

Adobe® Photoshop®  
Lightroom® 4

# CLASSROOM IN A BOOK®

The official training workbook from Adobe Systems

Instructor Notes



## Adobe Photoshop Lightroom 4 Classroom in a Book

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# INSTRUCTOR NOTES

The Adobe® Photoshop® Lightroom® 4 Classroom in a Book® course presents students with tips, techniques, and solutions to help them get the most out of Adobe Photoshop Lightroom. These Instructor Notes are intended to complement the information in the Adobe Photoshop Lightroom 4 Classroom in a Book.

These notes are organized to follow the sequence of instruction in the lessons; however, the intention is not to expand on each and every exercise but rather to point out potential teaching opportunities not specifically covered in the lesson or areas where students might easily be confused.

## Course strategy

The book contains a Getting Started chapter and eleven lessons, which may take varied lengths of time to complete.

With the possible exception of Lesson 6, you should be able to teach one chapter of this book per session, but—depending on the number and duration of sessions in your class—you may wish to combine related exercises from some of the shorter lessons, or break up the more involved projects. This can be a good way to brighten the technical lessons with the some of the more creative exercises, providing your students the satisfaction of seeing a result at the end of each class.

You should make your own assessment of the complexity of the exercises in each lesson. Some non-essential exercises—and exercises requiring Internet access, where that is not available in class—may be best assigned as follow-up work to be completed at home.

The following lesson summaries may help you in structuring your course:

- **Getting Started** covers setting up for the lessons, introduces the concept of the catalog file, and outlines the additional resources that students should be encouraged to use to find help, information, and inspiration.

Students begin by copying the image files to be used in the exercises from the application CD into a lessons folder, then create a library folder and catalog file that will be used through all ten lessons.

In the classroom this section is best combined with Lesson 1, so that your students will already have an established catalog to handle the lesson images before they begin exploring the interface and workspace modules.

The concept of the Lightroom catalog is expanded in Lesson 1, which also revisits the information on help, support, and resources.

- **Note:** One way to simplify file storage and retrieval in classroom situations is to ask students to include their own name in the name of their library folder.

- **Lesson 1** discusses the core concepts of the catalog file and non-destructive editing, and provides an introduction to the Lightroom interface and workspace that is basic to all the following lessons.

The lesson begins with a quick tour of the workspace modules, and then moves on to a test drive as students work through a typical workflow, from import to output. In the process, this lesson touches quickly on a number of skills and concepts that will be developed in detail in later lessons.

Lesson 1 also revisits the various methods for accessing help, support, and other resources.

- **Lesson 2** explores the Lightroom workspace in greater detail. Students learn how to use screen modes, customize the workspace, and make the most of available screen space by working efficiently with panels, viewing modes, and a secondary display.
- **Lesson 3** focuses on importing. Students become familiar with the new Lightroom import interface—importing images from a camera, a hard disk, and another catalog while learning how to use various import modes and options to organize photos in the process. This lesson also covers working with import presets, setting up a watched folder, and using Lightroom for tethered shooting.
- **Lesson 4** deals with viewing, navigating, and comparing images. Students explore the various viewing modes and options, learn how to work with the Navigator, and how to make full use of the Filmstrip. This lesson also introduces flagging and grouping images in collections—topics that are developed in greater detail in Lesson 5.
- **Lesson 5** expands on the subject of organizing the photo library. Students learn how to organize their files and folders from within Lightroom and get hands-on experience with all the tools and techniques for tagging, marking, sorting and searching images.
- **Lesson 6** is the most involved lesson in this book; it will probably require two teaching sessions. Alternatively, you could split the lesson into separate exercises and combine them in class with shorter topics.

This lesson touches on most aspects of developing in Lightroom, from quick edits made in the Library module to applying sophisticated effects and corrections and managing the edit history and in the Develop module. Students use the retouching tools, are introduced the concepts of the white balance and the histogram, and learn how to adjust color globally or selectively.

- **Lesson 7** introduces the new Book module. Students are guided through a sophisticated photo book project while learning how to select and customize preset page layouts, how to add backgrounds, graphics, and text. Students will gain experience with the Text Adjustment tool, using custom text presets, reusing custom page layouts, and publishing a photo book to Blurb.com or PDF.

- **Lesson 8** explores the Slideshow module as it leads students through the process of creating a stylish presentation. Students learn how to select and customize a slide layout template and how to add backgrounds, borders, text, effects, and music. Other exercises cover the text template editor, saving custom templates, and exporting a slideshow to video or PDF.
- **Lesson 9** covers the Print module. This lesson begins by exploring the various types of layout template, and then works through the process of modifying and customizing them. Students learn how to work with image cells, layout controls, and image metadata, how to create borders, change background colors, and add text. Exercises also cover creating a custom print template, working with color management, and saving print settings as an output collection.
- **Lesson 10** looks at the options for sharing photos online. The lesson begins in the Library module, where students work with the new Publish Services panel, and then examines the Web module in detail.

Students learn about the characteristics of the different web gallery template types, and then customize a gallery by editing the color scheme, tweaking the layout, adding titles and other information, and watermarking images. The lesson concludes with saving the customized template, exporting the gallery, and uploading it to a web server.

- **Lesson 11** focuses on backup strategies and the various methods of exporting images from Lightroom. Students learn how to set up automatic backups, back up the catalog file or the entire library and all the images it contains, and how to perform incremental backups. The lesson covers a range of export options from exporting a single image to exporting images as a Lightroom catalog, and also touches on setting up export presets and post-processing actions.

## New features

Several lessons introduce new or improved features in Photoshop Lightroom 4:

- **Lesson 1** gives an overview of the new Map and Book modules, introduces the improved suite of Tone controls in both the Library module's Quick Edit panel and the Basic panel in the Develop module, and also covers the enhanced, integrated workflow for sharing photos by e-mail.
- **Lesson 3** touches on importing and viewing video, and also includes a side-bar on importing photos and catalogs from Photoshop Elements into Lightroom, as well as tips for working between the two applications.
- **Lesson 5** explores geotagging in the new Map module, with exercises on organizing images by location, both with and without camera-generated GPS metadata, and placing a photo on the map by matching its capture times to an imported GPS tracklog.

- **Lesson 6** covers many enhancements to Lightroom’s image editing technologies, most of which are reflected in the new suite of Tone controls presented in the Develop module’s Basic panel. For students familiar with previous versions of Lightroom, and even those new to the application, the coverage of the new 2012 Process Version will provide an overview of the changes. Lesson 6 also introduces basic video editing and details a handy work-around that will enable students to apply Develop module settings to video clips in the Library module.
- **Lesson 7** explores the new Book module.
- **Lesson 9** introduces Soft Proofing in the Develop module, which enables the user to optimize developing settings for output to a given color profile, and also covers new Print Adjustment controls on the Color Management pane of the Print Job panel.

The Print Adjustment sliders can be used to tweak brightness and contrast manually before committing to print. These changes don’t show in the main preview and have no effect on exported copies—the adjustments are applied only when an image is printed, helping to compensate for a printer that consistently produces results that are too light, too dark, or lacking in contrast.

- **Lessons 7 through 10** cover the “output modules”—the Book, Slideshow, Print, and Web modules. In Lightroom 4, saving a project in any of these modules results in the creation of an *output collection* that groups the project images and records the templates, options, and settings used for the project.

In fact, every lesson in this book involves new and improved features, however peripherally. The list of new features and enhancements to interface, functionality and performance in Lightroom 4 is long; you’ll find more detailed information at <http://www.adobe.com/products/photoshoplightroom>.

## Getting Started

Before teaching Lesson 1, you should decide how to deal with the issues covered in the chapter Getting Started: the installation of software and the copying of lesson files from the CIB CD to the students’ computers. You may wish to prepare course and library folders for your students before the first lesson begins, or have students work through this procedure at the beginning of Lesson 1.

### Managing student projects

One way to simplify file storage and retrieval in classroom situations is to ask students to add their own name to the name of either the LR4CIB folder or the library folder, both of which are set up on their hard disks in Getting Started, Having students keep all their working images, their library catalog, and any exported files in a marked folder makes it easy for you to clean up files when a class is over.

# Lesson 1: A Quick Tour of Photoshop Lightroom

This lesson presents an introduction to Adobe Photoshop Lightroom intended to provide your students with a basic understanding of how Lightroom works and a general overview of the workspace. The exercises familiarize students with some of the techniques used in the course of a typical workflow, from import to output.

## Goals for this lesson

The overall objective for Lesson 1 is to make your students sufficiently familiar with the user interface to be able to move between modules and easily locate the commands, tools, and controls they'll need to import, view, select, organize, edit and share images.

- They should understand the core concepts of the Lightroom catalog file and non-destructive editing.
- They should be able to recognize and move between the various Lightroom workspace modules.
- They should be able to identify and locate the key elements of the interface, including menus, panels, Toolbar, and Filmstrip.
- They should be aware of and able to access different viewing modes.

A secondary goal is to introduce your students to—and encourage them to make good use of—the different means of finding information about Lightroom so that they learn how to help themselves and gain confidence, independence, and inspiration. They should be aware of and able to access:

- Help in the application.
- Adobe Community Help on the Web.
- The Help PDF.

## Understanding how Lightroom works

You can begin by explaining the linked concepts of non-destructive editing and the catalog file as a record of not only the address of an image files, but also of each organizing or editing operation performed in Lightroom. Point out that the Add import option adds images to a catalog without moving source files from their original locations, and that multiple catalogs can be created and switched between for different purposes.

## The Lightroom workspace

Begin with a general tour of the Library module screen, which will help orient your students and provide a review of the names of the workspace elements. Point out the menu bar, the identity plate and the Module Picker in the top panel, the side

panel groups, the work area and the Toolbar below it, and the Filmstrip across the bottom of the workspace. You should demonstrate the Grid and Loupe views, drawing attention to the view buttons and other tools in the Toolbar, such as the thumbnail size slider for the Grid view. Show that the Toolbar can be customized for each viewing mode.

Though Lesson 4 will go into more detail, you can demonstrate the hide and show settings and behaviors for the side panel groups and the Filmstrip and discuss options for optimizing screen space by customizing the workspace and switching viewing modes. Look at the context menus for the panel groups and the Filmstrip. Show that the workspace can be customized for each module independently.

## The Lightroom modules

For each of the seven workspace modules, quickly examine what panels are available in each of the side groups, what controls can be found in the Toolbar, and what viewing modes are offered.

Highlight the interface similarities across modules—the Slideshow Print and Web modules, for example, share a left panel group with a preview panel, a template browser and the Collections panel, while panels with controls for customizing the layout or presentation are found on the right. The Book module follows a slightly different model: although layout is template-based, the presets are applied to individual pages, rather than to the project as a whole, so there is no template browser in the left panel group. Point out the different panels and controls that become available for different template and layout types in the Print and Web modules.

## A typical workflow

The exercises in this lesson step students through a typical workflow; in the process they will import lesson files, review and organize the imported images in the Library module, correct and edit photos in the Develop module and with an external editor, and share images by e-mail. It's not necessary to expand on many of these subjects at this stage—most are treated in greater detail in subsequent lessons.

## Correcting Lens Distortion

This exercise covers the use of the Lens Corrections panel in manual mode. Manual mode is revisited in Lesson 6 for the Chromatic Aberration controls, but the Profile mode for the Lens Correction controls is not covered in this book, so it may be a good idea to discuss using lens profiles as a conclusion to this exercise.



## Using Help

Rather than treating this topic as a classroom exercise, focus on pointing out the menu commands and encourage your students to explore Adobe Community Help and other online resources at home. You could set students the task of finding answers to a set of lesson review questions such as those below, and then follow up with discussion in the next class.

## Questions

- 1 What is the catalog file?
- 2 What do you do when the controls you want are not visible in the Toolbar?
- 3 What is Adobe Community Help?

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## Answers

- 1 The catalog file is the key to understanding how Lightroom works; it stores not only the address of each master image file, but also records every tag, label, and rating assigned to the image, every adjustment and edit applied to it, and its position in collections, slideshows, print layouts, and web galleries. The catalog file makes non-destructive editing possible.
- 2 To ensure that the Toolbar is visible, press T. Click the arrow at the far right of the toolbar and choose the control you're looking for from the menu. Tools that are already visible in the Toolbar are indicated by a check mark in the menu.
- 3 Adobe Community Help brings together active Adobe product users, Adobe product team members, authors, and experts to deliver the most useful, relevant, and up-to-date information about Adobe products. Search results show you not only content from Adobe, but also from the community. With Adobe Community Help you can:
  - Access up-to-date definitive reference content online and offline
  - Find the most relevant content contributed by experts from the Adobe community, on and off Adobe.com
  - Comment on, rate, and contribute to content in the Adobe community
  - Download Help content directly to your desktop for offline use
  - Find related content with dynamic search and navigation tools.

## Lesson 2: Introducing the workspace

This lesson explores the nuts and bolts of the Lightroom workspace in greater detail. The exercises show how customizing the workspace and working efficiently with panels, together with the use of screen modes and viewing modes, can help to make the most of available screen space.

### Goals for this lesson

The objectives for Lesson 2 are to increase your students' fluency in working with the elements of the Lightroom workspace and to provide them with some basic working techniques for maximizing screen space and increasing their own efficiency.

- Your students should be familiar the various screen modes, and be able to move between them as they work on an image by using keyboard shortcuts.
- They should be able to make use of a secondary display, whether they are working with one screen or two.
- Students should be aware of the different viewing modes in each workspace module, and be able to use them effectively. They should be able to configure the view options and increase their working fluency by using both the Toolbar buttons and keyboard shortcuts to access the most commonly used views.
- They should be able to work with the application window and the workspace panels to customize the workspace to the task at hand. They should understand that the workspace can be customized differently for each module.

### Scheduling

The skills and techniques covered in this lesson are basic to working in Lightroom; if you're looking for ways to re-structure lessons for class, it might be possible to separate the exercises in this lesson and recombine them with other projects.

### Using a secondary display

Although the secondary display is most useful when working with two screens, it can still be helpful, even with a single monitor. Be sure to point out the advantages of using the secondary display to show a simultaneous view that is different from that visible in the main workspace window. Students should be able to quickly change the content displayed in the secondary window and understand how to use the normal, live, and locked modes.

### Working with panels

The next series of exercises cover resizing, showing and hiding, and expanding and collapsing panels and panel groups. It's important that students become fluent in

these techniques in order to make the most of the workspace as they work on a photo or a presentation. To this end, make sure that students are aware of keyboard shortcuts and context menu options as well as menu commands. Discuss relevant commands and options that are not specifically covered in the exercises.

Spend a little extra time on the options in the context menu for the left and right panel groups; beginners can be easily confused by “missing” panels when a panel group is set to Hide All or Solo mode.

## View modes

Being able to use view modes easily and effectively can make working in Lightroom both more enjoyable and more productive. View modes are revisited, and some aspects are expanded, in Lesson 4. For this lesson, students should become aware of the zoom controls in the Navigator panel and the view mode buttons in the Toolbar. They should know how to show the view mode buttons when they are hidden, and understand that the view modes differ across workspace modules.

This lesson also introduces students to the View Options dialog box. Discuss view options not specifically covered by the exercises.

## Keyboard shortcuts

Keyboard shortcuts are another way to get the most out of the Lightroom workspace. Encourage students to look for keyboard shortcuts when using menu bar commands, and to use Ctrl+/ (Windows) / Command+/ (Mac OS) to access the list of keyboard shortcuts for the currently active module.

## Questions

- 1 What can you do if the panel you’re looking for is not in the panel group where you expect to find it?
- 2 What can you do if Lightroom won’t let you expand more than one panel at a time in either of the side panel groups?

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## Answers

- 1 Right-click / Control-click the header of any panel in the group, or in empty space below the panels, and choose Show All—or the name of the hidden panel—from the context menu. Panels that are currently visible show check marks beside their names in the context menu. Hidden panels can also be found in the Windows > Panels menu.
- 2 Right-click / Control-click the header of any panel in the group, or in empty space below the panels, and disable the Solo Mode option in the context menu.

## Lesson 3: Importing

This lesson introduces the new and improved Lightroom 4 import interface. In the course of the lesson, students will become familiar with Import dialog box—importing images from a camera, a hard disk, and another catalog while learning how to use various import modes and options to organize photos in the process. The lesson also covers working with import presets, setting up a watched folder, and using Lightroom for tethered shooting.

### Goals for this lesson

The overall objective for Lesson 3 is to make your students sufficiently familiar with the Import dialog box to be able to import, copy, and move photos from any source, and make full use of the options for processing and organizing image files as they are imported.

- Students should understand the workflow in the Import dialog box: navigate files and locate source images on the left, choose an import type at the top, view and select images in the center pane, process and organize images with the panels at the right.
- They should be able to import photos from any source and understand when to use the different import options: Copy As DNG, Copy, Move, and Add.
- They should be able to set up automatic processing—file renaming and application of develop settings, keywords, and other metadata—and designate a destination folder for moved or copied files.
- Students should be able to use a variety of import techniques outside the Import dialog box; importing to a specific folder, using a watched folder, and using Lightroom for tethered shooting.
- They should be able to set up an import preset and use the Import dialog box in compact mode.

### Scheduling

The first exercise in this lesson deals with importing images from a digital camera, so you may wish to ensure that students come to class prepared. If there is a technical problem with connecting cameras in class, students should still work through the exercise with images imported from another source, as several important import options and techniques are incorporated into the exercise workflow.

Each of the other lessons in the book begin with a basic import from the Lessons folder; with a little thought and preparation, you could possibly break up Lesson 3 and re-position the exercises at the beginning of other lessons. Should you take this approach, keep in mind the fact that coverage of many useful import options and techniques is distributed throughout the lesson.

## The import process

You can begin with an overview of the Import dialog box, in both compact and expanded mode. In explaining the various import types, you should revisit the subject of the catalog file. It's important for students to understand that, although we talk about "importing" an photo, Lightroom really only initiates a new entry in the catalog file—though we may choose to move or copy the image file in the process.

## Importing photos from a digital camera

This exercise includes information and techniques that apply equally to importing from any image source. Students learn now to use the Destination panel to organize photos by moving or copying them to folders and subfolders, how to make backup copies of imported files, and how to set up a naming scheme to rename files as they are imported. Discuss related commands and context menu options that are not specifically covered in the exercises.

## Importing images from a hard disk

This section includes some exploration of import types, looks at the difference in panels and controls available at the right of the dialog box for each import type, and also covers the creation, editing, and application of metadata presets. The remainder of the exercises in this lesson can be treated as independent exercises.

## Tethered shooting

It's unlikely that every student will have a camera supported for the new integrated tethered capture feature in Lightroom 4. You should decide whether to simply cover this subject in theory—making sure to explain the work-around for unsupported cameras—or demonstrate a both tethered capture solutions in class.

## Questions

- 1 How can you import photos directly into a specific folder in the Folders panel?
- 2 How can you use Lightroom for tethered shooting with a camera that is not supported?

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## Answers

- 1 Right-click / Control-click the entry for the target folder in the Folders panel and choose Import Into This Folder from the context menu.
- 2 Use the image capture software associated with your camera—or third-party software—to save your photos to a watched folder. Lightroom will remove the images from the watched folder and add them to your catalog as soon as it detects them. You can then view them in Loupe view in the Library module.

## Lesson 4: Reviewing

This lesson deals with using the workspace effectively for viewing, navigating, and comparing images. Students explore more of the viewing modes and options and learn how to make full use of the Navigator and the Filmstrip.

This lesson also introduces sorting photos by flagging and organizing images by grouping them in collections: topics that are developed in greater detail in Lesson 5.

### Goals for this lesson

The objectives for Lesson 4 are to increase the student's fluency in working with the Lightroom workspace, and to introduce the use of the Compare and Survey views as essential tools for reviewing and organizing photos.

- Your students should become familiar with all the view modes in the Library and Develop modules and understand the advantages associated with each.
- They should know how to configure the different view modes: how to set info display options for the Grid and Loupe views and display options for the Before and After view.
- Students should be able to smoothly switch zoom ratios and navigate a zoomed image using the Navigator panel.
- They should be able to make full use all of the Filmstrip, including using the pop-up menus and context menu commands to navigate the catalog when the left panel group is hidden.
- They should be able to mark images “on the fly” by means of flagging.
- They should understand the characteristics of collections, how to make use of the Quick Collection, and how to designate a target collection.

### Scheduling

There are some areas of overlap—with Lesson 2 in relation to fluent and efficient use of viewing modes, and with Lesson 5, which expands on organizational techniques—which may suggest opportunities for combining exercises.

### Viewing and managing your images

You can begin this lesson by reviewing the Library module workspace. Be sure to look at the Filter Bar and the Toolbar, and how to show these items when hidden.

### Comparing photos

This exercise does not make use of the Synch (zoom), Swap, or Make Select buttons. Have your students make a larger selection of images (perhaps all the photos of the Flatiron Building) and experiment with these controls.

## Grouping images in the Quick collection

Spend some time making sure students understand that a collection is a virtual grouping—perhaps drawing the parallel to the familiar music play-list—where a single photo can be included in any number of collections, and the images can be rearranged to an order other than the set sorting orders.

## Moving images into or out of Quick collection

Although this exercise points out the Quick Collection marker on the thumbnails of grouped images, students add and remove images from the Quick Collection by pressing the B key or choosing Photo > Add To Quick Collection. Have your students repeat steps 3 through 5, adding and removing images by clicking the marker.

## Designating a target collection

Make sure your students clearly understand how to use a target collection; the concepts of the target collection and the Quick Collection can easily be confused. Discuss working situations where each feature might be useful.

## Working with the Filmstrip

Encourage your students to use the Filmstrip as much as possible. They should familiarize themselves thoroughly with using the pop-up image source menu and the Filmstrip's context menu as a means of navigating their folders and collections. These options, and others in the same menus, can be very handy when working with the left panel group hidden.

## Questions

- 1 Why would you flag a photo as a reject?
- 2 How can you use the Filmstrip to navigate your files, folders and collections?
- 3 What zoom level results from clicking an image in Loupe view?

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## Answers

- 1 Quickly flagging photos as rejects—as you review a selection of recently imported shots, for instance—makes it easy to delete all the unwanted images from the catalog at once with the Photo > Delete Rejected Photos command.
- 2 In the bar across the top of the Filmstrip, click the small white triangle at the right of the source path. Choose from a menu of recent folders and collections, favorites, the previous import, the Quick Collection or the entire catalog.
- 3 Clicking an image in Loupe view toggles between the last two zoom levels set in the header of the Navigator panel.

## Lesson 5: Organizing and selecting

Lesson 5 concentrates on the subject of organizing images in the photo library. Students learn how to organize their files and folders from within Lightroom and get hands-on experience with all the tools and techniques for tagging, marking, sorting and searching images. This lesson expands on types and uses of collections, introduces keywording, labelling and rating, and looks at methods for finding and filtering images in the library.

Lesson 5 also introduces the Map module, where photos can be placed on a Google map manually, or by automatically leveraging GPS metadata generated by a camera or extracted from a tracklog recorded by a mobile device.

### Goals for this lesson

The objectives for Lesson 5 are to make the student aware of the advantages of using Lightroom to organize the photo library, and comfortable with the tools and techniques for managing files and folders, marking and tagging images, working with collections, and finding photos.

- Your students should be comfortable with using the Folders panel to organize their photo library at the most basic level.
- They should understand the importance of tagging, labeling and rating images as a means of organizing, sorting and searching the photo library.
- They should be grasp the advantages of creating collections, understand the properties of the different types of collection and be able to use them effectively as part of a workflow. They should know how to configure a Smart Collection.
- Students should be comfortable with using the Keywording and Metadata panels, the Painter tool, the Filter bar, the filters in the Filmstrip, and the Map module.
- They should be aware of the importance of working with their master files and folders only from within Lightroom and know how to reconnect missing files and folders when something goes wrong.

### Expanding on the exercises

The majority of the projects and exercises in Lesson 5 and all the following chapters detail practical, step-by-step techniques that are well illustrated and explained and usually quite easy to follow. For teaching opportunities, look for those dialog box options, menu commands, tool settings, and underlying concepts that are not specifically covered in the exercises. Pay attention to margin notes and tips, which often suggest areas that can be emphasized or elaborated.

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.



## Using collections to organize images

Make sure that your students have a clear understanding of what a collection is. They should grasp that a collection not only differs from a folder, but is completely independent of the folder structure in that a collection may contain images from many folders and a single image may be part of many collections—making it a far more versatile organizational tool. Explain that images within a collection can be rearranged independently of their file names, creation dates or any other sorting criteria—the reasons why creating a collection is the first step in putting together a project such as a slideshow, web gallery, or print job. To give students a more complete overview, you could also touch on the special-purpose collections: the Publish collection described in Lesson 9 and the Output collection covered in Lesson 8.

## The Quick Collection

The concepts of the Quick Collection and the target collection can easily be confused. Discuss the distinction, and situations where each feature might be useful.

## Applying keyword tags

To foster your students' familiarity with using keywords, encourage them to work through the exercises in this section with both the Keywording and Keyword List panels open, and with the Keyword Suggestions pane expanded, noting the way changes made in the exercises are reflected in the information displayed.

## Working with keyword sets and nesting keywords

Emphasise the importance of creating keyword sets and nesting keywords—applying organization at this level not only simplifies the process of keywording, but also makes it easier and more intuitive to find exactly the right image at a later date.

## Finding and filtering files

The exercises in this section provide a very simple coverage of the Filter bar; it may be worth spending extra time on this extremely powerful feature, which is the best reason for doing all that sorting, marking and tagging. You might either demonstrate or make an exercise of setting up even more refined filters and searches.

## Organizing photos by location

The Map module needs to connect to the internet to access Google maps; if this is not possible in class, the exercises in this section could be adapted as home assignments, possibly using your students' own photos taken either with a GPS-enabled camera or a mobile phone. Some of your students may also have devices capable of generating GPS tracklogs.

● **Note:** The lesson exercises do not look at reverse geocoding in depth. If you have students who are particularly interested, or who have problems with photos to which location metadata has already been added manually, refer to Community Help for trouble-shooting tips.

The exercises begin with an overview of the Map module, based around the automatic placement of a photo with GPS metadata. Students explore the different map views and the Location Filter, search for a known location to place a series of photos without GPS metadata, match the capture time of an image to GPS data extracted from an imported tracklog, and then create a saved map location.

## Questions

- 1 How does a Publish collection differ from other collections?
- 2 How can you refine a text search by using modifier characters?
- 3 What is reverse geocoding?
- 4 How can you find out whether an image has been tagged with a GPS location?

## Answers

- 1 A Publish collection helps you manage shared images by automatically keeping track of whether or not they have been updated to the most current versions.
- 2 In the search text box, add an exclamation mark (!) before any word to exclude it from the results. Add a plus sign (+) before any word to apply the “Starting With” rule only to that word. Add a plus sign (+) after a word to apply the “Ending With” rule only to that word.
- 3 Reverse geocoding is an automatic process that applies to photos captured with a GPS-capable camera or phone, where location names are added to a photo’s metadata by looking up the GPS coordinates recorded at the time of capture.
- 4 If reverse geocoding is enabled, an image that has GPS coordinates will be placed on the map automatically. If the Map module is off-line, or geocoding is disabled, you can check for GPS coordinates using the Metadata panel in the Library module.

## Lesson 6: Developing and editing

This lesson touches on most aspects of developing in Lightroom, from making quick adjustments and easy video edits in the Library module to applying sophisticated corrections and managing the edit history and in the Develop module.

Students are introduced to the concepts of white balance and the histogram as they learn to adjust color globally or selectively, use the retouching tools, and create a custom developing preset.

Lesson 6 also details the extended support for video in Lightroom 4, with exercises that cover trimming video, setting poster frames and capturing stills, and a handy work-around that enables Develop module settings to be applied to a video clip in the Library module.

## Goals for this lesson

The objectives for Lesson 6 are to familiarize students with the Quick Develop panel and the Develop module and expose them to a variety of correction, adjustment and editing techniques.

- Your students should be able to work with the Quick Develop panel.
- They should become familiar with the Develop module and have a good idea of the purpose of each of the panels, tools, and controls.
- They should be able to make the most of non-destructive editing by using the History and Snapshots panels.
- Students should have a basic understanding of the concepts behind the white balance and the hue, saturation, and brightness model.
- They should be able to use the tools and controls in the Develop module to edit and retouch photos, to adjust the tonal range, and to correct color—either across an entire image or in a selected area—and then save their settings as a custom developing preset.
- Students should be comfortable performing basic video edits.

## Scheduling

Lesson 6 is the most involved lesson in this book; it will probably require two teaching sessions. Alternatively, you could split the lesson into separate exercises and combine them in class with shorter topics.

## Quick developing in the Library module

The lesson begins with a look at the Quick Develop panel in the Library module, as applied to both still images and video. Students become familiar with the layout of the basic developing controls and with the idea of using presets to correct white balance and apply composite developing effects.

## About process versions

This section uses a lesson image that was originally edited in Lightroom 3. Even for students unfamiliar with earlier versions of Lightroom, the exercise will serve as an introduction to the new suite of developing controls in Lightroom 4.

You can use the comparison of the 2010 and 2012 process versions as an opportunity to explain the use of the histogram curve as a “diagnostic” tool to analyze deficiencies in an image’s tonal distribution, and as a guide in deciding which adjustments are likely to be most effective.

The section ends with a detailed look at the concept of white balance.

● **Note:** Although the new Soft Proofing option is part of the Develop module, it is covered in Lesson 9, Printing Images. It may be worth a quick diversion as you look at the Develop module, so that students understand its proper place in the workflow.

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## The Develop module

You can start with a detailed tour of the Develop module workspace and its panels.

Although the sections “Working with the Tone controls” and “Adjusting contrast using the tone curve” include some useful illustrations, the concepts behind the histogram and the tone curve are not explained in any real depth in these exercises.

For some students, these displays and controls may not seem intuitive, so you may need to take some extra time to explain them. In doing so, you should encourage the use of the Histogram panel, both as an analytic tool, and as live feedback while modifying an image. You should also point out that the Histogram panel is not merely a fixed display, but also an interactive tool in its own right: moving the pointer over the different zones of the curve highlights the respective adjustment controls, and dragging the curve modifies the relevant settings. As you move the pointer over the image in the main preview, the Histogram panel displays dynamic RGB values for the pixels currently under the pointer.

## Expanding on the exercises

The majority of the projects and exercises in Lesson 6 detail practical, step-by-step techniques that are well illustrated and explained and usually quite easy to follow. For teaching opportunities, look for those dialog box options, menu commands, tool settings, and underlying concepts that are not specifically covered in the exercises. Pay attention to margin notes and tips, which often suggest areas that can be emphasized or elaborated.

## Sharpening detail and reducing noise

The luminance noise controls can produce dramatic results that are not very apparent in the image used in this part of the lesson. Encourage your students to experiment with the noise reduction controls on a selection of their own images.

## Questions

- 1 What are the working modes of the Spot Removal tool and how do they differ?
- 2 How can you change the brush size of the Spot Removal and Adjustment Brush tools without taking your cursor away from the job at hand??
- 3 What can you do if you decide that you’re not satisfied with the way you cropped a photo previously?
- 4 What is chromatic aberration?
- 5 Why would you set a new poster frame for a video?

## Answers

- 1 The Spot Removal tool works in either Clone mode or Heal mode. In Clone mode, the tool covers an imperfection in the photo (the target area) with an exact copy of another portion of the image (the sample area). In Heal mode, the Spot Removal Tool blends the sampled area with the target area rather than replacing it.
- 2 Press the [ and ] keys to reduce or increase the brush size, respectively.
- 3 Simply click the Crop Overlay tool to reactivate the current crop, and then drag the handles of the cropping rectangle. This is one of the advantages of non-destructive editing—your edits remain “live” and adjustable.
- 4 Chromatic aberration is a lens effect resulting in colored fringes around pictured objects, most commonly near the edges of the shot where the lens has been unable to focus the different wavelengths of light correctly on the sensor.
- 5 A video clip’s poster frame becomes the thumbnail image that represents the file in the Grid view and the Filmstrip. Choosing a distinctive poster frame can make it easier to find the video you’re looking for.

## Lesson 7: Creating a photo book

This lesson explores the new Book module in detail as it leads students through the process of creating a sophisticated book design, from selecting and modifying page layout presets to placing and adjusting text.

### Goals for this lesson

The objectives for Lesson 7 are to acquaint your students with the templates, tools and controls in the Book module, and to demonstrate how quickly and easily they can be used to achieve stylish results.

- Your students should be familiar with the advantages and limitations of each of the output modes, and comfortable with the tools and controls in the right panel group and the Toolbar.
- They should be able to add and change photos, work with image cells, change and modify page layouts, add backgrounds, and rearrange the order of spreads.
- They should know how to add custom text, how to include information drawn from an image’s metadata.
- Students should be familiar with the various text attributes that correspond to the controls in the Type panel, and understand how to adjust them directly in the Book Editor view using modifier keys with the Text Adjustment tool.
- They should be able to publish a saved book to Blurb.com or PDF.

## Scheduling

This is a stand-alone lesson in the form of a single project in the Book module; each exercise builds on the last as students put together a complex design.

## Expanding on the exercises

The exercises in Lesson 7 detail practical, step-by-step techniques that are well illustrated and explained and quite easy to follow. For teaching opportunities, look for those dialog box options, menu commands, and tool settings that are not specifically used in the exercises. Pay attention to margin notes and tips, which often suggest areas that can be emphasized or elaborated.

Discuss the creative possibilities of the options available.

The project in this lesson does not make use of the Photo Captions set to draw data from the images' metadata. You might extend the lesson by having students add titles and captions to some of the photos to make use of this option.

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## Questions

- 1 What design options do you have for creating page backgrounds?
- 2 What purpose is served by the padding controls for photo and text cells?

## Answers

- 1 In the Backdrop panel, you can set a background color, drag an image from the Filmstrip to use as a backdrop, or click the backdrop thumbnail and choose a graphic from the categories in the background picker. You can tweak the opacity of the backdrop image or graphic, so that it blends with the selected background color. For a preset background graphic, you can also set the color of the graphic overlay.
- 2 The text and photo cells in the Book modules page layout presets are fixed in place—you can't move or resize them on the page. However, you can use the cell padding controls to position text or an image anywhere within its cell.

## Lesson 8: Creating a slideshow

This lesson explores the Slideshow module in detail as it leads students through the process of creating a stylish presentation, from selecting a slide layout template to exporting a slideshow to video or PDF.

## Goals for this lesson

The objectives for Lesson 7 are to acquaint your students with the templates, tools and controls in the Slideshow module, and to demonstrate how quickly and easily they can achieve stylish results. This lesson introduces the new option to export to video with music and transitions intact, which makes the slideshow an even more versatile, sophisticated and dynamic option for presenting and sharing images.

- Your students should be familiar with the properties of the different slideshow templates, and comfortable with the tools and controls in the right panel group and the Toolbar.
- They should be able to make modifications to a slide's layout, add borders, effects, and create a backdrop.
- They should know how to add text and how to include image information, a water mark, or an identity plate.
- Students should be able to add music to a slideshow, synchronize the presentation with the music track, tweak the timing, and set playback options.
- They should be able to export a slideshow to PDF or video.

## Scheduling

This is a stand-alone lesson in the form of a single project in the Slideshow module; each exercise builds on the last as students put together a complex presentation.

## Expanding on the exercises

The exercises in Lesson 8 detail practical, step-by-step techniques that are well illustrated and explained and quite easy to follow. For teaching opportunities, look for those dialog box options, menu commands, and tool settings that are not specifically used in the exercises. Pay attention to margin notes and tips, which often suggest areas that can be emphasized or elaborated.

Discuss the creative possibilities of the options available.

The project in this lesson does not make use of the Titles panel. You might extend the lesson by having students add intro and ending screens.

**Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## Questions

- 1 What design options do you have for creating a background for your slides?
- 2 How can you modify the settings of a saved custom template?

## Answers

- 1 In the Backdrop panel, you can set a background color, drag an image from the Filmstrip to use as a backdrop, and overlay a color gradient wash at any angle. You can tweak the opacity of both the wash and the background image, so that all three elements contribute to the backdrop design. Without a background image, the color selected for the wash blends with the background color.
- 2 If you wish to modify one of your own custom templates select it in the Template Browser and make your changes using any of the controls in the right panel group. To save your changes, right-click / Control-click the template in the Template Browser and choose Update with Current Settings.

## Lesson 9: Printing images

This lesson covers the Print module. The lesson begins by exploring the various types of layout template, and then works through the process of modifying and customizing them. Students learn how to work with image cells, layout controls, and image metadata, to create borders, change background colors, and add text. Exercises also cover creating a custom print template, working with color management, and saving print settings as an output collection.

### Goals for this lesson

The objectives for Lesson 8 are to acquaint your students with the using the templates, tools and controls in the Print module, to demonstrate a variety of options and techniques for quickly producing professional-looking print layouts, and to introduce the versatile new Custom Package layout style.

- Your students should be thoroughly familiar with the Print module workspace.
- They should understand the properties of the three Lightroom print template layout styles, be able to preview and select templates, and feel comfortable with the tools and controls in the right panel group and the Toolbar.
- They should be able to work with borders, understand image cells, and use all the layout tools and controls available for each layout style type.
- Students should understand the Soft Proofing workflow.
- Students need to be able to locate page setup and print settings, and should understand the issues of print resolution, color management, and 16 Bit output in configuring output settings.

### Scheduling

Lesson 9 is another stand-alone lesson, with exercises that build on an integrated workflow from import to printing, while thoroughly examining the features and functionality of the Print module.



If you're not fortunate enough that every student is connected to a printer in class, you can still teach this lesson effectively—the only exercises that will be affected are those few concerning page setup or printer settings. Have your students review the lesson at home where they can explore the printer settings; they can substitute their own images and layout ideas and bring the printed results to class.

## Expanding on the exercises

The exercises in Lesson 9 detail practical, step-by-step techniques that are well illustrated and explained and quite easy to follow. For teaching opportunities, look for those dialog box options, menu commands, tool settings, and underlying concepts that are not specifically covered in each exercise. Pay attention to margin notes and tips, which often suggest areas that can be emphasized or elaborated.

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## About layout styles and print templates

You could spend additional time looking at the templates; familiarity with the options makes it quicker and easier to choose the template closest to what the user has in mind—that is, the one that's quickest and easiest to modify.

● **Note:** Make sure your students understand that print templates differ in their output settings, not just their layout.

## Printing captions and metadata information

This exercise barely touches on the use of the Text Template Editor; encourage students to explore the options in order to make use of image metadata, here and elsewhere in the Lightroom workflow.

## Configuring the output settings and Using color management

Students may benefit from extra discussion on subjects such as print resolution, color management, and 16 Bit output. You may also wish to look at the issue of ink and paper types, which is not discussed in the course of this lesson.

## Questions

- 1 How does the process of editing the layout differ for the different layout styles?
- 2 What issues will affect your choice of color management option?
- 3 What is an Output Collection and how does it differ from a custom template?

## Answers

- 1 A Single Image / Contact Sheet layout is made up of image cells in one size arranged in a regular grid; the layout is edited with controls for margins, cell size and cell spacing, which are found in the Layout panel. The number of

images in the layout is set with the rows and columns sliders in the Layout panel's Page Grid controls.

The cells in a Picture Package or Custom Package layout are not fixed in a grid, and may be of varied sizes and shapes. You can rearrange cells by simply dragging them, and resize them either by dragging their borders or by using the slider controls in the Cells panel. You can add a cell either by simply holding down the Alt key / Option key and dragging an existing cell to copy it, or by clicking a cell preset button in the Cells panel. To remove a cell, select it and press the Delete key.

- 2 Lightroom is able to handle a very large color space but your printer may operate within a much more limited gamut. The default Color Management setting in the Print Job panel is Managed By Printer. With the better modern printers this will generally produce satisfactory results, but to achieve really high quality prints it's best to have Lightroom manage the color. If you choose this option you can specify a printing profile tailored to a particular type of paper or custom inks
- 3 A custom template includes all your settings but no images; you can apply the template to any selection of images. An output collection, however, links a photo collection (or a selection of images from that collection) to a particular template and specific output settings. Creating an output collection enables you to return to your layout with the images intact at a single click.

## Lesson 10: Publishing your photos

This lesson looks at the options for sharing photos online. The lesson begins in the Library module, where students work with the new Publish Services panel to create Publish Collections and share them to Flickr, and then explores the Web module in detail as they build a working web gallery.

Students learn about the characteristics of the different web gallery template types, and then customize a gallery by editing the color scheme, tweaking the layout, adding titles and other information, and watermarking images. The lesson concludes with saving the customized template, exporting the gallery, and uploading it to a web server.

### Goals for this lesson

The objectives for Lesson 9 are to make sure students are aware of the easy-to-use options for sharing images through Lightroom. This lesson introduces your students to the new Publish Services panel, and make them familiar enough with the Web module to create and customize their own web gallery.

- Students should be able to use the Publish Services panel to set up a service for online sharing or to publish to the hard disk.

- They should understand what a Publish collection is, and how a collection published to the hard disk might help them to track updated images as part of their daily workflow.
- Students should be familiar with the properties of the different layout styles for web gallery templates and be able to choose a template that can be modified to produce the result they have in mind.
- They should be able to make use of all the panels and controls in the right panel group to manipulate layout, color scheme, and text elements, and to specify output and upload settings.

## Scheduling

Lesson 10 could quite easily be separated into two projects: sharing from the Publish Services panel and creating an online gallery in the Web module. The Publish Services panel could be taught as part of a session on the Library module, and the exercises in the Web module could be expanded to look in greater detail at the possibilities of a wider range of gallery templates.

## Publishing photos from the Library

This group of exercise relies heavily on interaction with Flickr and Facebook; if your students don't have internet access in class you can begin instead with the last exercise in the section, "Publishing photos to your hard disk".

This way, students can explore the Publish Services panel a little further in class by completing the exercise "Re-publishing a photo," substituting their hard disk publish collection for the Flickr and Facebook services used in the exercise as written. You can then assign the online portion of this section as homework.

## The Lightroom Web module

This section makes up the rest of Lesson 10, in the form of an integrated project that has students construct a working web gallery, from importing the images to uploading the tested gallery to a server. The success of this project will not be affected to any great extent by the lack of internet connection in class; students will still be able to create and edit their gallery and see it working in a browser preview.

## Expanding on the exercises

The projects and exercises in this lesson detail practical, step-by-step techniques that are well illustrated and explained and quite easy to follow. For teaching opportunities, look for those dialog box options, menu commands, tool settings, and background concepts that are not specifically covered in each exercise. Pay attention to margin notes and tips, which often suggest areas that can be emphasized or elaborated.

**Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## Questions

- 1 How do you know which photos in a Publish collection have been edited since they were published?
- 2 How do you add photos to a published collection?
- 3 What is the purpose of the Quality and Sharpening controls in the Output Settings panel?

## Answers

- 1 Click the entry for the Publish collection in the Publish services panel. If the collection contains images that have been edited, the main display area will be divided into two panes: Published Photos and Modified Photos To Re-Publish. Click the Publish button below the left panel group to re-publish the photos.
- 2 Drag an image or selection of images directly onto the entry for the published collection in the Publish Services panel. Click the collection; the main display area is divided into two panes: Published Photos and New Photos To Publish. Click the Publish button below the left panel group to publish the new photos.
- 3 These settings are applied to the images files that Lightroom exports for your website. Some images may look fine at a lower quality setting, which will mean that your website loads faster. Sharpening for screen may help to retain clarity.

## Lesson 11: Making backups and exporting photos

This lesson focuses on backup strategies and the various methods of exporting images from Lightroom. Students learn how to set up automatic backups, back up the catalog file or the entire library and all the images it contains, and how to perform incremental backups.

Lesson 10 covers a range of export options from exporting a single image to exporting images as a Lightroom catalog, and also touches on setting up export presets and post-processing actions.

### Goals for this lesson

The objectives for Lesson 10 are make your students understand the importance of maintaining a backup strategy to safeguard both their images and their catalog data, and to provide them with a variety of techniques for doing so. This lesson should also make students aware of all the export options available.

- Your students should understand the differences between backing up the catalog file and backing up the library.

- They should know export metadata to image files and how to use import options in a backup catalog to achieve time-saving incremental backups.
- They should be able to export photos in a variety of formats, work with export presets, and set up automated post-processing actions.

## Scheduling

Lessons 11 is the shortest—and possibly the “driest”—lesson in this book. However, the subjects covered are all probably important enough to visit more than once. The lesson quite naturally separates into the subjects of backing up and exporting, so there may be opportunities to re-combine exercises from this lesson with others that might offer the student more satisfaction.

● **Note:** You can use the Review Q&A at the end of the lesson to help you identify extra teaching opportunities and discussion points.

## Questions

- 1 Why should you update the metadata for your master images with changes you’ve made in Lightroom?
- 2 How do you choose an appropriate file format for your exported files?
- 3 What is a post-processing action?

## Answers

- 1 The catalog is a central storage location for all the information associated with every image in your library; by saving a copy of the information from the catalog file that is specific to each photo back to the respective image file on your hard disk you have what is, in effect, a distributed backup of the metadata and develop settings for each of your photos..
- 2 Your choice of file format for the exported photos will depend on the purpose for which the images are intended. To export an image for use as an e-mail attachment intended to be viewed on screen, use the JPEG file format and minimize the file size by reducing the resolution and dimensions of the image. To export an image to be edited in another application, use the PSD or TIFF file format at full size. For archival purposes you can export the images in their original file format or convert them to DNG.
- 3 A post-processing action is an automated action appended to the export process. You can have Lightroom open the exported file in an external editor, or automatically open a new mail window in an e-mail application, with the exported image already attached.