CHAPTER 01

Getting Started

01

GETTING STARTED: Foundations for Success
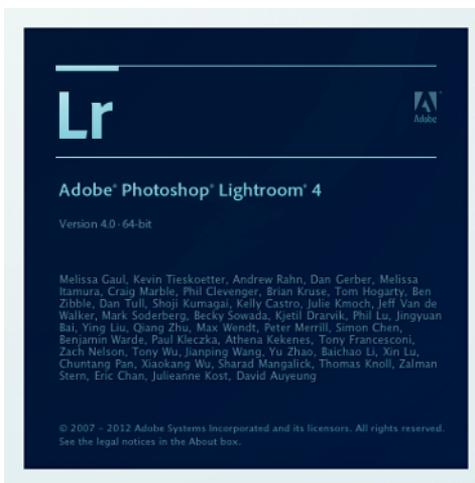
WELCOME TO LIGHTROOM 4

Adobe Photoshop Lightroom is a full-featured software program for digital image management and processing, designed for professional and serious amateur photographers alike. As the official Adobe press release explains, Lightroom enables photographers to "import, manage, enhance and showcase" all their photos and videos. Lightroom 4.0 is a major upgrade and is recommended for all previous users as well as those just getting started with Lightroom.

Lightroom's integrated approach to handling the entire digital photography workflow offers photographers significant advantages over other individual programs. However, if you also want to use other software, Lightroom also integrates very well with other programs—you can use Lightroom as the hub of your image processing system and easily jump over to other software (including Photoshop) to perform specialized tasks as needed. That said, once you've mastered Lightroom, you may find you rarely—if ever—need to use other software to process the vast majority of your photos.

In this chapter I'll introduce core Lightroom concepts and explain the screen interface. If you're new to Lightroom, I strongly recommend you read this chapter before proceeding through the remainder of the book as you'll find learning Lightroom much easier with the fundamentals described in the following sections. (If you're an experienced Lightroom user, you may be able to skip most of this and go straight to other chapters.)

⚠️ **Internet access required for some features**
Lightroom 4.0 is more dependent on the Web than were previous versions. In particular, the Map module depends on Internet access for core functionality (it pulls map data from Google). Also, to upload books from the new Books module you'll need to be online.

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Adobe® Photoshop® Lightroom® 4

Version 4.0 · 64-bit

Melissa Gaul, Kevin Tieskoetter, Andrew Rahn, Dan Gerber, Melissa Itamura, Craig Marble, Phil Clevenger, Brian Kruse, Tom Hogarty, Ben Zibble, Dan Tull, Shoji Kumagai, Kelly Castro, Julie Kmoch, Jeff Van de Walker, Mark Soderberg, Becky Sowada, Kjetil Drarvik, Phil Lu, Jingyuan Bai, Ying Liu, Qiang Zhu, Max Wendt, Peter Merrill, Simon Chen, Benjamin Warde, Paul Kleczka, Athena Kekenes, Tony Francesconi, Zach Nelson, Tony Wu, Jianping Wang, Yu Zhao, Baichao Li, Xin Lu, Chuntang Pan, Xiaokang Wu, Sharad Mangalick, Thomas Knoll, Zalman Stern, Eric Chan, Julieanne Kost, David Auyeung

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What's New in Lightroom 4

Major changes to minimum system requirements
Process Version 2012 and related controls
Play, edit and develop videos
Books module
Map module
Improvements to local adjustments
Soft Proofing and related updates in the Print module
New methods for saving your work in output modules
Email photos from Lightroom
Updates to Publish Services
Raw format support for new cameras
Improved Lens Corrections and new lens profiles
Feature support for the new DNG 1.4 spec
More consistency throughout the user interface

Language support

Lightroom 4 is available with support for many languages (the Read Me file contains more information about this). If you use a Mac and want to choose a different language, you can now do so with a new control in the Preferences panel.

What's NOT in Lightroom 4.0

Inevitably, there will always be features some folks want that didn't make the final list. In an effort to answer your questions right up front, here's a short list of some of the things people typically clamor for but are not in Lightroom 4.0:

- Non-circular cloning and healing (like Photoshop)

- Face recognition

- Layers

- Import from Aperture and iPhoto

- Support for 3D video

Lightroom and Adobe Photoshop Camera Raw

Many photographers use Lightroom in conjunction with the full version of Photoshop and the Adobe Camera Raw plug-in. For full compatibility you'll need to maintain the latest versions of all software and be sure that XMP metadata is saved after editing in each program. The Read Me that comes with the Lightroom 4 installer has more information on compatibility between the software versions. See Chapter 5 for more about using Lightroom with Photoshop.

Lightroom and PSE

If you want to do more with your photos that what Lightroom can directly provide, it's hard to beat the combination of Lightroom and Photoshop Elements (PSE). PSE offers the most essential functionality of the full version of Photoshop at a very low price, and with both programs installed on your computer you'll have an enormous range of capabilities.

How to use this book

This book is not meant to be *read* as much as it is meant to be *used,* presumably while at your computer with Lightroom 4 running. Of course, you can learn about some features by reading about them, but in most cases you'll learn the fastest when you follow along on your computer as you read the steps and descriptions. Also, due to inherent space limitations, some of the screenshots used for the illustrative figures are small—you'll find it easier to learn if you're looking at Lightroom full-size on your own computer display.

PREREQUISITES

The content of this book assumes you have at least basic- to intermediate-level computer skills, are comfortable managing files on hard drives and removable media, and understand common computer operations such as copy/paste and manipulating

01

dialog boxes. (If you're just learning to use a computer, Lightroom is probably not your best choice of software.) I also assume you have a fundamental working knowledge of your camera.

CHAPTER STRUCTURE

The chapters in this book are segmented by module and key features and are generally sequenced in the order you might use Lightroom. In particular, the first few chapters—Import, Library, Develop and Export—are presented in the order you'll approach your photo processing workflow. The content pertaining to the output modules—Book, Slideshow, Print and Web—will be useful on an as-needed basis; there's no specific order in which you'd use these modules. The new Map module, which won't be for everyone, is sandwiched in between the other modules. The last chapter, covering the advanced use of Lightroom catalogs, will come in handy when you've gained a basic working knowledge of Lightroom, and especially when you are ready to take your workflow to the next level by using multiple catalogs. The Appendix contains additional information, mainly for advanced users, and is intended to address specialized questions and topics not everybody will be concerned with. The Appendix also contains a list of my favorite shortcuts and links to helpful Web sites as well as a glossary of terms.

Each chapter starts with an overview of what will be covered, and then a basic, suggested workflow is presented using a step-by-step approach. These workflows are mainly included to give you an idea of the typical tasks involved; after reading the rest of the chapter you'll no doubt begin developing and refining your own workflows. Following the introductory workflow, each module, window, panel and control is explained in detail, based on the general order of how the screen interface is presented. The chapters all finish with suggestions for next steps and things to consider for maximizing your effectiveness using Lightroom. Throughout the chapters I've also sprinkled in my own comments and opinions; take them as you will.

Finding what you're looking for

Because of the way each chapter is structured, you can easily look up general topics using the Table of Contents, and the opening page of each chapter also lists the main topics included in that part of the book. In certain cases, looking up a topic in the Index will give you a better overview of how and where that topic is addressed.

There is a fair amount of intentional repetition to solidify key concepts. Also, you will note that because some features are shared by multiple modules (such as the color picker) I've chosen to elaborate on the functionality in one chapter, and then refer back to that on the relevant pages in other chapters. My hope is that you won't have to jump around too much, but even though working with Lightroom can be done in a fairly linear way, explaining the tools can't be done this way because of the amount of overlap between some of the module controls.

If you're new to Lightroom you will benefit from working through this book in a linear fashion. Although the material is mostly presented in sequence based on workflow, it may also be helpful to jump from one topic to another as needs dictate. You can use this book to learn Lightroom from the ground up, or refer back to something later. When you have a

basic familiarity with the software and workflow, you can later refresh your knowledge by going straight to the section or page containing the shortcuts, tips and techniques appropriate for the task at hand. Before long, you'll know Lightroom inside and out—and that's when the real fun begins!

Get the book spiral bound

It would be wonderful if we could release this book in spiral-bound form, but it's not logistically feasible with a publication such as this. Instead, I highly recommend you take this book to your nearest copy shop or office supply store to have them chop the spine off and put on a plastic coil binding. This allows the opened book to lay flat on your computer desk while you're working through the material. If you plan to use the book frequently, you might also add a durable, clear plastic cover.

ICONS

Throughout the book, I've placed small tidbits of additional information for your consideration. Although these are separate from the literal descriptions of Lightroom's essential functionality, they are derived from my own experiences with Lightroom, my work with countless clients and students, and extensive, ongoing research into best practices in Lightroom and digital photography in general. I've done my best to put these icons in context with the steps in the workflow where they are most relevant. They are denoted by small graphic elements and colored text, as described below:

New in Lightroom 4: Throughout the book I've highlighted in bold the main features new to this release of Lightroom.

Tip

These offer common "best practices" in digital photography and imaging, ways to speed up your workflow, methods of processing and suggested ways to approach various tasks. Though some Tips are more important than others, they are all suggested reading.

Reminder

Reminders are generally Tips found in multiple places in the book.

Preference

I've noted important Lightroom Preferences near the descriptions of the controls they affect. As the name implies, a Preference comes down to your personal choice; in most cases I explain my own way of working in order to create a framework for your own decision making.

Warning

Warnings are strong cautions against doing something a certain way, or explanations of potentially tricky aspects to watch out for.

Shortcuts: Mac and Windows

Lightroom is full of keyboard shortcuts and I've tried to include those that I think you'll find most useful. I strongly recommend you try to memorize and use the most common shortcuts—using the keyboard to work in Lightroom can eliminate many manual steps

01

and makes performing tasks much faster. The Mac shortcut is listed first, followed by the Windows shortcut.

The shortcuts in this book are based on Lightroom 4, though most of them also work in earlier versions, and most will continue to work in future versions. Some of these shortcuts are not included in Lightroom Help or other official documentation. This increases the possibility they may change from one version release to another. In a printed book, I can't guarantee that the accuracy of the published shortcuts will last forever. There's a list of some of the most useful shortcuts at the end of the book.

⌘+/ or
Ctrl+/
Selected
module
shortcuts

▷ Module shortcuts
Each module has a screen available listing the most commonly used shortcuts for that module. To view this screen, use the menu command at Help➜[Module Name] Shortcuts…or use the shortcut!

▷ Lightroom Queen shortcuts lists
Victoria Bampton, aka The Lightroom Queen, maintains the most comprehensive and up-to-date lists of Lightroom shortcuts available. If you want to learn all the shortcuts for speeding up your workflow, you can't do better than her lists. You can download them at www.lightroomqueen.com/keyboard-shortcuts.

Keyboard variations
On Mac, the "Apple" key and ⌘ (Command, or cmd) are the same. On Windows, Control and Ctrl are the same. (In some cases, the Control key is also used on Mac.) Option on Mac is the same as Alt on Windows.

Workflows
Each chapter contains one or more suggested workflows, presented step-by step.

▷ What is a "workflow" and why should I care?
The term *workflow* simply describes a sequence of steps to produce a specific result. Understand that there is no single workflow that will be "right" for everyone. The workflows I've included are meant to be fast, simple and straightforward. By necessity, this means that at times I've left something out because it is too complex to address in the context of the steps. Over time, you will create your own workflows based on the tasks you need to accomplish with your photography.

Example Lightroom workflow
To give some context to the detailed explanations that follow in this chapter, following is an overview of a typical Lightroom workflow:

Step 1. Capture digital photos.

Step 2. Copy photos to a hard drive and import them to a Lightroom catalog.

Step 3. Organize photos in the Library module.

Step 4. Back up your photos and catalog.

Step 5. (Optional) Plot photo locations in the Map module.

Step 6. Enhance and optimize photos in the Develop module.

Step 7. Export finished photos for specific purposes.

Step 8. (Optional) Create Books, Slideshows, Prints and Web Galleries.

Step 9. Update your backups!

Of course, each of these steps is actually comprised of multiple tasks, the specifics of which will vary depending on circumstances. These tasks—and time saving shortcuts and techniques—are explained in detail in the following chapters. If you perform each phase of the workflow similarly every time, you will soon be able to think several steps ahead. This facilitates better decision-making, dramatically speeds up your work and ultimately allows the highest possible quality for your photographic work.

F1
Help

GETTING MORE HELP
Situations may arise for which you need more help than what's provided in this book. Adobe can be a good place to start, but there is a vast number of other resources run by Lightroom enthusiasts (and most of them free) available online. I've included a comprehensive list of links in the Appendix.

**⌘+Option+/
or Ctrl+Alt+/**
Current
module Help

Built-in Lightroom Help
From within Lightroom, you can access Adobe's online help system, which is quite thorough on many topics. It's in the same place on Mac and Windows, under the Help menu➜Lightroom Help (F1). (Requires Internet access.)

Lightroom in the social media
You'll find all kinds of useful Lightroom resources on Facebook, Twitter and YouTube. These sites are also good places to ask questions. There are also many online forums where people discuss Lightroom, share tips and tricks and help solve problems. See the Appendix for links.

Configuring your computer for Lightroom 4
Before you install Lightroom you should be sure your computer is up to snuff. Lightroom is a powerful application, and as such can sometimes be quite demanding on computer resources. Most importantly, make sure your computer meets the minimum system requirements, which have changed significantly in version 4.0.

In all but a couple of very minor ways, working with Lightroom is essentially the same on Mac and Windows. Some of the menu commands are in different places, and there are some differences in the way that Lightroom works with the file systems on different operating systems. But all-in-all, you should expect a great experience with Lightroom regardless of your operating system.

01

LIGHTROOM 4 SYSTEM REQUIREMENTS

Below are listed the current minimum requirements for Lightroom 4.0. If your computer doesn't meet or exceed these, you won't be able to install the program.

Windows

- Processor: Intel Pentium 4 or AMD Athlon 64

- OS: Microsoft Windows 7 with Service Pack 1, Windows Vista Home Premium, Business, Ultimate, or Enterprise with Service Pack 2

- RAM: 2 GB

- Hard Disk: 1 GB of available hard-disk space

- Media: DVD-ROM drive

- Display: 1024 x 768 Monitor Resolution

Macintosh

- Processor: Multicore Intel processor with 64-bit support

- OS: Mac OS X 10.6.8 (Snow Leopard) or MAC OS X 10.7 (Lion)

- RAM: 2 GB

- Hard Disk: 1 GB of available hard-disk space

- Media: DVD-ROM drive

- Display: 1024 x 768 Monitor Resolution

NOTE: on all systems, an active Internet connection is required for Web-based services (Map module, uploading Books, etc.)

➡ Help→System Info

Once Lightroom is installed and running correctly, you can see a summary of your system info using this command under the Help menu.

RECOMMENDED COMPUTER SETUPS

As you might expect, the minimum system requirements are usually far from the *ideal* setup. And as a digital photographer, you owe it to yourself to work with the most capable tools you can afford—your computer is no exception. You've probably spent lots of money on your camera gear; why skimp on your digital darkroom? What follows here is a summary of my recommendations for setting up your computer as a photo processing workstation. The Appendix also includes a section on optimizing Lightroom's performance.

01

RAM (aka memory)

As noted in the minimum specs, Lightroom can technically run with 2 GB RAM, but honestly, you won't have a pleasant experience working with this limited amount of memory. 4GB is really the practical minimum, and if you can bump this up to 8 GB or more you'll see a huge difference in speed and stability.

Computer displays

You will have the most success processing your photos if you use a good quality display. The differences in quality and accuracy between monitor makes and models can be significant. Generally speaking, I think you can expect to spend a minimum of USD $500 or the equivalent for a monitor suitable for photography work. I highly recommend displays from NEC and Eizo; with the range of products available from these two companies there's really no need to consider other brands. (I currently use—and absolutely love!—the NEC MultiSync PA241w, which is reasonably priced and has a very wide gamut output.) Also of critical importance is calibrating and profiling your display; see the section on color management later in this chapter.

Using Lightroom with dual monitors

Lightroom provides support for a Secondary Display; this is an additional window containing a different set of controls from the main application display window. The most common use for the Secondary Display is showing a large preview while the main window shows smaller previews. Using the Secondary Display is the only practical way to utilize a second window in Lightroom, and is discussed further later in this chapter and in Chapter 3.

Hard drives (aka storage)

It's important that you plan out your photo storage system carefully, accounting for your current needs and budget along with a plan for growth. Over the coming years your photo library may grow to hundreds of thousands—or even millions—of images! If you're not already using a good organizational system, now is the time to start.

At this point, magnetic and solid state (SSD) hard drives are the most practical options for storing your photo library. Magnetic hard drives are inexpensive and the capacities of the most common drive sizes (500GB, 1TB, 2TB) will be enough for most people, at least for now. (The prices for SSD drives are coming down, but with relatively limited capacities and higher costs they are still impractical for most digital photography storage systems.)

In addition to the recording format, the other main choice in hard drive systems is whether to use single drives or RAID units. RAID storage uses multiple disks that appear to your system as a single volume. RAID systems can also be configured to automatically copy files between the disks in the system to provide transparent backup capability.

Use dedicated disk drives for your image library

Regardless of the drive format you choose, it's best to *not* store your image files on your system disk. (The system disk is the hard drive that contains your operating system, and usually also contains your applications and other programs.) I strongly recommend you

01

store your photo library on disk drives used only for that purpose. If you currently are storing your photos on the system disk (such as in the default Pictures folder), I recommend you set up new drives to use only for your imaging work.

External drives provide the most flexibility—they are highly portable and can be moved to another computer as needed. External USB, FireWire (IEEE 1394) and Thunderbolt interfaces usually provide adequate read/write times when using Lightroom. (I currently use 2TB single drive external units.)

It's easiest to use fewer, larger disk for your entire image library: one or two large-capacity disks are much easier to manage than many small ones. More importantly, a single master hard drive also facilitates easier backups. As your library grows and your disks fill to capacity, I recommend you simply transfer your photo library to progressively larger drives.

When I'm buying new hard drives, I buy enough storage capacity to grow into for at least the next 18 months. I always buy drives in pairs (at minimum and, ideally, in triplicate). One is the master working drive, on which are stored all my original working files. The second drive is the working backup, which is updated after every work session. The third drive is an archive, updated less frequently than the working backup and stored off-site. When considering brands, I prefer to stick with those that are well-known for reliability; I've had great experiences with Seagate and Western Digital. (Interestingly, when I've had drives fail, they always seem to be Hitachi or Toshiba.)

About asset management

Asset management is all about how you name, organize, store, and back up your image files. Asset management plays a crucial role in your ability to find, work with, and share your photos. For most photographers this is certainly not the most fun or exciting part of the process, but it's not optional—if nothing else, the sheer volume of digital photographs you make requires you to develop and implement a comprehensive system for managing your images.

Organizing and naming your image files

At one point or another one of the most daunting challenges all photographers face is deciding how to arrange their image files into folders and what to name files and folders. The most important thing is to create a standardized system and use it consistently. What's most important is that you create a good plan that you can start using now. You can later decide whether you need to go back and rework your old image archives to conform to the new system.

There are lots of differing opinions about how image files should be named and organized; this is an area where your personal preferences play a significant role in your decisions. In the end, the system has to make sense and work for you. It doesn't make sense to adopt someone else's strategy if it only causes you confusion and the risk of misplacing or losing files. That said, there are some widely accepted best practices for how to organize and name your files and folders:

- Every file and folder in your image library must have a unique name.

- Give files and folders *meaningful* names. The filenames assigned by your camera are useless in a structured storage system.

- In your names, include a formatted date, such as YYMMDD.

- Also include some kind of identifier as to what the folder/file contains. For the nature photographer, using the names of locations and/or subject matter makes sense.

- Use sequence numbers (or "serial" numbers) to differentiate files from a single shooting session.

- Name and group folders and subfolders according to their date or content.

- When possible, give your folders and the files they contain the same base filename.

- The system must be able to scale (grow exponentially) over time.

You can learn more about using Lightroom for asset management in Chapters 2 and 3.

Installing Lightroom 4

There are two ways to install Lightroom: from a DVD or a downloaded package. Whether you're using a Mac or Windows machine, the installation process and end results are essentially the same. Following are overviews of the installation processes, along with some things you should know when starting out. Installing Lightroom is not complicated; you will probably be able to finish the installation using only the on-screen instructions provided by the installer. (Complete installation instructions are provided in the Read Me file that comes with the Lightroom installer package.) If you are unable to install Lightroom, you will need to consult Adobe's documentation and/or technical support.

Download installers

Any software application that comes on a DVD has a limited shelf life; Lightroom 4.0 is no exception. If you've purchased Lightroom 4 as a DVD, I suggest that in the future you'll be much better off downloading the updates from the Adobe.com Web site. Provided there's a fast enough Internet connection available, it's almost always best to download installers from the manufacturer's Web site, mainly because you're assured of receiving the most current version.

Antivirus software issues

It's been reported that Norton Antivirus and MacAfee may incorrectly identify Lightroom files as potential threats. If you use these software packages, check their settings and be sure to allow access to the Lightroom catalog and other files.

Installing on multiple computers

Your license for Lightroom 4 allows you to install the application on up to two computers using the same serial number. (This can include different operating systems; I have one installation running on a Mac Mini and one on a Windows laptop from Dell. You'll need to use different installer packages, but the serial numbers are platform-independent so you can use the same number for both installations.)

01

About Reverse Geocoding

In Lightroom 4, the first time you open a new or upgraded catalog, you'll see a message asking if it's OK to enable reverse geocoding (see Figure 1–2). This is a privacy setting and is used for the new Map module—it's entirely optional. If you choose to enable it right away, the feature will be active the first time you switch the Map module. You can enable or disable Reverse Geocoding at any time using the Catalog Settings dialog box. Reverse Geocoding and Catalog Settings are discussed in detail in Chapters 6 and 11.

Figure 1-2

INSTALLING LIGHTROOM FOR THE FIRST TIME

When you install Lightroom for the first time using the default settings, the Lightroom program is placed in your Applications folder on your system drive and the Lightroom configuration files (presets, templates, etc.) are placed in another directory, depending on your operating system. Also, Lightroom uses a database file, called a *catalog,* to manage your files and store the work you do on them.

New in Lightroom 4: the first time you run Lightroom, if no previous catalogs are found, you will be prompted to enter a name and location for your default catalog (see Figure 1–3). The default is your Pictures folder on the system drive; this is usually OK. Later, you might consider keeping your catalog on the same drive where all your photos are stored. (For an introduction to catalogs, see the section later in this chapter and for lots more, read Chapter 11.)

Figure 1-3

UPGRADING LIGHTROOM FROM A PREVIOUS VERSION

Upgrading from previous versions of Lightroom can be significantly more complicated than doing a fresh installation for the first time. When you upgrade Lightroom, the new application itself is installed as if it was for the first time; the previous version of Lightroom remains intact, so you'll have both versions on your computer. Your custom preferences, presets and templates also remain untouched, but new Lightroom default presets may be added to the folders.

Before you jump right in to upgrading, there are a few important things to understand. First and most critical, every time you upgrade Lightroom to a "major release" (2.0. 3.0, 4.0, etc.) you must also upgrade the catalog. (This can also sometimes apply to "minor releases" such as 2.3, etc.) You can upgrade a Lightroom catalog from any version to a newer version at any time.

What happens during a catalog upgrade

During the upgrade, your catalog from the old version is copied to a new file and the *copied catalog* is modified to support Lightroom's new features. No changes are ever made to the previous catalog! Your old catalog is still on your hard drive exactly like it was before the upgrade. (If you still have the earlier version of the Lightroom program on your computer, you can open the old catalog just like before.) If you're not careful about this, you could end up working in several different catalogs without knowing it. It's also possible you might upgrade your old catalog multiple times, with each upgrade producing another copy of your old catalog. For these reasons, I strongly recommend that after you've successfully installed Lightroom 4, upgraded your catalog, and confirmed everything looks like it's running ᴏᴋ, you should uninstall the previous version of Lightroom and remove your old catalogs from your hard drives. (If this makes you nervous, just be sure to make backups first.)

New in Lightroom 4: if you try to upgrade the same catalog more than once, Lightroom will let you know, and will show you the location of the previously upgraded catalog.

How to upgrade a catalog

To upgrade your catalog, all you need to do is install the new version of Lightroom and launch the program. Lightroom 4 will find your old catalog(s) and prompt you to upgrade (see Figure 1–4). In the upgrade window, be sure the correct catalog is selected for upgrading. By default, Lightroom will create the new catalog in the same folder as the original. If you're using the default catalog name, Lightroom will automatically change the name of the new file to reflect the current version. (For example, Lightroom 3

Figure 1-4

01

Catalog would become Lightroom 4 Catalog.) You can choose a different location or file name by clicking the Change button. When you're ready, click the Upgrade button to allow Lightroom to update the selected catalog.

Note: the default catalog set in Preferences in your older version of Lightroom will also become the default in Lightroom 4; you can always change this later.

Upgrade from Beta catalog
If you used the Beta version of Lightroom 4, you can upgrade that catalog to the full 4.0 release version.

About old Lightroom plug-ins
Adobe doesn't typically change anything in Lightroom's program code that would inherently cause older plug-ins to fail, however, depending on the way those plug-ins were themselves coded, they may or may not work correctly in the new version.

MOVING LIGHTROOM TO A NEW COMPUTER
If you're going to install Lightroom 4 on a new computer, first copy your old catalog to that computer (or connect the external drive as described above). Then install Lightroom from scratch. When you open it for the first time it will find your old catalog and prompt you to upgrade. See Chapter 11 for lots more about working with catalogs.

REMOVING AND RE-INSTALLING LIGHTROOM
If something goes wrong during the installation, or if any time in the future you need to remove Lightroom, the process is fairly straightforward, but is different on Mac and Windows machines. On Mac, you can usually just drag the Lightroom application to the Trash and then re-install. On Windows, in general, you should always use the Programs and Features Control Panel to uninstall Lightroom.

Note that it's very rare for something to actually be wrong with the Lightroom program. If Lightroom isn't running correctly it's usually a problem with the catalog, not the program itself. In these situations, uninstalling and reinstalling won't make any difference. Chapter 11 offers suggestions for troubleshooting catalogs.

MIGRATING TO LIGHTROOM FROM OTHER SOFTWARE
As newer versions of Lightroom have been released, they have increasingly been able to support migrating to Lightroom from other programs that use catalog architectures. Currently, you can upgrade from Photoshop Elements (PSE) to Lightroom. If you have PSE installed on your computer, the first time you launch Lightroom you will be asked if you want to upgrade the PSE library. (In most cases, this will require that PSE is installed on the computer.) If you skip the upgrade during Lightroom launch, you can use the command under File➜Upgrade Photoshop Elements Catalog. (This command is not visible if you don't have a PSE library and/or the program installed on the current machine.) Upgrading can also be adversely affected if the PSE library is not in the default location.

⚠ **Quit PSE first**
When upgrading a PSE library, you should not have PSE running. Lightroom reads the PSE preferences and program data to identify library data it can upgrade.

It's expected that future releases of Lightroom will also allow you to upgrade (and import from) image catalog files made using other programs. Stay tuned!

Lightroom Fundamentals

When the Lightroom application is running, it constantly pulls in data from a number of sources (see Figure 1–5). Lightroom's main strengths are derived from the fact that it uses a database (the catalog) for most of its operations. Under the database model, all your edits to photos are totally non-destructive—the original pixel data in the files on disk is never modified. Using catalogs also allows powerful search and filtering capabilities. Lightroom excels at batch processing; you can quickly and easily apply stored settings to many photos at once using presets, templates and sync operations. Also, within the catalog you can make unlimited virtual copies and collections of photos without needing to duplicate the original files on the hard drive.

Lightroom application program

Lightroom catalog (.lrcat)

Photo & video files, in folders on hard drive

Lightroom Previews (.lrdata)

Figure 1-5

Along with the organizational power of the catalog, Lightroom's processing engine provides very high image quality. When the controls are used correctly, Adobe's rendering of raw image data—as well as essential processing routines such as sharpening, noise reduction and making enlargements—are second to none.
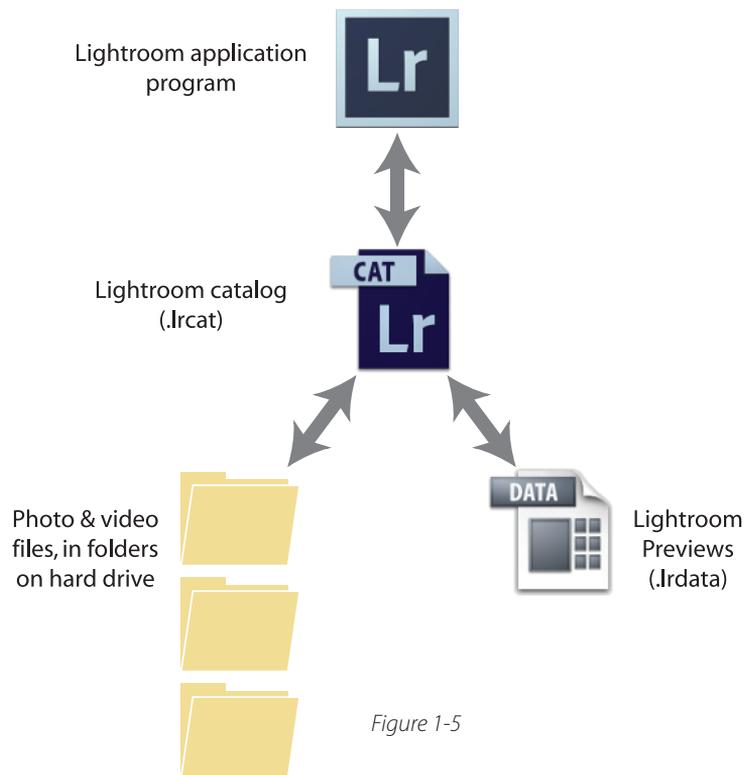
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INTRODUCTION TO LIGHTROOM CATALOGS

Any time you're working in Lightroom, you're working within a catalog. A Lightroom catalog is a SQLite file with the extension .lrcat. When you launch Lightroom, it looks for a catalog to load. If you've never moved the default catalog, or haven't created a new one, you will be working within the default catalog. However, you can make additional catalogs, and store them on any hard drive, even one that's different from where your image files reside. The name and location of catalog files have no direct effect on Lightroom's operation, so you can name your catalog whatever you like, and put it on any local hard drive you choose. (Keeping your master catalog on the same external hard drive with the image files makes backups easier.) You can't open a Lightroom catalog over a network.

Image files must be imported into a Lightroom catalog before you can work with them, during which Lightroom creates *records* of the photos within the catalog. (Importing photos is covered in Chapter 2.) It might help to think of a Lightroom catalog like a department store catalog: it contains all the information *about* the items but *not the items themselves*. It's critical that you maintain the links between the Lightroom catalog and the actual files stored in folders on your hard disk.

Since a Lightroom catalog contains records of the photos and videos you've imported, but not the files themselves, all the work you do in the catalog is done *by reference*. As you work, Lightroom continually reads from each image file and/or video clip on the hard drive. Lightroom continually renders previews, which are also saved on the hard drive, in the folder next to the catalog file. The previews you see in Lightroom are generated using the current adjustment metadata. All this metadata is stored in the catalog, along with your history, collections, virtual copies, etc., and you can also save each photo's adjustment metadata out to files on the hard disk. The original image data in your files are never modified.

Working with catalogs is covered extensively in Chapter 11.

⬡ Essential file maintenance

If your catalog is lost, deleted or corrupted, the work you've done in the catalog may become inaccessible. This is why it's imperative to: a) save your metadata to disk as you work, b) keep your catalog clean and optimized, and c) make regular backups of your catalog and image files.

⚠ Catalog corruption

If you don't have a lot of experience using databases—especially for image editing and management—it may come as a shock if a problem with the Lightroom catalog makes your photos inaccessible. It is entirely possible that a Lightroom catalog could become corrupted and not be able to be opened or worked with in any way. **In the vast majority of cases, a problem with the Lightroom catalog does not necessarily mean there's a problem with the image files.**

SUPPORTED FILE FORMATS

Unlike Photoshop, which can open and save a dizzying array of image, graphic and video file formats, Lightroom is designed to work only with the most common formats generated by digital cameras and scanners. Lightroom can import, process and export the following types of files:

- **Raw**: raw captures from nearly all modern digital cameras (see notes below)

- **DNG:** Adobe Digital Negative

- **JPEG (JPG):** (Joint Photographic Experts Group) compressed image files

- **TIFF (TIF):** (Tagged Image File Format); 8 bit and 16 bit; may contain layers and vector elements

- **PSD:** 8 bit and 16 bit Photoshop documents (only those saved with the "Maximize Compatibility" option enabled)

- **Video formats:** digital movies from most popular cameras and smart phones including MOV, MPG, AVI and AVCHD (MTS and MT2S only)

Maximum dimensions

Lightroom can import image files up to **65,000 pixels per side or 512 megapixels.** Files with dimensions that exceed this specification will not be imported; you'll receive a warning dialog containing a list of files that couldn't be imported.

Files in CMYK mode

Lightroom can import files in CMYK color mode, but any Develop adjustments you apply to them will be done using Lightroom's internal RGB color space. Lightroom cannot export files in the CMYK color space.

Raw format support

Raw files come from your camera with a format specified by the camera manufacturer; common examples are Canon's .CR2 and Nikon's .NEF formats. Native raw files are encoded and cannot be directly modified. And though they may have the same file extension, raw files from different cameras are often programmatically different from one another: a .CR2 file from a 5D Mark II is different than one from a 50D.

Raw files in your camera model's native format must be recognized by Lightroom for you to work with those files. Adobe's imaging software supports nearly all digital cameras available on the market, and support for new models is continually updated. However, when a new camera model is released, there may be a period of time during which your files cannot be read by Lightroom. If Lightroom can't import your raw files, this may be the reason. Raw file format compatibility is addressed in incremental software updates to Lightroom.

01

▷ **Lightroom respects XMP during import**

If you're importing raw files with .xmp sidecars, Lightroom will read any compatible metadata settings from them and the images will be added to the catalog with those settings applied. In the case of raw files that you've worked on but *do not* have sidecar files, those previous edits *will not* come into Lightroom unless you first save that metadata to sidecar files. This is discussed further in Chapter 3.

About composite images

Any photo that is made of more than one original capture is called a *composite*. Without using additional plug-ins, Lightroom can't produce composites. To combine multiple images you need to get them out of Lightroom and into other software, such as Photoshop. Processing individual images that will become part of a composite requires special consideration. If during processing you start thinking of combining multiple exposures—in any fashion and for any reason—you'll need to start considering exports and external editors, covered in Chapter 5.

For now, as you're looking at processing individual images in Lightroom, learn to make the most of the tools available. You may find that in some cases—especially those that at first glance appear to require blending exposures—can be fully accomplished in Lightroom. You will find images that in the past may have required compositing now can be successfully processed with a single capture in Lightroom.

LIGHTROOM PREVIEWS

During an Import, and at other times while working in Lightroom, Lightroom reads the pixel data from image files and creates image *previews*, which are referenced by the catalog. The previews are temporary JPEG files created in several sizes. Lightroom renders new previews whenever necessary while you're working on photos. Note that for raw files, the image data must be *demosaiced* and *rendered* to produce the preview. Pre-rendered file formats, such as JPEG and TIFF, as well as some DNG files, may already have preview data stored within them. (There's more about these processes in Chapters 3 and 4.)

For now, you just need to know that Lightroom's image **preview files are stored outside the catalog in a separate package.** When you're working on a photo in Lightroom, its previews are continually updated but the actual pixel data is never altered.

A quick overview of Lightroom's previews:

- **Minimal**: used for displaying thumbnails (the smallest previews).

- **Standard**: used for larger, single-image previews in the main preview area.

- **1:1:** the largest previews in Lightroom, 1:1 refers to one screen pixel per one image pixel. You'll often be looking at 1:1 previews as you zoom in to look more closely at a photo.

Previews can be purged, deleted and re-rendered at any time, as long as Lightroom can find the original files on disk. Lightroom can't build new previews from missing files, or files stored on offline volumes. Previews are explained in context at various places throughout this book.

HOW LIGHTROOM USES PROFILES

Lightroom makes use of three main types of *profiles* that help create the best possible rendering of your photos. *Camera profiles* describe the color and tone characteristics of specific image sensors and processors. *Lens profiles* help correct for flaws in the optical properties of individual camera lenses. *ICC profiles* describe the color reproduction of different printers and monitors. Using the correct profiles you can be assured of the highest possible quality from your work in Lightroom. These are discussed at length in the chapters where they're most relevant: Develop, Export, Book and Print.

LIGHTROOM PRESETS AND TEMPLATES

Throughout the program, Lightroom provides presets and templates to store settings and layouts. Generally speaking, *presets* store settings; *templates* store formatted layouts. This distinction is not critical; throughout Lightroom you'll see frequent references to presets and/or templates, and the use of one term versus the other is somewhat inconsistent. What's important to understand is that presets and templates can save you lots of time by applying previously saved settings to your photos.

The default Lightroom installation comes with many built-in presets and templates. As you work with Lightroom, you should also save your own as this will dramatically speed up your workflow. You can also use presets and templates made by other people; see the Appendix for links.

Presets folder

The Lightroom presets folder is an important folder on your hard drive that you may access frequently the more you use Lightroom. To get there quickly, open the Lightroom Preferences (under the Lightroom menu on Mac and the Edit menu on Windows) and on the Presets tab, click the button for Show Lightroom Presets Folder. We look at using presets and templates throughout the book.

Using presets and templates for batch processing

A *batch* is a group of files that are all processed using the same criteria. Lightroom gives you lots of ways to apply file-specific, variable data to your batch-processed photos, such as a unique file name for each one. This is mainly done using templates. When processing many images at one time, the choices you make become increasingly important. Effective batch processing requires planning ahead and thinking carefully about the correct settings.

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ABOUT LIGHTROOM PREFERENCES

In many scenarios the default Preference settings used when Lightroom is installed are ideal. However, when you've worked with Lightroom for some time, there may be settings you want to change to suit your computer configuration or work habits. On a Mac, Lightroom's Preferences are accessed under the Lightroom menu. On Windows, they're under the Edit menu. Spend some time getting to know the options available in the Preferences dialog boxes; they are fairly straightforward, and with an understanding of Lightroom's interface and functionality the settings you want to change will become more evident. In the chapters that follow, key preferences are explained in context of a particular aspect of the workflow, and there's also more about Preferences in the Appendix.

Saving and backing up your work

As you work on your photos, Lightroom automatically saves your adjustments in the catalog and continually generates screen previews based on the adjustments that have been applied. Your original file (regardless of its format) remains unaltered, giving you unlimited flexibility for changing your mind later. However, storing all your editing instructions *only* in the Lightroom catalog carries some risk. For example, if you do all your processing in Lightroom and the catalog becomes corrupted (and you haven't made backups) you could lose that editing data, requiring the work to be redone. This is why you must get in the habit of saving your work frequently when working in Lightroom, just like working with any other software.

SAVE METADATA TO FILE

When you save metadata to files, in addition to being stored in the Lightroom catalog, the metadata processing instructions for the adjustments you make should also be saved to files *outside* the database. This can be done using sidecar files (for camera raw formats) or by saving metadata in the actual files themselves (for all other formats). Saving out the metadata helps ensure 1) your work won't be lost and 2) your edits travel with the original file wherever it goes. Even when you save metadata adjustments into a file, the pixel data is not changed: the metadata is stored in a separate part of the file, and read back in when Lightroom (or other software compatible with XMP format metadata) loads the image. To Save Metadata to File, use the command on the Metadata menu or the shortcut.

BACKUP AND ARCHIVAL

Every computer user knows that backing up your files is critical. Still, I'd be negligent if I didn't remind you *to actually do it*. People accidentally lose important computer data every day. Usually it's because of user error (deleting something unintentionally) but equipment failure is also common. In the digital photography workflow there's absolutely no excuse to risk losing all your work. I can't over-emphasize the need for creating a practical system for backing up your work and updating your backups very frequently. When a hard drive fails mechanically or its data become corrupted, if you're prepared, you will be back on track quickly. **Update your backups after every work session!**

Backing up Lightroom catalogs

Lightroom offers the ability to make a backup of a catalog file and test its integrity. Lightroom catalog backups are done when you exit the program; you should, at least occasionally, allow these backups to be performed. **During a Lightroom backup, only the current Lightroom catalog is backed up—the image files are not copied.**

Lightroom backup settings are found in the Catalog Settings dialog box. When Lightroom asks if you want to do a backup, you can specify the location for the backup file (see Figure 1–6). The backups are automatically placed in subfolders named with the date and time.
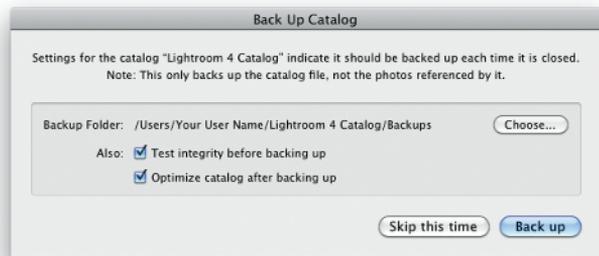
Figure 1-6

Only keep the most recent one or two catalog backups
Go to your backups folder to periodically delete old ones.

Drag-and-drop backup
You can also back up your Lightroom catalog and previews by dragging and dropping the main catalog folder onto another hard disk; this is a fine way to do it. However, keep in mind this skips the data testing stage that Lightroom performs when it does its own backup.

Backing up image files

As is discussed repeatedly throughout the book, you should always maintain at least two current copies of each of your photo and video files on separate media (see Figure 1–7). The easiest way it to set up two hard drives, one as the master working library and the other as its mirror image. If

Master
Working
Drive

Working
Backup
(Local)

Archive
(Off-site)

Figure 1-7

possible, store a third backup at an alternate location. Update these backups frequently.

Syncing drives
I recommend you use backup software that can *synchronize* data between hard drives. During a sync, the files on each drive are compared, and only the files that have changed are copied. See the Appendix for links to recommended software.

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⮕ Cloud backups

Depending on the size of your photo library and the frequency with which you back up large numbers of files, using cloud storage services might be a viable option. Many of these services allow you to create your initial backup by sending a hard drive for them to copy files to the server, which is much faster than waiting the potential weeks it might take to copy a large image collection over the Internet.

⮕ Removable solid state media for backups

With the recent growth in capacity, solid state (flash) drives, such as removable USB "thumb drives", "jump drives", etc. provide a good option for both temporary backups and permanent archival. With no moving parts or magnetic data, they may survive longer than conventional hard drives.

Essential troubleshooting

As with any software application, things can and will sometimes go wrong when you're working in Lightroom. If you're diligent about backing up your work you need not fear any situation Lightroom may present. Following are some general guidelines for handling trouble with Lightroom.

WHAT TO DO AFTER A CRASH

If Lightroom unexpectedly quits on you, or you have to force quit or restart your machine, you need to proceed with care the next time you launch Lightroom. While Lightroom has a catalog open, a "lock" file is placed in the catalog folder to ensure other programs on your computer can't tamper with the Lightroom data. After a crash, the previous lock file may remain, and you may also see a Journal file. **Do not delete these files!** Lightroom will use them to help restore the previous work session when the program is restarted.

Also, in these situations, there is the possibility of catalog corruption. If Lightroom tells you the catalog is corrupt and needs to be repaired, let it proceed. After a successful repair, optimize and back up the catalog. If the repair is unsuccessful, or the catalog is acting quirky, you may need to restore a previous catalog backup to use as your new master working catalog. See Chapter 11 for more information about recovering corrupted catalogs.

⚠ Avoid force-quitting Lightroom whenever possible

If you experience what appears to be a crash in Lightroom, especially if you can still move the cursor, give it a few minutes to see if the application and/or operating system recover from the condition. Force-quitting Lightroom at any time and for any reason dramatically increases the likelihood of data corruption. Of course, sometimes force-quitting can't be helped… keep good backups!

MISSING FILES AND PREVIEWS

If you open a Lightroom catalog and previews for your photos aren't visible, it's usually because those files cannot be found by Lightroom. If they are on an external drive, check that it's connected. In Chapter 3 you can learn about dealing with missing files.

The Lightroom Workspace

When you launch Lightroom, the main window opens with the same settings and image selections that were in use when you last quit the program (see Figure 1–8). Following is an overview of the Lightroom screen layout, tools and controls. The specific operation of these are detailed in the chapters that follow.
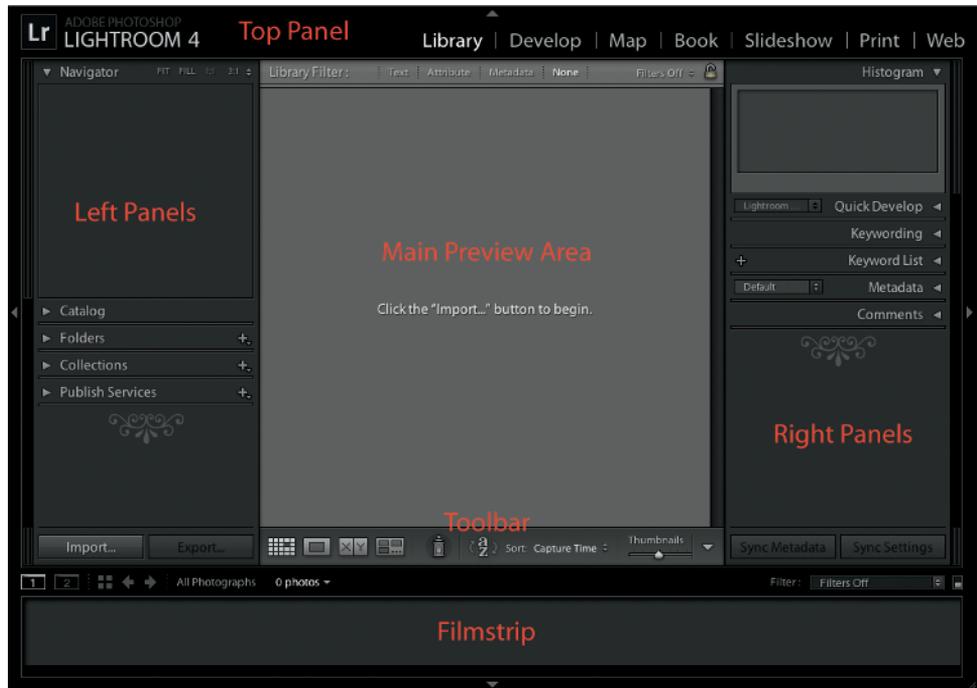

Figure 1-8

MAIN APPLICATION WINDOW

Lightroom's main window opens when you launch the program. This is where you'll do most of your work. The appearance of the main application window is highly customizable.

Screen Modes

The main Lightroom application window has three screen modes:

F
Cycle screen mode

Standard: a floating, resizable window. May or may not fill your entire screen. Resize the window by clicking and dragging its sides or corners. Move the window by clicking and dragging the title bar at the top.

⌘+Shift+F or Ctrl+Shift+F
Full screen and hide all panels

Full Screen with Menubar: fills your screen with the Lightroom application window. This window is not resizable.

Full Screen: like the above, but the main menu bar at the top of the screen is hidden.

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(On Windows, the Taskbar is hidden as well; this is my preferred screen mode.) As needed, put your mouse cursor at the top of the screen to access the menu bar. When you're finished, move away from the menu bar and it becomes hidden again.

Lights Out

Lights Out dims or hides all the interface elements to show only the photo previews (see Figure 1–9). If no photographs are selected, all the thumbnails will remain visible in Lights Out. If one or more photos are selected, those will remain visible while the unselected photos will be hidden. There are three Lights Out modes:

L
Cycle
Lights Out

- **Lights On:** this is the default state, where all interface elements and photographs are shown at full strength.

- **Lights Dim:** the interface is dimmed (by a percentage you can set in Lightroom Preferences).

- **Lights Out:** all interface elements are hidden by a solid color (also specified in Preferences).
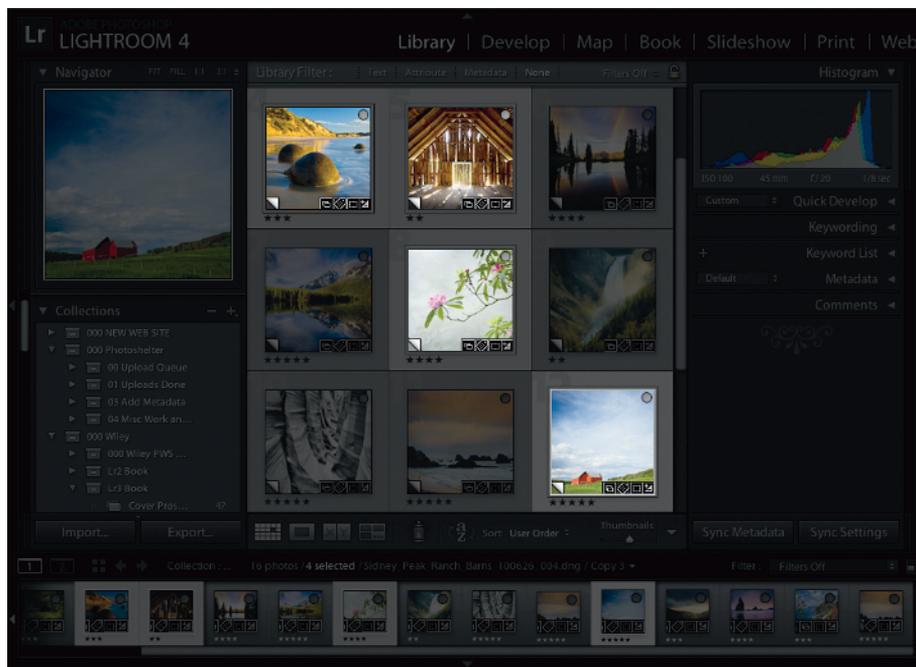
Figure 1-9

Lightroom Interface Preferences

Many of Lightroom's interface options can also be customized in the Lightroom Preferences (under the Lightroom menu on Mac and the Edit menu on Windows.)

SECONDARY DISPLAY

F11
Show
secondary
display

Lightroom offers support for dual monitors using the Secondary Display feature (see Figure 1–10). Open the second window by clicking the button on the upper left side of the Filmstrip. The Secondary Display is a pared-down version of the main window and has its own layout and controls. (You can also play slideshows in the second window; see Chapter 8.) You can open the Secondary Display window even with only one monitor.

Figure 1-10

MODULES

All work in Lightroom is done in one of seven *modules*. The modules provide tools and commands specific to each phase of the workflow. The modules can be accessed using the *Module Picker* (to the right of the top panel (see Figure 1–11) or by using various keyboard shortcuts.
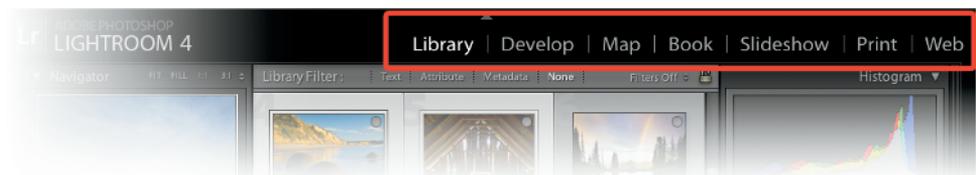
Figure 1-11

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G
Library Grid

D
Develop

Library

This is where you organize, sort and manage your images. Library is also where you edit video in Lightroom 4. A limited subset of processing controls is provided in the Quick Develop panel. See Chapter 3 for more information about Library.

Develop

Here you can process your photos to perfection. Cropping and straightening, tone and color adjustments, noise reduction, sharpening, creative effects… the list goes on and on. The Develop module is the core of Lightroom's image processing power; see Chapter 4.

Map

Using the all-new Map module you can view the locations where your photos were taken. You can use the Map module to add and edit location data as well as integrating GPS data using tracklogs. See Chapter 6.

Book

Also brand new in Lightroom 4, the Book module allows you to create sophisticated book designs and upload them directly to Blurb and/or output them as PDF files. See Chapter 7.

Slideshow

In the Slideshow module you can design presentations for playback within Lightroom or exporting as video, PDF or JPEG files. See Chapter 8 for information about working in Slideshow.

Print

Lightroom's Print module gives you a variety of tools to create custom layouts and make high quality prints. See Chapter 9.

Figure 1-12

Web

In Lightroom's Web module, generating Web galleries in HTML or Flash format is quick and easy. See Chapter 10.

Module Tips

New in Lightroom 4: each module has its own set of Tips (see Figure 1–12). You'll see them the first time you enter each module under a new installation of Lightroom 4, and then they go away. To see Module Tips at any time, use the command under the Help menu.

⚠️ **Delays when switching between modules**

There are times when Lightroom's performance slows or seems to stall. Often this happens when switching between modules or tools; this is especially true with the new Map and Book modules. In most cases, it's best to wait (stop clicking!!) and let Lightroom finish the current process. You will often find that—even when Lightroom appears to have
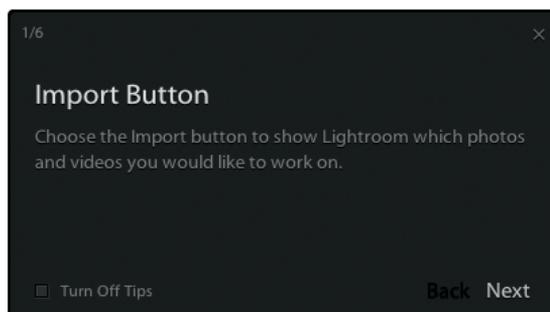
crashed—if you give it a few moments, the program will recover, finish processing and resume normal operation.

MAIN PREVIEW AREA

In Library and Develop, photos are shown in the center of the Lightroom window (see Figure 1–13). In the output modules this area is used to preview the current layout. The size of the preview area is variable, based on the visibility and sizes of the panels.

Figure 1-13

⇨ **Preview background options**
Right-click or Ctrl+click in the main preview background to change color and texture options (see Figure 1–14).

Figure 1-14

Shift+Tab
Show/Hide all panels

PANELS

Around the main preview area, the Lightroom application window is divided into four *panels* (see Figure 1–8). Lightroom's panels contain the majority of controls you will use to process your photos. Note that panels can't be "undocked", moved or floated in the main window; they are always in the same position. However, they can be hidden and resized as described below. **The contents of the left and right panels change within each module.**

01

Generally, left panels are used for organizing, batch processing and accessing presets and templates, while right panels contain tools used for applying specific settings to photos or output layouts. The top panel (Module Picker) and bottom panel (Filmstrip) remain consistent throughout all the modules.

F5
Hide/show
top panel

TOP PANEL

The top panel contains the Identity Plate (left) and the Module Picker (right). During processing, Lightroom's progress indicators are also displayed in the Identity Plate area.

Identity Plates
At the far left of the top panel is the main Identity Plate (see Figure 1–15.). You can customize it with your own text or graphic files. The main identity plate can be used in slideshows, Web galleries and print layouts, and in those modules you can also create additional identity plates.
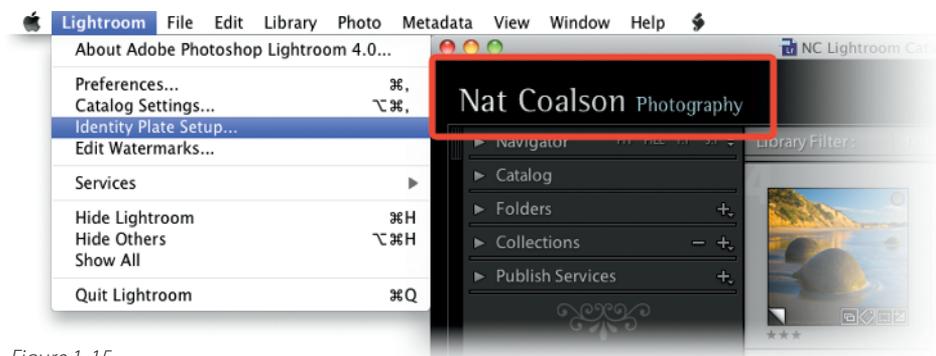
Figure 1-15

Apply a custom identity plate
Use the menu command under Lightroom menu➜Identity Plate Setup (Mac) or Edit… ➜Identity Plate Setup (Windows) to customize and save identity plate presets using the main Identity Plate Editor (see Figure 1–16). Also see Chapters 8, 9 and 10 for more about using Identity Plates in the output modules.

To turn off the custom identity plate, simply uncheck the box in the Identity Plate Editor.

Figure 1-16

28

The Activity Viewer and multithreading

When Lightroom is working on a process, the main Identity Plate is replaced with the Activity Viewer, which shows one or more progress bars (see Figure 1–17). Lightroom is *multithreaded,* which means it can multitask: several operations can be performed at the same time. If more than one process is going, multiple progress bars are shown.

Stopping a process

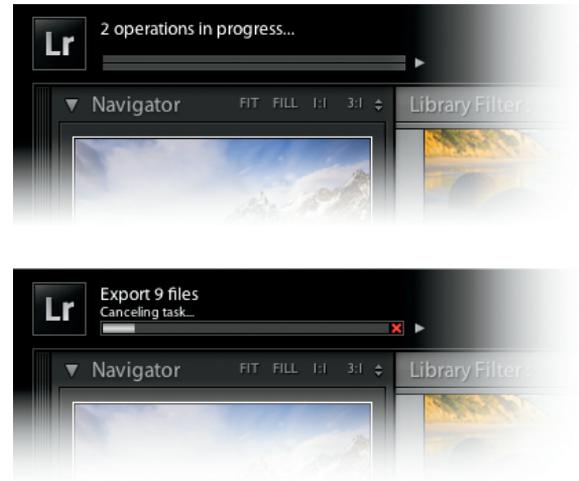To stop a process, click the small X at the right side of the progress bar.

Figure 1-17

⇨ Move on to other tasks

There is usually no need to wait for a process to complete before moving on to another task. For example, if you are in the middle of an import, you can still work on images already in the Library. If you're exporting a Web gallery, a batch of images, etc., the same applies.

Figure 1-18

The new Module Picker

New in Lightroom 4: right-click or Ctrl+click on a module name in the top panel. From the popup menu, you can hide and show individual modules from the list (see Figure 1–18).

Tab
Show/Hide left and right panels

LEFT AND RIGHT PANELS

The contents of the panels are different for each module. Generally, the left panels provide access to files and templates within each module. The right panels in Library and Develop include tools for modifying the photo(s). In the output modules, the right panels contain controls for changing layout settings.

Hiding and showing panel groups

F7
Hide/show left panels

F8
Hide/show right panels

The combined assemblages of the left and right module panels are typically referred to as *panel groups* (or *panel sets)*. To hide a panel group, click its outer edge. Click again to show it. Or, when a panel group is hidden, you can temporarily show it by hovering your mouse cursor over the collapsed panel at the outer edge of the window. This is called Auto Hide/Show, and can be enabled or disabled. Auto Hide/Show allows you to temporarily access the panel group to make whatever changes are necessary, and when you move the cursor away, the panel group is hidden again. Right-click or Ctrl+click a

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panel edge to set options for Auto Hide/Show and syncing between opposite panels (see Figure 1–19).

Panel states for each module persist until you change them.

Change panel size
Panels can be resized by dragging their edges. Wider panels shows longer file and template names and provides greater sensitivity for adjustment sliders. Narrower panels make more room for photos in the preview area. To change the width of a panel group, position your mouse cursor over the inside edge of any panel; the mouse cursor changes to a double arrow (see Figure 1–20). Click and drag to resize the panel. Note that all panels have a minimum and maximum width.

Show the panels you use; hide the others
I usually work with different panel groups hidden in each module. For example, in Library, I prefer to keep the right panel hidden and the left panel showing. This is because the left panel provides access to files in Folders and Collections, which I use a lot. I less frequently use the Library right panel to make metadata edits to files (mostly keywords). Conversely, in the Develop module, I usually work with the left panel hidden and the right panel showing, because the tools I use most often are in the right panel. (I may temporarily auto-show the left panel to apply Develop presets.)
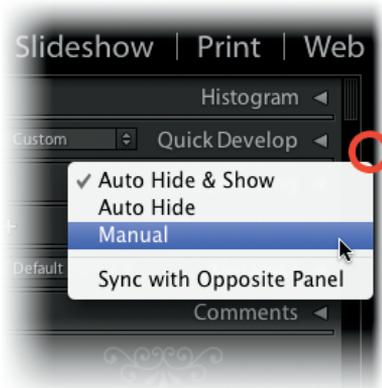
⌘+click or Ctrl+click on panel header Open/close all panels

Expand and collapse individual panels
In addition to hiding and showing the entire left and right panel groups, individual panels can be expanded and contracted (see Figure 1–21). Click anywhere in the top bar of each panel to hide or show its contents (it's not necessary to click directly on the triangle).

Expand All and Collapse All
Right-click or Ctrl+click on the panel header and select Expand All or Collapse All to open or close all the panels in the group.
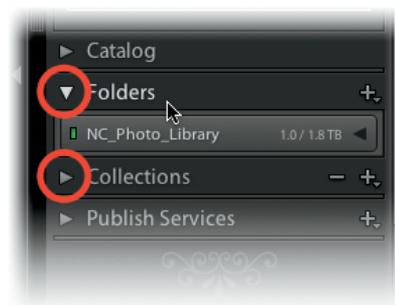

Figure 1-19

Figure 1-20

Figure 1-21

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Add and remove individual panels

The individual panels in the left and right panel groups can be removed and restored from the main panel track as you see fit. Right-click or Ctrl+click on a panel header, then make selections from the contextual menu to show or hide individual panels or select Hide All/Show All (see Figure 1–22). Note: the Navigator, Preview and Histogram panels cannot be hidden.

Option+click or Alt+click on panel header Toggle solo mode

Solo Mode

When you enable *Solo Mode,* opening one panel closes all the others. This is my preferred way of working, except in the Library left panels, where it's often advantageous to have Folders and Collections open at the same time.

Figure 1-22

Right-click or Ctrl+click on any of the panel headers; select the option from the popup menu to enable Solo Mode (see Figure 1–23). The Triangle icon on the panel header changes to a dotted pattern to indicate Solo Mode is active.

Option+click or Alt+click on any panel header to open that panel and simultaneously toggle Solo Mode.

Shift+click on a panel header to open it *without* closing the previous one.

NAVIGATOR PANEL

The Navigator (see Figure 1–24) is in the first position of the left panel group in the Library and Develop modules (this panel is replaced with Preview in the output modules, where it functions a bit differently). The Navigator shows

Figure 1-23

a preview of the selected photo, or the target photo if multiple photos are selected. The Navigator panel can be used to select *zoom levels,* or ratios of magnification. Selecting a zoom level in the Navigator enlarges the photo preview to that size.

Zoom Ratios

Unlike other programs that specify magnification level with a percentage, Lightroom's zoom levels are based on the ratio of image pixels to screen pixels. 1:2 is one screen pixel to two image pixels. 4:1 is four screen pixels to one image pixel, and so on.

The preset zoom ratios are:

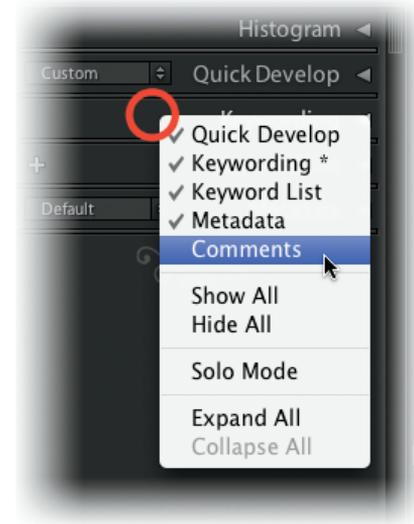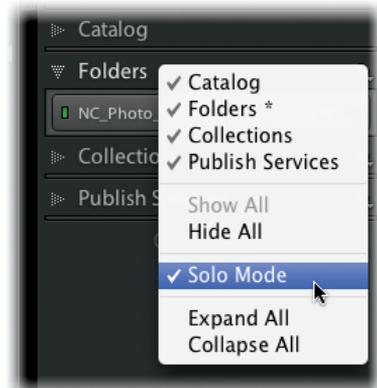- **Fit:** fits the entire photo into the main preview area.

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- **Fill:** fills the preview area top-to-bottom with the image. The sides of images may not be visible.

- **1:1:** one image pixel for one screen pixel.

- **User-selected setting:** the fourth zoom ratio setting uses the last custom zoom level you selected. Clicking this ratio will also display a popup menu for you to choose the custom zoom level (see Figure 1–24).

New in Lightroom 4: there are two new zoom ratios—1:8 and 1:16. (These are useful for Soft Proofing in the Develop module; see Chapter 4.)

▷ **Move around an enlarged preview with the Navigator**
When zoomed in to a photo, drag the white box in the Navigator preview to change the area shown in the main preview (see Figure 1–24).

Figure 1-24

▷ **Preview presets in Navigator**
The Navigator offers more than just a preview. For instance, in Library, moving your mouse over folders or collections will show the first image in that source in the Navigator. And in Develop, Navigator shows previews of presets. Just roll your mouse cursor over the presets in the list, and Navigator will show you what that preset looks like applied to the selected image.
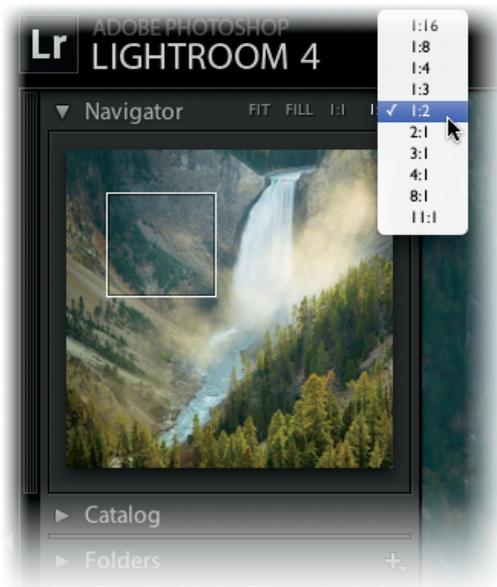
F6
Hide/show
Filmstrip

FILMSTRIP (BOTTOM PANEL)

The bottom panel, called the *Filmstrip,* shows thumbnails for the images in the current image source (see Figure 1–25). The Filmstrip remains the same throughout all the modules. You can change the order of photos in the Filmstrip and the display of the thumbnails. There's more about this in Chapter 3.

Figure 1-25

**⌘+Option+
Left arrow
or Ctrl+Alt+
Left arrow**
Go back

**⌘+Option+
Right arrow
or Ctrl+Alt+
Right arrow**
Go forward

Filmstrip Navigation Controls
At the left of the top part of the Filmstrip are navigation controls. The square icon is a shortcut to Library Grid view mode; next to that are arrows to go forward and back.

Change the size of Filmstrip thumbnails
Drag the top edge of the Filmstrip to resize it; this changes the size of the thumbnails.

Double click to toggle size
When you've resized the Filmstrip, you can double click the top of it to toggle between the two most recently used sizes.

PANEL CONTROLS
Within the panels, Lightroom provides several types of software controls to edit and process your photos. Most can be manipulated using either your mouse or the keyboard. Some require you to select from a menu; others let you type directly into text boxes.

Disclosure triangle buttons
Throughout Lightroom's panels there are very small and easily overlooked black triangle-shaped buttons (see Figure 1–26). These open and close a subsection of the panel, revealing or hiding more controls.

Arrow buttons
These are found on the Quick Develop panel (see Figure 1–26). While most of Lightroom's settings are absolute (applying a specific value), the arrow button controls are relative—they are applied on top of whatever settings are already present. The single arrow buttons apply changes in smaller increments than the double arrows. See Chapter 3 for more about Quick Develop.

Sliders
Particularly in Develop, the sliders (see Figure 1–27) are the most common

Figure 1-26

Figure 1-27

method of making adjustments to photos. Lightroom's sliders can be adjusted
in several ways:

- Drag the slider with your cursor.

- "Scrub" the slider's numeric value left and right using the mouse.

- Position your cursor anywhere over the slider and then use the up and down
  arrow keys to increase or decrease the value.

- Double-click a slider to Reset it to its default value.

- Double-click the field and type in a numeric value.

Text entry fields

There are text fields in many panels throughout the modules. To enter text, click on the
field and type. Always be sure to press Enter or Return when you're done typing text into
a field anywhere in Lightroom. This reduces the chance of accidentally typing something
into a text box when you're trying to use a shortcut. If you change your mind typing into a
text or dialog box, or to deactivate a tool, press Esc to cancel.

Tooltips

Place your cursor over part of the interface and let it remain for a few seconds (without moving
or clicking) to see a popup *tooltip* telling you what that control does. If there is a keyboard
shortcut for the tool or command, it will also be shown in the tooltip (see Figure 1–26).

Panel switches

Most panels that provide
controls for image
adjustments (and Filmstrip
filters) provide a small "switch"
that allows you to disable/
enable the adjustments for
that panel. Like a light switch,
up is "on" and down is "off" (see
Figure 1–28). Look for these
switches in numerous places
throughout Lightroom's
interface. In some cases, they

Figure 1-28

may be oriented left/right. In all cases, they perform the same function: enabling and
disabling the effects of that panel or control.

Panel Scrollbars

When multiple left and right panels are open, their contents will often be too long for all the panels to show on the screen. In this event, scroll bars appear to allow you to move up and down within the panel track (see Figure 1–29). Click and drag the bar to scroll, or use your mouse wheel.

Panel End Marks

The *panel end mark* ornaments at the bottoms of the left and right panel groups (see Figure 1–30) are designed to let you know there are no more panels below. You can change the graphic used for the panel end marks, you can add your own, or you can remove them completely. Once you get used to the panels, these end marks become unnecessary. I prefer to leave them hidden to reduce screen clutter. Right-click or Ctrl+click on or around the end mark and select a panel end mark from the list.

Custom panel end marks

From the panel contextual menu, select Go to Panel End Marks Folder. You can find custom panel end marks on the Web, or create your own in Photoshop. Put the image files in the folder and restart Lightroom; your custom files will then show in the list.

Figure 1-29

MENUS, COMMANDS AND SHORTCUTS

Lightroom's main menu bar changes from one module to the next. In this way, Lightroom is like seven programs in one! To memorize all the commands available in Lightroom requires using and remembering all the different menus in each

Figure 1-30

module. (However, there are some shared menus and commands that remain constant throughout the modules.) As you're learning to use Lightroom, frequently look at the
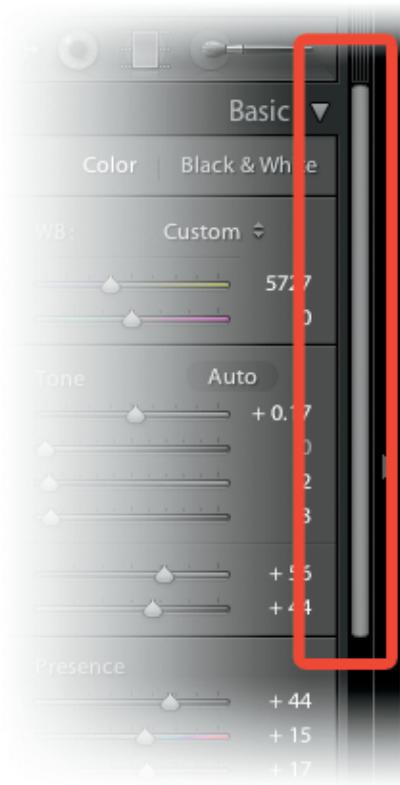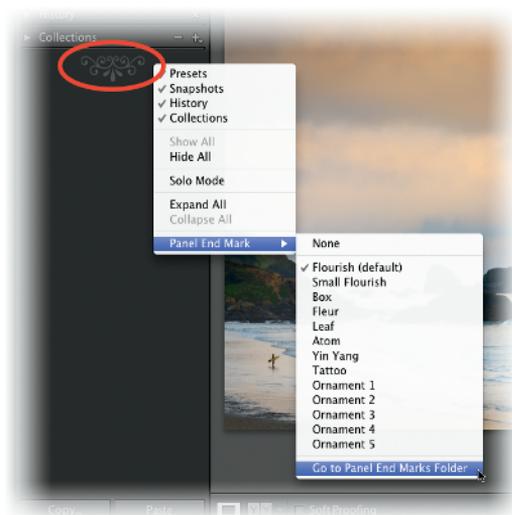
01

menus, commands and shortcuts available in each module. This will not only give you a better grasp of the full functionality available in Lightroom, it will speed your work as you memorize the locations and shortcuts for specific commands. As with Lightroom's menus, each module has its own shortcuts, and some shortcuts in different modules share the same key. Shortcuts are shown next to the corresponding commands in menus (see Figure 1–31).

Figure 1-31

Many shortcuts are toggles

In Lightroom, many of the keyboard shortcuts turn tools on and off or make items active/inactive. This is a *toggle* control.

Contextual Menus

Lightroom is full of contextual menus (see Figure 1–32). Using them is essential to speeding up your work. A contextual menu's contents are determined by the context in which you clicked. Depending on where you click, contextual menus appear showing the commands most useful and appropriate for the object clicked. Though this book provides many keyboard shortcuts, I use contextual menus as much or more than the keyboard. I work with a tablet and stylus, and a right-click or Ctrl+click is often faster than switching to the keyboard.
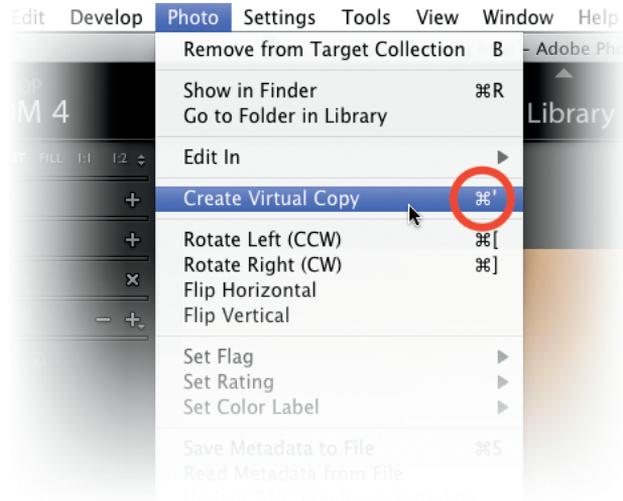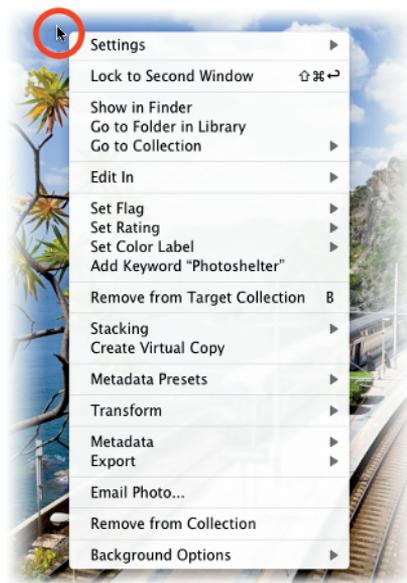

Figure 1-32

TOOLBARS

Each module has its own *Toolbar* containing various tools for that module (see Figure 1–33). The Toolbar is shown at the bottom of the main preview area and can be hidden and shown. Most of the tools and functions on the Toolbar can also be performed using shortcuts; once these are committed to memory, it's possible to work most of the time with the Toolbar not showing.

Figure 1-33

Change what shows in the Toolbar

At the right side of the Toolbar is a button that activates a menu that you can use to customize the contents of the Toolbar specific to each module (see Figure 1–33). The Toolbars for each module are described in those chapters.

WORKSPACE QUIRKS

Many of Lightroom's interface widgets are very small and—using various shades of gray, black and white—can be easily missed. Get in the habit of looking very closely at the Lightroom interface to discover the full set of controls.

Option or Alt

In many areas of Lightroom's interface, holding the Option or Alt key reveals additional functions, such as hidden controls, buttons and options. For example, the Quick Develop panel in Library shows additional controls when Option or Alt is held down. The Sharpening panel in Develop has uses for Option/Alt. And, holding Option/Alt changes the Export button to Export Catalog. Memorize the most important places the Option/Alt key is useful, then as you're working, periodically press the key and watch how it changes the options on the screen. Many otherwise hidden functions become readily available.

01

⮕ **Hide-and-seek interface widgets**

Throughout Lightroom there are controls that will only show if they are relevant to the selected photo or photos. In cases where these controls don't apply, they are hidden from view.

How to ensure accurate color for your photos

Color management refers to an integrated system of computer hardware and software working together to translate color from one device to another in a controlled way. For your photos to look their best, implementing color management is a critical aspect of successfully going from capture to print with the best possible quality.

The color management system (CMS) is built into your computer's operating system—on Mac it's ColorSync and on Windows Vista and 7 it's WCS. The CMS handles color management at the system level and is responsible for translating color values to and from your image files and output devices. Lightroom is color-managed by default and there are no color settings to configure. (Lightroom uses a 16-bit, proprietary color space for internal processing.)

CALIBRATING AND PROFILING YOUR DISPLAY

The most important step in achieving accurate color in your photos is working on a calibrated and profiled display. If you're using a properly calibrated and profiled display, you can trust that the colors you see on-screen in Lightroom are accurate.

Calibrating your display corrects its output settings. *Profiling* makes an ICC profile for use by the CMS. Calibrating and profiling your display must be done with a combination of dedicated hardware and software. Software alone, (such as Adobe Gamma) is not sufficient. You must use a dedicated measurement device for accurate calibration. I use and recommend the X-Rite i1 (Eye One) and Color Munki systems for this; see the Appendix for links.

USING COLOR PROFILES

A color profile describes a color space—the range of available colors and their numeric values. Profiles can be *embedded* in image files. The embedded profile tells the color management system the parameters for translating the photo's colors to different devices—printer, monitor, etc. When Lightroom generates new files, profiles are always embedded by default. The Print and Book modules allow you to choose the color profiles to be used, as does the Export window. To ensure consistent color, whenever you're saving files out of Lightroom, you should always use the correct color profiles for the intended use. See Chapters 4, 5, 7 and 9 for more about working with color profiles.

Lightroom always respects and preserves profiles embedded in imported image files. For files with no embedded profile, sRGB is used. Video files do not have embedded profiles and thus cannot be color managed.

Next steps

Now that you've got a solid foundation in how Lightroom works, let's jump right in and Import some photos! Chapter 2 describes how you can import photos from your hard drive and from a camera or memory card.

Process in Lightroom, not in-camera

Though many current camera models offer varying levels of processing within the camera itself (brightness, contrast, color and sharpness controls, black and white conversion, etc.) it's almost always best to do the image processing in Lightroom, not in the camera.

Consider post-processing while you are shooting

Once you're comfortable quickly changing settings on your camera while shooting, start to consider how you will process the file later. Taking production issues into account while you're shooting will help you get better captures and make post-processing easier.