for reminders, it’s easy to see what reminders are associated with what dates (across all your lists) using the built-in mini-calendar in the Reminders application:

1. Show the mini-calendar (if hidden), by choosing Show Calendar from the View menu.

![View Menu]

2. Use the forward and backward arrows to navigate the calendar.
3. Click an individual date to show reminders associated with that day.
4. Choose View, Go to Today from the menu bar to quickly jump to the current date.
All Scheduled Reminders, All in One Place

To show all the scheduled reminders in all your lists, click the Scheduled item that appears at the top of the sidebar. This entry is only visible when scheduled reminders have been added.

Search Reminders

To search for reminders across all of your lists, follow these steps:

1. Type a search term in the Search field at the top of the sidebar.
2. The results are shown, organized by list, on the right side of the window.
3. Click the X in the search field to clear the results.
Share Reminder Lists

Lists don’t have to be “just for you.” If you have an iCloud family established, Reminders includes a Family list with a little icon to the right of it. This indicates that it is a shared reminder list, which means others can modify it. You can create and share your lists by following these steps:

1. Create a list as described in “Creating a List.”
2. Position your cursor to the right side of the list name. A sharing icon appears. Click it.
3. In the pop-over window, click Share With and type an email address with which you want to share the list. Emails are sent to each address you add.
4. Once a list is shared, the individuals sharing it are shown at the top of the list. After they accept the invitation, they can edit the list but cannot delete it.

5. See who has accepted your sharing requests by clicking the sharing icon beside a list. Accepted requests show as green check marks.

6. To remove someone from a shared list, simply click their name in the sharing pop-over window and press delete.
Accepting a Reminder List Sharing Request

When you send a Reminder List sharing request, it is sent as an email with a link. The recipient needs to click the link and sign into iCloud with their Apple ID. They will see the list appear with the rest of their iCloud lists.

Use Server-Based Reminders

By default, Reminders uses your iCloud account to store information. If you haven’t connected to an iCloud account (see Chapter 4), you create lists on your Mac instead.

As you might guess, reminders are very similar to Calendar entries. They’re so similar, in fact, that a single server typically offers both calendar and reminder services. To connect to a network server for your reminders (Exchange or Google, for instance), follow these (very familiar) instructions:

1. Use the Internet Accounts System Preferences panel to establish an account with your service provider, and then select the service from the account list (Exchange is shown here).
2. Make sure that Reminders is selected in the list.
3. Close the System Preferences.

4. Reminders displays a new section with any reminders that are located on the server.
Choosing Servers When Creating a New List

If you are connected to several different servers that each provide Reminder storage, you can choose which one a new reminder list is created on by clicking and holding the + icon in the bottom-right corner when you create a new list.

Keeping Track with Notes

Calendars and reminders capture much of our hectic schedules, but life can also be less structured—with new information and ideas coming at us from a dozen different directions. To keep us from losing our idea for “the next big thing,” Sierra includes a full-featured note-taking application—Notes. Like the other apps in this chapter, Notes is also iCloud-/server-connected, meaning that no matter where you take your notes, they’ll be seamlessly accessible across all your devices.
Thoughts and ideas are rarely truly random. Chances are that you take notes about things you want to do at home, at work, with the kids, and so on. To create a sense of order, start your note-taking by setting up some folders for yourself.

**Add Folders**

By default, notes are added to a default folder called Notes. To add a new folder of notes, do the following:

1. Open Notes using the icon in the Dock, Launchpad, or Applications folder.
2. Choose New Folder at the bottom of the folder list.

3. A new folder appears with its name selected and editable. Type a new name for the folder and press return to save it.
Deleting a folder in Notes is the same as deleting a List in Reminders. Click to select its name, and then press the Delete key.

The exception to this is the “All” folders (All On My Mac, All iCloud), which can’t be removed. They contain all the notes stored on that device and appear after you have created multiple note folders.

Add Notes

The most important aspect of using the Notes application is also the easiest—adding notes. To add a new note, follow these steps:

1. Select the folder that should contain the note.
2. Click the Create Note icon.
3. A New Note title appears at the top of the list, and the text entry cursor appears in the content area, ready to edit.
4. Type your note as you see fit.

5. The top line of the note automatically becomes the title for the note and is displayed in the column to the left of the content.
6. If you decide you don’t want a note, select it and press the Delete key to remove it (not shown).

Prettify Your Most Mundane Notes
Your notes don’t have to be plain text; you can add formatting, checklists, and more. Follow these steps to make your notes even better:

1. Edit a new or existing note by selecting it and then clicking the note body.
2. Click the Add Checklist icon to begin inserting a checklist.
3. Each line is a new checklist item. Press return twice to end the list.
4. Use the Text Styles button to choose between different styles for the note text.
5. To insert an image, either drag it from the Finder into the note body, or select Photo Browser from the Window menu.

6. Drag from the photo browser into the note body.
7. In addition to images, you can drag documents from the Finder to store them with the note.
Any Font You’d Like, Any Way You’d Like It

You aren’t stuck with *just* the styles Apple picks for you. Use the Format menu to choose indentation, justification, and font options as well.

Add Notes from Other Applications

You aren’t limited to adding notes just from memory. You can use the Share menu in many other apps to add a new note or append an existing note:

1. Use an application that employs the Share menu. For example, assume I want to store a map location within a note.
2. Click the Share icon.
3. Choose Notes.
4. Enter text for the note, if desired.
5. Use the Choose Note pop-up menu to select an existing note, or create a new note.
6. Click Save.
7. The location (or other information) is added to the note as a double-clickable attachment.
Lock Notes
Sometimes a note is something you want to keep to yourself, and adding an extra layer of security is warranted. To lock (password-protect) a note, follow these steps:

1. Select the note in Notes.
2. Click the Lock icon.
3. Choose Lock This Note.
4. If it is the first time you’ve locked a note, you’re prompted for a password and password hint.

5. After entering your super-secret password, click Set Password.
6. A lock icon appears near the note’s title. After a locked note is created, it remains in an unlocked state temporarily. It eventually locks if you just wait.
Read Locked Notes
To read a locked note, you need your password and these steps:

1. Select the note you want to view.
2. Enter the note password and press return.
3. The note is unlocked and visible.
Gifts for Niece and Nephew

Collapsible drone
Robotic pony

- iTunes Gift Card
- Roboto Skynet Transforming Drone
- Really Real Robot Pony
Manage Locked Notes
To force your notes to lock, or to remove a lock, you turn again to the Lock icon in the toolbar:

1. Click the Lock icon in the toolbar.
2. Choose Close All Locked Notes to immediately lock all currently unlocked notes.
3. Choose Remove Lock to unlock the selected note, making it unprotected.

Move Notes Between Folders
If you’ve created notes in one folder that you later want to move to another, this is easily accomplished with a simple drag and drop. Do the following to move notes between folders:

1. Click a note title to select it. Hold the Command key to select multiple notes at a time.
2. Click and drag from the selected note to a folder in the folder list. The notes are immediately transferred to the folder.
Search and Display Notes

Notes can contain quite a bit of information, and after you’ve amassed a library of hundreds of notes, you might find yourself trying to track down a single tiny bit of information within a note. To search the available notes (in all note folders), just follow these steps:

1. Choose a folder of notes to search or view, or All Notes to access all folders.
2. Type a search term in the search field to filter the notes being displayed (if desired).
3. The results are shown in the center column of the window.
4. Attachments (if any) are displayed below the notes.
5. Click a result to show that note’s content to the right of the search results.
6. Double-click a note’s title to focus on it in a new window (useful for writing without distraction).
Show Attachments
If you keep lots of documents with your notes, you’ll be happy to hear there’s an easy way to find and
browse them—all in one place. Access the attachment browser by following these steps:

1. Click the Attachment Browser button.
2. Choose the type of attachment you want to view.
3. The results are shown in the window.
4. Right-click a file and choose Show in Note to see the note that contains the attachment.

Share Notes for Collaboration
New to Sierra is the ability to share notes so that multiple people can view and edit them. This works similarly to the sharing feature in Reminders. To share a note, follow these steps:

1. Navigate to a note you want to share for collaboration.
2. Click the Add People button in the Notes toolbar.
3. Choose the method you’d like to use to send your invitation (the recipient will receive a link to click).

4. Click Share.
5. Provide the contact information for the recipient.
6. Click Send.

7. The note refreshes to show a small icon in the upper-left corner to indicate that it is shared.

8. You can manage your shared note by selecting the note and clicking the Add People icon again.

9. People who have not yet accepted the invite have Invited below their names within the popover.

10. Select a name in the pop-over window and click the ellipsis (…) to the right of the name to reveal a menu where you can show their contact information or remove their access.

11. Click Stop Sharing at the bottom of the pop-over window to stop sharing the note altogether.
Share Notes via Email and Messages

To share a copy of a note via email or Messages, you can use the macOS Share button. For detailed information on the process, refer to Chapter 6. The basic process works like this:

1. Navigate to a note you want to share.
2. Click the Share button to show the sharing options.
3. Choose the method of sharing that you’d like to use.
4. Your choice launches the appropriate supporting application and attaches the note for sending.
Use Server-Based Notes
Notes, like the other utilities in this chapter, are stored, by default, on an available server account—iCloud, if configured as described in Chapter 4. If you don’t like the idea of having your notes “in the cloud,” open the Notes Preferences (Notes, Preferences from the menu bar) and choose Enable On
My Mac Account
As you’ve probably guessed, Exchange servers and Google accounts can also provide shared note storage. To use one of these servers to share notes between your computers or devices, follow these steps:

1. Use the Internet Accounts System Preferences panel to establish an account with your service provider, and then select the service from the account list.
2. Make sure that Notes is selected in the list.
3. Close the System Preferences.
4. The new server appears in the Notes list. You can click to select groups within it, and from there create notes and new groups if desired.
Your Utilities, Everywhere

Wish you had access to the suite of utilities described in this chapter wherever you may be? You do! You can access Calendars, Contacts, Notes, and Reminders using Apple’s iCloud web service. Just sign in at http://www.icloud.com/ to use Apple’s meticulously crafted and stunningly beautiful web versions of these useful tools.

>>>Go Further: Set Your Server

If you have multiple servers set up, the process of creating a new folder is a bit ambiguous as to what server it will be created on. To force the folder to be created on a specific server, open the Notes preferences, and use the Default Account drop-down menu to choose which server should contain all your new notes.

It’s Not All Good: Gone for Good. Everywhere.

Even though the applications in this chapter are frequently configured to use servers (much like Mail), that doesn’t mean that they work with information in the same way as Mail. In email, when you delete a message, it typically gets moved to your email’s trash folder—where it can be recovered. In Calendar and Reminders, deleting an event or reminder is permanent. What’s more, if you’re using iCloud, the event or reminder will be removed from all of your devices—virtually simultaneously. The exception to this is the Notes application. Notes automatically puts any deleted notes into a Recently Deleted folder where you can recover the note, if needed.
In this chapter, you discover how to use your Mac to collect and organize your digital media, including:

- Creating a digital music library with iTunes
- Syncing your iOS device with iTunes
- Creating a photo library with Photos
- Using Smart Albums and photo search
- Reading with iBooks
- Purchasing books with the iBooks Store

In case you hadn’t noticed, your Mac has a gorgeous screen. The LED IPS display provides excellent color reproduction and amazing depth—at HDTV resolutions or higher. Why bother sitting in front of the TV when your Mac does so much more? Using iTunes (and the new Apple Music service), you can build a library of thousands of songs, TV shows, and movies.
In addition to iTunes, your Mac also includes software to organize, search, and manage your photo library. Using the built-in Photos app, you can arrange and present your digital memories using face and object recognition.

If photos, videos, and music aren’t enough, the iBooks app will let you browse, purchase, and read thousands of best-selling books.

Creating a Media Library in iTunes
Apple’s iTunes enables you to manage and play digital media files, including song tracks you import from CD, content you purchase from the iTunes Store, or podcasts you subscribe to online. You can also create and sync playlists with your iDevices or share them with other iTunes users on your local network.

Run iTunes for the First Time
The first time you launch iTunes, you don’t have anything in your music library. Follow these steps to complete the setup process:

1. Open iTunes from the Dock or Launchpad, or by locating its application icon in the Applications folder.

2. Click Agree after reviewing the iTunes Software License Agreement.
3. The Welcome window, with video tutorials for various tasks, appears. Click Take a Quick Tour if you’d like to see video demonstrations of iTunes in action.

4. If you’re okay with iTunes sharing information about your library in order to see artist information, album covers, and other niceties, click Agree; otherwise click No Thanks.
5. To immediately start browsing the iTunes Store, click the Go To iTunes Store button.
Find Your Way Around iTunes

First, here is a quick tour of the iTunes controls to acquaint you with the basics. The default view in iTunes is the Library view.

1. The menu on the left side of the iTunes toolbar lets you choose between Music, Movies, TV Shows, and other media types (you can edit this menu to show Podcasts, Ringtones, and others).

2. In the top center of the window are labels for setting the source for the chosen type of media, such as Library, For You (music iTunes thinks you’ll like), Browse (Apple Music), Radio, and, of course, the iTunes Store.

3. On the left side of the window is a sidebar that enables you to choose how your library is displayed (by song, album, artist, genre, and so on). The options change depending on the type of library you have selected.

Don’t Blink

Many people think iTunes is in need of a dramatic overhaul (yours truly included). Each year, Apple moves interface elements around and makes things just slightly more confusing than they were previously. By the time you read this, who knows what will happen!

Interact with Your Library

After choosing a content type and a preferred view, your screen shifts to one of many different displays of your media library. The interface encourages exploration. The album view for music, for example, has these features:
1. Double-clicking an item (song, album, and so on) begins playback and the status area updates to indicate the song, album, and remaining time.

2. Clicking an album opens an expanded view of the contents.

3. Positioning your cursor over individual media items (such as song titles) displays an ellipsis (…) that when clicked opens an action menu that enables you to add the item to your playback queue (Play Next), create an iTunes radio station (Start Station), or share a link to the song/album with your friends (Share Song).

4. Use the Go To menu to find related items in the iTunes music store or Apple Music. If iTunes cannot find related content within the store, you do not see this option.

5. Hover your mouse over the name of a song or album to show a heart icon. Click the heart for songs and albums you like. This helps Apple create its suggestions for your musical interests.

Not in the Store

You can always toggle whether iTunes shares information about your library using the Store settings within the iTunes preferences. Be aware that if you choose not to share, certain iTunes features will not be available to you—such as In the Store links that help you locate additional music by your favorite artist.

Control Playback

Along the top of the window are controls for all your playback needs:

1. Move back, forward, play, and pause your media playback.
2. Adjust your speaker volume.
3. Choose a device, such as an AppleTV or AirPort Express, to output your sound.
4. View the playback progress.
5. Set playback to shuffle.
6. View the action menu for the current song (starting a radio station, liking/disliking, sharing, and so on).
7. View your playback queue, playback history, and lyrics for the currently playing song.
8. Search all your media or the iTunes Store.
9. Show active iTunes downloads.

Rock Ewe Like a Hurry Cane
How often do you listen to songs, sing along, only to find out later that what you’re singing has no similarity to the actual lyrics of the song? With iTunes, you can view the lyrics for songs as they play back:

1. Click the list icon beside the playing song information.
2. A pop-over window appears. Make sure that Lyrics is selected.
3. Start singing the proper words to your favorite songs!
Share Your Good Taste

Music is meant to be shared. Virtually everything with an ellipsis (...) beside it in iTunes can be shared with your friends, families, enemies, or pets:

1. Click the ellipsis (...) beside a song title in the playback area. (The ellipsis is obscured by the menu in this example.)

2. Choose Share Song (or Share Album, Share Station, etc.).
3. Choose a method for sharing with your friend.

**Building Your Media Library**

Apple offers plenty of content for you on the iTunes store. Everything from music to movies, podcasts, music videos, and TV shows. With just a few clicks, you can go from a Saturday night with nothing to watch to a movie night with the latest blockbuster releases.

**Go Further: Using Your Purchases**

You can authorize up to five computers to play songs purchased on a single account. To do this, choose Store, Authorize Computer and enter your Apple ID. (Remember to deauthorize computers that no longer need access, which frees up openings for new computers to be added.) You can also take advantage of Family Sharing to share downloads with family members who have been designated in the iCloud Family Sharing setup, discussed in Chapter 10, “Installing and Managing Applications and Extensions on Your Mac.”

**Add Existing Media**
To add media stored on your Mac to iTunes, do the following:

1. Choose File, Add to Library from the menu bar.

2. Select the folder or file that you want to add.

3. Click Open. iTunes adds the selected music to your library.
It’s Just a Drag
iTunes supports drag and drop for adding media. If you’re more comfortable with clicking and dragging, just drag your media content onto the iTunes window or icon to add them to your library.

Purchase Digital Media on the iTunes Store
To purchase media from the iTunes Store, follow these steps:
1. Click the Store link in the top center of the window to connect to the iTunes Store.
2. Choose Account, Sign In from the menu bar. If you’re already signed in, skip to step 5.

3. Enter your Apple ID and password in the Sign In dialog box.
4. Click Sign In.
5. Use the links and scrolling content views to browse available media—just as you would a web page.

6. Click the Play button that appears as you move your cursor over a song to play a preview.

7. To make a purchase, click the Buy button that displays the price beside items. In the case of music, you can buy individual songs or albums.

8. When you’re asked to confirm that you want to buy the selection, click the Buy button. You might be asked to re-authenticate before the purchase is completed.
9. Your selection is downloaded and added to your library under the Purchased playlist. Click the Download button (the down arrow) to view all the current downloads taking place.
Recently Added

To quickly see the content you’ve added to your library, and when you added it, click the Recently Added category in the iTunes sidebar. This displays any activity, by date, within your media collection.

The Rental Countdown

When browsing movies, frequently you can also rent in addition to buying content. If you choose to rent a movie, you have 30 days to watch it and 24 hours from the time you start watching it to finish it. Rented movies appear in your library just as other files do.
Although Apple has dropped optical drives from virtually all of its shipping Macs, you can still use iTunes to import from a CD. To do this (if you have an optical drive), just insert the CD; iTunes launches and prompts you to import. It’s as simple as that.

Additionally, when you import an audio CD, iTunes connects to a music database, identifies your disc, and applies information such as title, artist, and genre to each track. Album artwork might also be available if the album is part of the iTunes Store.

If iTunes doesn’t find your CD in the database, you can edit the track information yourself by selecting it and choosing File, Get Info. Select several tracks at a time to update all the shared information and save yourself some typing.

Use Genius Recommendations

Genius Recommendations attempt to predict what new and existing media you might enjoy based on the current items in your library. Follow these steps to enable and peruse Genius Recommendations:

1. Choose File, Library, Turn On Genius from the menu bar.

2. Click the Turn On Genius button. (If you’re already signed in with your Apple ID, you won’t see this or the next step.)
3. Enter your Apple ID and password (if prompted) and click Sign In.

4. A screen announcing Turning on Genius appears while the contents of your library are analyzed and personalized results are prepared.
5. Select a song in your library.
6. Click the disclosure ellipsis beside a song or album to view recommendations in your existing library.
7. Click Genius Suggestions to list the songs that Genius thinks are similar to the chosen song.
8. Pick from the genius recommendation list to jump to any song.
9. Choose Save as Playlist to create a new playlist based on the genius recommendations.
Download Podcasts

Podcasts are a series of digital broadcasts, either audio or video, that you can subscribe to for regular updates. You can locate and subscribe to a variety of podcasts (most of them free) in the iTunes Store by following these steps:

1. If Podcasts isn’t visible in the Media Type menu below the iTunes toolbar, choose Edit Menu. By default, Podcasts aren’t shown.
2. Click the check box beside Podcasts.

3. Click Done.

4. Select Podcasts from the source menu.

5. Click Store in the navigation below the iTunes toolbar.

6. Browse just as you would for music. Click an item to see details and a list of available episodes.
7. Click the Subscribe button to download the most recent episode and all future episodes of this podcast. The podcasts are downloaded to your iTunes library.
iTunes checks for updates as long as you are subscribed; if you change your mind about following a podcast, select it in the list and click the Unsubscribe button displayed at the top of the list of individual podcasts.

8. Click Subscribe when you’re asked to confirm that you want to subscribe.
9. Click the Library label in the center of the iTunes toolbar.

10. Choose the podcast from the list on the left.

11. Select an episode and click the Play control button to listen.

12. Access a list of all podcast updates using the Feed button. Download old podcasts by clicking the cloud icon beside each.

13. View only unplayed podcast episodes by clicking the Unplayed button.

14. Click the Unplayed label below the iTunes toolbar to show all unplayed podcasts across all your podcast subscriptions.
Fine-Tune Your Subscription

For greater control over how many podcast episodes iTunes downloads, how long they are kept, and to unsubscribe entirely, click the gear icon to the right of the podcast name when viewing your podcast episodes.

>>>Go Further: Free Education with iTunes U

If you’re looking for educational materials, iTunes U is the place to go. Here, dozens of schools publish free course material that is yours for the downloading. Audio, video—it’s all here, and subjects from business management to programming are available. iTunes U lessons work identically to podcasts and can be added to your source menu using the same process you used to add podcasts, except you choose iTunes U in step 2 instead of selecting Podcasts.
Do Simple Searches
Your iTunes library can grow large quite quickly with so many sources from which to draw. Fortunately, it’s easy to search your library to find just what you’re looking for:

1. Choose the media type and the display category to search (Music, Albums in this example).
2. Type your search term in the Search field.
3. The media is filtered to only the items that match the search term.
4. Click the magnifying glass on the left side of the Search field to set an additional search filter (Song, Album, Artist, and so on); otherwise all attributes of the media are searched.

Search Across All Media
If you’d prefer to search across all your media, rather than just the category you’ve currently selected, follow these steps:

1. Click the magnifying glass in the Search field.
2. Select Search Entire Library to search across your entire library.
3. Click inside the Search field and begin typing a search term. As you type, a pop-over window appears showing potential matches.
4. Make sure that In Library is selected.
5. Choose an item in the results to jump to it within your library.
Using Playlists
Playlists help you organize your music and media into themes to suit your mood. You can define your own playlists, set search criteria to automatically cluster certain artists or genres, or have iTunes use the Genius profile it created from your library to generate lists for you.

Create Playlists
To define a playlist of media you choose, follow these steps:


2. Type a name for the new playlist and then press Return.

3. Click to highlight the new Playlist in the iTunes sidebar.

4. Click Edit Playlist to add songs to the playlist.
5. The screen refreshes with your music library on the left and the playlist on the right. Browse your music library as you normally would.

6. Drag songs, albums, or artists to the playlist column on the right.

7. When finished adding songs, click Done.
Playlist Organization

If you add so many playlists that you feel the need to put them in folders to keep track of them, choose New Playlist Folder from the same menu you used to add a playlist.

Define Smart Playlists

To set criteria that iTunes can use to make a playlist for you, follow these steps:

1. Choose File, New, Smart Playlist from the menu bar.
2. In the Smart Playlist window, set your search criteria.

**Setting Criteria**

Options include obvious choices, such as artist, album, or rating, as well as more obscure settings, such as bit rate (which relates to sound quality). You can also set a limit on the number of songs and allow live updates, which creates a list that changes as your library changes.

3. One option that might not make immediate sense is Match Only Checked Items. This matches only songs that have check marks. If you view your library as a list, you can check/uncheck beside each song. Match Only Checked Items refers to that check mark.

4. Click OK when you’re done setting search criteria. Your Smart Playlist appears under the Playlists.
5. Type a Name for the new Smart Playlist, and then press Return.
Genius at Work
Refer to “Use Genius Recommendations” earlier in this chapter to have iTunes generate a playlist for you based on a song, album, or artist of your choice.

Access Playlists
To access, edit, or play back the media in your playlist, follow these steps:
1. Playlists are visible at the bottom of the iTunes sidebar.
2. Click the playlist you want to use from the list on the left.
3. Click Edit Playlist to modify the playlist.
4. Click Play/Pause to begin (or stop) playback.
5. Click Shuffle All to randomize the playback order.
Use the Mini Player

After you’ve set up your media library and decided on the songs you want to play, chances are you don’t want to keep the huge iTunes window around. To use the mini player, follow these steps:

1. Choose Window, Switch to MiniPlayer (or Window, MiniPlayer to leave the main iTunes window visible as well). Alternatively, click in the upper-left corner of the playback information area.
2. The mini player appears and displays the currently playing song.
3. Move your cursor over the window to show standard playback controls.
4. Click the list icon to show upcoming songs, playback history, or lyrics.
5. Use the magnifying glass to search for songs directly from the mini player.
6. Click the ellipsis to show a contextual menu for rating the song, showing Genius suggestions,
7. Click the double arrow icon to collapse the window even further and click again to expand the window.
8. Click X to close the mini player.
Using iTunes Radio
If you find yourself wanting to just listen to good music, iTunes now includes iTunes Radio. iTunes Radio offers both curated (Beats 1) and automatically created stations that literally play *anything* you want. Be your own DJ!

We Interrupt This Song...
Radio is a great service, but it can’t do much of anything beyond listening to Beats radio without a subscription to Apple Music. Apple Music is covered later in this chapter.

To start listening to iTunes radio, you need an active Internet connection. Beyond that, you’re just a few clicks away from your favorite artists and songs.

Listen to iTunes Radio
Follow these steps to listen to one of the many ready-to-play Featured stations available:

1. Make sure you have selected Music from the media type menu on the left side of the screen.
2. Click the Radio label below the iTunes toolbar.
3. Use the labels at the top of the view to find a station. Swipe/scroll to the right to reveal more stations.
4. Click Play to begin playing iTunes Radio.
5. Click the star icon to display options for liking or disliking a song.
6. Click the Fast Forward button to skip to the next song (you can do this only six times in a 60-minute period). Note that if you are listening to a live station, this does not work!
7. Click the ellipsis (...) in the playback summary to access options for finding the currently playing song on the iTunes Store or Apple Music.
Create Your Own iTunes Radio Station

After you’ve had a taste of the featured stations, you’ll likely want to create your own.

1. Find and expand an artist or album that you want to use as the basis for a station.
2. Click the ellipsis (…) by the item you like.
3. Choose Start Station.
4. The new station appears and begins playing. You can find it later (if you need to restart iTunes) under the Featured, Recently Played section in Radio.
More Than Music

iTunes Radio features more than just music! If you’d like to listen to comedy broadcasts, I recommend Bob Newhart.

>>>Go Further: Your Radio, Anywhere

Any Radio station that you create will be available on any Mac or iOS device where you’ve signed into your iTunes account. It even works with your iPod/iPhone-compatible car audio system!
Fine-Tune Your iTunes Radio Station
Not only can you build your own station featuring your favorite song or artist, but you can fine-tune the station for your mood. Follow these steps to tune your radio station:

1. Play the station that you want to modify.
2. Click the star by the playback controls.
3. Click Play More Like This if you like the song.
4. Click Never Play This Song if you never want to hear a song again.

Answer the “What Was That Song?” Question
If you’ve ever heard a song and wondered what it was, you’ll be happy to hear that can’t happen on iTunes Radio. If you hear something and want to see what it was, follow these steps:

1. Click the list icon beside the playing song information.
2. A pop-over window appears. Make sure that History is selected. This displays the recently played songs on all your stations.
3. Click Add to add the song to your library (if you have Apple Music), or Buy (if you don’t have Apple Music) to buy the song on iTunes.
Using Apple Music
iTunes Radio is only so useful—you can’t listen to anything you want, just things that Apple chooses to play. Things get much more interesting when you subscribe to Apple Music ($9.99 a month, or $15 for a five-person family per month). Apple Music lets you play virtually any song in the massive iTunes library (with some notable exceptions, like the Beatles) without buying it. You can get started using Apple Music with a free 3-month trial, giving you plenty of time to determine whether it’s something you want to keep.
Subscribe to Apple Music

Apple wants you to subscribe to Apple Music. So much so, that you’ll find Apple Music banners and pop-up windows when you click the For You and Radio headings under the toolbar. To subscribe to Apple Music, click one of these banners (or wait for the inevitable pop-up window), and then follow these steps:

1. Click the Get 3 Months Free button.

2. Choose the plan you want.

3. Click Start Free 3 Months.
4. On the Choose Genres You Love screen, click the circles of the genres you like.
5. Hover over a genre and click the X if you don’t like it at all.
6. Click Next.
7. Click the artists you like.
8. Hover over an artist to reveal an X. Click the X to remove the artist.
9. Click Show More to display more artists to choose from.
10. Click Done to begin using Apple Music.
Resetting Your Preferences

Music tastes evolve over time. To reset your initial “likes” (or to add new genres and artists), select Account, Choose Artists for You from the menu bar.

Add Songs to Your Library

Once you’ve subscribed to Apple Music, you can search for and instantly add songs to your library—no purchasing required.

1. Follow the instructions in “Search Across All Media”, but select All Apple Music instead of In Library.
2. Search for an artist or song (or even a playlist) you think you might like.
3. Choose a result to display.
4. Drill down to an album or song you want to add to your library.
5. Click the + beside the item to add it to your library.
6. Position your mouse over a song or album to play it without adding it to your library.
7. The cloud icon represents an item that is already in your library but not downloaded to your Mac. Click the cloud icon to download a copy for offline playback.
Everywhere You Want It

Even though Apple Music songs are tied to a subscription service, you can use them on your iOS devices and download songs for offline playback just like any other song.

Use Apple Music Recommendations

Apple Music also works to help you discover new music. As you play songs and click the heart (Love It) icon, you teach iTunes what you do and don’t like.

To see what Apple Music suggests for you, follow these steps:

1. Click the For You label beneath the toolbar.
2. Click the Recommendations link.
3. Click Play on any recommended album or Playlist to begin listening. Radio stations you’ve created are also shown in this area.
Connect with Artists
With Apple Music, Apple is also trying to create a social platform (called Connect) for artists to reach out to listeners. To access the Connect platform, go to the For You area and then follow these steps:

1. Click the Connect link.
2. Artist posts are shown in chronological order. When you purchase music, the artists are automatically added.
3. Some artists may post playable links to new music, videos, or interviews. Use the links at the bottom of each post to interact with the artist.
Follow New Artists

To follow a new artist without making a purchase, complete these steps:

1. Search or browse for an artist as described in this chapter.

2. On the artist page, click the ellipsis (..., which is obscured by the menu in this example) and then choose Follow.
Manage Followed Artists

To manage the artists you’re following (and unfollow the ones you’ve stopped listening to), go to the Connect section of For You and then follow along:

1. Click the blue circular account icon.
2. Choose Following.
3. A page appears showing the artists you’re following. Click the Following button to toggle your following status (that is, to unfollow them).
Syncing Media Between Devices
iTunes is more than a virtual filing cabinet for storing music and media files. It also syncs with iPods, iPhones, and other computers on your network so you never have to be without those items, even when you’re away from your Mac.

Sync Purchases
By enabling syncing of purchases in iTunes, you ensure that your purchases are downloaded to other copies of iTunes that are signed in with your Apple ID.
Follow these steps to turn on purchase syncing:

1. Open the Preferences from the iTunes application menu.
2. Click the Store button at the top of the Preferences window.

3. Click the check boxes in front of Music, TV Shows, Movies, and Apps (or any combination of these) to automatically download any purchase made on another Mac (or even your iOS device) to your iTunes library.

4. Click OK to close Preferences. (Yes, this is ridiculously inconsistent with other apps.)
Password Settings for "johnray@mac.com"

Require a password for additional purchases after making a purchase from the iTunes Store with this computer?

**Purchases:**
- Always Require

**Free Downloads:**
- Require Password

**Automatic Downloads**

iTunes can automatically download new purchases made on other devices using "johnray@mac.com". To change to a different Apple ID, sign in to the iTunes Store.

- Music
- Movies
- TV Shows
- Apps

- Always check for available downloads
- Download full-size HD videos
  - Movies and TV shows in 1080p HD will be preferred over 720p.
- Download high-quality SD videos
  - High-quality SD video is not compatible with all iPods.

- Sync playback information across devices
- Sync podcast subscriptions and settings
- Automatically download album artwork
- Share details about your library with Apple
  - This allows iTunes to get artist images, album covers, and related information based on the items in your library.

[OK]
Sync Your Media with Your iPod, iPad, or iPhone

iTunes was designed to be used with iPods, iPhones, and iPads, which makes syncing your Library between devices a cinch. Follow these steps to transfer content from your Mac to your iPod, iPhone, or iPad:

1. Connect your iOS device to your Mac using the supplied USB cable. iTunes detects the device and begins synchronizing. Click the device button in the iTunes toolbar to open information about the connected device.

First-Time Connections

If the device has not been connected before, iTunes and your device ask permission to connect to one another.

2. View the Summary screen, which shows the name, capacity, software version, serial number, and any updates available to your device.

3. Choose Sync over Wi-Fi to sync without your USB cable in the future!
Syncing to a New Mac

If your device was previously synced with another Mac, you have the option to Erase and Sync or transfer purchases to your new Mac.

4. To conserve space on your device, open the different Media categories, and, on each, select which items to sync.
5. Click Apply to sync your device. The status of the sync appears at the top of the window. Do not disconnect your device until syncing is completed.
6. When the sync completes, click Eject and unplug your device and cable.
Cable-Free Bliss

After you’ve enabled Wi-Fi syncing, you can start a sync any time your iPhone, iPad, or iPod is on the same network as your iTunes library. Just open the Settings app on your iOS device and navigate to General, iTunes Wi-Fi Sync.

>>>Go Further: Everything Everywhere!

If you’ve chosen to automatically download media purchases to your iOS device, chances are you will rarely even need to sync directly with iTunes because iCloud will keep everything up-to-date on its own!

Share Media Between Home Computers

Home Sharing enables you to browse up to five computers on your local network and import music to your own library. In addition, it enables you to stream media to your iOS device when it is connected.
1. Choose File, Home Sharing, Turn On Home Sharing from the menu.

2. Sign in with your Apple ID by entering your username and password.

3. Click Turn On Home Sharing.
4. Click OK in the confirmation box. Repeat steps 1 through 3 for all the other computers in your home that connect with the same Apple ID.

5. Use media type menu below the toolbar to choose the shared library you want to use.
6. Interact with the songs and media as if they were local to your computer.
7. Click Settings to enable auto-download of items in the remote library.
8. Click the Import button to copy any selected item to your library.
Keeping an iCloud Library with iTunes Match

All songs, movies, and TV shows that you purchase through iTunes are available on any of your computers, as long as you’re signed into iTunes with your Apple ID. These are referred to as being “stored in iCloud.” Although this is fine and dandy, what about all the media you have that you didn’t purchase through iCloud?

For that, you have Music Match. Music Match keeps your entire iTunes music library in Apple’s iCloud service and makes it available to all your devices, including the Apple TV. What’s more, it replaces poorer-quality recordings you have in your library with the best Apple has to offer.

How is this different from Apple Music? Good question. The answer is that iTunes Match music is for what you own. This is your personal, purchased, music library in the cloud—not music that you have access to thanks to a monthly fee.
iTunes Match isn’t free. It costs $25 per year and matches up to 25,000 songs that you didn’t purchase from iTunes. Any song purchased through iTunes doesn’t count toward the total song limit.

Activate iTunes Match
To sign up for iTunes Match, follow these simple steps:

1. Within the Store section of iTunes, click iTunes Match from the links on the right.

2. Click the Subscribe button to join the iTunes Match service, or click Add the Computer if you’re already a subscriber.
3. Authenticate when prompted.
4. Click Subscribe or Add This Computer.

5. The iTunes Match process runs, analyzing your library and adding your music to iTunes Match in iCloud. You can continue to use iTunes during this process.
Access Purchases and Matches in iCloud

After you’ve activated iTunes Match on a computer or iOS device, all your songs, movies, and TV shows appear—whether they’re located in iCloud or stored locally. To access your media, simply follow these steps:

1. Browse your library. Media items available for download from iCloud (but not stored locally) are shown with a cloud and a download arrow. Items stored locally have no cloud icon.
2. You can select and play any item. As long as you are connected to the network, iTunes streams your media selection.
3. Click the cloud icon to download a copy of the item that can be played even if you are offline.
Music Matching Only

Note that there is no “video matching” within iTunes Match. Although your purchases will be available on all your devices, iTunes will not find and match movie and TV show downloads that occur outside of iTunes.

>>>Go Further: Media Center Extraordinaire

Once upon a time, macOS included a media center application called Front Row. Front Row provided a TV-ready interface for browsing and playing your iTunes Media. When Apple discontinued this feature, it left a void that several Open Source projects quickly filled.

The most Mac-like and feature-rich of these projects is Plex (www.plex.tv). Using Plex, you can create a media center system that plays any format of video or audio, looks great on a TV, accesses Internet video, streams to iOS devices, shares with friends, and much more. For free. If you’re a media junkie, Plex is definitely the way to go.

Viewing and Managing Photos
In recent years, photography has evolved from a hobby enjoyed by some to one enjoyed by virtually everyone. Digital photography has made it possible to get an instant photo fix, anytime and anywhere. Our iPhones and digital cameras enable us to capture life like never before.

With traditional photography, we used physical photo albums to arrange and reminisce over our memories. Today, with the ability to capture thousands of photos (with no development costs or time!), it becomes necessary to use new digital tools to keep our photo libraries in order—enter Photos.

Photos is Apple’s photo management software. It handles almost every photography-related task you can throw its way—from downloading photos from your camera, to arranging albums, to editing images, and even creating real-life products—like calendars and photo books. Let’s take a look at how you can get started with Photos on your Mac.

**Starting Photos and Importing Images**

For Photos to be useful (and for my description of it to make any sense), you first have to get photographs imported into it. There are two primary methods of doing this.

**Get Started**

Like many applications, Photos works a bit differently the first time it launches. To begin using Photos, follow these steps:

1. Open Photos from the Dock or the Applications folder.

2. On the Welcome screen, click Get Started (or use the Take a Quick Tour link to see a short tutorial).
3. Photos opens to an empty screen, describing the possible ways to import your photos into the system.
Import Photos from a Camera or Memory Card
If you use a digital camera, the fastest way to get your photos into the Photos application is to plug your camera or memory card directly into your Mac. This even works with an iPhone or iPad.

To begin, use the USB cable that came with your camera to connect it to your Mac and then follow these steps:

1. Your device (here, an iPhone) appears under an Import heading in a sidebar on the left side of the Photos screen. Click it.
3. If you’d prefer to only import specific photos, click to select them.
4. Click the Import Selected or Import All New Items buttons to import just the selected photos or all new photos, respectively.
Add Photos from Your iOS Device

While you could connect your iOS device (iPhone/iPad) to your computer to download photos, the easiest way to get your photos from your phone to your computer is via iCloud. This is covered in the “Using iCloud Photos” tasks in Chapter 4, “Setting Up iCloud and Internet Accounts.”

Why iCloud?

Although Photos is integrated with iCloud, configuration takes place completely outside of the application, so coverage is integrated into the iCloud chapter. Additionally, even if you have no interest in viewing your own photos, you can still view iCloud shared galleries from families and friends using Photos.

Finding Your Way Around Photos

Photos has an interface very similar to other Mac apps, like Mail and iTunes. Collections of information appear on the right, content in the middle, and a toolbar with controls on the top.
View Photo Collections
When using Photos, there are a few common areas that you’ll want to visit. Follow these steps to browse your photos with ease:

1. Click the top Photos category to see all of your photos organized chronologically into Moments. This is a great way to return to past events if you know roughly when they occurred.
2. Click Memories to see an automatically generated collection of the best photos from a previous event. This changes daily.

3. Use the gray Album icons to view photos that Photos has filed for you. Places, for example, shows photos by location, Selfies includes photos shot with the front-facing camera on your iPad or iPhone, and All Photos contains *everything*. Which albums are available depends on the photos you’ve shot. (We’ll look at a few of these special albums shortly).

4. When viewing a collection, use the Play icon to start a slideshow of the images.

5. Click the Share icon to share the contents of a collection (or any selected images).

6. Zoom in on your photo thumbnails using the zoom slider in the toolbar.
7. Set favorite photos by hovering over a photo and clicking the heart icon in the lower-left corner of the thumbnail. These photos (surprise, surprise) are automatically added to the Favorites album.

View Photo Details
Looking at photo thumbnails is fine, but what if you want to see the details and admire your exquisite composition? To see an individual photo up close, follow along:

1. Navigate to the photo you want to see. Double-click to zoom into the photo.
2. Click the hide/show thumbnails icon to view a list of thumbnails of other photos in the collection at the bottom of the window. You can click and drag within this scrolling list to switch between photos.
3. Click the Details button to show the location the picture was taken and other related photos.
4. Use the heart to set the photo as a favorite.
Delete (Then Change Your Mind)

If you’re viewing a photo and decide you’d prefer that it “go away,” just press the delete key on your keyboard. Photos deletes it from all your devices. The photo, however, is stored in the Recently Deleted album for approximately 40 days before being permanently removed. If you have a change of heart, just open the Recently Deleted album, select the photos you want to keep, and then click Recover.

View and Edit Photo Details

Photos stores quite a bit of information about each photo you take. Your camera (likely) already includes the location the photo was taken, but you can also set attributes such as a title, keywords, a description, and you can identify people in the photo:

1. When viewing a photo as described in the previous task, click the i icon in the toolbar.
2. Within the Info window, use the available fields to type a title, description, and keywords, if desired.

3. If people are visible, click the + button to add a draggable circle to the photo. Position the circle over each person and provide a name. (Face recognition is covered later in this chapter.)
Late Summer River
IMG_1514.JPG
September 4, 2016 10:03:29 AM

Apple iPhone 6s Plus
iPhone 6s Plus back camera 4.15mm f/2.2
4032 x 3024 5.2 MB
ISO 25 4.15mm 0 ev f/2.2 1/40

Picture of the River

River

Add Faces

Florence, Ohio, United States
Edit Photos
What fun is editing text descriptions of a photo when you can edit the photo itself? To adjust the visual appearance of a photo, follow these steps:

1. When viewing a photo, click the Edit Photo button (three tiny sliders on top of each other) in the toolbar.

2. Use the Enhance tool to automatically adjust the color and contrast of the image.

3. Click Rotate to spin the image 90 degrees.
4. Click Crop to adjust the borders of the image to remove unwanted objects.
5. Click Filters to choose between different filter effects that you can apply to the image.
6. Click Adjust to set the brightness, saturation, or create a black and white version of the photo.
7. Use the Retouch tool to fix simple blemishes within the photo.
8. Click Revert to Original to undo any changes.
9. Click Done when finished.
Managing and Searching Albums

After you’re comfortable with finding your way around the built-in albums, you can start creating your own organization within Photos. Photos can actually do quite a bit of the organization for you using built-in object recognition.

Identify Faces

Photos can find faces in your pictures, and, with a bit of help, figure out who they are. After you’ve set identities for the faces it has identified, you can use the People gallery to quickly view any photos in any album that contain your friends and family (or whomever you take pictures of):

1. Click the People album in the sidebar.
2. Faces you’ve already identified are located at the top of the window. You can click any face to view all the photos they’ve been located in.
3. Photos at the bottom still need to be identified. To assign a name to a face, click below the face where the text Add Name appears.
4. Enter a name. As you type, matching contacts are shown. Click one if possible. Photos will now recognize this individual in any existing or new photos!

More Faces
If you don’t see the face you’re looking for, click the + labeled with Add People to see all faces detected in your photos. By default, only individuals who show up several times are visible.
Create and Fill Albums

Apple provides many different built-in albums, but they’re far from personalized. To make Photos “yours,” you’ll want to create your own albums and organize photos how you see fit.

To create (and populate) a new photo album, follow along:

1. Hold Command while clicking photo thumbnails to select the images you want to add to an album.
2. Click + in the Photos toolbar and choose Album.
3. Choose an existing album to add the photos to, or type the name of a new album to create.
4. Click OK.

5. The album is created with your chosen photos and can be selected in the sidebar. You can drag additional photos from other albums into the new album, or add them using the technique described in this activity.
Define Smart Albums

In addition to albums, you can create Smart Albums that automatically update to contain photos that match certain search criteria, such as the attributes you learned to set in the “View and Edit Photo Details” task. Additionally, Smart Albums can use object recognition to create albums of common photographic subjects without any help.

Let’s walk through an example of creating a Smart Album of river photographs taken in 2016.

1. Click + in the Photos toolbar and choose Smart Album.
2. Provide a name for the Smart Album.
3. Choose to match any or all of the conditions.
4. Set the attribute, comparison, and value for each condition. The Text attribute matches a simple noun that describes an object in the photo. In this example, I search for *River*.
5. Use the +/- buttons to add or remove additional conditions. Here, I added two conditions, the second checking the date of the photo to make sure it falls within 2016.
6. Click OK to create the Smart Album.
7. The Smart Album appears in the left sidebar, and, when selected, magically shows all matching photos, regardless of what albums they are in.
Search Your Albums
Searching photos works using the same magic as Smart Albums. You can search your entire photo library using the attributes you’ve set on images, or the automatic object identification feature of Photos:

1. Type a search term into the Search field.
2. If an object or attribute is identified, it is shown below the Search field. Click it.
3. The Photos window refreshes to show all the matching photos. Yes, it really does recognize Pomeranians!
Search with Siri

As mentioned in Chapter 1, “Managing Your Desktop,” Siri can actually search your photo library for you. For example, if I want to see all the pictures of my dog that I took in the last month, I’d tell Siri “Show me my photos of Pomeranians from the last month.”

Work with Photos Projects

Part of the beauty of traditional photos is that you can hold them in your hand. With Photos, you can create cards, calendars, books, and prints of anything in your library. These are high-quality printed products that are shipped to you within a few days of placing an order.

Although I don’t have the space to go through every possible project type, these are the basic steps for creating a project:

1. Select the photos you want to include in your project, or an album that contains all the photos.
2. Click the + button in the toolbar and choose the project type you want.
3. The Photos project wizard presents choices to help design your project.
4. Make your selections, when prompted.
5. Photos creates a project within a Projects section in the sidebar.
6. Use the project editor to view and edit the different parts of your project (here, a greeting card with front, inside, and back).
7. Click the Settings button to set new themes, formats, and sizes.
8. Use the Layouts button to try different layout options.
9. Click the Buy button when you’re ready to purchase.
Building a Digital Library with iBooks

If music, TV, and photos aren’t your cup of tea, then perhaps a book will do. macOS supports full integration with Apple’s iBooks Store and enables you to shop for new titles and read them on your gorgeous Mac display. The iBooks application is very similar to iTunes, so make sure you’re comfortable with shopping for content on iTunes before continuing.

Start iBooks

Before you can start using iBooks, you need to walk through the setup wizard and log in with your Apple ID. Follow these steps to get ready to read:

1. Open iBooks from the Applications folder or Dock, or from Launchpad.
2. Click Get Started.

3. Click Sign In.
4. Enter your Apple ID and password information and click Sign In.

>>>Go Further: Hitting Your Limit

If you find that you’ve hit your maximum number of authorized systems (in iBooks or iTunes) you can use the Store menu to deauthorize the computer you’re currently using, freeing up a spot. Alternatively, you can choose View My Apple ID from the Store menu to view all authorized computers and a somewhat-hidden option to deauthorize all of them. You can only use this massdeauthorization once a year, however, so use it wisely!
When iBooks is up and running, your next step is adding content. If you’ve already purchased books on your iPhone or iPad, they show up automatically. If not, you can buy them on your Mac and use them later on your iOS devices.

Purchasing books in iBooks is identical to using the iTunes Store, so refer to the earlier section for a more detailed walk-through. To use iBooks to purchase new books, follow these basic steps:

1. If you are viewing the iBooks library (you see either books you already own, or a screen telling you your library is empty), visit the iBooks Store by clicking the iBooks Store button.

2. The iBooks window refreshes to show an iTunes-like store.
3. Use the toolbar buttons to choose between Featured content, Top Charts, NYTimes best sellers, Categories, and Top Authors.
4. Use the links and pop-up menu on the right-hand side to select between other popular book categories.
5. Search for books at the upper right using the Search field.
6. When you arrive at a title that you want, click the Buy Book button.
7. Enter your Apple ID and password.
8. Click Buy.
9. Click the Download icon to show your iBook download status.

Kindle Me
Not a fan of the iBook Store? If you’re a user of Amazon’s Kindle eBook service, you’ll find everything you need in a download of the Kindle app from the Mac App Store.

Viewing and Arranging Your iBooks Library
After you’ve made a few purchases, you can browse your virtual library—and even arrange your books into Collections. iBooks is perfectly suited to accommodate both prolific readers and the occasional book browser.

Browse the iBooks Library
To browse the iBooks library (assuming you’ve made a purchase or two), just follow along:

1. If you are within the iBooks Store, click the Library button to view your book library.

2. Click the All Books button to view all the content in your library.

3. Use the Sort By menu to set sorting criteria for the view.

4. Books marked with a cloud icon have not yet been downloaded to your computer. They download automatically when you open them.
5. Click the Authors tab to view the books by author, with a list of Authors on the left.
6. Click an author’s name to show the books written by that individual or click All Authors to show everything.
7. Click Categories to show books by category.
8. Click a category in the list on the left to show only the books in that category.
9. Use the List button to quickly view all books in your library and see whether they have been downloaded. A cloud icon indicates they haven’t been downloaded.
iBooks—It’s Not Just for iBooks

You can use iBooks to manage any content in ePub or PDF format. Just drag compatible files into your iBooks library and they’ll appear—ready for reading—just as if you had purchased them from the iBooks Store.

Organize by Collection

In addition to the sections that Apple provides for browsing your library, you can create your own organization with Collections. To view, create, and manage Collections, do the following:

1. Click the Collections tab at the top of the iBooks window.
2. Click the All collection to see all of your iBooks.
3. Click the Books collection to view all books, regardless of whether they were purchased or manually added.
4. Click PDFs to view all PDF files that were manually added to iBooks.
5. Click the + button to add a new Collection.
6. Name the Collection by clicking and typing (Recipe Books is used here).

7. Click and drag books from one of the predefined collections (All, Books, PDFs) into the new collection.
8. Collections help you organize your library as you see fit.
9. To remove a Collection, select it and press delete. The content in the collection is not removed (not shown).

Searching for Bobby Fischer
If you’ve amassed a huge iBooks collection and no longer know exactly where your favorite book is, you can quickly search your entire library using the Search field in the upper-right corner of the iBooks window.

Reading iBooks
Okay, you can buy books, you can organize them, but can you read them? Yes! iBooks does indeed enable you to read books. Not only can you read your books, but you can also make notes and highlights—and even change the color of your virtual paper!

Reading Basics
To get started reading with your favorite book and your favorite computer, first make sure that you’ve purchased the book and that it appears in the iBooks library. Then follow these steps:

1. Browse (using whatever method you’d like) to the book you’d like to read.
2. Double-click the title. If it hasn’t been downloaded yet, iBooks downloads it.
3. A reading window appears.

4. Position your cursor next to the edges of the screen and click the arrows to move from page to page. Alternatively, swipe with two fingers to move between pages.

5. Click and drag at the bottom of the page to quickly move through the book.
Then, of course, I realized I'd have to stop and take pictures and make notes along the way; I really wouldn't be the best judge of the passage of time here. So I enlisted my trusty assistant (who was also able to help me translate the Britishisms) to help out so that we could get a better idea of the time.

It went VERY fast. I'm sure that after a couple stabs at this recipe, four minutes would be no problem at all.

Also, have I mentioned yet how DEADLY DELICIOUS this is? I could eat about two spoonfuls before I was down for the count.

6. Click the list icon to show a table of contents for the book. Click any entry to jump to that page.
7. Click the book icon to return to the main iBooks library window.
Table of Contents

Title Page
Introduction
5-minute Chocolate Cake
5 Minute Bread Pudding for One
Tiny Turtles
4-minute Chocolate Mousse
5-minute Chocolate Balls
5-minute Ice Cream
5-Minute Pie
1-ingredient Ice Cream
Nectarine smoothie
5-Minute Breakfast Rice
5 Minute Perfect Deli-style Egg Bagel Sandwich in Microwave - Yummy
Two Minute Microwave Egg
Bruschetta Recipe
Avocado with agave and lime
Use Annotations

Have you ever found something in a book that you wish you could easily refer to in the future? With iBooks, it’s simple to create comments and highlights while you read—and you won’t get yelled at for destroying your books!

1. Browse to a point in a book that you want to annotate.
2. Highlight the text you are interested in.
3. A pop-over window appears next to your text.
4. Choose a color (or underline) to highlight the text.
5. Choose Add Note to set a note and highlight the text.

6. A note window is displayed. Type your message and then click outside the box.
7. View all your notes for a given book by clicking the Notes icon (a square box) in the toolbar.
8. The Notes sidebar lists all notes.
9. Click a note in the list to navigate to that note.
10. Use the magnifying glass icon to search your notes.
The More Menu

When you select text and bring up the annotation pop-over window, you see a More menu. Selecting More gives you the ability to search the Web/Wikipedia for the highlighted text, post it to social network sites, email it, or even hear it read aloud.

Add Bookmarks

If you’d prefer to just bookmark content within a book (rather than annotating it), you can use the one-click Bookmark tool. Follow these steps to bookmark (and return to) any page:

1. Navigate to the page that you want to bookmark.
2. Click the ribbon icon to toggle a bookmark on and off.
3. Click the down arrow beside the ribbon icon to show the bookmarks that have been set.
4. Select a bookmark to jump to that page.
Fine-Tune Your Reading Experience

If the default text size and screen color don’t make for a comfortable reading environment, Apple has provided some settings to customize the display. To change your book’s appearance while reading, follow these steps:

1. Click the A A icon in the toolbar while reading.
2. Use the buttons at the top to shrink or enlarge the text.
3. Use the White, Sepia, Gray, and Night buttons to set the color of the text and background.
4. Choose a font from the Book font list to set the type style for your book.
5. Click outside the menu to continue reading.
10. Installing and Managing Applications and Extensions on Your Mac
In this chapter, you learn how to install applications on your Mac and keep Sierra up to date, including:

- Browsing the Mac App Store
- Downloading and managing App Store applications
- Downloading and installing non–App Store software
- Working with OS X software distribution formats
- Setting up Family Sharing of purchases
- Configuring software updates and auto downloads
- Managing extensions

Up to this point in the book, you’ve been looking at software that came as part of Sierra. That’s a bit limiting, don’t you think? There is a wide world of software waiting to enhance your computing experience—including upgrades to Sierra itself.
Through the use of the Mac App Store and its built-in update mechanism, you can install new applications, new extensions, and widgets, keep them up-to-date, and keep your Mac running smoothly and securely. When that isn’t enough, you can turn to thousands of other non-App Store apps that run natively on your Mac.

The Mac App Store
Applications make a Mac a Mac. As intangible as it is, a certain “something” about using a Mac application is rarely replicated on a Windows computer.

When you’ve become accustomed to the day-to-day operation of your Mac, you’ll likely want to begin installing third-party software. The easiest place to do this is through the Mac App Store. Like the popular App Store for iOS devices, the Mac App Store is a one-stop shop for thousands of applications and extensions that you can install with point-and-click ease.

Log In to the App Store
To log in to the store, follow these steps:

1. Open the App Store application from the Dock, Launchpad, or Applications folder.

Creating an ID
To use the Mac App Store, you need a registered Apple ID. The same account you used to access iCloud in Chapter 4, “Setting Up iCloud and Internet Accounts,” will work just fine. If you don’t have an ID, you can create one directly in the App Store.

2. The App Store window opens.
3. Click Sign In from the Quick Links on the right side of the page.
4. Provide your Apple ID and password.
5. Click Sign In.
6. Your Login Status and links to your account information are shown in the Quick Links section.
Browse for Software

Part of the joy of using the App Store is that browsing is simple and fun—and, like iTunes and iBooks, it works in the same manner as a web browser. As you encounter links (such as See All), click them to view more information. You can browse within a variety of categories that cover the gamut of what you can do on your Mac:

1. Follow steps 1–6 of the previous task, “Log In to the App Store.”
2. Click the Featured icon to browse apps tagged by Apple as New and Noteworthy or Hot.
3. Click Top Charts to see the apps that are currently selling the best or being downloaded the most.
4. Click Categories to browse by the different types of software (games, business, developer, and so on).
5. When you see something you’re interested in, click the icon or name.
6. A full page of app information, including reviews, opens.

7. Use the Forward and Back buttons to move back and forth between pages, just like a web browser.
Quick Links for Faster Browsing

The featured page actually contains more than the new/hot apps. In the column on the right side of the page, you can quickly jump to specific app categories to see Top Paid apps, Top Free apps, Extensions, and more without leaving the page.

Search for Software

Sometimes you might know the software title you want but do not know where it is located. In these cases, you can simply search the App Store:

1. Follow steps 1–6 of the earlier task, “Log In to the App Store.”
2. Type a search term or terms into the field in the upper-right corner. You can use application names, categories (news, for instance), and even author/publisher names.
3. As you type, a list of possible searches appears. Click one if you want to use it; otherwise, press Return to use the search term you’ve typed.
4. The Search results are displayed.
5. Use the Sort By menu to choose how the results are sorted within the window.
6. Click app icons or names to view more information.
Purchase Software

When you’ve decided to purchase software, the process couldn’t be simpler. Follow these instructions to download and install software on your Mac:

1. Browse or search for a software title, as described in the previous tasks, “Browse for Software” and “Search for Software.”
2. From within the search/browse results or the larger information page, click the Price button.
3. The Price button changes to read Buy App. If the title is free, it reads Get. Click the Buy App (or Get) button.

Remember It on Payday!
The right side of the Price button for an app has a downward-pointing arrow. This is actually a separate button that opens a pop-up menu. Use this menu to copy a link to the app or to send an email message to someone (maybe yourself) about the app.

4. Provide your App Store Apple ID and password, if prompted.
5. Click Buy.

6. The application immediately downloads to your Applications folder and is visible in Launchpad.

>>>Go Further: Sparkling New Apps
New apps you purchase through the App Store have a blue dot beside their names in Launchpad, helping you see what has been added.

It’s Not All Good: I Don’t Want It—Make It Go Away!
If the App Store makes it so easy to install things, it certainly makes it easy to delete them, right? Yes and no. The App Store is used for installing, but Launchpad is used to uninstall the apps. Learn about Launchpad in Chapter 2, “Managing Your Applications and Windows.”

Apps That Aren’t Apps
You’ll notice that I frequently refer to “software” rather than apps. Starting in El Capitan and expanding in Sierra, you can purchase extensions in addition to apps. Although the process is the same, extensions don’t act as apps—they offer features in your existing applications, provide new ways of sharing, give you simple utilities and controls in the Notification Center, and enhance the capabilities of Safari. How to manage extensions is covered a bit later in this chapter.

Reinstall Software and Install Purchases on Other Macs
One of the best things about buying applications through the App Store is that you can install them on other Macs you own. No licensing hassles—just download and go. You can also reinstall software that you may have deleted in the past but want to start using again. To download a title that you (or possibly a family member) have purchased, but that isn’t installed, follow steps 1–6 of the “Log In to the App Store” task and then complete these steps:

1. Click the Purchased icon at the top of the App Store window.
2. The Purchases list is displayed, along with a button/label showing the status of each app.

Family Sharing
With Family Sharing in Sierra, you can set up a “family” of people who can share purchases among themselves. Read more about this later in the chapter.

3. Apps labeled as Open are currently installed and up to date.
4. Click the Install button to install (or reinstall) an app that you already purchased. This button is labeled Download if you’ve purchased the app on another computer.
5. Click the Update button to update a piece of currently installed software.
Auto-Install Your Apps!

Sierra prompts you to turn on automatic downloading of apps that you download on other machines. If you activate this feature, any software you download on one Mac is automatically downloaded on any other Mac logged into the Mac App Store with your account. You can also control this via the App Store Preferences panel, which you learn about later in this chapter.

Hide Apps You No Longer Want

I’ve downloaded a lot of apps; you probably will, too. Unfortunately, these won’t all be apps you want to keep updating (or even remember that you installed). To hide an app from the update list, follow these steps after logging into the App Store.

1. Click the Purchased icon at the top of the App Store window.
2. Right-click the item you want to hide.
3. Choose Hide Purchase. A confirmation dialog box displays.
4. Click Hide Purchase to remove the item from the update list.

**Find What’s Missing**

To show the items that you’ve hidden, choose the Account quick link from the right side of the Mac App Store after following the instructions in the section “Log In to the App Store.” Use the Hidden Purchases options to show the hidden apps.
Installing Non–App Store Applications

The App Store is great, but that doesn’t mean that it defines the limits of what you can do on your Mac. There are certain restrictions in place on the App Store that make some pieces of software impossible to distribute through that site. There are also thousands of developers who want to sell and market their applications through their own websites.

By default, Sierra enables you to install and run any software you want—but this can be disabled by an administrator. Read the section “Application Execution Security,” in Chapter 14, “Securing and Protecting Your Mac,” to learn how to adjust the controls to enable (or disable) software installations on your Mac.

Installing software from non–App Store sources is frequently a matter of browsing the Web in Safari, clicking a download link, and copying the application to your Applications folder.

Getting the Lowdown on the Download

Recall that Sierra has a Downloads folder available in your Dock. Software archives that you download in Safari or most other Mac applications are stored in this location.

Unarchive Zip Files

A decade ago, almost all Mac applications were distributed in a compressed archive format called SIT (Stufflt). Today the Mac has adopted a standard used on Windows and other platforms called zip files. A zip file can contain one or more compressed files.

To unarchive a zip file and access the contents, follow these steps:

1. Find the file that you want to unarchive, and double-click it.
2. Unarchiving can be virtually instantaneous or can take several seconds, depending on the archive size.
3. The contents of the archive are made available in the same folder where the zip file is located.
**Just StuffIt**

If you find that you need to deal with a StuffIt file, you can download StuffIt from www.stuffit.com. Despite the decreasing use of the format, it has been actively maintained over the years.

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**Access Disk Images**

Sometimes applications are distributed on a disk image, or DMG file. When mounted on your system, DMGs act like a virtual disk drive. Files in a DMG must be copied off the disk image by way of an installer or a simple drag-and-drop process.

To mount and access the contents of a disk image, follow this process:

1. Find the disk image you want to access.

2. Double-click the DMG file. The disk image mounts and appears as a disk in the Finder.
3. Access the files in the disk as you would any other storage device.

4. To eject the disk image, click the Eject icon beside the mounted disk in the Finder sidebar or drag it to the trash.
Go Further: Where Can I Find Software for My Mac?

Apple writes great applications for maintaining a mobile lifestyle, but third-party publishers have created utilities that meet or exceed Apple’s own efforts. Many websites track Macintosh applications, but one of the best is MacUpdate (https://www.macupdate.com).

Sharing Purchases with Family Sharing

Sierra includes the ability to activate Family Sharing. Family Sharing makes it possible to share music, book, and app purchases among up to five additional accounts. These five individuals (presumably family and/or friends) will have access to your downloads and will be able to download and redownload content that you’ve purchased on the App Store, iTunes, or the iBook Store. Each family has an “organizer” who manages purchases. As the organizer, you are responsible for paying for the purchases made by your family.
Set Up Family Sharing (Organizer)

To set up a new Family Sharing account, open System Preferences, and then follow these steps:

1. Open the iCloud Preferences panel.

2. Click the Set Up Family button. You might be prompted for your Apple ID login.

3. Click Continue on the Intro screen that appears (not shown).

4. Click Continue to acknowledge that you want to be the organizer for your family.
5. Family Sharing prompts for the account to use for purchases. Click Continue to move on or click Use a Different Account to enter another Apple ID.

6. Click Continue to acknowledge the payment source you’ll be using for purchases. If your account does not have a payment type associated with it, you’re prompted to enter one.
7. Click the check box to Agree to the Family Sharing terms.
8. Click Continue.

9. Family Sharing setup is now complete. You can click the “(Me)” entry on the left to edit your account information, if desired.
10. Click Done to finish the initial Family Sharing Setup.

Add a Family Member
To add a new member to Family Sharing (remember you can have up to six, including yourself), open System Preferences and then complete these steps:

1. Open the iCloud Preferences panel.
2. Click the Manage Family button.
3. Click Add Family Member on the management screen, or click the + button.
4. In the Add a Family Member dialog, use the first radio button and field to select and enter the email for a family member you want to invite.

5. If you’d like to make a new account for a child, click the second radio button to be guided through a new account wizard.

6. Click Continue.
7. Enter the verification information requested.
8. Click Continue to move on.
9. When prompted, you can use the first radio button and field to ask the family member to enter his or her password (on your Mac) to immediately join the family.

10. If your family member would rather accept on his or her own device, select the radio button beside Send an Invitation. This delivers an email with a link for the invitee to join your family.

11. Click Continue to move on.
12. The invitation is sent, and macOS shows the status.
13. Click Done to exit family management.
Manage Family Members

To manage your family members and invitees, open System Preferences and then follow along:

1. Open the iCloud Preferences panel.

2. Click the Manage Family button.
3. In the list on the left, click the Organizer line to manage your personal settings.
4. Click individuals whom you’ve previously invited to resend their invitation.
5. Click other members to configure their settings and to choose whether they can approve others’ purchases.

6. Click the – button to entirely remove a member. This eliminates his or her ability to use the purchased family content.

7. Click Done to finish managing your family.
Your family is whomever you choose. Apple isn’t going to ask for DNA evidence of your relationship. Be aware, however, that when you set up Family Sharing, you also create a shared family calendar and family reminders group that automatically shows up for all the members. You also automatically share your iOS device locations (if you have an iPhone or iPad) and create a shared photo stream among all family members.

Keeping Your Applications and Operating System Up to Date
Keeping your operating system and applications up to date is important both from the standpoint of maintaining your system security and providing the best possible user experience. With Sierra, you can activate an automatic update process that periodically checks and prompts you
with available updates. You can even set all your Macs to automatically download applications that you’ve purchased through the App Store—ensuring a seamless computing experience moving from system to system.

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**How Will I Be Notified of an Update?**

All Sierra software update notifications appear in the Notification Center. Using the controls on the notification, you can postpone its install or have it applied immediately. To learn more about the Notification Center, refer to [Chapter 1](#), “Managing Your Desktop.”

---

**Configure Software Updates and Auto Downloads**

To configure how your Mac handles software updates and new downloads from Apple, follow these steps:

1. Open the App Store System Preferences panel.

2. Select the Automatically Check for Updates check box to have your system periodically look
for new software downloads.

3. Check Download Newly Available Updates in the Background to have your system download the update packages while it is idle so that they are available to install when you are ready.

4. Check Install App Updates to keep all your App Store purchases automatically updated.

5. Check Install macOS Updates to ensure your operating system is always on the latest possible version.

6. Choose Install System Data Files and Security Updates to keep many of the critical OS files automatically updated without any interaction required.
7. If you’d like all your App Store purchases to be downloaded automatically to your Mac, check Automatically Download Apps Purchased on Other Macs.

8. Click Check Now to immediately check for new updates.

9. To configure when passwords are required for downloads, use the Purchases and In-App Purchases and Free Downloads pop-up menus.

10. Close the System Preferences when finished (not shown).

Manually Apply Software Updates
If you’re like many people (myself included), you want the latest and greatest without waiting. With the Mac App Store, you can manually update your system as soon as updates become available. Sierra manages your applications and system updates in a single location.

To check for and install application and OS updates, do the following:

1. Open the App Store.

**Notification Badges**

The App Store icon and App Store menu item under the Apple menu display a counter badge listing the number of updates available to you. Update notifications also appear in the Notification Center.

2. Click the Updates button in the App Store toolbar.
3. All your available app updates are listed.
4. Click the Update All button to update all software at once.
5. Click an individual Update button to update only that app.
6. Update progress appears in the App Store window, but you don’t have to wait to continue using your computer. The updates are automatically installed in the background.

Confirming Updates

Depending on the type of update, you might be asked to give your password and accept any applicable software license agreements before an update is installed. You might also be required to quit running applications or even reboot your Mac for low-level OS updates.
Go Further: Micromanage Your Update Schedule

To force your updates to occur at a specific time, click the right side of the Update All button. This displays a drop-down menu that enables you to choose when (in an hour, tomorrow, and so on) updates should be applied.

Managing Extensions

Extensions enable you to customize how your Sierra system looks and works—without compromising its security. This great feature, however, isn’t front and center in the user interface. You’ve seen how to use built-in extensions in other chapters, but how do you add new ones to your system?

To find extensions, you need to read the notes that come with the applications you download from the Mac App Store. Apps may come packaged with extensions, and app updates may even add extensions. Frankly, you probably won’t even know when you download an extension—until you go looking for it.

Manage Installed Extensions

After you install an application that adds an extension, you need a way to manage it. The Extensions panel comes in handy here. Follow these steps to keep your extension software in order:

1. Open the Extensions System Preferences panel.

2. Choose a category on the left—All, Actions, Finder, Photos, Share Menu, and Today.

3. Within each category, use the check boxes to enable or disable an extension. If an option is grayed out, you cannot modify it.
4. Some categories, such as the Share Menu, let you click and drag to reorder where the extensions appear.
Use Apple and third-party extensions to customize your Mac.

All
All third-party extensions

Actions
Pixelmator, Markup

Finder
Dropbox

Photos
Markup

Share Menu
Add to Reading List and 16 more...

Today
Find My Friends and 4 more...

Select extensions for sharing with others:

- Add to Reading List
- Mail
- AirDrop
- Twitter
- Facebook
- LinkedIn
- Vimeo
- Flickr
- Add to Photos
In this chapter, you find out how to make your Mac hardware work its best for your particular needs, including:

- Balancing performance and battery efficiency
- Fine-tuning the keyboard settings
- Adjusting trackpad and mouse gestures
- Setting sound input and output
- Configuring display resolution and color
- Recording audio and video
- Optimizing storage

When you purchased your Mac, you bought more than just a “computer”—you bought a power system, monitor, keyboard, trackpad (and maybe a mouse), video camera, microphone, and speakers! On a traditional desktop system, these might all be separate components, but on your Mac they’re part of a tightly integrated package.

To help personalize your Mac, you can adjust many of the settings available for these hardware
devices, such as enabling trackpad gestures, setting a system boot and shutdown schedule, setting up your microphone for dictation, and much more. Sierra even includes a few out-of-the-box tricks such as video, audio, and screen recording that let you take advantage of the built-in FaceTime HD camera (except on the Mac Mini) without needing any additional software.

**Energy-Saving Settings**

If you’re a MacBook owner, chances are you frequently use it just like a desktop computer; battery life is a non-issue. When you’re on the go, however, the battery becomes the lifeblood of the system. You need to make sure that you get the performance you need from your system when you need it. Monitoring the battery life of your computer is necessary to keep you aware of when you need a recharge and to determine whether issues are occurring with your MacBook’s built-in battery.

For non-MacBook users, you don’t need to worry about batteries running down, but that doesn’t mean you should waste electricity. Configuring settings for how long the computer waits for input before its energy-saving settings kick in is a good way to make sure you’re being energy-conscious.

**Monitor Battery Life and Application Energy Use (MacBook Only)**

Follow these steps to use and configure the Sierra battery status monitor:

1. By default, the battery status is shown in a battery icon in the menu bar. The dark portion of the battery indicates the remaining life of the battery.

2. Click the battery icon to show the amount of time remaining until the battery power is exhausted, or, if the MacBook is plugged in, until the battery is recharged.

3. Review the applications listed in the Apps Using Significant Energy section. If you aren’t using these apps, quit them to conserve battery life.

4. Use the Show Percentage option to include the percentage of the battery life left directly in the menu bar.
Battery Status
If battery status is not visible in your menu bar, it has been manually removed. You can re-add the icon to the menu bar using the option Show Battery Status in the menu bar in the Energy Saver System Preferences panel.

Battery Condition
If you suspect something might be wrong with your battery, the Battery Status menu tells you. If you don’t see any warnings, you’re fine! To force the menu to show the condition of your battery at any time, hold the Option key and open the Battery Status menu.

Configure Display, Computer, and Hard Disk Sleep
To help improve battery life, Sierra includes the Energy Saver System Preferences panel.

1. Click the System Preferences icon on the Dock to open it, and then click the Energy Saver icon.
2. Click the Battery button to configure the system for when it is running on battery power (not available on desktop Macs). Click Power Adapter to access the settings for when it is connected directly to a power adapter.

3. Drag the sliders to set the period of inactivity after which your Mac puts itself into Sleep mode. Some Macs might show separate sliders for the Mac and for an external display.

4. Select Put Hard Disks to Sleep When Possible to shut down your hard drive when it’s not in use. This helps save power but sacrifices some speed.

5. Select Slightly Dim the Display While on Battery Power to have your display run at a lower brightness level and conserve energy.

6. Select Enable Power Nap While on Battery Power to have your Mac wake occasionally for backups and network updates while sleeping. What your system does depends on whether it is running via Battery or Power Adapter.

7. Close the System Preferences.
**Powered Options**

The Power Adapter options include a few additional settings not available when running on battery—including the ability to wake up for network access and preventing the Mac from sleeping automatically (such as when the MacBook display is closed).

---

**Create a Sleep/Wake Schedule**

If you have a daily schedule and want your Mac to follow it, you can configure wake-up and sleep/shutdown times. Follow these steps to set a power schedule for your system.

1. Click the System Preferences icon on the Dock, and then click the Energy Saver icon.
2. Click the Schedule button at the bottom of the window.

3. To have your computer start up on a schedule, click the check box beside Start Up or Wake.

4. Use the Every Day pop-up menu to set when (weekdays, weekends, and so on) the startup should occur.

5. Set the time for the computer to start up.

6. To configure your computer to go to sleep, shut down, or restart, click the check box in front of the Sleep pop-up menu.

7. Use the Sleep pop-up menu to choose whether your Mac should sleep, shut down, or restart.

8. Configure the day and time for the shutdown to occur, just as you did with the start options in steps 4 and 5.

9. Click OK.

10. Close the System Preferences.
Updating Keyboard and Dictation Settings

Having trouble getting used to your keyboard? Never fear! Using the built-in keyboard settings, you can adjust the keyboard repeat rate, key delay, and even set system-wide shortcuts for trackpad and mouse-free operation.

If you prefer to talk rather than type, Sierra includes built-in dictation, accessed from anywhere with a single keystroke.

Set Keyboard Repeat Rate

To choose how frequently the keys on your keyboard repeat, and how long it takes to start repeating, follow these simple steps:

1. Click the System Preferences icon on the Dock, and then click the Keyboard icon.
2. Click the Keyboard button at the top of the panel.

3. Use the Key Repeat slider to set how quickly letters appear when you hold down a key on your keyboard. Move the slider all the way to the left to turn off repeating.

4. Move the Delay Until Repeat slider to choose how long you must hold down a key before it starts repeating.

5. Close the System Preferences.
Using Function Keys

You’ve probably noticed that the top row of keys on your Apple keyboard has special functions, such as dimming the display, changing the volume, and so on. These keys, however, are also function keys that your applications might need. To set the keys to always work as function keys without having to hold down the fn key, click the Use All F1, F2, etc. Keys as Standard Function Keys check box.
Change Keyboard Illumination (MacBook Only)

When it gets dark, your keyboard comes to life, lighting the way for your typing. To activate this function and control how long the lighting stays on, follow these steps:

1. Click the System Preferences icon on the Dock, and then click the Keyboard icon. (Make sure the Keyboard button is chosen in the panel that opens.)

2. Check the Adjust Keyboard Brightness in Low Light box to automatically turn on the keyboard backlight when your environment gets dark.

3. Drag the Turn Off slider to choose how long the keyboard remains lit when your computer is idle.

4. Close the System Preferences.
Setting Keyboard Brightness... from Your Keyboard

You can adjust keyboard brightness using the keyboard dim/bright keys (F5 and F6).

Creating Keyboard Shortcuts

At times you might find yourself working with your Mac and thinking, “Geez, I wish I could just push a key for that rather than having to mouse around.” Using keyboard shortcuts, you can create key commands for almost anything. There are two types of shortcuts supported in Sierra—traditional
shortcuts where you must press a key combination, and text shortcuts where you type a certain text string and it is substituted with another. We will start with the latter.

**Enable Text Shortcuts and Spelling Correction**
To set a shortcut for frequently typed text, follow these steps.

1. Click the System Preferences icon on the Dock, and then click the Keyboard icon.

2. Click the Text button at the top of the panel.

3. Select the Correct Spelling Automatically check box to enable auto-correct across all your applications.

4. Click Capitalize Words Automatically to have macOS capitalize the first word in your sentences.

5. Enable Add Period with Double-Space to automatically insert a period when you press the spacebar twice—just like in iOS.

6. Select the Use Smart Quotes and Dashes check box to enable straight quotes to automatically be replaced by characters of your choosing.
7. Set the drop-down menus for Double Quotes and Single Quotes to the characters you’d like to appear. The default is smart (“curly”) quotes.

8. Click the + button at the bottom of the list on the left to create a text replacement shortcut.

9. Use the left column field to enter the shortcut text you want to type (“brb,” for example).

10. Use the right column to enter the full text it should be replaced with (“Be right back”).

11. Use the – button to remove any shortcuts you are no longer using.

12. Close the System Preferences.
Set Shortcuts for Existing Sierra Actions

To set the shortcut for an existing system feature, follow these steps:

1. Click the System Preferences icon on the Dock, and then click the Keyboard icon.
2. Click the Shortcuts button.
3. Choose one of the Sierra system features from the left pane.
4. Scroll through the list of available actions in the right pane.
5. Click the check box in front of an action to enable it.
6. Click to the far right of an action name to edit its shortcut field.
7. Press the keys that you want to assign to the shortcut. If you are setting an F-key (for example, F12) that already has another function, you need to press the Function (fn) key on the keyboard to set the F key as the shortcut.
8. Close the System Preferences after making all of your changes.
Set Shortcuts for Arbitrary Applications

To configure a shortcut that works with an arbitrary application (not a built-in feature) do the following:

1. Click the System Preferences icon on the Dock, and then click the Keyboard icon.
2. Click the Shortcuts button.
3. Click the App Shortcuts entry in the list on the left side of the window.
4. Click the + button at the bottom of the shortcut list.
5. In the dialog box that opens, use the Application pop-up menu to choose an application for which you want to assign a shortcut.
6. Enter into the Menu Title field the exact wording of the menu item that you want the keyboard shortcut to invoke.
7. Click into the Keyboard Shortcut field and then press the keys you want to set as the shortcut.
8. Click Add when you’re satisfied with your settings.
9. Close the System Preferences.
If you find that your Mac’s keyboard is tiring your fingers, you might want to switch to using the macOS dictation feature. This enables you to input text anywhere using your voice. The only requirement is that you work in a noise-controlled environment (or have a high-quality headset). In Sierra, you have the option of performing voice recognition by Apple’s cloud servers or locally on your machine.

**Enable Dictation**

To enable dictation support and configure how it is triggered, follow these steps:

1. Click the System Preferences icon on the Dock, and then click the Keyboard icon.

2. Click the Dictation button at the top of the panel.

3. Click the On radio button to turn on dictation support.

4. Click Use Enhanced Dictation to enable local (non-iCloud) dictation support. You need about 1.2 GB of free space for Sierra to download additional software.

5. Click the label below the microphone image to set your preferred input mic.

6. Use the Shortcut drop-down menu to configure what key combination will start dictation.
7. Set the language you will be speaking using the Language drop-down menu.
8. Close the System Preferences when finished.

Use Dictation
To use dictation, you must have it enabled (see the preceding task) and have an active Internet connection. If you meet those qualifications, just complete these steps to enter text with your voice:

1. Position your cursor where you want to dictate.
2. Press the key combination you configured when enabling dictation (not shown).
3. The dictation microphone appears. Begin speaking now—be sure to speak the name of the punctuation symbols you want to insert, such as “period,” “comma,” and so on.
4. Press any key or click Done to end dictation. After a short pause, the spoken text is inserted into the document.

Changing Trackpad and Mouse Options
Whether you’re a mouser or a trackpad devotee, Apple’s hardware offers precision input in a multitouch package. Although these devices are intuitive for beginners, they can be customized to provide advanced features within Sierra. Using the Trackpad and Mouse preferences, you can fine-tune the operation of your input device and set up different multifinger gestures in popular applications.

Perfect Pairing
If you’ve just purchased a new input device and need to connect it, skip ahead to Chapter 13, “Connecting Peripherals to Your Mac,” for details on Bluetooth pairing.

Set the Trackpad Speed and Click Pressure
To choose how quickly your trackpad follows your input, follow these steps:
1. Click the System Preferences icon on the Dock and then click the Trackpad icon.
2. Click the Point & Click button at the top of the window.

3. Choose how quickly the cursor moves by dragging the Tracking Speed slider.

4. If you have a new Force Touch trackpad, use the Click pressure and Force Click and Haptic Feedback options to configure how hard you have to click and whether a “force click” (pushing extra hard) registers with Sierra. You can even set the device to not make a sound with the Silent Clicking check box.

5. Close the System Preferences.
Control Trackpad Gestures
Apple trackpads can take advantage of a wide range of different two-, three-, and even four-finger motions to control your applications.

1. Click the System Preferences icon on the Dock, and then click the Trackpad icon.
2. Use the Point & Click settings to configure click and drag options and dictionary look-ups.

3. Use the Scroll & Zoom settings section to control scrolling, rotation, and pinching gestures.
4. The More Gestures settings control advanced features, such as whether swiping to the left or right moves forward or backward in Safari and how Mission Control is activated.
5. Many settings contain a drop-down menu for fine-tuning the gesture.
6. As you mouse over a particular setting, a video demonstrating the action appears in the right side of the window.
7. Close the System Preferences after making your changes.
Configure the Magic Mouse Speed

The Apple Magic Mouse is a multitouch trackpad and mouse in one. Although it doesn’t support nearly as many gestures as the trackpad, it’s still a capable device. To configure the Magic Mouse tracking speed, follow these steps:

1. Click the System Preferences icon on the Dock, and then and click the Mouse icon.
2. Click the Point & Click button at the top of the window.
3. Choose how quickly the cursor moves by dragging the Tracking Speed slider.
4. Close the System Preferences.
Configure Magic Mouse Gestures

To set up the different single and two-finger gestures supported on the Magic Mouse, complete the following:

1. Click the System Preferences icon on the Dock, and then click the Mouse icon.
2. Use the Point & Click settings to configure click, scrolling, and zooming.
3. The More Gestures settings control advanced features, such as whether swiping to the left or right moves forward or backward in Safari and how Mission Control is activated.

4. Some settings contain a drop-down menu for fine-tuning the gesture.

5. As you mouse over a particular setting, a video demonstrating the action appears in the right side of the window.

6. Close the System Preferences after making your changes.
If You Have to Choose...

Choose the trackpad. Even if you are a life-long mouser, you’ll find that Apple’s trackpad gesture support integrates perfectly into Sierra and makes performing common tasks similar to using an iPad.

Adjusting Your Display

Your Mac’s display is your window into your computer, so it’s important that you configure your display to best suit your needs. For detailed CAD or drawing, you might want to use the full resolution. Gamers looking for the fastest framerates or late-night typing might call for a larger (lower resolution) option. Using the Display settings, you can control the image so that it’s right for the task.
Set Display Resolution

Display resolution is the number of pixels viewable on the screen at any time. Lower the resolution for a larger image—or raise it for smaller details. To control the screen resolution on your system, follow these steps:

1. Click the System Preferences icon on the Dock, and then click the Displays icon.

2. Click the Display button at the top of the panel.

3. Click the Scaled radio button. Alternatively, the default radio button (Default for Display) chooses the best option for your system.

4. Choose one of the listed resolutions to immediately switch your display. Note that some resolutions might look fuzzy on your screen because your Mac has to scale the images.

5. Close the System Preferences.
What Are Mirroring Options?

When setting your display resolution, you’ll notice a check box for showing Mirroring Options in your menu bar. This is for working with external displays that can mirror your Mac’s screen. You can read more about this feature in Chapter 13.

Control Display Brightness

Display brightness is a personal setting; some individuals like muted, dimmed displays, and others prefer the colors provided with full-brightness settings. To set the brightness of your display, follow these steps:

1. Click the System Preferences icon on the Dock, and then click the Displays icon.
2. Click the Display button at the top of the panel.
3. Drag the Brightness slider left or right to dim or brighten the display.
4. Click the Automatically Adjust Brightness check box to have your screen dim or brighten depending on the time of day and your room’s ambient lighting.
5. Close the System Preferences.
Adjusting Brightness from Your Keyboard

You can also adjust display brightness using the dim/bright keys (F1 and F2) on your keyboard.

Choose a Color Profile

Color profiles help keep colors consistent between computers with different monitors. By choosing a color profile calibrated for your display, you ensure that colors you see on one machine match a similarly calibrated display on another machine. To choose a calibration profile, follow these steps:

1. Click the System Preferences icon on the Dock, and then click the Displays icon.
2. Click the Color button at the top of the panel.
3. Click the preferred profile in the Display Profile list. The changes are immediately applied.
4. Close the System Preferences.
Where Do These Profiles Come From?

You can add profiles to your system by installing software or by running the calibration procedure (described in the next section), which creates your own personalized color profile.

Calibrate the Display

If you’d like to calibrate your display manually, Sierra provides a wizard-like interface for choosing the best display settings for your Mac.

1. Click the System Preferences icon on the Dock, and then click the Displays icon.
2. Click the Color button at the top of the panel.
3. Hold down Option and click Calibrate.
4. The Display Calibrator Assistant starts.

5. Click the Expert Mode check box to get the best results. (This isn’t visible if you didn’t hold down the Option key while starting calibration.)

6. Click Continue to proceed through the assistant.
7. Follow the onscreen instructions to test the output of your display and click Continue to move on to the next screen.
8. When finished, enter a name for the new calibrated profile.
9. Click Continue to save the profile.
10. The new profile is added to the color profile list.
11. Close the System Preferences.
Setting Sound Input and Output
Sound has never been an afterthought on Macintosh systems, and yours is no different. Your system is equipped with a stereo sound system, headphone jack, microphone jack (shared with the headphone jack in recent models), and even digital audio out. You can configure these input and output options to reflect your listening needs.

Set the Output Volume and Device
Volume, as you might expect, is one control needed system-wide. To control the output volume of your system, or to choose what device is used for sound output, follow these steps:

1. Click the speaker icon in the menu bar.
2. Drag the slider right to increase the volume, or slide it left to decrease the volume.
3. Drag the slider all the way to the left to mute all output sounds.
4. From the list below the slider, choose an audio output device from any that your system recognizes. Internal Speakers is the default setting.
Quick Audio Input/Output Access

If you need quick access to change your audio input device as well as the output device, just hold Option while clicking the speaker icon. The menu changes to show both input and output devices.

Keyboard Volume Controls

You can also use the special controls located on the F10, F11, and F12 keys to mute, decrease, and increase the system volume.

Adding Volume Control to the Menu Bar

If sound control is not visible in your menu bar, it has been manually removed. You can re-add it to the menu using the Show Volume in the Menu Bar option in the Sound System Preferences panel.
Configure Alert Sounds

Your Mac generates alert sounds when it needs to get your attention. To configure the sounds, and how loud they play, follow these steps:

1. Click the System Preferences icon on the Dock, and then click the Sound icon.

2. Click the Sound Effects button at the top of the panel.

3. Scroll through the alert sound list to see all of the available alert sounds.

4. Click a sound to select it as your alert sound and hear a preview.

5. Choose which sound output device (usually your internal speakers) should play the alert sound.

6. Use the A slider to adjust the volume of alerts that your system plays. This is independent of the system output volume.
7. Check Play User Interface Sound Effects to play sounds when special events occur—such as emptying the trash.

8. Close the System Preferences when finished configuring the sound effects.
Fine-Tune an Audio Output Device

Although you can choose the output device for your audio directly in the menu bar, there’s a bit more fine-tuning that you can do within the System Preferences application.

1. Click the System Preferences icon on the Dock, and then click the Sound icon.
2. Click the Output button at the top of the panel.

3. Choose the output device to configure (usually your internal speakers).

4. Use the Balance setting to adjust audio to the left or right speaker.

5. Set or mute the Output Volume.

6. Close the System Preferences when finished.
Watch TV!

Your Mac can connect to a TV and output sound via built-in HDMI or Thunderbolt-to-HDMI adapter (depending on your model). Once connected, your TV set will be shown as a new output device!

>>>Go Further: How Do I Use Headphones or Digital Audio?

When headphones are plugged into your Mac, the sound output settings alter to reflect the change. All sound is automatically directed to the headphones rather than the internal speakers. Your Mac also sports a home-theater-worthy digital optical output, disguised as the headphone jack. To use the digital output, you need a mini TOSLINK adapter, which provides a standard TOSLINK plug for connecting to stereo equipment. These cables from Amazon.com easily get...
Pick and Calibrate an Input Device
In addition to sound output, you can also adjust your audio input device using either the built-in microphone or the line-in jack on the back. To configure audio input, follow these steps:

1. Click the System Preferences icon on the Dock, and then click the Sound icon.

2. Click the Input button at the top of the panel.
3. Choose the device to use for input.
4. Use the Input Volume slider to adjust the gain (how much amplification is applied to the signal) on the microphone.
5. Click the Use Ambient Noise Reduction check box if you’re working in an environment with background noise.
6. Speak at the level you want your computer to record. The Input Level graph should register near the middle when you use a normal speaking level. If it doesn’t, readjust the Input Level.
Keeping the Input Volume Under Control

It might be tempting to turn the input volume up as high as it goes so that the microphone detects even faint sounds; however, keep in mind that the higher the input volume for wanted sounds, the higher the volume for unwanted sounds as well!

Recording Audio and Video

It has always been possible to record audio and video “out of the box” with a new Macintosh, but not without jumping through a bunch of seemingly unnecessary hoops or trudging through unwieldy software. With macOS, Apple has made it easy to take advantage of your Mac’s built-in capabilities to record audio, video, and even screen actions.
Record Audio
To create and save a new audio recording, first make sure that you’ve configured your sound input settings correctly (including ambient noise reduction, if needed), and then follow these steps:

1. Open the QuickTime Player application. (You can find it in the Launchpad or in the Applications folder.)

3. Use the drop-down menu to the right of the Record button in the Audio Recording window to choose an input source and recording quality.

4. If you want to hear audio through the speakers as it is recorded, drag the volume slider to the right.

5. Click the Record button to begin recording.
6. Click the Stop button to stop recording.

7. Use the playback controls to listen to your creation.
8. Choose File, Export to save the audio, if desired.

Record with the FaceTime HD Video Camera
Although FaceTime enables you to see video of yourself on your computer, it doesn’t give you the option to record. If you want to take a recording of what the built-in camera sees, follow these steps:
1. Open the QuickTime Player application. (You can find it in the Launchpad or in the Applications folder.)

2. Choose File, New Movie Recording.
3. Use the drop-down menu on the right side of the recording controls to choose a camera (if you have more than one), input microphone, and recording quality.

4. If you want to hear audio through the speakers as it is recorded, drag the volume slider to the right.

5. Click the Record button to begin recording.
6. Click the Stop button to stop recording.
7. Use the playback controls to view the video you’ve recorded (not shown).

8. Choose File, Export to save the movie, if desired. (The available options vary depending on the quality of your camera.)
Lights, Camera, Screen Actions
In addition to audio and video, you can record whatever is happening on your screen. QuickTime Player offers a new Screen Recording option under the File menu that does exactly what you’d think.

>>>Go Further: Video and Photo Fun!
If you want to record and share videos and photos or just play around with your Mac’s HD camera, try Photo Booth (located in Launchpad or in the Applications folder). Photo Booth provides a simple interface for taking pictures and video, applying effects, and sharing the results.

Optimizing Storage
If you love your Mac (and you will!), you’ll want to do everything with it. The problem is, almost
everything you do takes up space—and your Mac’s hard drive is a limited resource. In Sierra, you
can use a new Optimize feature to help keep your files under control and make sure you have plenty of
room for whatever you want to do.

**Access Sierra Storage Management**
To access and navigate the Sierra storage management feature, follow these steps:

1. Select About this Mac from the Apple menu.

![About This Mac menu](image)

2. Click the Storage button at the top of the panel.

3. Click the Manage button beside the storage device you want to work with.
4. The storage management window displays, displaying your total space and the space available.

5. The column on the left shows storage categories. Choose a category on the left and select an option on the right for saving space.
Use Storage Recommendations
Managing your storage according to Sierra’s recommendations takes little more than a click or two. To use the recommendations, navigate to the storage management window for your device (as described in the preceding task), and then follow these steps:

1. Click the Recommendations category on the left.
2. Click the Store in iCloud button to store your Desktop and Documents in iCloud. This is identical to activating the feature as described in Chapter 4.
3. Click the Optimize Storage button to delete TV shows and movies you’ve watched before. (You can redownload them at any time from iTunes.)
4. Click Turn On to have your trash can automatically discard items that have been sitting in it for more than 30 days.

5. Reduce Clutter is a bit more complicated. To begin reviewing the files that you might be able to delete, click Review Files. (This is actually the same as clicking Documents in the list of categories.) You see a list of large files.
6. Use the buttons at the top of the window to switch between Large Files, Downloads, and a File Browser.

7. When you hover over a file, an X and a magnifying glass appear. Use these icons to delete or view a file, respectively.
Save More Space

Not every type of file is handled by Sierra’s recommended storage optimizations. To save even more space, open the storage management window for your device, and then follow along:

1. Review the categories on the left. Some (such as Photos) don’t do much at all, they simply open the corresponding application so you can delete files.

2. Others, however, like iBooks, iTunes, and Applications, present a list of the files taking up the most space and show when you last accessed them.

3. Use the X and magnifying glass icons to delete or review the selections.
1. iBooks - 4.6 GB
2. Remove books you can download again in iBooks to free storage space.
3. On My Mac
   - make_javascriptrobotics: Never Opened, 136.9 MB
   - make_sensors: Never Opened, 85.5 MB
   - make_makingsimplerobots: Never Opened, 55.6 MB
   - make_raspberryplandavprojects: Never Opened, 52.9 MB
   - makingthingstalk: Never Opened, 43.7 MB
   - mintduino_buildinganarduino-compatiblebreadboardmicrocontroller: Never Opened, 40.7 MB
   - make_high-techdiy: Never Opened, 39.5 MB
   - make_gettingstartedwithadafruittrinket: Never Opened, 36.9 MB
   - make_arduinobotsandgadgets: Never Opened, 36.4 MB
   - make_gettingstartedwithsensors: Never Opened, 35.5 MB
   - make_gettingstartedwithraspberrypi_2ndedition: Never Opened, 35.2 MB
   - make_boardgames: Never Opened, 31 MB
   - Purchased
     - E. O. Wilson's Life on Earth Unit 1: Never Opened, 1.72 GB
     - E. O. Wilson's Life on Earth Unit 4: Never Opened, 940.7 MB
     - E. O. Wilson's Life on Earth Unit 5: Never Opened, 553.5 MB
     - Jeni's Splendid Ice Creams at Home: Never Opened, 323.4 MB
     - 5-Minute Recipes: Never Opened, 10.6 MB
     - The Swift Programming Language (Swift 2.1): Never Opened, 4.3 MB
12. Using macOS with Your iDevices
In this chapter, you learn how Sierra can integrate with your iDevices, including:

- Connecting your iOS device with macOS
- Transferring files with AirDrop
- Using Handoff to move between devices
- Using the Universal Clipboard
- Making and receiving phone calls on your Mac
- Sending SMS messages on your Mac
- Using your iOS device as a hotspot
- Unlocking your Mac with an Apple Watch

Apple has designed macOS to work hand-in-hand with Apple devices, like the iPhone, iPad, and Apple Watch. Sierra makes your device an extension of your Mac—making it simple to move files back and forth, edit documents across devices, and even make use of the calling features of your
**Enabling Sierra and iDevice Communication**

In order to communicate, your device and Mac need a few simple settings tweaked—namely, they must both have active Bluetooth and Wi-Fi. Fortunately, these are the default settings for Sierra, so chances are you’re already all set. If you (or someone else who uses your computer) have altered these settings, it’s easy to change them back.

**Verify Your Wi-Fi and Bluetooth Settings**

Follow these steps to check and enable your Wi-Fi and Bluetooth settings on both your Mac and your iOS device:

1. Open the Bluetooth System Preferences.

![Bluetooth System Preferences](image)

2. If Bluetooth is off, click Turn Bluetooth On.

3. Close the Preferences.
4. Use the Wi-Fi menu to verify that your Wi-Fi is on and connected to your wireless access point.
5. Swipe up on your iOS device (iPhone shown here) and use Control Center to verify that Bluetooth and Wi-Fi are enabled. Enable them if necessary.

6. Make sure that AirDrop is set to either Everyone or Contacts Only.
Using AirDrop

Earlier in this book you learned how to use AirDrop to share files among Macs. With Sierra, AirDrop can also be used to share files between your Mac and iOS devices. Let’s look at both scenarios now—sending files from the Mac to iOS and vice versa.

Send Files to iOS via AirDrop

To send a file to your iOS device, make sure you’ve enabled Wi-Fi and Bluetooth, and then complete these steps:

1. Click AirDrop in the Finder sidebar.
2. After a few seconds, your iOS device appears.
3. Drag the file you want to transfer to the device icon.
4. If you are signed in to the same iCloud account on both devices, iOS immediately accepts the transfer; otherwise, you’re prompted to complete the AirDrop.

5. iOS opens the file automatically when the transfer completes.
When in Doubt, iOS Asks

If iOS doesn’t know what to do with a file you’ve sent, it prompts you with a list of applications that can open it. Just choose your app and away you go.

Send Files to Sierra via AirDrop

To send a file from your iOS device to Sierra, the process is similar. First, open the file on your iOS
device and then complete the following steps:

1. Click AirDrop in the Sierra Finder sidebar.
2. After a few seconds, your iOS device appears.
3. Touch the Share icon within the application of your choice on your iOS device.
Where Is Share?

The Share button frequently appears in apps that create or manage content (Photos and Notes, for example). Unfortunately, there isn’t a standard place it is located on the screen.

4. Select the items you want to transfer.
5. Touch the icon of the Mac to which you want to transfer the files.
6. Sierra automatically downloads the files to the Downloads folder. If you are not logged in with the same iCloud account, you’re prompted to accept the transfer (see Chapter 6 “Sharing Files, Devices, and Services,” for an example.)
Enable AirDrop Access!

If you don’t see your iOS device (or Mac) in AirDrop, chances are you’ve disabled it or set it to be restrictive about whom it can communicate with. You can configure AirDrop to allow access from Everyone to Just Contacts using the Control Center on iOS and the AirDrop window (see Chapter 6 for details) on macOS.

>>>Go Further: Files Everywhere...

While not a direct interaction between your Mac and iOS device, there is another way to share files—through the iCloud Drive. Any files you store in the iCloud Drive are available on your iOS device by choosing iCloud as the source within your applications. Alternatively, you can add an iCloud Drive app to your Home screen by opening iCloud Drive via the App Store. After opening the app, it is installed on the Home screen.

Using Handoff and Universal Clipboard to Move Between Devices
The Sierra Handoff feature is uniquely Apple. When you’re in the middle of a task and want to move
from your Mac to your iPad or iPhone, you can seamlessly switch to your device and pick up where you left off—no need to save files and sync with cloud services. Handoff gives you a slick and fast way to move around without having to even think about the process.

When you don’t want to move between the same application, you can use Sierra’s Universal Clipboard to copy and paste content instead. Using iOS and macOS together has never been easier.

Enable Handoff
By default, Handoff should be enabled on your Mac and iOS device, but you might still want to verify this setting yourself. To verify your Handoff settings, complete the following actions:

1. Open the General System Preferences panel.

2. Click the Allow Handoff Between This Mac and Your iCloud Devices check box.

3. Close the System Preferences.
4. On your iOS device, open the Settings app and navigate to the General category.
5. Select Handoff.
6. Use the switch to turn Handoff on.

It’s Not All Good: Different iCloud Accounts? No Handoff and no Universal Clipboard!

To use Handoff and Universal Clipboard, your Mac and iOS device must both be logged in to the same iCloud account. See Chapter 4, “Setting Up iCloud and Internet Accounts,” for more information on activating iCloud on your Mac. On your iOS device, you configure your iCloud account on Device setup and can modify it with the Settings app under the iCloud category.

Hand Off from Sierra to iOS

To handoff from a Sierra application to iOS, follow these steps:

1. Open the application and use it as you normally would on macOS. (Here, Safari is in use.)
2. Activate your iOS device. An icon for the corresponding app appears in the lower left of the Lock screen, or in a tab at the bottom of the iOS task switcher.

3. Swipe up from the icon or tab.
4. The application (and whatever content you were viewing/editing) is immediately visible on your iOS device.
Apple’s Five-Year-Old Twitter Account Gets Active Ahead of September 7 Event

Sep 2, 2016 4:43 am PDT by Mitchel Broussard

Created five years ago in September of 2011, Apple’s official twitter account, @Apple, has begun stirring today. The company updated the page with a new logo -- a classic black Apple image on a white background -- and the same teaser art for next week’s September 7 event that was included on invites earlier this week.

Although Apple appears to be preparing a new section of its social media presence, the account has yet to tweet anything to its more than 110,000 followers. With the timing of the reactivation, and the similar art, it seems likely that Apple will begin using the account to share news and updates from its event in the Bill Graham Civic Auditorium in San Francisco, California.

Apple hasn’t been completely averse to social media, since over the past few years the company has created Twitter accounts for iBooks, Apple Music, iTunes, and just this year began bolstering its presence on Twitter with Apple Support and Apple News. Apple was recently rumored to be working on a social media app of its own for launch in 2017, with similarities tying its video-heavy features more to Facebook and Snapchat than to Twitter.
Handoff Support

Handoff works with a variety of apps, including Safari, Mail, Pages, Keynote, and Numbers. Developers will obviously add Handoff to their apps where it makes sense, so these instructions are just general guidelines. Which apps it works with will change over time.

Hand Off from iOS to Sierra

Handing off from iOS to Sierra is just as easy. To handoff from your iOS application to your Mac, just complete these actions:

1. Open the application and use it as you normally would on your iOS device. (Here, Maps is being used on an iPad.)
2. Your Mac displays an icon for the corresponding app at the left side of the dock. Click the icon.

3. The application opens on your Mac and displays the content you were editing/viewing, ready to be used.
Use the Universal Clipboard

Sierra’s new Universal Clipboard feature enables a shared clipboard that works (automagically) between iOS devices, between Macs, and between Macs and iOS devices. To use the feature, you need to make sure that all the requirements are met for AirDrop, and then follow these steps (which work identically across all devices):

1. Copy the content that you want to transfer to another nearby device. I’m copying from a Mac to an iPad in this example.
2. Choose Paste on the device where you want to insert the content. (Hold a finger on your device’s screen for a moment and then release it. Then choose Paste where you want to insert the content.)
3. The clipboard is copied from the source device—here, a Mac.
4. Touch Cancel on an iOS device or, on a Mac, click the X (not shown) to stop the transfer.

5. The content is pasted and ready for use.
Using Your iPhone to Cell-Enable Your Mac

An exceptionally cool feature of Sierra’s iOS integration is the ability to enable your Mac to act as a speakerphone and make and receive phone calls through your iPhone, as well as send and receive SMS messages.

These features require your iPad and iPhone to be connected to the same network and for them to both be logged in to the same iCloud account. After that, enabling the cellular capabilities and using them is a piece of cake!

Keep an Eye on Your iPhone

When you start using Sierra with your iPhone, you’ll likely see a few prompts on your iPhone screen asking for permission to handle calls and send text messages. I’d love to tell you when these appear, but they seem a bit unpredictable. Just pay attention to your phone and make sure you accept any requests to enable the features we’re about to explore.
Enable Sierra Cellular Calls
FaceTime controls the phone capabilities of Sierra. To enable cellular calls, start FaceTime, and then complete the following steps:

1. Choose FaceTime, Preferences to view the application preferences.
2. Make sure the Settings button is selected at the top of the window.
3. Check the Calls from iPhone check box to enable your Mac to place calls through your iPhone.
Place a Phone Call

To place a phone call, you again use FaceTime. Your iPhone must be on, connected to Wi-Fi, and located somewhere in the general proximity of your Mac. Open FaceTime on your Mac, and then follow along:

1. Type a name or phone number in the field at the top of the FaceTime window.
2. If the number matches a contact, the name is shown; if not, only a phone number is visible. Click the phone icon beside the name or number.
3. From the menu that appears, choose the number you want to call from under the Call Using iPhone section.

4. A window appears showing the call duration.
5. Click Mute to silence your microphone.
6. Click End to hang up.
To receive a phone call, again it’s FaceTime—but, like other FaceTime video/audio chats, the application doesn’t even need to be running! Follow these steps to receive a phone call on Sierra:

1. Wait for a phone call. A notification appears with the name of the caller.
2. Click Accept to begin the call or Decline to ignore the call.
3. The window updates to show the call duration.
4. Click Mute to silence your microphone.
5. Click End to hang up.
It’s Not All Good: Minutes Are Minutes

When making or receiving iPhone calls on Sierra, you will be using your standard cell phone minutes. Even with all the fancy networking involved in making the iOS/Sierra integration work, you still can’t get away from your cell phone network provider!

Text Messaging with Sierra

With Sierra’s iPhone integration, you can send and receive text (short message service, or SMS) messages with any cell phone. To get started, you must first enable Text Message Forwarding in iOS, and then you simply message like you normally would.

Enable Text Message Forwarding

To set up text message forwarding on your iPhone, follow these steps.

1. Open the Messages category within the Settings app.
2. Touch the Text Message Forwarding entry.
3. Use the switches beside your iCloud-registered devices to enable text messaging on that device.
Send a Text Message
Text messaging with a phone number is identical to messaging with other Macs and iOS devices as described in Chapter 7, “Being Social with Messages, FaceTime, Twitter, and Facebook.”

1. Within Messages, begin typing the name or number of a contact.

2. If the contact auto-completes, choose the number you want to text message. If not, just type the full number and press return. Messages designates the contact as a Text Message contact, rather than an iMessage (Mac/iOS) contact.
3. Converse with your text-messaging buddy as you would any other contact.

Receiving Is Believing
Receiving text messages (prior to sending one) is identical to receiving any other
communication in Messages. If the app is running, it appears as a new conversation in the main window. If Messages is closed, you receive a notification of the new message with the option of responding. This service is so well-integrated, you won’t even know you’re chatting via SMS.

Using Your iOS Device as an Instant Hotspot
Sierra offers the ability to quickly share your iPhone or iPad’s cellular Internet connection—assuming your plan already includes support for personal hotspots. To use this feature, you don’t need to do anything except make sure that your devices are signed in to the same iCloud account.

Share Your iOS Internet Connection
To share your iOS connection via a Personal Hotspot, follow these steps:

1. Make sure your iOS device is on and has a cellular connection (not shown).
2. Open the Wi-Fi menu and select the Personal Hotspot item that appears from the list of available hotspots.
3. That’s it. No more configuration and no passwords. You’re immediately online! Use the Wi-Fi menu to monitor the signal strength and battery life of your iOS device.

Unlocking Your Mac with Apple Watch
New to Sierra is the ability to unlock your computer without doing a thing—except wearing an Apple Watch. This, like the Universal Clipboard, is largely automatic, so there’s very little for you to do except use the feature.

Set Up Unlocking
To configure your Mac to automatically unlock using your Apple Watch, make sure that your iPhone and Mac are both logged into the same iCloud account, and then follow these steps.

1. Open the Security & Privacy Preferences panel.

2. Click the General tab.

3. Click the Allow Your Apple Watch to Unlock Your Mac check box.
4. Enter your password when prompted.
5. Click OK.
6. Close the System Preferences.
Unlock Your Mac

Once configured, unlocking your computer is as easy as sitting down to use it. Although Apple Watch can’t log you in when you first start your computer, it will unlock your system if the screen saver kicks in, or if you’re waking your computer from sleep:

1. Make sure you’re physically in front of your computer, and then wake it or press a key to end the screen saver (not shown).
2. The screen brightens and shows Unlocking with Apple Watch.
3. Your watch shows an alert that the unlock has taken place. That’s all there is to it!
If you happen to be an iOS developer (or just want to do something cool), there’s one other piece of iOS/macOS integration you might be interested in: screen recording. To record the screen of an iOS 8 (or later) device, just connect it to your Mac with a Lightning cable. The device’s screen becomes a video input source, just like a camera. Once connected, you can open QuickTime and use the movie recording features to record action on the iOS device screen.
In this chapter, you find out how to connect devices to your Mac and immediately expand your system’s capabilities, including:

- Adding a keyboard and mouse
- Pairing Bluetooth devices
- Connecting and configuring external displays
- Sending video and audio to an Apple TV or AirPlay device
- Adding and using printers
- Accessing and using popular scanners

The Mac comes with everything you need to get started using the system, but that doesn’t mean that you can’t expand it. Your Mac can interface with many different devices—frequently without requiring any additional software to be installed.

This chapter looks at several different types of peripherals that work with your Mac out of the box.

**Connecting USB Input Devices**
The Mac can connect to a variety of devices using the standard USB (Universal Serial Bus) ports. This section walks you through connecting a generic keyboard and mouse. Keep in mind, though, that there are hundreds of different input devices. You should always refer to the documentation that came with your device. If the manual doesn’t mention the Macintosh (such as for a Windows-specific keyboard), try plugging in the device to see what happens!

USB Device Compatibility

The USB standard includes a variety of different profiles that define how a device can be used (input, audio output/input, and so on). These standards are supported on both Macintosh and Windows platforms. If a device doesn’t specifically say it supports the Mac, that doesn’t mean that it won’t work anyway.

The latest MacBooks support USB-C, an emerging standard for USB connections. If you’re the lucky owner of a new Mac with USB-C, you might need Apple’s USB-C adaptor to connect to the more common USB standard peripherals.

Configure a USB Keyboard

Your Mac comes with a perfectly usable keyboard, but if you have a favorite wired keyboard, you can plug it in and start using it almost immediately. To use a standard USB keyboard with your Mac, follow these steps:

1. Plug the keyboard into a free port on your Mac (not shown).
2. If the keyboard is an Apple or Mac-specific keyboard, it is recognized and immediately usable (not shown).
3. If you are using a generic USB keyboard, the Keyboard Setup Assistant launches, and you’re asked to identify the keyboard. Click Continue.
4. Walk through the steps presented by the setup assistant, pressing the keyboard keys when requested. If the assistant can’t identify the keyboard, you are asked to manually identify it.
5. Click Done at the conclusion of the setup assistant. The keyboard setup is complete, and the keyboard is ready to be used.
Manually Configuring the Keyboard Type
If the setup assistant does not start automatically when you plug in a USB keyboard, you can start it by opening the System Preferences window and clicking the Keyboard icon. In the Keyboard panel, click Change Keyboard Type.

Configure a USB Mouse
The Apple mouse is nice, but some of us like options! Want to use a shiny USB mouse with a zillion buttons? No problem. Like keyboards, USB mice plug right in and start working in a matter of seconds.

1. Open the System Preferences and click the Mouse icon.
2. Plug a USB mouse into your Mac (not shown).

3. After a few seconds the Mouse panel updates to show the available options for your device.

4. Uncheck Scroll Direction: Natural if you prefer a scroll wheel that behaves in a traditional manner (down to go up, and vice versa).

5. Adjust the Tracking Speed, Scrolling Speed (if the mouse includes a scroll wheel), and Double-Click Speed by dragging the sliders left or right.

6. Choose which button acts as the primary button.

7. Close the preferences when you’ve finished your configuration.
Using Bluetooth Devices
The Mac’s built-in Bluetooth enables it to wirelessly connect to a variety of peripheral devices, including keyboards, mice, headsets, and so on. As with USB peripherals, your first step toward installing a device is to read the manufacturer’s instructions and install any drivers that came with it. After installing the software that came with the peripheral, you use the Apple Bluetooth System Preferences panel to choose and pair your device.

>>>Go Further: What is Pairing?
When you’re working with Bluetooth peripherals, you’ll notice many references to pairing. Pairing is the process of making two devices (your Mac and the peripheral) aware of one another so they can communicate.
In order to pair with your computer, your device needs to be in pairing mode, which should be described in the device’s manual.

Pair a Bluetooth Mouse or Trackpad
To pair a Bluetooth device with your Mac, you follow the same basic steps, regardless of the type of
1. Open the Bluetooth System Preferences panel.

2. Make sure that your Mac’s Bluetooth system is On.

3. Devices paired and connected with your Mac are shown at the top of the list on the left, and new devices and those that are either not paired or are paired but not connected are shown at the bottom.

4. Click Pair to pair a new mouse or trackpad with your Mac.
5. After a few seconds, the device is paired and available.

6. Click the X beside a device in the list to remove the pairing.

7. Close the preferences when finished.
Setting Up Bluetooth Devices from Almost Anywhere

You might notice a Set Up Bluetooth (Keyboard, Mouse, Trackpad) option within the Keyboard, Mouse, and Trackpad System Preferences panels. You can use these as shortcuts to immediately start searching for a Bluetooth device of that type. The Bluetooth System Preferences panel, however, is the central point for pairing all devices.

8. Your new device is listed in the Bluetooth System Preferences panel (not shown).
9. Use the corresponding (Mouse/Trackpad) Preferences panel to configure your device.
Pair a Bluetooth Keyboard
Some Bluetooth devices, such as keyboards, require an additional step while pairing: the entry of a passkey on the device with which you are pairing. To pair a keyboard with your system, follow these steps:

1. Follow steps 1–5 of the “Pair a Bluetooth Mouse or Trackpad” task, selecting the keyboard device from the list of detected devices, and then click Pair.
2. The setup process prompts you to enter a passkey on your device. Type the characters exactly as displayed on screen, including pressing Return, if shown.
3. If the passkey was successfully entered, the device is configured and paired.

4. Open the Keyboard Preferences panel and configure the device as described in Chapter 11’s section, “Updating Keyboard and Dictation Settings.”

It’s Not All Good: Dealing with Troublesome Passkeys
If for some reason you enter the passkey and get an error, look for a Passcode Options button in the lower-left corner of the window during setup. Clicking this button might allow you to bypass the passkey or choose one that is easier to enter on your device.
**Connect a Bluetooth Headset**

Wireless headphones and headsets can help untether us from our computers when conferencing or listening to music. Your Mac with Sierra supports high-quality audio over Bluetooth connections, and setup is a cinch:

1. Follow steps 1–5 of the “Pair a Bluetooth Mouse or Trackpad” task, selecting the headset device from the list of detected devices, and then click Pair.

2. The headset is added to your system. You might need to cycle the power on and off the headset before it will work, however.
3. To set the headset for audio input or output, use the Volume menu bar icon or the Sound System Preferences panel, as described in Chapter 11’s section, “Setting Sound Input and Output.”
Add and Use the Bluetooth Status Menu

Apple Bluetooth devices report their status directly to your computer, giving you a heads up on battery issues (only for Apple devices) and other status problems. To use the Bluetooth status menu, follow these steps:

1. Open the System Preferences window and click the Bluetooth icon.
2. Click the Show Bluetooth in Menu Bar check box.
3. Close the preferences.
4. The Bluetooth menu is added to your display.
5. Each paired device has an entry in the menu for quick control of its features and display of battery levels.
Using External Displays and Projectors

Even the smallest Macintosh screens are larger than the biggest monitors we had a decade ago, yet somehow we manage to fill them. As I’m sure you’ve encountered, there are times when using an external monitor or a projector is helpful. As long as you have the right cables, running an external monitor is plug-and-play—no rebooting required.

What Kind of External Displays Can I Run?

All modern Macs have USB-C, Thunderbolt, or HDMI video output, which can be adapted to many different standards using a plug-in dongle from Apple. Earlier models used a miniDisplayport or miniDVI port, which, similarly, could be output to VGA or DVI monitors with the appropriate adapter.

Extend Your Desktop to Another Monitor

To use a second monitor to extend your desktop, follow these steps:

1. Plug the monitor into your Mac using the appropriate adapter cable (not shown).
2. The monitor is initialized and displays your desktop at the highest resolution (not shown).
3. Open the Displays System Preferences panel.
4. A unique window is shown on each connected monitor, enabling you to customize its characteristics.
5. Close the preferences.
After a second monitor has been connected to your system, you can choose how it is arranged in relationship to your Mac display and whether it displays the menu bar.

1. Open the Displays System Preferences panel.

2. Click the Arrangement button at the top of the window.

3. Drag the visual representation of the monitors so that it best represents your physical setup (that is, external monitor on the left, right, above, and so on).

4. If you want, change your primary display by dragging the small white line representing the menu bar from one display to the other.

5. Close the preferences.
When the Displays System Preferences panel is opened with two or more monitors connected, a unique copy of the preferences panel is shown on each monitor, representing that monitor’s settings.

Within each window, you can adjust the color and resolution of your external display using the same approach described in Chapter 11’s section, “Adjusting Your Display.” You can also use the Gather Windows button to pull all open application windows onto that display.

Add the Display Mirroring Menu to Your Menu Bar
If you frequently want to mirror your display (rather than extend your desktop), or display content on an Apple TV, you can either use the Displays System Preferences panel or add a global “mirroring” menu to the menu bar.

1. Open the Displays System Preferences panel.
2. Click the Show Mirroring Options in the Menu Bar When Available check box.
3. Close the preferences.
4. The menu item appears when external displays (or Apple TVs) are available to use.
Use Mirrored Displays
When you plug another display into your Mac, it is initialized and activated as an extension to your desktop at the highest resolution it supports. If you’d prefer to mirror the content between your displays (or in other words, have both screens display the same thing), do the following:

1. Click the Display Mirroring menu item in your menu bar.

2. Choose Mirror Built-in Retina Display. Your screen might go blank or flash for a moment.
3. Once mirroring has started, you can choose which display size is mirrored (the built-in display or the connected monitor).

4. Choose Use as Separate Display to switch back to using two separate displays.
Adapting Resolutions

If the external display is set as your primary monitor or cannot be adjusted to match your internal LCD, your Mac might instead change the resolution on its display to match the external monitor. This change reverts when you turn off mirrored video. To change the display resolution from the default, use the Displays System Preferences panel, as pictured in the previous section.

Connecting to an Apple TV (or Other Device) with AirPlay

Taking display connections to the next level, Sierra makes it simple to wirelessly share your display with an Apple TV (2nd or 3rd generation). Couple an Apple TV with a monitor, TV, or a projector, and you have a wireless presentation system for classrooms, businesses, or just at-home fun.

AirPlay works in one of four modes: mirroring, desktop extension, video/image sharing, and audio playback. Before reading any further, make sure you’ve added the Display Mirroring menu to your display (if it isn’t there already) using the steps in the earlier task, “Add the Display Mirroring Menu to Your Menu Bar.”

Although the Apple TV is the only AirPlay device that currently supports video, there are many speaker systems, amplifiers, and other devices (including Apple’s own AirPort Express) that can receive audio over AirPlay.

It’s Not All Good: Old Mac? You Might Be Out of Luck!
Sierra is only capable of mirroring and extending your display if you have recent Mac hardware. If you don’t see the mirroring menu (and you have an Apple TV), your Mac is likely too old to use Sierra AirPlay features. That said, I strongly encourage you to check out AirParrot—a commercial piece of software that offers all the AirPlay features of Sierra (and more) on any Mac (http://airparrot.com).

Mirror Your Display to an Apple TV
To display your Mac monitor on an Apple TV, both devices must be turned on and connected to the same network. When things are powered up, follow these steps to mirror your display:

1. Click the Display Mirroring menu in the menu bar.
2. All available Apple TV devices are shown. Choose the one you want to mirror to.

3. After a few seconds, your Mac desktop is visible on the display connected to the Apple TV via AirPlay (not shown).
4. To disconnect from AirPlay, choose Turn AirPlay Off from the mirroring menu.
**Mirror, Mirror on the Preferences Panel**

You can also choose an AppleTV to mirror to directly from the Displays System Preferences panel. If an AppleTV is detected, an AirPlay pop-up menu is added to the preferences.

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**Set the AirPlay Apple TV Resolution**

For the best mirroring performance, your Mac display should match the resolution of the display connected to the Apple TV—otherwise, your desktop will be enlarged and might look blurry. To adjust the resolution of the mirrored display, use these options:

1. Click the Display Mirroring menu in the menu bar.
2. Choose Mirror Built-in Retina Display to scale the Apple TV image to match your Mac’s display.
3. Choose Mirror *<AirPlay Device>* to change your Mac resolution to match the resolution of the display connected to your Apple TV (this is the preferred approach).
Extend Your Desktop to an Apple TV

In addition to mirroring, Sierra actually enables your Mac to use an Apple TV as an entirely new monitor—extending your desktop as if you had plugged a new display directly into your computer!

1. Connect to the Apple TV as described in “Mirror Your Display to an Apple TV.”
2. Choose Use as Separate Display from the Display Mirroring menu.
3. The Apple TV is added as an external display and can be configured like any other display using the Displays Preferences panel.
4. To disconnect from AirPlay, choose Turn AirPlay Off from the mirroring menu.
Share Multimedia to an Apple TV

In addition to acting as a monitor for your Mac, your Apple TV can also play video, audio, and other multimedia content (such as slideshows), if supported by your software. While viewing video, audio, or other multimedia content, look for an AirPlay icon, and then complete the following:

1. Click the icon to display and choose from any available Apple TV (iTunes is shown here).
2. After choosing an Apple TV, the content that was playing on your Mac is automatically transferred to the Apple TV.
3. Choose Computer to return the display to your local Mac.
It’s Not All Good: AirPlay icon nowhere to be seen?
If you have an AirPlay device but don’t see an AirPlay icon where you should (or your AirPlay device isn’t shown under the menu), here are a few steps that may help solve the problem:
1. Make sure that AirPlay is enabled. Devices like the Apple TV require that you enable AirPlay before it can be used.
2. Both your Mac and the AirPlay device should be connected to WiFi. AirPlay will work over a wired network, but discovery can be much slower.
3. Verify that your Mac and AirPlay are connected to the same wireless network. AirPlay relies on broadcast traffic that may not pass between different networks.
4. Reboot. Restart the AirPlay device. If it still doesn’t show up, reboot your Mac.

Send System Audio to an Apple TV
Any application that outputs audio to your default system audio device can be sent transparently, via AirPlay, to an Apple TV. To send your system audio to an Apple TV connected to a sound system, follow these steps:
1. Use the Volume menu bar icon to select your AirPlay device. Alternatively, use the Sound System Preferences panel, as described in Chapter 11’s section, “Setting Sound Input and Output.”
2. Use the Volume slider to adjust the volume of the output device. You can work with the device just as you would with your normal Mac speakers.
Connecting and Using a Printer

Out of the box, Sierra supports a range of popular printers that require nothing more than being plugged in. Occasionally, however, you might need to install a driver before you can successfully print.

Drivers

Drivers are just pieces of software that help your Mac communicate in the same language as physical hardware, such as printers.

As with any peripheral that you want to use, be sure to read and follow the manufacturer’s instructions before proceeding.

Your Mac can connect to printers either over a network or via a USB direct connection. Regardless of the approach, configuration is straightforward.

Set Up a USB Printer
To connect to a printer via a USB connection, set up the printer as directed by the manufacturer and then follow these steps:

1. Connect the USB plug from the printer to your Mac and turn on the printer. If the printer is auto-detected, it might prompt you to download software (not shown).

2. Open the System Preferences window and click the Printers & Scanners icon.

3. In many cases, the printer is detected and configured automatically and is immediately available for use. If this is the case, it is displayed in the Printers list, and you may close the Printers & Scanners System Preferences panel.
4. If the printer is not detected, click the + button below the empty Printers list.
5. A window is shown displaying all of the available printers detected by your Mac. Choose the printer from the list.
6. Your Mac searches for the software necessary to use the printer and displays the chosen printer name in the Use drop-down menu.
7. If the correct printer name is shown in the menu, jump to step 11. If the correct printer name is not displayed in the Use drop-down menu, choose Select Software from the menu.
8. A window appears that shows all the printers supported in Sierra. Click your printer within the list.
9. Click OK.
10. Click Add to finish adding the printer. If there are options (such as a duplexer) that your Mac can’t detect, Sierra might prompt you to configure printer-specific features.
11. Close the preferences and begin using your printer.
To add a network printer, follow the steps described in Chapter 6’s section, “Access a Network Printer.”

AirPort-connected printers, even though they might not technically be network printers, are configured identically to network printers. AirPort makes them available over Bonjour, a configuration-free networking technology developed by Apple.

Print to a Printer

The options available when printing can vary depending on the application that you’re printing from, but once you’re used to the process, you’ll be able to find your way around any software’s printing options.

To output to one of your configured printers, complete the following steps in the application of your choice:

1. Choose File, Print from your application’s menu bar.
2. Click the Show Details button to display all the available options, if needed.
Where Is the Page Setup Option?

Apple has been working to streamline the printing process. In many applications, the Page Setup functionality has been combined with the standard Print function.

3. Select the printer to which you want to print.
4. Set the number of copies and page range options.
5. Set the paper size and orientation, if desired.
6. Use the printing options pop-up menu to choose specific printing options for your printer or options related to the application you’re using.
7. Review the results of your settings in the preview area on the left side of the window.
8. Use the controls below the preview to step through the pages in the document.
9. Use the Presets menu to save your settings if you want to recall them in the future.
10. Click Print to output to the printer.
Printing to PDF

In addition to printing to a printer, you can print a document to a PDF, or open it directly as a PDF in Preview. To print to a PDF, click PDF and choose Save as PDF in the Print dialog box. To open the document as a PDF in Preview, choose Open PDF in Preview.

Connecting and Using a Scanner

Although it’s not a heavily advertised feature of Sierra, the operating system can detect and drive a range of scanners without any additional drivers or software. This means that you can connect a scanner to your Mac and almost immediately begin scanning images.

Add a Scanner
To connect a USB scanner to your Mac, complete any initial setup instructions provided in the hardware manual and then follow these steps:

1. Plug the scanner into your Mac and turn it on (not shown).
2. Open the System Preferences and click the Printers & Scanners icon.
3. The scanner, if supported, appears in the Scanners listing on the left side of the panel. If it doesn’t appear immediately, click the Add button (+) and follow the same steps as for adding a printer.
4. Choose the application you want to start when the Scan button is pressed on the scanner. I recommend Preview because it is a convenient application for working with images.
5. Close the preferences.
Network Scanners

Sierra supports many network scanners, such as the popular Canon Pixma All-In-One line. For these devices, make sure you install any software the manufacturer provided and then follow the instructions for scanning with a wired scanner. macOS should automatically recognize the scanner, as long as you are connected to the same network.

Scan in Preview

Preview (accessed by clicking Preview in the Applications folder) serves as the image hub on your Mac. It views images and PDFs, and allows annotations, cropping, image rotation, and more. With Sierra, it can also act as your scanning software. To scan an image directly into Preview, do the following:
1. Open Preview, or press the Scan button on the scanner if Preview is set as the default scanning application.

2. Choose Import from Scanner from the File menu.
3. The basic scanning window appears. If you want to choose your scanning area or set the resolution, click Show Details and skip to step 8.

4. Use the pop-up menu in the lower-left corner to choose the size of the document you’re scanning.

5. Choose Detect Separate Items from the pop-up menu to automatically scan individual photos, pictures, and so on into separate images within a single scan.

6. Click Scan. Preview performs a detailed scan, and then opens the result in a new window, where you can save it if desired.
Scanning Options

Originally, the Image Capture utility (found in the Applications folder) handled scanning in macOS. This capability has expanded to Preview, but Image Capture is still available if you’d like to give it a try.

7. Repeat step 6 as needed for all of your images.
8. In detailed scanning mode, full controls for the scanner are shown on the right side of the window. Choose the scan’s resolution, size, orientation, and color depth.

9. Configure the format (file type) for scanned images.

10. Adjust any image filters and clean-up features you want to apply to the scan.

11. Click Overview to perform a low-resolution scan of your document and display it in the preview area on the left.

12. Adjust the bounding rectangle to fit your document. If you’ve chosen to detect separate items, you see multiple bounding rectangles.

13. Click Scan to begin scanning.
14. The result opens in a new window, where you can save it if desired.
In this chapter, you learn the steps that you can take to secure your Mac and its data, including:

- Creating user accounts
- Applying parental controls
- Keeping passwords in Keychain
- Encrypting your account data
- Activating the Sierra firewall
- Backing up your files and information
- Using Time Machine to restore backups
- Accessing previous files with Versions

Security on a computer is important; increasingly, we store our lives on our computers. We save our
memories, our music and video, and our important documents. Having your computer stolen (or losing the contents of your hard drive) can be more traumatic than losing a credit card. Practicing appropriate account, application, and information security can ensure that even if the worst happens, your data remains private.

In addition to protecting your information from theft and unauthorized access, you should take steps to ensure the data’s availability—in other words, you should ensure that your files are available when you need them. By backing up your computer, you can ensure that even in the event that your computer is stolen or its hard drive crashes, your work is protected.

**Working with Users and Groups**

Sierra can accommodate multiple users—family members, friends, co-workers, and even guests. By creating and using different accounts, you can limit access to files. In addition, you can combine individual users into groups that have access controls.

**Creating User Accounts**

When creating a user account, you can control what the users can do by assigning them an account type. There are five account types in Sierra:

- **Administrator**—An account with full control over the computer and its settings
- **Standard**—An account that can install software and work with the files within the individual account but not across the entire computer
- **Managed with Parental Controls**—A standard user account that includes parental controls to limit account and application access
- **Sharing Only**—An account that can only be used to access shared files, but not to log in to the system
- **Guest**—A preconfigured account that allows the user to log in and use the computer but that automatically resets to a clean state upon logout

By default, the first account you create on your computer is an Administrator account, but you should create additional user accounts based on what the users need to do.

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**Unlock Your Preferences**

Before making changes to many of the system preferences, you need to click the Lock icon in the lower-left corner of the preferences panel and supply your username and password. This extra step is frequently required to help prevent unwanted changes to your Mac.

---

**Add Accounts**

To add any type of account to the system, follow these steps:

1. Open the System Preferences window and click the Users & Groups icon.
2. Click the + button below the user list to add a new user and open the account creation window.
3. Use the New Account pop-up menu to choose the account type you want to create.
4. Enter the full name of the user you’re adding.
5. Type the account name for the user. This is the username the person uses to access all Sierra services.
6. Type a new password for the account into the Password and Verify fields.
7. If desired, provide a hint for the password. The hint is displayed after three unsuccessful login attempts.
8. Click Create User.
9. Close the System Preferences.
Enable the Guest Account

The Guest account provides a simple means of giving anyone access to the computer for a short period of time. To control the Guest account, follow these steps:

1. Open the System Preferences window and click the User & Groups icon.
2. Click the Guest User item within the account list.
3. Check/uncheck the Allow Guests to Log In to This Computer check box.
4. Allow guest access to shared folders by clicking Allow Guest Users to Connect to Shared Folders.
5. Close the System Preferences.
Apply Parental Controls
If you’ve created a managed account with Parental Controls, or have enabled the Guest account, you can configure which applications a user can run, when the user can run the programs, and what parts of the Internet the user can access.

1. Open the System Preferences window and click the Parental Controls icon.
2. Choose the account you want to configure.
3. Click Enable Parental Controls.
4. Click the Apps button to choose which applications the user can use, what people the user can email and use Game Center with, and whether the camera can be used.
5. Use the Web button to restrict access to websites.
Managed Versus Standard

If you’ve created a Standard account type, you can convert it to a Managed account with Parental Controls by selecting it in the Parental Controls list and then clicking the Enable Parental Controls button.

6. Click the Stores button to set permissions for the iTunes and iBooks stores and restrict purchases to specific media ratings.
7. Click the Time button to set limits on the days of the week and length of time each day that a user can control the computer.
8. Use the Privacy button to choose what data applications may access within the user’s account—such as the user’s location or Facebook settings.
9. Use Other to configure whether dictation is allowed, limit printer and scanner administration and DVD burning, hide profanity in the dictionary, prevent changes to the Dock, and activate a “Simple Finder” mode.

10. Close the System Preferences.
iCloud Password without the Cloud

If you choose to create an account using an iCloud password only, you must provide the account name to Sierra. There’s nothing wrong with this approach, but keep in mind that the computer needs to be connected to the Internet to sync with your iCloud password. If your system isn’t Internet connected, or connects rarely, you might have trouble with this feature.

Create Groups

You can group individuals who should have the same kind of access rights (such as your co-workers). You can then use that group in other parts of Sierra (such as setting file permissions) to refer to all of the accounts at one time.

1. Open the System Preferences window and click the Users & Groups icon.
2. Click the + button below the account list to add a new account.
3. Use the New Account pop-up menu to choose Group.
4. Enter a name for the group.
5. Click Create Group.
6. The group appears in the account list. Make sure it is selected.
7. Click the check boxes in front of each user who should be a member of the group.
8. Close the System Preferences.
Configure General Account Security
To better protect user accounts from potential security problems, Sierra groups a range of security settings in one place. To configure the best possible security for your account, follow these steps:

1. Open the System Preferences window and click the Security & Privacy icon.
2. Click the General button at the top of the panel.

3. Check the Require Password check box and set the pop-up menu to Immediately so that a password is required to wake your computer after the screen saver kicks in.

4. If desired, set a message to display when the screen is locked.

5. Check Disable Automatic Login to disable access to your Mac without a valid username and password.

6. Click the Advanced button.
7. Check Log Out After 60 Minutes of Inactivity. You might want to adjust the time to a shorter period. After this option is set, you are automatically logged out of your Mac if you don’t use it for the designated amount of time.

8. Choose to Require an Administrator Password to access locked preferences.

9. Click OK.

10. Close the System Preferences.
Apple Watch Owners, Take Note!

Did you see the Allow your Apple Watch to Unlock Your Mac check box in the figure for the previous activity? This feature is covered in Chapter 12, “Using macOS with Your iDevices,” and is very handy for those of us who have to leave our workstations frequently. Keep your system secure and unlock it with nothing but the watch on your wrist!

Assign File Permissions for Users and Groups
After you’ve created users and groups, you can begin protecting files and folders so that certain users can access them but others can’t:

1. Select a file or folder in the Finder.

2. Choose Get Info from the File menu.
File
New Finder Window ⌘ N
New Folder ⌘ N
New Folder with "Sample Folder" ⌘ N
New Smart Folder
New Tab ⌘ T
Open ⌘ O
Open With
Print ⌘ P
Close Window ⌘ W

Get Info ⌘ I

Rename

Compress "Sample Folder"

Duplicate ⌘ D
Make Alias ⌘ L
Quick Look "Sample Folder" ⌘ Y
Show Original ⌘ R
Add to Dock ⌘ ⌃ T

Move to Trash ⌘ ⌘
Eject ⌘ E

Find ⌘ F

Tags...
3. Open the Sharing & Permissions section of the information window.
4. Click the + button to add a user or group to the permission list.

5. Choose a user or group from the window that opens.
6. Click Select.
Permissions, Permissions Everywhere

When setting permissions on a folder, you can apply those same permissions to everything in the folder by clicking the gear icon at the bottom of the permission settings and choosing Apply to Enclosed Items.

7. Use the pop-up menu in the Privilege column of the user or group to set whether the user or group can read only, read and write, or write only.
8. To remove access for a user or group, select it and click –.
Choose Your Permissions

In addition to these permissions, you can set permissions for network shares. The sharing permissions (see Chapter 6, “Sharing Files, Devices, and Services”) define who can access a folder over the network. The file permissions, however, can also limit access to the files and folders within a share, or who can see the files and folders when they’re logged directly into your computer.
Tracking Passwords with Keychain Access

When you use Safari, connect to file shares, or use other secure services, you’re frequently prompted to Save to Keychain. When you save your passwords, you’re storing them in a special system-wide database that manages secure information—called the keychain.

Unknown to many, you can use the Keychain Access utility (found in the Applications/Utilities folder or in the Utilities Launchpad group) to view and modify records in your keychain. You can even use Keychain Access to store arbitrary data (such as notes, passwords, and so on) that you’d like to have encrypted. Keychain values can be accessed only when the keychain is unlocked.

There are multiple keychain databases you can access or create. By default, passwords and account information are stored in a keychain named Login, which is automatically unlocked when you log in to your account.

View Keychain Items

You can access your Login keychain entries at any time. To view an item that has been stored in your keychain, follow these steps:

1. Open the Keychain Access application from the Applications/Utilities folder or Launchpad.

2. Choose the keychain you want to view (Login is where most items are located).
3. Select the category of data you want to view.
4. Double-click the keychain entry to open a window displaying the details.
5. Click Show Password to authenticate and display the keychain password in clear text.
6. Close the keychain entry window.
Add Data to the Keychain

There are two types of information you can manually store in a keychain—secure notes and password items. Notes can be arbitrary text, and password items are generally a username, password, and a name for the item you’re adding.

Collect the information you want to add and then follow these steps:

1. Open the Keychain Access application.
2. Choose the keychain to which you want to add data.
3. Select the Passwords or Secure Notes categories to set which type of information you are storing.
4. Click the + button at the bottom of the Keychain Access window.
5. Enter your note or account information in the form that appears.
6. Click Add.
7. The new entry appears in the keychain.
Using the Password Assistant

When adding a new password, you might notice a key icon by the password field. Clicking the key launches a password assistant that creates a secure password for you. The key icon and password assistant are found throughout the Sierra interface where passwords are required.

Create a New Keychain

The Login keychain stores almost everything related to accounts you’ve configured in Sierra, but because it is designed to be automatically unlocked at login, you might want to create another keychain that is only unlocked when you want it to be. To do so, follow these steps:

1. Open the Keychain Access application and choose File, New Keychain from the menu.
2. Enter a name for the keychain and then click Create.
3. You are prompted for a password to secure the new keychain. Enter a secure password in the New Password and Verify fields.

4. Click OK.
5. The new keychain is displayed in the keychain list, and you can store any data you’d like in it.
6. Continue adding items or choose Keychain Access, Quit Keychain Access to exit (not shown).

Add a Keychain Menu Item
To quickly unlock and lock keychains, you can add a keychain item to your menu bar:
   1. Open the Keychain Access application and choose Keychain Access, Preferences from the menu.
2. Click the General button at the top of the window.
3. Click Show Keychain Status in Menu Bar.
4. Close the Preferences.
5. The Keychain Lock menu item is added, giving easy access to unlocking and locking your keychains.

Encrypting Your macOS Disk
One of the best ways to secure sensitive information is through encryption. The Keychain Utility provides an encryption feature for small pieces of data, but not for your documents. To fully encrypt all data on your Mac, you can make use of FileVault disk-level encryption.

**Activate FileVault**

To turn on FileVault encryption for your Mac, complete the following steps:

1. Open the System Preferences window and click the Security & Privacy icon.

2. Click the FileVault button at the top of the panel.

3. Click Turn On FileVault. Depending on the last time you authenticated, you might need to click the Lock icon at the bottom-left corner of the panel before you can make any changes.
4. Choose whether your iCloud account can unlock FileVault if you forget your password. Alternatively, you can have FileVault create a recovery key that you must manually store in a secure location.

5. Click Continue.
6. Click Enable User and supply each user’s password for those who should be able to unlock the protected disk. By default, the person activating FileVault has access, so if your Mac has only one account, you won’t have to do this step.

7. Click Continue.

8. Click Restart to restart your Mac and begin encrypting your drive. This process takes place in
Effortless Encryption
FileVault encryption is completely transparent. Your entire disk is encrypted and made available to you when you log in. If another user tries to access files in your account, or even removes the drive from your computer to try to access its contents, they won’t be able to.

Application Execution Security
With Sierra, you can limit your computer’s ability to run applications from sources other than the App Store or from developers who have registered an ID with Apple. Why would you want to do this? Because software from unknown sources can be hazardous to your system’s health!

Set Application Execution Limits
By default, Sierra enables you to install and use applications from the App Store only. To change this to better suit your sense of well-being, follow these steps:

1. Open the System Preferences window and click the Security & Privacy icon.
2. Click the General button at the top of the panel.
3. Use the radio buttons at the bottom of the window to choose which applications you want to be allowed on your system.
4. Close the System Preferences.
How Do I Open Applications That Aren’t from the App Store or a Registered Developer?!

Sierra has completely hidden the option to open any application not from the App Store or a registered developer. You can still open any application on a case-by-case basis by right-clicking the icon and choosing Open. Keep in mind you should only do this if you know and trust the source of the application.

Everyone Is Affected!
The application limits you set here apply to the entire system, so software previously installed and functional might stop working if you make changes.

Many power users want to set the limit to allow applications downloaded from anywhere, which provides the most flexibility. Most of us, however, will be best protected using the Mac App Store and Identified Developers setting.

---

**Adding Network Security with the Built-In Firewall**

Many applications open themselves to connections from the outside—opening you, in turn, to Internet attacks. Firewalls block these connections before your computer accepts them. Sierra offers an easy-to-configure firewall that lets you choose what network services your Mac exposes to the world.

**Activate the Sierra Firewall**

To turn on the Sierra firewall, follow these steps:

1. Open the System Preferences window and click the Security & Privacy icon.

2. Click the Firewall button at the top of the panel.

3. Click Turn On Firewall.
4. The circle beside the Firewall: Off label turns green and the label changes to Firewall: On to indicate that the firewall is active.

5. Close the System Preferences, or continue configuring Incoming Services.
Configure Incoming Services
After your firewall is active, you need to choose which connections to allow and which to block. To define how the firewall reacts to incoming requests, use this process:

1. Open the System Preferences window and click the Security & Privacy icon.
2. Click the Firewall button at the top of the panel.
3. Click Firewall Options.
4. Click the Block All Incoming Connections check box to block all incoming connections.
5. Use the pop-up menu beside each of your running applications to choose whether it should allow or block incoming connections.
6. Add or remove applications from the list using the + and – buttons.
7. To automatically allow all built-in (Apple) software to receive connections over the network, make sure that Automatically Allow Built-in Software to Receive Incoming Connections is checked.
8. If you want applications that have been signed (where the publisher is a known and registered entity) to automatically accept connections, click the Automatically Allow Downloaded Signed Software to Receive Incoming Connections check box.

9. Click Enable Stealth Mode if you’d like your computer to appear offline to most network device scans.

10. Click OK to save your configuration.

Advantages of a Signature

A signed application does not make it more or less susceptible to network attack. It does, however, give you a degree of certainty that the application is not a Trojan horse or spyware specifically designed to infect your computer.

Hide Location Information and Application Data

If you have an iOS device, you’re probably accustomed to it asking you whether it can share your location with an application. In Sierra, the operating system can also determine your approximate
location and share that information as well. It can also collect information on your application usage and send it to Apple for use in “improving its products.” If you’d prefer not to make this information available, follow these steps:

1. Open the System Preferences and click the Security & Privacy icon.

   ![System Preferences](image)

2. Click the Privacy button at the top of the panel.

3. Select a category of information to protect, such as your location, your contacts (address book), or information about your application usage.

4. Use the controls associated with each type of data to enable or disable access to it.

5. Close the System Preferences.
Sharing Isn’t Always Bad
Before disabling all these services, be aware that sending information to Apple can be critical for them to correct bugs in Sierra. Applications that use your location or contacts prompt you before they do so, so they can’t use location information without permission.

Backing Up Important Information
An often-overlooked part of security is information availability—in other words, ensuring that information is available when it is needed. If your hard drive fails, your data is unavailable, and
items of value can be lost. Backups are the best way to keep your system ready if disaster strikes. Apple provides an extremely simple backup mechanism in the form of Time Machine, a transparent solution built into Sierra.

Quick Backups
You can create ad-hoc backups in Sierra by using CD/DVDs with your Mac’s optical drive (if it has one!) or USB flash drives. Both act just like a normal disk when inserted.

Using Time Machine
The Time Machine feature in Sierra is a backup solution that is painless to use, covers your entire system, and can restore files from multiple different points in time. Even better, configuration for Time Machine is actually easier than traditional backup solutions that require extensive disk management.

>>Go Further: Time Capsule Backups
To use Time Machine, you need a hard drive or network share to use as your backup volume. You can use any external drive, but it should have at least twice the capacity of your internal hard drive. An easy solution is to use an Apple Time Capsule wireless access point (www.apple.com/timecapsule/).

Before continuing, you should make sure that you can mount your Time Machine volume (either locally or over the network) on your Mac. (Chapter 8, “Managing Who, Where, When, and What,” and the online Chapter 16, “Upgrading Your Mac,” can help here.)

Activate Time Machine
After mounting your Time Machine backup volume on your Mac, follow these steps to configure Time Machine to begin backing up your system:

1. Open the System Preferences window and click the Time Machine icon.
2. Check the Back Up Automatically check box.
3. Choose an available disk(s) from the list that appears.
4. Click Encrypt Backups if you’d like your backup data to be stored in a fully encrypted format.
5. Click Use Disk. (If you’re using a network volume, enter your username and password, and then click Connect.)
6. The Time Machine backups are scheduled and begin after a few seconds.
7. Close the System Preferences.
Customize the Time Machine Backups
To further customize your Time Machine backup, including files that you want to skip, complete these steps:

1. Open the System Preferences window and click the Time Machine icon.

2. Click Options.
3. Use the + and – to add or remove individual files, folders, and volumes to the Time Machine exclusion list. These items are skipped during the backup.

4. Click Notify After Old Backups Are Deleted to receive warnings as old information is removed to make space for new data. Use the Backup While on Battery Power check box to have your MacBook use Time Machine while running off its battery.

5. Click Save.

6. Close the System Preferences.
Add a Time Machine Menu Item
To monitor your Time Machine backups and quickly launch a Time Machine restore, you can add a menu item to your menu bar:

1. Open the System Preferences window and click the Time Machine icon.
2. Click the Show Time Machine in Menu Bar check box.
3. The menu item is added to your menu bar. A small triangle appears in the icon when a backup is running.

4. Click the Time Machine menu item to start and stop backups and enter the Time Machine restore process.
Recover Data

Recovering data from a Time Machine backup is one of the more unique experiences you can have in Sierra. Follow these steps to enter the Time Machine and recover files from the past:

1. Open the Time Machine using the application (Applications/Time Machine) or Time Machine menu item.

2. Navigate to a location on your disk that holds (or held) the file or folder you want to restore. For example, if you deleted an application and want to restore it, open the Applications folder.

3. Use the arrows on the right (or directly click the timeline) to choose a point in time. The window updates to show the state of the file system at the chosen time.

4. When viewing the files/folders you want to restore, click the Restore button under the file system window. The files are restored to match the snapshot.
5. Click Cancel to exit.

Find the Missing Files
Searches are active in Time Machine. Use the Search field in the Finder window to help identify files to restore.

Restore a Machine from Scratch
If your Mac suffers a complete hard drive failure, you can use your Time Machine backup to recover everything on your system. Make sure you have a bootable disk or can boot from the recovery partition (Command+R); see the online Chapter 15, “Troubleshooting Your System,” for details.

1. Boot from your media or the Sierra recovery partition, and then click Restore from Time Machine Backup.
2. Click Continue.
3. When the Restore Your System window appears, click Continue.
4. Choose your Time Machine disk from the list that appears.
Select the backup and backup date that you want to restore, and follow the onscreen steps to complete the restoration (not shown).

Sierra’s Recovery Feature
If your hard drive is still functional, you can boot off the Sierra recovery partition that was automatically created when the operating system was installed. To do this, simply hold down Command+R while turning on or restarting your computer.

Even if your drive has failed, many Mac models made in 2010 and later can boot using the Internet and Apple’s remote servers. Command+R first tries to boot from a local recovery partition; if that fails, it then tries using the Internet recovery method. The recovery feature gives you access to disk repair and formatting tools, Time Machine restores, and even a full reinstall of the operating system.

Using File Versions
Sierra also includes a Time Machine-like feature called Versions. Unlike Time Machine, however,
Versions keeps revisions of your files’ contents. As you make changes, Sierra automatically saves the changes so that you can browse your editing history over time.

Manually Save a Version
The Sierra versioning system is built to automatically save versions of your files as you edit—no manual saving is required. If you’d like to explicitly tell the system to save a version, you can, by following these steps:

1. Make the desired changes to your document.
2. Choose File, Save.
3. A new version is added to the document’s version history (not shown).

Unlock to Change
If you find a document that can’t be changed, it is likely locked. You can unlock documents by getting info (File, Get Info) in the Finder and unchecking the Locked box in the General information section.

Restore a File Version
Accessing the version history of a document is very similar to using Time Machine. To view and access the version history of a file, do the following:

1. Within the document that has history you want to access, choose File, Revert To, Browse All Versions from the menu bar.
2. The Version screen is displayed.
3. The current document is located on the left.
4. Use the timeline on the right to browse through different versions of your file.
5. The previous versions of the file are displayed on the right.
6. You can copy and paste text from the document on the right into the document on the left, but you cannot make changes to the previous versions.
7. To completely restore a previous version of the file, view the version you want to restore on the right, and then click the Restore button.
8. Click the Done button to exit the file version history.
It’s Not All Good: Don’t Rely on Versions without Testing!

It is up to the individual developer to add Versions support to their apps, so verify that it works in your application before relying on it. If your app doesn’t support Versions, you can still use Time Machine to recall earlier copies of its documents.

>>>Go Further: Use iCloud for Off-Site Storage

If you’ve chosen to store your Desktop and Documents in iCloud, you have an offsite backup without even trying! That said, if you choose not to use this feature, or you store files outside of the Desktop and Documents folders, you can still use iCloud to make a backup.

To move critical files to iCloud, click a document’s name in the title bar when editing and then use the Where drop-down menu to choose one of the options under iCloud Library. Choose the name of your application (followed by iCloud) to move to an iCloud folder specifically for that application, or just pick iCloud Drive to place it at the top level of your iCloud drive.
storage. The file immediately moves to the cloud. Using iCloud ensures that all your iCloud-connected devices have access to the file as well. Learn more about iCloud in Chapter 4, “Setting Up iCloud and Internet Accounts.”
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15. Troubleshooting Your System

In this chapter, you learn how to recover and correct common errors that you might encounter when using your system, including:

- Force-quitting applications
- Removing application preferences
- Booting in Safe Mode
- Controlling background processes
- Changing login and startup items
- Repairing disk errors
- Generating a system profile for diagnostics
Finding your support options

Your Mac is a great piece of hardware combined with a great operating system. Even so, things can still go wrong; applications can crash or “stop working,” and strange errors might crop up over time. If you find that your computer isn’t behaving as you expect, you have a handful of Sierra tools available for identifying or correcting the problem.

Keep in mind that not every problem is a user-serviceable issue. Although I have yet to experience a catastrophe on my Mac, they do happen. Keep the information about your purchase and warranty in a memorable location so that it’s handy in the rare case that your system becomes totally nonfunctional.

Dealing with Troublesome Software

The most common problem with the Mac is a frozen or “stuck” application. When this happens, the software becomes unresponsive and the cursor most often turns into the “spinning beach ball of death.”

To deal with the problem, first consult any troubleshooting information provided by the software publisher. After you’ve exhausted any official support sources, you can try the following troubleshooting steps.

Force-Quit Applications
Correcting most application problems is a matter of forcing the application to quit and then restarting it. To force-quit any application, follow these steps:

1. Press the Command, Option, and Escape keys simultaneously on your keyboard.
2. The Force Quit Applications window appears, listing all of the running applications.

3. Choose the application to terminate by clicking its name. If the system has detected that the application is hung, it is displayed in red.

4. Click Force Quit or Relaunch (if restarting the Finder).
Quick Force Quit
You can also force-quit applications using the Force Quit option under the Apple menu or by clicking and holding a “stuck” application icon in the Dock.

5. You might receive a prompt to send diagnostic information to Apple to report the crash.
6. You can ignore this message and press Command+Q to exit, click OK to send the report to Apple for review, or click Reopen to send the report and restart the application.
Test with the Guest Account

If an application continues to crash after it has been restarted, there might be a problem with the application’s support or preferences files. Before doing any destructive system surgery, follow these steps to verify the problem:

1. Enable the Guest account as described in Chapter 14, “Securing and Protecting Your Mac.”
2. Use the Apple menu to log out of your account.

3. Log into the Guest account.
4. Attempt to run the application that was crashing. If the application runs normally, your main account likely has corrupted files. If the application continues to crash, re-install the most up-to-date version using the installer provided by the software publisher. You might want to disable the Guest account when you are finished testing (not shown).

---

**Speed Up Troubleshooting with Fast User Switching**

You can also use Fast User Switching to quickly switch between your account and the Guest account without needing to log out. Add a fast user switching menu to your menu bar by opening the Users & Groups System Preferences panel, clicking Login Options, and then choosing Show Fast User Switching Menu.

---

**Remove Corrupted Application Files**

If a crashing application runs correctly under another account, you almost certainly have corrupted application support files or preferences located in your account. If the application came with an installer file, try running the installer to fix the broken files, or delete the application and reinstall from the Mac App Store. If you don’t have an installer file or you didn’t purchase the software through the App Store, follow these steps to delete the problem files:

1. Within the Finder, hold down Option and choose Library from the Go menu.
2. In the search field, type the name of the application that is crashing.
3. Choose the Filenames selection in the Spotlight Search drop-down menu that appears.
4. Click Library in the Spotlight Search filter bar.
5. Click the + button to add a new search criterion.
6. Choose Other from the first search attribute drop-down menu.
7. Find System Files in the attribute list and check the In Menu check box beside it. It doesn’t matter if other attributes are checked.

8. Click OK.
9. Select Are Included and System Files in the drop-down menu next to it.

10. Review the search results. When you select a file in the results, the path where it is located is shown at the bottom of the results window.

11. Move any files or folders matched by the search results from the Preferences, Caches, or Application Support folders to a temporary location on your desktop. (You can create a Temporary Files folder for just this purpose.)
12. Try running the crashing application again (not shown). If the problem is solved, delete the files you removed; otherwise, choose Edit, Undo in the Finder to put the files back—and then contact the software publisher.

Restarting and Correcting a Frozen Machine

On very rare occasions, your system might freeze entirely, forcing you to reboot. If you find yourself in this situation, first determine whether the problem is a fluke, or if it will happen with each restart.

Power down your frozen Mac by holding the power button for five or more seconds. After it turns off, disconnect any peripheral devices plugged into your computer. Press the Power key to restart the Mac. If it freezes again, follow the instructions in this section, beginning with “Start in Safe Mode.”

Start in Safe Mode

When you encounter problems, Sierra allows you to start up in Safe Mode, which disables non-Apple additions to the system and prevents applications from automatically launching when you log in.

1. With your Mac powered down, hold down the Shift key. While continuing to hold down the Shift key, press the Mac Power button (not pictured).
2. Continue to hold down the Shift key until your Sierra desktop appears. (This can take much longer than a normal boot.) Use your computer as you normally would. If the problems you had experienced are gone, you might need to remove non-Apple software that has been installed and is running when the system boots, such as login applications or launch daemons.
Change Login Applications

When you log in to your account, a variety of applications might launch and perform tasks in the background. Sometimes, however, these applications can cause problems that affect other software. To view, add, or remove login applications, follow these steps:

1. Open System Preferences and click the Users & Groups icon.
2. Select your account from the account list.
3. Click the Login Items button to display software configured to launch when you log in to your account.
4. Choose any applications that you want to remove and then click the - button to remove them from the list.
5. If you want to add applications back to the list in the future, either drag their icons from a Finder window into the list of items, or click the + button to choose them from a file browser dialog.
6. Close System Preferences.
Check to Hide

The Hide check box in front of the Login Items is not used to disable them! This can be confusing for individuals who were used to the Extension Manager in older versions of Mac OS. Using the Hide button for an application simply hides the windows after the application launches.

Remove Startup Applications and Launch Daemons

Login items and restored applications aren’t the only things that run automatically when you start your Mac. There are several locations where software packages might install tasks that need to run when your system is booted. These tasks are referred to as launch daemons, launch agents, and startup items. To find and disable these invisible applications, follow these steps:

1. Choose Go, Go to Folder from the Finder menu bar.
2. Type one of the following paths into the field that appears: ~/Library/LaunchAgents, ~/Library/LaunchDaemons, /Library/LaunchAgents, /Library/LaunchDaemons, /Library/StartupItems.

3. Click Go.

4. Review the contents of the folder for a file or folder with a name that matches a software title or software publisher name for the software that you’ve installed.
5. Move any matched files to the Trash.

6. Provide an administrator username and password if prompted, and click OK.

7. Repeat steps 1-6 for all folders listed in step 2.

8. Restart your computer from the Apple menu. The background processes will no longer run when you boot your system.
Remove Unneeded Files

If you’re content with the result, you can now delete the files you removed. If necessary, reinstall the software to correctly re-enable the background processes.

Disable Extensions

After installing a new piece of software, you might find that your computer is acting up. The cause may be an extension—a small piece of software that runs at a very low level to provide a service to your system (the equivalent of a Windows driver). To remove an extension that the software installed, follow these steps:

1. Choose Go, Go to Folder from the Finder menu bar.

2. Type the path /Library/Extensions into the Go to the Folder field.
3. Click Go.

4. Review the contents of the directory to positively identify an extension (.kext) file that matches a device or device manufacturer that you want to remove.

5. Drag the matching file to the Trash can.

6. Provide an administrator username and password when prompted, and click OK.
7. Restart Sierra.

8. Delete the extension file if you have confirmed it’s causing the problem, or move it back to the Extensions folder to re-enable it (not shown).

**Avoid the System Folder!**

If at all possible, you should avoid modifying any folder within the System folder. Only use the steps described here if your system is consistently crashing after you’ve installed a piece of hardware or software!

**Remove System Preferences Panes**

Frequently, system features are added through System Preferences panes that are installed for your account or for all accounts on the system. If you suspect that a System Preferences item that you installed is causing a problem, you can remove it by doing the following:

1. Open the System Preferences application.
2. Right-click (or Control-click) the Preferences pane that you want to remove.
4. Close the System Preferences application.
Fixing Disk Problems

Disk errors, when they occur, can be an upsetting problem to diagnose. Applications might freeze, the system might slow down, and so on. It's difficult to predict how a given piece of software will behave if it encounters a disk problem that it wasn’t expecting. Thankfully, Sierra provides a tool, Disk Utility (found in the Applications folder under Utilities/Disk Utility), for verifying and correcting problems with common disk errors.

Perform Simple Disk Repairs
To verify that your disk is, or isn’t, suffering from an error and (potentially) repair it, follow these steps:

1. Open the Disk Utility application found in the Utilities subfolder of the Applications folder.

2. Choose your Mac disk from the list of disks that appears on the left side of the window.
3. Click the First Aid button on the left side of the Disk Utility toolbar.

---

**Pain-Free Fusion**

Do you have a nifty Apple Fusion drive in your Mac? Think you might need a disk repair? Just proceed as if you had a normal hard drive. The Fusion drive is completely transparent to the end user. There are no user-configurable options, and it presents itself in Disk Utility just like a normal non-Fusion drive.
4. Click the Run button to begin checking your disk for errors.

5. If errors are detected, Disk Utility attempts to correct them. Sometimes this is not possible when booted into your main Sierra installation. If the operation is not successful, you need to run a repair using the recovery partition (covered next).

6. Click Done.

7. Exit Disk Utility by closing the window.
Repair Your Disk Using the Recovery Partition

Repairing disk errors sometimes requires that you boot from your Sierra recovery partition. Follow these steps to repair your disk:

1. Reboot or start your Mac while holding down Command+R.
2. Choose Disk Utility from the list that appears.
3. Click Continue.
4. Follow steps 2-4 in the preceding exercise (not shown).
5. Click Done when finished.
7. Reboot your computer to re-enter Sierra (not shown).

**Internet Recovery**

As mentioned in the preceding task, you can boot into the recovery partition by holding down Command+R when starting your Mac. But what if that partition is damaged? Even if there are serious errors with the recovery partition, most Macs made since 2010 can boot from Apple’s Internet restore site using the same command sequence. This takes longer but works identically to using the local recovery partition.

>>>Go Further: Building a Repair Toolkit

Disk Utility is capable of fixing only common problems. In the case of a serious issue, Disk Utility warns that it can’t solve the problem, but it makes no suggestions for how to proceed. If you have experienced a serious drive error, you should consider investing in DiskWarrior (http://www.alsoft.com/DiskWarrior/) or TechTool Pro (http://www.micromat.com/). These third-party tools provide much more robust diagnostic and recovery features than Disk Utility does.

Gathering Information About Your Mac
Sometimes, the best way to figure out what is going on with your computer is to ask it. Your Mac can provide a great deal of information about its current operation by way of the built-in monitoring and reporting software. These tools can also help you prepare a report to hand over to the Apple Store Genius or other technicians in the event you need to take in your equipment for service.

**Monitor System Activity**

The Activity Monitor (found in the Applications folder under Utilities/Activity Monitor) delivers instant feedback on the software running on your system, the amount of memory in use, and how much of your processing power is being consumed. To use Activity Monitor to identify processes with excessive resource consumption, follow these steps:

1. Open the Activity Monitor application found in the Utilities subfolder of the Applications folder.

![Activity Monitor](image)

2. A list of processes is displayed.
3. Track down resource hogs by using the column headings to sort by CPU usage, the amount of virtual memory, or the threads being used.
4. If an offending process is located, click to highlight it, and click the stop sign icon in the toolbar to force it to quit.
5. Use the buttons above the process list to show overall CPU, Memory, Energy, Disk activity, and Network activity in the graphs at the bottom of the screen.
Go Further: How is Using the Activity Monitor Different from Force Quitting Within the Finder?

In addition to the detailed information on the processes running on your system, the Activity Monitor also enables you to see active background processes. These processes might have been started by an application or script and, without any visual warning in the Finder or Dock, have hung or crashed. Hung processes are indicated by a “Not Responding” message beside them. Using the Activity Monitor, you can identify these troublemakers and “kill” them.

Generate a System Profiler Report

If you’ve ever been asked to “describe your computer” for the purposes of obtaining technical assistance, it’s hard to know what information to provide. Using Sierra’s System Information utility, however, you can quickly create reports on your hardware, peripherals, and even software.
installations.

1. Open the System Information application found in the Utilities subfolder of the Applications folder.

   ![Image of System Information application]

2. Use the list on the left side of the window to choose an information category.

3. Click the category you’d like to view information on, such as Memory or Applications.

4. Details of the chosen category display on the right.

   ![Image of System Information window with Memory Slots]

5. Save a copy of the report by choosing File, Save.
6. Choose a report name and save location.
7. Click Save.

8. Alternatively, Choose File, Send to Apple to send your system information to Apple for technical support.

9. When prompted with the Privacy Agreement, click the Send to Apple button.
Lengthy Reports

Although System Information offers a Print option, be careful when choosing it! A full system report can be more than 400 pages long!

View the System Logs

To get a view of any errors that your system might be logging “behind the scenes,” you need to take advantage of the Console utility. Console enables you to monitor the various system logs generated when Sierra logs errors or other information. To view your system logs through Console, follow these steps:

1. Open the Console application found in the Utilities subfolder of the Applications folder.

2. The current console error and warning messages are displayed in the content area to the right.
3. A list of available application- or feature-specific logs and filtered logs displays on the left.
4. Click a log/filter name to display the contents of that entry.
5. If the Now button is selected in the toolbar, the display automatically updates as new items are added to the log.
6. Choose your machine name on the left to view informational messages not being sent to log files.

Review Your System Log

Many application errors and warnings are logged to the file system.log. To help diagnose a problem with a specific application, try running the application while the Console utility is open and displaying system.log.

There’s a good chance you’ll see hidden errors being generated by the software.

Remember Your Backups!
If all else fails, remember your backups! Chapter 14 includes methods for backing up your data. If your system reaches an unusable state or files have become corrupted beyond recovery, you should always have your backups ready to come to the rescue. If you’re reading this and don’t have a backup plan in place, turn to Chapter 14 and start reading now.

**View System Support Options**

Ever wonder about your support options for your Mac? Sierra makes it simple to find out what your warranty options are, as well as how to access community support resources for macOS. To access these features, follow these steps:

1. Choose About This Mac from the Apple menu.

![About This Mac menu](image)

2. Use the Support button to access online support resources for Sierra.
3. Use the Service button to check on repairs, service, and AppleCare extended protection.
In this chapter, you learn how to upgrade the built-in capabilities of your Mac’s hardware and software, including:

- Upgrading the built-in memory
- Reinitializing the boot volume
- Using external storage devices
- Finding Thunderbolt devices

It’s amazing how quickly “more than I’ll ever use” becomes “less than I need.” Even though your Mac likely came with at least 4 gigabytes of memory and a few hundred gigabytes of storage, chances are you’ll eventually need more. Some Mac models’ internal memory can be upgraded, but hard drives require potentially warranty-voiding surgery. Thankfully, with the high-speed buses on the Mac (Thunderbolt 1/2/3, USB 2/3/C, and, in some models, Firewire), you can make use of a wide range of external storage media.

Upgrading Your Built-In Hardware
As the years go by, computers get thinner and more complex—and our upgrade options fade. Of the Macs shipping in 2016, with the exception of the Pro, none officially support hard drive replacements. Apple has gone through several different iterations of computer cases in the past few years, and it’s impossible to describe the process in detail without knowing what model you have.

To locate the installation instructions for RAM and hard drives, review the manual that came with your computer. You can find an electronic copy by clicking the Apple menu, choosing About This Mac, and then clicking the Support tab. Alternatively, visit https://support.apple.com/manuals. The Apple support site has manuals for all the Mac models online. (You can even search by serial number.)

If you’re adventurous (and technically adept), you might want to visit https://www.ifixit.com/Device/Mac for detailed installation guides for Mac hardware, including hard drives. These guides will void your warranty, but they’re clearly written—and when you’re out of support options, they can extend the life of your computer.

General Guidelines for Conducting Mac Surgery

If supported, replacing RAM in your Mac isn’t difficult, but it does require a screwdriver. As long as you follow Apple’s instructions and keep a few key points in mind, the process should be painless:

- Always perform the upgrades on a flat, clean surface with your Mac face down on a protective cloth. Removing the RAM upgrade cover is easy, but (trust me on this) don’t try opening it up with your computer lying on its side or balanced precariously.
- Make sure that your system is shut down and unplugged before you open it. Upgrading the RAM on a computer that is sleeping is not a good idea.
- Before beginning work, discharge any static electricity that you might be carrying by touching the metal housing of a grounded object. Most appliances with a 3-prong power cord, or even your Mac’s aluminum case (prior to unplugging it) will do the trick.
- Do not rush. If parts appear to be sticking, re-read the instructions and make sure that you are following them exactly. There should be minor resistance when you remove the RAM, but these actions should not be feats of strength.
- Do not force connections. As with removing components, there should only be minor resistance when you install RAM.
- Make sure you use components that match Apple’s upgrade recommendations. Even if RAM technically fits, that doesn’t mean it’s compatible with your system. Apple has strict requirements on memory timing, so be sure to match what you’re buying with Apple’s specs. A great source is www.crucial.com.
- Do not over-tighten (or over-loosen) screws. Most of the upgrade compartments have screws retained in the covers (they don’t come all the way out). If you keep turning them, you might end up breaking them.
- Don’t throw out your old hardware! If you need to take your machine to Apple for service, it might be necessary to return it to factory defaults.
Document with Digital Photography

If you have an iPhone, iPad, or other digital camera, I recommend taking a photograph of each step of the disassembly process—especially if it is an unsupported upgrade. The photos give you a visual reference of how the system should look when you are reassembling it.

Verify Your Mac RAM Upgrade

After completing an upgrade on your Mac’s RAM, you should always check to make sure that your system recognizes the memory you’ve added. Follow these steps to check your installed RAM:

1. Open the System Information utility (found in the Applications folder under Utilities).

2. Expand the Hardware category.
3. Select Memory.
4. Expand the Memory Slots item to view the individual DIMMs (dual in-line memory modules) installed in the system.
5. Verify that the memory size and speed match what you added to your system. If these do not match, re-open your Mac and try removing and re-installing the RAM.
Simplified System Stats

You can access a simplified version of System Information (including a display of installed memory) by choosing About This Mac from the Apple menu.

Prepare a New Boot Drive

If you’ve been forced to have a repair shop replace your hard drive (or have done it yourself), you have a slight problem—Sierra is no longer installed, so there’s nothing to boot from. To re-install macOS, you need to prepare the new hard drive:

1. Start your Mac while holding down Command+R. This boots from the recovery partition, if available, or from Apple’s Internet-based recovery disk.
2. Choose the Disk Utility item from the list of utilities.
3. Click the Continue button.
4. Choose your new Mac disk from the list of disks that appears on the left side of the window.
5. Click the Erase button in the Disk Utility window toolbar.
6. Enter a name for the new startup disk you’re formatting.

7. In the Format pop-up menu, choose OS X Extended (Journaled).

8. Click Erase.

10. Select Reinstall OS X or Restore from Time Machine Backup.
11. Click Continue to begin installing Sierra on your freshly prepared disk.

Creating Bootable Media

Apple has stopped selling bootable media for reinstalling your operating system. But don’t worry; you can still make your own bootable USB flash drive or DVD if needed. Read this article for the details: [http://www.imore.com/how-make-bootable-installer-drive](http://www.imore.com/how-make-bootable-installer-drive).

Copying an Existing Disk

To create an exact duplicate of an existing disk in (or attached to) your Mac, select the disk you want to copy to, and then click the Restore button in the Disk Utility toolbar.
Adding External Storage

Long before PCs had a reasonable standard for connecting external storage, the Macintosh had external drives galore—thanks to a protocol called SCSI. This tradition of expandability continues with your Mac. Depending on your model, you have USB-C (MacBook 2015 or later), USB 3.0 ports (2012 and later models), a combination of USB 2.0 and Firewire ports (2011 and earlier models), or a high-speed, daisy-chainable Thunderbolt port (2011 and later models). Most Mac owners also have an SD (secure digital) card slot, which makes it possible to access the popular memory format used in many digital cameras and other devices.

Prepare the Storage Device

Before using a hard drive, thumb drive, or SD card with your system, you need to initialize it with a format that best suits your needs. The Disk Utility application (from the Finder, choose Applications/Utilities/Disk Utility) is your one-stop-shop for preparing storage devices for use on your Mac.

There are three primary formats used in Sierra:

- **MS-DOS (FAT)**—A disk file system accessible on any Windows-based system as well as your Mac.
- **ExFAT**—A disk format, created by Microsoft, that is especially suited to Flash drives. This format can be used across macOS (10.6+) and Windows systems (XP and later).
- **OS X Extended (Journaled)**—The modern macOS disk standard that offers basic error correction through a process called journaling.

**Stick with OS X Extended (Journaled)**

There are several other variations of the OS X Extended format available, but most are used in very specialized applications, such as server systems. The exception is OS X Extended (Journaled, Encrypted), which you can choose for full disk encryption.

Initializing Your Storage Device

With your storage in hand, follow these steps to erase and initialize your storage device:

1. Open the Disk Utility application found in the Utilities subfolder of the Applications folder.
2. Plug the storage device into your Mac. The device appears in the device/volume list on the left. You’ll probably see at least two entries for each drive. The first entry is the device itself; the others are existing volumes located on the device.

3. Click to select the device you want to prepare.

4. Click the Erase button in the Disk Utility window.

5. Enter a name for the volume you’re creating.

6. Use the Format pop-up menu to choose the type of format you want to use on the device.
7. Leave the Scheme menu set to the defaults. The GUID Partition Map allows the device to be used across modern Mac and Windows machines, whereas the Apple Partition Map restricts use to only Apple systems, and the Master Boot Record is used for legacy Windows devices.

8. If the device you’re initializing previously stored sensitive information, click the Security Options button to choose how thoroughly the erase process will be.

9. Click Erase.

10. A new disk icon appears in the Finder. This is your initialized and ready-for-use volume.
Reformat for Efficiency

Many external drives and thumb drives are already formatted with the MS-DOS (FAT) file system. These drives are “plug and play” on both Windows and Macintosh systems, which means that you won’t get the most efficient use of the storage space until you reinitialize the device with OS X Extended or ExFAT.

Initializing in the Finder

If you encounter a completely unformatted disk (most packaged external drives you buy are formatted for Mac or Windows), you receive a prompt in the Finder allowing you to begin the initialization process without opening Disk Utility first. Nowadays, however, this is a pretty rare occurrence.

Mount and Unmount Devices

Any storage device with a recognized file system can be connected and mounted on your Mac. To use your properly prepared storage, use the following approach:

1. Plug the device into your Mac to mount it (not shown).
2. The volumes located on the device are mounted in the sidebar (in the Devices category) and the files and folders are made accessible through the Finder. Be aware that you might need to click the Show link beside Devices if the category is collapsed.
3. To unmount (eject) a volume, click the Eject icon beside the volume’s name in the Finder sidebar.

*Time Machine Awaits*

If you initialize a new disk or plug a new disk into your computer, Sierra asks if you want to use it for backup with Time Machine. You can use this prompt to jump straight into Time Machine setup, or dismiss the dialog box to use the disk for day-to-day storage.

*Using NTFS-Formatted Disks*

Most Windows-based systems now use a file system called NTFS. Your Mac is capable of mounting and reading NTFS volumes, even though it can’t create new volumes in the NTFS format.


>>>Go Further: Finding Thunderbolt Accessories

Thunderbolt is available on all currently shipping Mac models (with the exception of the USB-C Retina MacBook) and is Apple’s focus for long-term Mac expansion. The Thunderbolt interface can daisy-chain a variety of peripherals, including displays, storage, video capture cards, and more. To learn more about what you can do with your Thunderbolt port, visit: [www.apple.com/thunderbolt/](http://www.apple.com/thunderbolt/)
It’s Not All Good: Bring Back Firewire!

If you have Firewire storage and a new Mac, you’ll notice that there isn’t a Firewire port. Never fear, Apple has a simple solution: Browse the Apple Store for a Thunderbolt-to-Firewire connector that (for a nominal fee) will get you back in business.