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PHOTOSHOP LIGHTROOM

FOR BEGINNERS

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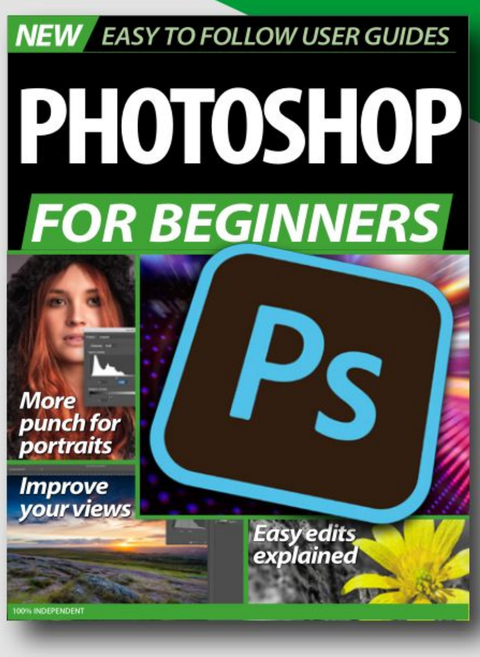

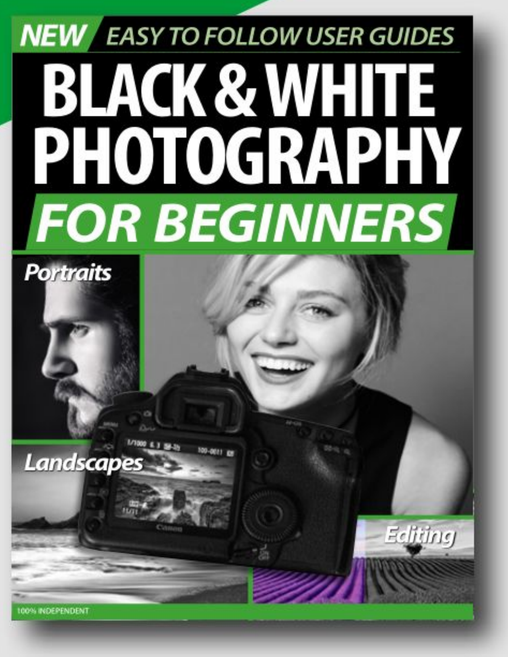

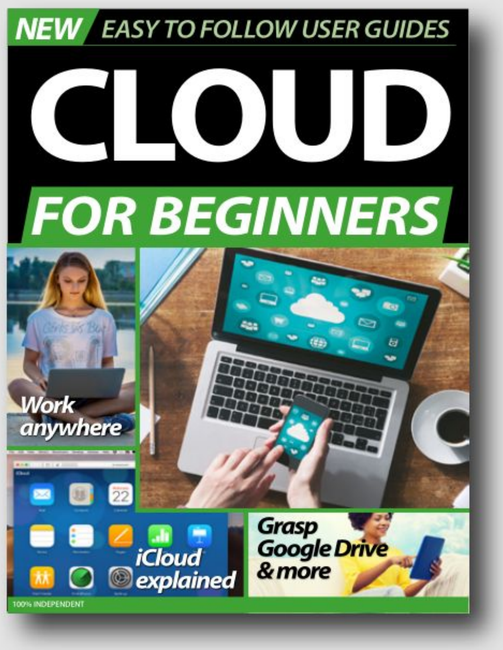

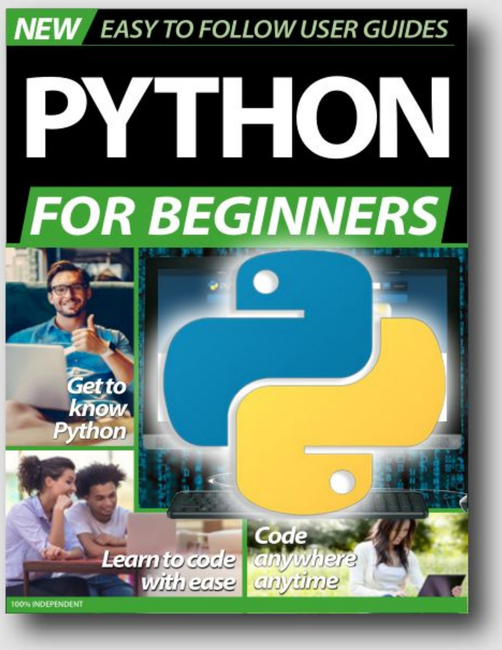

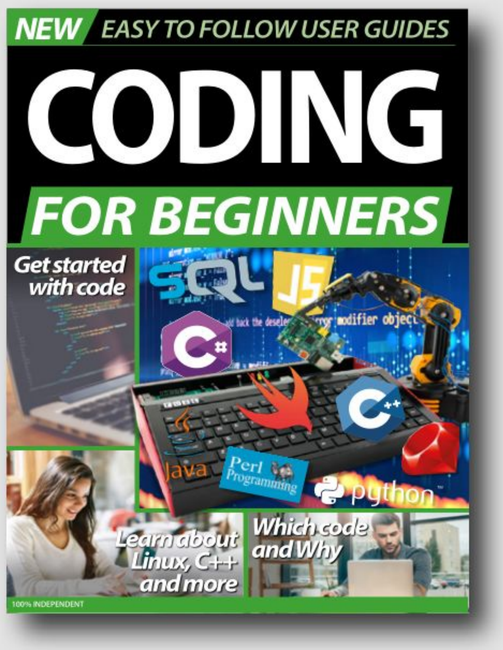

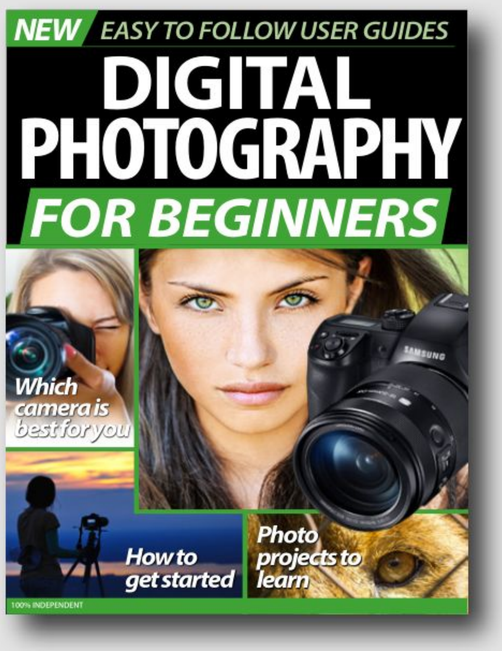

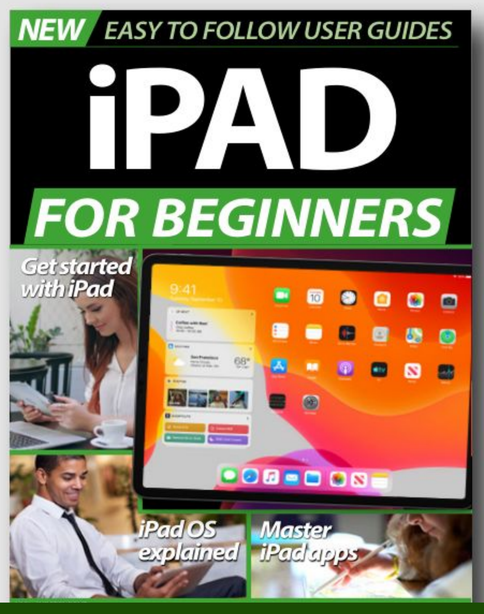

PHOTOSHOP LIGHTROOM

FOR BEGINNERS

Starting something new can be daunting. Learning a skill or mastering a new piece of hardware is tough. Even tougher if you have no-one at hand to help. Conversely as the complexity of our consumer technology increases, the size of the requisite instruction manual decreases or in some cases it simply disappears. At numerous times in our lives we have all been "beginners", there is no shame in that fact and rightly so. How many times have you asked aloud, "What does this button do?". "Why doesn't that work?". "What do you mean it doesn't do that?". "HELP!". At the start of any new journey or adventure we are all beginners but fortunately for you we are here to stand beside you at every stage.

Over this extensive series of titles we will be looking in great depth at the latest consumer electronics, software, hobbies and trends out of the box! We will guide you step-by-step through using all aspects of the technology that you may have been previously apprehensive at attempting. Let our expert guide help you build your technology understanding and skills, taking you from a novice to a confident and experienced user.

Over the page our journey begins. We would wish you luck but we're sure with our support you won't need it.

CONTENTS

Photoshop Lightroom For Beginners
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GET STARTED WITH LIGHTROOM CLASSIC CC

Image Conversions and Tweaks

Lightroom offers some impressive results from very little effort on the part of the user. The conversion from the before image to the after image took just a few minutes, and with just a few clicks of the Mouse button. Read on and we'll show you how.

This striking wide-angle shot of a sunset on the Cornish coast started out looking a little lacklustre but thanks to Lightroom there's huge scope for adjustment and improvement. We can emphasise the dramatic light of the dawn colours and boost Clarity, Shadows and Saturation; the image is transformed. Additional use of graduated filters in the sky ensures a good tonal balance between foreground and background.

GET STARTED WITH LIGHTROOM CLASSIC CC

Get Started With Lightroom Classic CC

Before we start looking at organising, editing and publishing photos, let's take a moment to understand what Adobe Lightroom is all about; how it differs from Photoshop, how you download and install it and how you get started with importing your photos into the app for processing. Your journey starts here!

Introduction: What is Lightroom?

Let's take a closer look at the development of Adobe's specialist app for photographers, Adobe Photoshop Lightroom.

Ever since digital cameras first became popular in the early 1990s, photographers have sought ways to adjust and improve digital images and replicate the darkroom tricks and techniques that film photographers have used for decades to get the most out of their pictures. There are dozens of digital image editing programs available and almost everyone who's ever taken a digital photo, whether they use a top-end digital SLR or just the camera on their mobile phone, has used some sort of editing software to adjust and enhance the image. Most smartphones come with some sort of image editing app as a standard feature.

Adobe Photoshop

For more than two decades the industry standard for image editing software has been Adobe Photoshop and ever since it was first introduced in 1990 it has been the go-to program for professional photographers. The editing tools that you take for granted in your smartphone app were all inspired by tools first introduced in Photoshop.

Photoshop is an amazing piece of software and in skilled hands it is capable of making almost any adjustment or alteration imaginable to a digital image. However, in recent years Adobe has expanded Photoshop's capabilities to include elements such as video editing, 3D texturing and text editing, making what was already a very complex program even more difficult to master.

"...it was clear that a new app was needed, that catered more specifically to the needs of photographers."

Of course, these expanded capabilities have been reflected in the ever-increasing price, making Photoshop a very expensive piece of software indeed. Nobody likes to pay for something they're not using and photographers found that most of Photoshop's expanded features were surplus to their requirements; so it was clear that a new app was needed, that catered more specifically to the needs of photographers. This was the remit under which Adobe Photoshop Lightroom was developed.

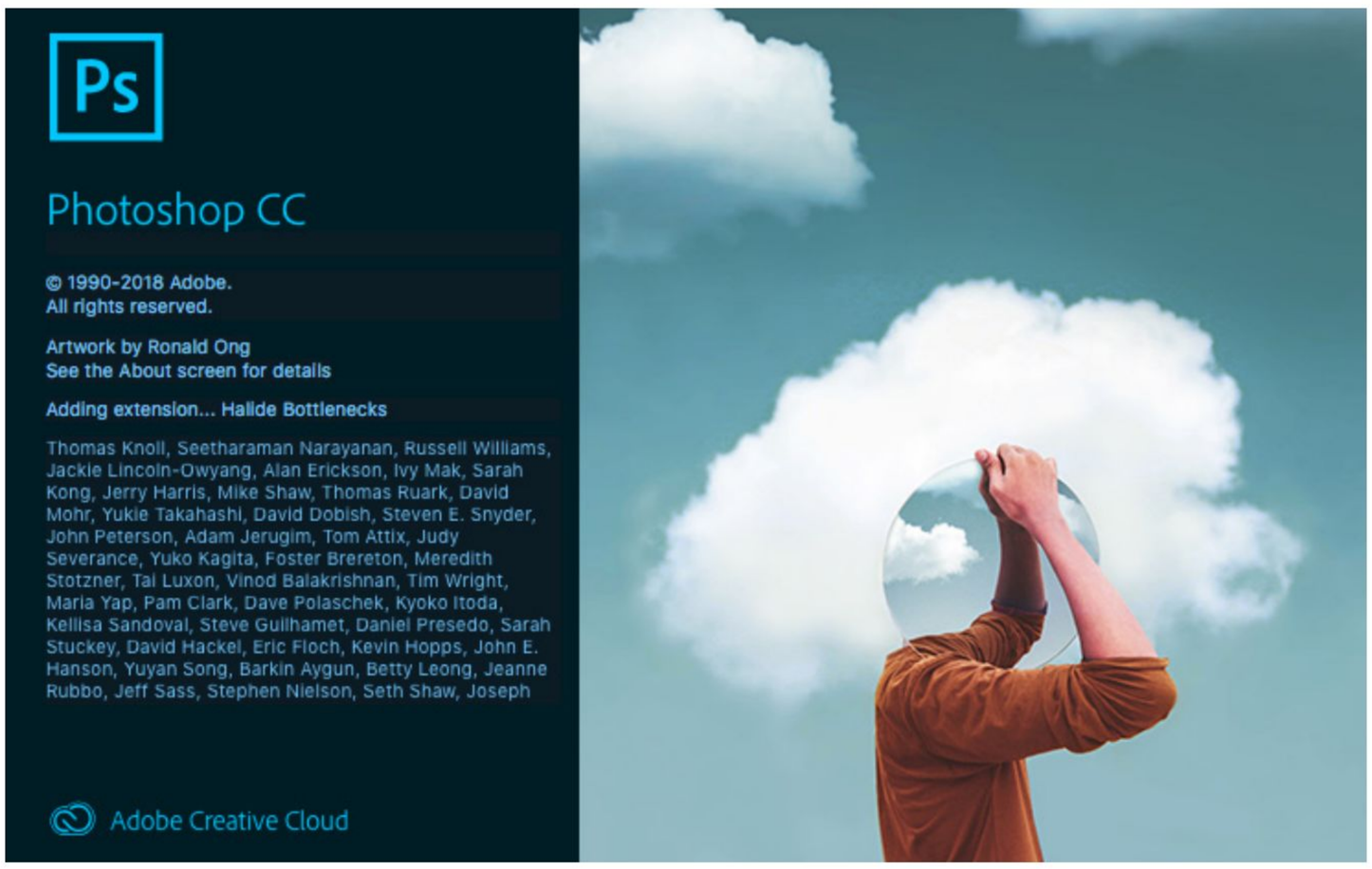
Shadowland

Mark Hamburg is a veteran software engineer who has been working at Adobe since 1990 and, along with Thomas Knoll, was part of the original team behind the development of Photoshop. In 1999 Hamburg started working on a new project codenamed Shadowland (a reference to a k.d. lang album, of all things). He brought on board Andrei Herasimchuk, the interface designer responsible for the distinctive look of Adobe Creative Suite, and development was started later that year.

Some people are under the impression that since it's officially named Adobe Photoshop Lightroom, it is essentially just a repackaged version Photoshop with some of the features removed, but this is not true. Hamburg, Herasimchuk and their team wrote the new program virtually from scratch, even writing a large portion of it in a completely different coding language. Initial development took three years and in 2002 Hamburg was able to demonstrate an early version of the program. An interface was added the following year and in 2004 full scale development started at Adobe's development facility in Minnesota.

In early January 2006, Adobe took the unusual step of releasing a beta version of their new program for public evaluation, initially on Apple Macintosh computers only, and used customer feedback to continue development of the program.

Further beta versions followed later that year, adding new features, including support for Microsoft Windows in July, and integration with Adobe Photoshop in September. Finally, the full retail version of Adobe Photoshop Lightroom 1.0 was announced in January 2007 and released to the general public the following month.



Photoshop Lightroom Classic CC

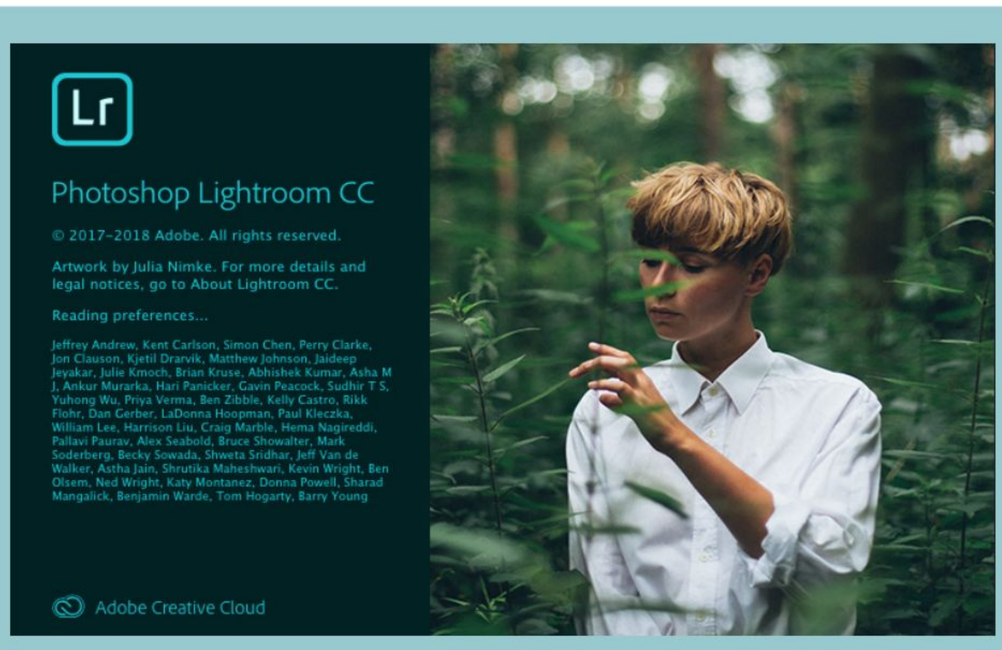
Over the years since its initial release as a stand-alone product, there has been major stand-alone versions released and multiple minor sub-version updates. Then Adobe launched its subscription based Creative Cloud service. You were able to choose from the entire suite of Adobe Products either singly, or in various packages. Adobe Photoshop Lightroom CC (2015) as it was initially called, has received various updates over the years of its release and at the time of writing is in the stable release version 8.1 as of mid-December 2018. It is now known as Photoshop Lightroom Classic CC and is the powerful desktop-focused version of the app. Regarded as the go-to app for serious photographers, the majority of tutorials in this title are based on these versions.

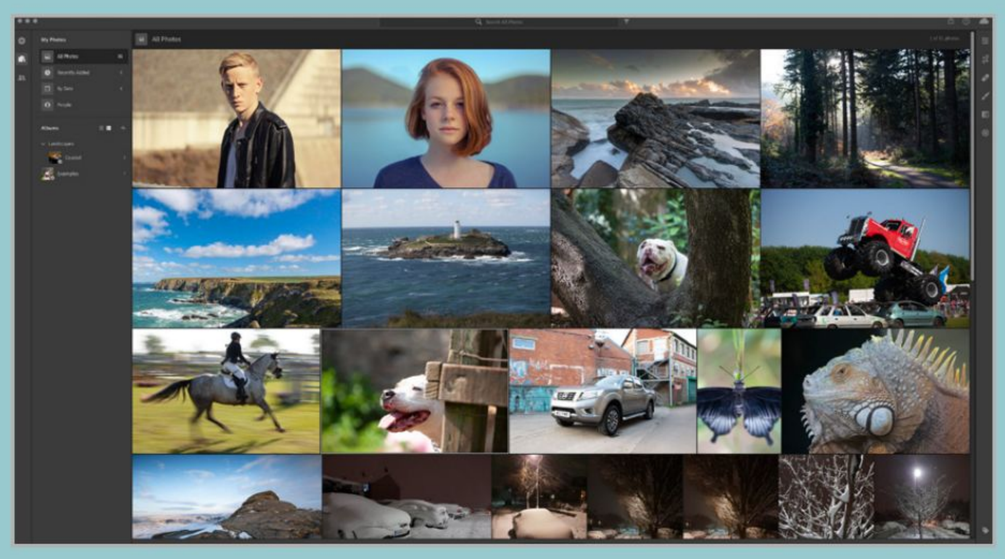
The Map Module is a great addition to recent versions. Utilising GPS technologies, you're able to stamp location specific metadata to your photos.

Lightroom easily imports your photos from many different sources. You can create Collections, add Presets and custom Filters to each or all of your images.

Photoshop Lightroom CC

Photoshop Lightroom CC is new from Adobe, launched mid-September 2017 and at the time of writing is in its stable release version 2.1.1 as of mid-December 2018. Photoshop Lightroom CC is a cloud-based photo service which caused a bit of a stir at its release. Not only was it an unexpected new product, it was a much pared down version of its much more fully-featured cousin Lightroom Classic. You can only work on images that are stored in the cloud and if you need extra storage space, then further storage has to be purchased. There is no doubt it is a faster and more streamlined product for enthusiasts to use across multiple mobile platforms, but if you are a professional photographer, then Lightroom Classic might be your better option.





The Lightroom CC interface is a much simpler affair, designed to be less cluttered with just the main tools for processing your images and adding keywords.

Apart from basic exposure adjustments, you can crop, heal and add graduated and radial filters. There are also a number of Presets for one-click adjustments.

Lightroom Versus Photoshop

At some point in your digital image editing life you're going to face the question: Lightroom or Photoshop? It's not always an easy answer though as it depends on what it is you want to achieve. Both are heavyweights in the photographer's toolbox, but which is right for you?

Lr or Ps?

It's not always an easy choice but there are vast differences between Lightroom and Photoshop that can help make your mind up. These differences depend on the situation and what you intend to do with the finished product. Let's break down a few strengths of each.

VS

Lightroom Classic CC Strengths

- Lightroom can manipulate and edit Raw files directly from your camera, without the need to install or use another plugin.
- Workflow and image management is one of Lightroom's main draws. You can easily import, organise, edit and manage each of your images without too much in-depth knowledge of advanced design techniques.
- There are less features than with Photoshop, which lessens its learning curve and thanks to a well-planned user interface, it's relatively easy to adapt to if you're already familiar with other photo editing tools.
- Lightroom has an impressive number of presets available to the user. Exposure levels, contrast, toning, colour presets, video presets, effects and many more are readily available via the Navigator.
- You can arrange the images you've imported by keyword, tags and metadata. You can easily publish finished work and there are many more under-the-hood tools and preferences to play around with.
- You don't have to dive into the program's inner workings to see great results. Most of the common functions that provide you with a superb image are just a few clicks away, and available on the surface of the interface.

Photoshop Strengths

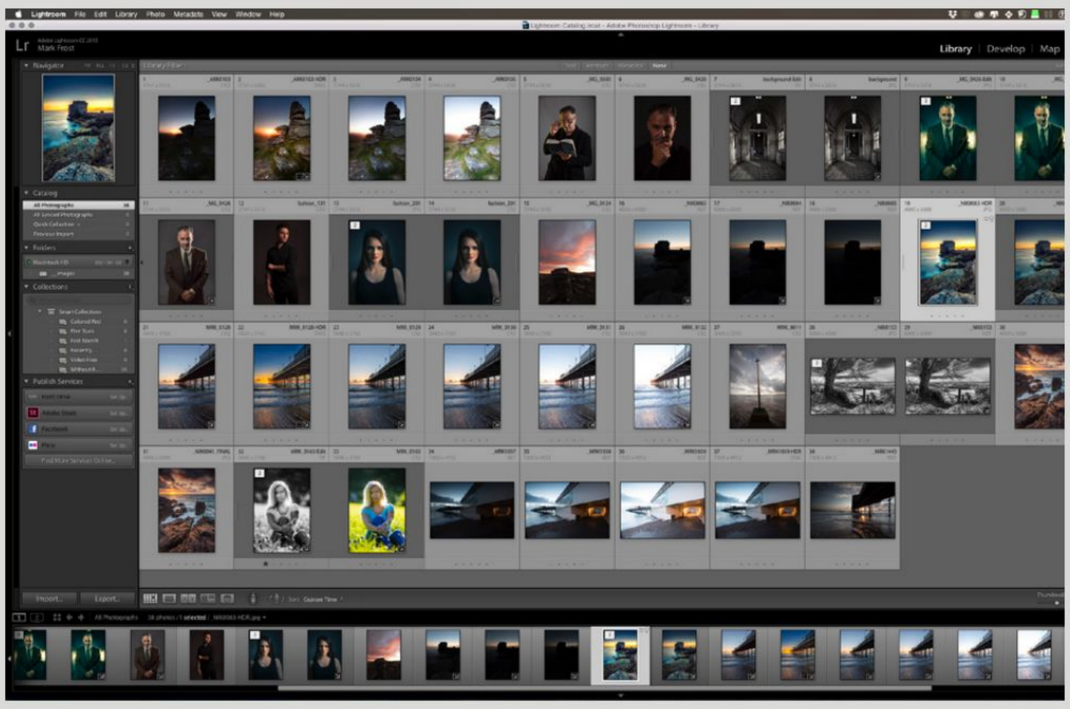
- Photoshop is a pixel-level editor. Where Lightroom allows you to adjust pixels in an image, Photoshop lets you move them and manipulate them in a way that's nothing short of magical.
- Photoshop allows multiple layers to be applied to an image. You can keep images and edits on separate layers, and modify them accordingly and independently. This is the basis of non-destructive editing.
- It's huge. Mind-bogglingly huge. The toolbox alone is the stuff of legend and contains just about everything the professional designer and photographer would ever need from a piece of software.
- You can record specific actions within Photoshop, allowing you to apply those actions to other images with a click of a button.
- You're able to blend many different layers together, masking areas of an image to protect it from being edited, even down to the pixel level.
- Almost anything is possible in Photoshop. If you can imagine a scene, then you're able to turn your wedding photos into a dramatic space battle or have a picture of the kids playing with a T-Rex. Remove objects, add objects, touch up skin tones, the list goes on and on.

So which one should I use?

In short, Lightroom is designed for photographers. It's a powerful image management tool that you can use to quickly organise and edit your photo collection. Most photographers will utilise Lightroom's features over that of Photoshop, but that's not to say it's the only tool they'll use.

The beauty of both products is that where one leaves the photographer's needs, the other can take up the slack. Once you've used up Lightroom's features, and you want to do more with an image, then you can take it over to Photoshop for that intricate level of control.

Both programs are an integral part of the design process and workflow, but for the sake of this book and photographers the world over, we're opting to start your post-processing adventure with Lightroom.



Lightroom is a great image editor and organiser, and is remarkably easy to use, considering how powerful it can be.

Photoshop has an incredible array of benefits on offer; with it you can just about do anything your imagination comes up with.

Most photographers will use Lightroom for their post-processing, moving to Photoshop for advanced techniques and edits.

Shooting in Raw Mode

To get the best out of your digital images with Adobe Lightroom, you should always shoot in Raw Mode.

If you've bought this book, we can safely assume that you know something about digital photography, so you're probably already aware that the vast majority of digital images are stored in a file format known as JPEG. Nearly all digital cameras and mobile phones record their images as JPEG files. You can spot a JPEG file because it will usually have the filename extension .jpg or .jpeg. The JPEG format has been around since 1992, when the standard was first specified by the Joint Photographic Experts Group (after which it takes its name), a standing committee of imaging and software industry experts. There have been various attempts to update or replace the JPEG format over the years but it is now so entrenched in the digital world that it will likely be with us forever.

The JPEG format is great for digital images that are shared or published via the Internet or stored on digital media, because it is a compressed file format. File compression is a way of shrinking file sizes by removing redundant information and encoding the rest in a more efficient way. For digital images this means that a photograph that is maybe 35 megabytes as it comes off the camera sensor can be compressed down to a fraction of that size without losing too much image quality. This obviously means that you can store a lot more images on your memory card or hard drive and view your friends' photos on Facebook without using up your entire data allowance at once. Whilst a slight loss of image quality, as a trade-off for more efficient storage, is not a problem for the majority of users, professional photographers want the best images possible and so any loss of quality is unacceptable. For this reason, most high-end cameras have an option to store photos in an uncompressed format usually known as Raw mode.

Advantages of Raw Mode

A full explanation of JPEG compression would take up much more space than we have available in this guide and you really don't need to know most of it. For our purposes, the major difference between JPEG and Raw mode is the amount of information used to describe each pixel in the image. In JPEG mode each pixel is described by 24 bits, that is 24 ones and zeros, 8 for each colour channel of red, green and blue. This 8-bit encoding allows 256 gradations of brightness per colour channel, meaning that it can display 256 x 256 x 256, or 16,777,216 different shades of colour. That might sound like a lot but if you look at a JPEG image of a clear blue sky you may still see lines between the different tones of blue rather than a smooth gradation of colour.

In uncompressed Raw mode, each pixel is usually described by 12 or even 14 bits per channel, giving 36 or 42 bits per pixel. This might not sound like a big difference but whilst a 12-bit Raw file can describe 68 billion shades, a 14-bit file can describe four trillion. This means that not only will your colours look smoother and more lifelike, much more shadow and highlight detail can also be recorded, giving your pictures much more dynamic range. This means that when you're processing a Raw mode shot you can pull out much more detail from shadows and highlights. See the sample photos shown here to see the difference.

Choose Raw Over Jpeg

This photo was shot using in-camera JPEG compression. As you can see there is almost no detail in the shadow areas and no amount of brightening can change that.

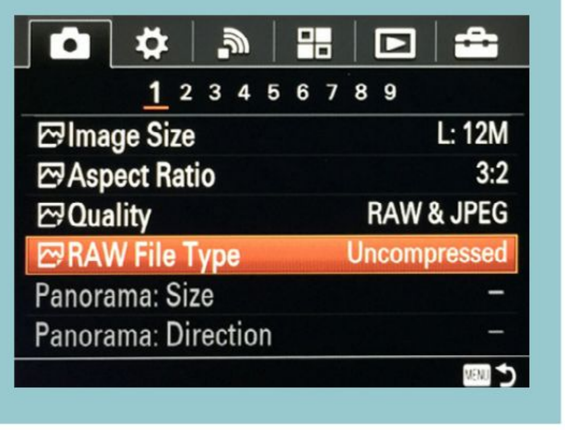
This is the same photo shot in Raw mode and processed in Lightroom. With the greater exposure, latitude and colour depth this mode provides, shadow detail and colour saturation are improved, producing a much nicer shot.

Disadvantages of Raw Mode

For day-to-day use there aren't many disadvantages to shooting in Raw mode. High capacity memory cards and multi-terabyte hard disks are now so cheap that storage capacity really isn't a problem and if you want to send a photo via email or share it online it's very simple to convert a Raw file into a more manageable JPEG. The only real disadvantage is that there is very little standardisation of Raw file types between different camera manufacturers, and all of them have their own proprietary formats. This means that when you buy a new camera you may find that Lightroom or Adobe Camera Raw won't be able to open or process the images until a compatibility update is released, which can sometimes take several weeks. One way around this is to use the Adobe DNG Raw format, which is an open-source Raw file format that is available on some cameras, notably Pentax DSLRs and some other high-end cameras. All Adobe software can handle this format by default.

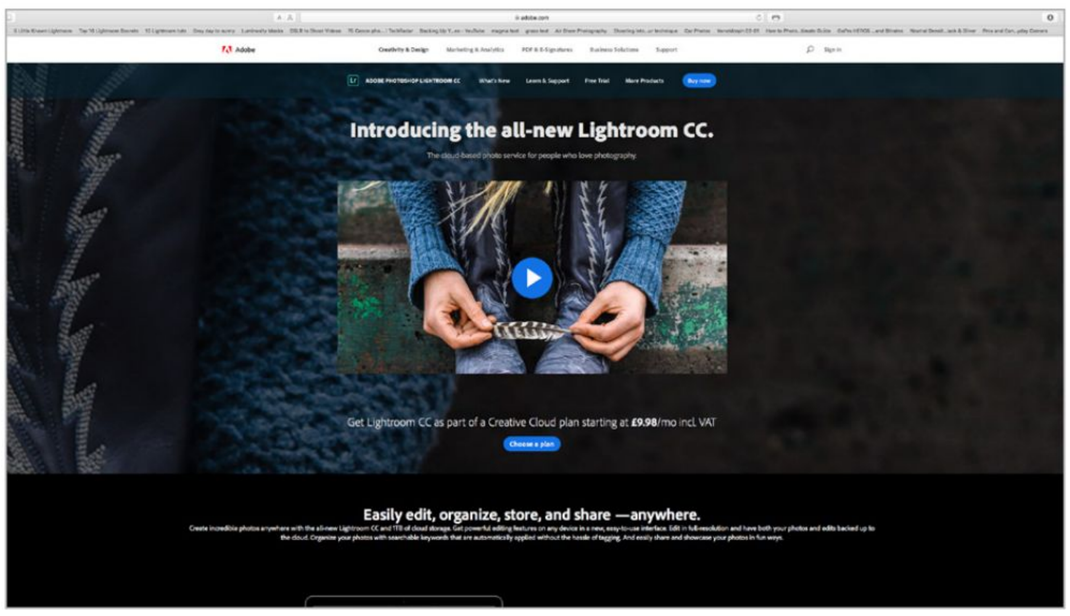
Raw or RAW?

Most books, magazines, websites and even camera menu screens refer to Raw mode all in capital letters: RAW. There's really no reason for this as it's not an acronym and just means that you're recording the Raw uncompressed information from the camera's primary image processor. As far as we've been able to determine, the practice of writing it in caps started with a Canon press release circa 1998; and was carried on by other PR departments and camera journalists who didn't know any better. Since we do know better, in this book we're going to write it as 'Raw'.

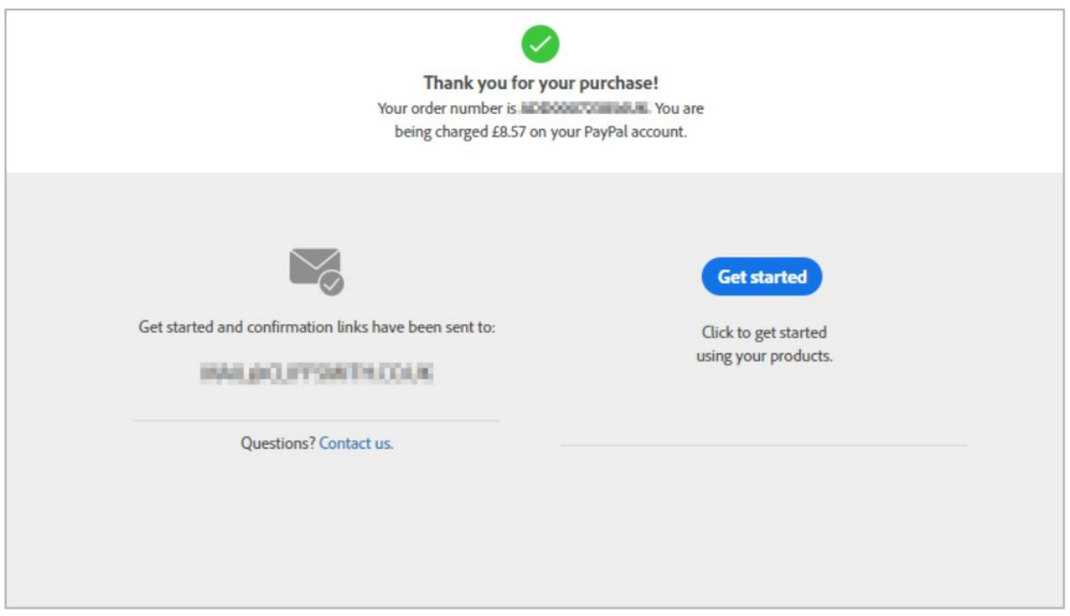


Installing Adobe Lightroom

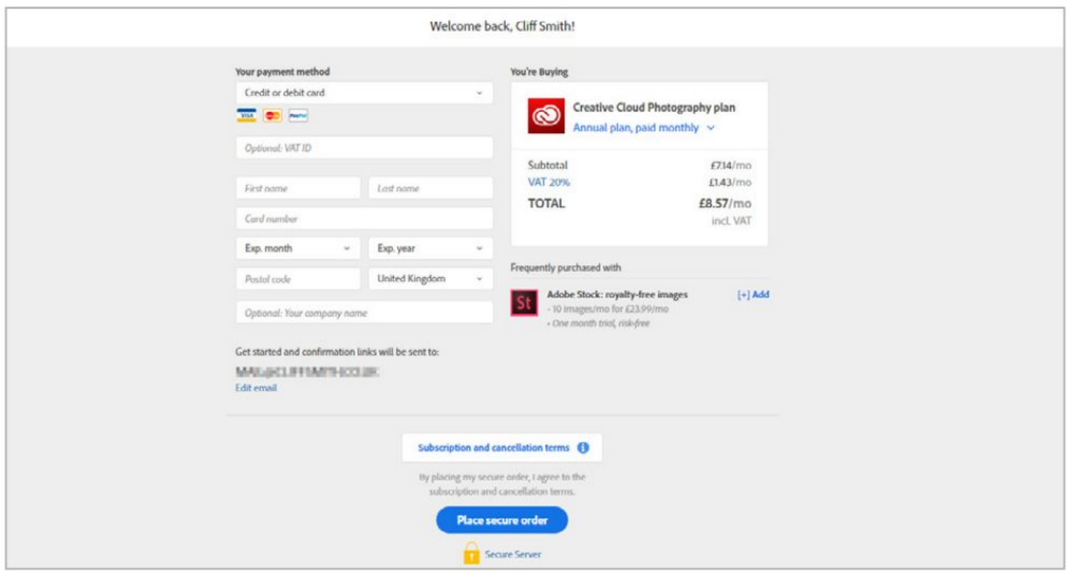
Adobe Photoshop is the most pirated piece of commercial software in history, so to combat this Adobe introduced Creative Cloud. Before you can start using Lightroom to organise and improve your digital photos, you need to sign up for a monthly subscription.



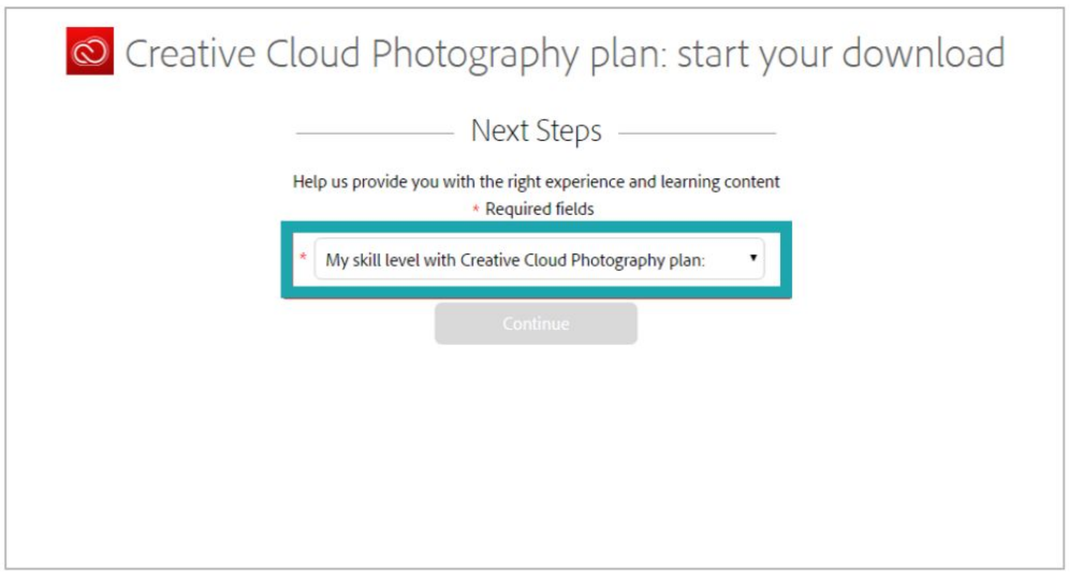
1 To obtain Lightroom via Creative Cloud, open your web browser and go to https://www.adobe.com/uk/products/photoshop-lightroom.html. You should find yourself on the page shown above. If you want to buy the software, then click on the 'Choose A Plan' button but if you'd like to try it before you buy you can opt for the free trial version.



3 Once your payment has been processed you should see the confirmation screen above. You also receive a confirmation email at your registered email address. You're also prompted to sign up for an Adobe account as part of your sign-in process. To get started with your download, click the 'Get started' button, or use the link in the email.

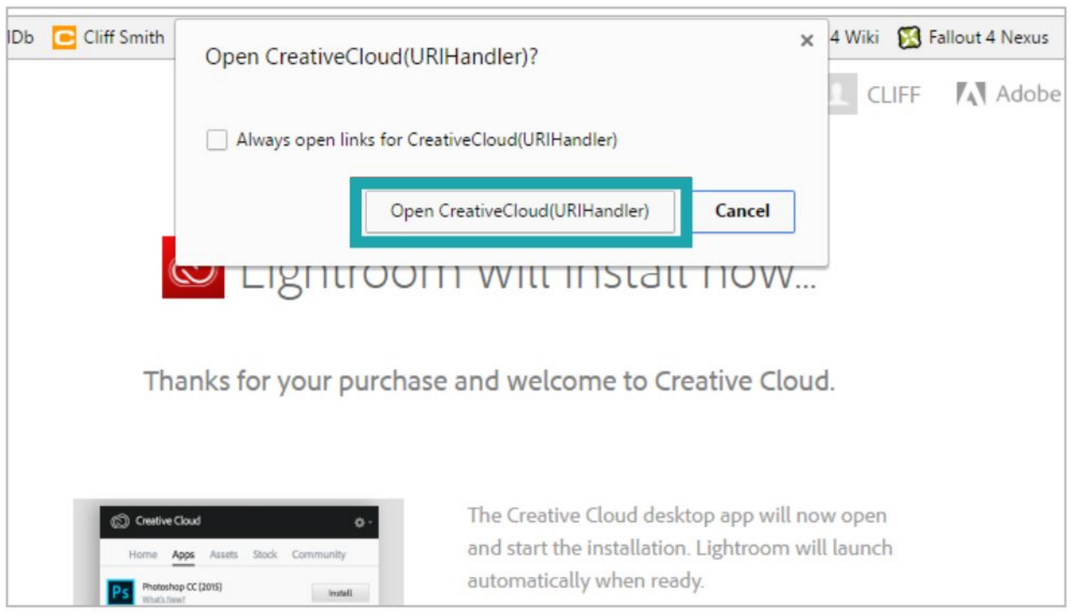


2 There are two ways to pay for your subscription; you can use a credit or debit card or your PayPal account if you have one. Enter your card details, company name and VAT number if you're using the software for business, and click the 'Place secure order' button. Alternatively choose PayPal and enter your password when prompted.

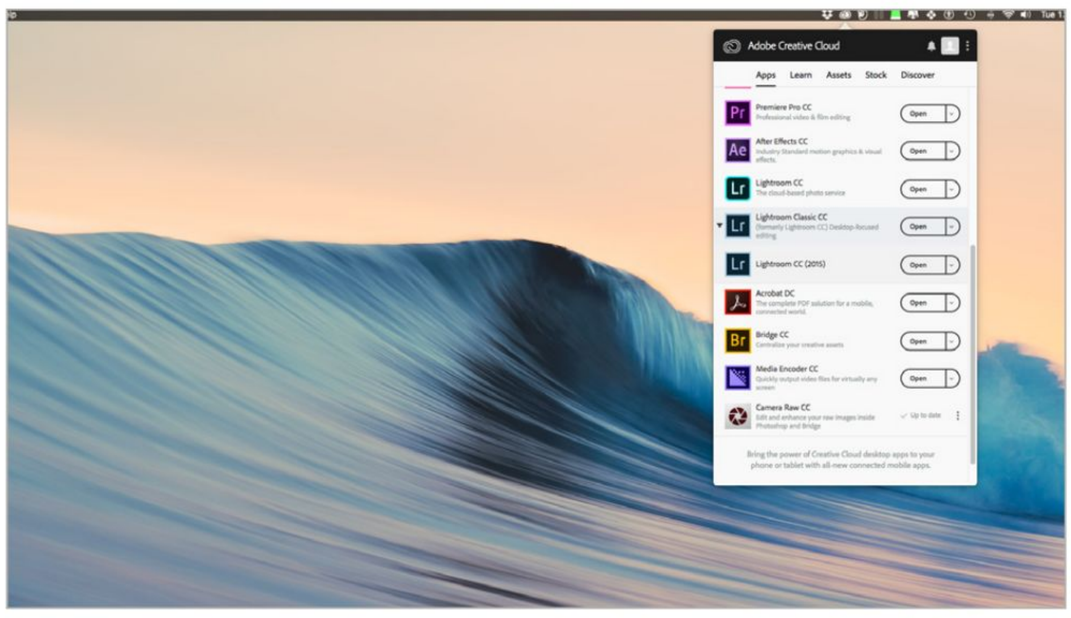


4 There's one more thing you need to do before you can begin your download. On the next screen there is a simple drop-down menu to select your skill level with the Creative Cloud software. If you've used Creative Cloud before you can choose Experienced but if this is your first time you should choose Beginner. Choose one and then click Continue.

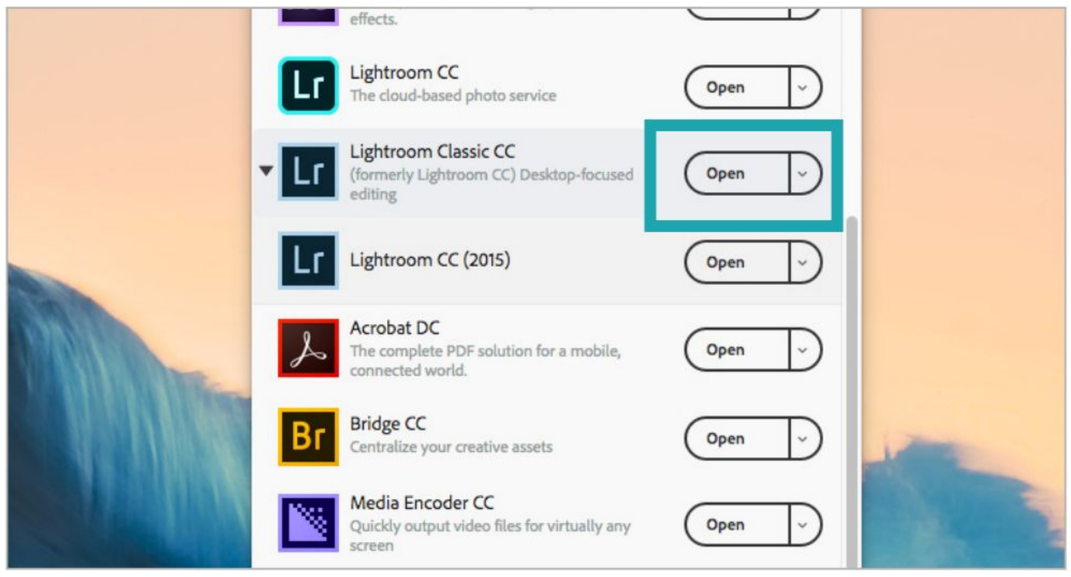
INSTALLING ADOBE LIGHTROOM



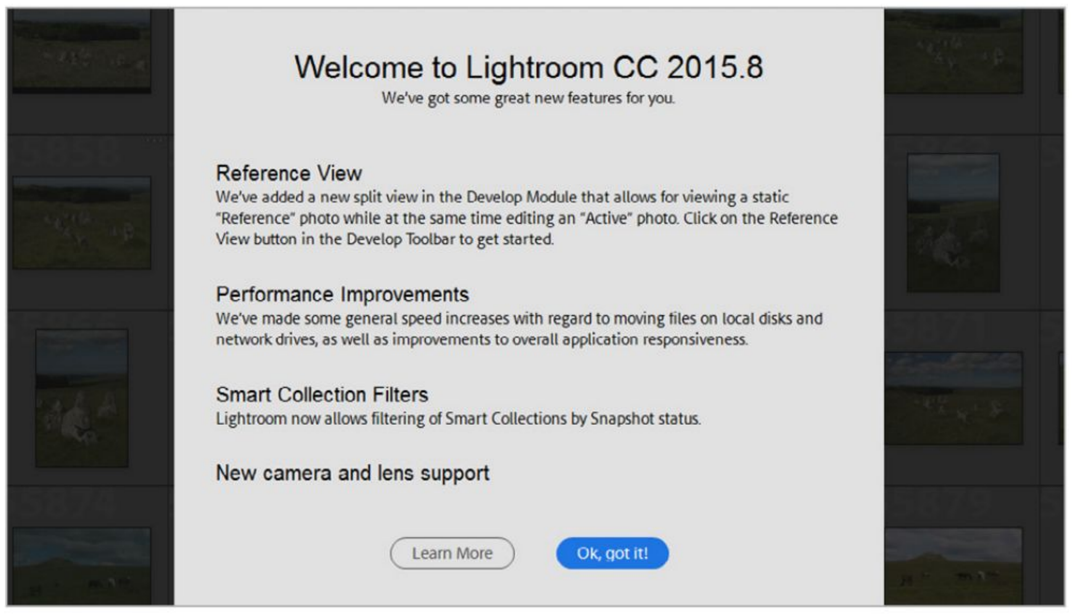
5 What happens on the next screen depends on which web browser you're using. Your download may begin automatically or you may get a confirmation request before it proceeds. We're using Google Chrome that requires a confirmation to begin the process. Once you confirm, you should see the Adobe Creative Cloud App appear. If not, look for it in your Start menu.



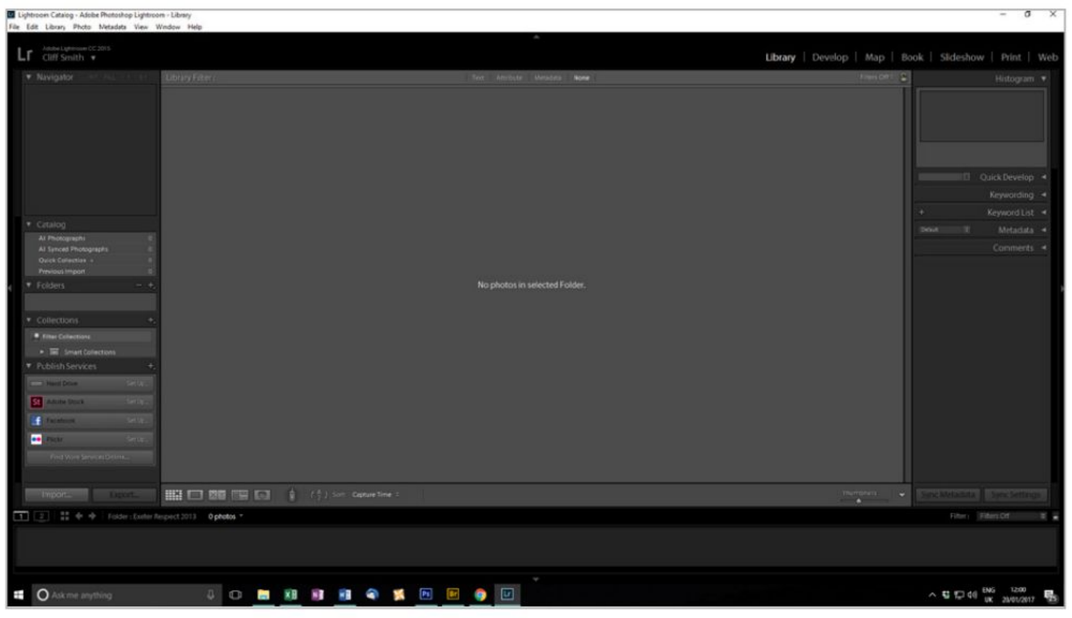
6 In the Creative Cloud app you can see buttons prompting you to install the software included in your subscription. With the Photography Package this includes Photoshop CC, Lightroom CC and Lightroom Classic CC. Once installed, you can click 'Open' on your installed applications to begin using them for the first time.



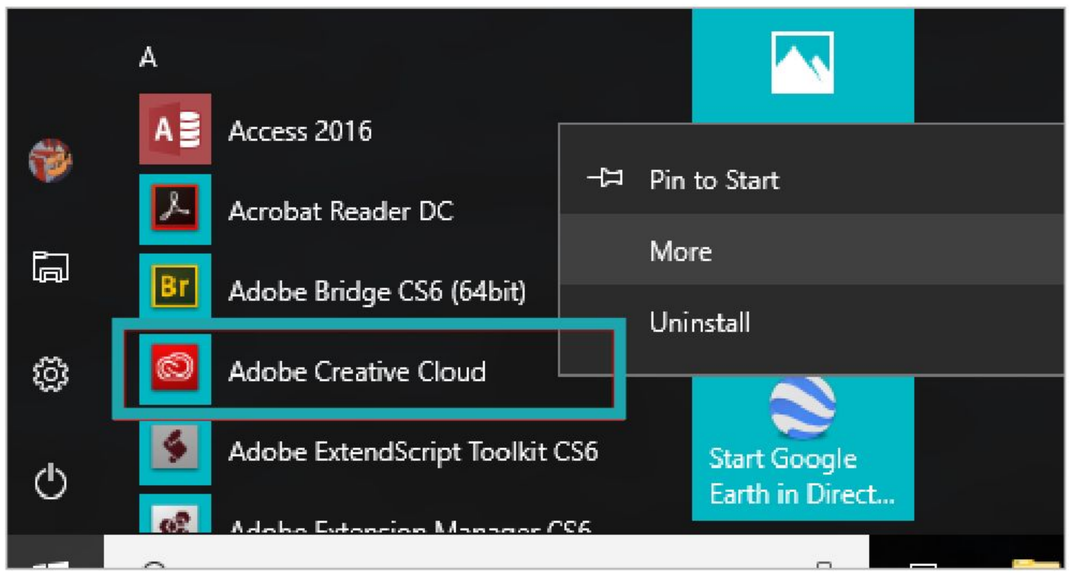
7 Once the installation has completed you should see the Creative Cloud app screen change, offering you buttons to open your newly installed software. Unless you also want to install Photoshop CC, go ahead and click on the button; you may be prompted to complete product registration by entering your registered email address and password.



8 After a few moments, Lightroom will start. The first thing you see is a welcome screen telling you about new features that have recently been added. Since Creative Cloud software updates automatically you may see this screen again in the future when new features are added. To close this screen and continue, click on the 'OK, got it!' button.



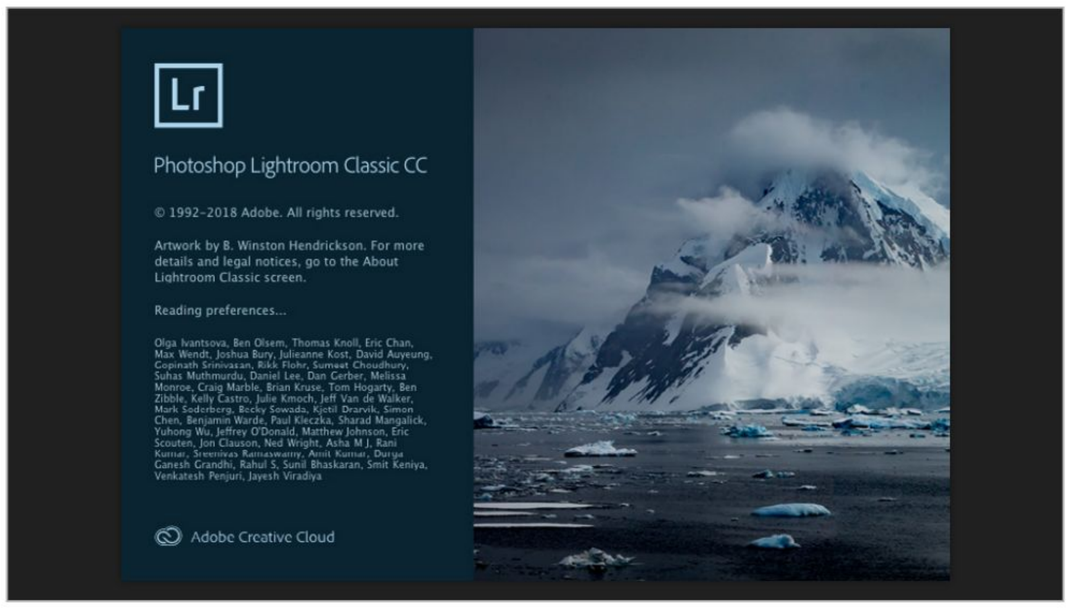
9 You're now ready to begin importing your photos into Lightroom's library, a process that we cover in a later tutorial. Lightroom organises your photos into its own database that you can search using many different criteria and also edits non-destructively, so photos shown in the library are just thumbnails. Removing or altering one doesn't change its position on your hard drive.



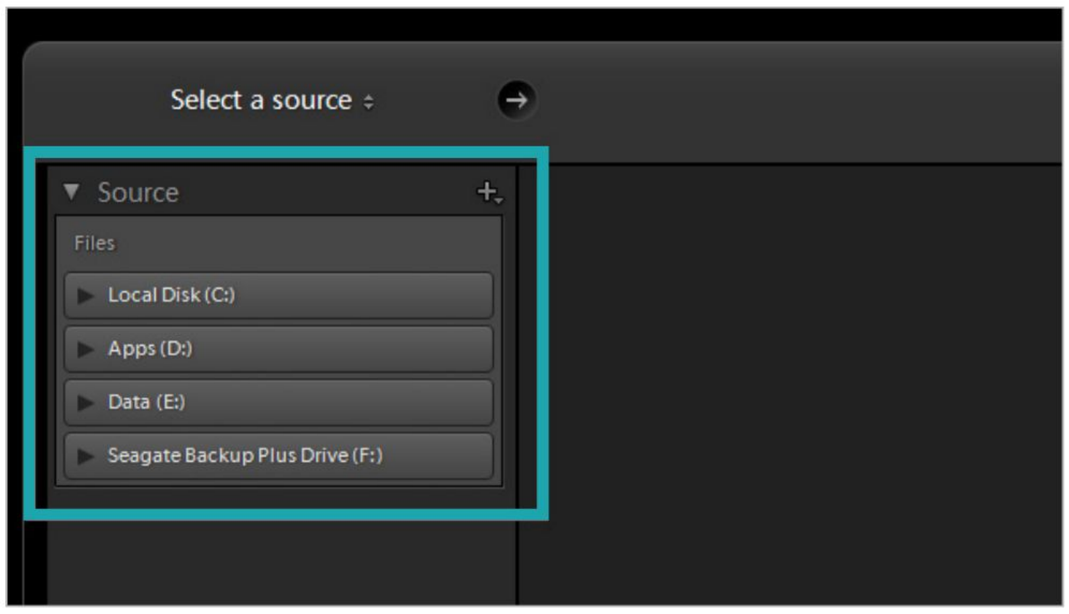
10 Once Lightroom is installed, you can launch the program by going to your Start menu and clicking on Adobe Creative Cloud to open the launcher app and then clicking on the Open button. If you use Lightroom regularly you can speed up the process slightly by pinning the app to your taskbar, so you can open it with a single click.

Importing Photos for the First Time

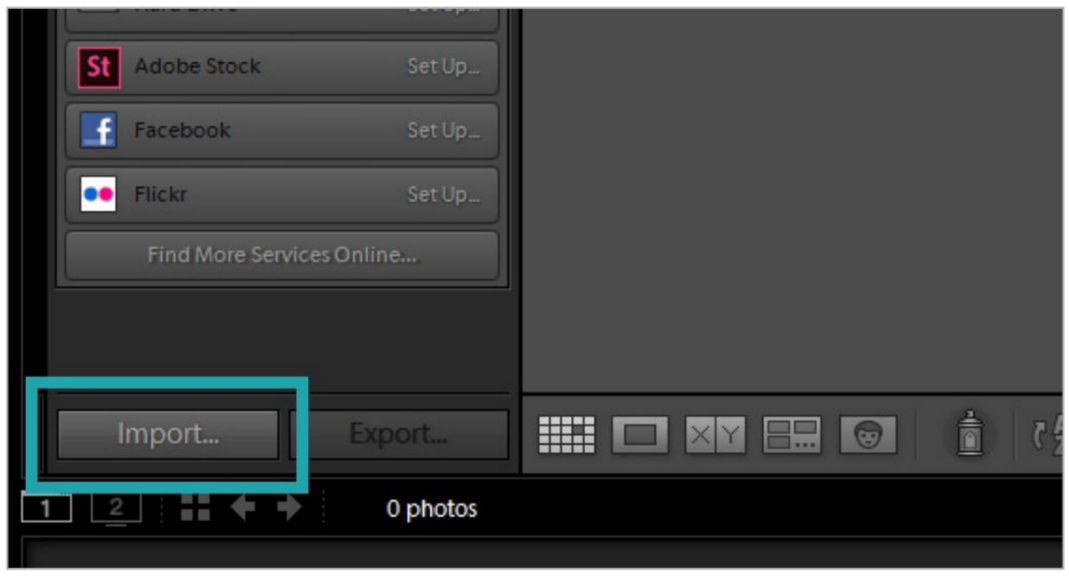
Before editing and improving your photos with Lightroom Classic CC, you need to import them into the program's database. Depending on the size of your collection this could take a while, so it's best to set aside some time.



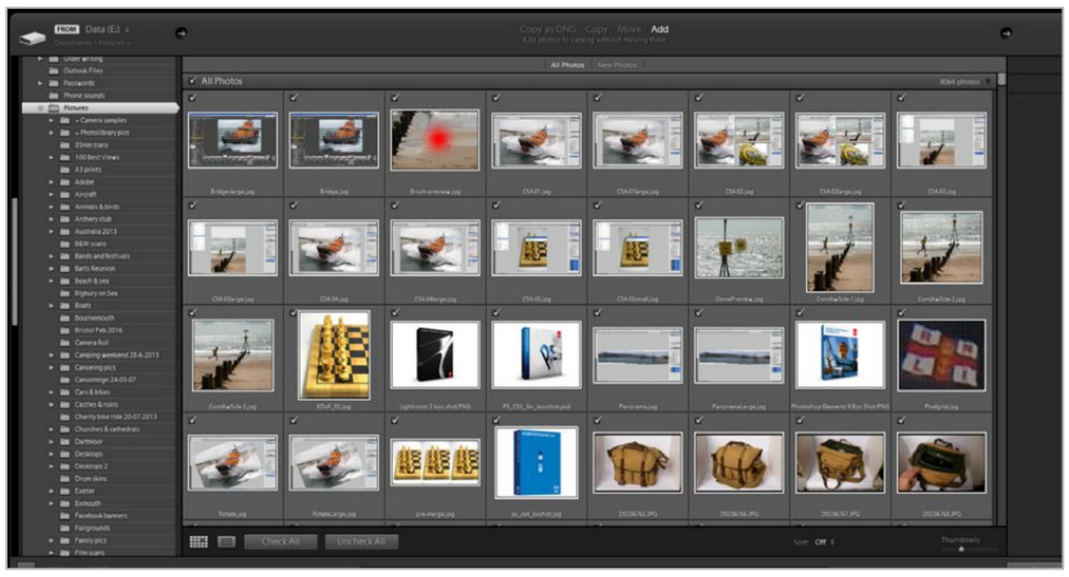
1 The first step after installing Lightroom Classic CC for the first time is to import your photos into the program's catalogue. Lightroom uses this catalogue to organise your photo collection and to help you find them by applying keywords and other search criteria. By keeping a separate database it means that the files on your hard drive are not affected.



3 On the next screen, you'll see a message saying 'Please select a source'. In the upper left you'll see a list of the storage devices attached to your system. If you want to import photos from some other source, such as a USB flash drive, you need to plug it in now. Lightroom will add it to the drive list as soon as it's detected.

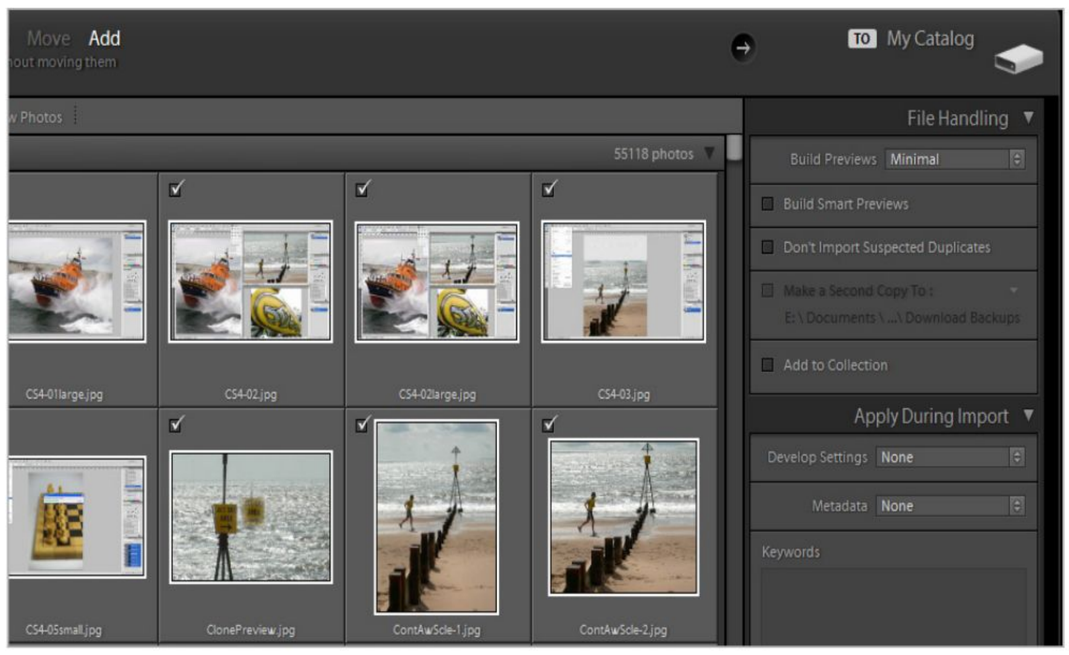


2 When you open Lightroom for the first time, you'll see a blank screen with the words 'No photo source selected' in the middle. To get started with importing your photos, take a look in the bottom left corner. You should see a button labelled Import. Click on this and you'll be taken to a new screen to begin the import process.

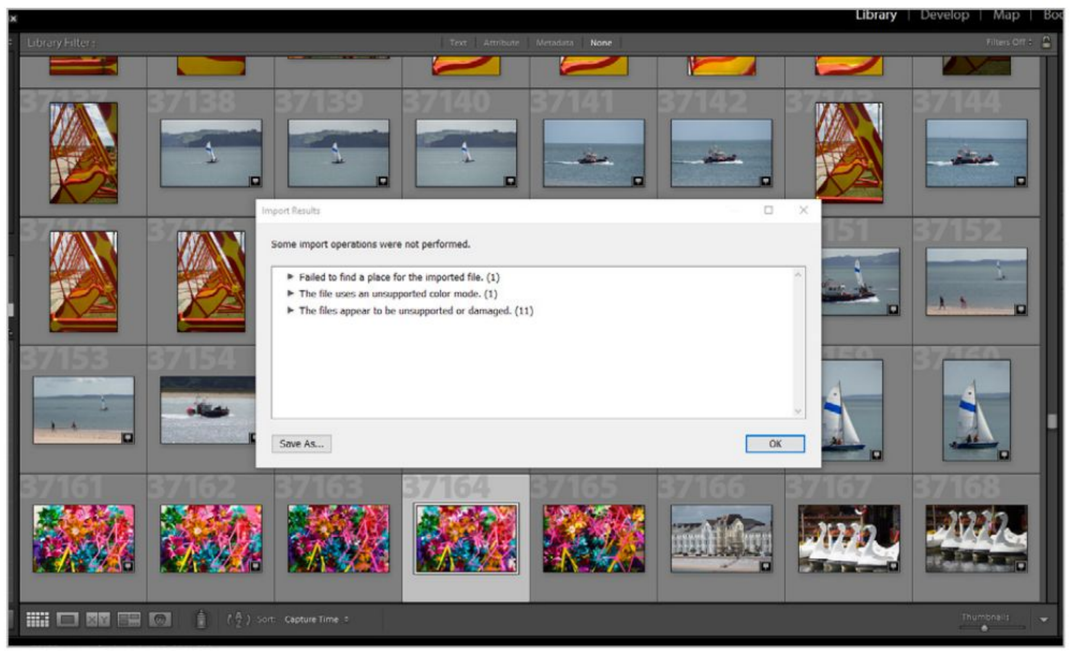


4 Click on the drive that contains the folder from which you wish to import your images and you should see all the folders on that drive displayed in the file-tree on the left of the screen. Navigate to the correct folder and click on it. Lightroom will immediately begin searching that folder for image files, including any sub-folders.

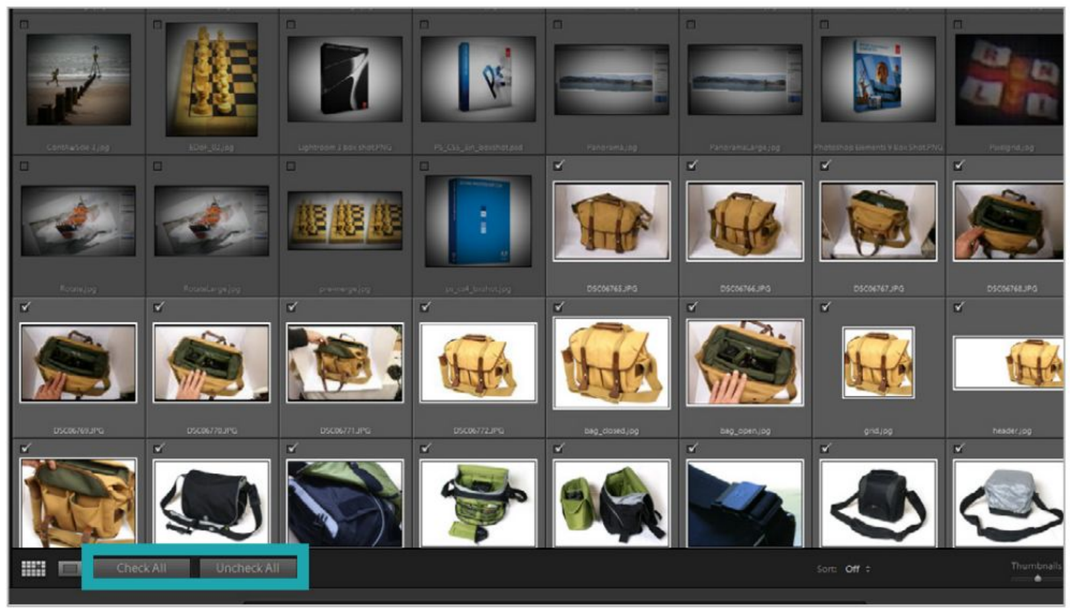
IMPORTING PHOTOS FOR THE FIRST TIME



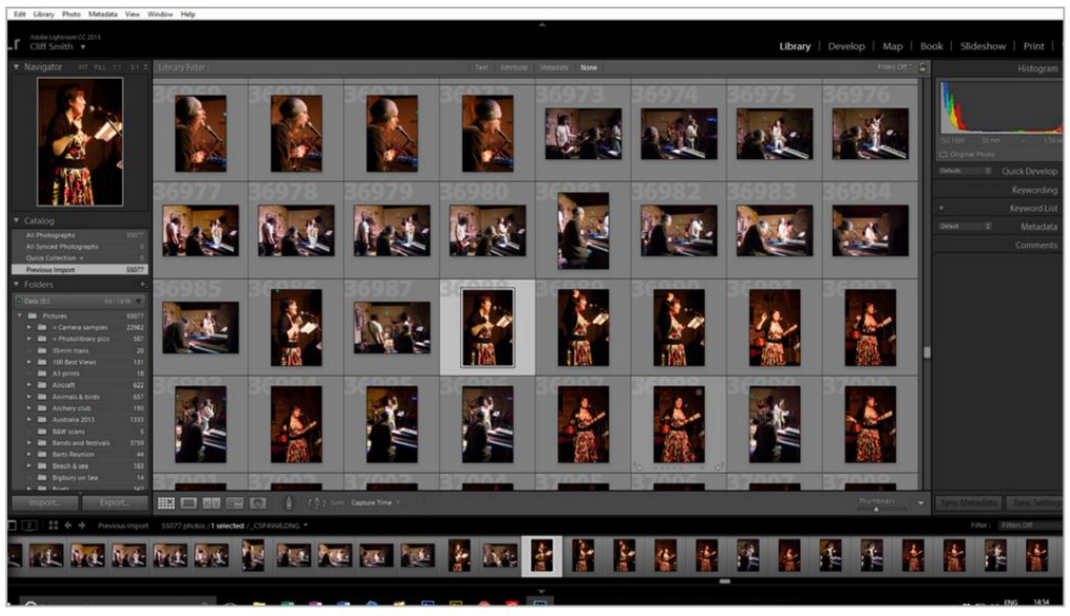
5 The process of finding image files is fairly quick and even a large collection should only take a couple of minutes. Meanwhile there are a couple of settings we can look at. On the right of the screen you'll see a panel called File Handling. Open it and if you want, un-check the option 'Don't import suspected duplicates'.



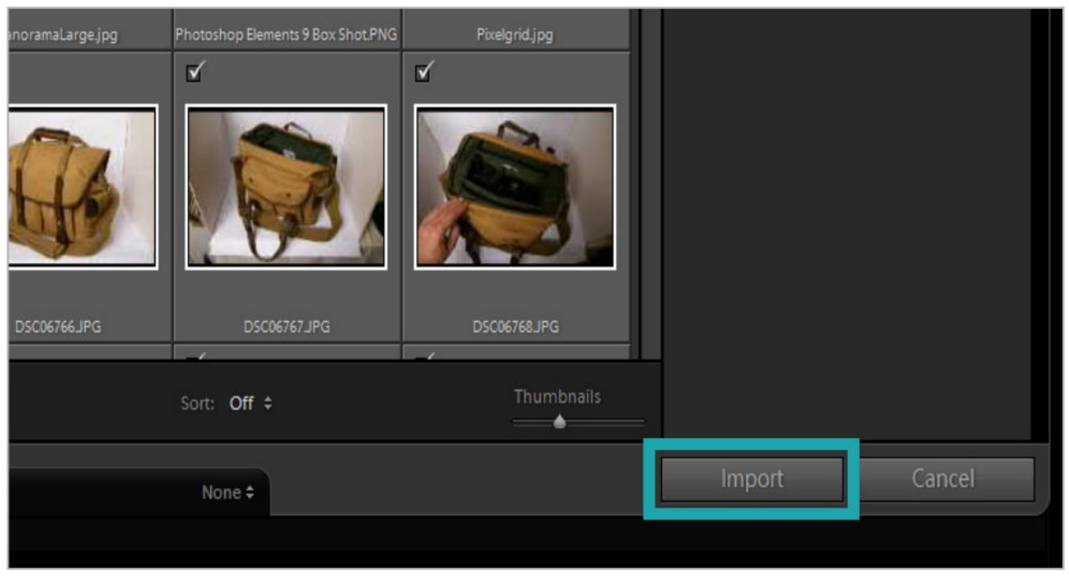
8 Once the import process has completed you'll see a report notifying you of any problems. Common errors include damaged files, which will not be imported, and unsupported file type or colour modes. Lightroom supports all common file types and most colour modes, so it's unlikely that you'll see either of these if you're just importing digital photos.



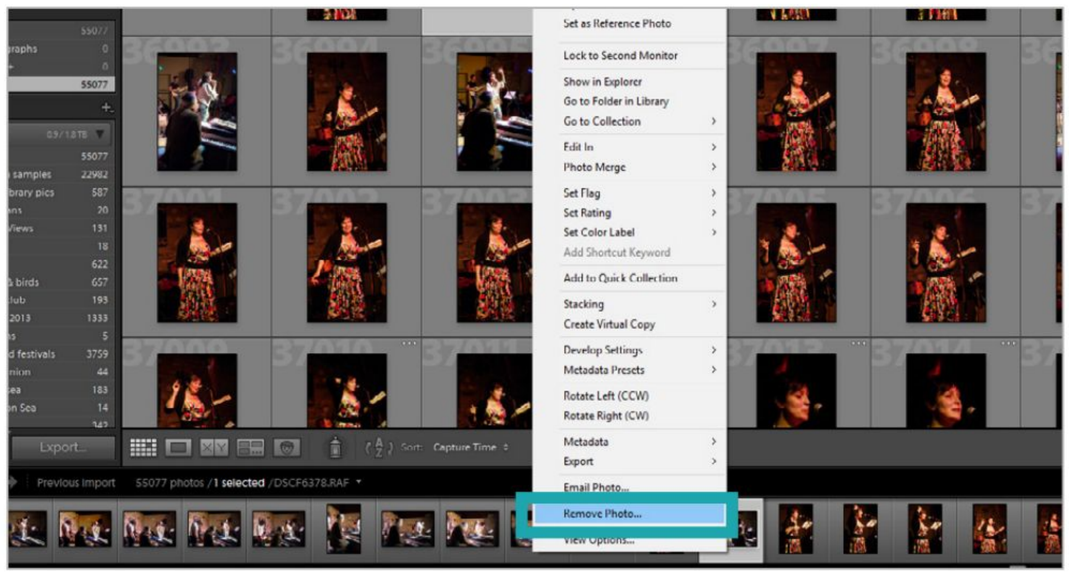
6 Once the import system has located all the photos in your selected folder you'll see the total that it's found and the combined file size displayed in both the lower left and upper right corners of the screen. All the files will be checked by default but if there are any that you don't want to import, you can uncheck them.



9 Click on the OK button to dismiss the report message and you'll finally be able to interact with your new catalogue of images. We'll take a closer look at the layout of the workspace in the next tutorial but for now just explore and check that all your pictures are present and correct. You can scroll up and down by using the mouse wheel.



7 Once you're happy with your selection of photos to be imported, click on the Import button in the bottom right corner of the screen and Lightroom will begin adding photos to your catalogue. If you're importing a large collection of images for the first time this process can take an hour or more, so go and do something else for a while.



10 If you subsequently want to remove any imported images from your catalogue you may do so by right-clicking on the image and selecting Remove Photo from the context menu. Note that this doesn't delete the photo from your hard drive, it just stops Lightroom from seeing it. You can reimport it later if you change your mind.

Exploring the Workspace

The default workspace you view when launching Lightroom can look a little confusing to begin with. However, with a little exploration the many menus and options soon become second-nature. Here, we show you around all the basic areas before you get stuck into editing.

1 Lr

This is the Identity Plate for Lightroom, displaying the user's logged in account name, with further options available to be expanded that connect to Adobe's cloud services. The Identity Plate can be further personalised, using either set templates or customising your own for branding your own photos. These can be text-based, or even a graphical Identity Plate to add that little extra personal touch to your Workspace view and image edits.

2 Presets: Catalog

The Catalog Preset is a database that stores a record for each of your photos. This record contains key pieces of information regarding each of the photos you import into Lightroom, such as a reference to where the photo is stored on your system, instructions for how to process the photo and metadata relating to the photo.

3 Presets: Folders

The Folders Preset displays where your photos are stored in the system. These reflect the folder structure on the drive itself and appear in an alphanumeric order for you to browse through. The triangles can be expanded to display sub-folders within each root folder level and each folder will display the number of images or videos you've imported into Lightroom; there's also information on the amount of space on the hard drive that the images have taken up, with the total space displayed too.

4 Presets: Collections

Collections provide a way for Lightroom to group photos in one place for easy viewing, or for performing a variety of tasks. For example, to assemble photos into a slideshow collection, or a web photo gallery. You can create as many Collections as you need from Regular, Smart and Quick Collection listings. These can store custom defined rules, temporary groups and various other clever features.

5 Presets: Publish Services

The Publish Services options menu allows you to export collections of photos to your hard drive or a variety of defined online services, such as popular social networks as Facebook and Flickr. Additional information can be added to the export process and you can find more services online via the available button. It's even possible to publish entire folders or collections of photos, reducing the process considerably compared to manual uploads. These can be used in much the same way as the Collections, with various options and custom defined rules if needed.

6 Film Strip

The Film Strip view bar is where you can quickly display and also access the photos you are working on as you move between the modules. This scrolling bar contains photos and all images from the currently selected Library folder, your photo/image collection, or keyword set. By using this option you can quickly access your images without having to open additional folders outside of the Lightroom software. You can quickly and easily move between each of the photos in the Filmstrip using the Left and Right Arrow keys or by choosing a different source from the Filmstrip Source Indicator pop-up menu to the right of the navigation buttons.

7 Histogram and Adjustment Panels

The Histogram is an often overlooked feature of Lightroom, which is a shame as it's an extraordinarily useful tool to master. However, we have covered this and these areas will be looked at in further detail as we move through the various Lightroom modules, such as the Develop Module and other elements of the software in this book.

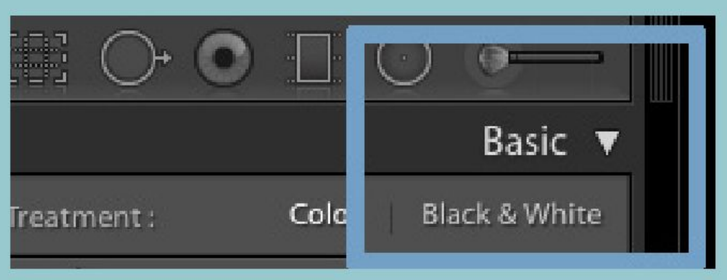
8 Top Toolbar

The top toolbar contains the familiar aspects of a traditional program, with File, Edit, Library, Photo, Metadata, View, Windows and Help. Most of these are self-explanatory, and function in the same was as any other program. Others though, contain elements and options to enhance each of the modules. You could spend a lot of time trawling through the many different menu options and we cover many of them throughout this book. For now though, take a moment to explore what's available and see just how in-depth Lightroom can get with just a few clicks of the Mouse button.

9 Modules

Lightroom has seven workspace modules available: Library, Develop, Map, Book, Slideshow, Print, and Web. Each module offers a unique set of tools and features tailored to your workflow: importing, organising and publishing, adjusting and enhancing and generating output for screen, print or web detail. These tools, within each Module, are startlingly powerful in their use, whilst still being relatively simple to use. We'll look at these Modules and the tools within, as we progress through the book.

Show or Hide Panel Groups



- To show or hide a single panel group, click the triangular Show/Hide Panel Group icon. A solid icon indicates the panel group is showing.
- To show or hide both side panel groups, choose Window > Panels > Toggle Side Panels, or press the Tab key.
- To hide all panels, including side panels, the Filmstrip and Module Picker, choose Window > Panels > Toggle All Panels, or press Shift-Tab.

Using Filters

Filters play a huge role in getting a photo just the way you want. With some clever tweaks, Lightroom is capable of delivering spectacular results, such as the before and after images you see on these pages. We delve into elements like this later in the book.

Shots like this that combine landscape with skyscape are prime candidates for a graduated filter. In this case, we've increased the overall exposure slightly, boosted the highlights to brighten the clouds, reduced the shadows to bring out the rock's texture and then applied a coloured graduated filter from top to bottom, reducing exposure by half a stop and increasing colour saturation by 75. The result is a bright and colourful shot worthy of any picture postcard.

GETTING ORGANISED: THE LIBRARY MODULE

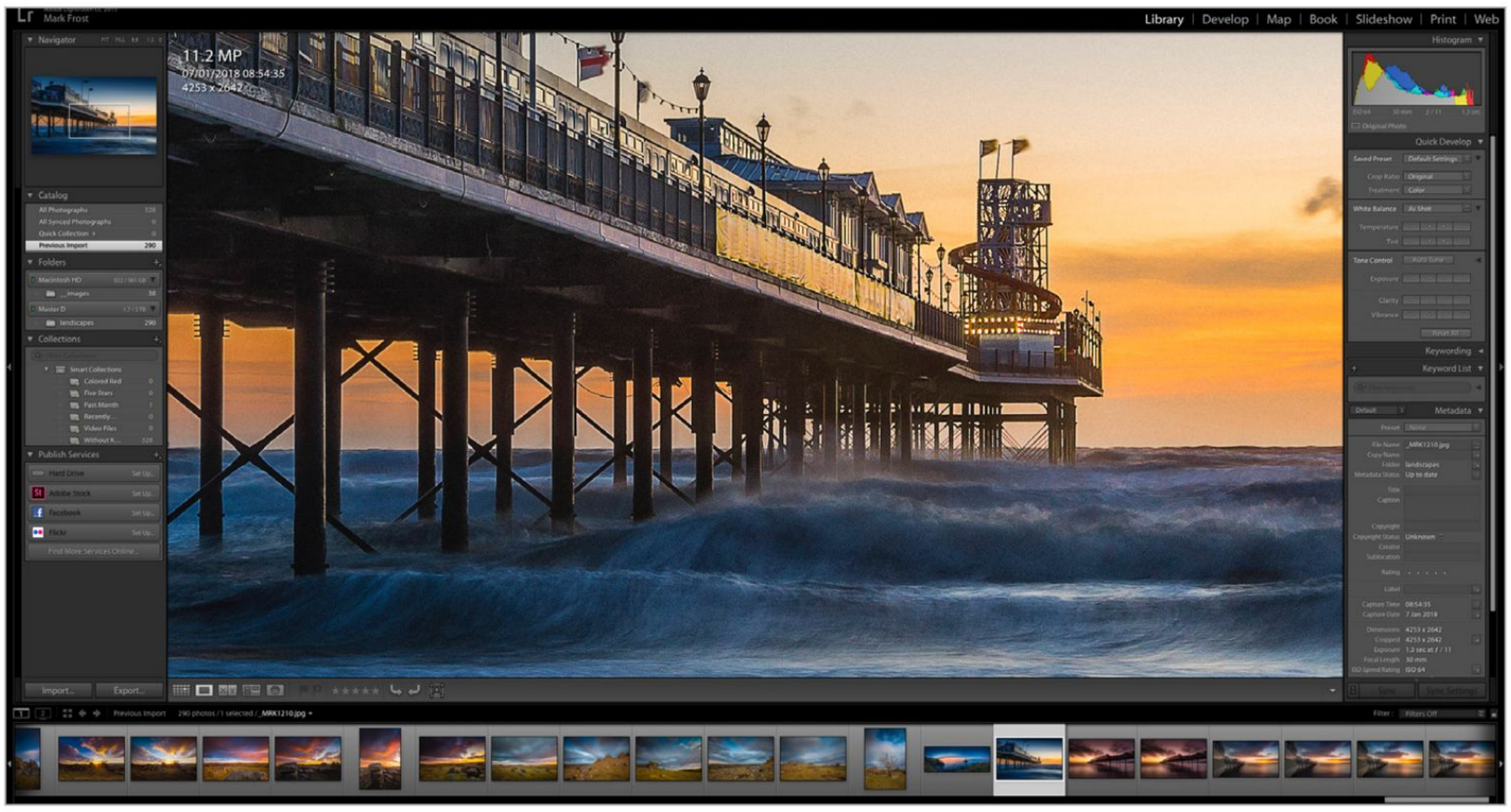
Getting Organised: The Library Module

The Library module is where you organise your images and select candidates for editing; also apply and search for keywords, meta tags, EXIF data, GPS location data and even individual faces. It's a very powerful resource and the central heart of the Lightroom system. In this section, we'll explore the Library module and find out what it can do.

Introducing the Library Module

The Library module is the central hub of Adobe Lightroom. From here you can select, sort, rate and search your image library; add keywords, compare images and much more. Here's a quick overview of what it offers.

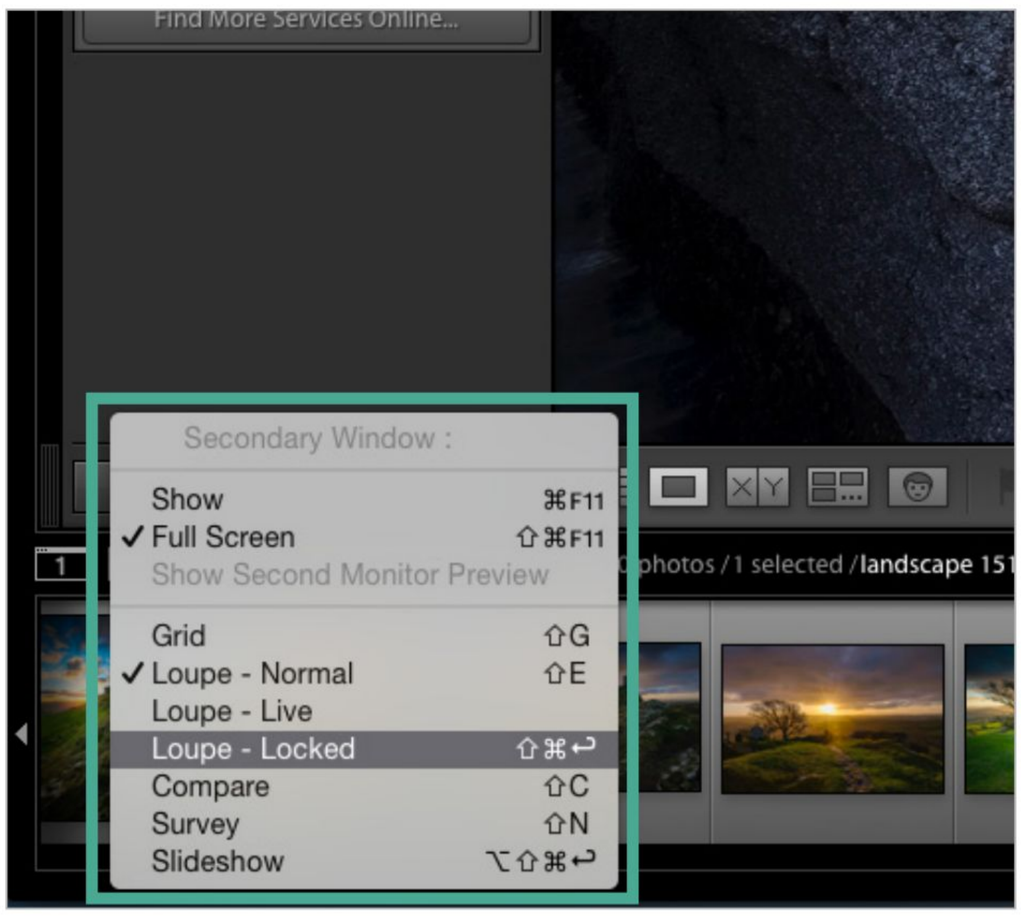
In the last section, you imported your images into Lightroom and the Library module is where you'll see the result of that process. The Library module is where you can view and scroll through your image catalogue, select images for sharing or development, add and search for keywords and build collections. It's comparable to Adobe Bridge, the file browsing and viewing app that installs alongside Photoshop, but the Library module has a lot more functionality.



Loupe View

After the Grid view, the other one that you'll find yourself using most often is the Loupe view. A Loupe is a small handheld magnifier used by photographers to closely examine a negative or print, to check sharpness and spot minor flaws. Lightroom's Loupe view performs a similar function. It magnifies the selected image and if you click on the image in the view window it will zoom in to full 1:1 magnification, allowing you to easily spot any imperfections. You can click-and-drag on the image to move it around and the thumbnail at the top of the left sidebar shows you the part of the image you are looking at.

If you're using a second monitor, it can display a Loupe view of any image that you select in the Grid view. There are several other options for the secondary view available from a context menu that appears when you right-click or click-and-hold on the second monitor button.



Compare View

To compare a chosen image with another side-by-side, select one image and then another and then click on the button for Compare view or use the hotkey C. Both images will be displayed at the same size and zoom level, with the first you selected being labelled Select and the other as Candidate. If you use the zoom slider at the bottom of the screen, both images will be zoomed at the same time and if you drag one image around the other will move as well, which is handy for pixel-peeping the same spot on two similar images to see up close which one is in sharper focus. One handy hint is to click on the arrows on either side of the screen to minimise the sidebars and maximise the viewing area.

Survey View

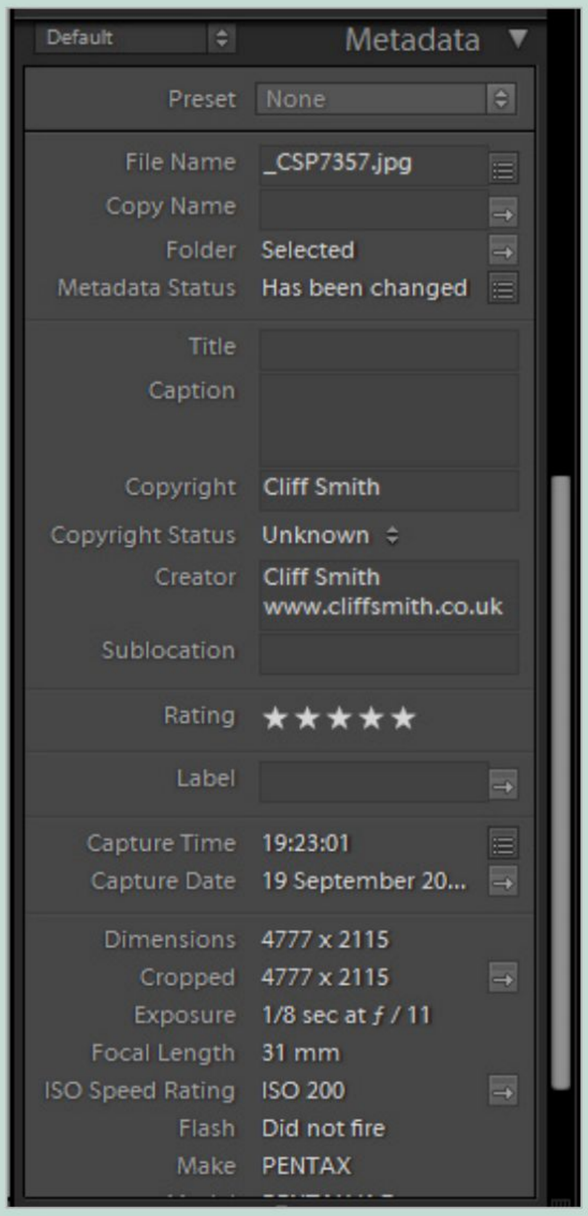
The Library module offers several ways to view your images. One useful way to compare a group of similar images is the Survey view. To use this, use CTRL-click or SHIFT-click to select three or more images and then click on the Survey view button, highlighted in the image above, or use the hotkey N. The view window will change to show the selected images arranged automatically to maximise the size of each image. The Survey view can display dozens of images but obviously the more you select the smaller the individual images appear, so it's best to select no more than five or six at a time.

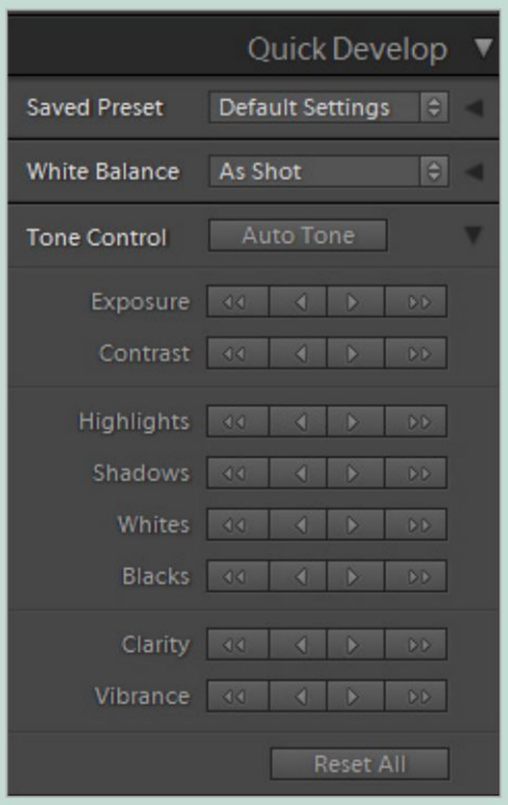
Manage Your Photos

The Library Module is the workspace where you can manage and organise all your Lightroom photos and their metadata. You can find, assess and import them, assign keywords and search for specific images; and it is also the space where you can use Lightroom's social integration tools such as Facebook, Flickr and find more services online.

Metadata

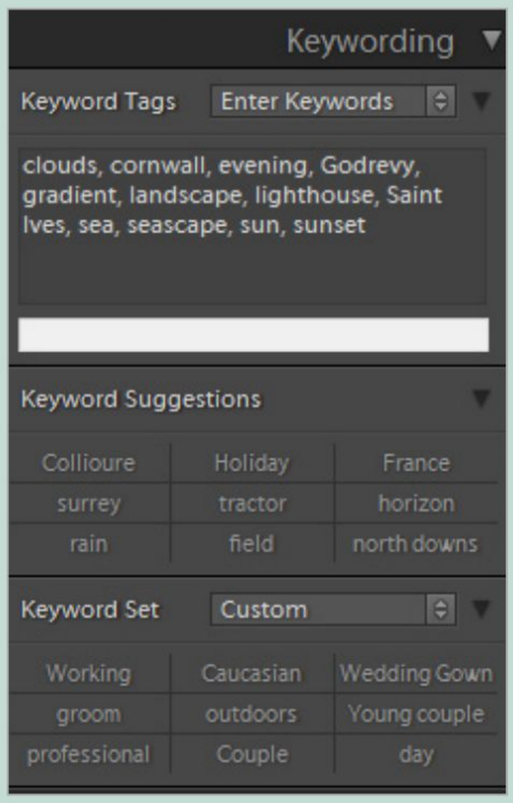
In the left sidebar you'll also find the metadata panel. In the case of photographs, metadata is generated by the camera that took the picture. This data file is then attached to the digital image, carrying information about the image, such as the date and time it was shot, the type of camera and lens used, the exposure settings used, GPS location data, copyright information, the creator's name, contact details and even information about the size of the photo and the flash settings if they were used in the shot. There are many editable fields in the image metadata and you can edit them by clicking on them in the sidebar panel and typing in your entry. If you upload images to photo sharing sites like Flickr, this data will be shown as part of the image profile.





Quick Develop

There are several useful features to be found in the left-hand sidebar of the Library view. One is Quick Develop that lets you make broad adjustments to exposure, contrast and tone; and apply pre-sets or automatic adjustments to single images or groups of selected images. It's very useful if, for example, you had the wrong white balance or exposure set on your camera for a group of shots; but it doesn't allow for the same range or finesse of adjustment as the Develop module that we'll look at in a later section.

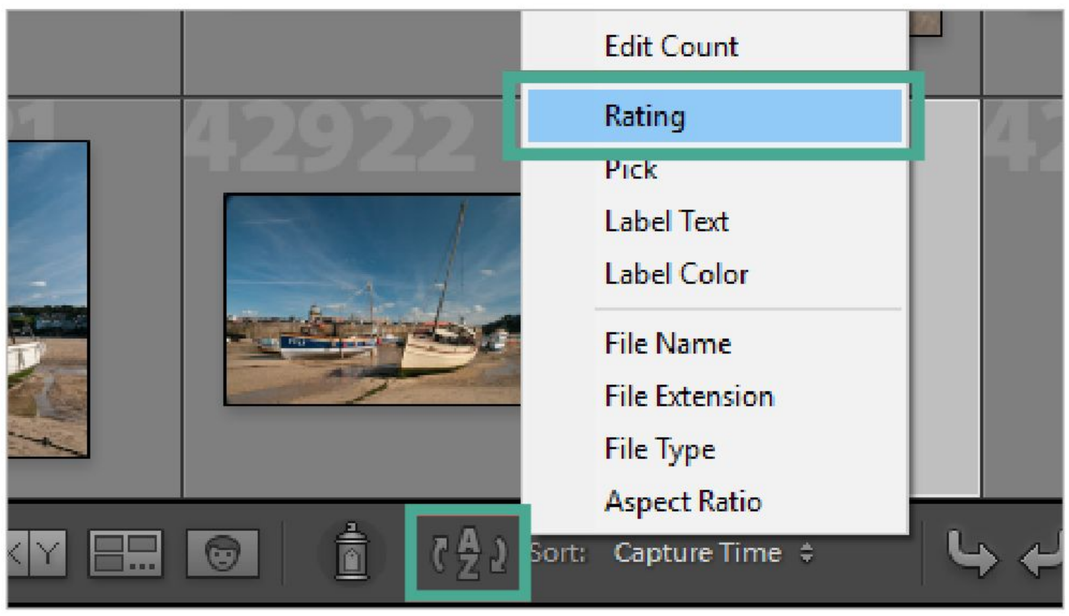


Keywording

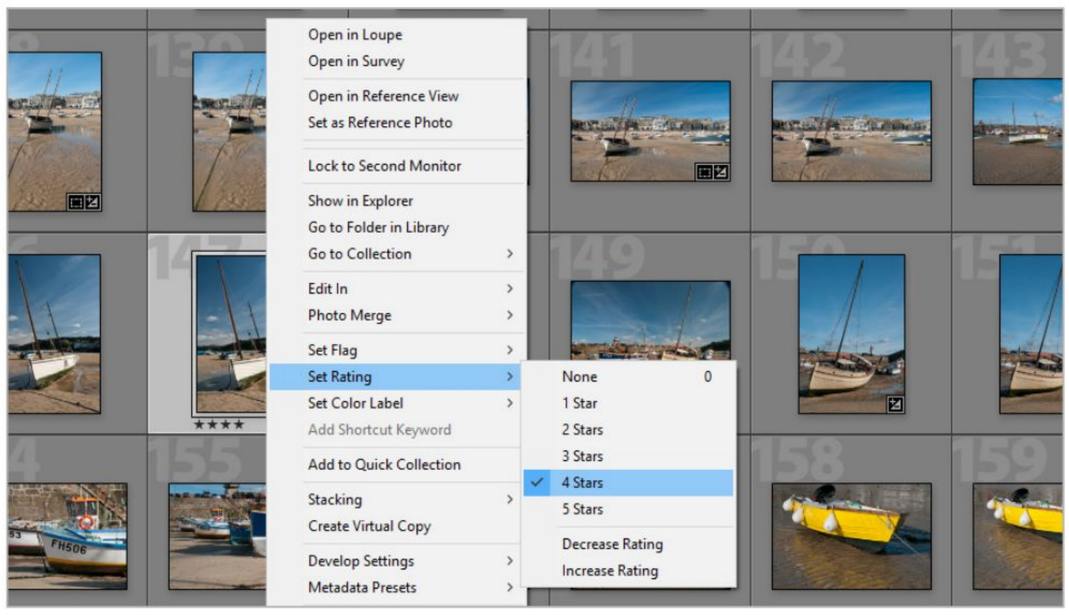
The other really useful feature found in the left sidebar is Keywording. You can add keywords to single images or groups of images, to make it easier to sort and search your image library. You can add keywords manually or from an exhaustive list, or use automatic suggestions. Keywords are added into the metadata for the image. The more keywords you use, the easier it becomes to search your image library for more specific items and narrow down search parameters to pick out the most appropriate photos that you are after.

Sorting and Rating Your Photos

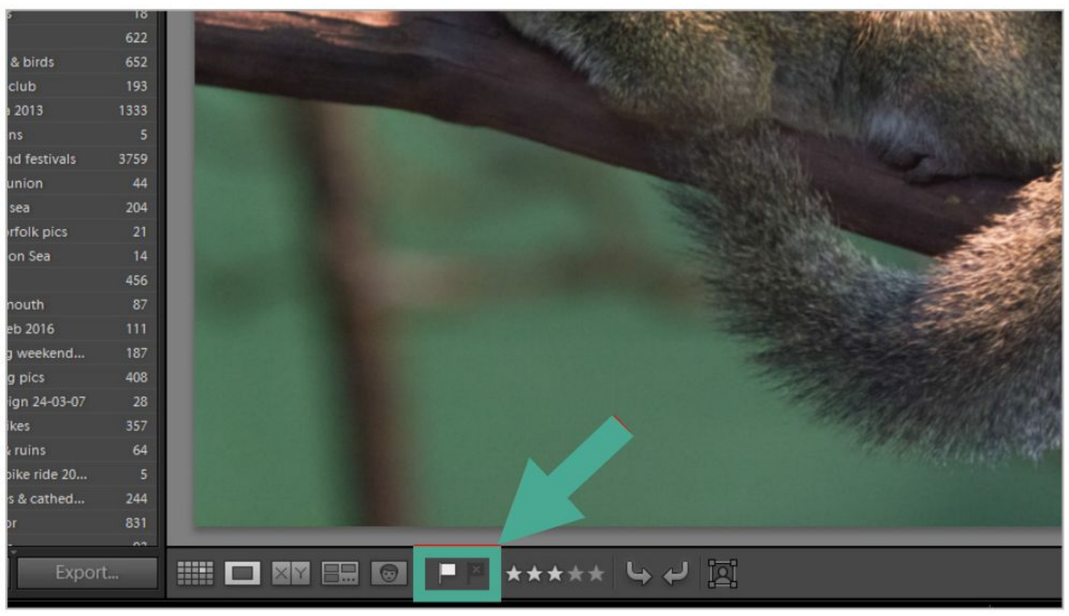
Keeping your photo library organised is essential and the Library module has several tools and features that you can use to achieve this goal; allowing you to group them by subject, time, location and who appears in them.



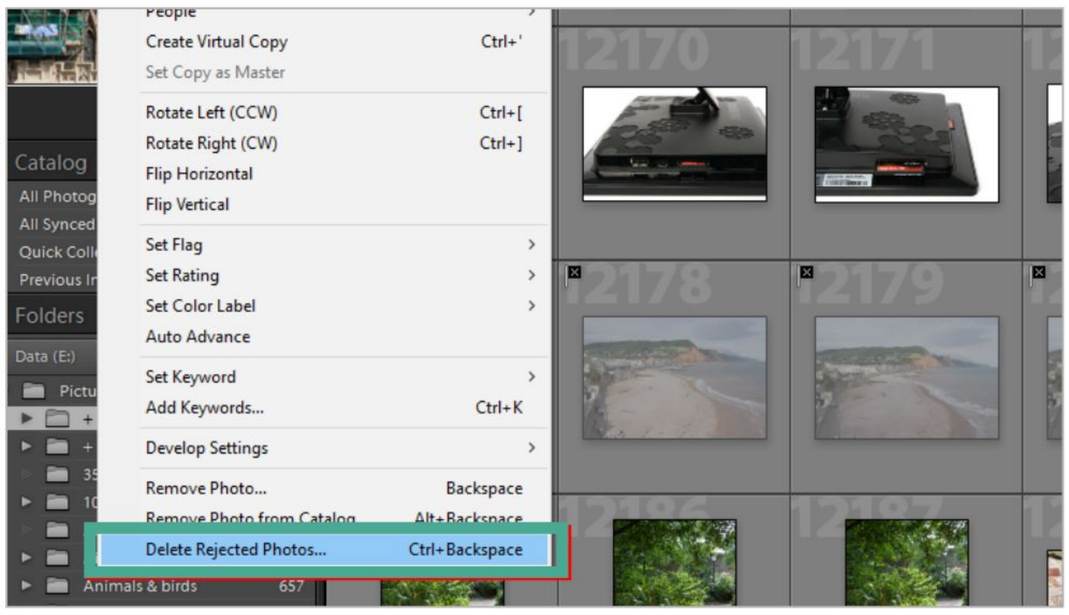
1 Select Grid view by pressing G. By default, photos are listed in the order of shooting date, with the newest at the bottom. You can change the sorting criteria to Rating with the Sort: pop-up menu on the toolbar at the bottom of the view window. You can reverse the order so the highest rated are at the top by clicking the A-Z button.



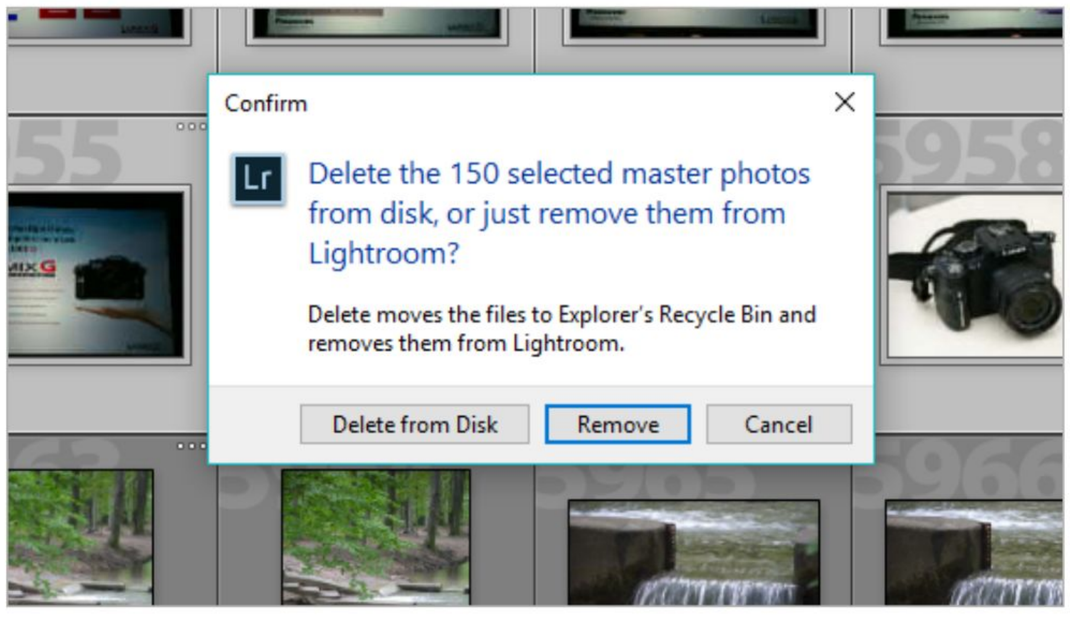
2 The rating of an image is shown by a row of 0-5 stars below the image in all view modes. You can change the rating in several ways: by clicking on the row of stars below the image and dragging to the appropriate position, by tapping the number keys 0-5, or by right-clicking and selecting Set Rating from the menu.



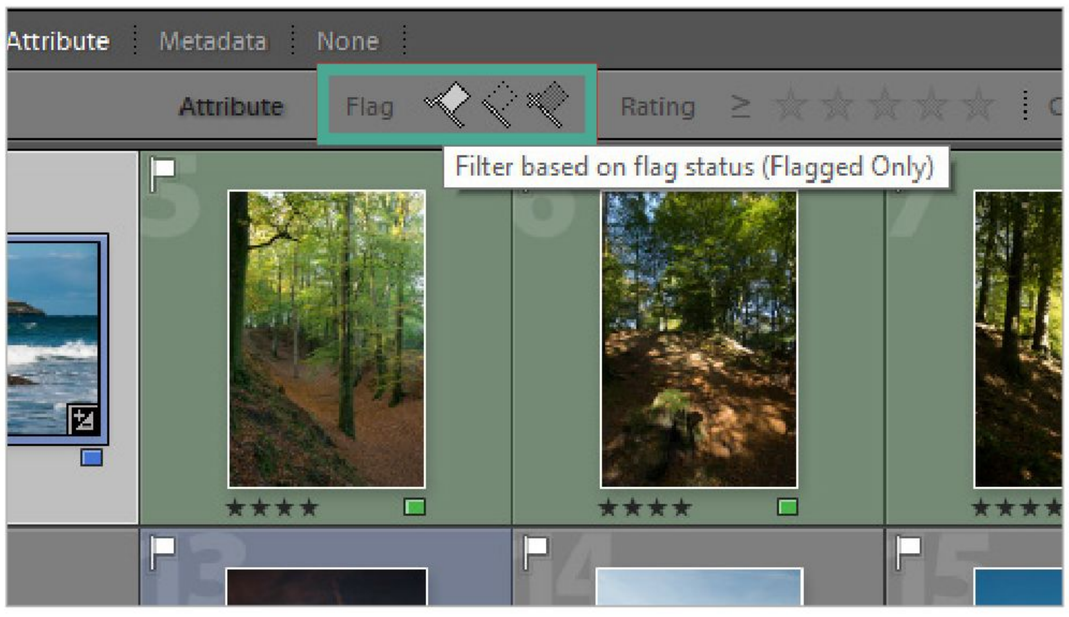
3 As well as setting a star rating, you can also flag a photo as accepted or rejected. Again, there are several ways to accomplish this. You can do it from Grid view by clicking in the upper left corner of the thumbnail or right-clicking to show the Reject flag. You can click on the flag buttons in the toolbar or you can right-click and choose Set Flag from the menu.



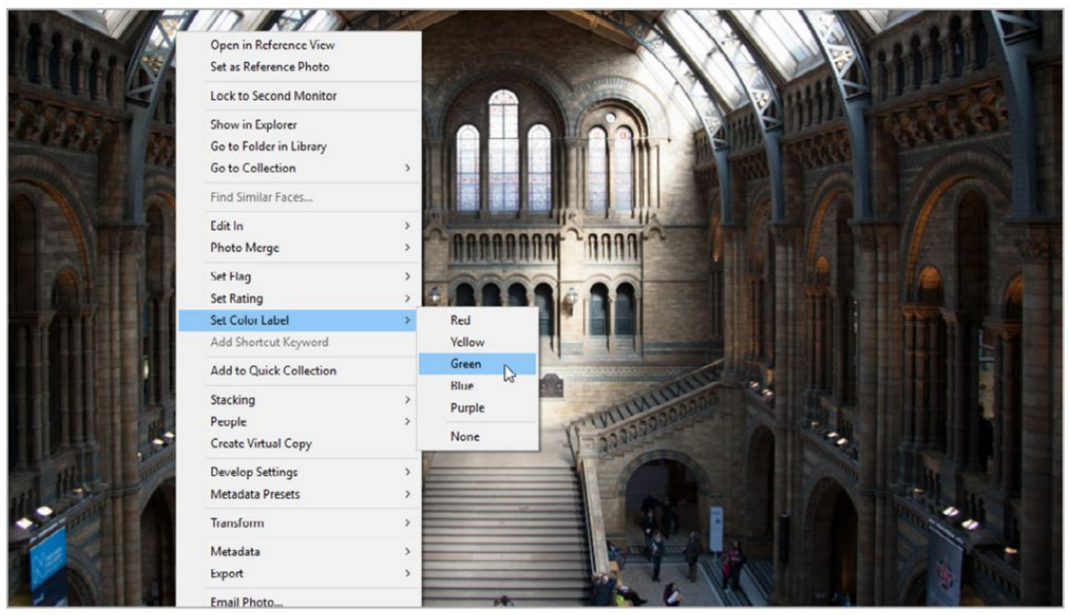
4 Photos flagged as rejected will be greyed out in the Grid view and can be easily deleted. Once you've flagged a few that you don't like, open the Photo menu in the top bar and at the bottom of the list you'll see Delete Rejected Photos. A quicker alternative is to use the keyboard shortcut, Ctrl + Backspace.



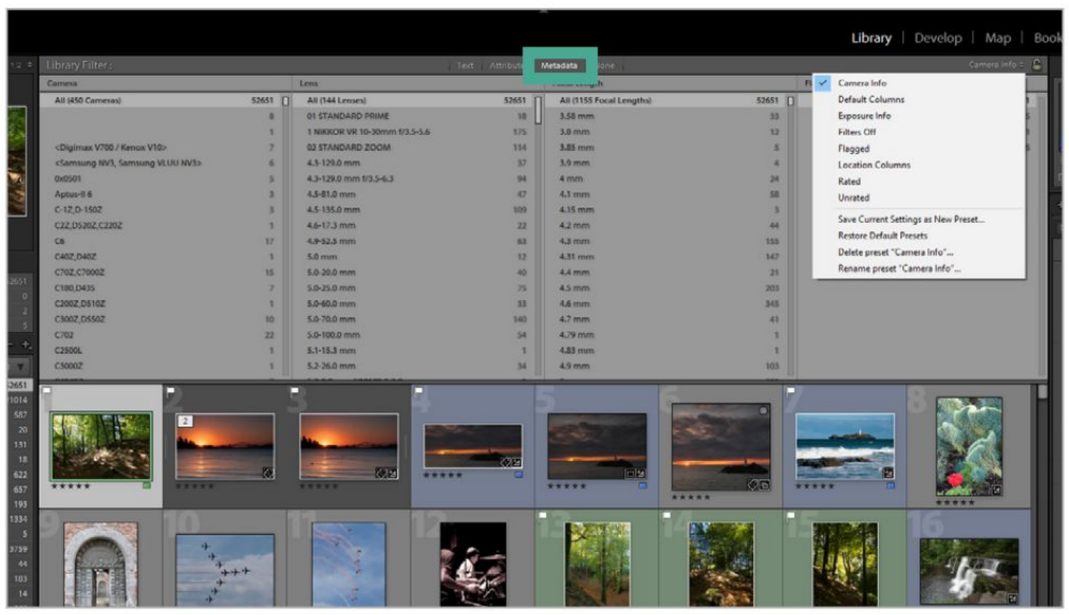
5 The rating of an image is shown by a row of 0-5 stars below the image in all view modes. You can change the rating in several ways: by clicking on the row of stars below the image and dragging to the appropriate position, by tapping the number keys 0-5, or by right-clicking and selecting Set Rating from the menu.



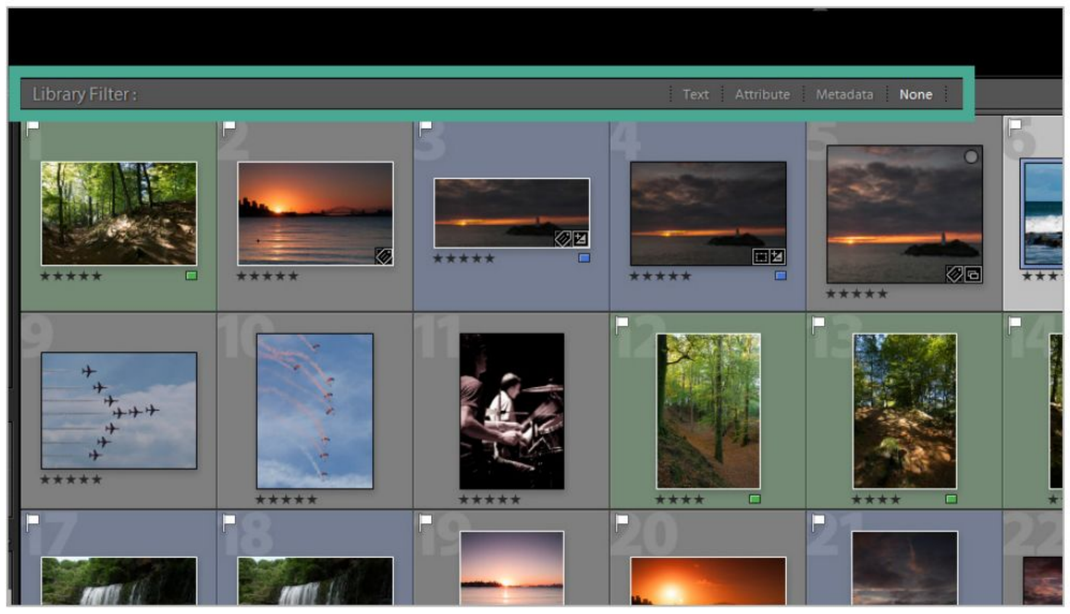
8 If you click on Attributes in the Library Filter bar, you'll see several options. If you click on the Flagged icon, you'll see only images that have been flagged. Similarly, you can choose to see only images over a certain star rating, or only images with one or more colour labels. You can apply several different filters at once.



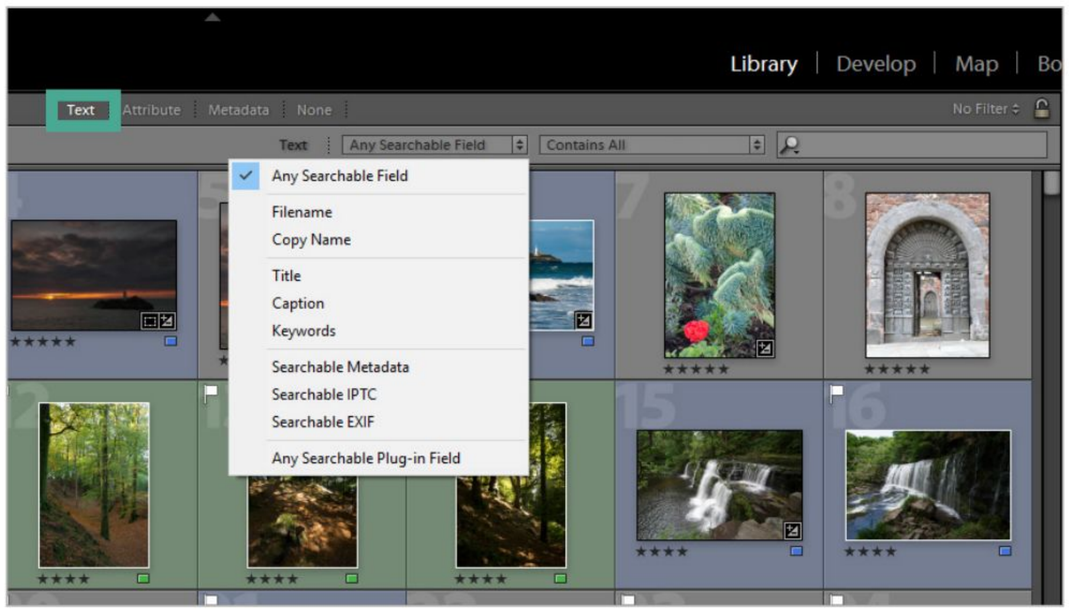
6 There is another way to tag your photos for later sorting, and that is colour labelling. You can apply one of five coloured labels to images. You can apply a label by either clicking on the little box on the lower right edge of the Grid thumbnail or by right-clicking in any view and selecting Set Colour Label from the menu.



9 Another filter option is Metadata that lets you select only photos taken in a particular year, with a particular camera or lens, or any other searchable metadata field, including detailed location information. This is arguably the most powerful search filter and particularly useful for working professional photographers.



7 Once you've applied ratings, flags and colour labels to your images, you can quickly use these attributes to perform filtered searches on your library. In the Grid view, at the top of the view panel you'll see the Library Filter bar, with four options available: Text, Metadata, Attributes and None. The latter is the default option.

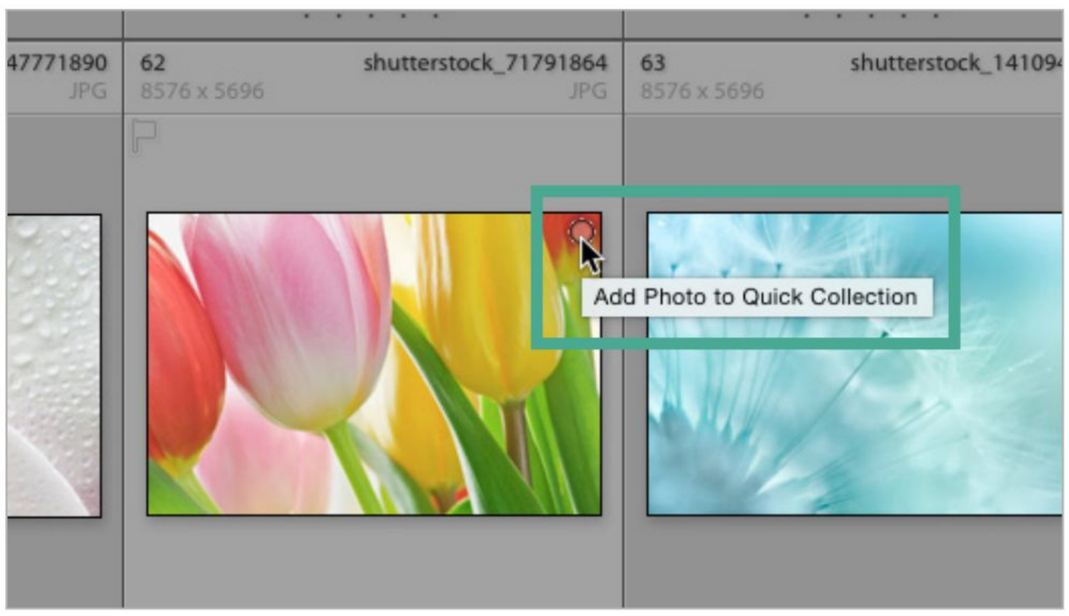


10 The Text filter option lets you search in any text field attached to your images. These include the file name, any copy that is attached, the title, caption or keywords and any other searchable EXIF or metadata. This is handy if you title or add descriptive captions to your photos, or if your library includes photos from more than one photographer.

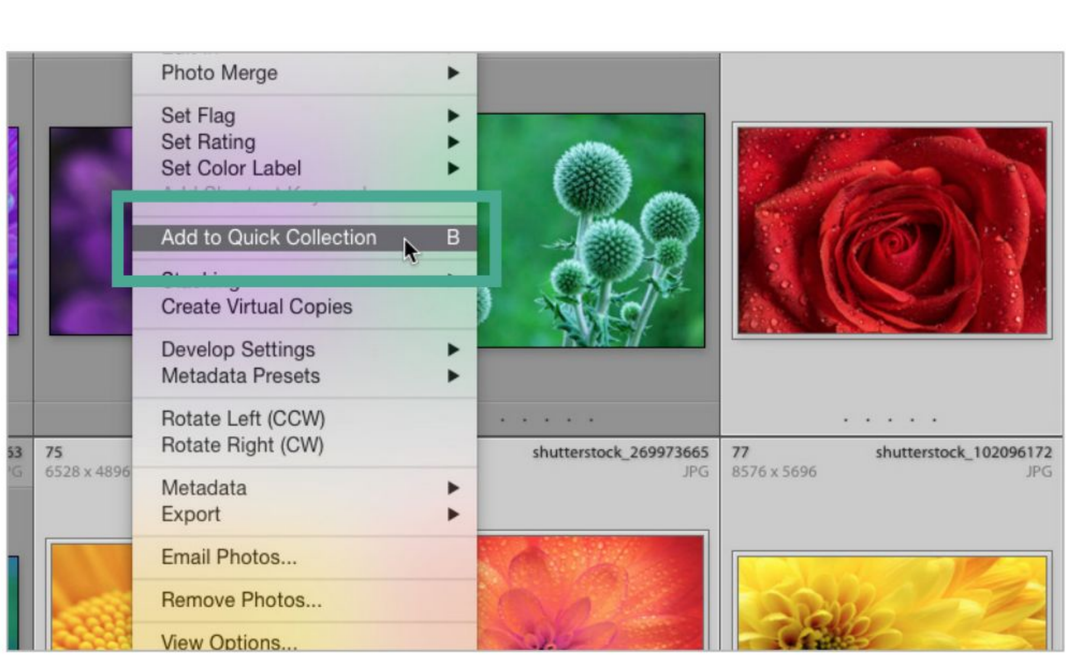
Organising Photos with Collections

If you've been using a digital camera for some years, you probably have thousands of photos stored by now. Lightroom is all about keeping those images organised and accessible, and one great way to do that is by using Collections.

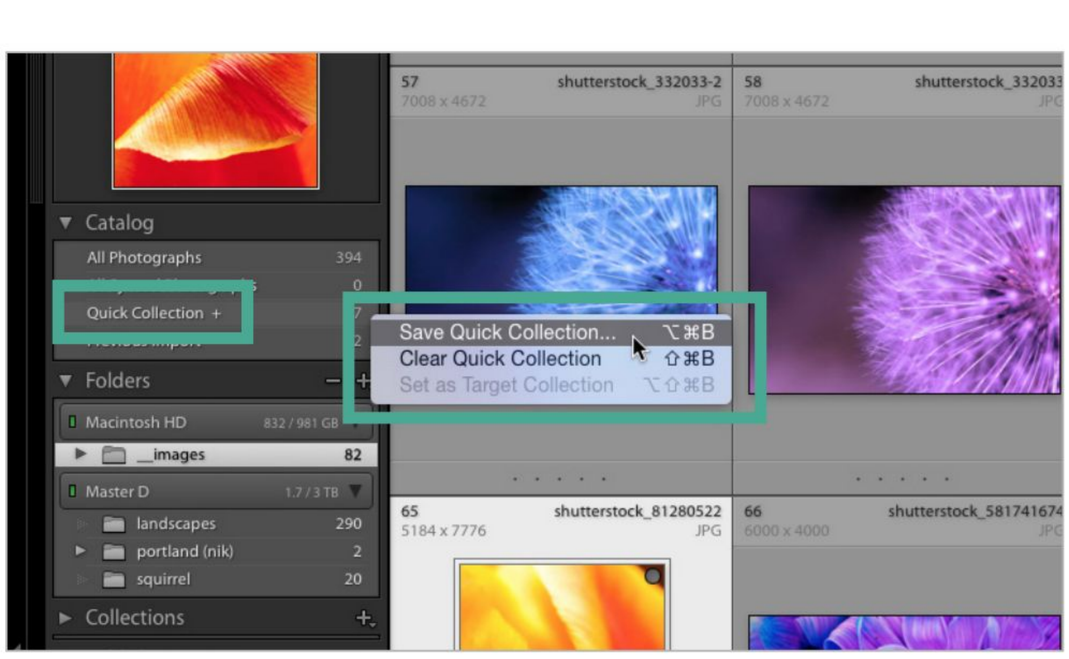
1 Quick Collections are a temporary method of quickly organising a group of photos that you want to be able to find easily. In this example, we've got a series of macro close up photos of flowers and we want to group all the photos of certain colours of flower. First, find the folder containing the photos in the Folders sidebar tab.



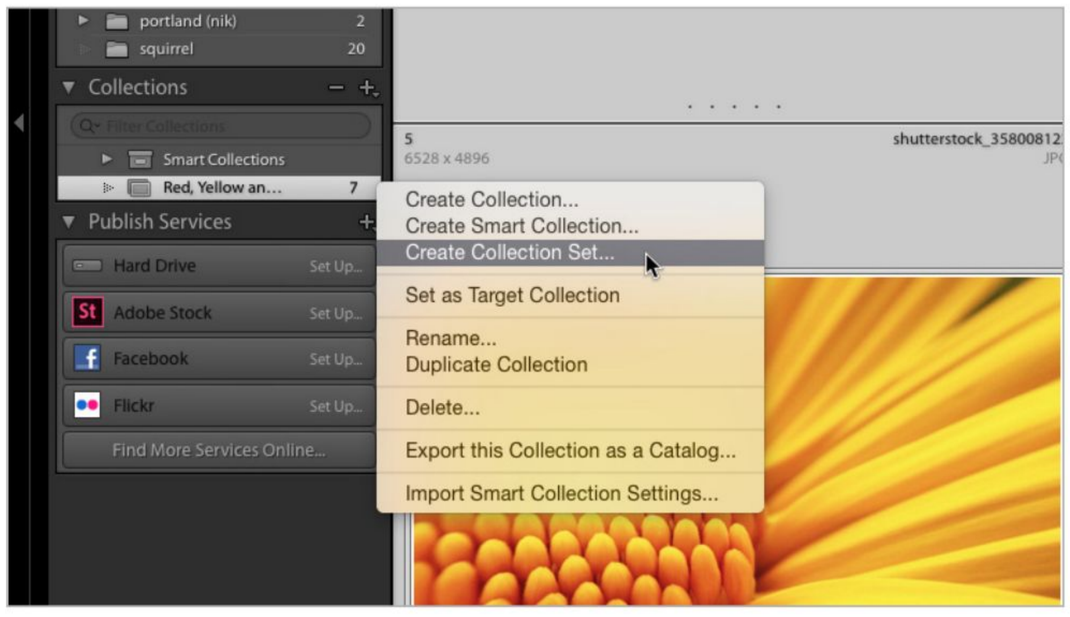
3 You can see that photos are added to the Quick Collection and marked with a small circle in the upper right corner of the thumbnail. If there are any additional photographs that you want to add to the Quick Collection, such as this shot of some tulips, you can either use the menu or simply click on the position of the circle.



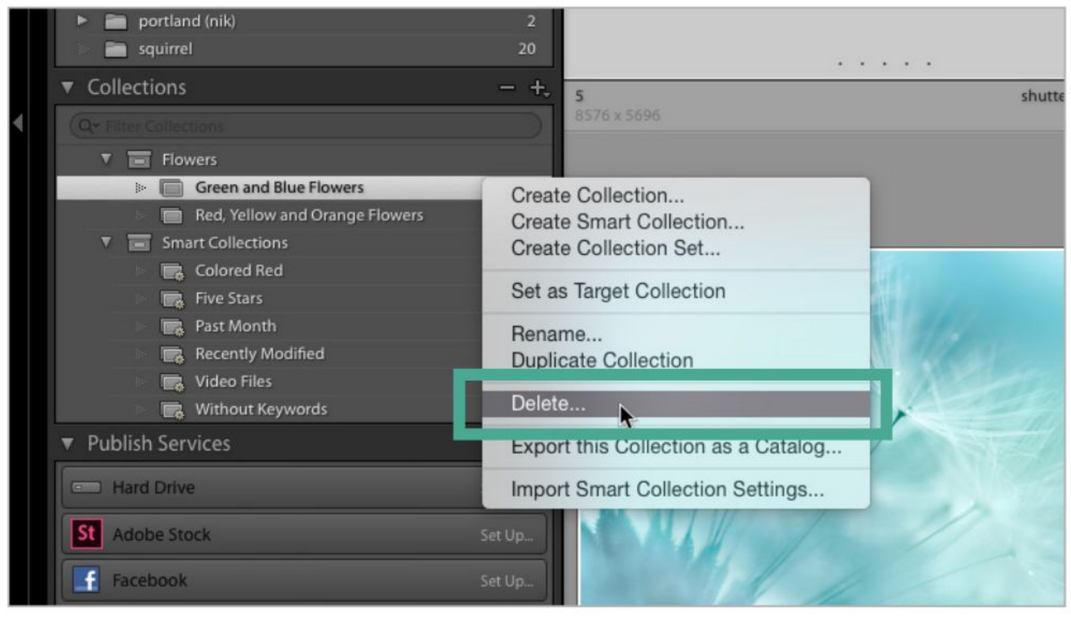
2 Go through your photos and use CTRL-click to select all the photos that you want to add to the Quick Collection, in this case all the shots of flowers that are red, orange and yellow. Once you've highlighted a few, right-click on any of the selected shots and select Add to Quick Collection from the menu that appears.



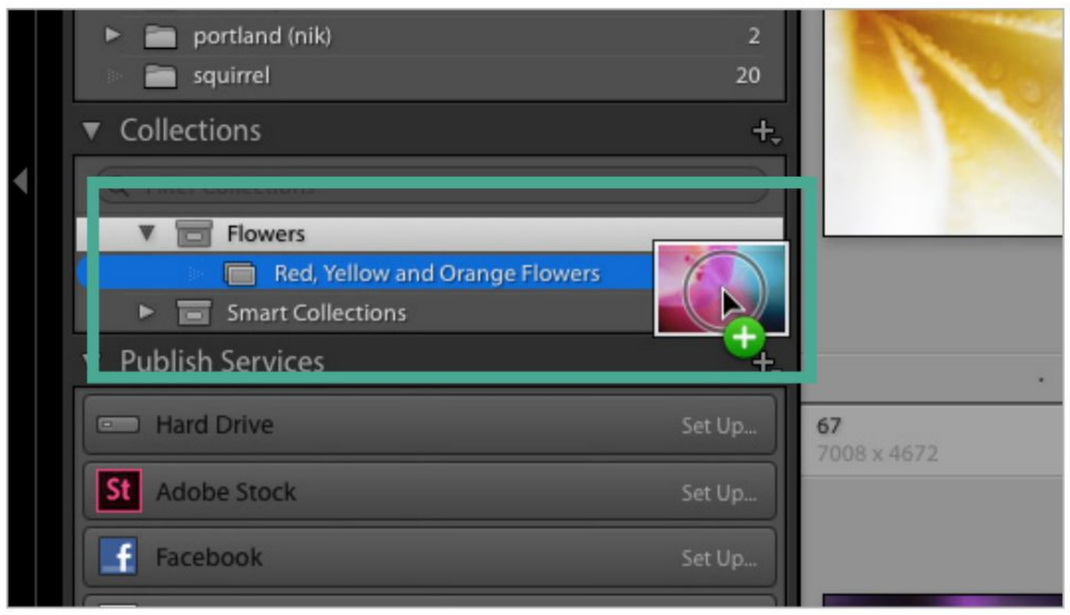
4 You can save your Quick Collection as a permanent collection by right-clicking on the Quick Collections + and selecting Save Quick Collection. Type in a name for your collection and if you want to clear the Quick Collection at the same time, check the box for that option. You'll find your new Collection in the Collections tab.



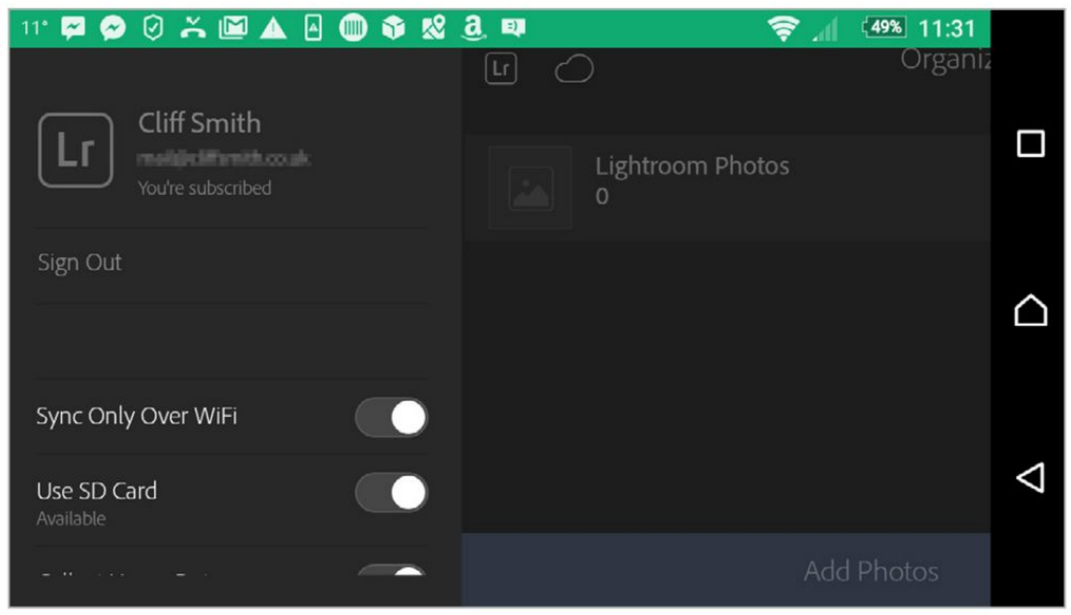
5 You can nest groups of collections inside one another by creating a Collection Set. Once you've created a set (our example here is called Flowers), you can create further sets or collections within it and move collections into the set by dragging and dropping in the Collections sidebar tab. This way you can build-up a useful collection structure.



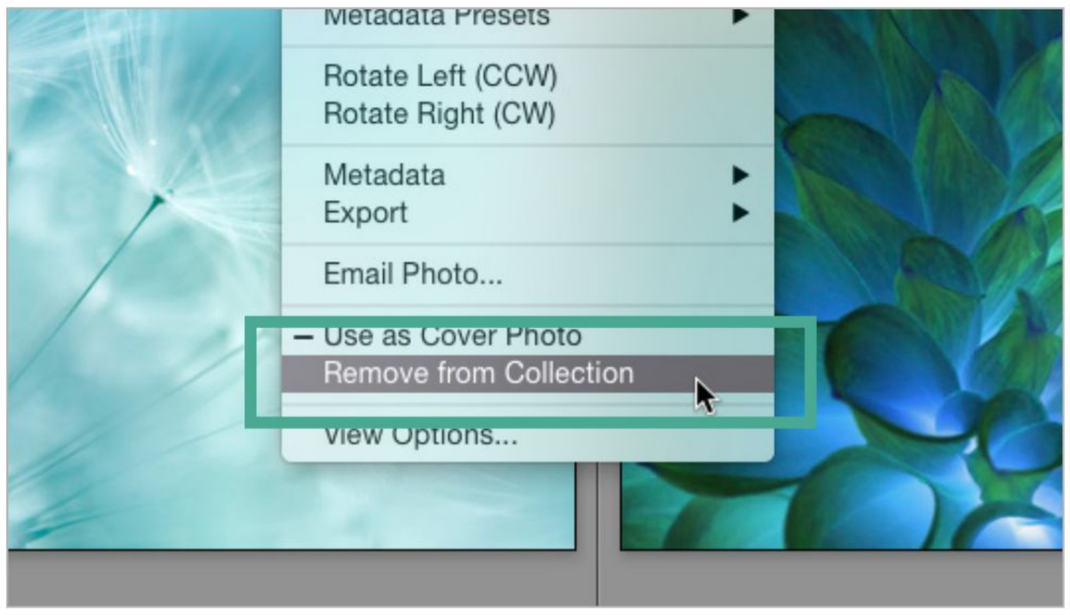
8 You can delete a collection by either right-clicking on it in the Collections tab and selecting Delete from the pop-up menu or by highlighting the collection and clicking on the minus sign button on the Collections tab title bar. Either way, doing so does not actually delete the photos from your library or hard drive, just gets rid of the collection.



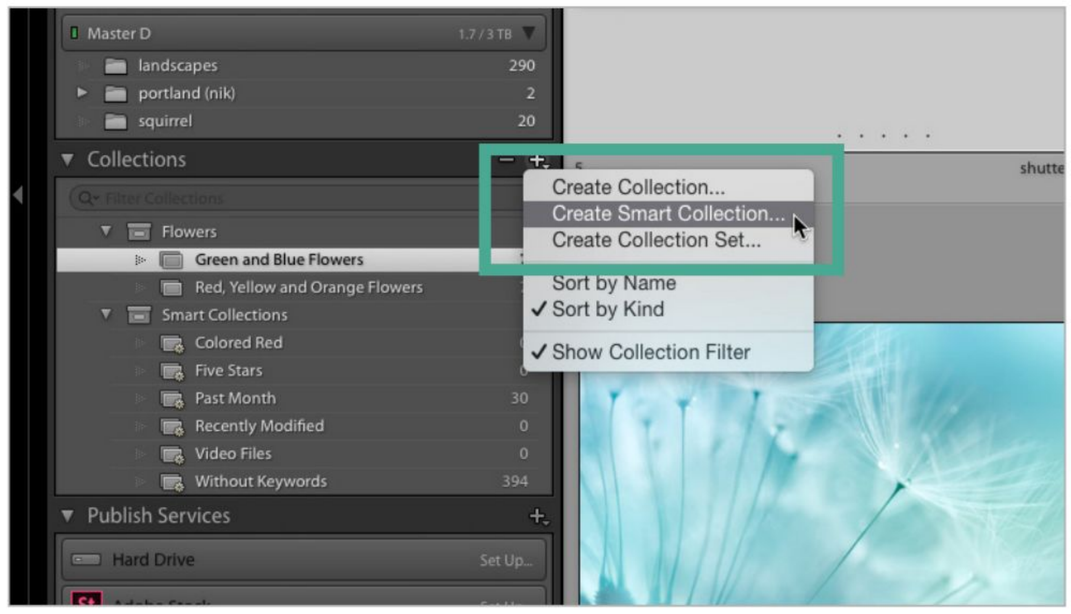
6 You can add more photos to an existing collection by dragging them from the Grid view onto the appropriate collection in the sidebar. You can select several photos at once and drag the whole stack over. Note that you have to click on the thumbnail, not on the surrounding box, and drop them over the collection name, not the folder icon.



9 You can share Collections between the Lightroom desktop application and the mobile apps for Android or iOS. If you add photos to collections on one device, they will be automatically synchronised between all your devices. We'll cover this in more detail when we look at the Lightroom Mobile app in a later chapter.



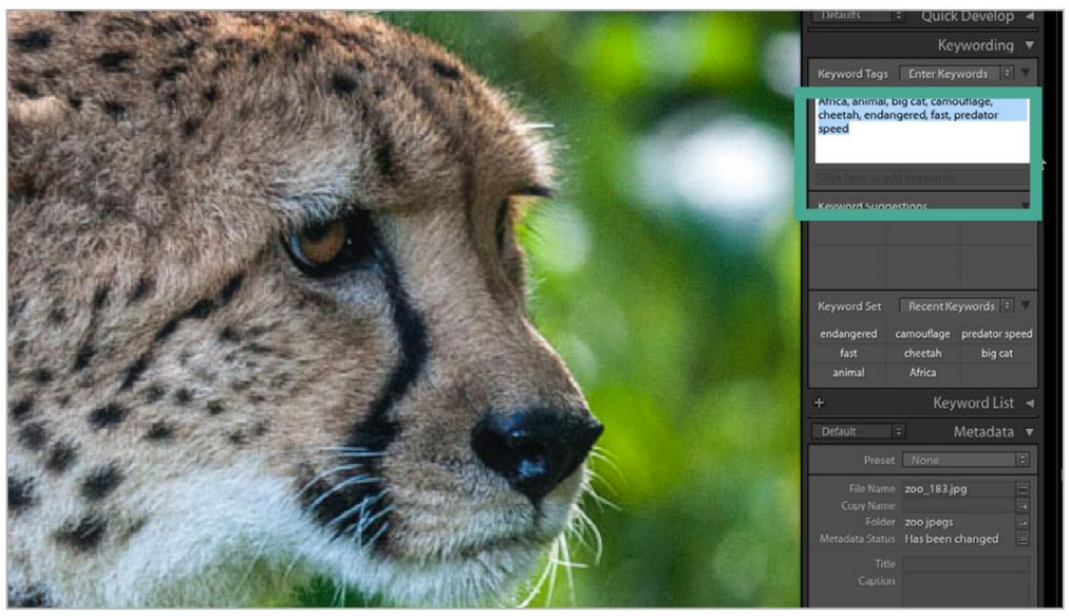
7 To remove a photo from a collection, simply right-click on the thumbnail and select Remove from Collection from the pop-up menu. Note that you can only remove a photo from within the actual Collection of which it is a part and not from any Collection Set within which it is nested. Removing a photo does not delete it from your Library.



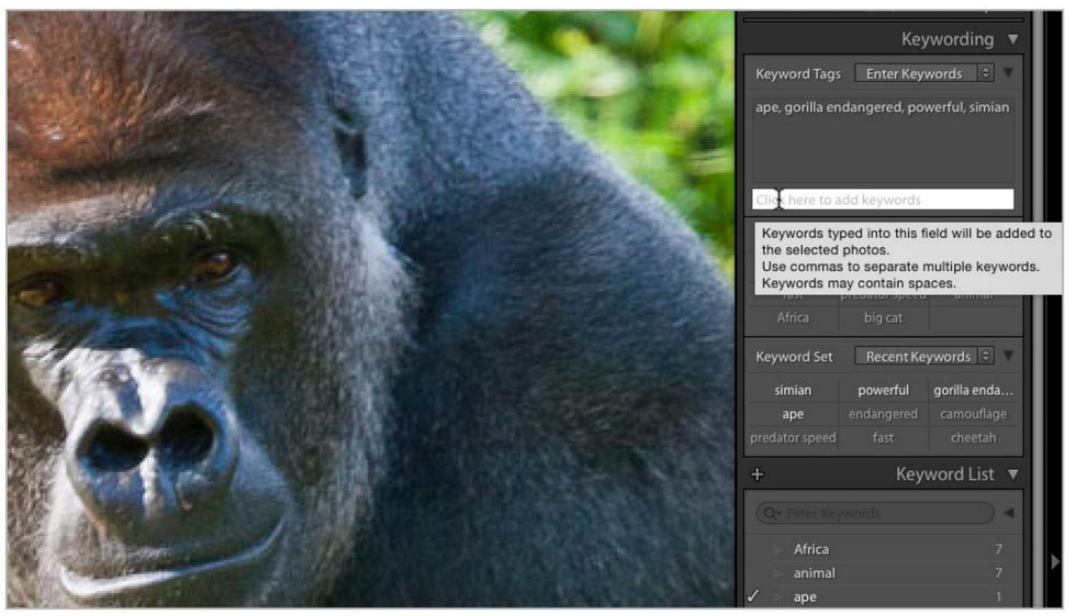
10 Lightroom can automatically build Smart Collections for you. Click on the plus sign on the Collections tab title bar and select Create Smart Collection. You can set up multiple rules for selection, such as rating, caption text, image size etc. and apply them to instantly build a collection. In all other ways a Smart Collection behaves exactly like any other.

Searching for Your Images

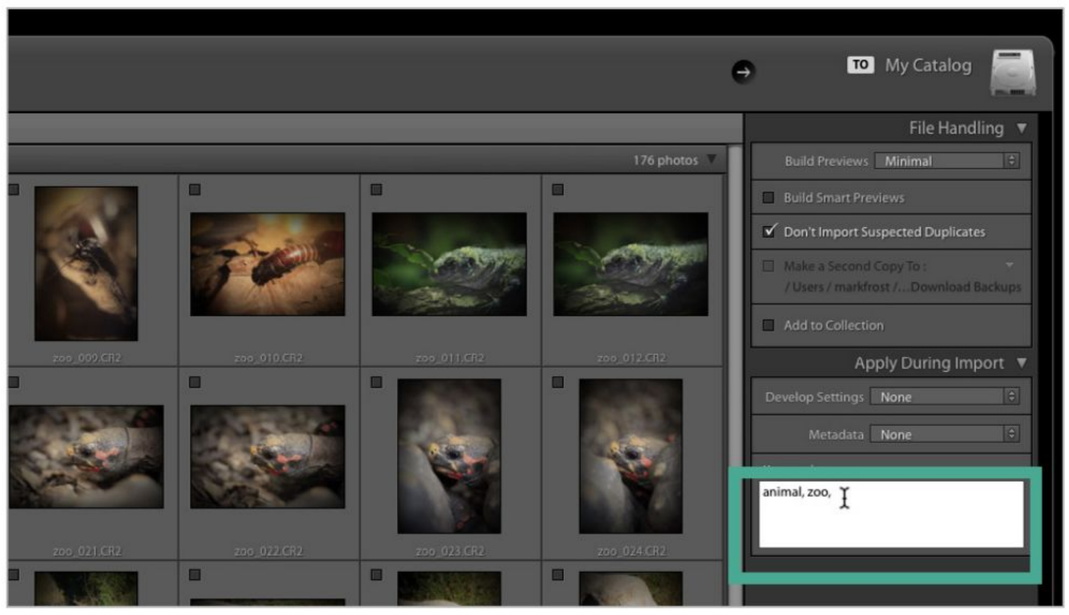
Adobe Lightroom offers many ways to search for particular images or groups of images but some of them require a little bit of setting up to get the most out of them. Once you get things organised though, you'll never lose an image again!



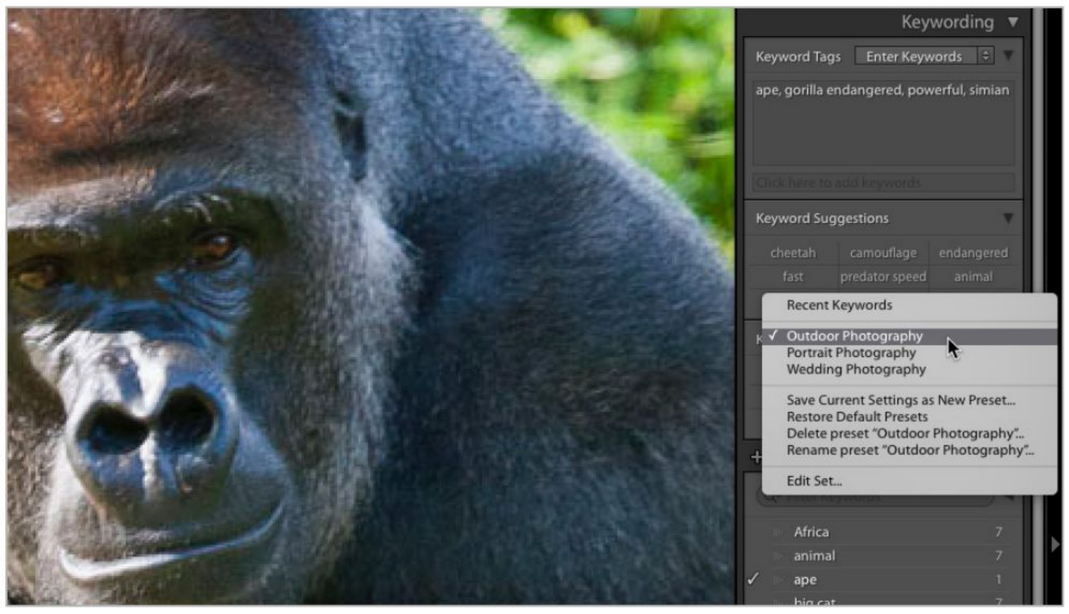
1 The best way to make your library searchable is by applying keywords to your photos. Keywording is more art than science; you should add words that describe the image but also ones that describe the circumstances. For example, this shot has the keywords: Africa, animal, big cat, camouflage, cheetah, endangered, fast, predator and speed.



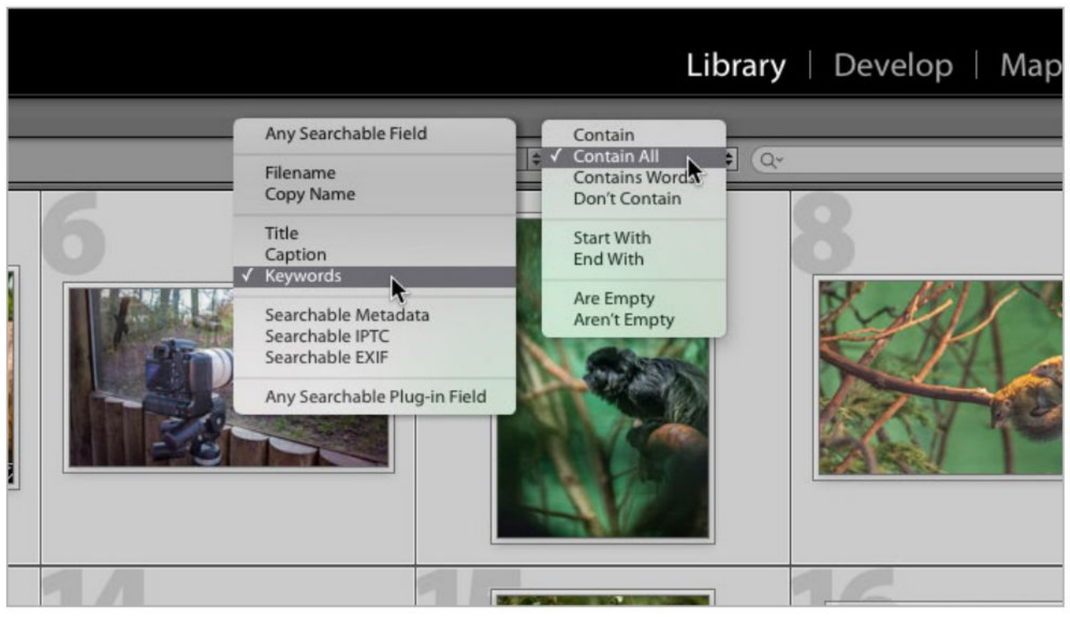
3 You can apply keywords manually to images that have already been imported. In the Library view, in the right-hand sidebar you'll find the Keywording tab. To add a keyword, you can type it into the 'Click here to add keywords' bar, or select from the Keyword Suggestions panel. Keywords are separated by commas and can contain spaces.



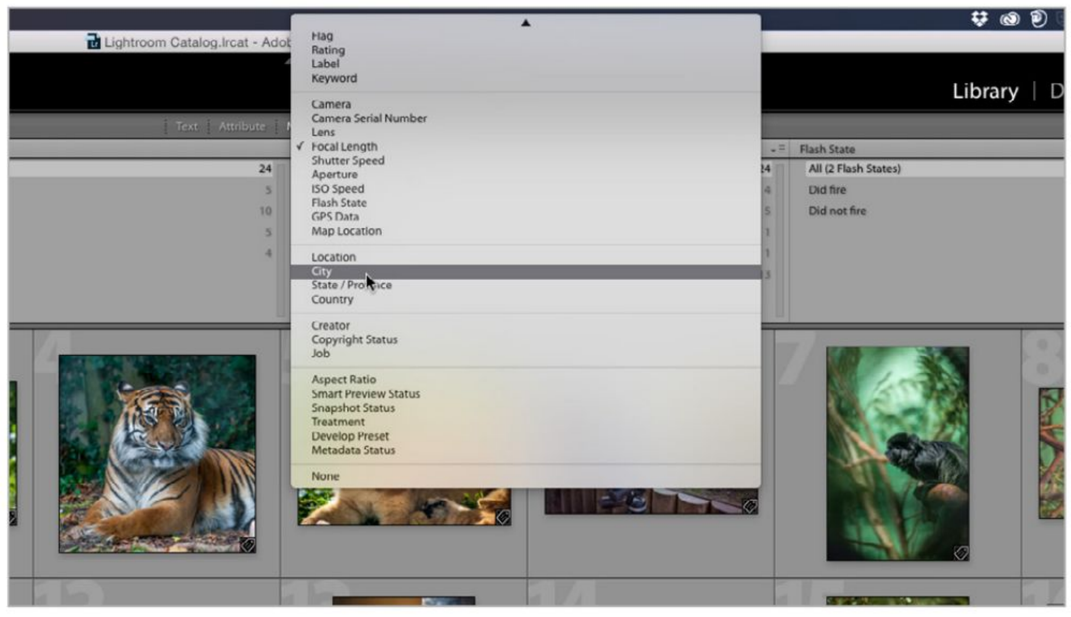
2 The quickest and easiest way to apply keywords is during the import process. When you click on the Import button, along with your images you'll see the Apply During Import option, including a panel for keywords that will be added to all the images imported in that batch. You can always apply more keywords later but these first few will help.



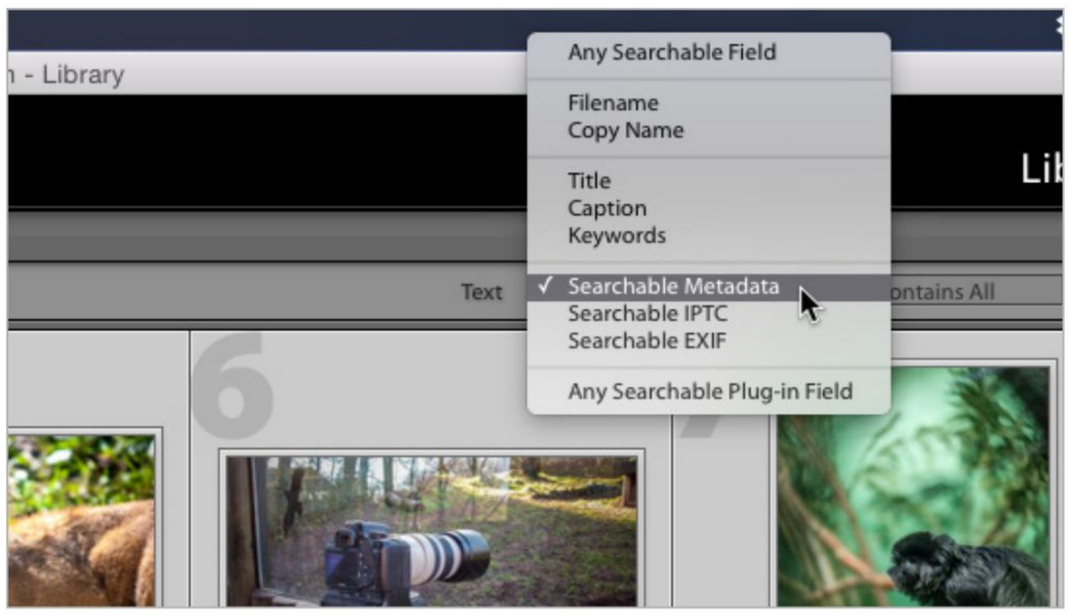
4 Lightroom includes preset Keyword Sets, including Outdoor Photography, Portrait Photography and Wedding Photography; but you can build and save your own personalised keyword sets, which is very useful if you regularly photograph similar subjects or in similar situations. You can also edit or delete preset and personal keyword sets and restore defaults.



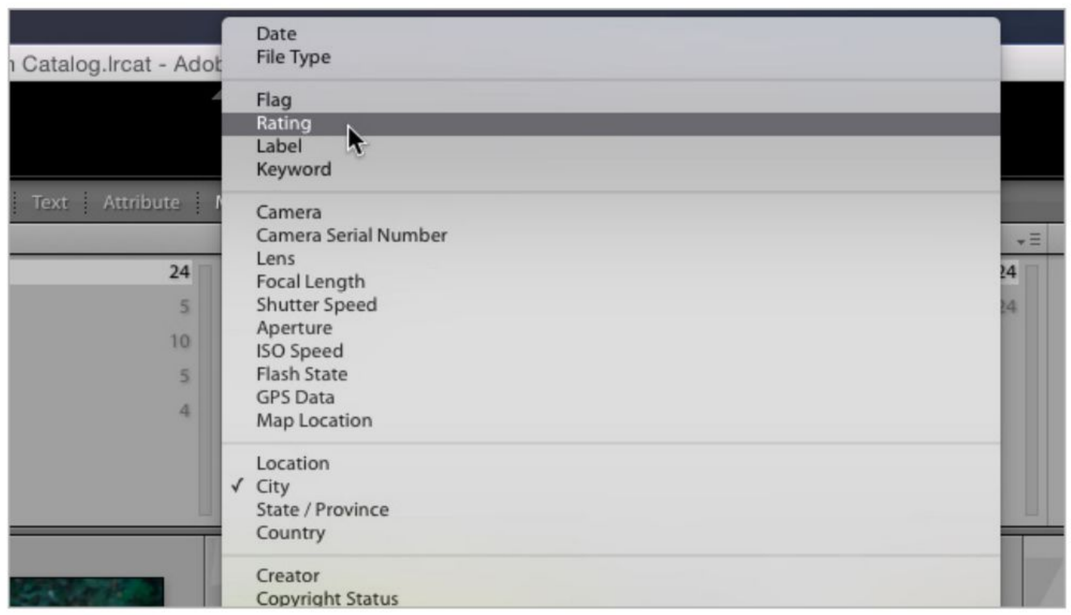
5 Once you've applied keywords to your photos, you can use those keywords to search or filter your photo library, helping you find specific images. In the Library Grid view, you'll see a selection of filters at the top of the screen. Select Text, and choose Keywords from the drop-down menu. You can also choose to filter inclusively or exclusively.



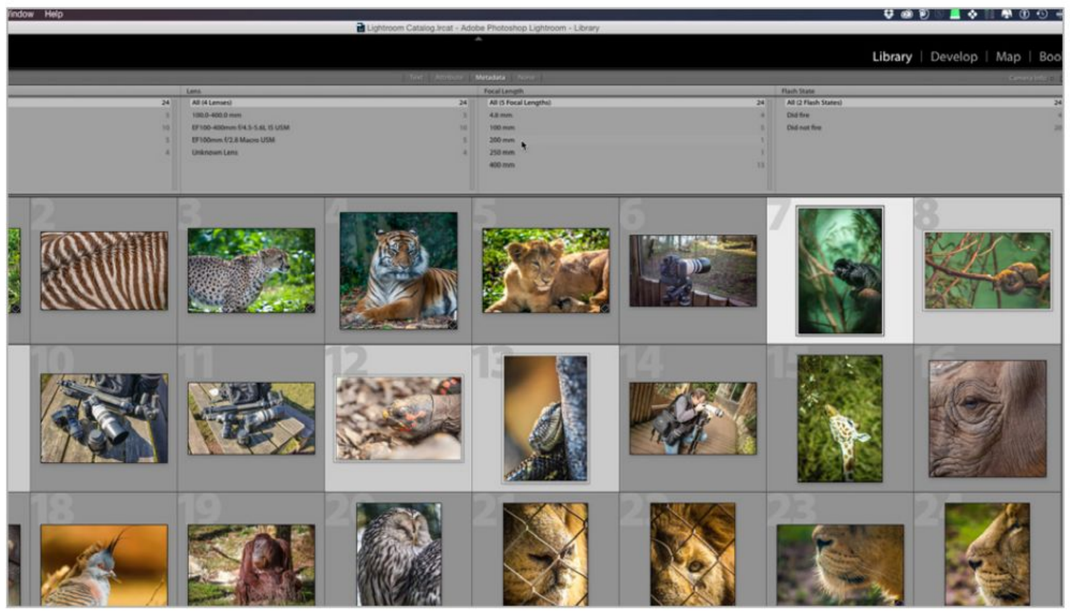
8 You can customise the metadata filters to help you search under a number of different parameters. If you regularly shoot with a GPS-enabled camera, one very handy search parameter is the location data. Click on the top bar of a search filter column and select from Location, City, State/Province or Location to see a list of the available data.



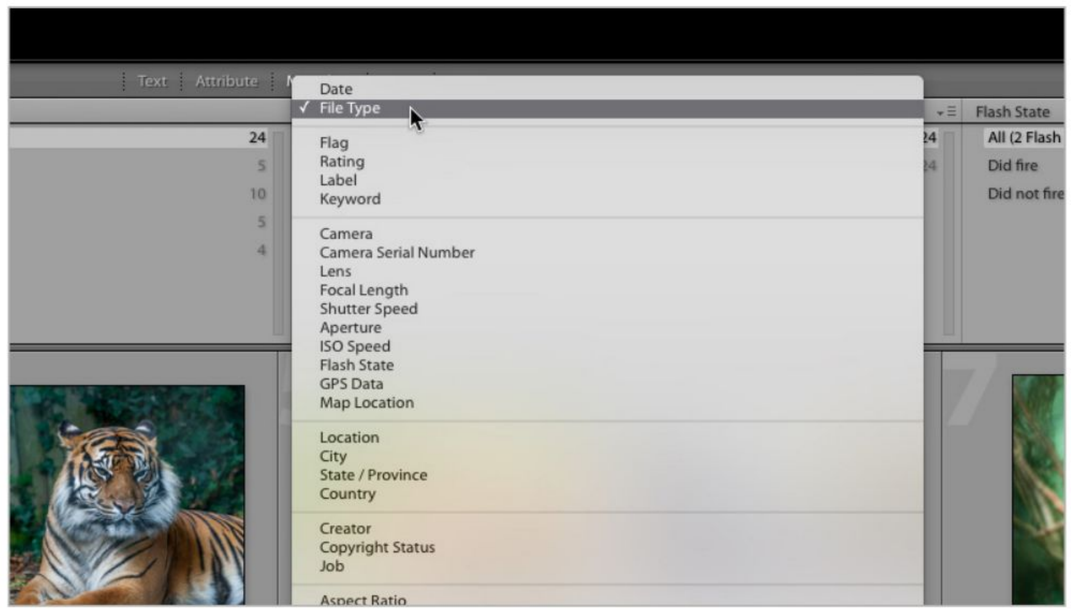
6 You can use the text search filters to find more than just keywords. You can also search for specific words in image metadata, for example a camera brand name or model type. If you shoot particular types of photo with a particular camera this can help to narrow down your search to just photos taken with that camera.



9 Another use for the metadata filter is to search for photos that you've flagged or given a particular star rating. Again, you can choose an option from the drop-down menu by clicking on the top bar of any of the metadata filter columns. The columns will show you the number of photos in your library to which each filter applies.



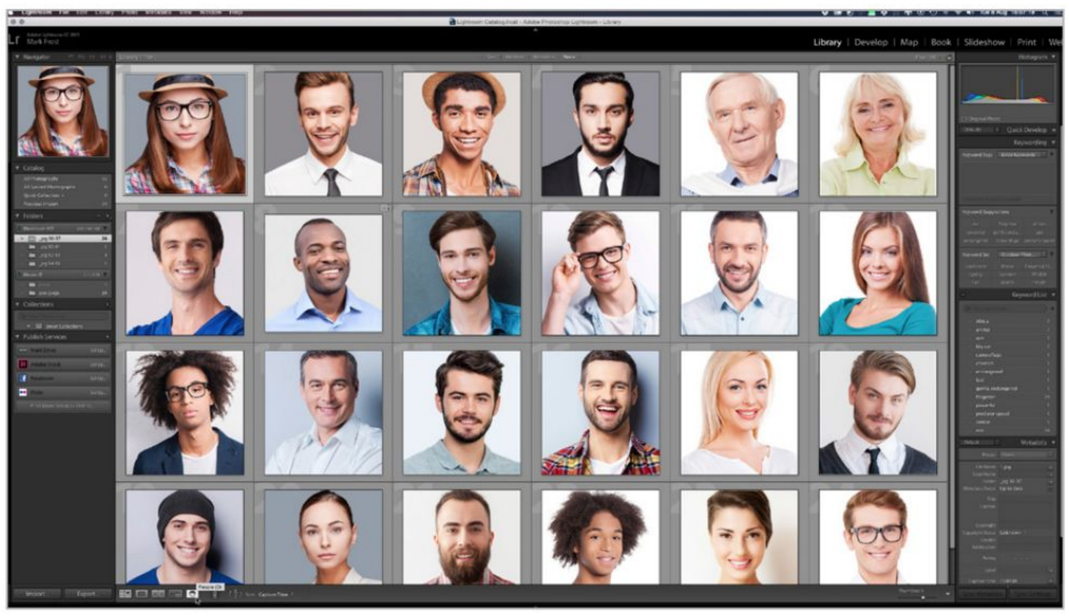
7 You looked at metadata in a previous section and you can also use metadata to filter your searches. Since the metadata of a digital photograph contains information on the time the photo was taken and the type of camera used to take it, you can quickly filter search for just photos taken with a specific camera and lens on a particular date.



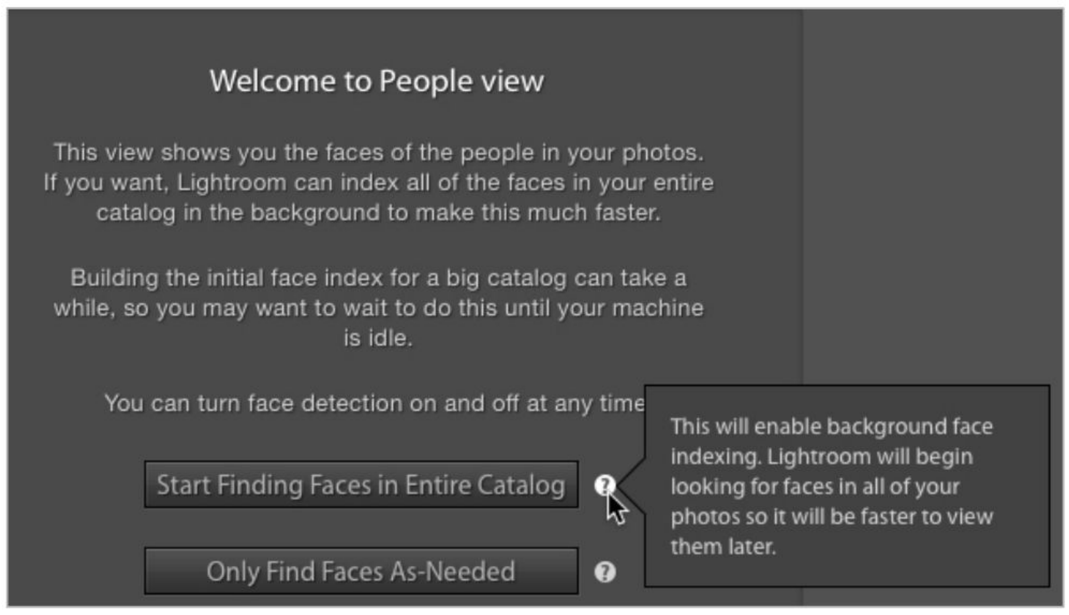
10 You can also search by file type, such as JPEG, DNG, Photoshop PSD file, TIFF, Raw files from various camera types, PNG graphics files or video files of any type. If, as we've suggested, you always shoot in Raw mode this might not be too helpful but if you have a lot of mixed media in your collection it can help to locate specific types of file.

Using Face Recognition

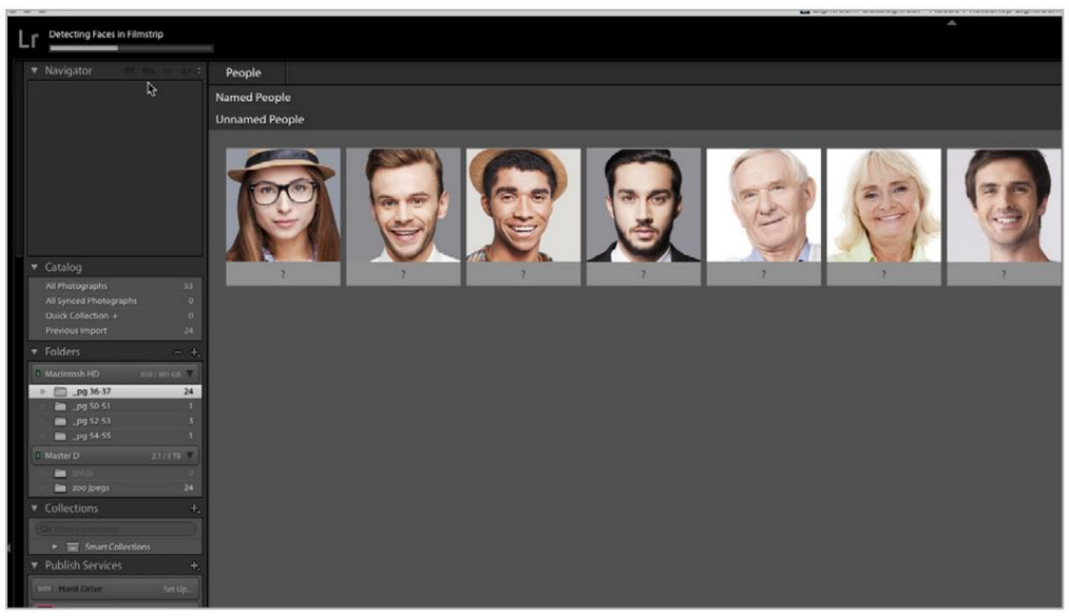
Lightroom incorporates advanced facial recognition technology to help put names to the faces in your photos. It's remarkably effective at recognising the same face, even under unusual conditions, but it does need a bit of help.



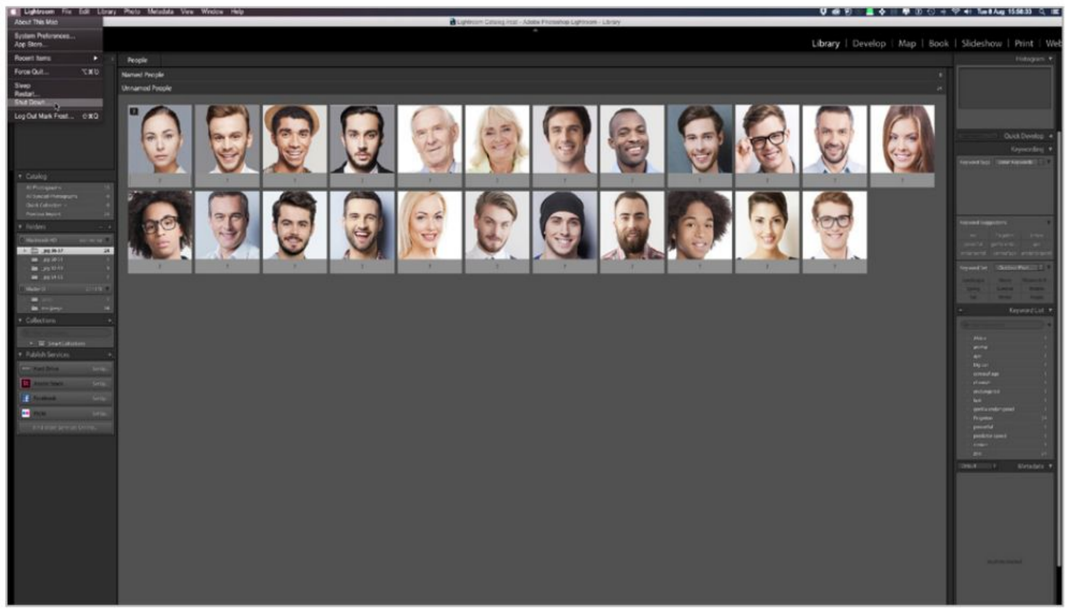
1 To get started with the facial recognition system, go to the Library Grid view. On the bar at the bottom of the view window you'll see the row of viewing option buttons that we discussed earlier, and next to them a button with a face on it. This is the People button; click on it or alternatively use the hotkey shortcut O.



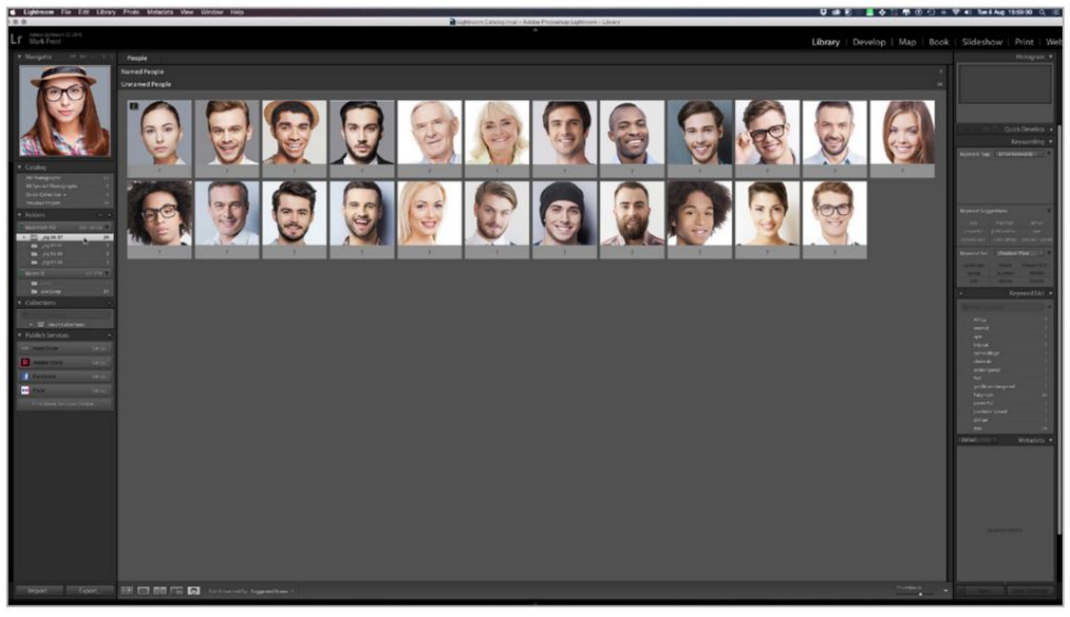
2 If this is your first time using the facial recognition system, you'll see an introduction screen with two options. You can choose either to fun face recognition on your entire catalogue of images or to just use it as needed. The first option will produce more useful results in the long run but the second is more convenient for a single image.



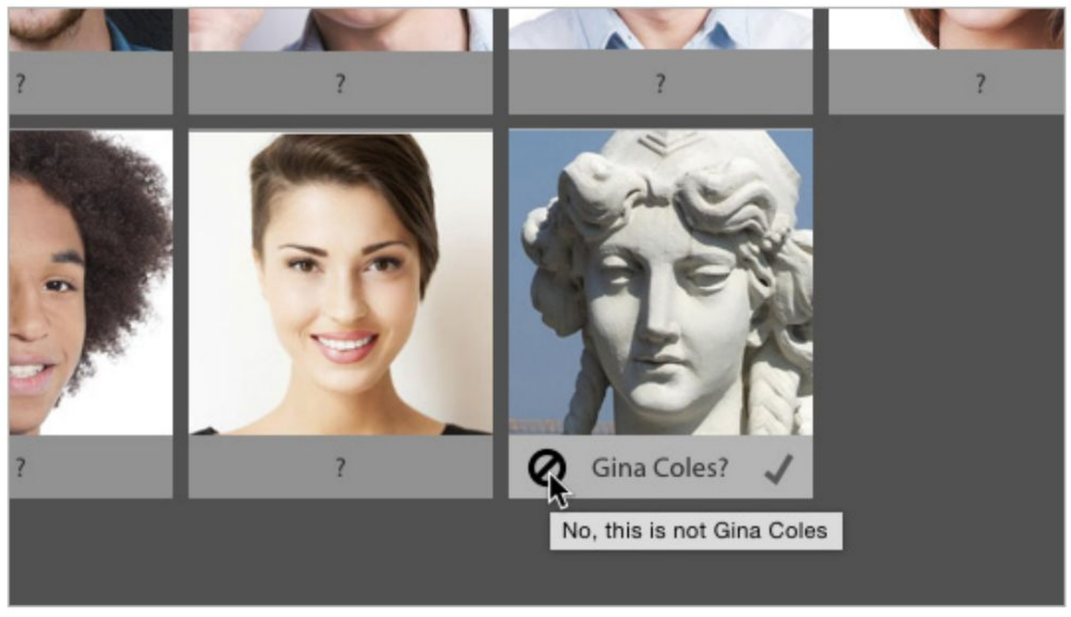
3 Click on the 'Start finding faces...' button and the program will start going through your image library looking for faces. If you have a collection of thousands of images with many of them containing people, this process may take a long time. For example, a collection of more than 50,000 images could take around 24 hours.



4 If you are able to leave your PC switched on overnight, you can leave the search running and it should be complete by the morning. If not, don't worry. You can close the program and switch off your PC safely. The search will resume the next time you start Lightroom and will carry on running in the background.



5 By default, the system will start searching through and indexing your entire picture library but you can set it to just look in one particular folder. While the search is running, go to the Folders tab and select the folder that you want to search. The system will immediately begin indexing that folder and any sub-folders that it contains.

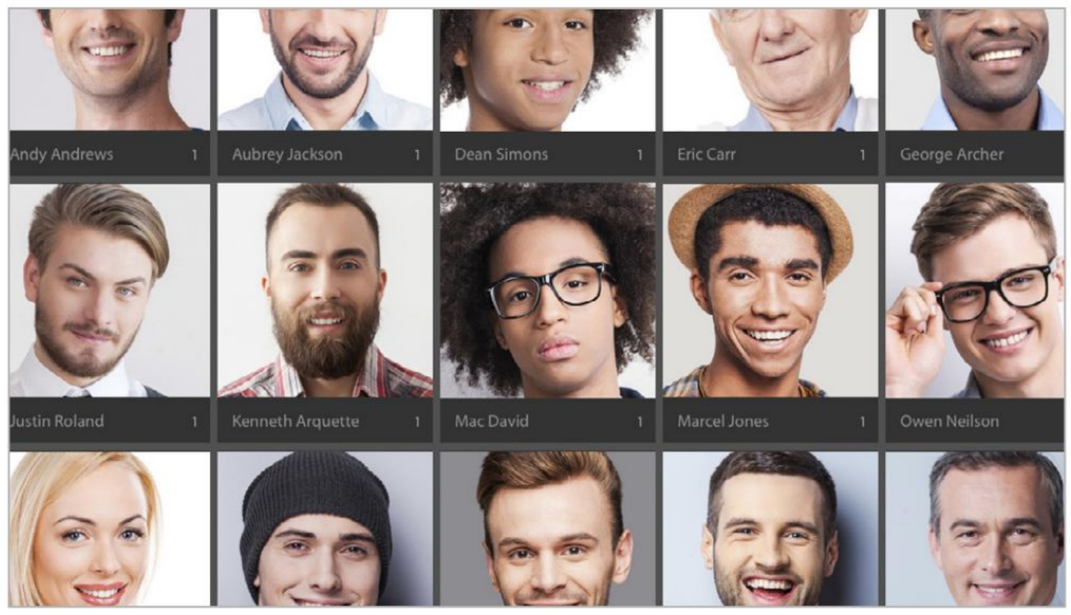


8 Similarly, if the system makes an incorrect identification, click on the button on the right below the thumbnail to let it know that this is not the person it thought it had recognised. The suggested name will revert to a question mark, so if it is someone you recognise you can click on that and enter the correct name instead.

6 As the system starts finding faces, you can start adding names to them. At first, obviously, it won't recognise anyone and the faces will just have question marks under them. Click on the question mark to add a name to the face and the system will then start suggesting similar faces to the ones that you've identified.

9 Although the face recognition algorithm is extremely good, it's really only identifying patterns of pixels that look like a face, so it will sometimes make mistakes. Statues, posters and cats (although not dogs, strangely) will confuse it, as will other face-like shapes. You can remove these by clicking again on the right-hand button.

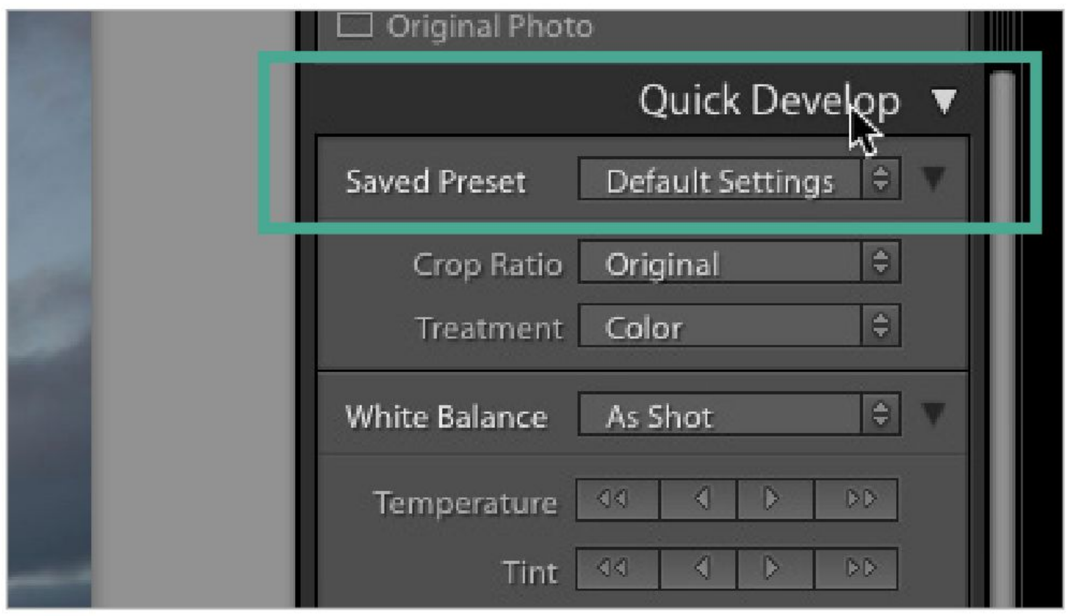
7 Once you've added a few names and the system starts making identifications, you can confirm the correct ones by clicking on the Tick button under the thumbnail. The more correct identifications that you confirm, the more accurate the face detection algorithm will become. You'll be surprised by just how accurate it can be.



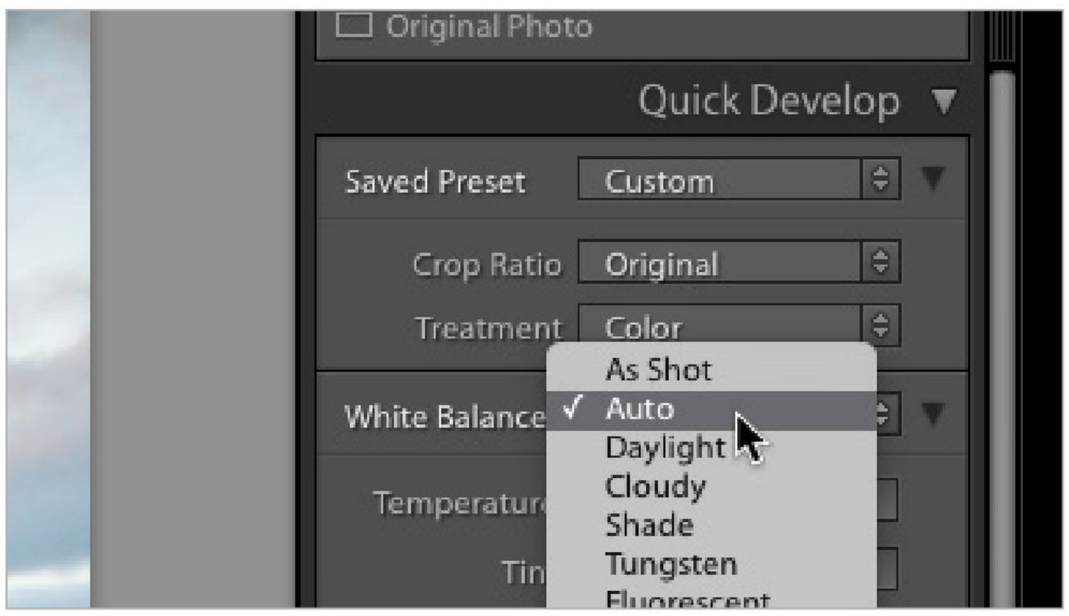
10 You'll be amazed at how successful the face recognition can be. It can easily recognise photos of people taken thirty years apart and has no problem with sunglasses, fancy dress costumes and people pulling silly faces. The mistakes can be quite amusing too, a depiction of Satan on a poster mistaken for a former boss, for example!

Fix Photos with Quick Develop

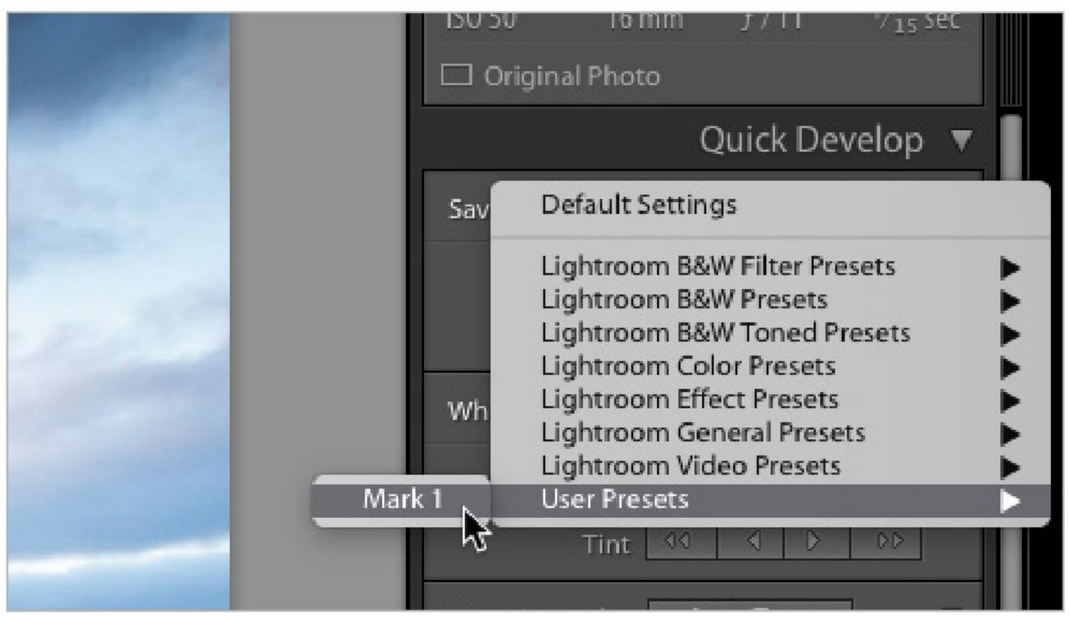
Lightroom offers two ways to get the best out of your images. We'll take a closer look at the power of the Develop module in the next section but the Library module Quick Develop tab features a range of tools that can apply quick fixes to improve your photos.



1 You can find the Quick Develop tab in the right-hand sidebar of the Library module. To get the best use out of it, it's a good idea to make sure you have the Histogram tab open at the same time, to help get the exposure right, and use the Loupe view in zoomed-out mode so you can see the whole picture much more clearly.

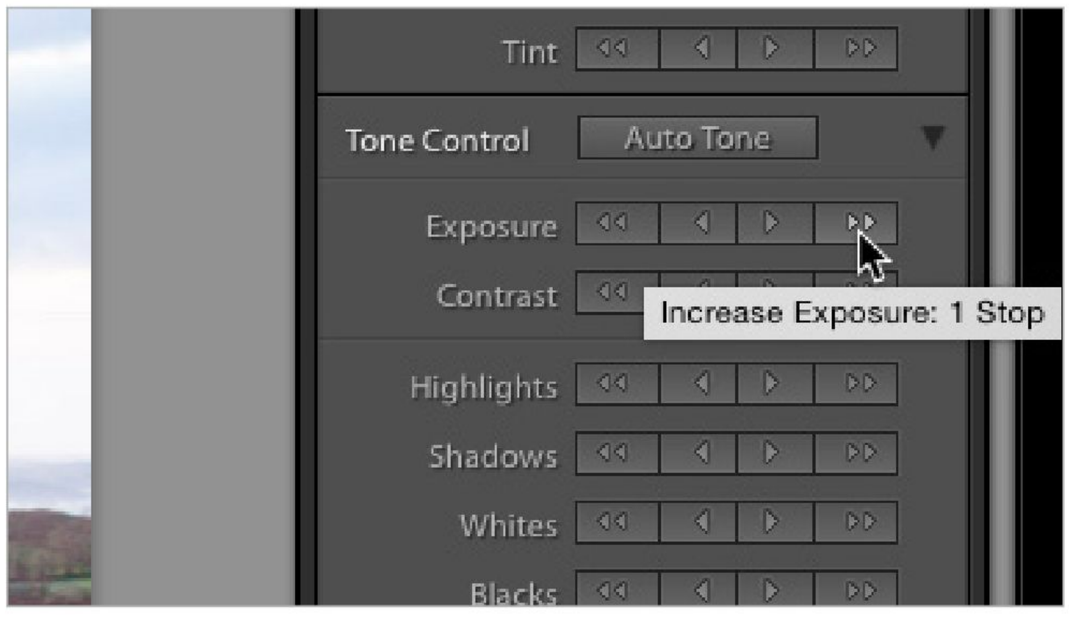


3 The next feature is the white balance control. This lets you change the white balance from the setting used on the camera when you took the photo. It works best if you're editing a Raw file, since it can correct the white balance without losing quality. If you're not sure what the correct white balance should be, use the Auto option.



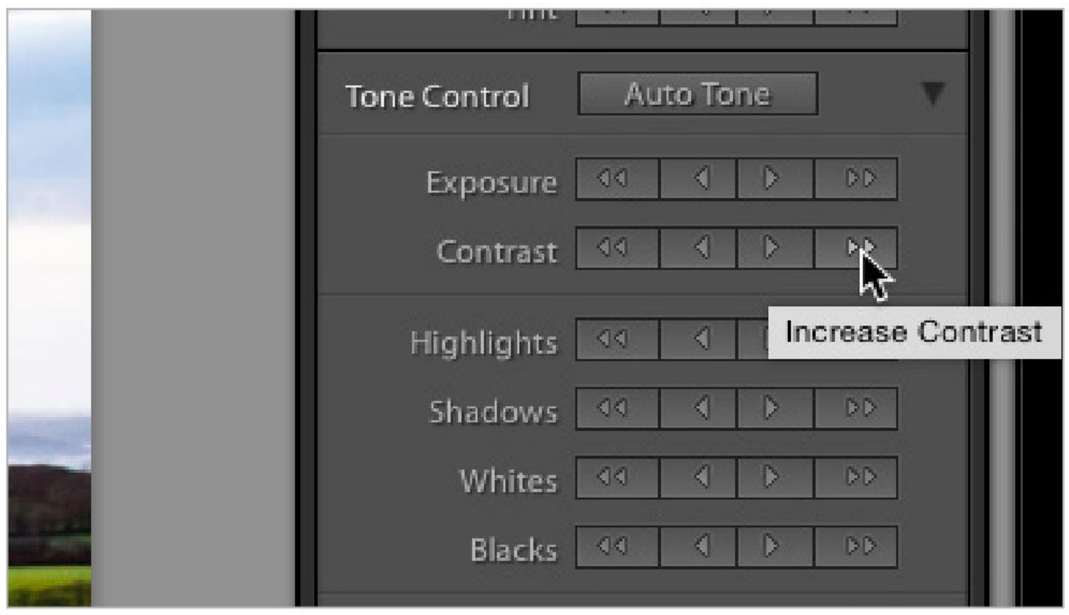
2 At the top of the Quick Develop panel you'll see a drop-down menu offering a wide range of preset developing settings. These are great for experimenting with different looks and styles and include a range of monochrome filter and toning effects, various colour processing styles, sharpening, contrast enhancement and more. There are also video effects available.

4 The Auto Tone button is something of a last-resort option. It will attempt to optimise the exposure, contrast and tone settings to produce a good result but it will only ever be an average approximation. All photos vary in their requirements, so it's best to avoid it and adjust tone and exposure manually, keeping an eye on the histogram.

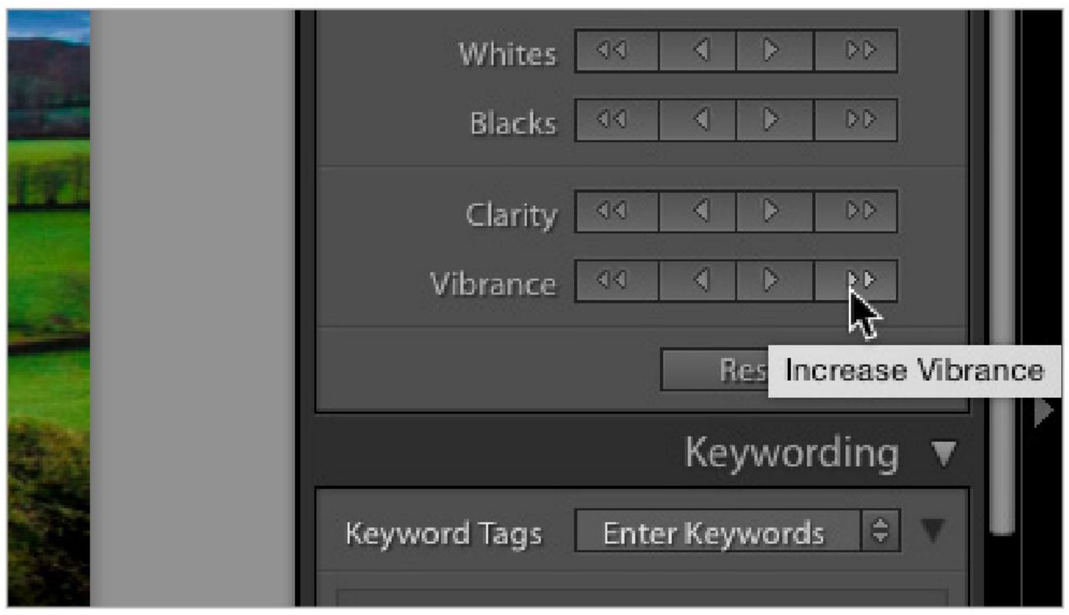


5 The Exposure adjustment control has four buttons. The ones with the single chevron adjust the exposure up or down by one third of a stop, while the buttons with two chevrons adjust it by a full stop. Unless your image is dramatically under or over-exposed it's best to use the 1/3rd-stop buttons, keeping an eye on the histogram and the Loupe view.

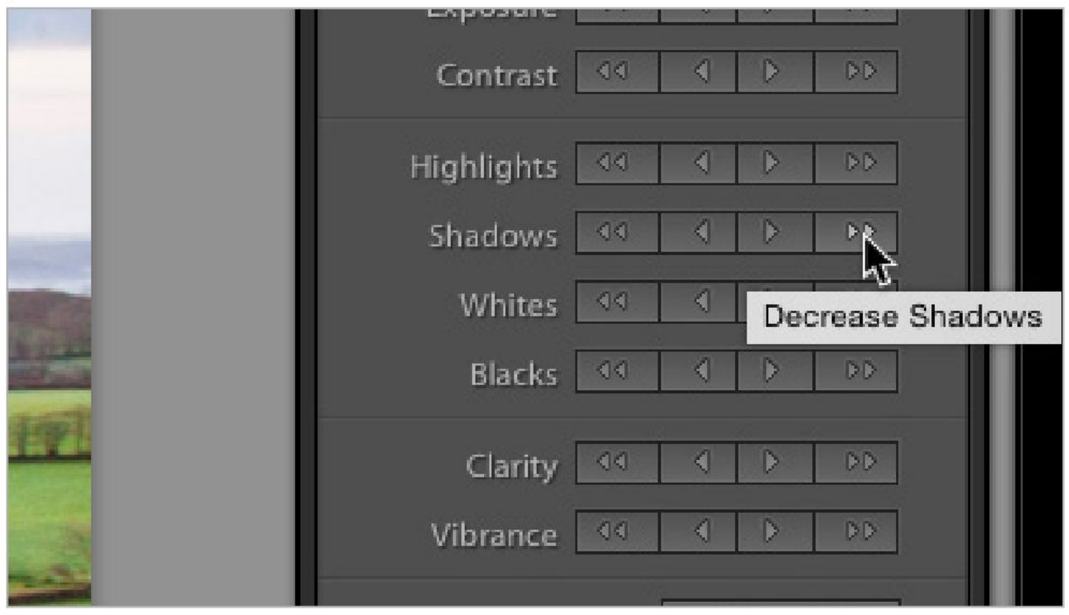
8 The Whites and Blacks adjustments are basically more extreme variations on the Highlights and Shadows adjustments. They are used to correct excessive clipping in deep shadows and bright highlights and take advantage of the expanded dynamic range available in Raw file images, as we discussed on page 15. Use in conjunction with the histogram for best results.



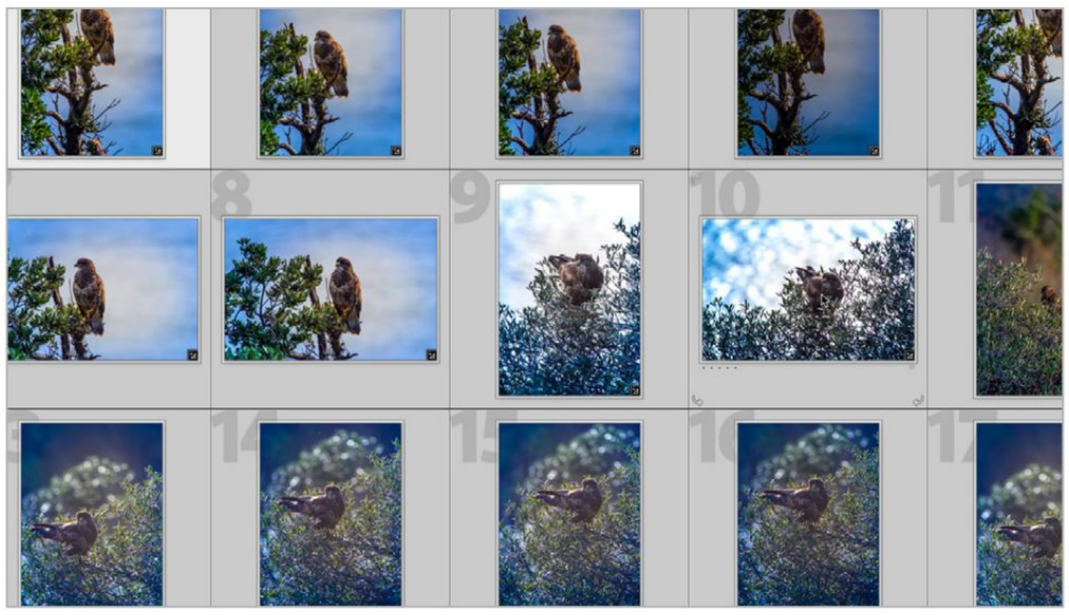
6 Contrast is a harder thing to quantify than exposure but generally it makes the light tones lighter and the dark tones darker. Again, the singe chevron buttons make a slight adjustment, while the double chevron buttons make a larger adjustment. Most correctly exposed images won't need much adjustment, so use it sparingly for best effect.



9 Clarity and Vibrance have replaced the old Saturation adjustment and offer much more precise control over tone. Basically, Clarity improves the contrast in the mid-tones of the image by sharpening the edge detail, while Vibrance increases the saturation of only the least saturated colours, so you can improve overall saturation without blowing out bright colours.



7 The Highlights and Shadows adjustments affect the higher and lower ends of the histogram respectively. They are used to improve detail in shadow and highlight areas and are particularly useful in difficult lighting conditions, such as heavily backlit scenes, where they can brighten up shadowed faces. They are best used in combination to avoid unbalancing the shot.



10 One advantage of using the Library module quick develop is that you can adjust a whole batch of photos at once. Simply select all the photos that you want to adjust and whatever adjustments are needed will be applied to all of them. This is particularly useful if you discover that you've used the wrong white balance setting on a whole shoot!

Monochrome Shots

Often, converting a colour photo to black and white can degrade the quality or lose some of the definition of the object being photographed. However, Lightroom has some excellent presets and tools available to help create the perfect monochrome portrait.

Portrait shots can look great in black and white and this simple fashion shot especially benefits from an application of the cyanotype processing preset. You can find it in the left sidebar of the Develop module, under Lightroom B&W Toned Presets. We've added a slight boost to the contrast, as well as the toning preset and -25 points of post-crop vignetting to slightly darken the edges and corners. The result is a nice atmospheric portrait.

IMPROVE YOUR IMAGE: THE DEVELOP MODULE

Improve Your Image: The Develop Module

You've familiarised yourself with the organisational abilities of the Library module, so now it's time to get down to what Adobe Lightroom is really all about: using the powerful tools in the Develop module to enhance and improve your photos. From basic corrections like white balance and lens distortion, to sophisticated tone and filter effects, we'll show you how to get the best results from this amazing program.

Introducing the Develop Module

The Develop module is where the tools that let you fully realise the potential of your photographs lie. Enhancing and improving them, removing blemishes, noise and distortion and applying a range of impressive effects and filters.

Like the Library module, the Develop module window is divided into three main areas, the left sidebar, the main viewing area and the right sidebar. The filmstrip view is also available at the bottom of the screen. The filmstrip and both sidebars can be permanently in view or set to auto-hide by clicking on the arrow symbols on the edge of the screen.

The left sidebar holds the Navigator thumbnail, a list of available Presets, the Snapshot and History views and the Collections. The right-hand sidebar holds all the actual editing and enhancement tools, as well as the Histogram.

1 Navigator

This shows you a view of the whole image, useful if you zoom in when using the spot correction tool and need to navigate around the frame.

2 Presets

This list shows the preset adjustments that can be applied with just one click. Lightroom comes with dozens built-in and you can add and edit your own user presets.

3 Snapshots

If you're experimenting and making adjustments to an image as you go, you can save a snapshot of your progress at any point. It's like a save point in a video game; you can go back to that point by clicking on the snapshot in the list.

4 History

This shows each alteration that you've made to your image in chronological order. If you decide that you don't like the last few changes that you made, you can revert to an earlier point by clicking the step in the history list.

5 Collections

We covered these in the Library module section. You can also access your collections from the Develop module by opening up this tab.

6 Copy and Paste

Rather than copying the active image, as you might expect, the Copy button copies certain adjustments that you've made to the image. You can open another image and instantly apply the same corrections by clicking the Paste button. You can choose which parameters are copied.

7 View Window

As with the Library module, there are a number of viewing options available, including split-screen and the before-and-after view.

8 Histogram

Another that's the same as in the Library view, the histogram shows you a graph of the number of pixels of a given tone in three colour channels, vital for setting the best optimum exposure.

9 Crop, Repair and Filter Tools

Here's where you'll find the crop tool, spot and Red Eye removal, graduated and radial filters and the Adjustment Brush, all vital editing tools.

10 Developing and Adjustment Tools

In each of these panels you'll find more tools to improve your images, such as lens distortion correction, noise reduction, grain and filter effects and more.

11 Previous and Reset Buttons

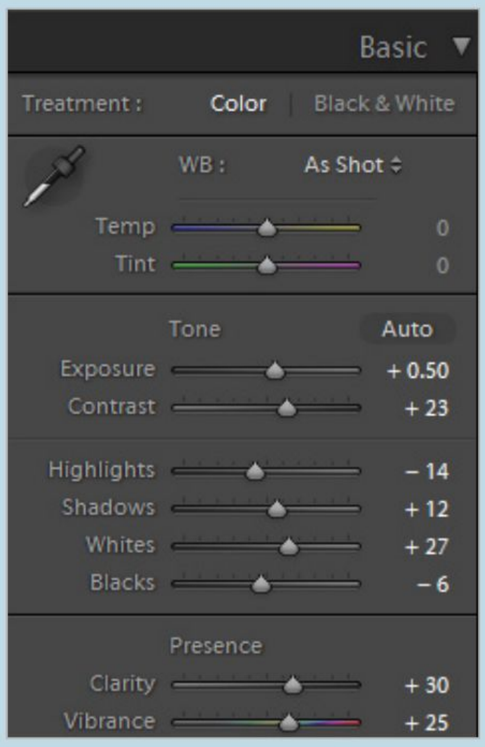
As the names imply, the Previous button takes you back one editing step, while the Reset button removes all effects and restores the image to its original state. Since Lightroom edits non-destructively this involves no loss of original image quality.

12 Done Button

The Done button applies any adjustments you've made in Lightroom. Clicking it will close the current adjustment window and make the alterations to the image. If you clicked it too soon, you need to start again and re-apply any adjustments.

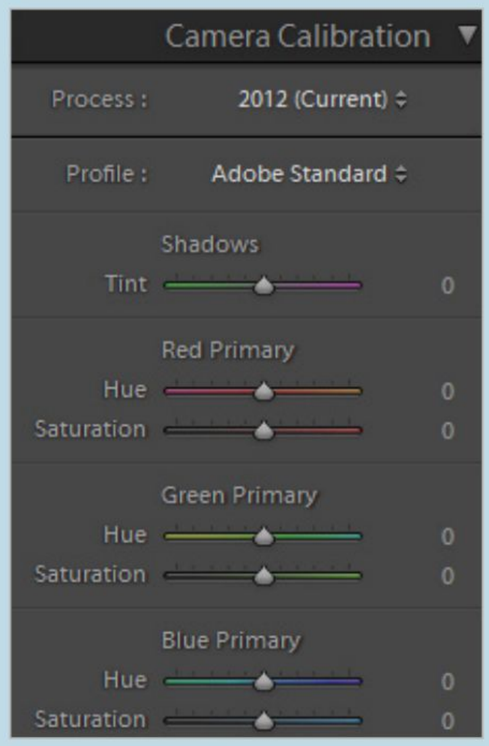
The Adjustment Panel

The Adjustment Panel offers a range of tools tailored to the Module you're currently on, in this case the Develop Module. Here you can find a wealth of features to help tweak your photo to perfection.



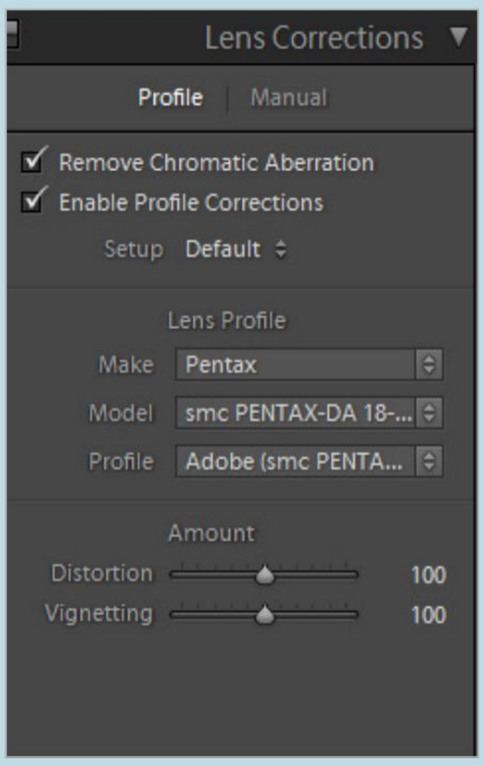
Basic

The Basic panel holds the essential adjustments for white balance, exposure, contrast and tone, as well as clarity, vibrancy and saturation. This is probably where you'll spend most of your time when using the Develop module.



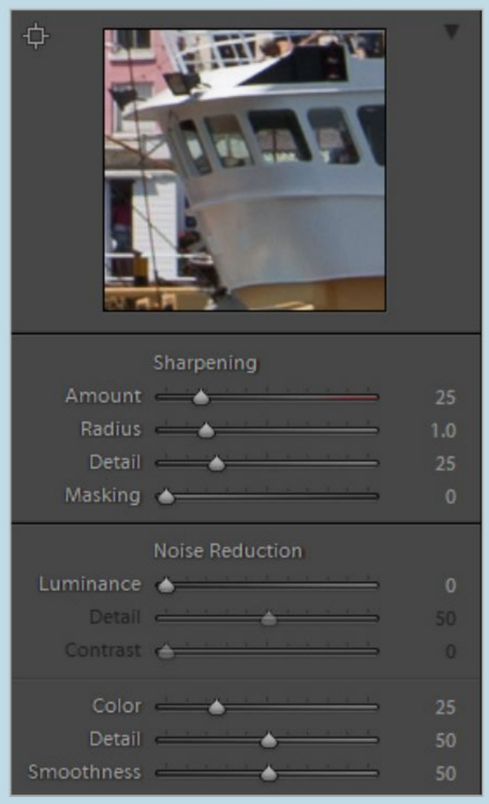
Camera Calibration

Some cameras have unique colour balance profiles that are embedded in the metadata along with the image file. You can use this to ensure absolutely accurate colour reproduction in your photo.



Lens Corrections

Lightroom can automatically apply preset corrections that compensate for known distortions in many popular lenses from most manufacturers. You can also choose to make manual adjustments yourself.

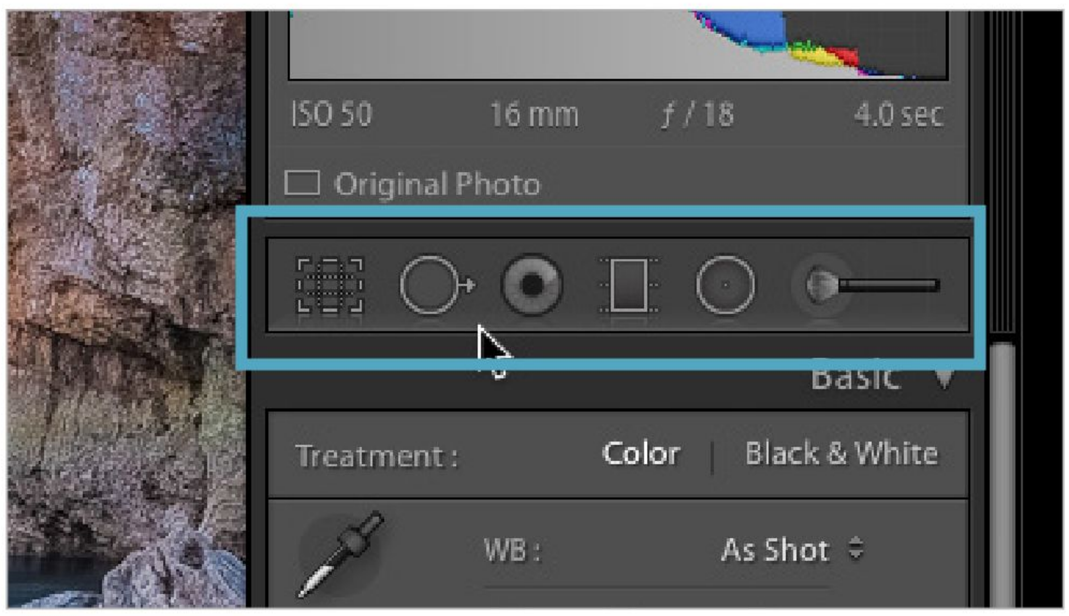


Detail

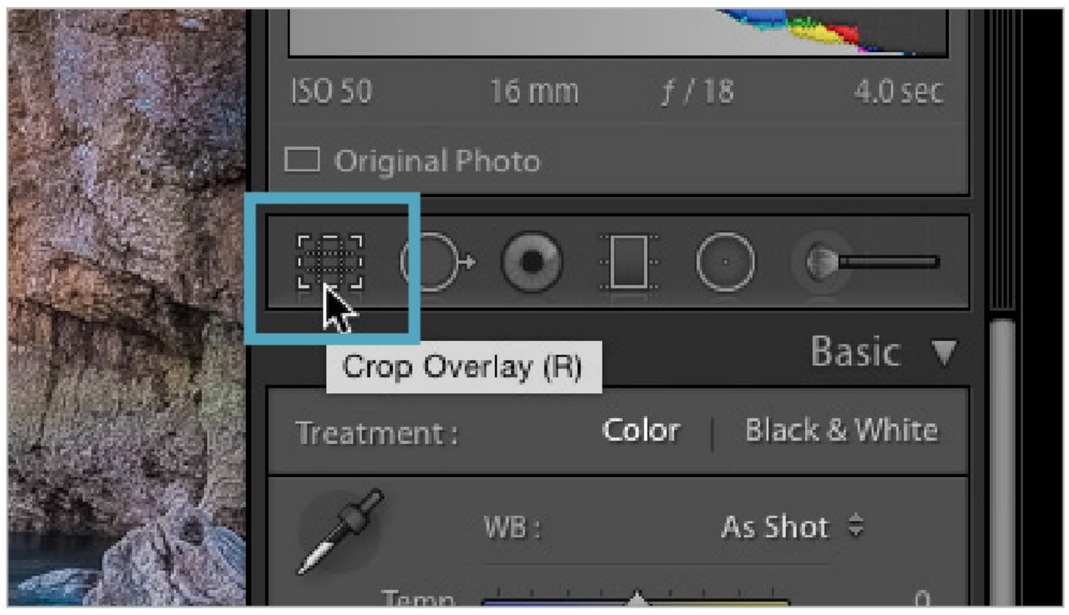
The Detail panel is where you can find the controls for adjusting sharpening and noise reduction. It includes a small preview window for judging the effects of your image adjustments.

Exploring Photo Editing Tools

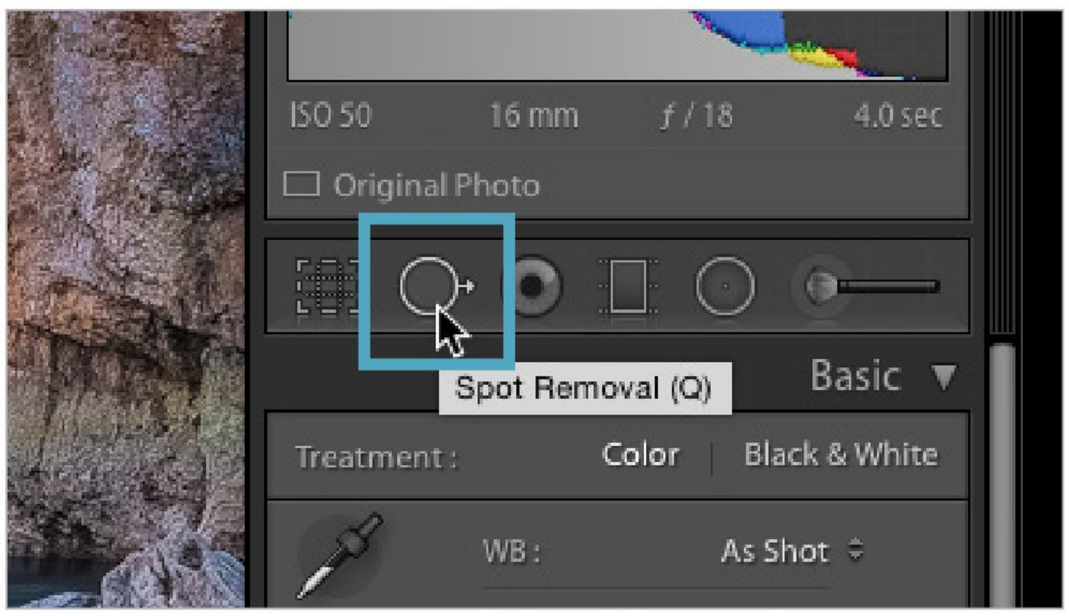
Lightroom offers a range of tools for cropping and rotating your images, removing spots and blemishes, correcting Red Eye, adding graduated, radial filters and more. Whilst it lacks the range of Photoshop's editing tools, there's still plenty on offer.



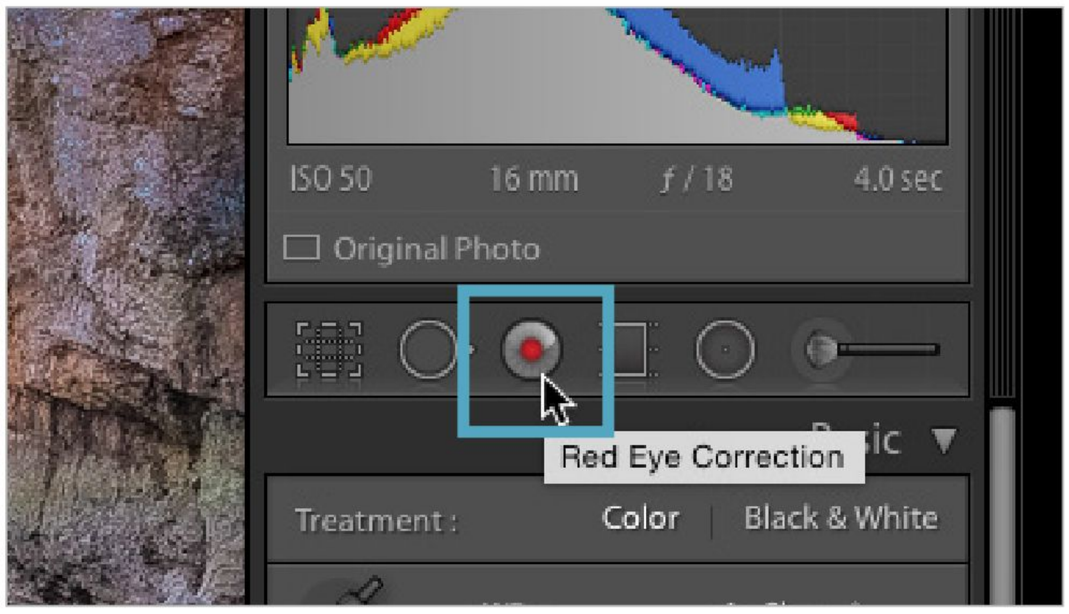
1 First, let's take a look at the editing tools panel. You'll find it in the right-hand sidebar just under the histogram panel. It's a row of six symbols. In order left to right they are; crop, spot removal, Red Eye correction, graduated filter, radial filter and adjustment brush. Clicking on any of them opens a panel of options below the bar.



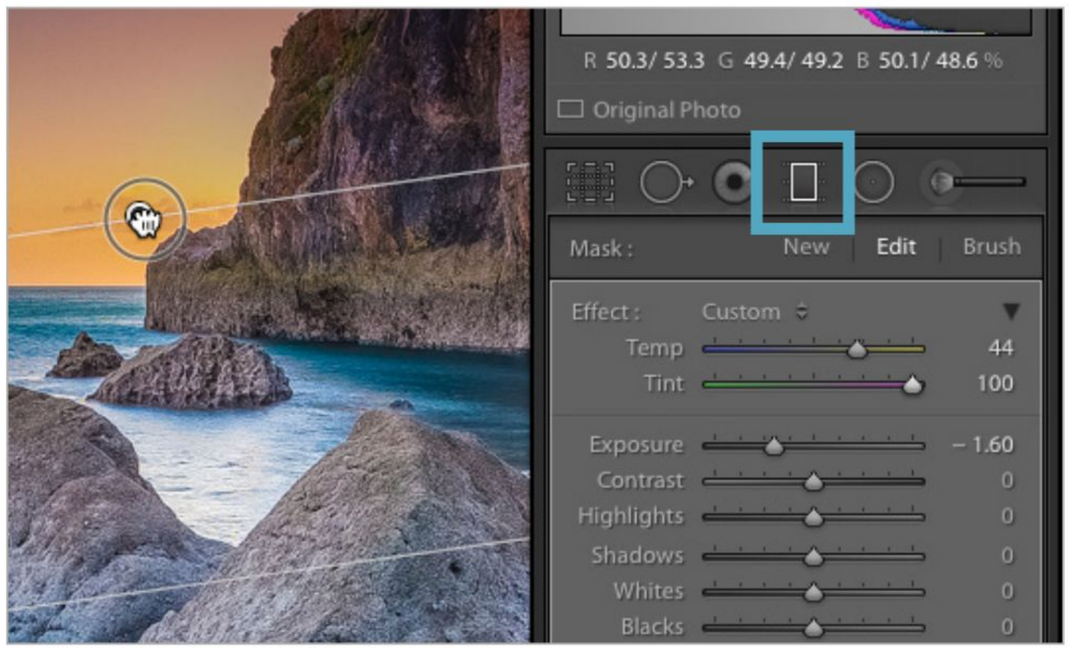
2 The first tool is Crop & Straighten. As the name suggests, this is used to crop the image to remove unwanted areas around the edge and to rotate the cropped section to straighten horizontal or vertical lines. It works in the same way as the Crop tool in Adobe Photoshop. We'll look at using this tool in more detail in the next guide.



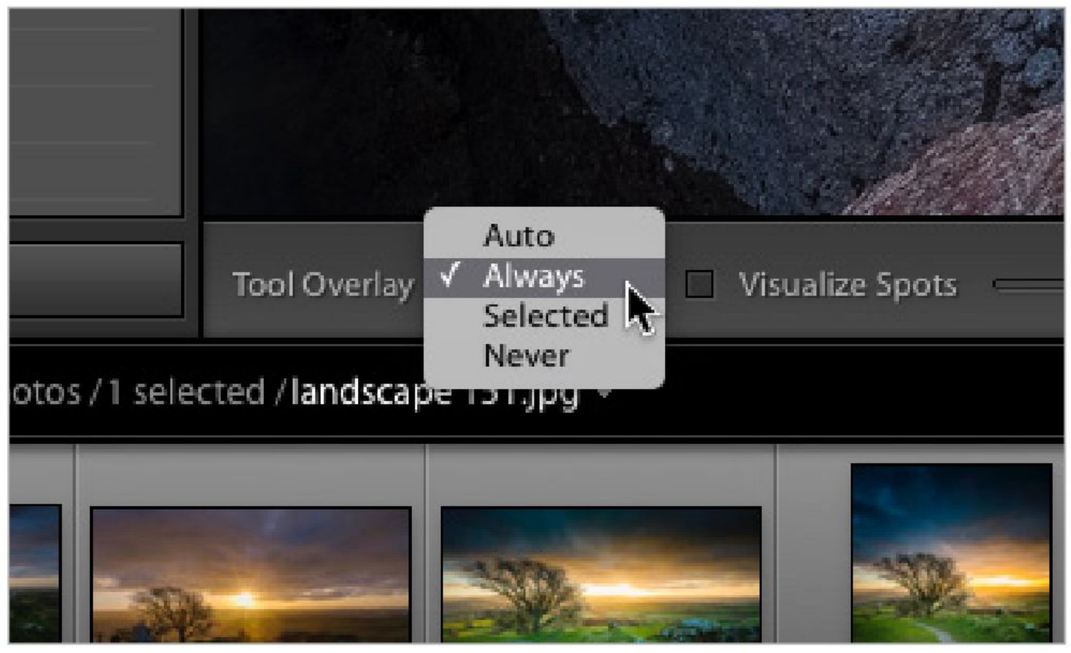
3 Next we have the Spot Removal tool. This is a very useful tool and can be used to remove any small blemishes or spots, usually caused by dust that has managed to get onto your camera sensor. It works in a very similar way to the Healing Brush tool in Photoshop. We'll show you how to use this tool on page 48.



4 Then, we have the Red Eye Correction tool. Red Eye is caused when light from your camera's flashgun reflects off the blood vessels at the back of the eye and is a very common problem in low-light portrait photography, particularly in small compact cameras. We take a closer look at this tool on page 49.

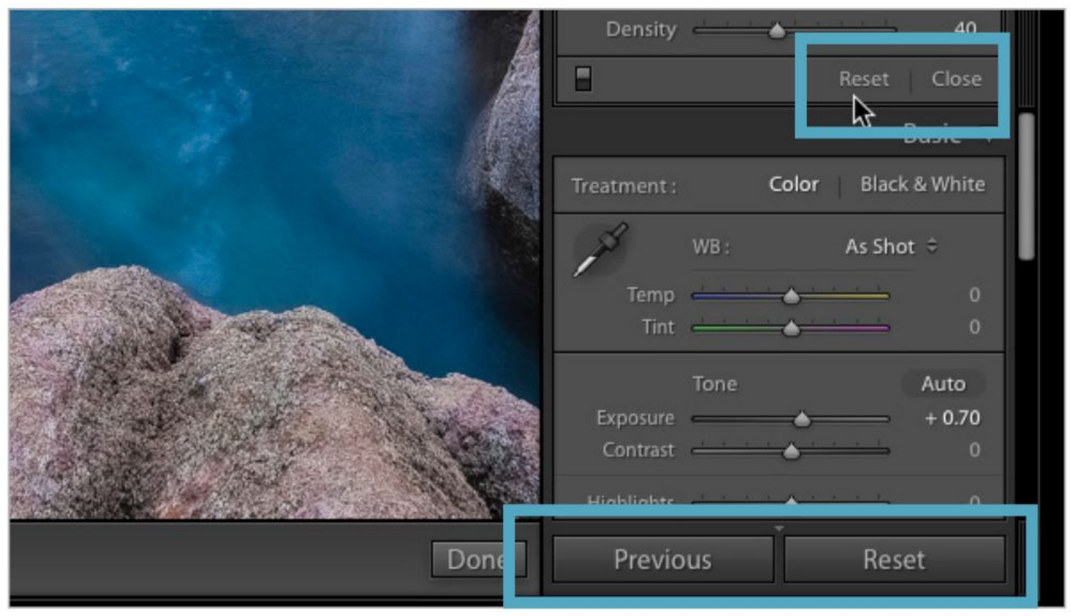


5 Moving across, we come to the Graduated Filter tool. This is one of the more powerful of Lightroom's editing tools and is actually more sophisticated than the similar tool in Photoshop, owing far more to the powerful Graduated Filter tool in Adobe Camera Raw.

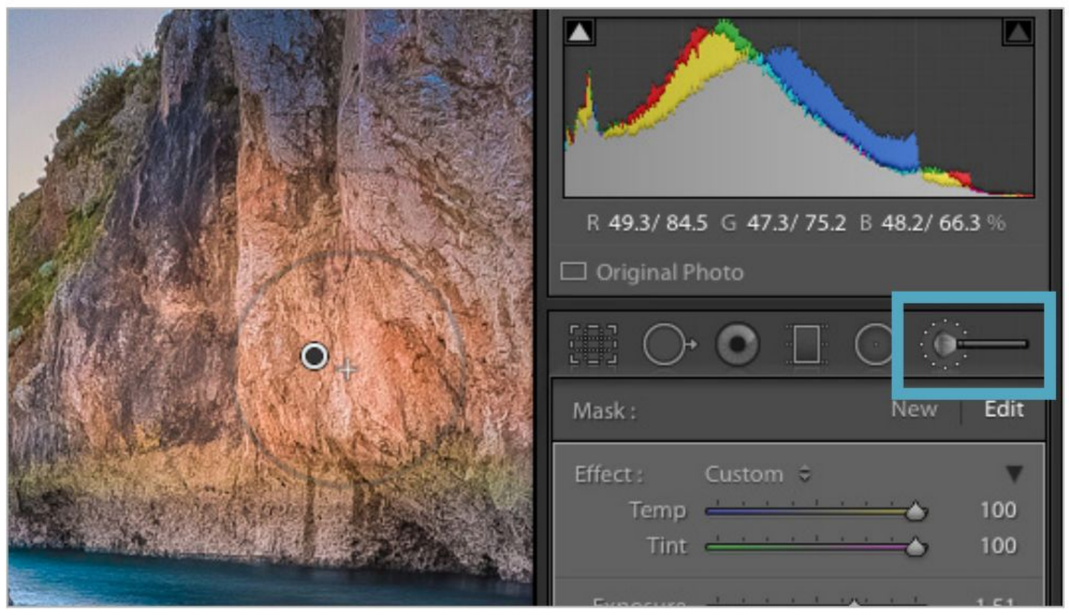


8 The various editing tools all have their own variations on the options bar at the bottom of the viewing window; most of them allow the visibility of the tool overlay to be toggled on or off, or in the case of the filters, show the editing pins. Pick one of these options and stick with it depending on your own preference.

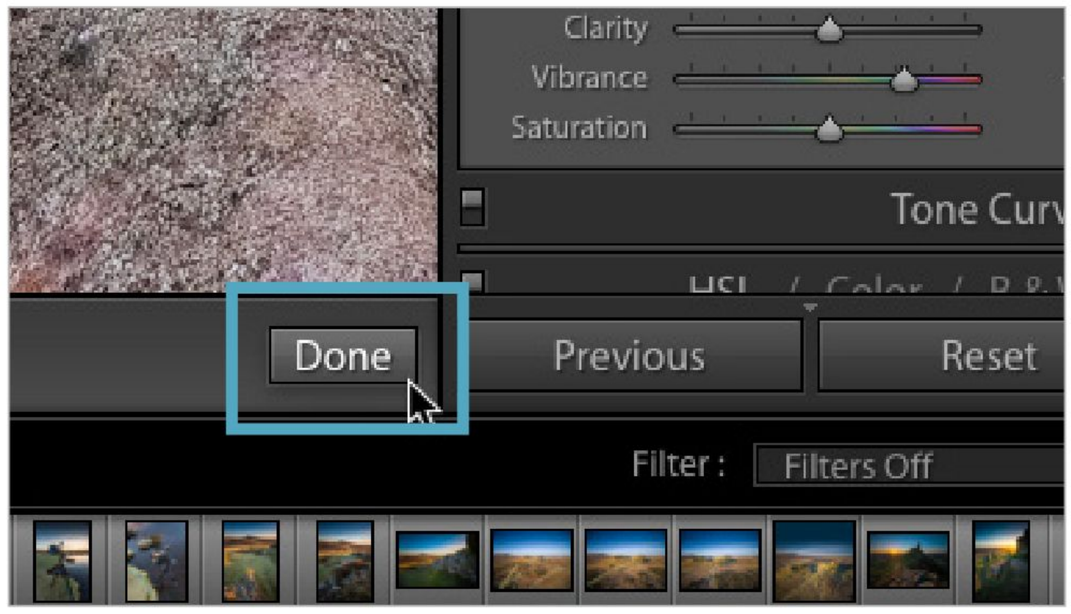
6 Next, we have the Radial Filter tool. This is very similar to the Graduated Filter tool but instead of applying a filter across the width or height of the image, it places a filter that starts in the middle and attenuates outwards, or vice versa. It's great for making old style vignettes and mimics a centre spot filter as used on DSLR cameras.



9 You wouldn't be human if you didn't make mistakes, so if you apply an editing tool and then regret your choice, you can undo your mistake by clicking on Reset at the bottom of every tool's options panel. Alternatively, you can reset the image back to its unedited state by clicking Reset at the bottom of the screen.



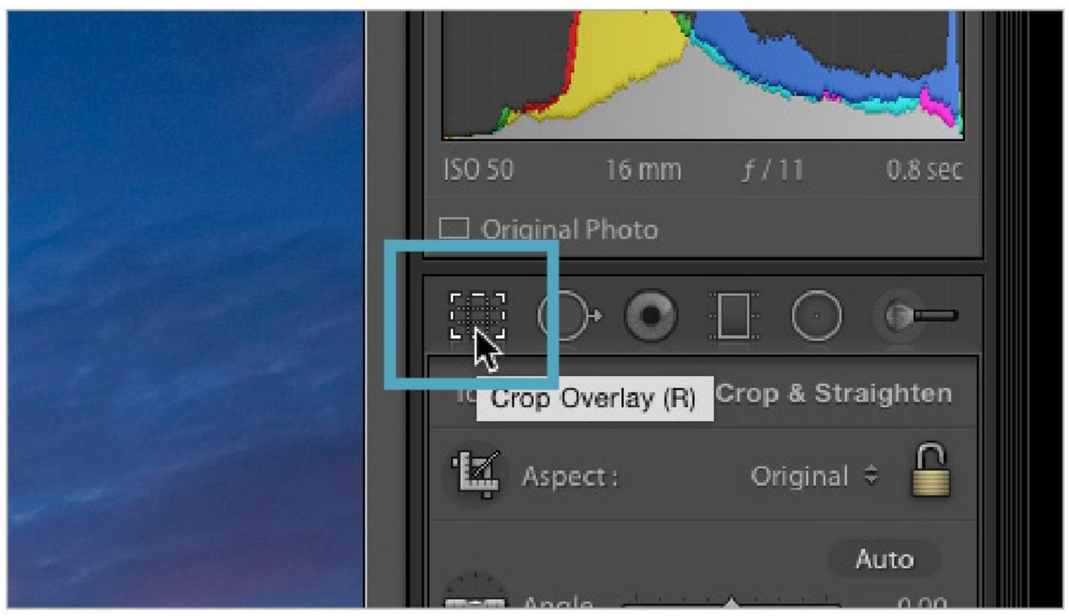
7 Finally on this panel, we have a tool that is unique to Lightroom, the Adjustment Brush. This is a very powerful and versatile tool which can be used to selectively apply a wide range of effects on your photographs, such as adjusting exposure or saturation, altering temperature and tint, altering contrast or removing noise.



10 Once you're happy with your results, you can click Done in the lower right of the screen to save your editing. Remember however that Lightroom edits non-destructively, so even if you've applied a whole range of crops, filters and adjustments, you can still reset the image back to its original state at any time.

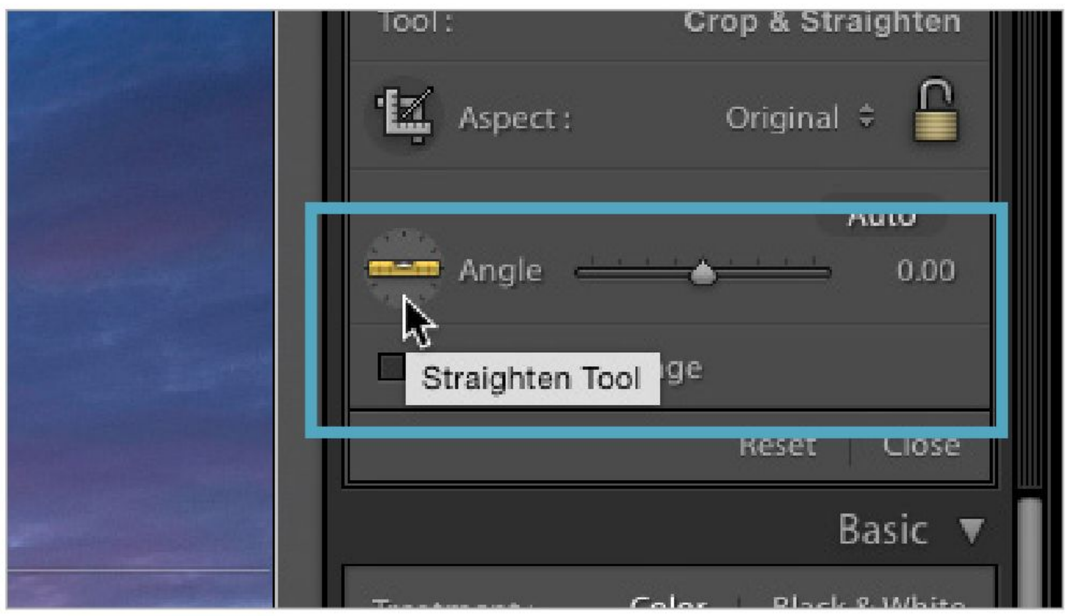
Using the Crop & Straighten Tool

Even the most careful photographer will sometimes rush a shot and take a photo that's not quite level, with either a sloping horizon or a leaning building. Fortunately, Lightroom offers several effortless ways to correct those faults.



1 The main tools that you'll need to straighten your shots are found in the Crop & Straighten tool, located on the editing tools panel that we looked at before. Click on the tool and you can see a grid with corner handles appear over your image, as well as a panel of other tools and options appear below the panel.

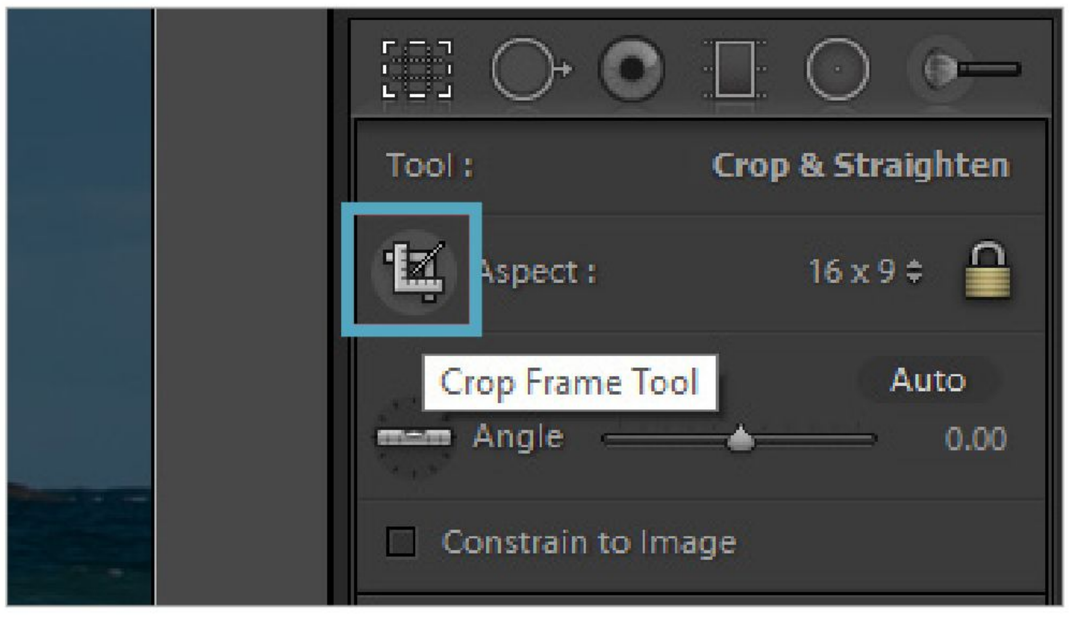
2 If you place your mouse cursor anywhere on the grey border of the workspace outside the image, you can see that it changes to a double-ended curved arrow, indicating rotation. Click anywhere in this area and you'll see a grid appear over your image. You can simply drag the image around until your horizon lines up with the grid.



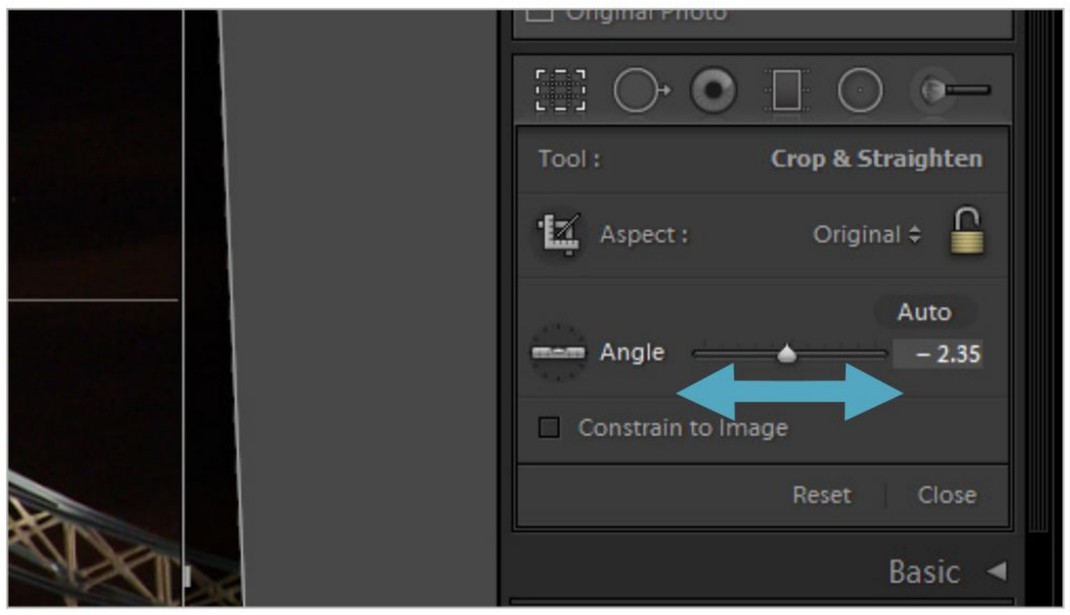
3 A quicker and more precise way to straighten a tilted horizon or leaning vertical is to use the Straighten Tool. You'll find this on the left-hand side of the options panel below the edit tool bar when you click on the Crop & Straighten tool. It's the circular icon with a picture of a spirit level in it. Click on this icon to activate the tool.

4 To use the Straighten Tool on a tilted horizon, simply click on one end of the horizon line and drag a line along it. As soon as you release the Mouse button Lightroom will automatically rotate the image to make the line horizontal. Note that it also constrains the rotated image within the original size of the frame.

5 The Straighten Tool also works on leaning verticals. To save a toppling building, activate the tool by clicking on the icon and then click and drag a line up or down a line on the image that should be vertical, such as the side of a structure. Again, as soon as you release the Mouse button the image will automatically be straightened.

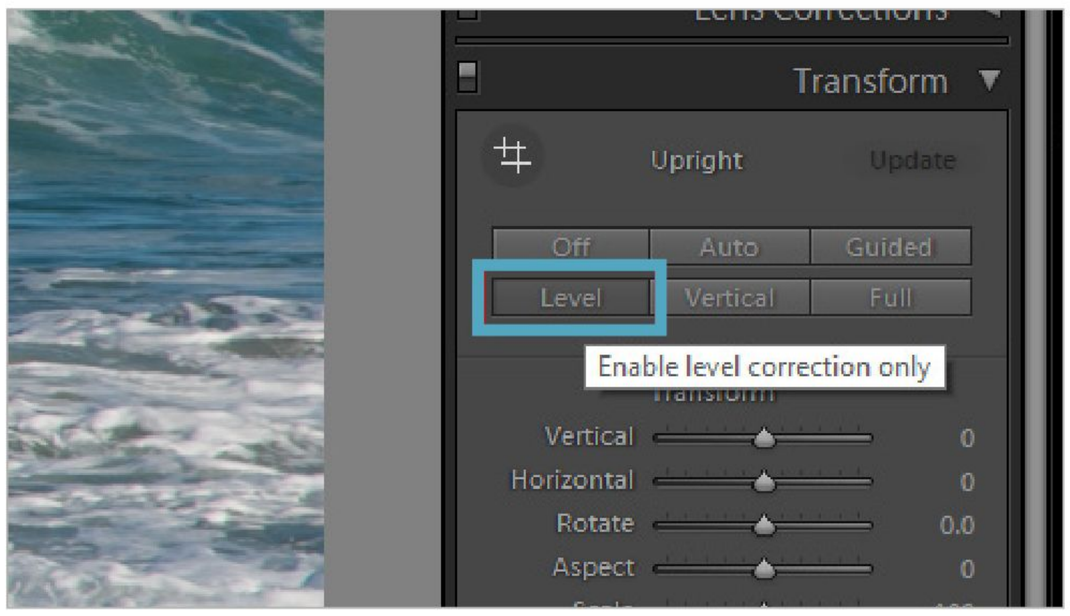


8 Cropping your image to improve composition is very simple. When you open the Crop & Straighten tool it defaults to the crop tool straight away; but if you've previously been using the Straighten tool you'll need to click on the round icon with a picture of a darkroom crop-frame tool to switch the tool back into cropping mode.

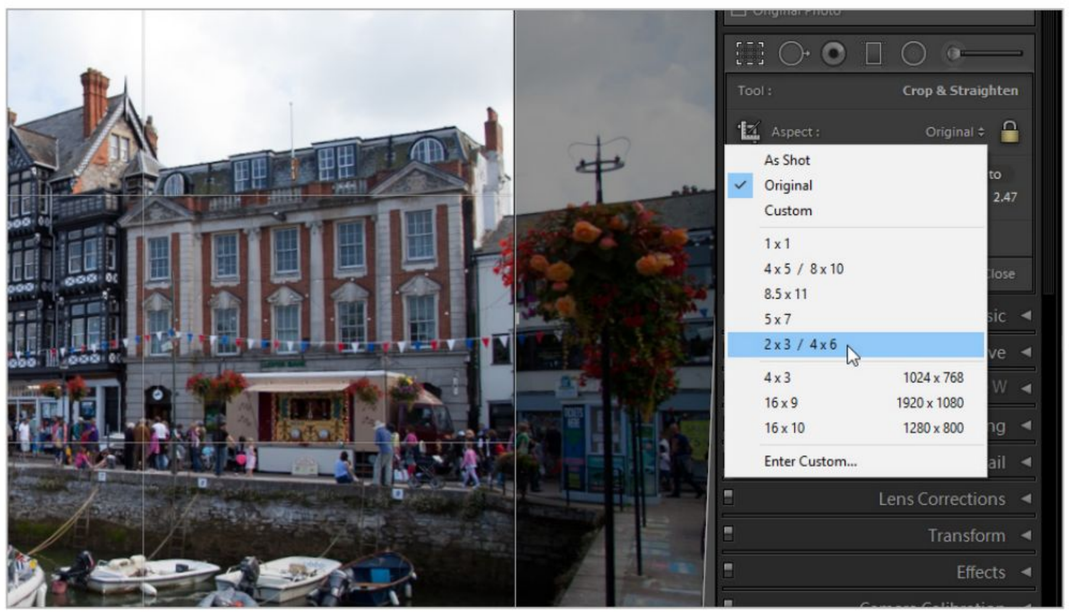


6 The Crop & Straighten tool offers a third option for rotating your image. Next to the Straighten Tool you'll see a slider. If you drag this slider right and left, you'll see that it rotates the image clockwise and anticlockwise. This is useful if you want to tilt an otherwise level shot. You can also enter the degree of tilt numerically.

9 You'll see a crop frame grid overlay your image, with drag points in each corner and in the middle of each side. When you click on and drag one of these points in any direction you'll see the cropping frame move, with the areas outside it slightly greyed out. It also includes a "rule of thirds" grid to help with classical composition.



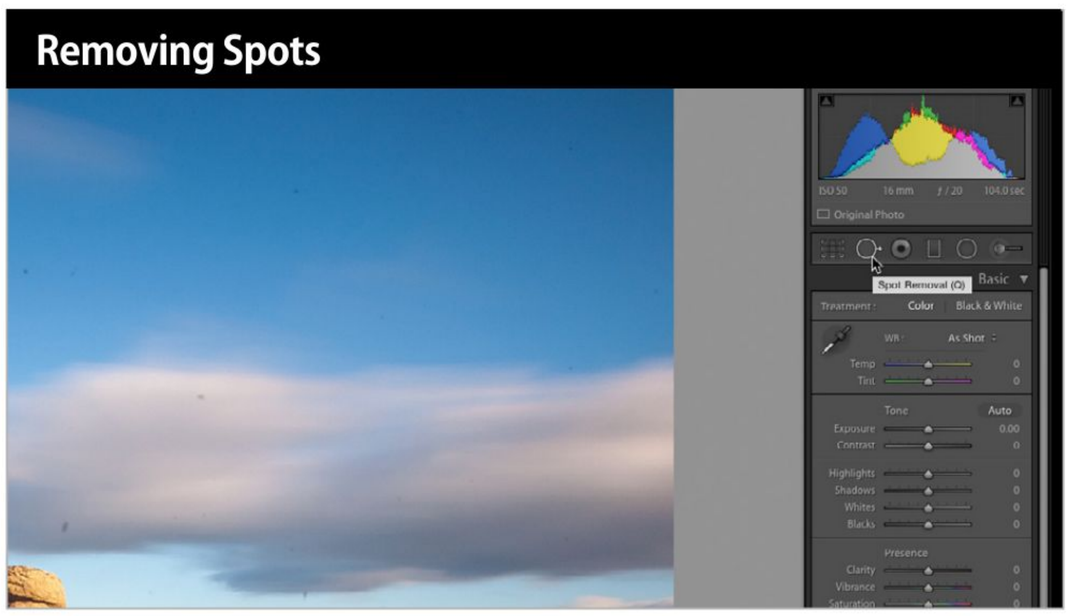
7 There is yet another option for levelling your shots. If you open the Transform tools you'll see a panel of buttons in the options panel, including one marked Level. If you click on this button, Lightroom will attempt to automatically straighten your image. Note that this is based on pattern recognition and is therefore not 100 per cent reliable.



10 You can crop to a specific aspect ratio or image size by clicking to the right of where it says Aspect to open the context menu. You can select a preset ratio or size or enter your own manually. Note that the padlock icon next to the menu changes, to indicate that the aspect ratio is now locked to the dimensions that you've set.

Removing Spots and Red Eye

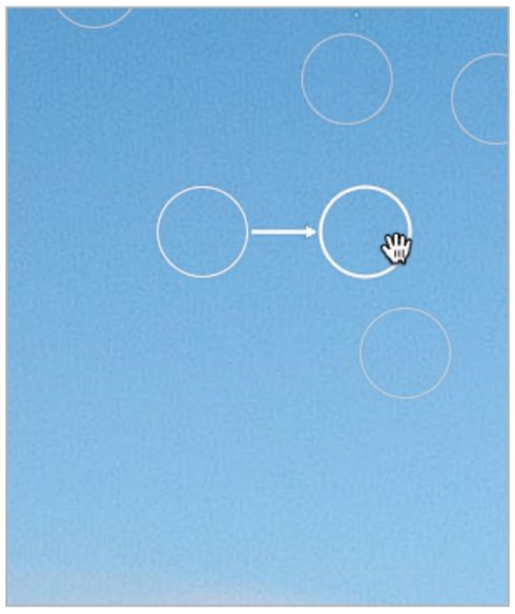
Even the latest digital cameras can sometimes get dust inside and contaminate the sensor, leaving black spots on your images; and there's also the problem of flash Red Eye and indoor photography. Luckily Lightroom offers tools for dealing with these problems.

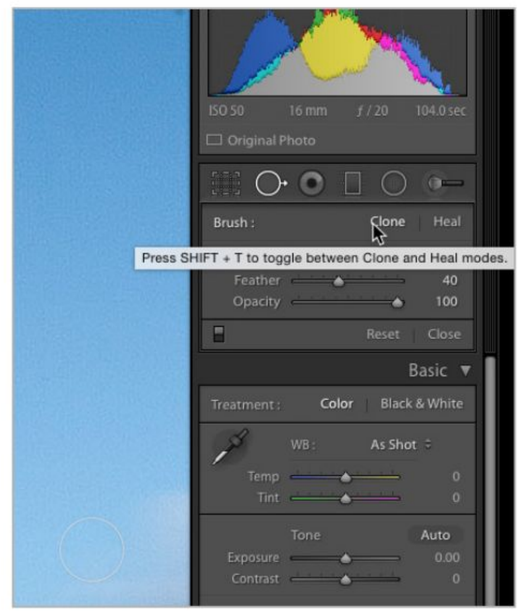


1 If you scan film photos or use an older DSLR, you may have problems with dust and blemishes on your images. Fortunately, Lightroom includes a handy tool to get rid of them. It's the Spot Removal tool and you can start using it by clicking on the icon in the editing tools panel or by using the keyboard shortcut Q.

2 The Lightroom Spot Removal tool operates in the same way as the matching tool in Photoshop. You can adjust the brush size by using the slider in the control panel or by using the square brackets keys [and]. Simply click on a spot and it will be replaced by a matching background colour sampled from elsewhere on the image.

3 As you click on dust spots you'll see the position from which the replacement sample is being taken displayed on the image and you can adjust the position and size of the sample location by dragging on the visible circle. You can turn this feature off from a pop-up menu on the lower tool bar; this can help if your image is heavily spotted.

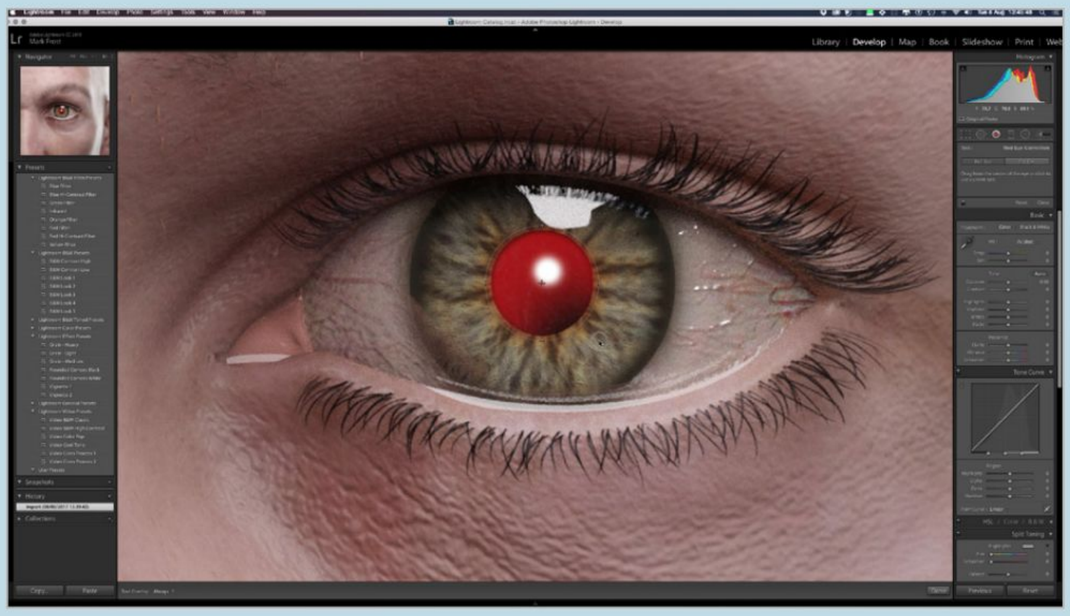




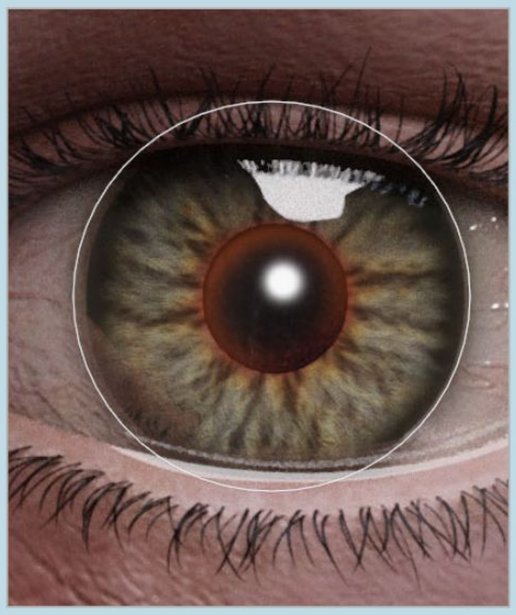
4 If you make a mistake or if you simply don't like the result of one of your spot removal operations, you can undo any of them by holding down the left Alt button and clicking on the offending circle. As well as the heal function, the Spot Removal tool also offers a Clone option. If you hold the CTRL key you can move the sampling point to wherever you want.

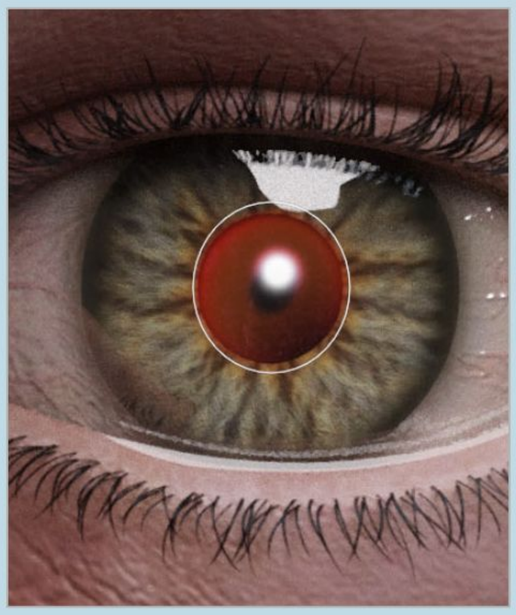
Removing Red Eye

1 Red Eye is caused when light from your camera flash reflects off the blood vessels at the back of the eye and is most visible in low light when the pupils are widely dilated. Even if your flash has anti-Red Eye pre-flash it can still be a problem. You can remove Red Eye from your shots using the Red Eye Removal tool.

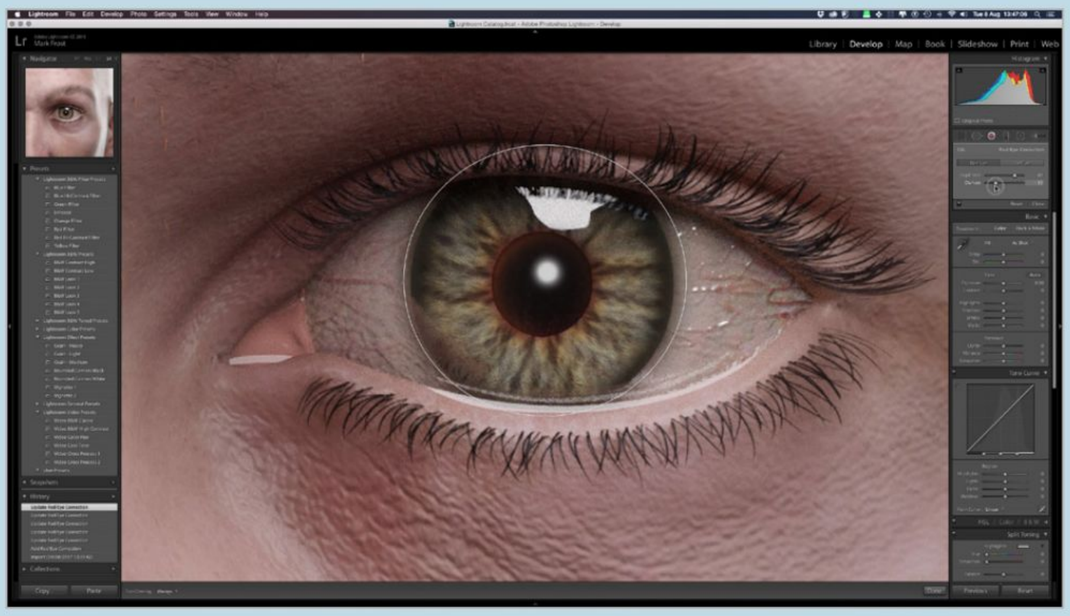


2 The Red Eye Removal tool is very simple to use. When you activate the tool you'll see a cross-shaped mouse cursor. Simply place this over the centre of an affected eye and drag an elliptical shape outwards until it covers the entire eye. Release the Mouse button and the tool will automatically detect and correct the redness.





3 As noted above, make sure the elliptical shape covers the entire eye, not just the pupil. You may think you just need to cover the red area of the eye, but the tool works by using the shape of the iris and the pupil. If you drag the ellipse over the pupil alone, you will see that the redness reduction is confined to a very small area. Adjust the ellipse accordingly.



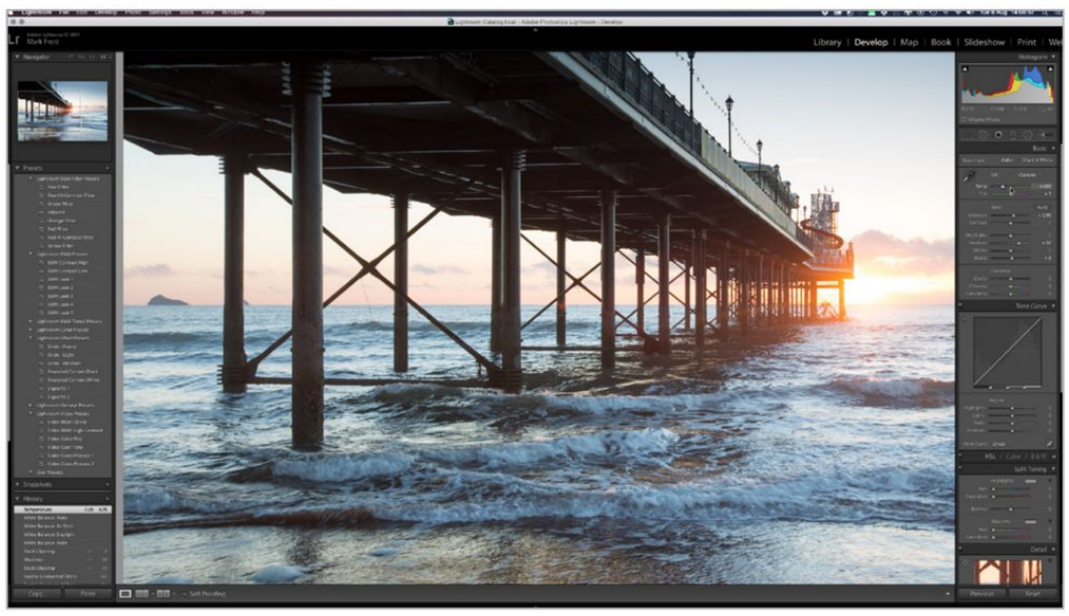
4 Repeat the same procedure with the other eye. If you're not happy with the result, reset the image and try again; the automatic process isn't perfect and a second try may do better. You can also manually adjust the size and darkness of the fake pupil that it superimposes by adjusting the two sliders in the tool options panel.

5 The Red Eye Removal tool also works with pet's eyes, although due to the nature of cat and dog eyes, they're usually green or yellow rather than red. Click on the Pet Eye button on the tool option panel and then use the same procedure that you did for a human eye; click and drag outwards from the centre of the eye.

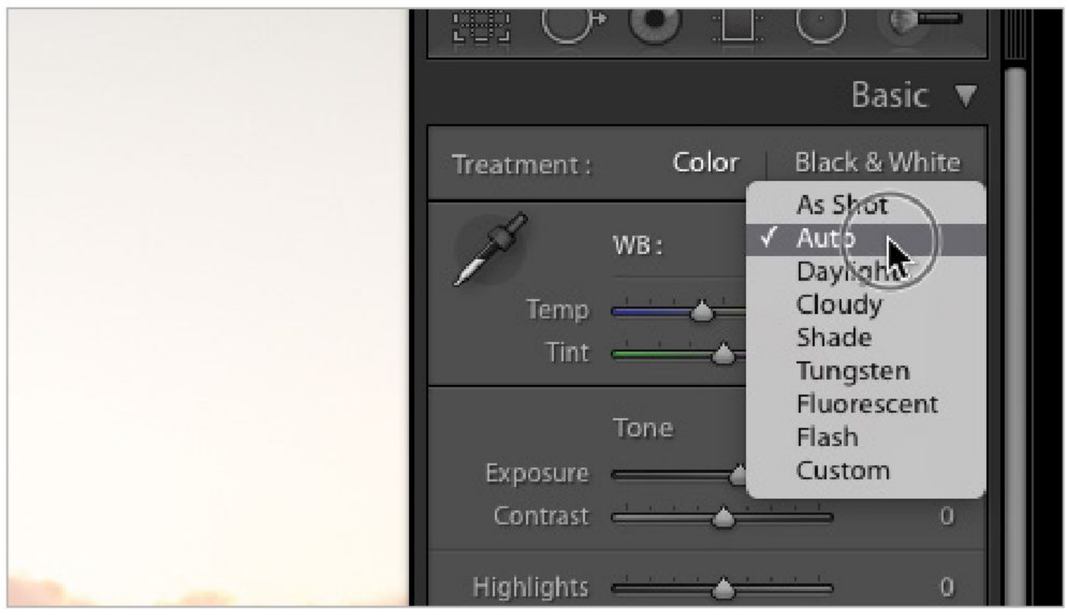
6 As with human eyes you do have the option to manually increase or decrease the pupil size but there is no option to darken, since it will set to maximum darkness automatically. There is an option to add catchlights in the eyes though, which is strangely missing from the tool options for human eyes. The results are usually excellent.

Adjustments Using the Basic Panel

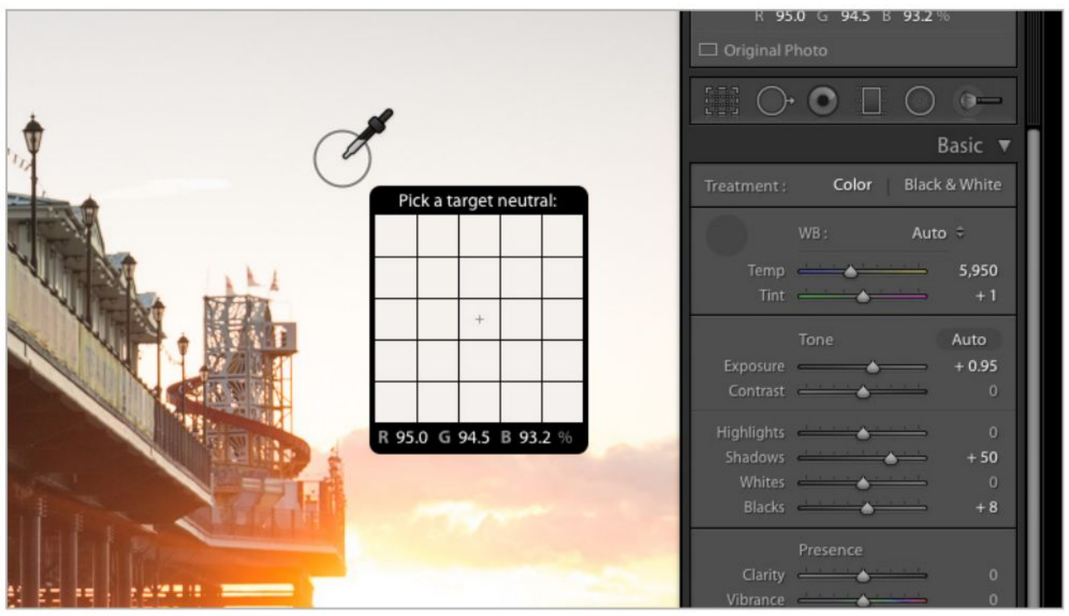
After cropping and straightening, the most common adjustments made are white balance, exposure, tonal balance and colour saturation. Lightroom's Basic panel is where you can find these features, with an easy-to-use slider interface.



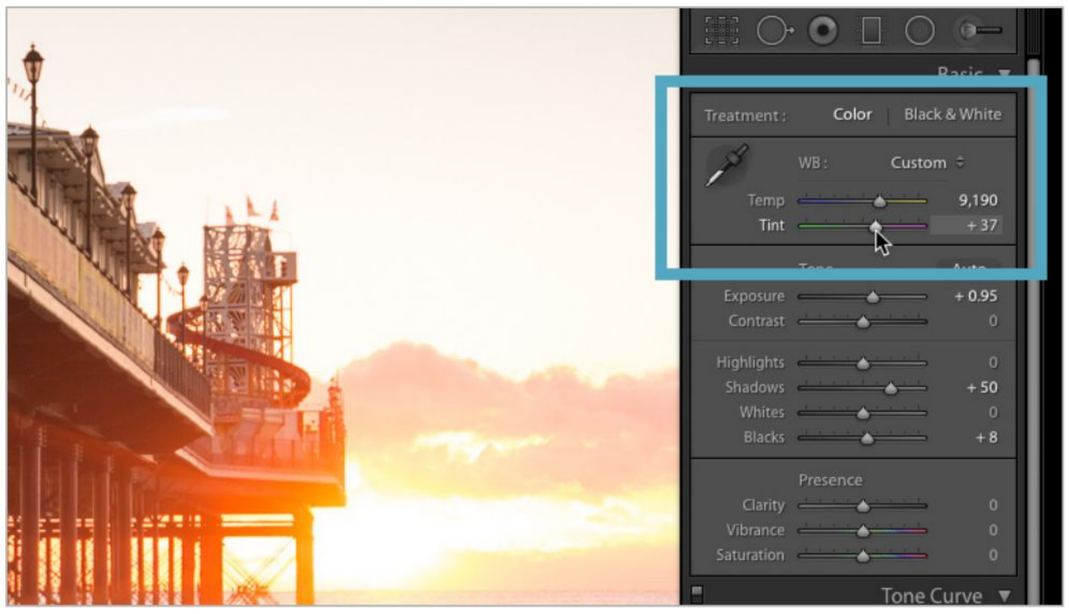
1 You'll find the Basic panel in the right-hand sidebar of the Develop module. Click on the title bar to open the panel and you'll see an array of sliders for things like colour temperature, tint, exposure and contrast; also a panel of Tone controls and another one for Presence controls that adjust Clarity, Vibrance and Saturation.



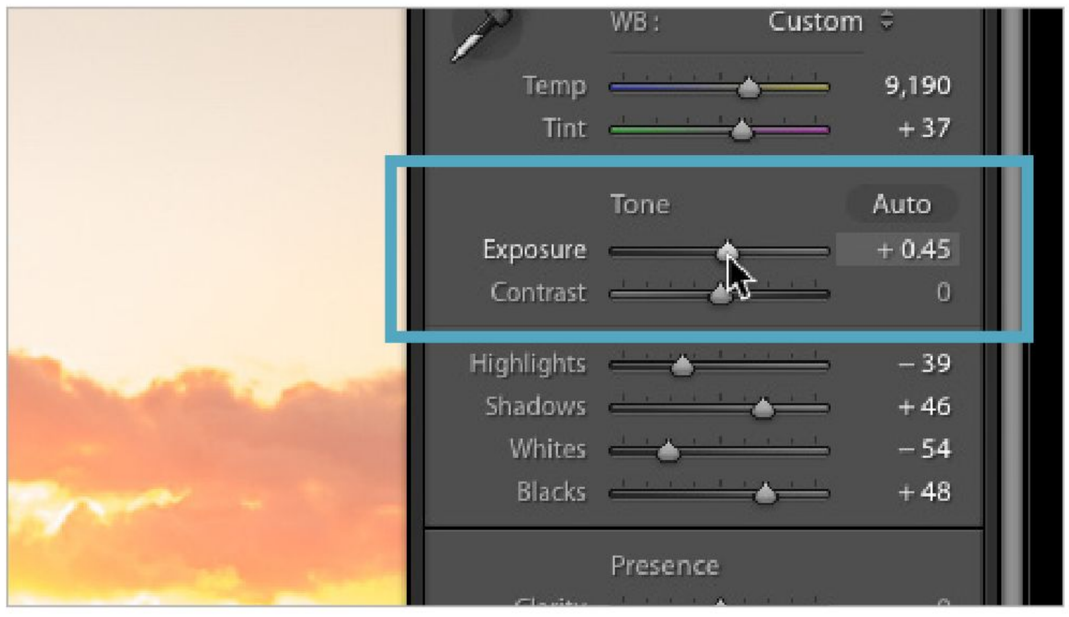
2 Near the top of the Basic panel you'll find the White Balance controls. This will usually show As Shot by default, indicating that Lightroom is using the white balance setting determined by your camera. If you click on this, you'll see a context menu with more options. We'll look more closely at correcting white balance elsewhere.



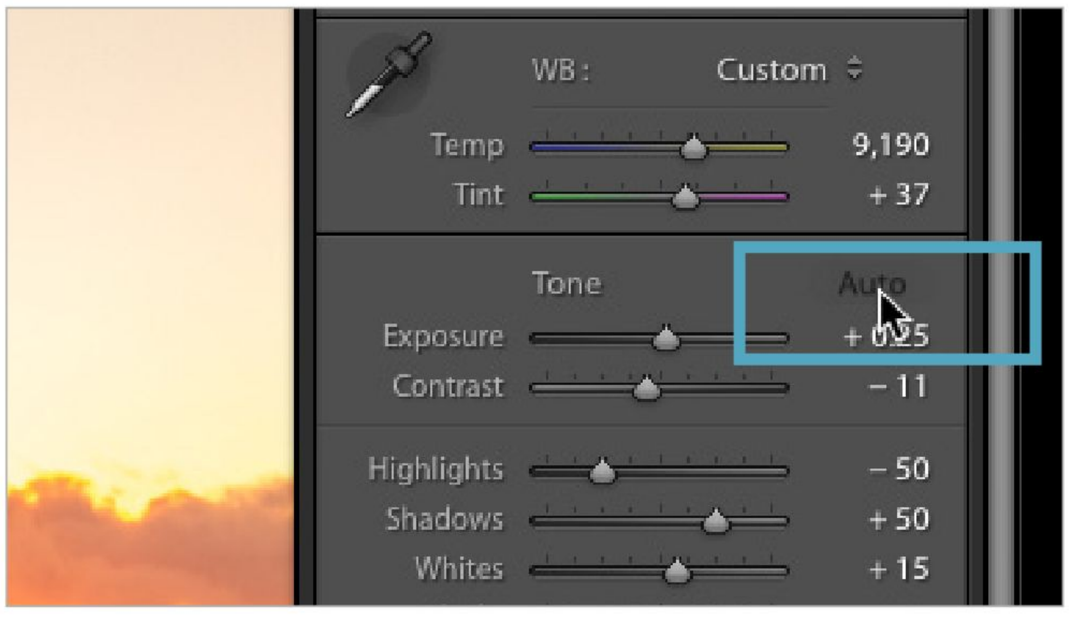
3 To the left of the White Balance selector you'll see another tool with an icon shaped like an eyedropper. If you click on this the eyedropper will become the mouse cursor and you can use it to select a white-point to manually set the white balance. If you've ever used Adobe Camera Raw you'll be familiar with this operation.



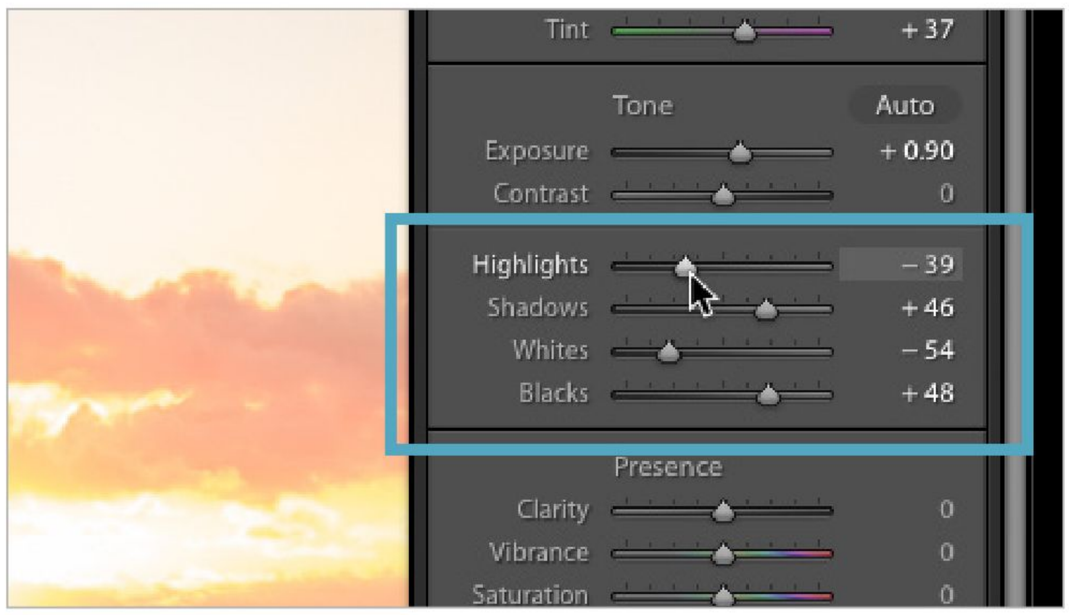
4 Immediately below the White Balance selector you'll see a pair of sliders for Temp, or colour temperature, and Tint. These controls allow you to make manual adjustments to the white balance and colour cast, which is useful if you're shooting under unusual artificial lighting conditions that are not covered by any of the white balance presets.



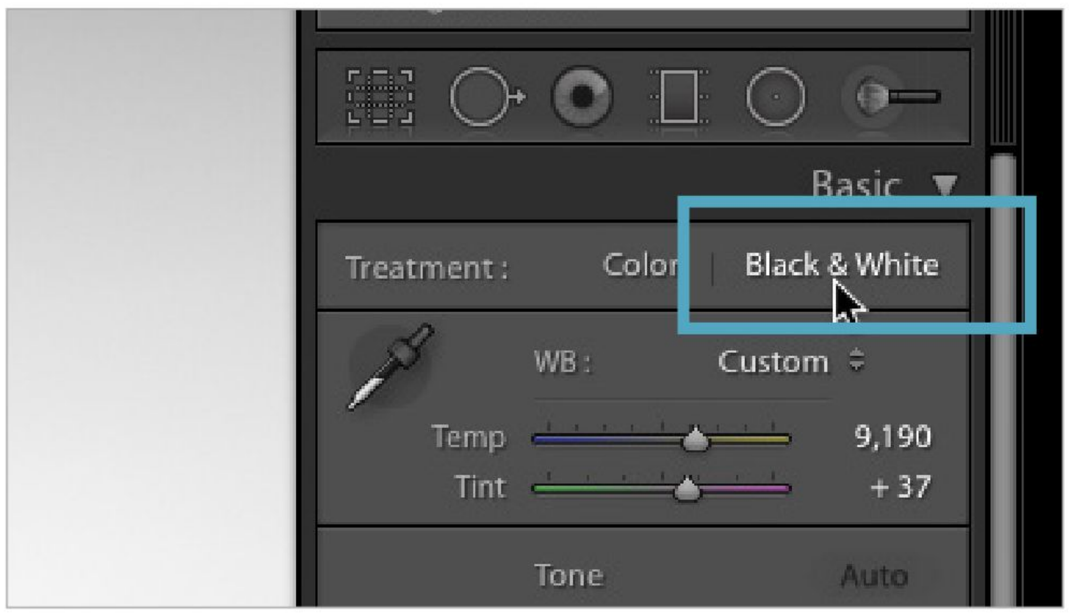
5 Moving further down the panel, we come to the Tone controls, which are divided into two sections; Exposure and Contrast, and Highlights, Shadows, Whites and Blacks. Exposure and Contrast work in exactly the same way that they have done in Adobe Photoshop and most other editing suites for years.



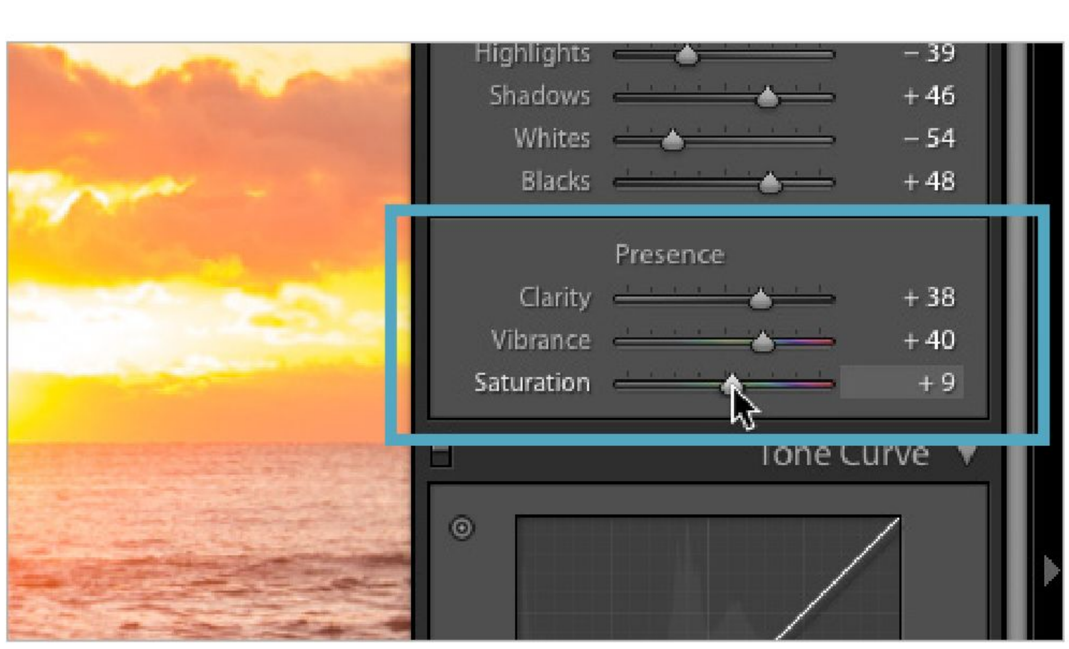
8 If you just want to quickly optimise a photo but aren't sure in which direction to take it, the Basic panel offers an auto-tone option that will instantly analyse your image and attempt to adjust the tone to bring it closer to an idealised average by equalising the histogram. It's not likely to be perfect but can be a good starting point.



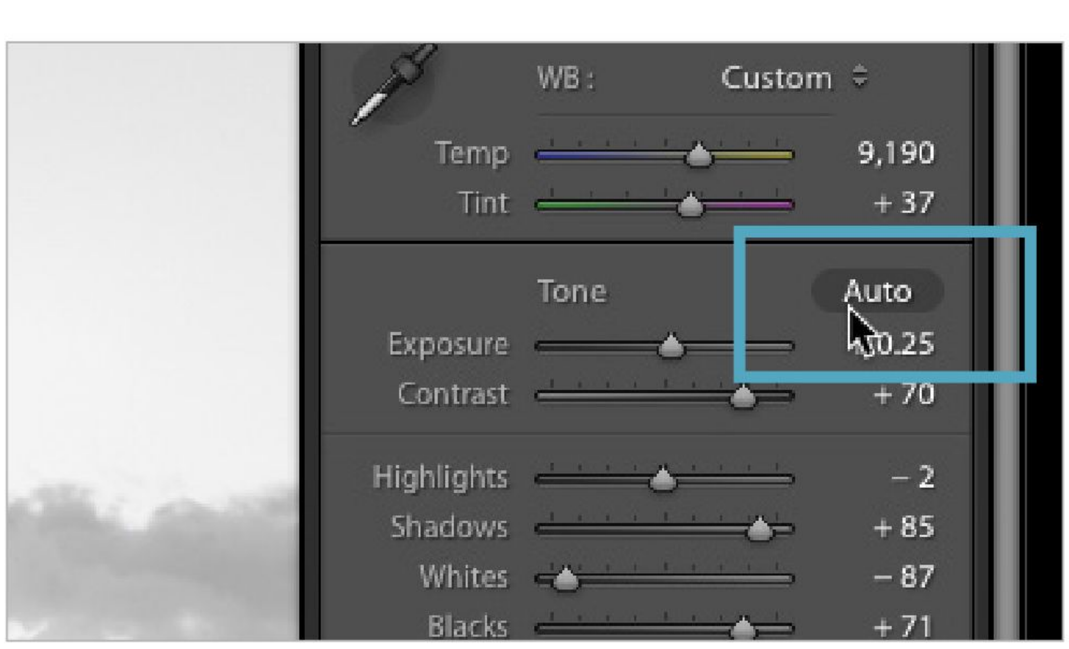
6 The Highlights, Shadows, Whites and Blacks section of the Tone panel is a more recent addition for Lightroom and not found in previous versions of Photoshop. It offers more precise manual control over the relative density of light and dark tones and lets you take advantage of the greater tonal range of raw files.



9 The Basic panel can also be used to turn your colour image into monochrome. At the top of the panel you'll see Colour and Black & White. If you click on the latter you'll see that the Vibrance and Saturation slider will be greyed out and the image will turn monochrome. You still have full control over the other sliders.



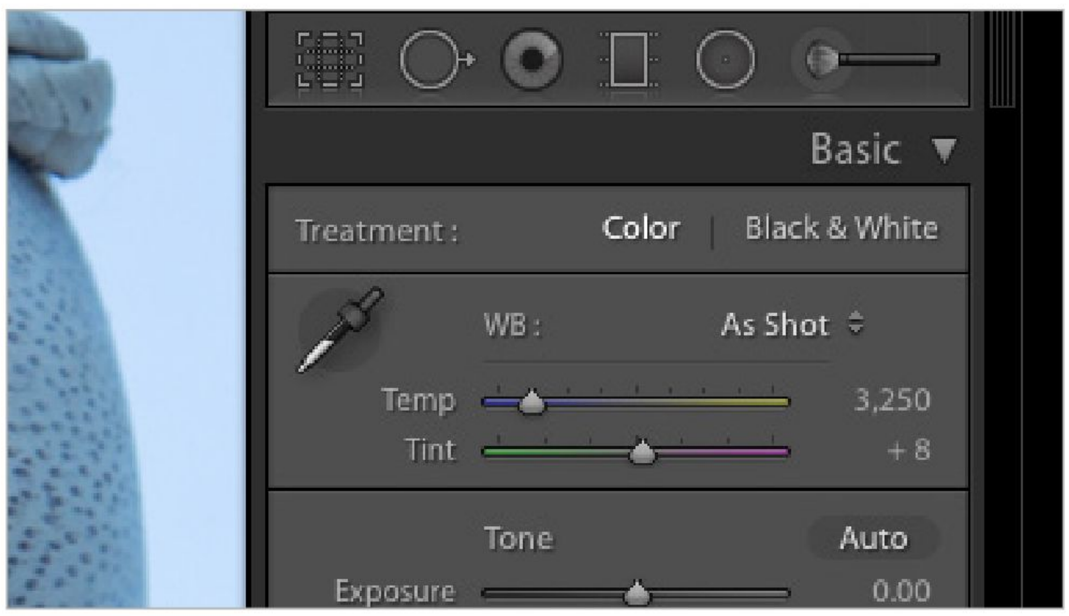
7 The Presence controls are another new Lightroom feature and replace the old Hue, Saturation and Lightness controls that feature in Photoshop. Clarity improves the contrast in the mid-tones of the image by sharpening the edge detail, while Vibrance increases the saturation of only the least saturated colours.



10 Auto-tone also still works in Black & White mode and just like in colour mode it will attempt to equalise the exposure, contrast and distribution of tones to produce an idealised histogram with no clipping. You may find that the results look a little flat though, so use it as a starting point rather than relying on it to finish your images.

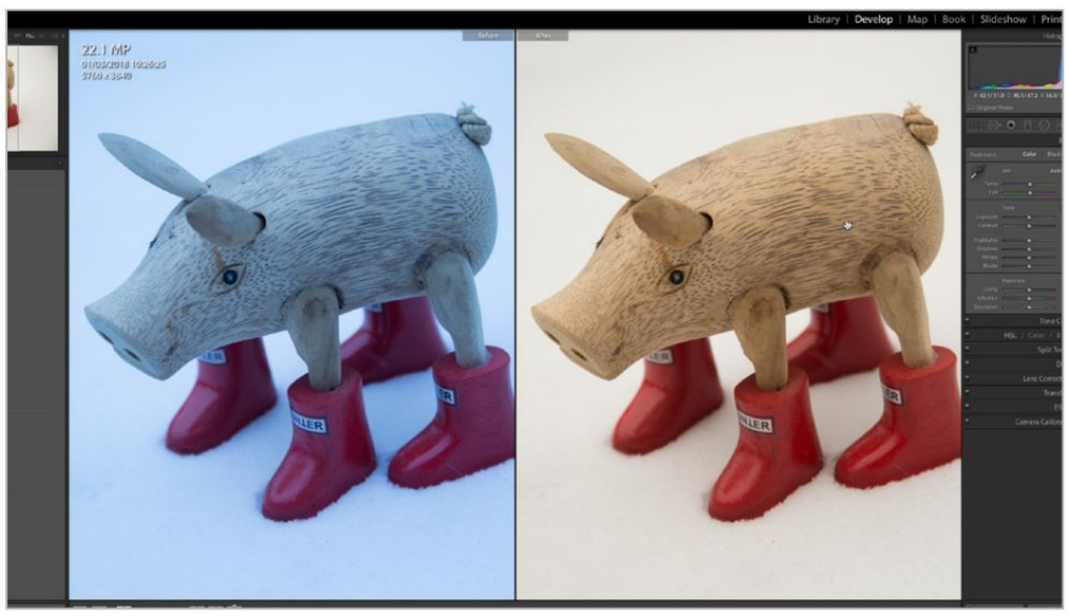
Adjusting the White Balance

Even as an experienced photographer using a modern top of the range digital SLR, it's sometimes possible to mess up your white balance. Luckily, if you shoot in Raw and use Lightroom, it's very easy to correct any such mistakes.

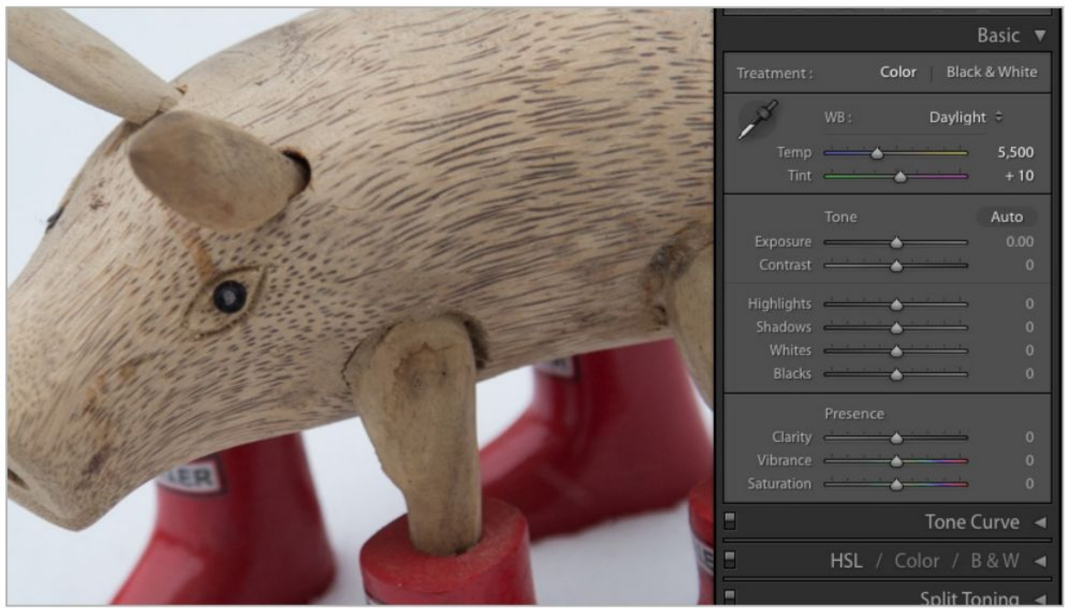


1 You can spot an incorrectly set white balance straight away by the colour cast over the entire image. Open the Basic panel and look at the white balance setting; you can see it's 'As Shot' and that the colour temperature is 3250K, a typical setting for incandescent or tungsten lighting. The camera was incorrectly set when the shot was taken.

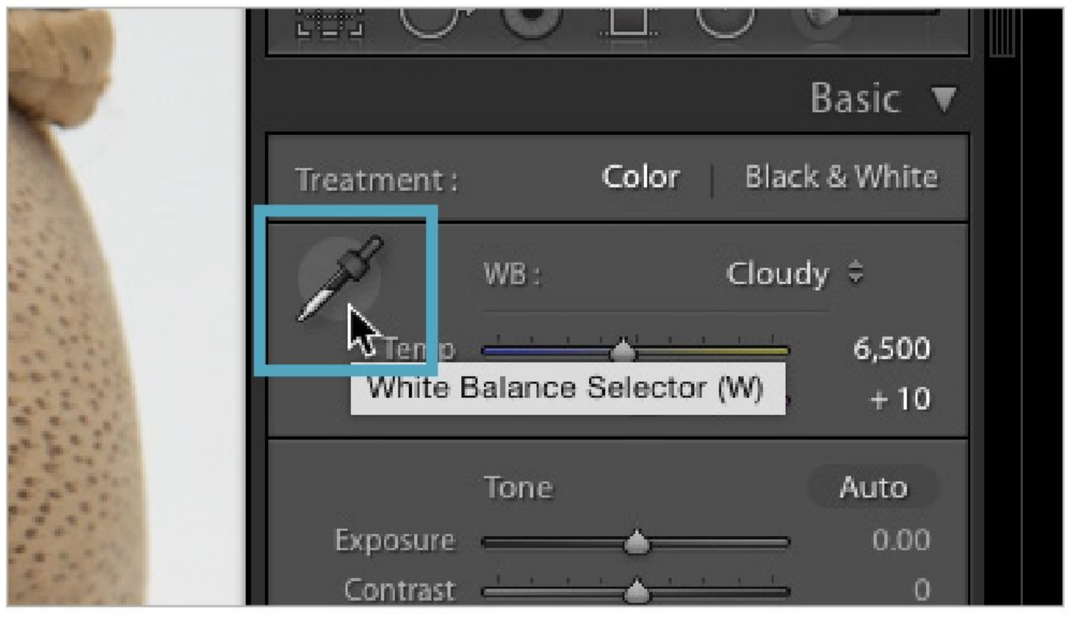
2 The quickest way to correct the white balance is to let Lightroom do it automatically. Click on the white balance setting and you'll see a drop-down menu appear. Select Auto and Lightroom will analyse the photo and attempt to set the correct balance based on the histogram. The results will usually be good for most common lighting.



3 As you can see, the results are pretty good in this example. Lightroom has selected a colour temperature of 7250K and a tint setting of +9, adding magenta to offset the blue tint of the original. However, since we know this shot was taken in daylight, we could try the Daylight preset from the menu to see if it's better.

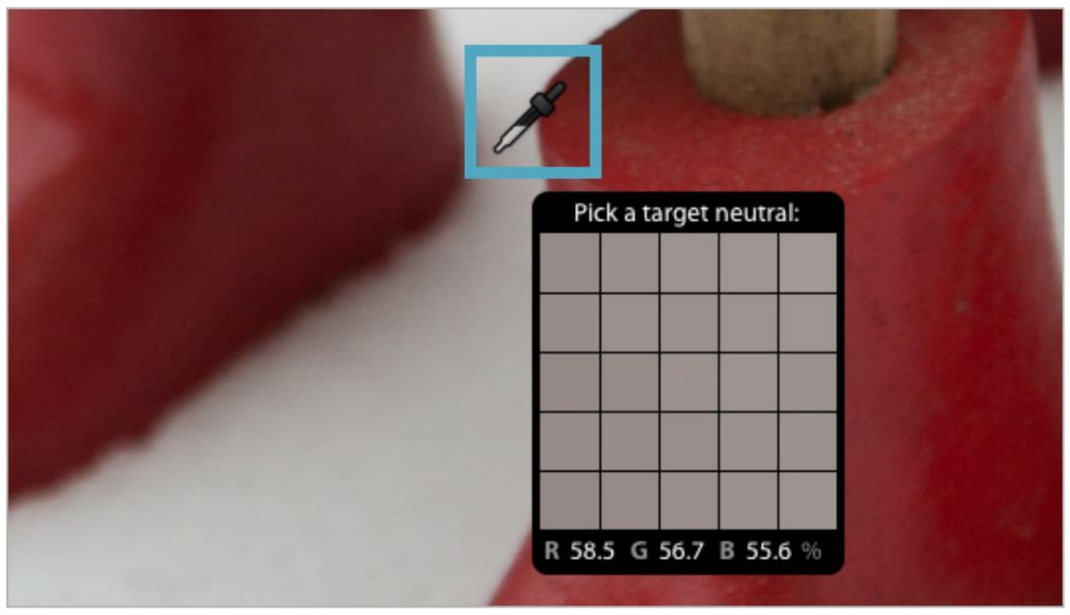


4 The Daylight preset is looking better, with the colour temperature set to 5500K and a tint of +10. The whites look a bit brighter and the snow looks a little more neutral with less of the magenta tint. The day was overcast, so we can warm the picture up by using the Cloudy preset.

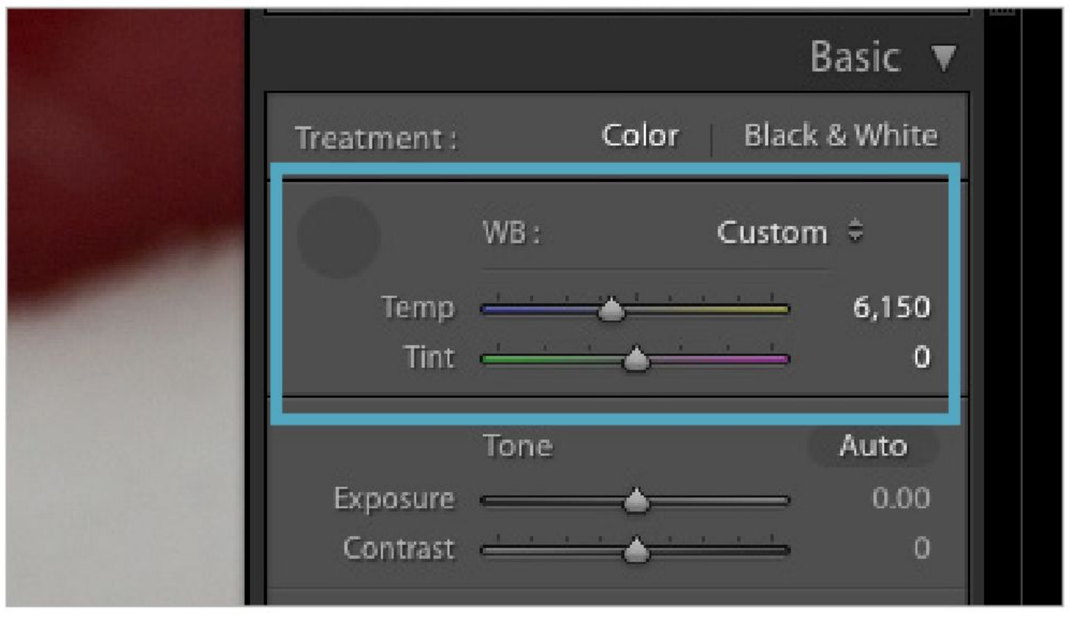


5 There is another way to accurately set the white balance for an image other than presets or guesswork. If you look on the Basic panel, to the left of the white balance setting you'll see an icon of an eyedropper. This is the White Balance Selector tool and you can use it to measure the white balance directly from the image.

6 To use the White Balance Selector tool, click on the eyedropper icon and you'll see it become your mouse cursor. You need to find an area of the image that you know is a neutral tone; in this example, we know that the snow the wooden pig is standing on is pure white, so that will do nicely. Clouds, paper and white bird plumage are also good for this.



7 Move the eyedropper cursor over the neutral tone that you've selected. You'll see a greatly magnified view of the area around the cursor position, so you can make sure that you don't accidentally click on a dust spot or other non-neutral tone. You can see the RGB values of the selected pixel displayed at the bottom of the frame.



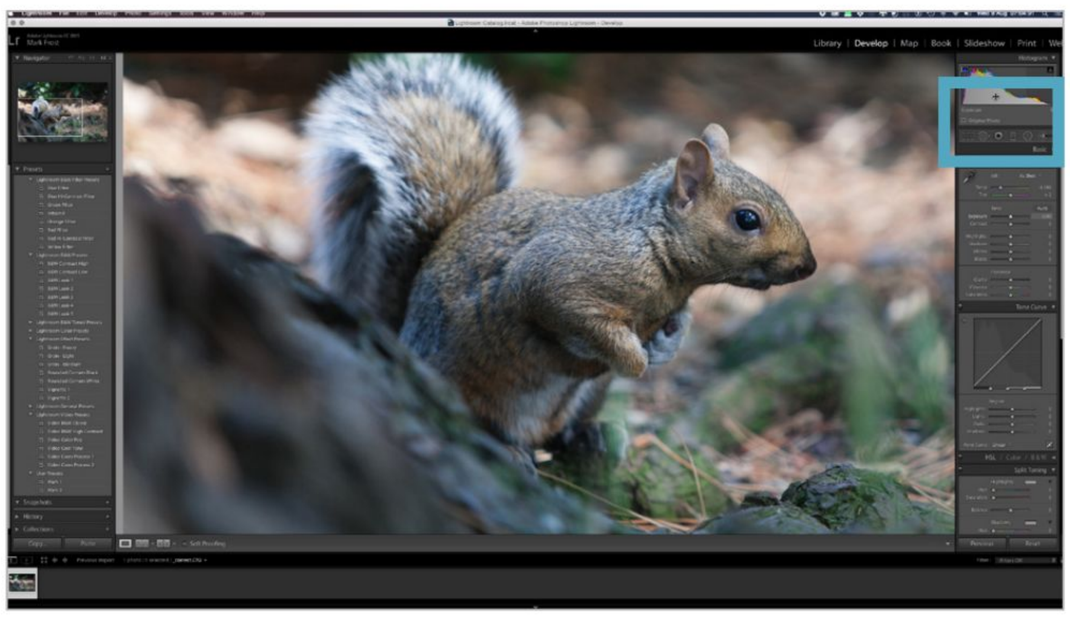
8 Click on the pixel that you want to sample, and you'll see that the eyedropper returns to its home, the White Balance setting changes to Custom, and the colour temperature and tint change to a new value. In this case, it's a colour temperature of 6150K with a 0 tint, quite different to the original Auto setting or any of the presets.

9 Of course, you might not always have a suitably neutral-toned object in the frame, which is one reason why most professional photographers carry something called a 'grey card', literally a sheet of card coloured a neutral mid-tone grey, called '18% grey', that can be placed in a test shot. It is also useful for accurate manual exposure metering.

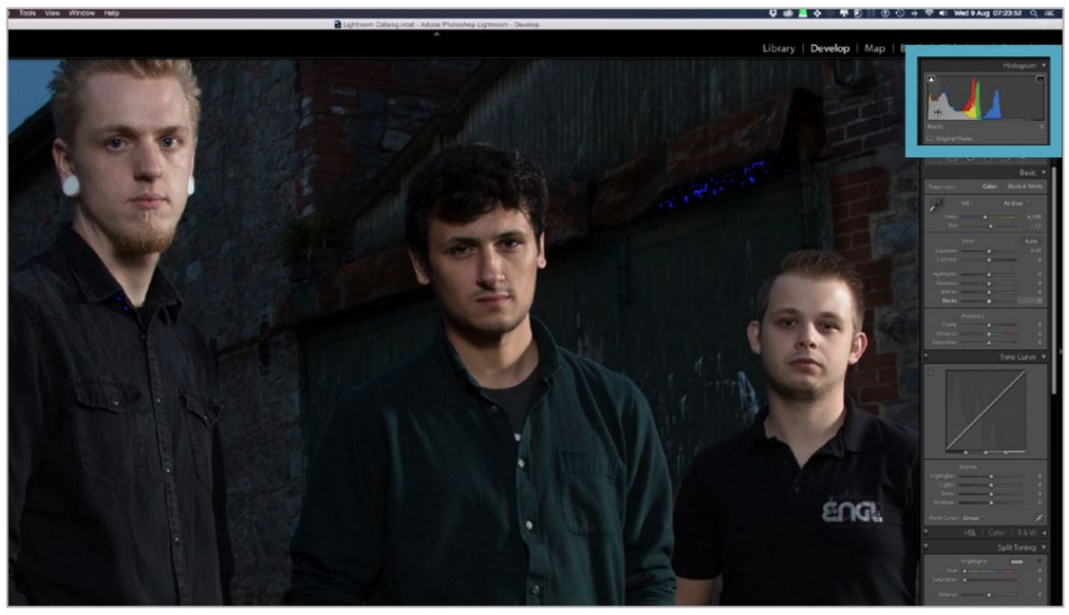
10 It's also worth noting that the white balance and tint controls can also be used in the Basic panel's Black & White mode, where they can be used as a filter to enhance the contrast of certain tones, rather like using coloured filters when shooting in black and white. Effects will vary from image to image, so it's worth experimenting.

Optimising Photos with the Histogram

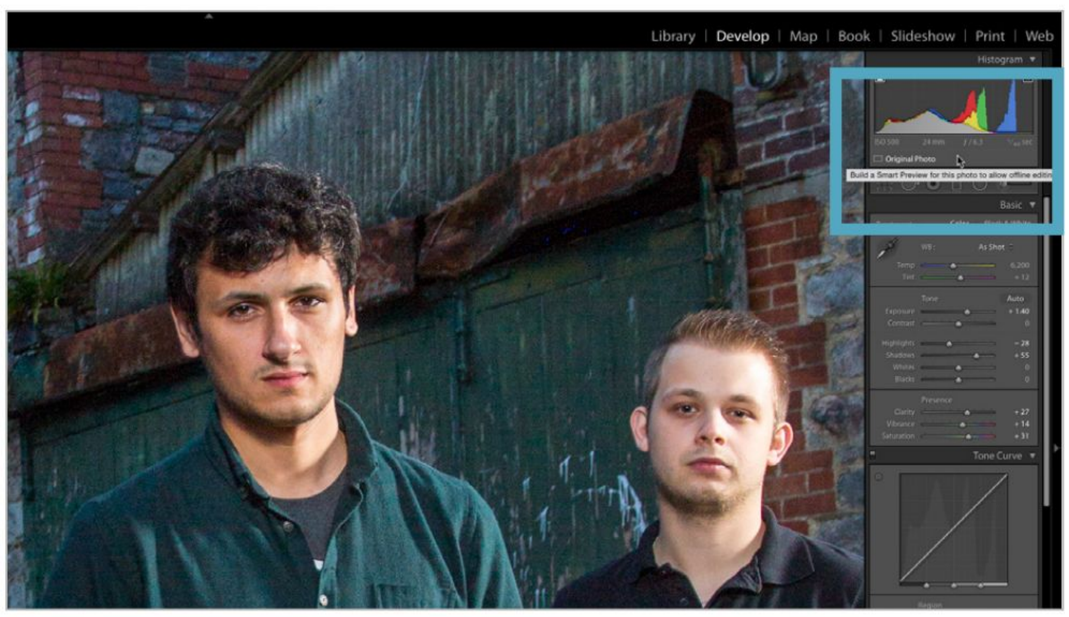
Along with focus and composition, correct exposure is one of the keystones of successful photography. With the extra exposure latitude afforded by shooting in Raw mode, Lightroom lets you adjust exposure to get the best out of your photos.



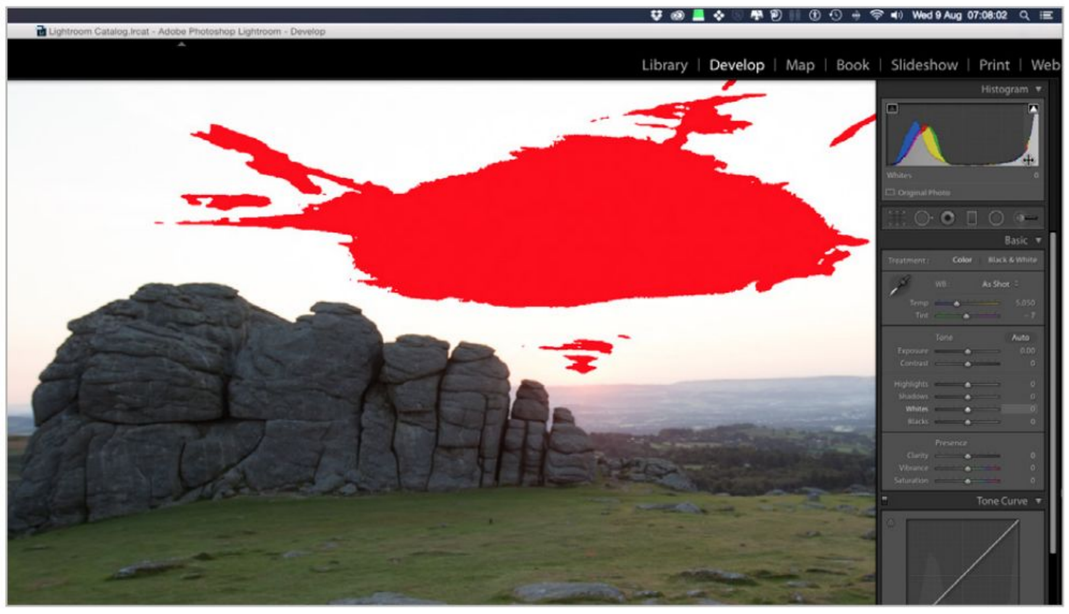
1 The Histogram is a graphical representation showing the ratio of pixels of any given brightness that are present in an image, with black on the left and white on the right. In a correctly exposed image, like this example, the distribution is spread across the graph, without being cut off at the ends and with most of the peaks in the middle.



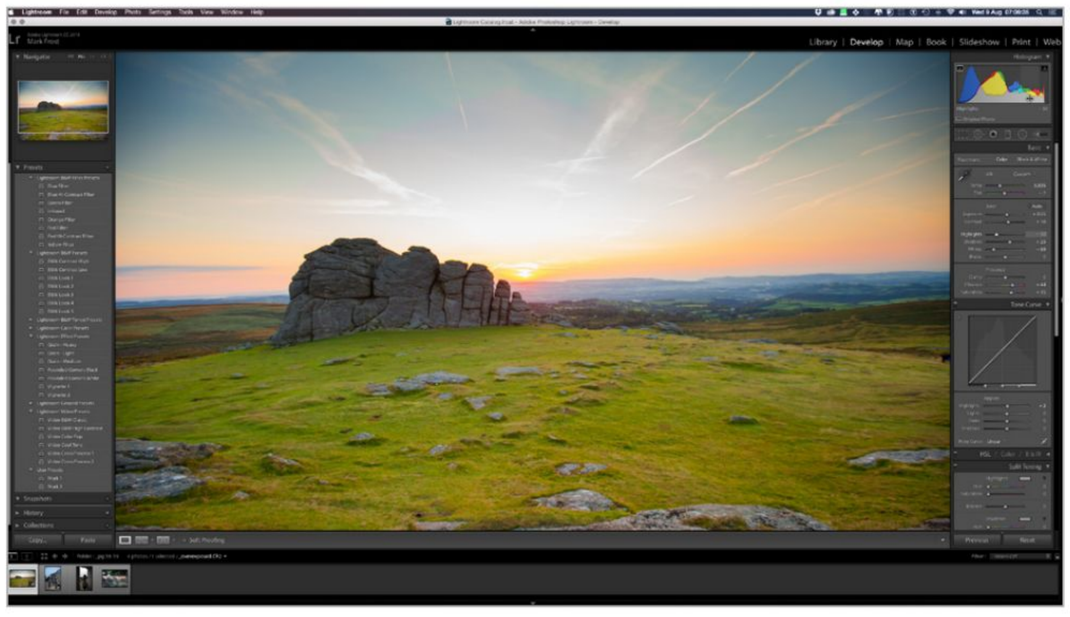
2 In an under-exposed image such as this one, you can see that the peaks of the histogram are clustered at the left-hand edge of the graph, which is the darker tones, indicating that there are more dark pixels. The curve actually runs into the edge of the graph, which is known as ‘clipping’. Any clipped pixels are pure black, with no detail.



3 The histogram can show you where highlight or shadow clipping is occurring. In the top left corner of the graph you can see a small arrow. If you click on it, any clipped pixels will be highlighted in blue. Although under-exposure can be a creative option, exposure correction can be applied to pull back some detail if desired.

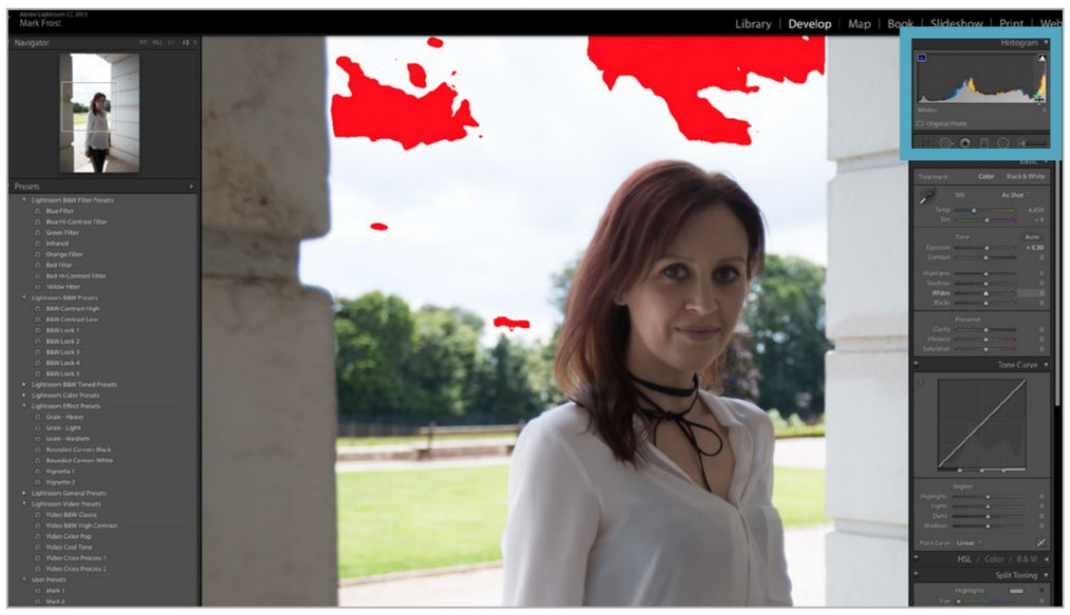


4 Similarly, in this slightly over-exposed image you can see that the tone peaks are pushed up towards the right and the highlights are clipping to pure white, as shown by the fact that there is a peak right on the edge of the graph. In this case the over-exposure is not deliberate but shooting in Raw mode allows some latitude for correction.



5 As with the clipped shadows, the histogram can show you the clipped highlights. Click on the arrow icon in the upper right corner of the graph and you'll see all the pure white pixels highlighted in red. We could correct this and restore the missing highlight detail by reducing the exposure or correcting the tonal balance of the image.

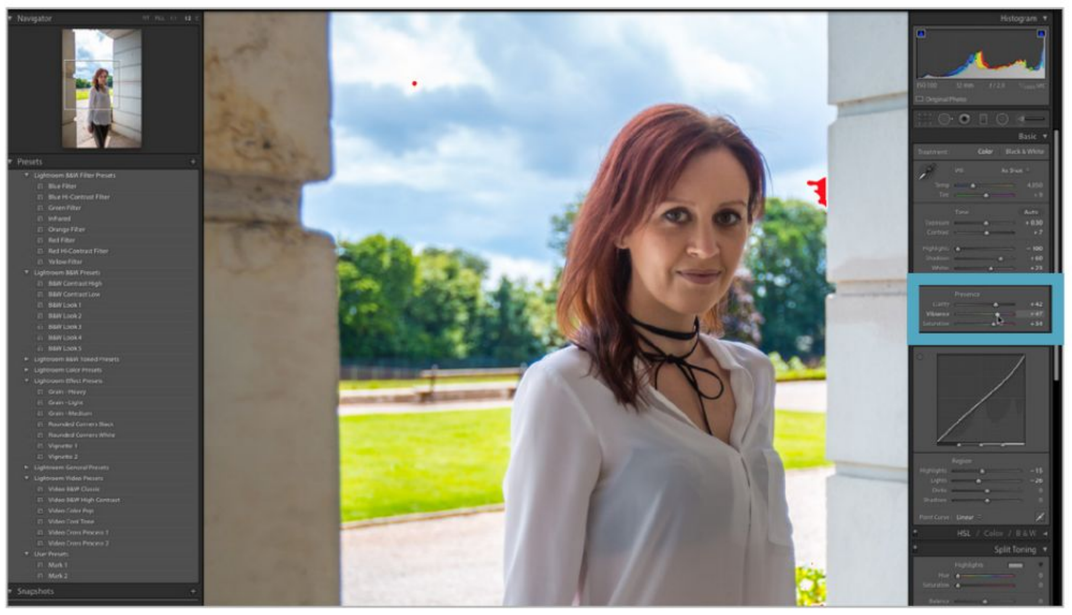
8 Next, we move the Shadows slider to the right. This lightens just the darker tones, restoring darker shadow detail including the dark foliage behind her, without affecting the highlights. You can see that the left-hand peaks of the histogram have moved to the right. Already the image is looking much better but there's still more we can do.



6 One of the toughest exposure challenges faced by photographers is demonstrated this typical shot of a subject with bright backlighting. It has extremes of lighting, as well as very light clothing. You can see from the histogram that there are peaks at both ends of the graph, as well as clipping of crucial highlight detail.

9 If we move the Whites slider a little to the right we can brighten the lighter tones only, adding a bit more punch to the detail on the white shirt. You can see the right-hand end of the histogram curve will be slightly raised as more light pixels are added. Be careful not to go too far or the highlights will start clipping again.

7 We can use the Tone controls in the Basic panel to correct the exposure, restore the highlight detail and generally improve the image. The first thing to do is to move the Highlights slider left, to reduce the brightness of the highlights and remove the clipping. Notice that the peak to the right of the histogram has moved to the left.

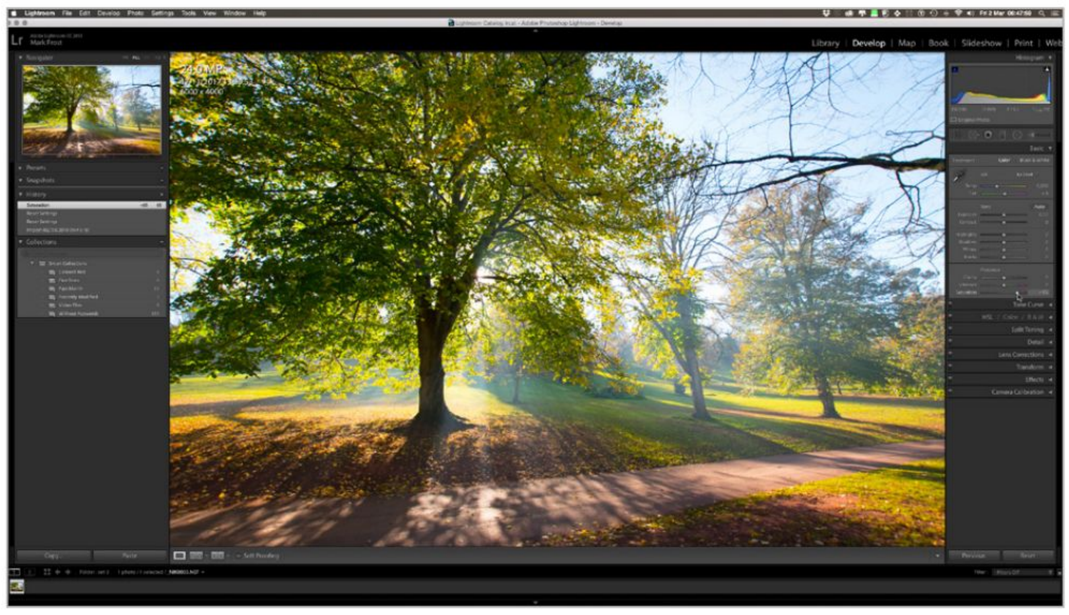


10 Finally, having restored the lost detail at both ends of the exposure curve, we can lighten the whole image by slightly increasing the exposure and then reducing the contrast slightly, which has the effect of evening out the distribution of light and dark areas. The result is a photo with a nice even histogram, indicating correct exposure.

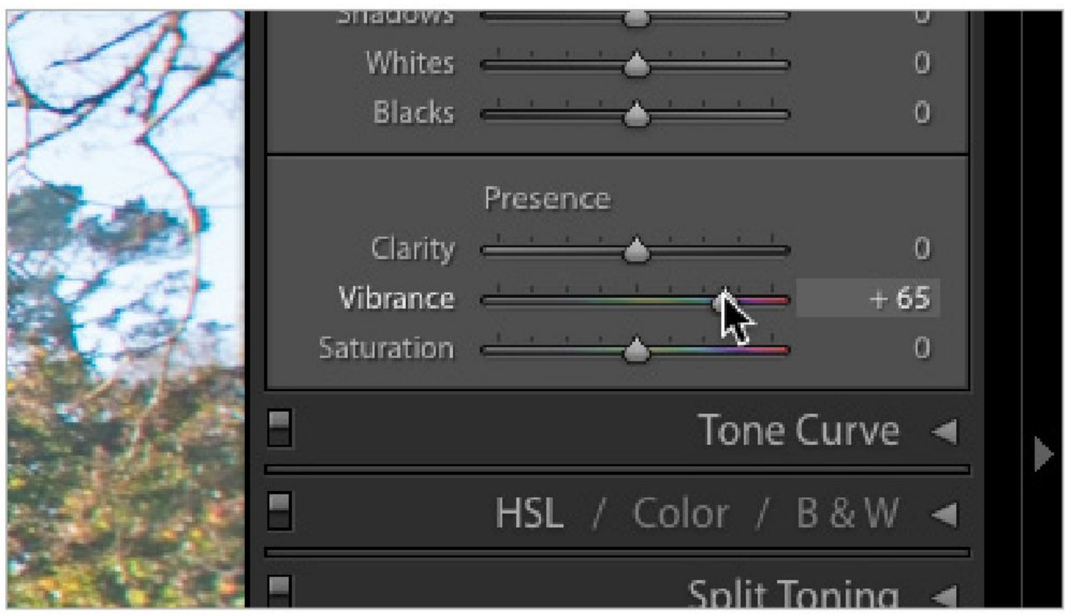
Basic Colour Adjustments

Using the Basic panel's Presence controls we can tweak and adjust the colour balance and saturation of digital photos, creating stunning scenes with life and colour; as with most image editing operations, the key to success is subtlety.

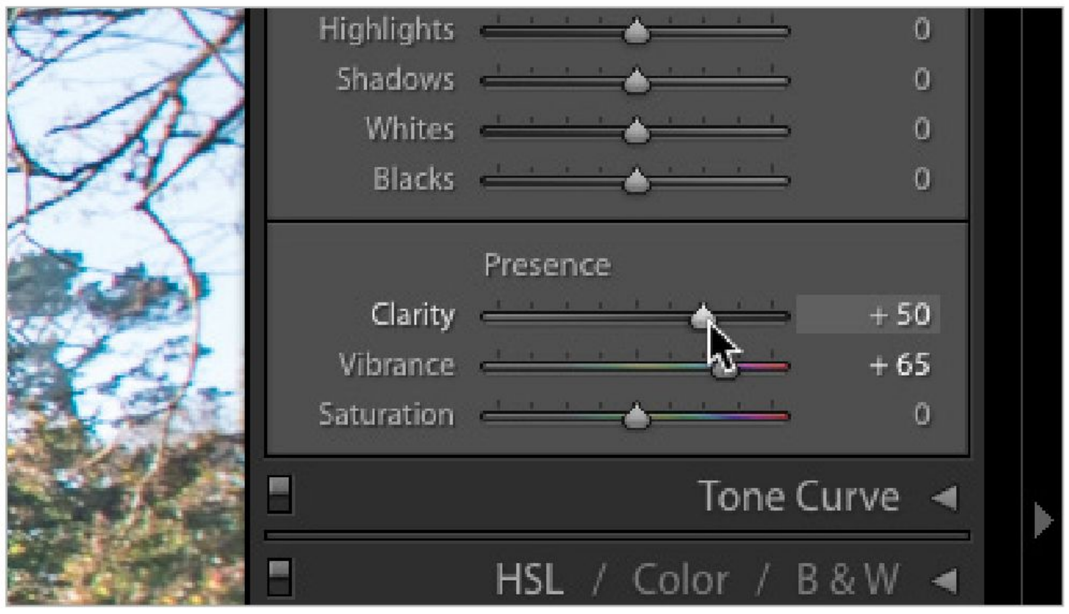
1 For our basic image, we'll use this woodland scene. It's a decent shot with good composition and a nice bright sunny glow to the light; but the colours look a little muted, it lacks punch and it doesn't really capture the full potential of what should be a striking scene. There are several things we can do to adjust the colours in this photo.



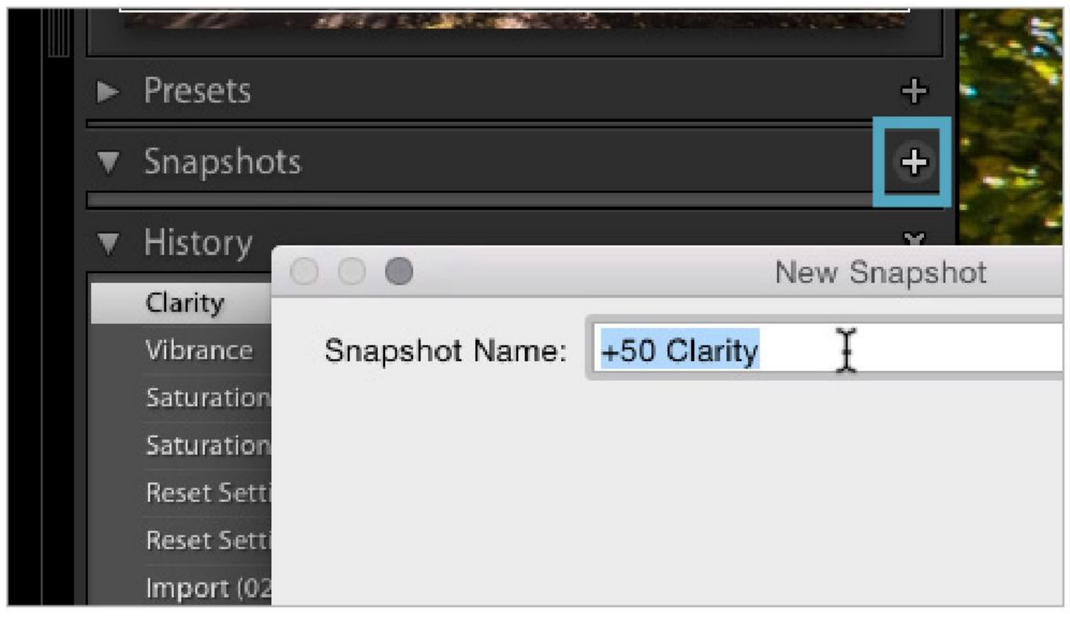
2 Simply boosting the saturation by +65 does make the colours pop but the Saturation slider is a very indiscriminate control when used on its own. The colours are certainly richer but it makes the already bright greens of the grass look too bright and unnatural. It also does nothing to help boost the contrast.



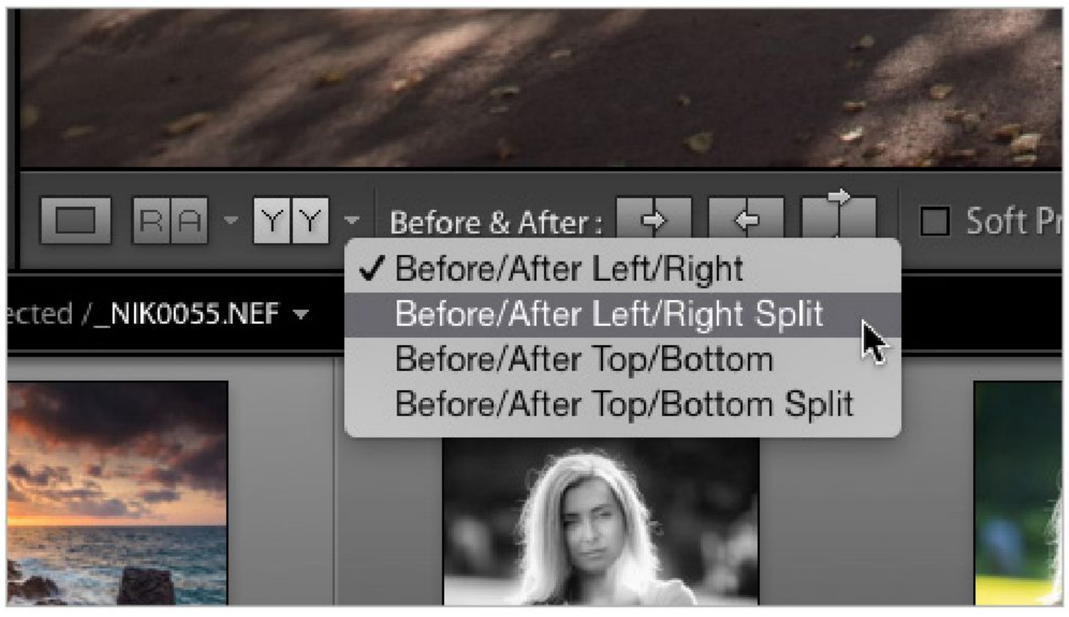
3 The Vibrance control is more subtle. Instead of boosting the saturation of every pixel, it boosts under-saturated colours more and colours already well saturated less. The result is a more colourful image but without the cartoonish over-saturation of the previous example. The grass looks more natural and the sky is more vivid.



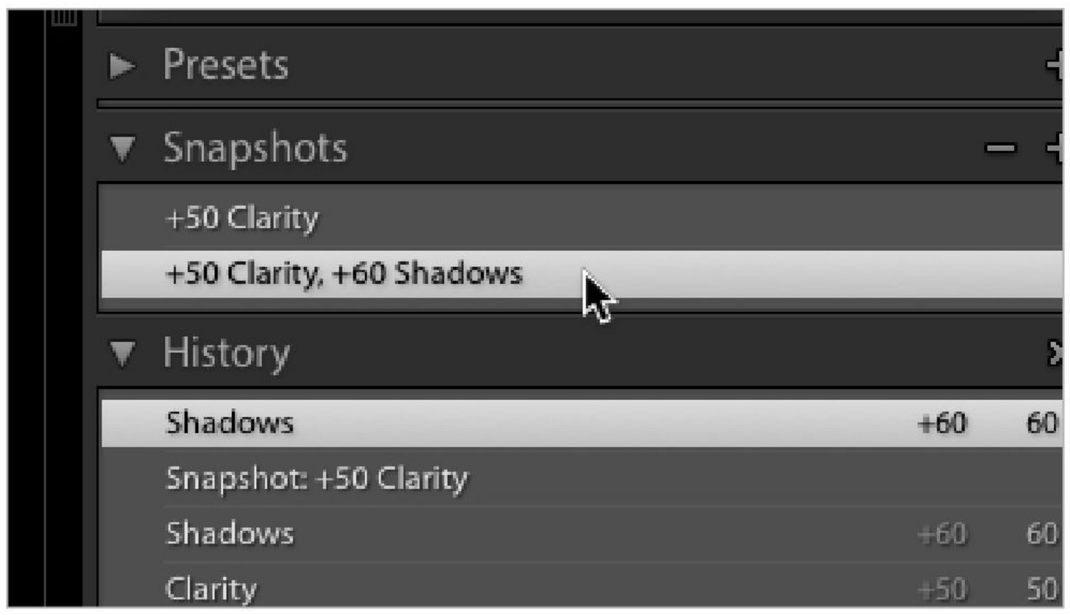
4 The Clarity control doesn't make much difference to the colour balance but what it does do is affect the contrast of the mid-tones by increasing some of the edge detail and adding a general sharpening effect. It really helps to emphasise the contrast and texture of the trees. Clearly what we need is some sort of combination of these three effects.



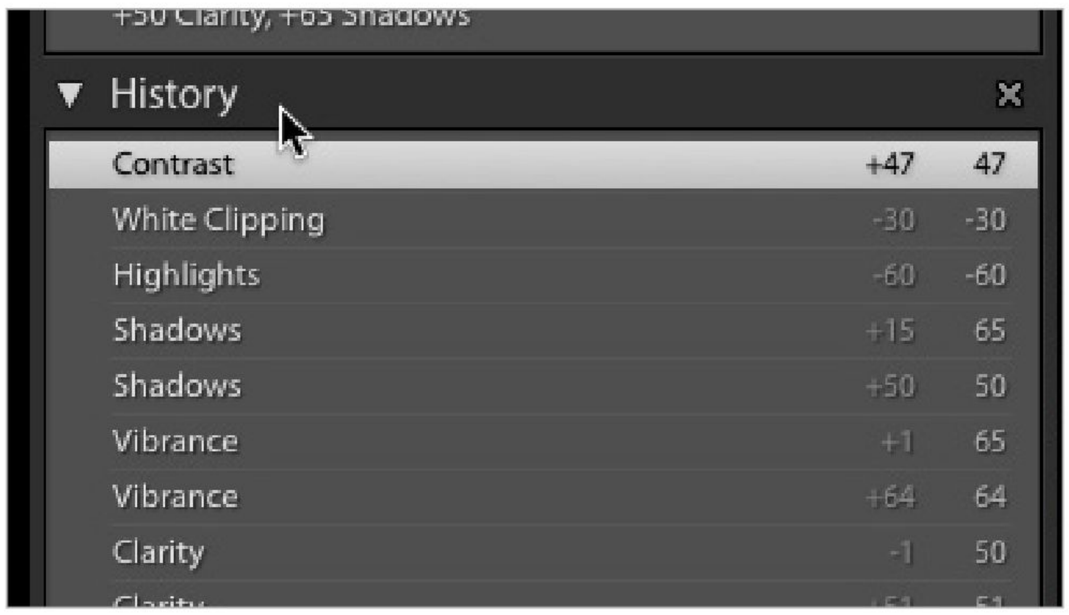
5 When making incremental adjustments like this we can make use of another Lightroom feature, the Snapshot. Make your first adjustment, in this case +50 Clarity to boost contrast, and then click on the Create Snapshot button on the left sidebar. Name the snapshot "+50 Clarity", and then click on Create. The snapshot is now saved.



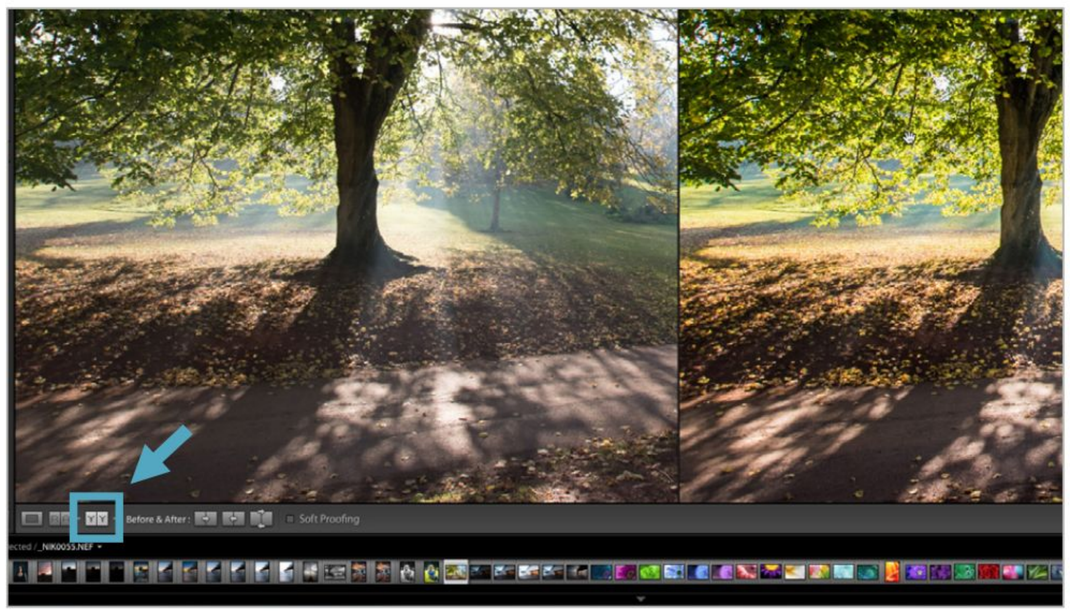
8 The right-hand button on the option bar provides another split-screen option; this displays the left half of the unaltered image on the left of the screen and right half of the edited version on the right of the screen. You can change positions using the pop-up menu that appears when you click the arrow next to the button.



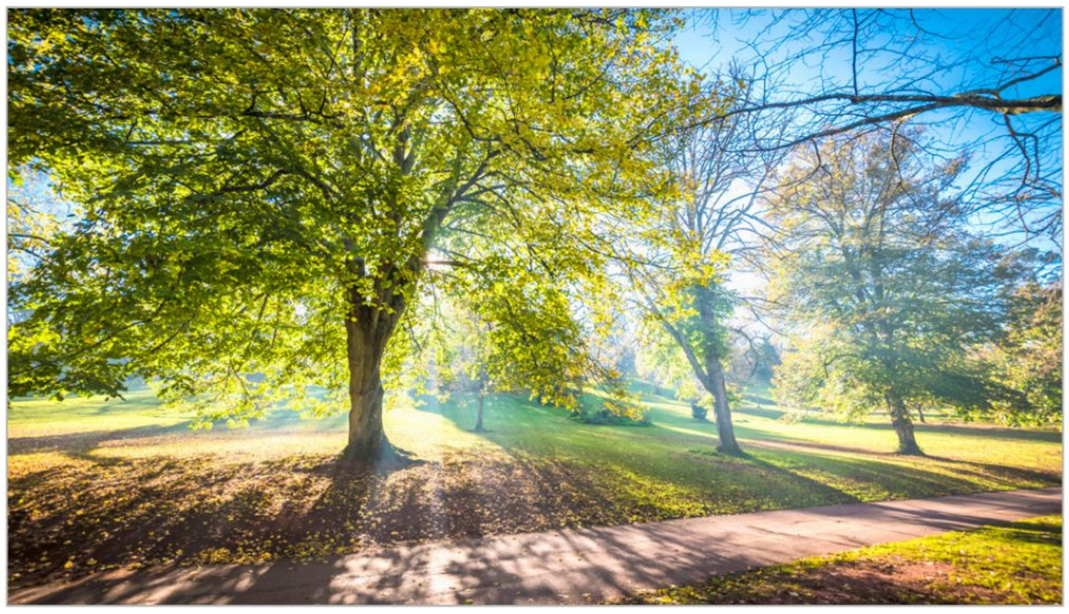
6 Make your next adjustment, then create and label a second snapshot of that state as well. You can do this as many times as you want with different adjustment combinations. You can instantly switch from one state to another by clicking on the snapshots in the left sidebar, letting you instantly compare different adjustment setups.



9 Making these careful incremental adjustments to an image can get confusing and it's easy to make mistakes. If you make an adjustment that you're not happy with, you can instantly undo it and go back to a previous step using the History panel in the left sidebar; just click on the step to which you'd like to return.



7 Another good way to see how your adjustments look when compared to the original unaltered shot is to use the Before & After split-screen view. In the lower left of the screen on the options bar you'll see several buttons. Click on the right one, labelled Y Y and both the edited and unedited images will appear side-by-side.

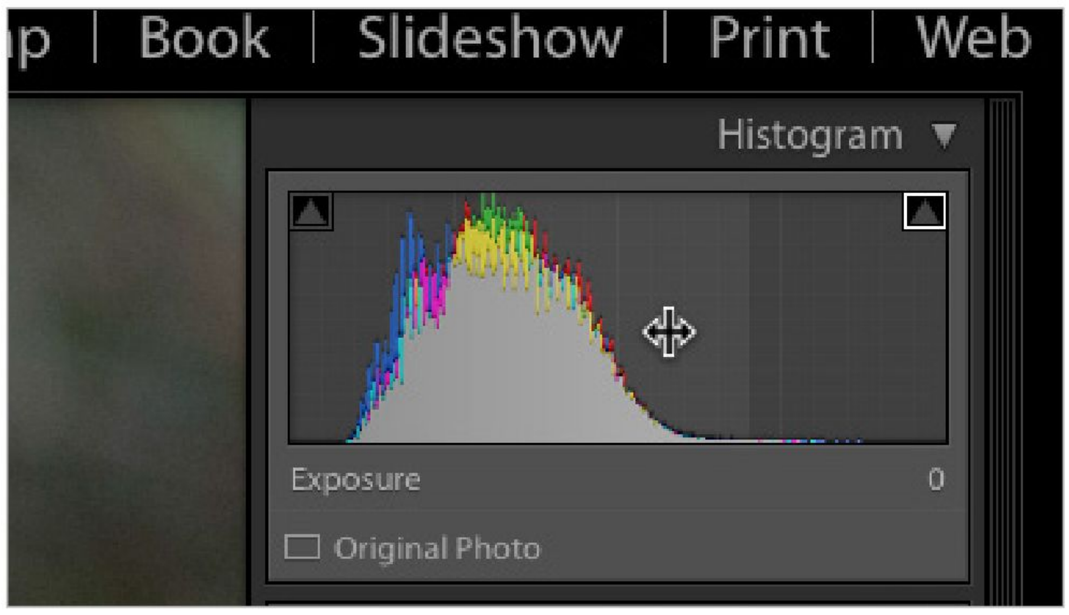


10 Adjusting colour in a landscape scene such as this is very subjective but it's what looks the best to you as the photographer that really matters. Here we've adjusted Clarity, Vibrance, Saturation, Highlights and Shadows and the result is definitely a significant improvement over the image we started with and has brighter colours and better contrast.

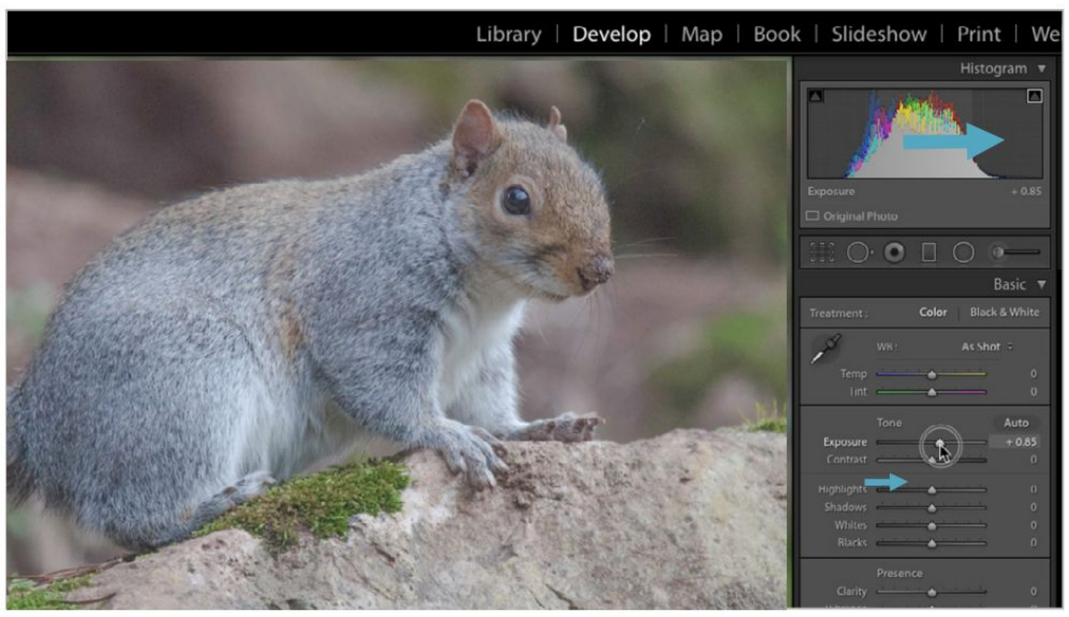
Improve Contrast with Tone Controls

Lightroom's advanced Tone controls are far more sophisticated than the simple Brightness/Contrast controls found in other editing programs. Lightroom makes precise adjustments to specific ranges of brightness, so you can quickly turn mediocre shots into masterpieces.

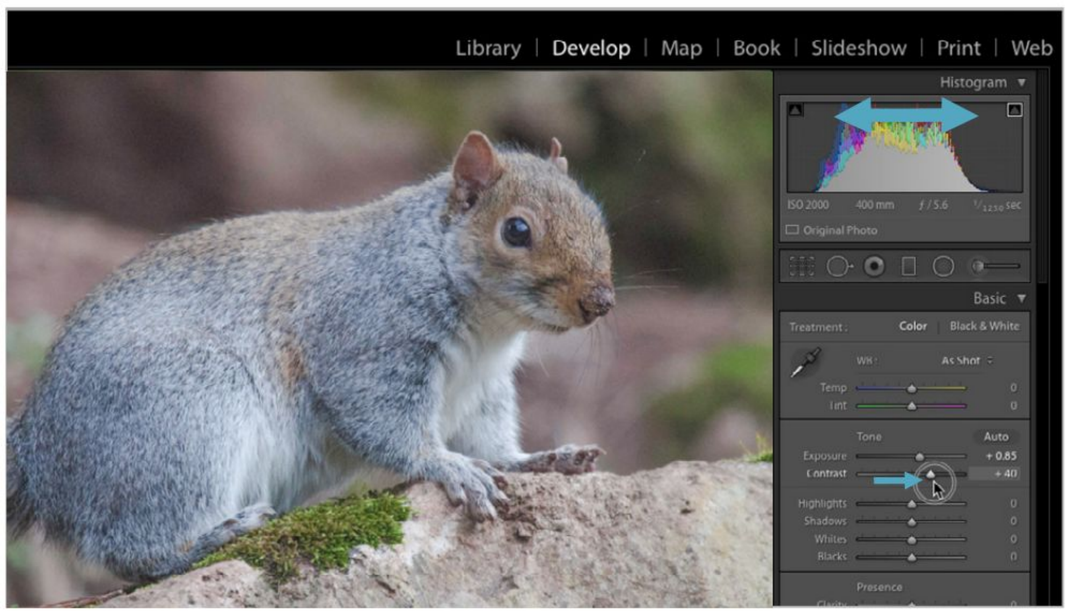
1 Even with a good quality digital SLR it's possible to produce a shot with limited contrast. Reasons include incorrect metering, poor lighting or simply a low-contrast scene. In our example shot here it's a combination of all three. The shot is under-exposed, the lighting is flat and it's simply not a contrasted scene. Let's see how we can help.



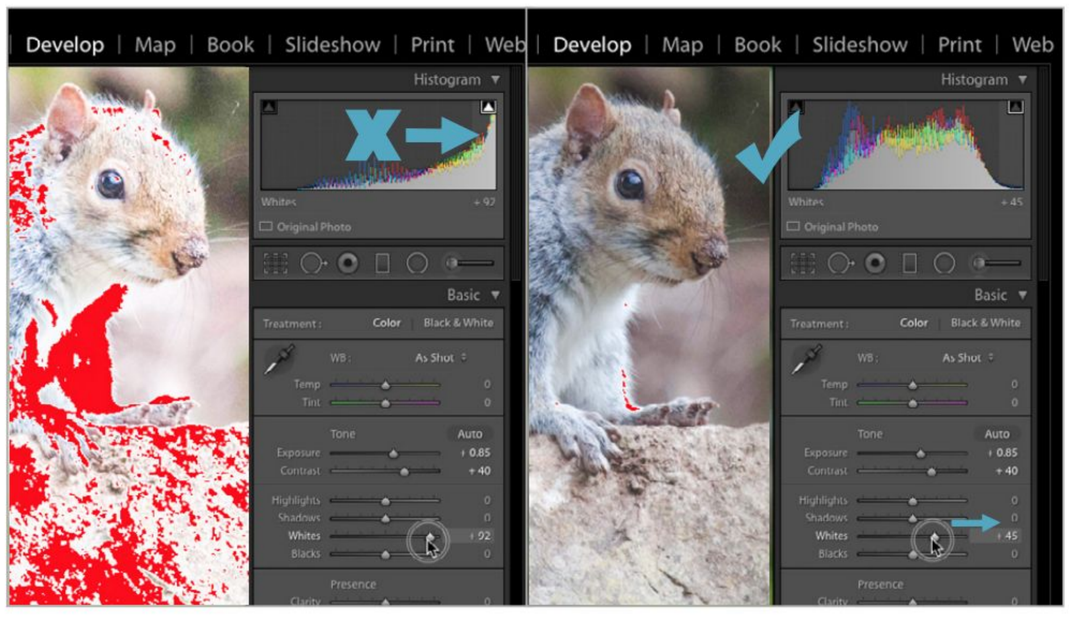
2 One look at the histogram reveals the nature of the problem. The image lacks both highlights and shadows and the histogram curve is bunched up towards the darker end of the scale, indicating under exposure. The first step is to correct that under-exposure, so we need to open up the Basic tab on the right-hand sidebar.



3 To increase the exposure, simply take the Exposure slider in the Basic panel and move it towards the right. Keep an eye on the histogram as you do this. What you want is to position the bunched-up curve roughly in the middle of the graph. In this case an increase of almost a whole stop (+0.85) will be sufficient.



4 Some improvement can be made by using the Contrast slider and moving it a little to the right; you can see that the histogram curve spreads out, as highlights are brightened and shows darkened. Don't take it too far though, because you can do a better job fine-tuning with the other Tone controls. In this case an adjustment of +40 is plenty.



5 Next, move the Whites slider to the right, so that the curve moves to the right-hand edge of the graph, but not too far. At this point it's a good idea to click on the Highlight Clipping warning in the upper right corner of the histogram window, so that you can see any clipped highlights in red. A value of +45 is just right.

6 In order to improve the shadow definition, move the Blacks slider to the right. As before, turn on the Shadow Clipping warning but don't worry too much about a few clipped pixels in the deeper shadows. Move the left-hand end of the histogram curve to the left until it approaches the left border of the graph. -50 is fine for this example.

7 You can further fine-tune the shadow definition by moving the Shadows slider to the left a little, which also has the effect of darkening the foliage in the background. Keep an eye on the histogram clipping as you're moving the slider; if necessary move the Blacks slider back to the right a little. Try to balance the adjustment between these controls.

8 So far, you've improved contrast by improving the shadows and highlights but the mid-tones are left looking a little flat. Improve these by using the Clarity control, which enhances mid-tone contrast. With the adjustments that you've already made there's no need to move it far to produce the desired result. +50 is enough to add punch.

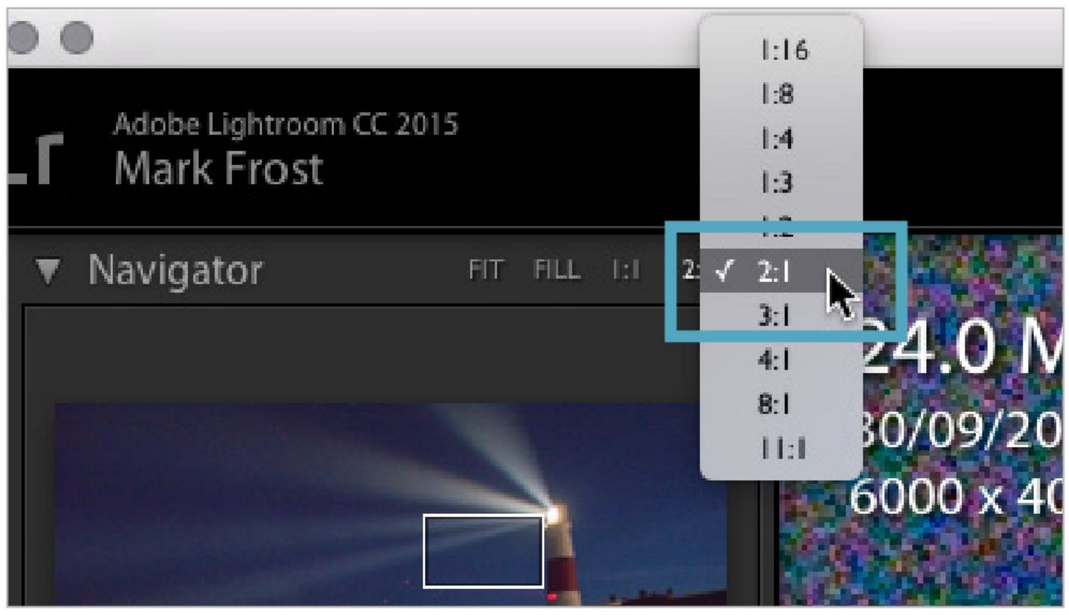
9 With a change to the white balance, a small adjustment in Vibrance to add a bit of brightness to the colours, plus a bit of minor cropping to tighten up the composition, the end result is a much better photo. Comparing the before and after views side-by-side using the view buttons shows up just how much better the adjusted photo looks.

10 If you want to turn the image monochrome, you can use a similar process in the Black & White option of the Basic panel. The major difference is that the exposure hasn't been increased by as much and obviously Vibrance isn't used; otherwise the adjustments are very similar. We'll look more closely at Black & White elsewhere.

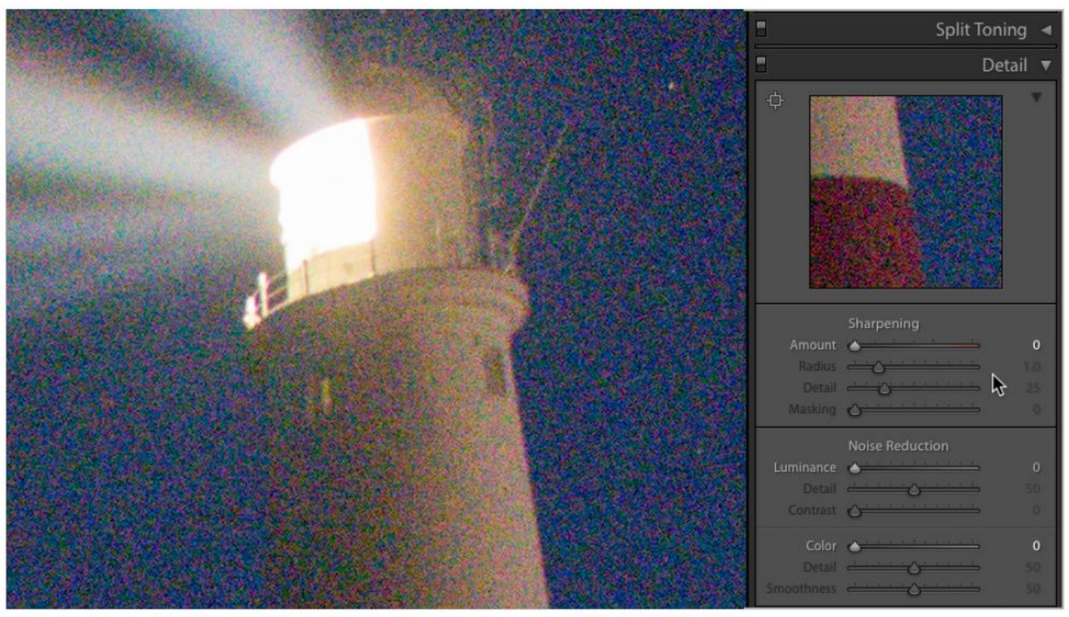
Reducing High ISO Noise

Image noise occurs when the signal from the photocells in the camera's sensor is amplified to boost the image in low light, in other words when you increase the ISO setting. It shows up in your photos as a speckled grain of random colour and brightness.

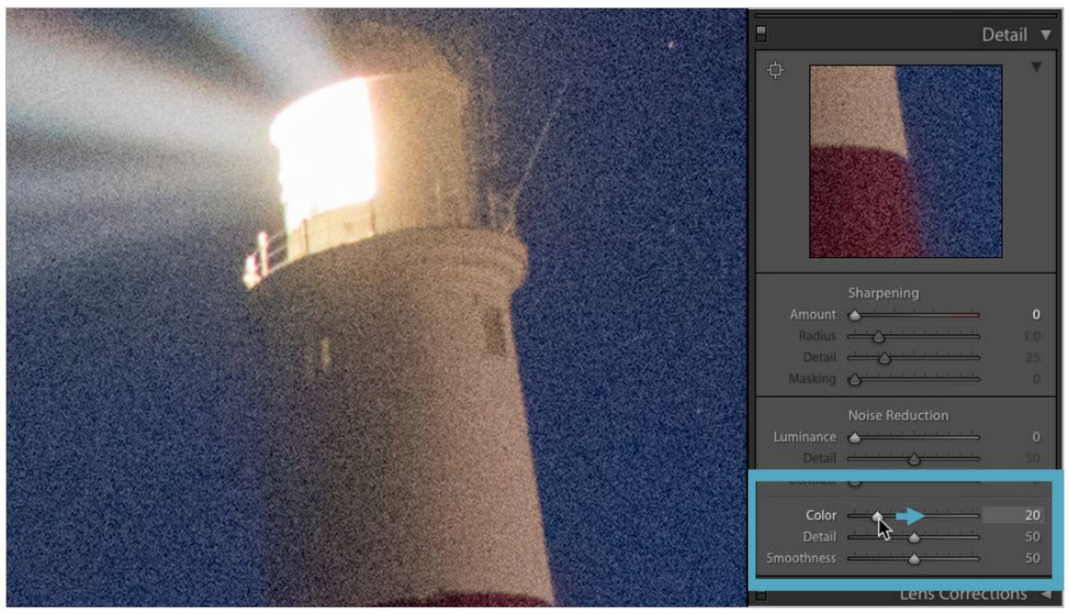
1 All digital cameras suffer from noise but some control it better than others. Modern top-end digital SLRs can comfortably shoot at 6400 ISO without too much trouble but older or cheaper cameras can suffer image ruining noise problems as low as 1600 ISO. This example was shot on a five year old Panasonic compact at 3200 ISO and is very noisy.



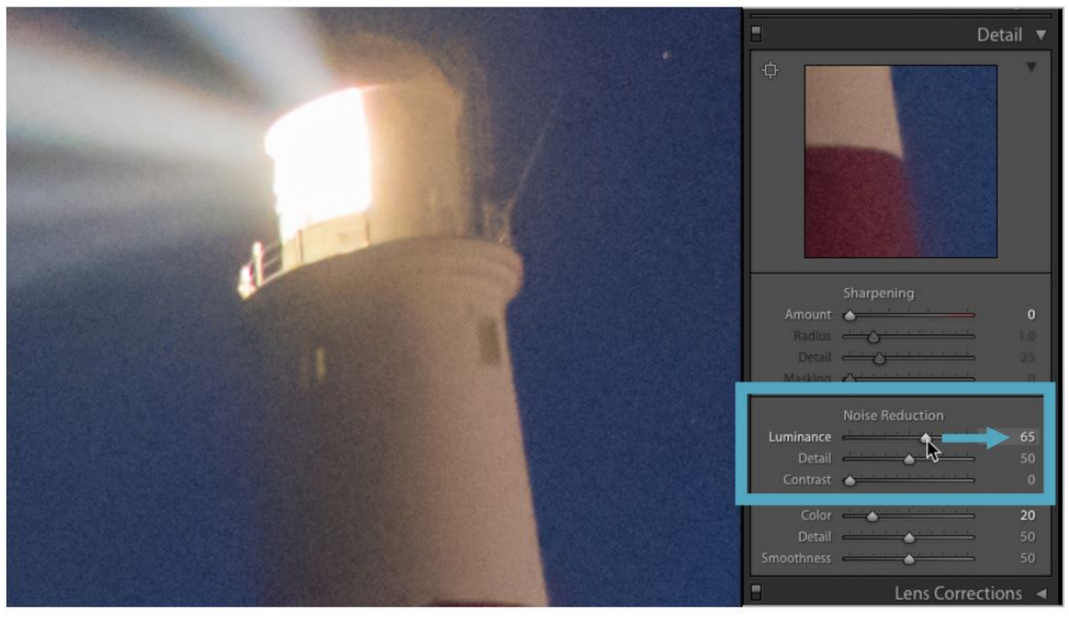
2 Working on reducing noise requires a close-up view of the image, to be able to judge fine detail, so we need to zoom in. At the top of the left sidebar, on the right-hand end of the title bar of the Navigator panel, you'll see a button for a drop-down menu. Click on it and select 2:1 or even 3:1 for a zoomed-in view.



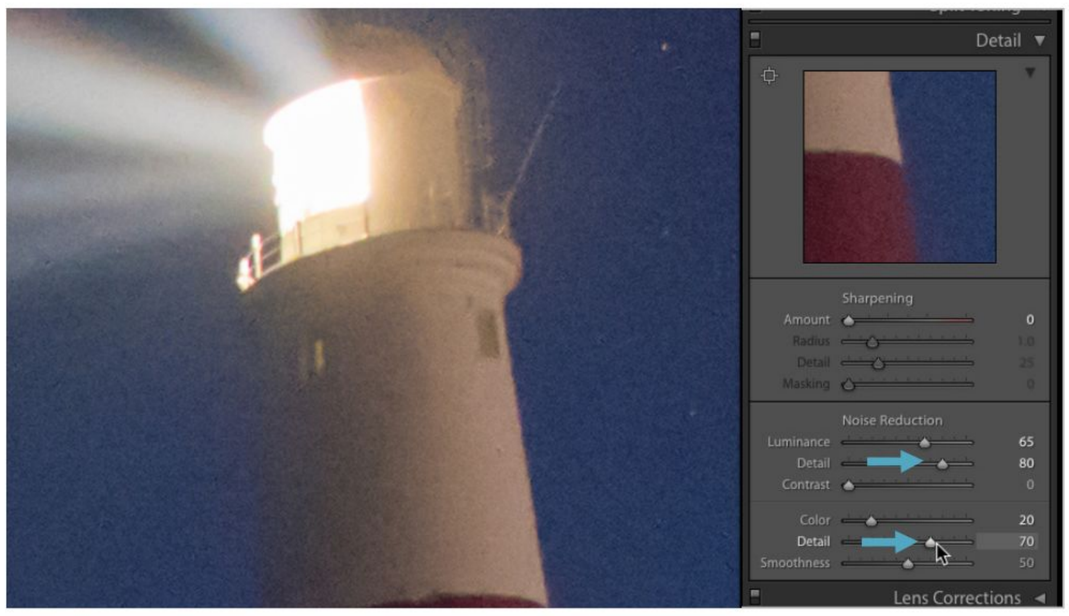
3 In the right-hand sidebar, open the Detail panel. This is where you'll find the controls to adjust Sharpening and Noise Reduction. You might find that images from your camera have some sharpening and noise reduction already applied by default but for this example set all the sliders are set to zero for a worst-case scenario.



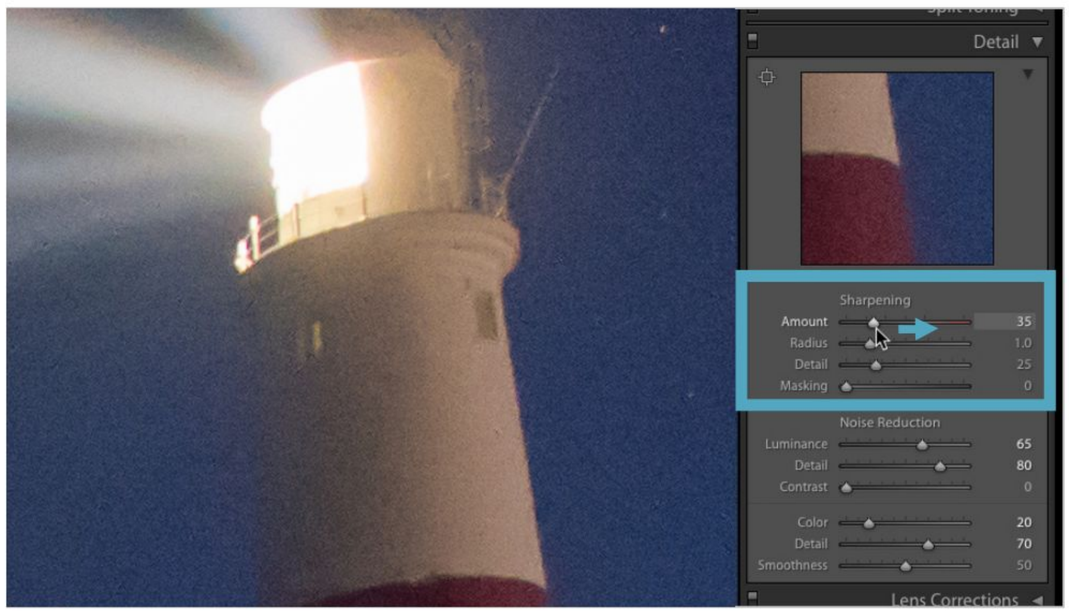
4 The most obvious problem with our example image is colour noise; it's the speckling of random coloured dots all over the image. Fortunately, this is very easy to correct. Simply move the Color slider slowly to the right until the colour noise disappears. Even for an image this noisy, just +20 will do the trick.



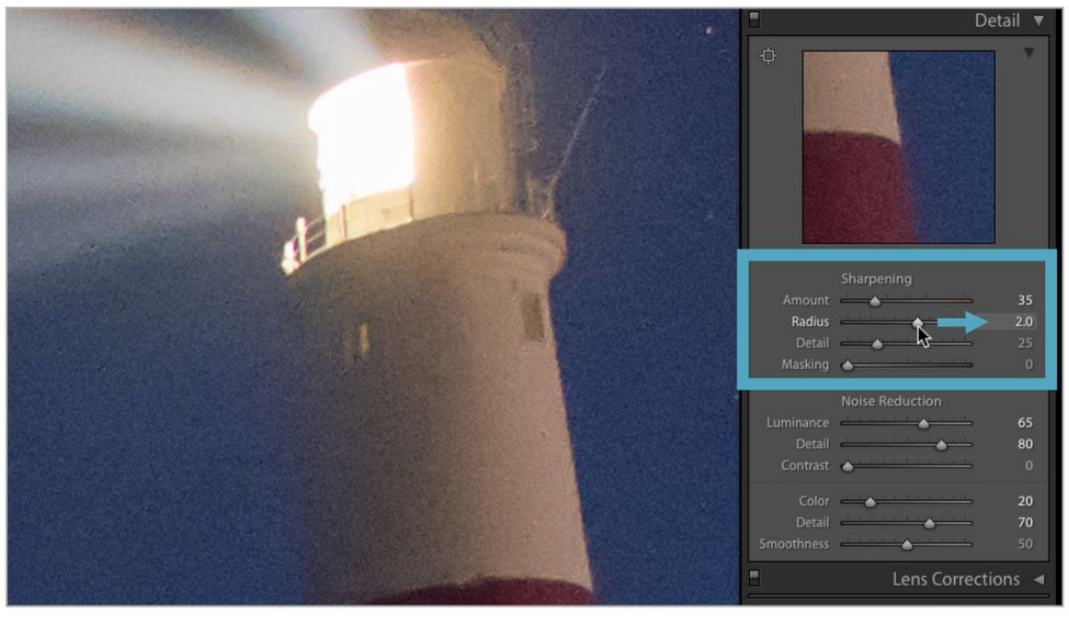
5 Removing the colour noise just means that the luminance noise is more obvious; it's the salt-and-pepper dusting of light and dark pixels that look like grain on the image. To effectively remove this, move the Luminance slider to the right. You'll notice that this also evens out fine detail, so try to balance this against the noise reduction.



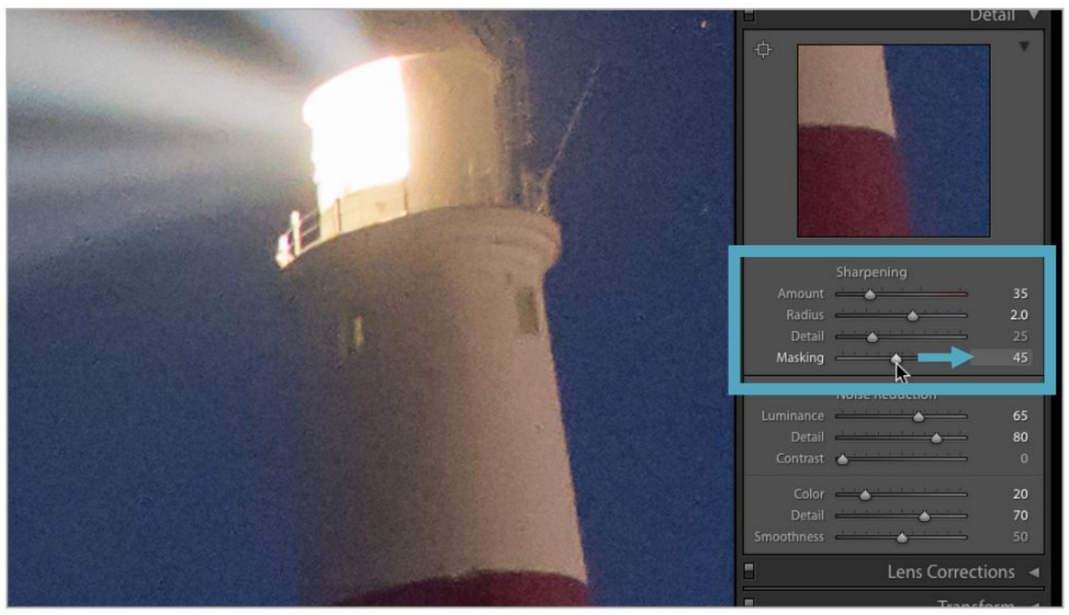
6 Reducing luminance noise always involves reducing fine detail, that's just the way it works but now we can try to pull some of that detail back. Carefully move the Detail sliders on both the Luminance and Color noise sections towards the right, keeping a close eye on the zoomed-in image. These apply a sharpening effect that can improve edge detail.



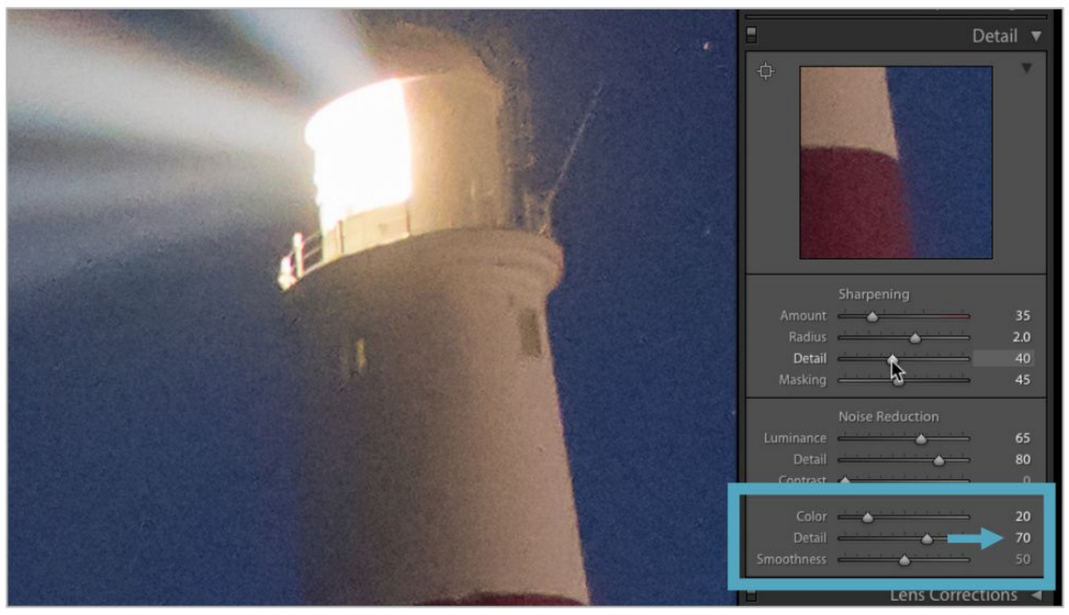
7 You can recover yet more detail by applying sharpening to the noise-reduced image. In the Sharpening section, move the amount slider a little to the right. You'll see that the other sliders are now no longer greyed out. Carefully adjust the Amount to about 35 and you should see a significant improvement in detail sharpness.



8 You may notice some slightly jagged edges appearing as you increase the Sharpening Amount, especially between areas of contrasting colour or brightness. You can reduce this effect slightly by increasing the Radius slider from its default 1.0 up to 1.5 but don't take it higher or you risk introducing edge artefacts.



9 Sharpening an image is a balancing act between improving detail definition and introducing spurious artefacts around those details and any remaining noise. You can improve things further by applying Masking. This is similar to Photoshop's very effective Unsharp Mask feature and reduces sharpening in areas with little detail.

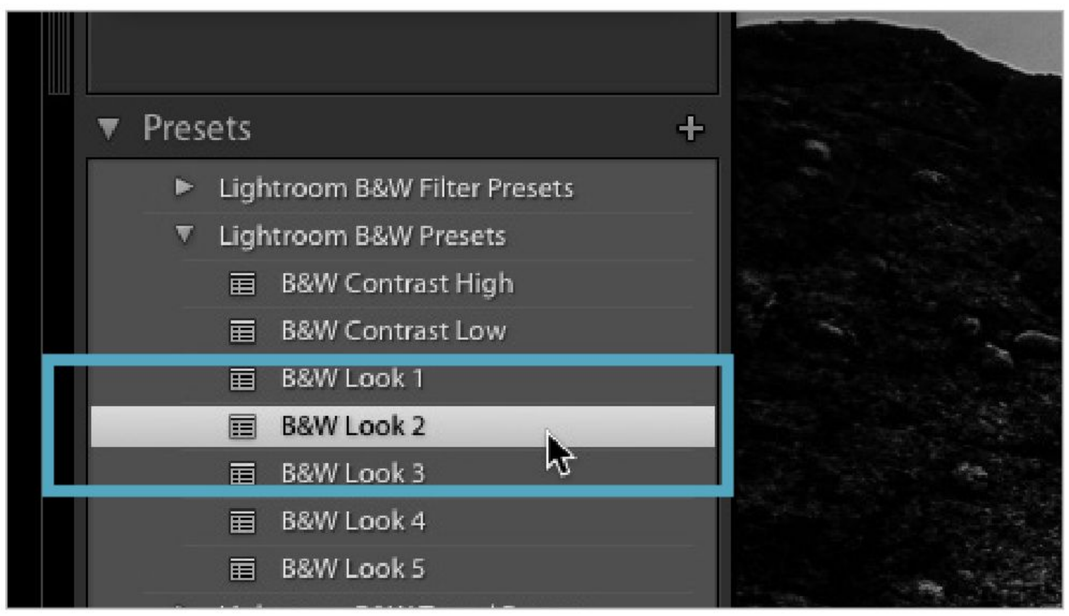


10 Finally there is the Detail slider. This controls how fine the sharpening of detail will go. For images like this, with not much fine detail, it can be left safely at its default setting. For images with more detail it should be increased. If you compare the before and after images in split-screen you can instantly see the effect you've achieved.

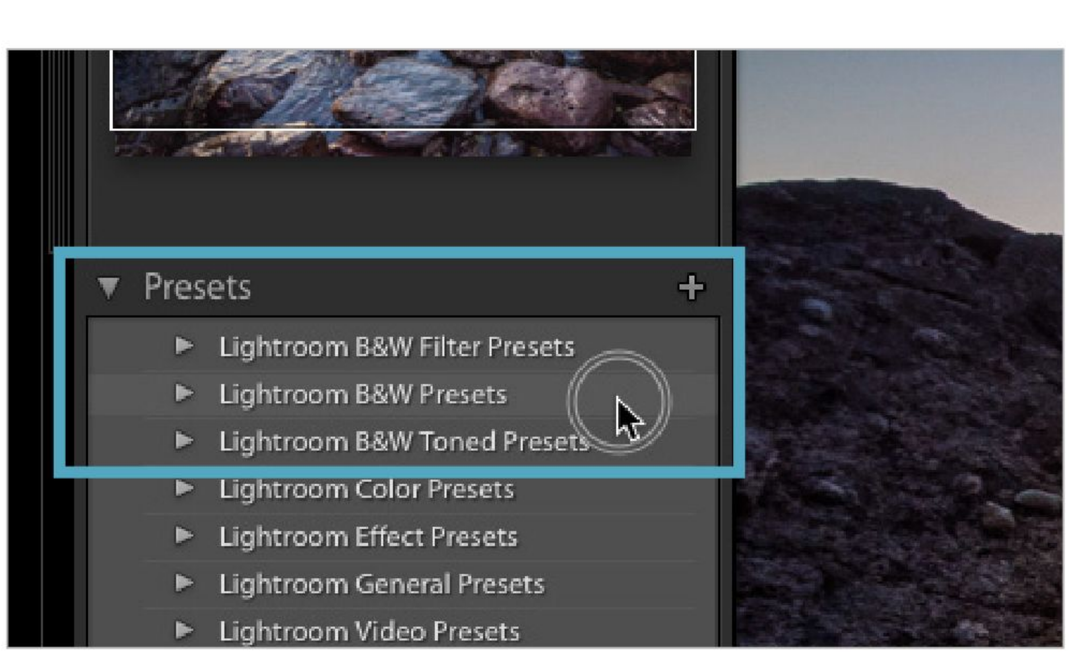
Improve Your Monochromes

Black and white photography remains as popular today as it ever was and as you'd expect Lightroom supports monochrome photography with a wide range of dedicated features. Lightroom especially supports conversion from colour to monochrome, with great effect.

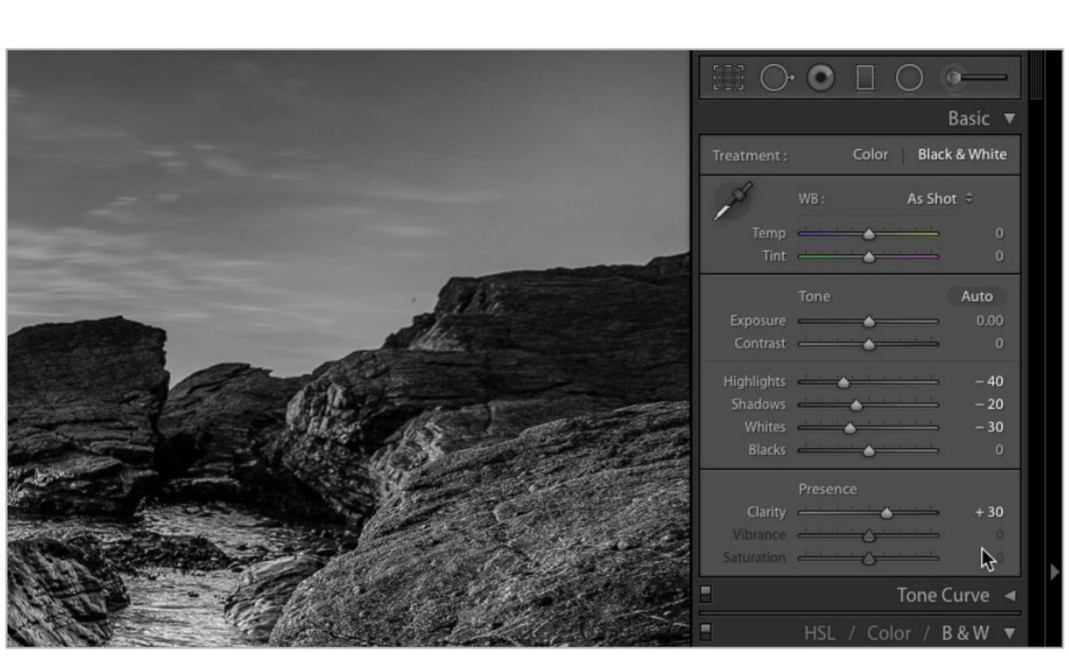
1 Successful monochrome photography is all about lighting, contrast and texture, so the best monochrome conversions will be images that emphasise these qualities. Artistic portrait studies, modern urban architecture and rugged rural landscapes are all good candidates. For our example, we'll be using this shot of a coastal sunrise.



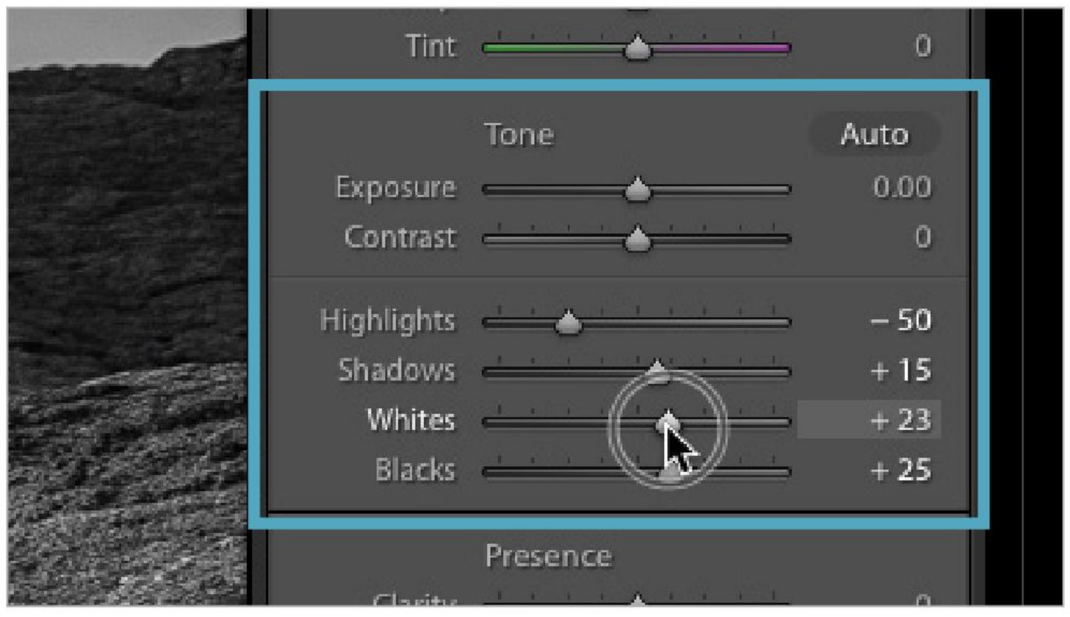
3 Open the Presets tab and then click on Lightroom B&W Presets to see the list of available built-in options. They include high and low contrast settings, as well as five special presets that add effects such as vignetting, film grain and coloured filters. You can try these out and then undo their effects by using the History tab.



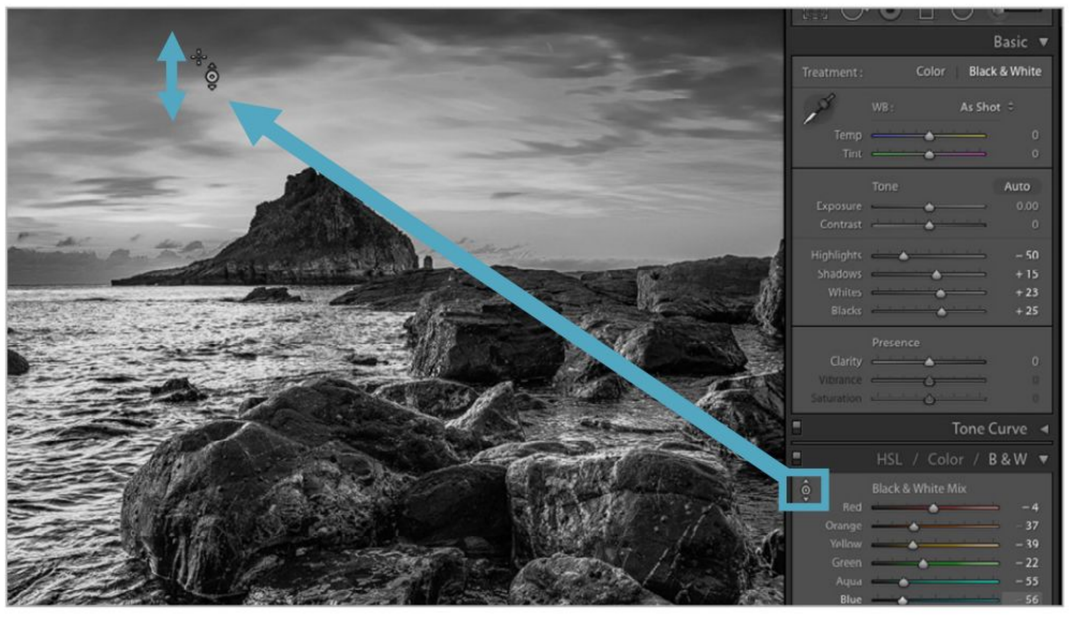
2 For quick results, Lightroom comes with a number of built-in presets for converting colour photos to monochrome. You can find them in the left-hand sidebar, not too surprisingly in the Presets tab. There are presets for B&W Filters, B&W Toned processing and also for simple B&W conversion. Let's take a closer look at these first.



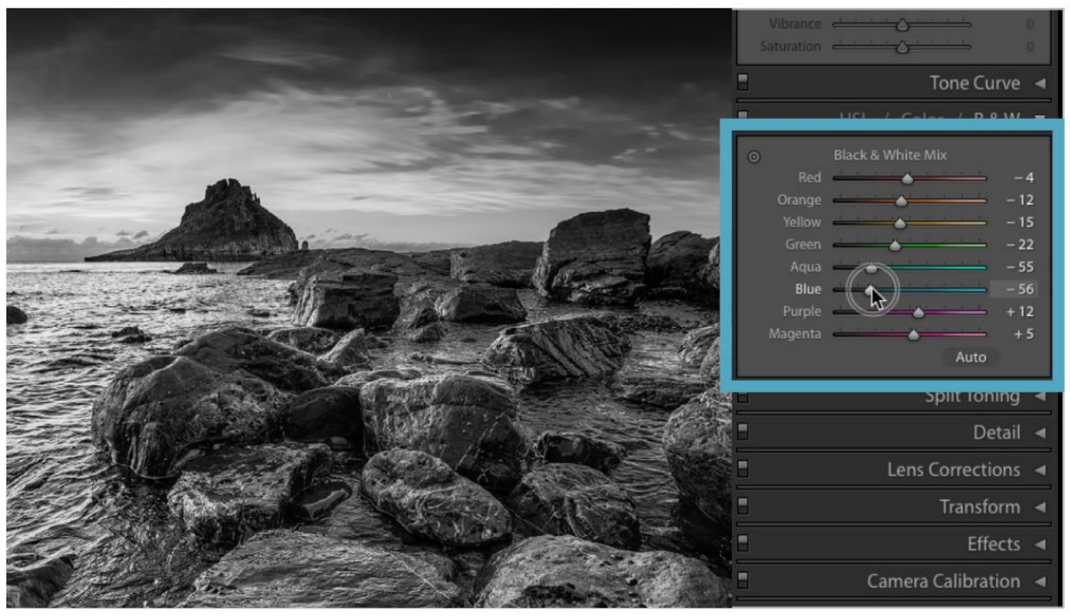
4 If you look at the Basic and HSL/Color/B&W tabs in the right-hand sidebar, after clicking on one of the B&W conversion presets, you can see that both instantly switch to Black & White mode and several of the sliders will move to new positions. If you click through one preset after another you'll see the sliders move each time.



5 The best use for the presets is as a starting point for your own adjustments. For this image we'll start with the B&W Contrast High preset but then increase the lightness of the over-dark shadow areas by moving the Black, White and Shadows sliders slightly to the right. Pay attention to the histogram while making your adjustments.



8 In the upper left corner of the HSL/Color/B&W panel you'll see a small circular icon. This is an immensely useful tool for adjusting monochrome filtering. It lets you directly adjust the tonal balance by clicking and dragging on areas of the image. Click on it, move it over to the sky and move it up and down to see the effect.



6 Photographers shooting in monochrome use coloured filters over the lens to alter the relative brightness of tones in the final image. For instance, an orange filter will darken a blue sky. We can produce the same effect by using the sliders in the B&W section of the HSL/Color/B&W tab or by using the presets in the B&W Filter Presets tab.

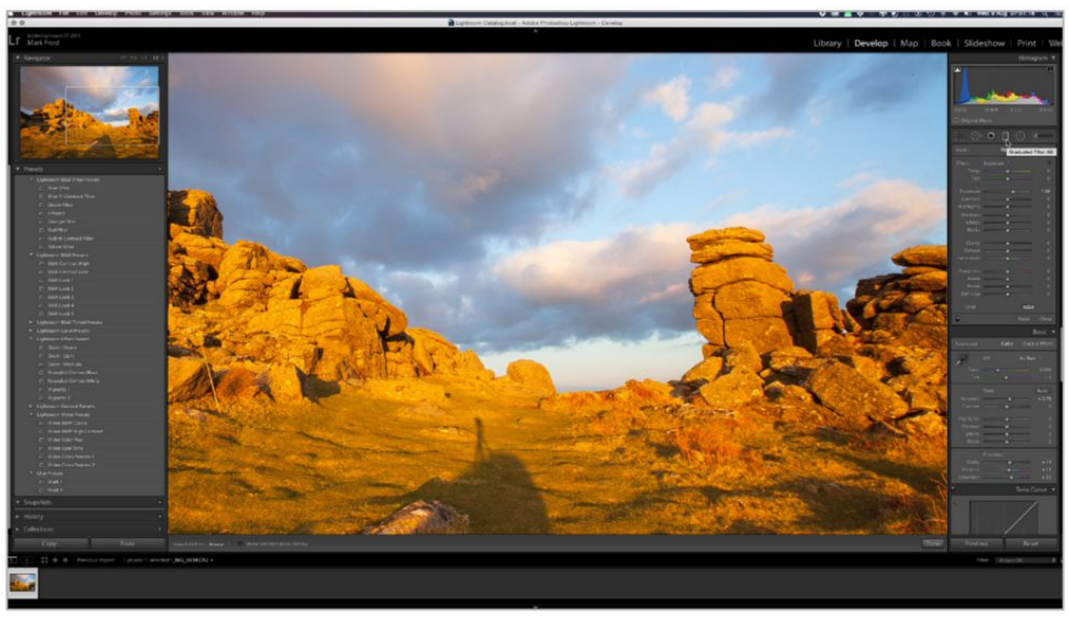
9 Also in the Presets panel you'll find B&W Toned Presets. These replicate the effects of different traditional processing and toning methods used in darkroom photography. They work by adding subtle colours to the highlights and shadows in different ratios and can produce some beautiful effects. Sepia toning is the best known.

7 Before adjusting the colour filters, turn on the before-and-after spilt-screen view so that you can see which colours are where. For our example shot, reducing the level of blue by moving the slider left makes the sky look darker and more dramatic, while decreasing purple and magenta darkens the foreground rocks, making for a more balanced shot.

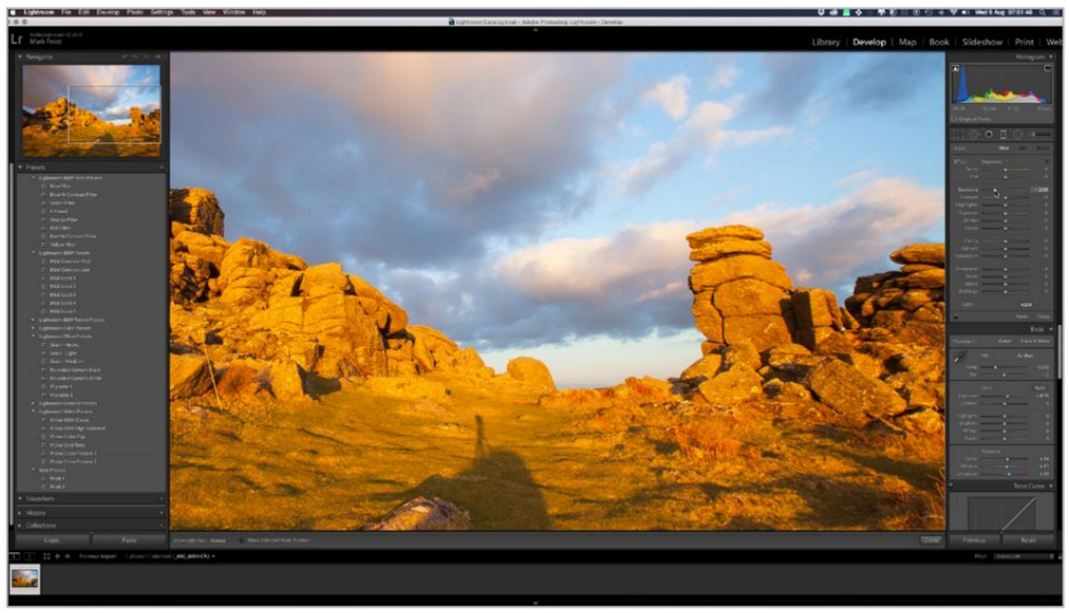
10 You can see the effect of the Tone presets if you open the Split Toning panel in the right-hand sidebar. You'll see that the sliders have moved from their defaults. For example, sepia toning applies a light yellow-brown colour to the image, with different saturations for the highlights and shadows. We'll take a closer look at Split Toning elsewhere.

Using Graduated and Radial Filters

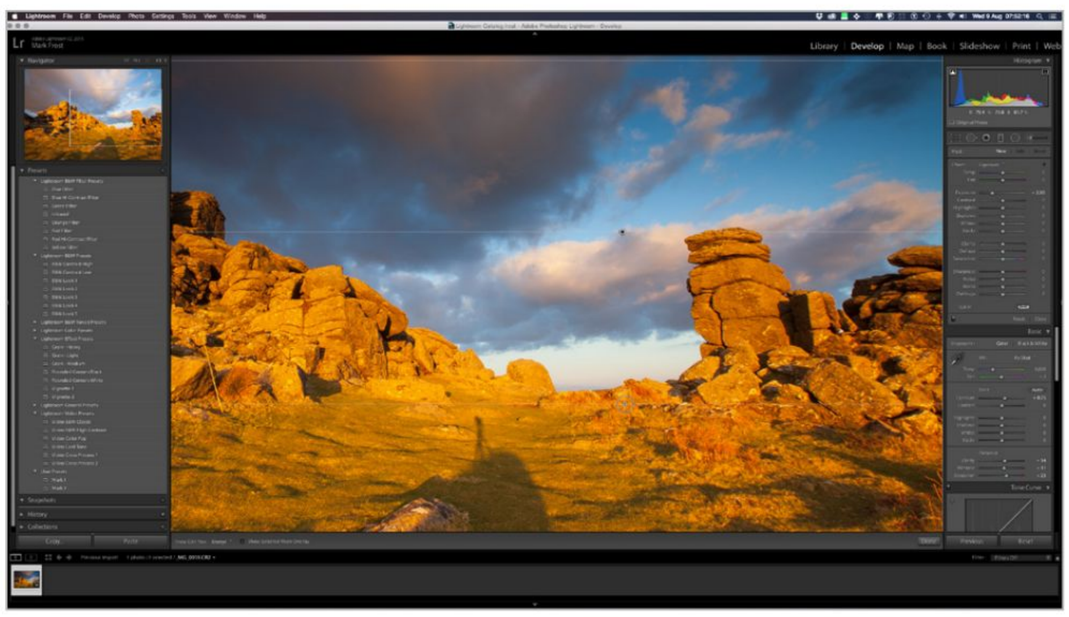
Traditional graduated filters are tinted slides, darker at one end than the other, that photographers place in front of a lens to selectively darken or add emphasis to an image. Lightroom's graduated filters do the same thing but are more powerful.



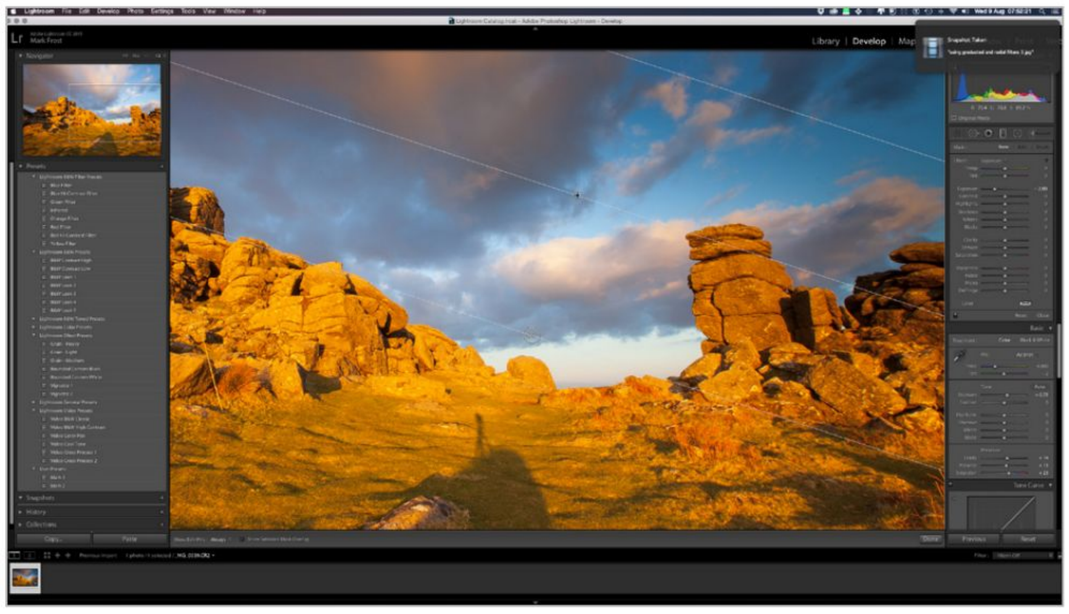
1 You can find graduated and radial filters in the editing tools bar, just below the histogram on the right-hand sidebar. Graduated filters are under the vertical rectangular icon, while the radial filters are under the circular icon to the right. Click on the graduated filter icon and you'll see an array of sliders for controlling the filter's effects.



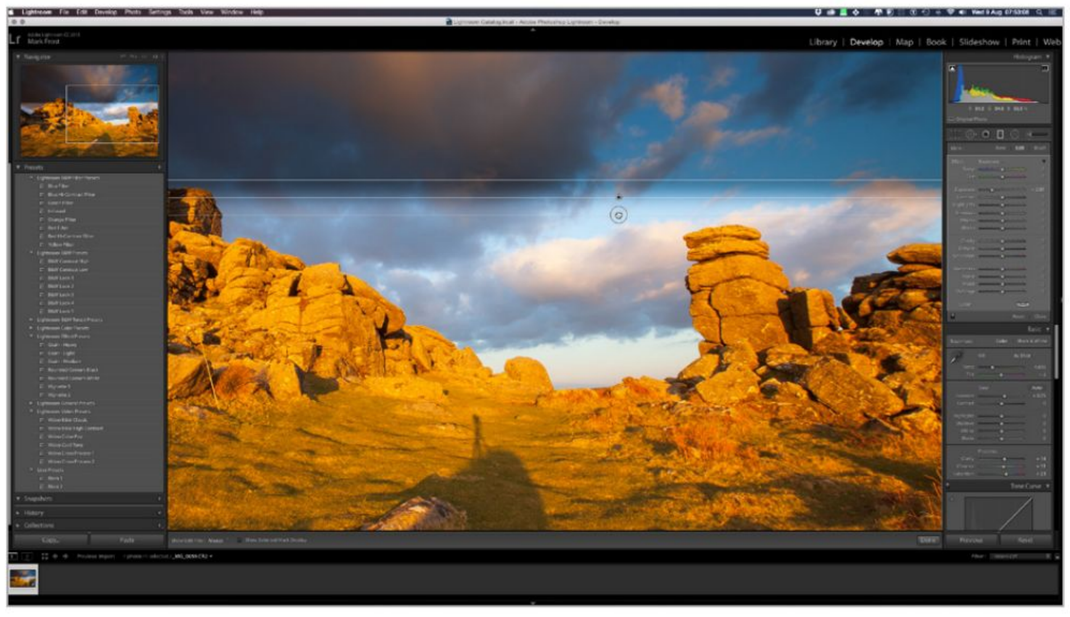
2 As you can see, Lightroom's graduated filter tool can apply a wide range of effects, far more than the simple darkening or tinting of a camera mounted filter. Start with something simple though and try to darken the sky of our example image. Locate the Exposure slider and drag it to the left until the value is -2.00.



3 Click your mouse at the top of the image and drag downwards to about halfway down the frame, and you should see three horizontal lines appear with the filter effect applied between them. If you hold down the Shift button while dragging, the dragging direction will be constrained to vertical (or horizontal if you drag in from one side).

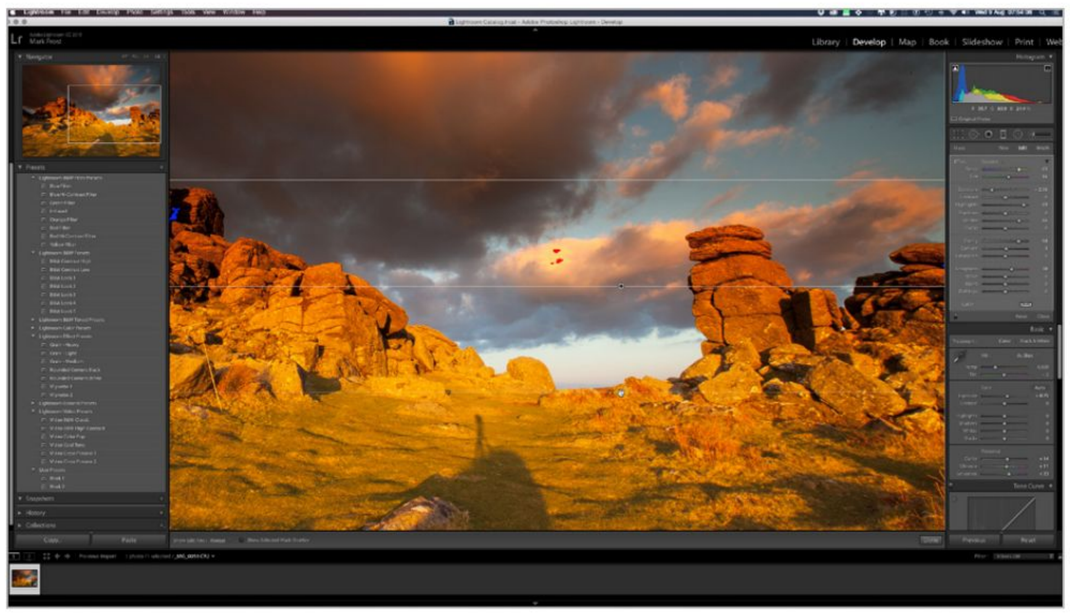


4 You can alter the positions of the filter border lines once they're in place. You can drag the top and bottom lines up and down, drag the button on the middle line to reposition all three or rotate the alignment of the filter by clicking and dragging anywhere else on the middle line. You can use these controls to customise the area affected by the filter.



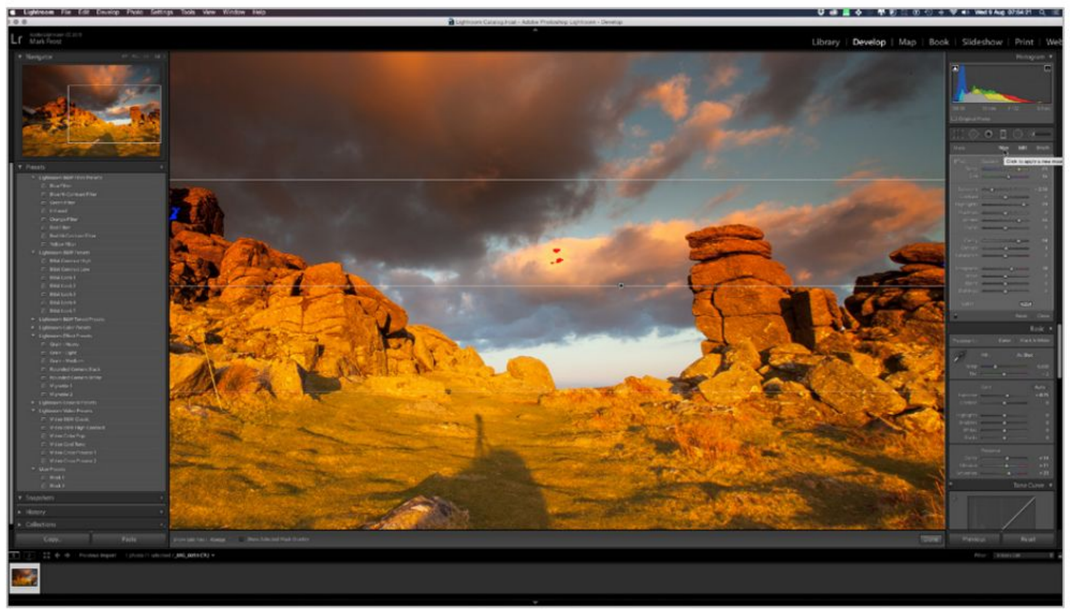
5 The graduated part of the filter effect is applied between the top and bottom lines. Above the top line the filter is in full effect, while below the bottom line there is no effect. By altering the positions of the top and bottom lines you can customise where the graduated fade is applied, even making the dividing line as narrow as you like.

8 Radial filters work in much the same way as graduated filters, but instead of going from top to bottom or side-to-side, they are applied around a central point in an elliptical shape. To apply one, click on the radial Filter button, then click and drag outward from where you want the centre of the effect to be. An elliptical shape will follow your mouse.



6 You can add multiple filter effects to the same graduated filter. In this example, we've reduced exposure, adjusted the white balance, boosted the highlights and increased the saturation all at once, with the effect of making the slightly dull sky more vibrant and dramatic. You can apply as many sliders as you want.

9 You can alter the size or shape (although it remains an ellipse) by clicking and dragging any of the four handles that you can see on the edges of the ellipse, or reposition the entire ellipse by clicking and dragging the centre point. This way you can makes sure that the effect is centralised where you want it.

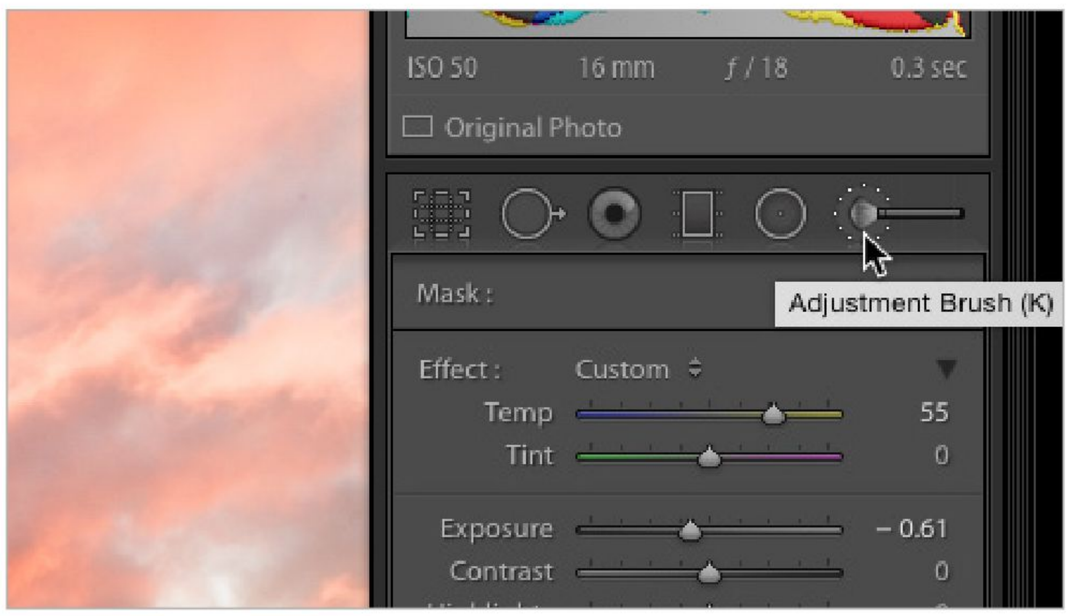


7 You can apply more than one graduated filter to the same image. To add a new filter, click on the New button at the top of the filter panel and drag a new filter onto the image, then set the sliders for that one. You can go back and edit the shape or effects of your original filter by clicking on its button on the image.

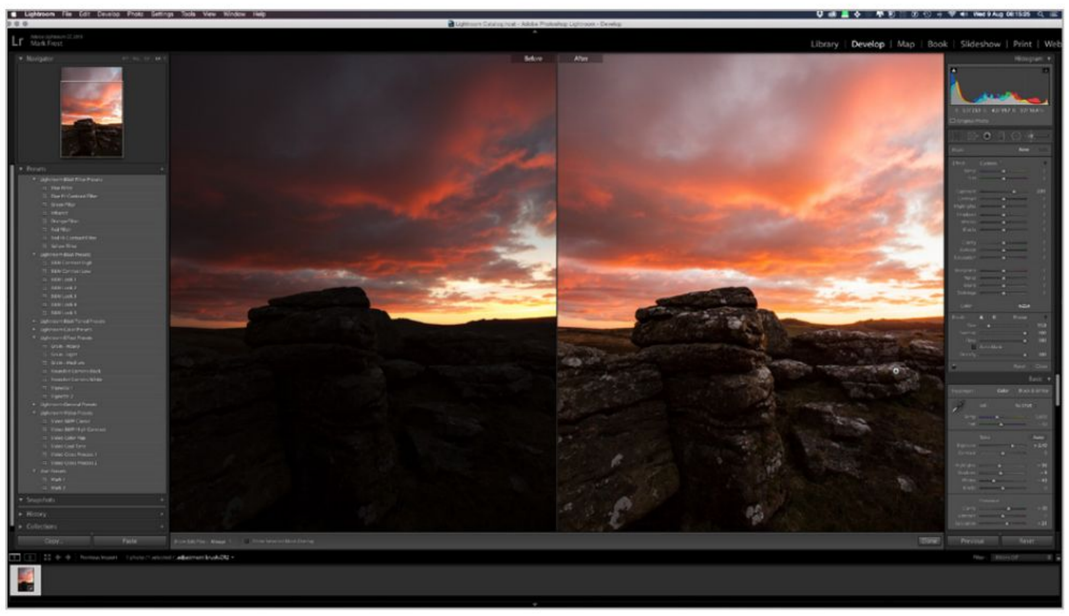
10 As with the graduated filter you can stack multiple slider effects onto the same radial filter, such as white balance changes, exposure adjustments, contrast and saturation enhancements. You can of course also combine more than one radial filter on the same image or combine radial and graduated filters together if you want to.

Editing with the Adjustment Brush

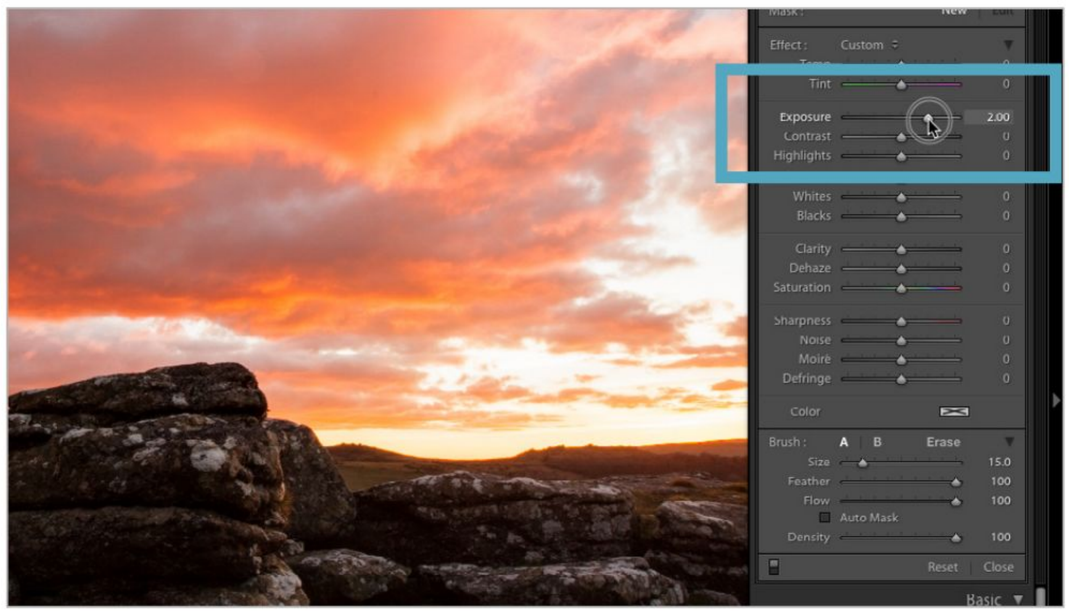
While Lightroom doesn't offer the comprehensive multi-layered image manipulation of Photoshop, it does provide the means for very detailed adjustment of specific areas of your images. The tool we use to achieve this is the powerful and versatile Adjustment Brush.



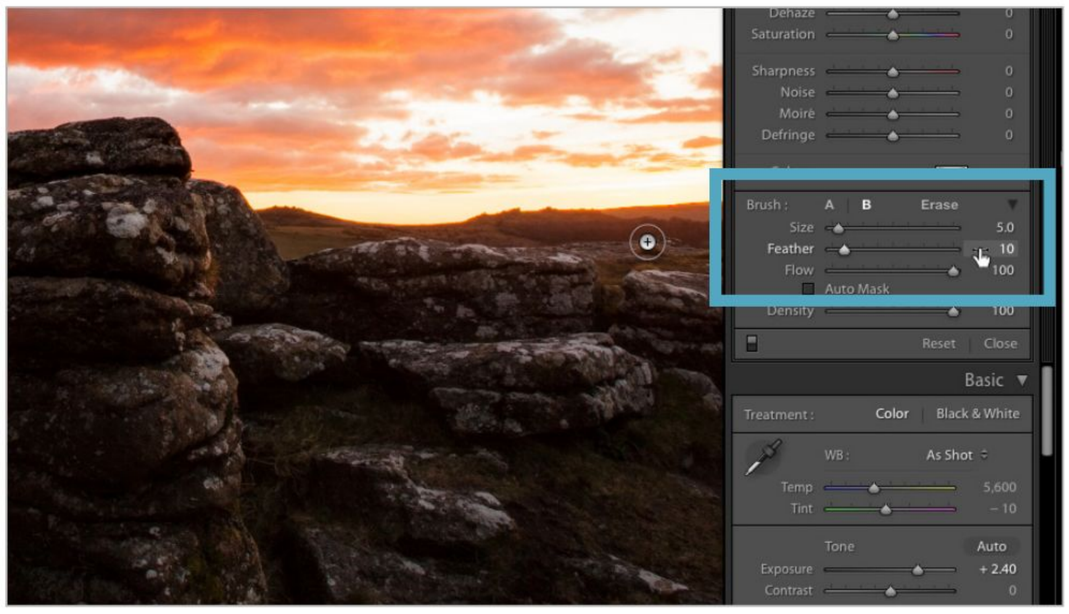
1 Our example photo here is a potential rural landscape but the foreground rocks are very badly under-exposed. Using the Adjustment Brush we can selectively increase the exposure in just this area, leaving the rest of the image unchanged. To get started, click on the Adjustment Brush icon on the right of the editing tools bar.



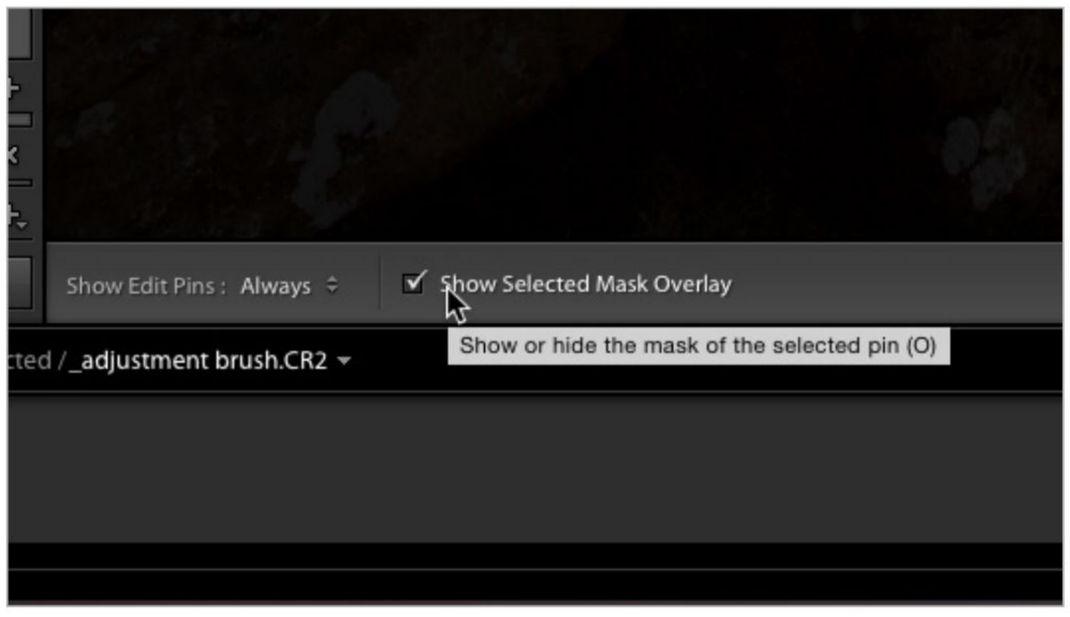
3 Next, we need to set up the brushes. At the bottom of the Adjustment Brush panel you can see the brush options. We can have two painting brushes set up, labelled A and B, and there is also an Erase brush. Click on the A button and then set the Size to 15 and the Feather to 100. This gives a medium-sized soft-edged brush for broad work.



2 First, you need to set up the adjustment that you want to make. In this case it's very simple, you just want to boost the exposure to selectively lighten one area of the image. This shot was taken on a Canon EOS 5D Mk III, so the raw file should easily allow three stops of exposure latitude, but you only need to boost it by two stops.



4 For fine detailed painting, you need a smaller, harder-edged brush. Click on the B button and set the Size slider to 5 and the Feather slider to 10. You can also adjust the size and hardness on the fly by using shortcuts. Brush size is changed by the [and] keys, whilst brush feathering is changed by { and }, the same keys but with Shift.

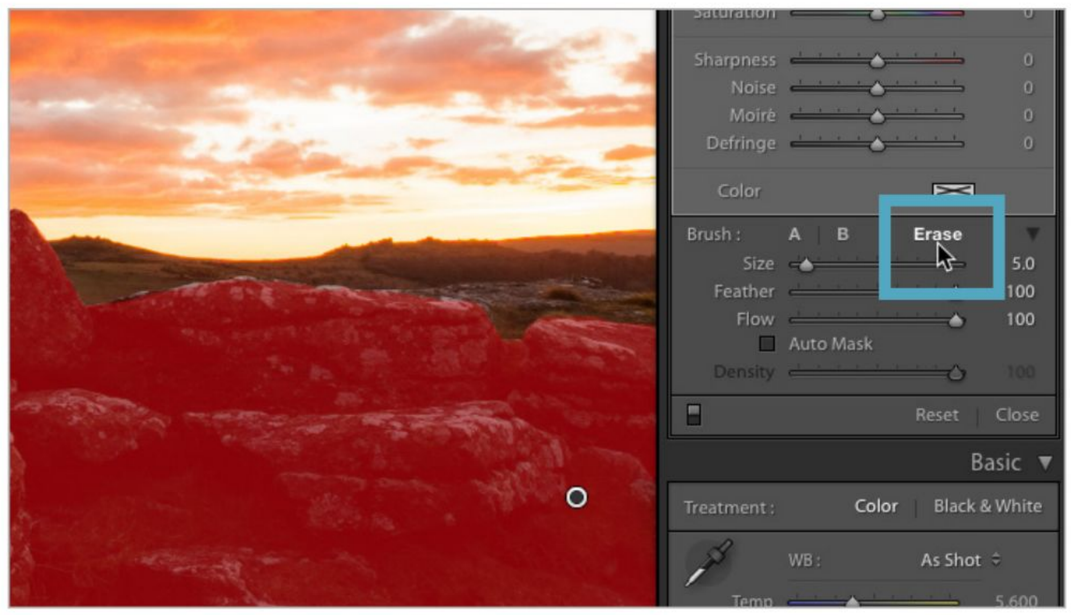


5 On the options bar at the bottom of the screen you can see a check-box labelled Show Selected Mask Overlay. This toggles the red Mask tint on or off. The Mask tint can be useful when making subtle adjustments, since it clearly and unambiguously shows where the effect is present on the image. If you feel this would help click the box.

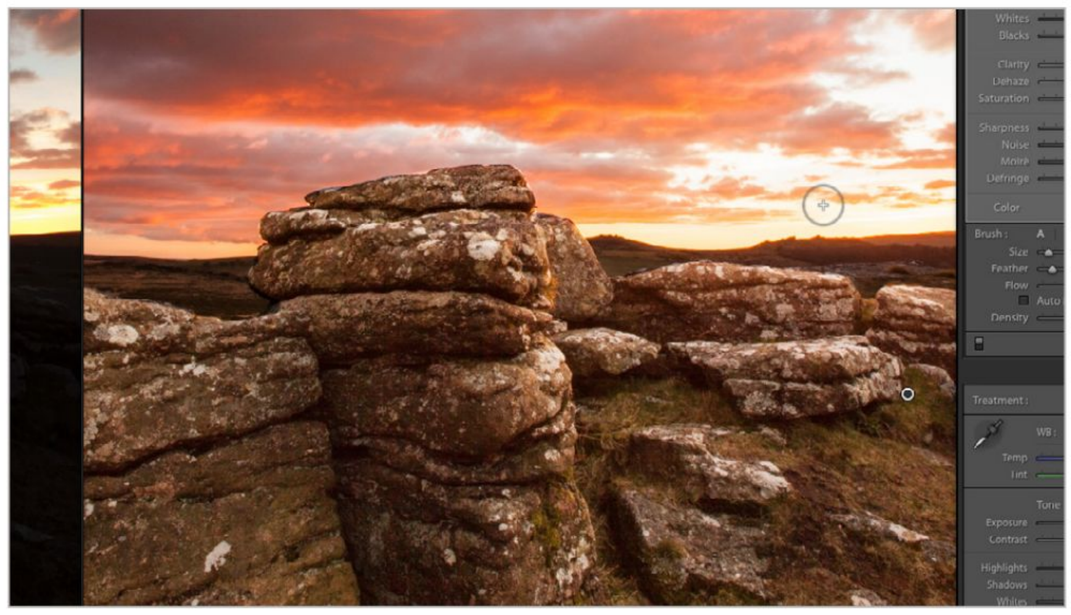
6 Now you're ready to start painting on the image with the Adjustment Brush. Select brush A, and begin painting in broad strokes over the area that you want to adjust. If you checked the box in the previous step, you see immediately that you're painting with the red Mask tint. Uncheck the box to see the progress of the effect.

7 Keep painting until you've covered almost the entire foreground rocks. Don't worry if you go a bit too far in some places, you can tidy up the rough edges in a moment. Don't worry about the rocks on the distant horizon as it looks better darker anyway.

8 Next, we need to fill in the fine details and hard edges along the skyline. Switch to brush B, which we set up earlier to be smaller and with a harder edge. With this brush you can carefully paint over the hard edges of the under-exposed area. It's a bit tedious and requires a steady hand but your perseverance will be rewarded.



9 If you make a mistake while painting, you can immediately undo your last stroke by using the History panel to go back a step, or you can rub out the mistake with the Erase brush. In the brush options panel click on Erase and set it to a small size with minimal feather. You can now use this brush to "un-paint" the offending areas.



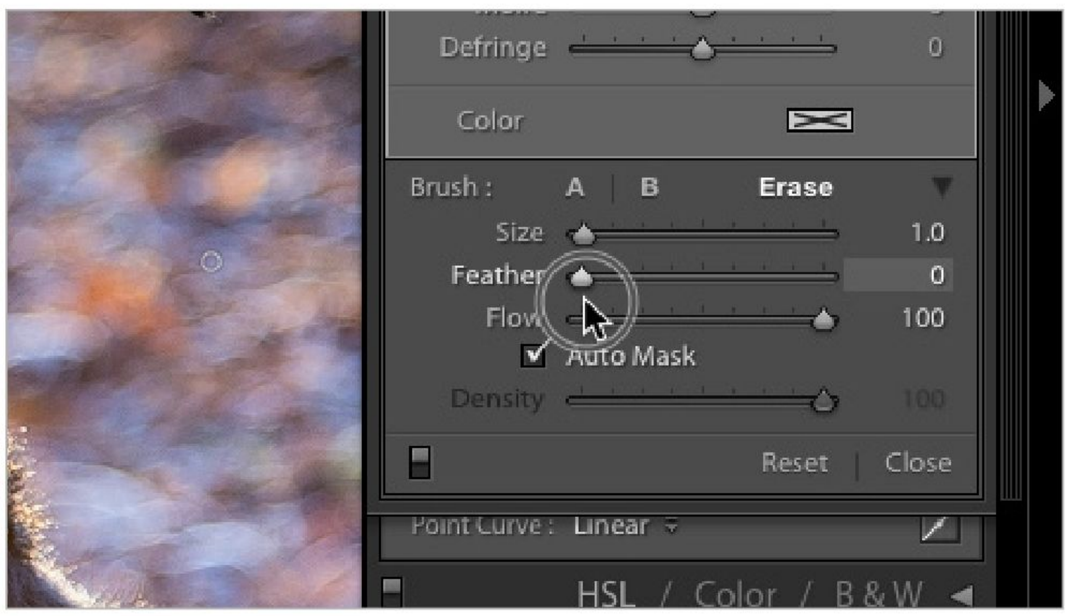
10 Once you're satisfied that you've applied the Adjustment Brush to every area that needs it, un-check the Show Selected Mask Overlay box to see the finished result. You can edit the brush mask at any time, including altering the slider settings, by clicking on the Edit Pin, or add more brushes to adjust other areas.

Editing Graduated Filters Using Masks

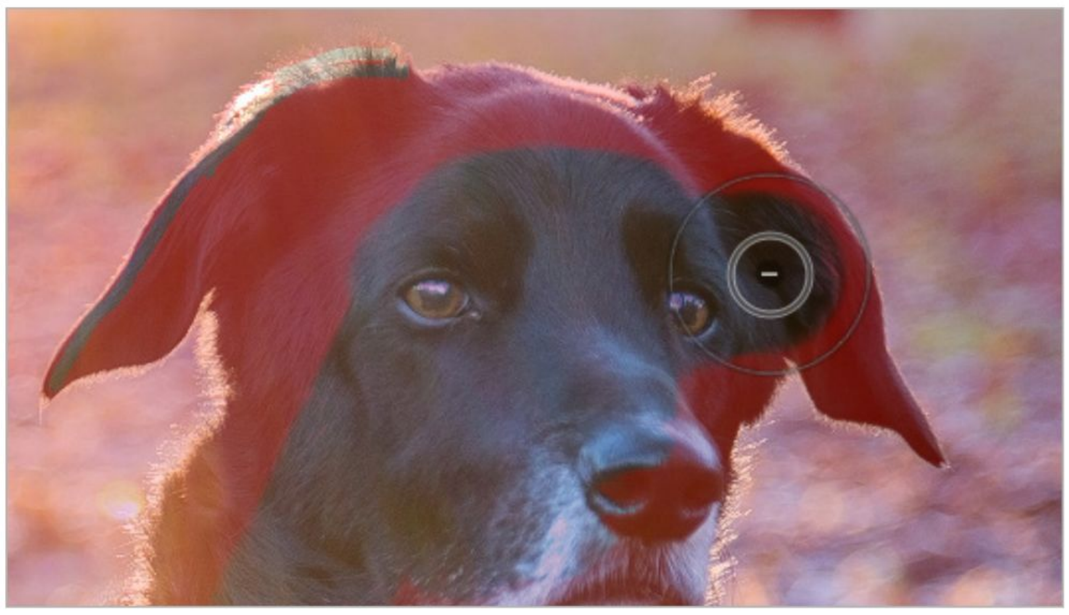
Following on from graduated filters, you can edit the filter for specific areas of an image selectively by using masks. This will be familiar territory to anyone who's proficient with Adobe Photoshop, because Lightroom works in a similar way.

1 If you followed the tutorial from a couple of pages ago, you know how to add a graduated filter over it. However, in some cases the graduated filter can darken the background nicely but it can also darken foreground objects, reducing detail and texture visible. You can erase part of the filter to correct this.

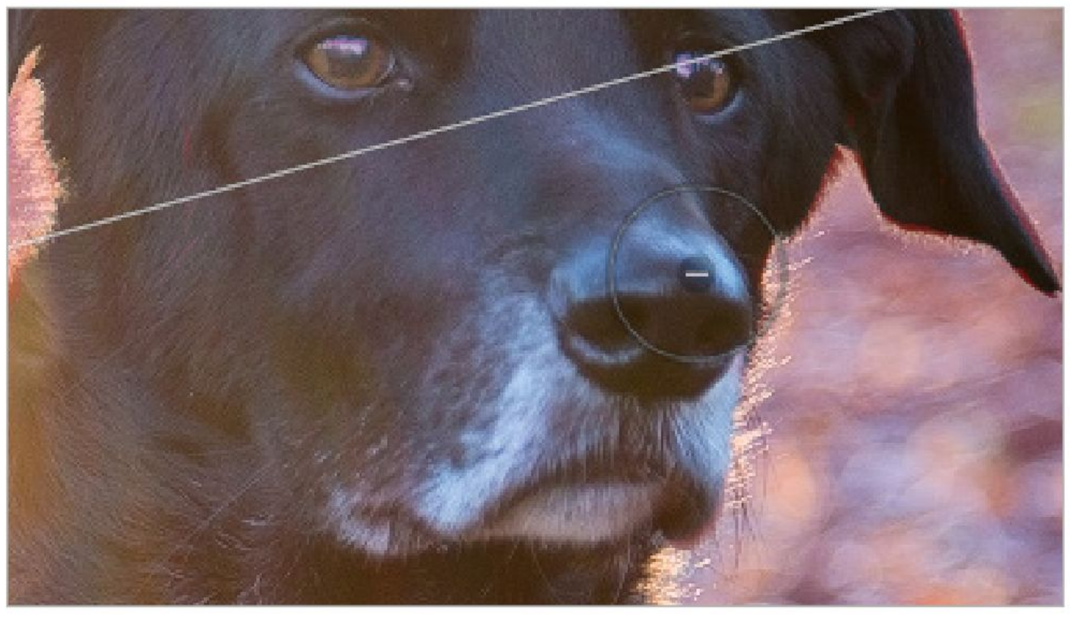
2 Using the graduated filter tutorial mentioned above, follow steps 1-5 and add a new graduated filter to your image. Once you've done so, you can see that in the Graduated Filter panel, on the top bar next to New and Edit, there is a third option, Brush you can use. Click on this to begin editing the filter mask.



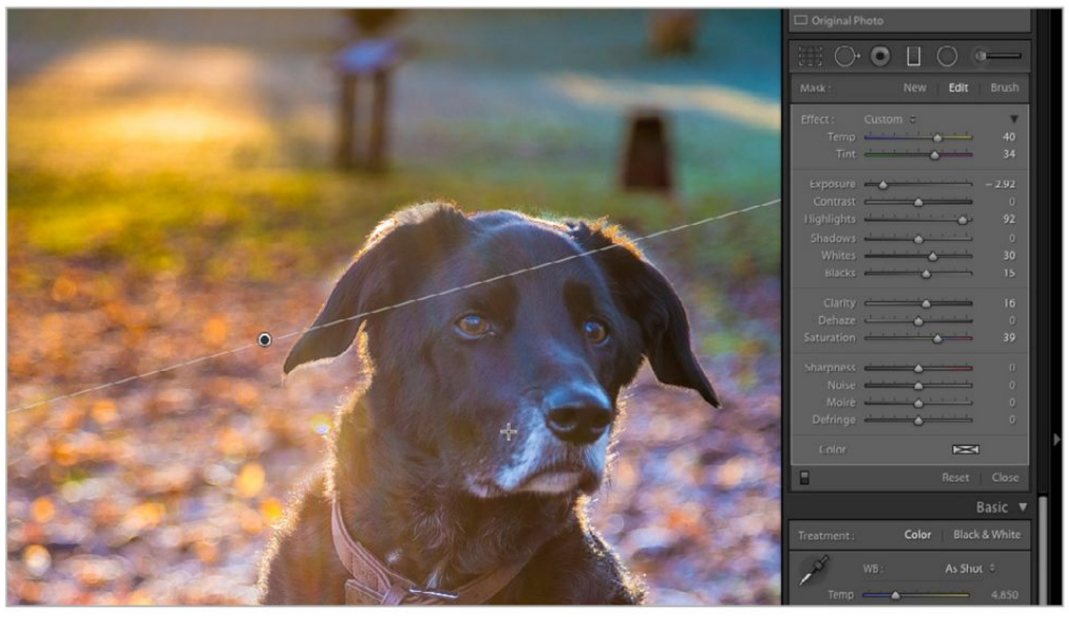
3 Towards the bottom of the panel you can see some Brush options, including Erase. Click on this, and if it isn't already open, click on the drop-down arrow next to the options, to open the panel for some more brush options, including Size, Feather and Flow. Set the Feather slider to zero to give a hard-edged brush, for more precise work.



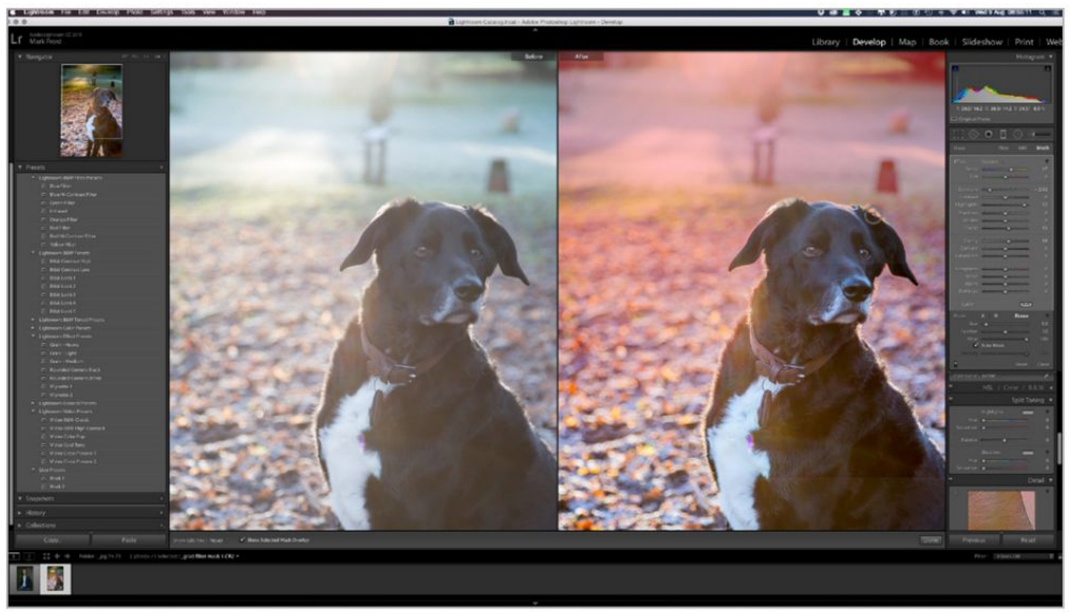
4 The O key toggles mask visibility, allowing you to see the area and extent of the graduated filter mask shown as a red tint. If you've ever used the Quick Mask feature in Adobe Photoshop this will look familiar, and it operates in the same way. It lets you instantly see which areas of the image are affected by the filter, and where the edges are.



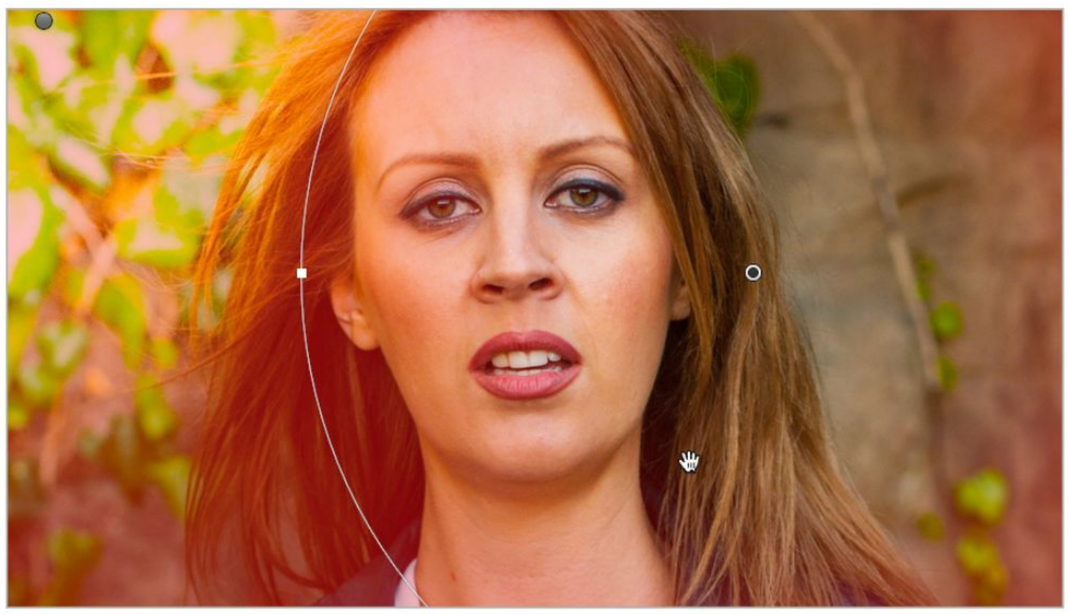
5 Using the eraser brush, paint over the areas that you want to be excluded from the filter effect. Paint using short strokes when near the edges, so that you can use the History panel to undo a stroke if you go over the edges. You can adjust the size of the brush with the panel slider, or with the [and] (square brackets) keys.



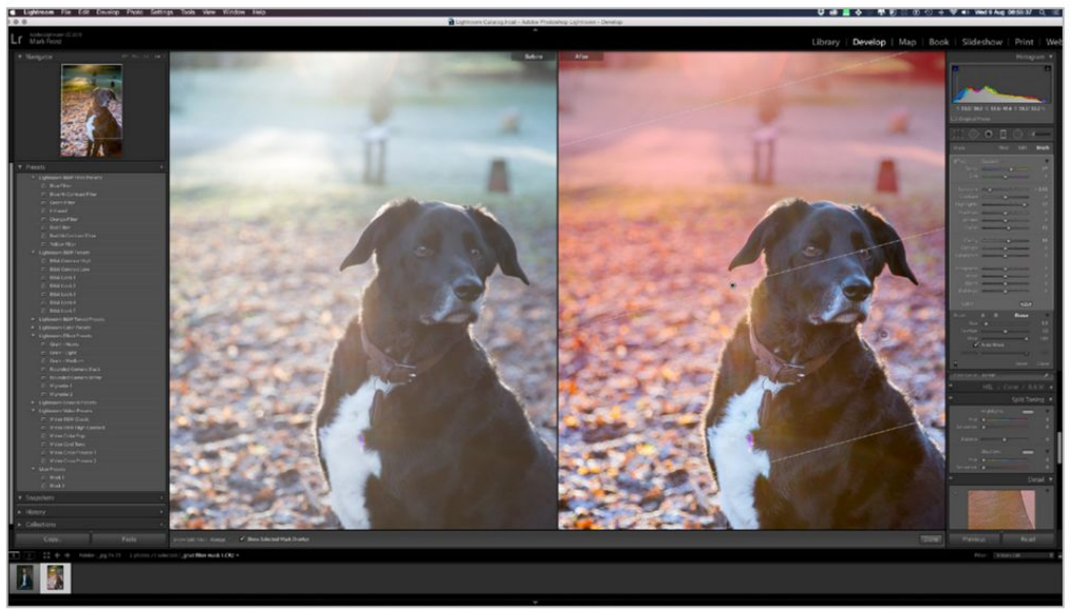
8 Once you've finished erasing the filter mask from the areas that you want to remain unaffected, you can make further changes to the sliders that control the filter effect, such as increasing the contrast or further reducing the exposure. The erased areas remain unaffected, since they are masked from the filter.



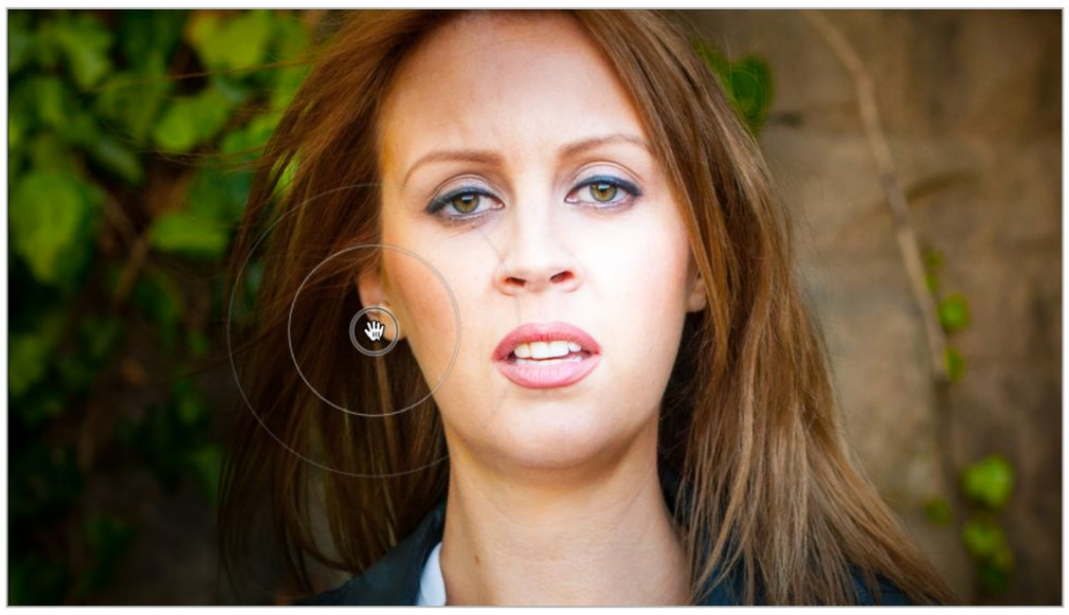
6 Towards the bottom of the background leaves, where you want the mask to fade back into the graduated filter effect, you can increase the feathering of the brush back up to 100, to give it a nice soft edge ideal for blending. Use this in conjunction with the O key to fade the erased area in with the masked area.



9 You can also use the erase tool to edit the effects of a radial filter. In this example, you can ensure that the model's face is unaffected by the vignette of the filter by using a large, soft-edged brush to erase the filter effect. As before, the O key toggles the visibility of the mask tint, letting you see more clearly where to paint.



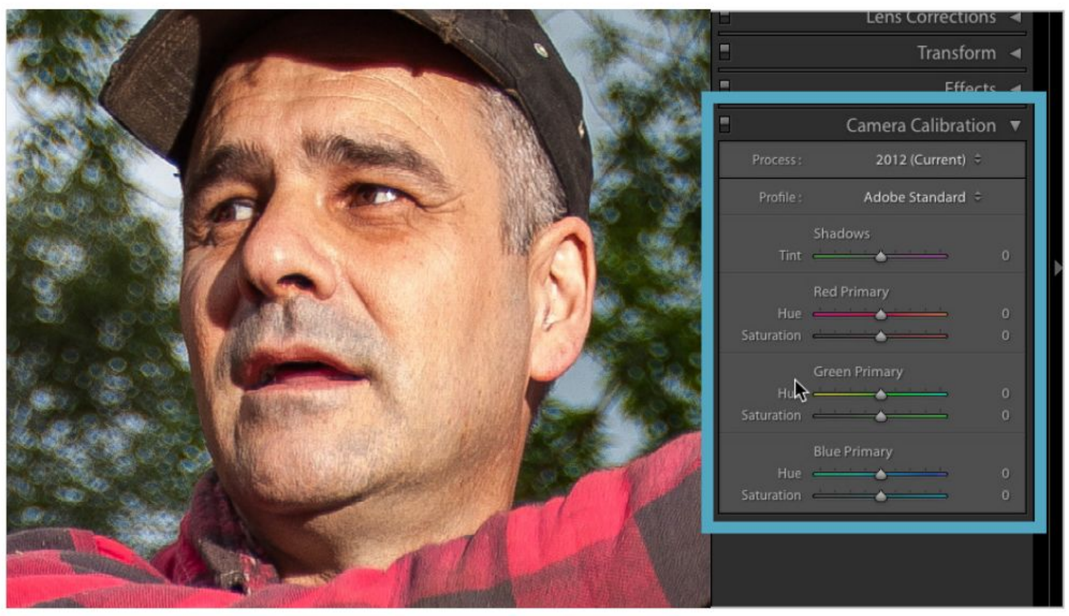
7 By using this technique of the erase brush combined with the Quick Mask visibility tint, you can erase the filter effect from any areas that you don't want to be affected by it. You can use a softer-edged brush for edges that are less distinct, such as the fur around the dog's chest and back, and a harder brush for sharper edges.



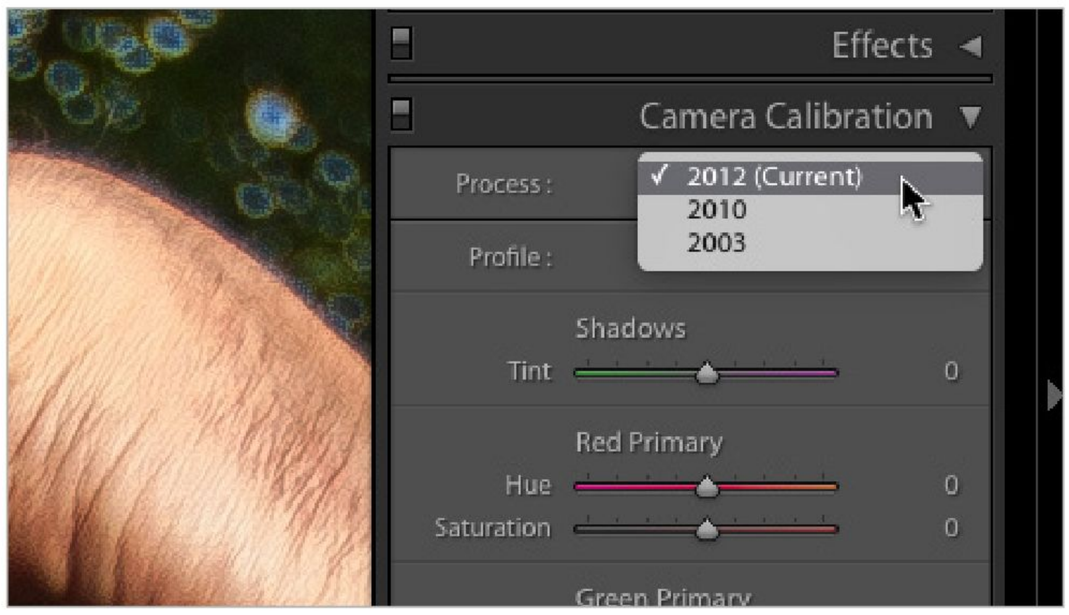
10 To ensure a there is a smooth transition with no obvious edges, move the eraser brush in small circles, blending the soft edge into the gradient of the vignette filter. If you do it correctly it should look completely natural and ensure that the model's face is correctly exposed, and remains the centre of the viewer's attention.

Colour and Tone Camera Presets

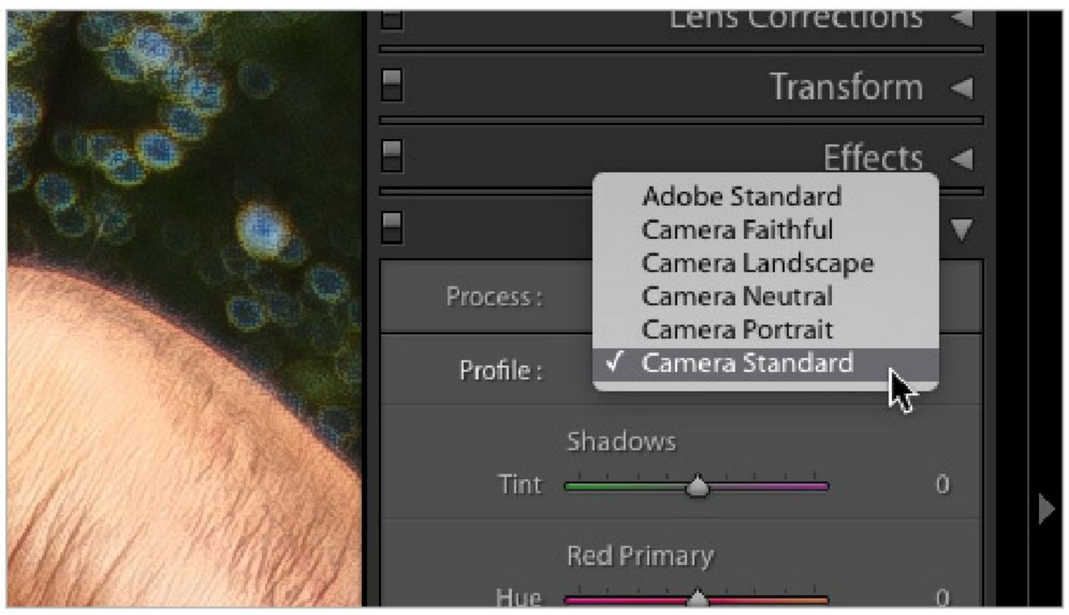
If you shoot in Raw mode, many cameras will include optional in-camera processing that adds preset colour and tone effects to images, such as a landscape preset that boosts greens, or a portrait preset that warms skin tones. Lightroom can offer you these presets too.



1 The camera presets that are available for any given photo will depend on the type of camera and the Raw file format in which it was captured. Proprietary Raw formats such as CR2 (Canon), NEF (Nikon) or ARW (Sony) offer the greatest range. You can find the camera presets in the Camera Calibration panel, at the bottom of the right-hand sidebar.



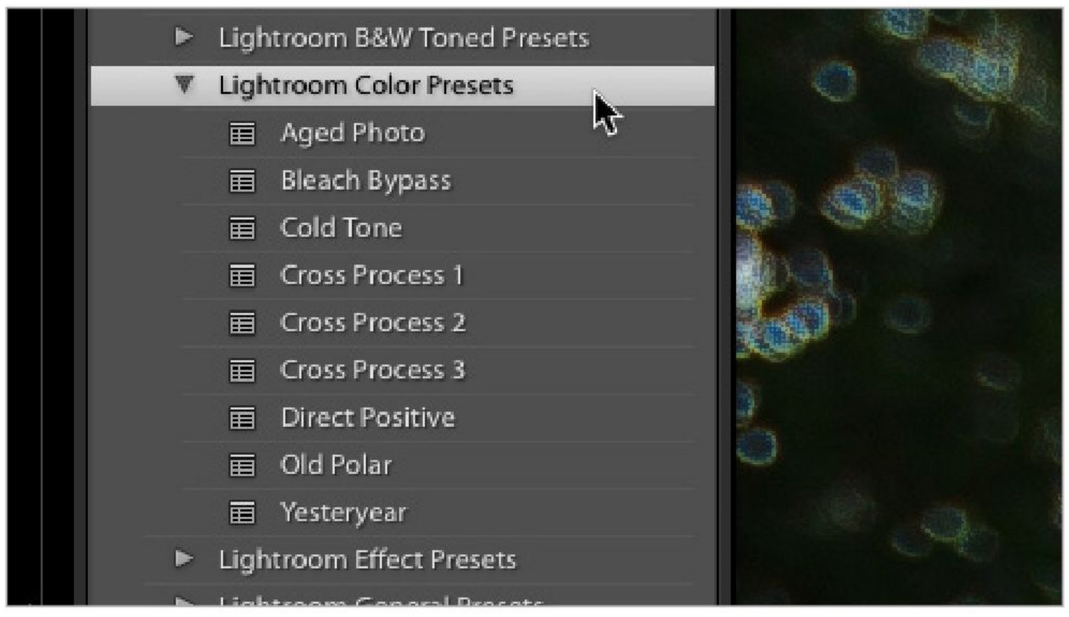
2 At the top of the panel you can see a bar labelled Process. It should be set to 2012 (Current). Click on the drop-down menu and you can see that the other options are 2010 and 2003. These are the Adobe Camera Raw process versions that Lightroom uses to render your photos. The 2012 version offers the best tone control options.



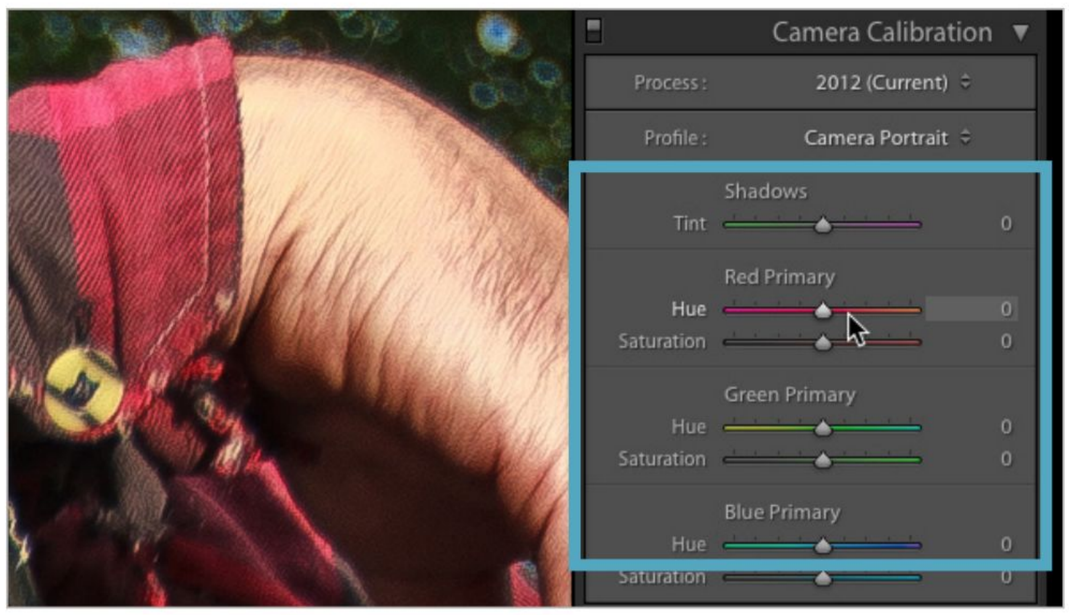
3 The next line down on the panel is the Profile menu. This is where you find the actual camera preset tone adjustments. These vary depending on the camera and Raw file format used to capture the photo. Our example for this tutorial was shot on a Canon EOS 5D, so your list may vary if you have a different camera.

4 Selecting a different preset will change the tonal balance of the image. What it is doing is biasing the gamut of available colours to favour one particular set of tones. For example, if we select the Camera Landscape preset, you can see that the image now has a more yellow-green bias, to emphasise foliage and natural colours.

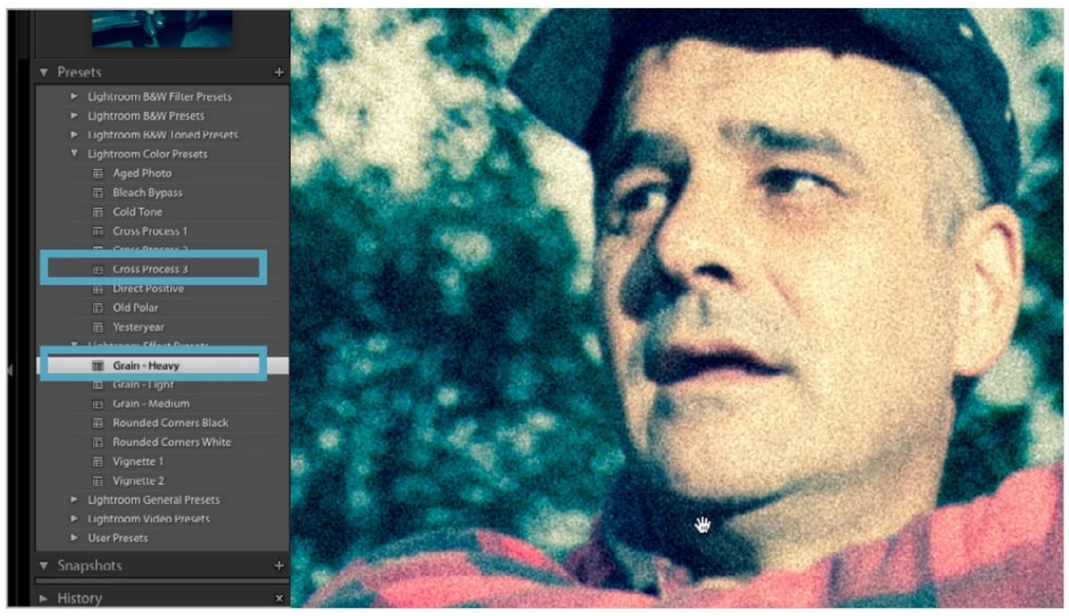
5 Alternatively, if we select the Camera Portrait preset, the colour gamut is biased to produce warmer skin tones, as you might expect. You can try out these presets on your own photos to see what sort of results they produce. If you're wondering, the ACR 3.3 and 4.4 presets mimic earlier versions of Adobe Camera Raw processing.



8 Besides the camera presets in the Camera Calibration panel, Lightroom includes some development presets that mimic the output of old film cameras or chemical processing techniques. You can find these in the left-hand sidebar in the Presets panel, under Lightroom Color Presets and Lightroom Effect Presets.

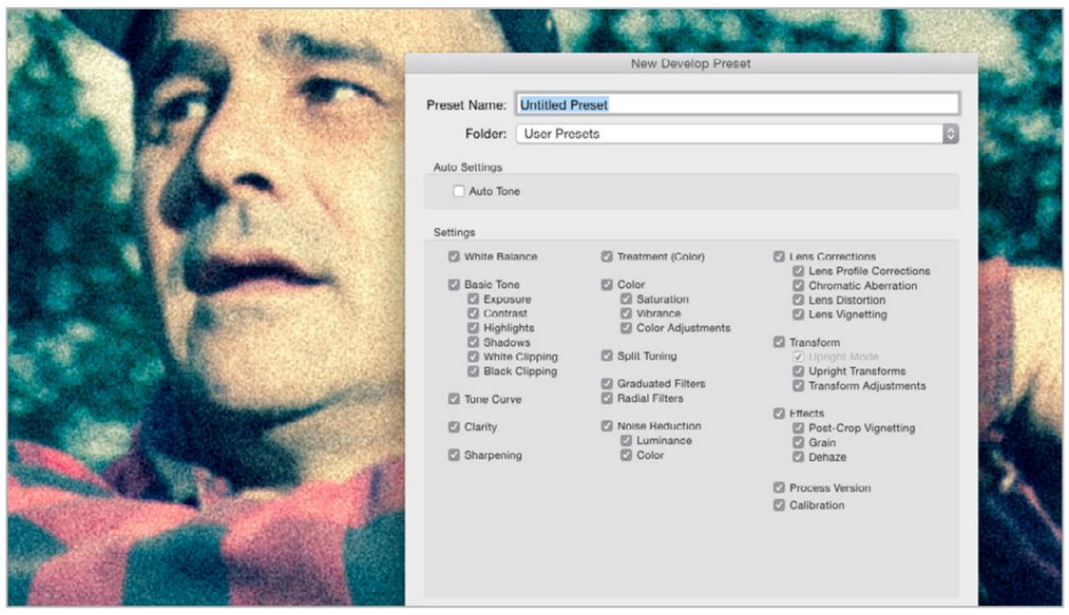


6 As well as the camera presets available from the drop-down menu, there are several sliders that you can use to manually alter the colour balance of the image. The top slider alters the overall tint of the shadow tones, whilst the other three pairs alter the hue and saturation of the red, green and blue primary channels.



9 Unlike the camera calibration presets, the development presets can be stacked, so you can experiment with different combinations of colours, processes and effects. One of our favourites is the combination of Cross Process 3 and Grain – Heavy, which produces an effect similar to an old, faded colour print, but you can find your own.

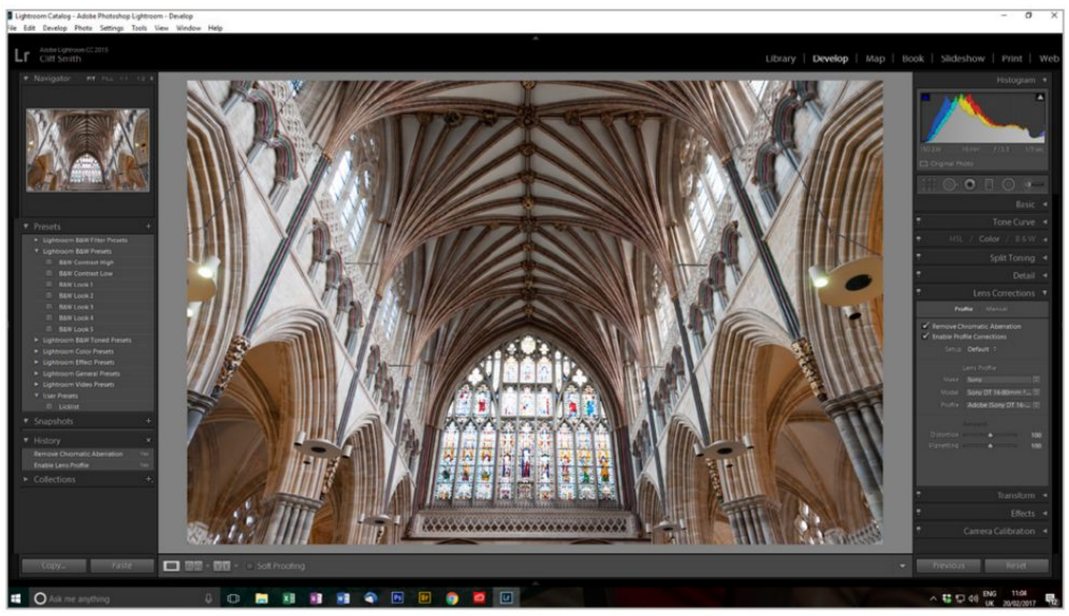
7 The sliders in the Camera Calibration panel are intended to be used to correct any colour bias that might be caused by older camera sensors or processors; but even with a modern high-quality camera you can use them to produce some interesting effects. Try experimenting with reduced saturation for some nice tonal effects.



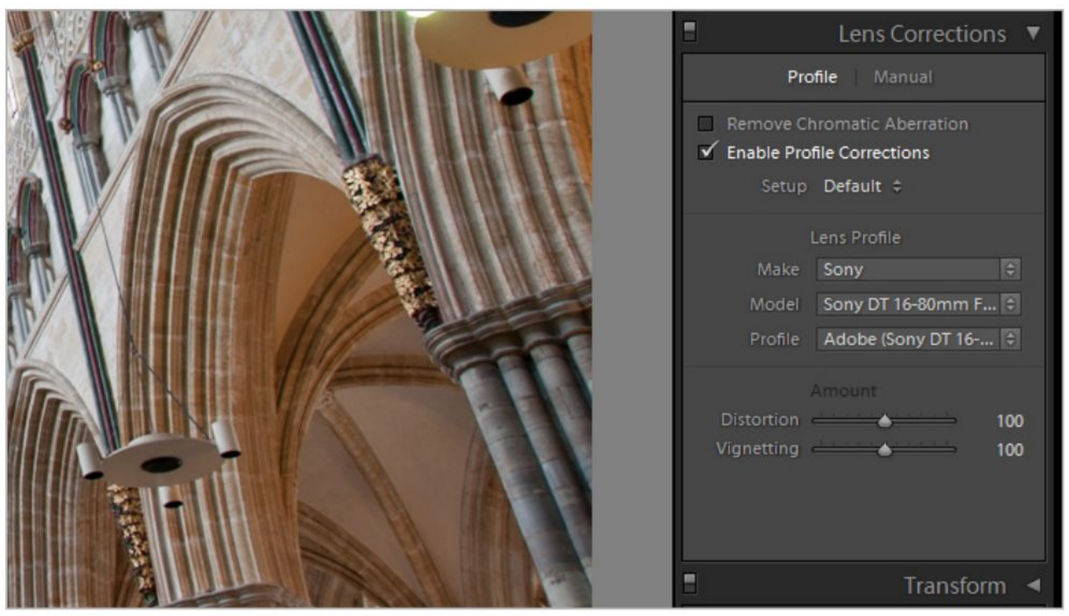
10 As well as using the default colour and processing presets, you can create your own presets. If you're trying to get a consistent appearance across a gallery of images, say for a corporate client, you can save and reuse your development settings by adding them as a user preset. We'll look at this more closely later on.

Correcting Lens Distortions

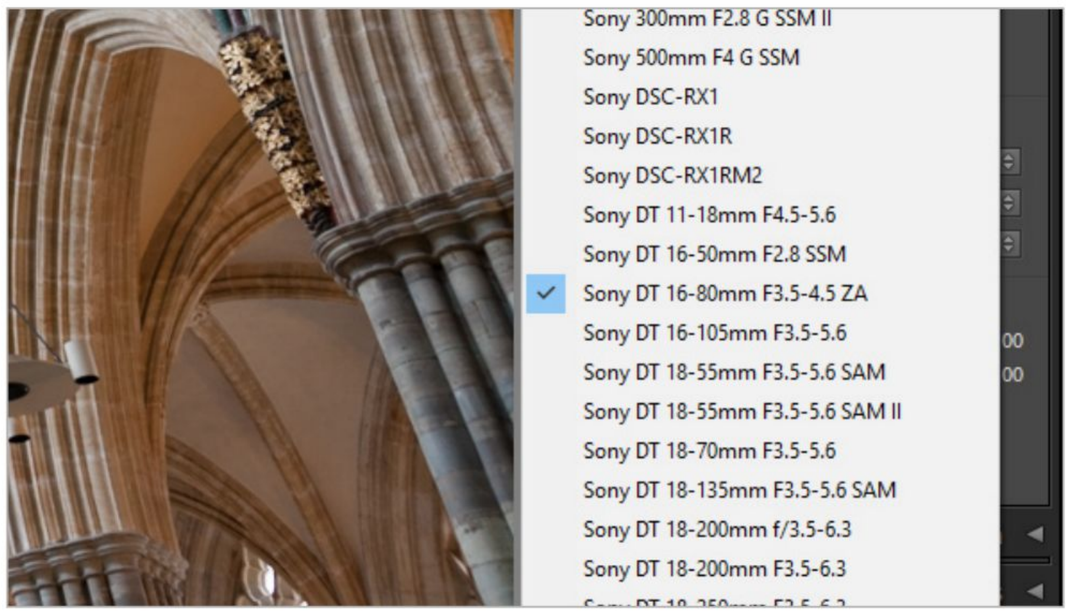
Even the best camera lenses can introduce some distortion or aberration into an image; this is especially true for zoom and wide-angle lenses. Lightroom offers several ways to correct these problems, including an automatic system for correcting popular lenses.



1 There are three main types of optical defects that Adobe Lightroom can help to correct. These are: optical distortion, either barrel or pincushion; vignetting, a darkening around the edges of the frame; and chromatic aberration. Not all lenses produce all three of these effects but very wide angle and zoom lenses are especially prone to them.

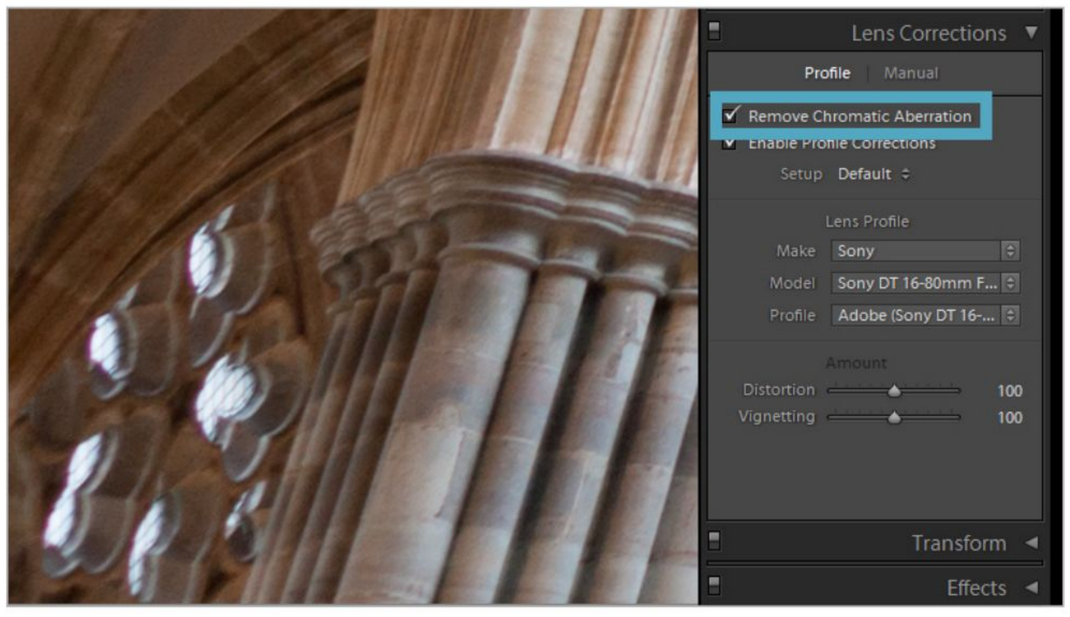


3 In the Develop module, open the Lens Corrections tab. At the top of the tab you'll see two options, Profile and Manual. Select Profile and click in the box at the top of the panel labelled Enable Profile Corrections. You should see the name and model of your lens appear in the Profile section below and the image will be instantly corrected.



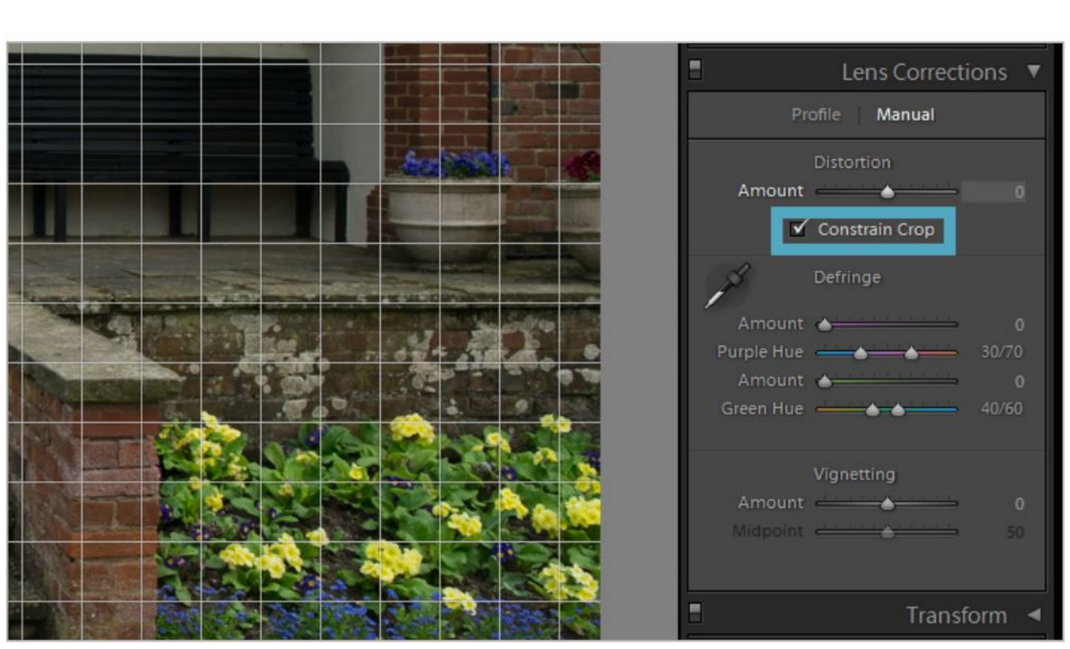
2 Lightroom offers two main options for dealing with lens correction: either manually or by using the built-in Lens Profiles. Lightroom has a database of popular lenses, including most lenses from the main camera manufacturers, as well as third party manufacturers such as Sigma, Tamron and Tokina. If you use a digital SLR this is your easiest option.

4 Chromatic aberration is caused by light of different wavelengths being focused at different points at the edges of the lens. If you look closely at the corners of our example, which was shot using a Sony 16-80mm lens at extreme wide angle, you can see some slight chromatic aberration; it's the green and purple fringes around the highlights.

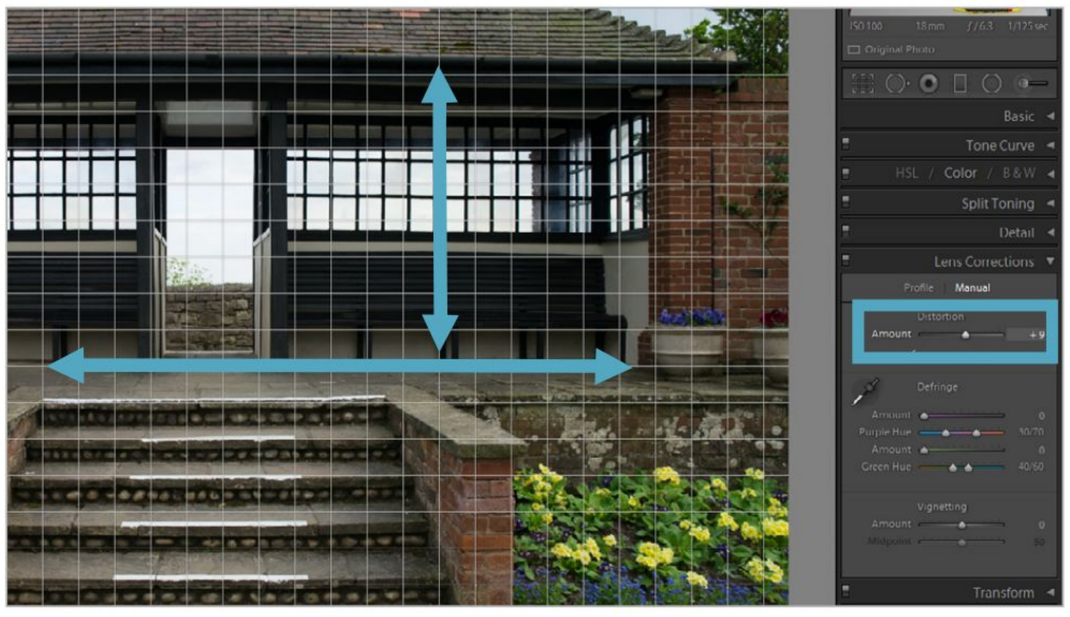


5 Lightroom can attempt to automatically correct chromatic aberration using its lens profile information. Simply check the box in the Lens Corrections tab labelled Remove Chromatic Aberration and you'll instantly see an improvement. In this example the green fringing has been completely removed and the remaining purple fringing is greatly reduced.

6 Things get a little bit more complicated if an automatic correction profile is not available for your camera or lens. If this is the case, you'll need to click on the Manual option in the Lens Corrections tab. Here you'll see a group of sliders that let you manually correct lens distortion, chromatic aberration and vignetting.



7 As soon as you move the mouse cursor over the Distortion slider you'll see a grid appear over the image, to help you align and straighten horizontal and vertical lines. It's a good idea to check the box labelled Constrain Crop before making any adjustments, to avoid creating any white borders around the edges of the frame.



8 Move the Distortion slider to the left or right, paying attention to how well the horizontal and vertical lines in the image match up to the grid lines. The slider can be tricky, so you may prefer to type the numbers directly into the value box next to the slider. The effectiveness is going to be mostly subjective, but do your best.

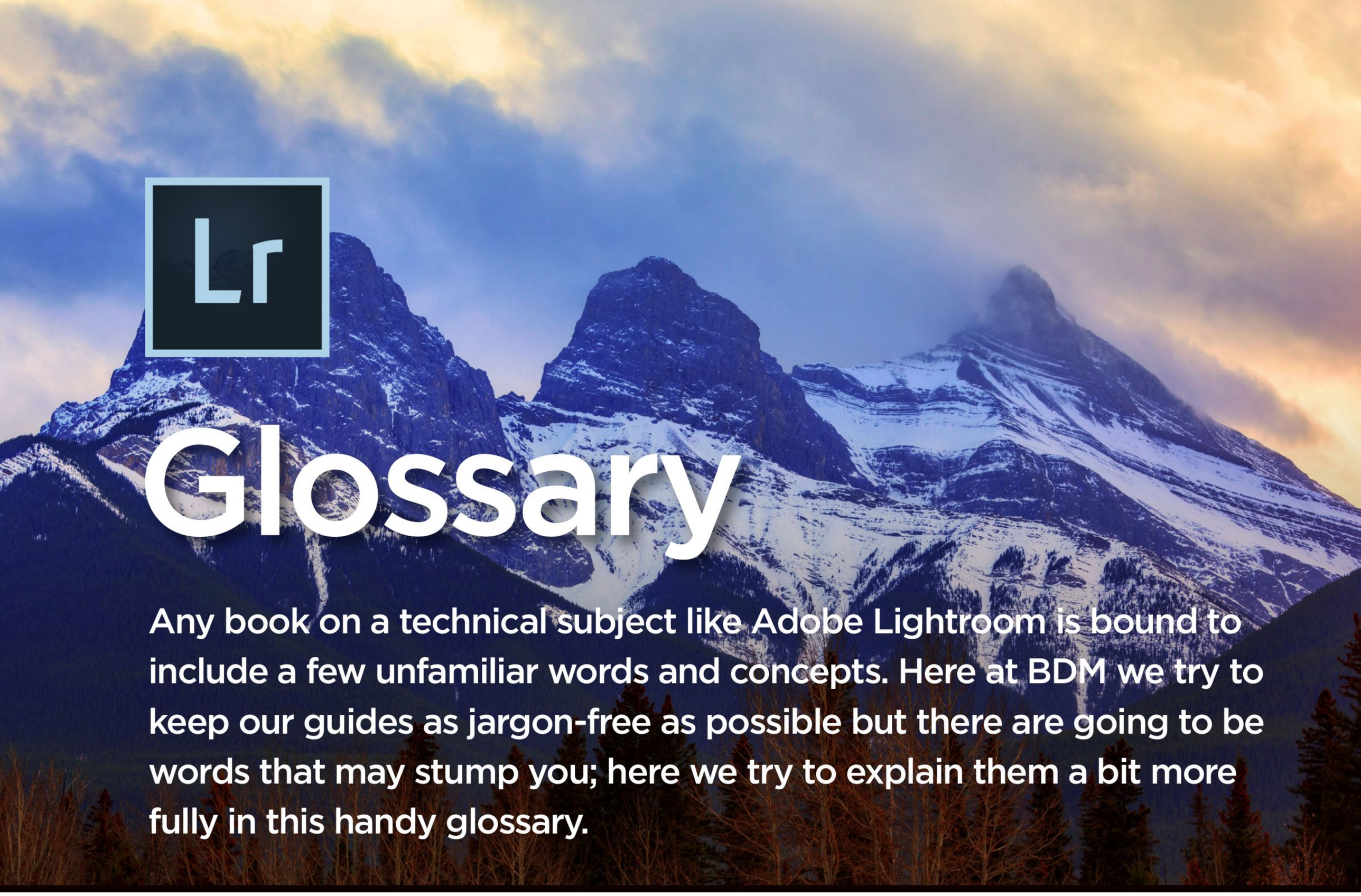
9 Manually correcting chromatic aberration is even more difficult. You can try clicking the eyedropper tool on a colour fringe to set it automatically but you'll get better results using the sliders manually. The Hue slider sets the range of colours to be affected and the amount sets the degree of correction. Again, the results are subjective.

10 The Vignetting correction sliders adjust the relative brightness towards the edges of the frame, to compensate for narrow aperture shots. The Amount slider adjusts the degree of change, as you'd expect, while the Midpoint slider adjusts the size of the unaffected area in the middle of the frame. Sliding left makes it smaller, whilst sliding right makes it larger.

Developing Your Images

Despite camera and mobile phone camera technology advancing at such a rapid pace, Lightroom has kept up with the latest techniques to help you get the most from your images. The example we have on these pages uses HDR, a term you'll see on nearly every modern device that can take a photo.

HDR (High Dynamic Range) merging is a relatively new technique that has become very popular, to the point that it is often over-used. It works by merging several nearly identical photos, taken at different exposure settings, into one image with expanded dynamic range. Many cameras, including some mobile phone cameras, can produce HDR images in-camera, but you will get better results merging specially shot images in Lightroom. You can find HDR merging in the Photo menu, under Photo Merge > HDR.



Glossary

Any book on a technical subject like Adobe Lightroom is bound to include a few unfamiliar words and concepts. Here at BDM we try to keep our guides as jargon-free as possible but there are going to be words that may stump you; here we try to explain them a bit more fully in this handy glossary.

Adobe Bridge
Bridge is a browser application produced by Adobe Systems as part of the Creative Suite and is usually installed alongside Photoshop. Its main function is as the file management hub of the Creative Suite. It can also be used to locate, open, manage, rate and rename files as well as edit their metadata.

Adobe Camera Raw (ACR)
ACR is the Raw processing application that comes supplied with Adobe Photoshop. At its core, it behaves much the same as the Develop module in Lightroom but with less features.

Adobe RGB
A device independent colour space developed by Adobe. It provides a relatively large range of colours, i.e. grey-balanced and perceptually uniform. It is widely used for image editing.

Anti-Aliasing Filter
This is an optical filter, known as low-pass filter, which is placed on the camera sensor to create a slight blur that helps counteract aliasing or Moiré interference.

Backlight
Light coming from a source behind the photographed subject. Very bright backlighting can result in an image becoming very low contrast, if the light source is present within the frame of the composition.

Batch Processing
Performing one or more tasks to a group of files at the same time. In Lightroom, this could be the contents of a folder in your Library or a selection of disparate images created using the Quick Collection function.

Bit
A contraction of binary digit, the smallest unit of information storage or digital information that can take on one of two values, 0 and 1.

Bit Depth
Defines how many bits of colour data are used to describe each pixel or channel. For example, 2 bits per pixel only allows for black or white. 8 bits provides 256 colours. When referring to an 8-bit colour image, 256 is multiplied by the three primary channels (red, green and blue) to create what is commonly called 24-bit colour, with a possible 16,777,266 colours.

Black Point
In image editing, the black point is a tonal adjustment that sets the point at which the deepest shadow detail in the histogram is clipped to black.

Burning
The selective darkening of a part of an image.

Camera Raw
Proprietary raw file formats designed to hold image data and metadata generated by digital cameras. These formats are non-standard and undocumented, although they are usually based on the TIFF/EP file format standard.

Catalogue
Within Lightroom, the Catalogue is a database that contains the information about the all the photographs and media that you currently have on your system. It can track their location and when you edit, rate and add keywords to them, this is all stored in the Catalogue database.

CCD (Charged Coupled Device)
A type of image sensor found in digital cameras and scanners. It is a light-sensitive chip that converts light into an electrical charge that is then processed by an analogue to digital converter. CCD differs from the other common sensor type (CMOS) in the way that it processes the electrical charges captured by sensor elements.

Chromatic Aberration
Known also as colour fringing, chromatic aberration is caused when a camera lens does not focus the different wavelengths of light onto the exact same focal plane. The effect is visible as a thin red, green or purple coloured halo around objects in the scene, often the border between dark and light objects.

Clarity
Clarity is found in the Develop module. Look under the Basic panel and there you will find the Clarity option. It behaves like an intelligent version of Contrast and only alters contrast within the middle tones of your image.

Clipping
The loss or either highlight or shadow details when tone information is forced to pure white or black. For example, over-exposure can produce clipping by forcing highlights that should contain detail to register as pure white. Clipping can also be caused either intentionally as a creative effect or unintentionally because of excessive corrections. Saturation clipping can occur when colours are pushed beyond the range of a colour space.

CMOS (Complementary Metal Oxide Semiconductor)
A type of image sensor found in digital cameras and scanners. It is a light-sensitive chip that converts light into an electrical charge, which is then processed by an analogue to digital converter. CMOS differs from the other common sensor type (CCD) in the way that it processes the electrical charges captured by sensor elements.

CMYK
Also commonly referred to as process colour, CMYK is a subtractive colour model using cyan, magenta, yellow and black inks in colour printing.

Colour Profile
Also known as an ICC profile, the Colour Profile defines the information required to by a colour management system (CMS), to make the colour transformations between colour spaces. They can be device specific such as monitors, scanners or printers or abstract editing spaces.

Compression
The process of re-encoding digital information using fewer bits than the original file or source. This reduces transmission time and storage requirements. There are a number of different algorithms that provide either “lossy” or lossless compression. JPEG is a common file format that employs lossy compression to achieve smaller file sizes at the expense of image quality.

Culling
Culling images is a process whereby you narrow down your choice of images that you wish to keep, by rating them or deleting the ones that you no longer want.

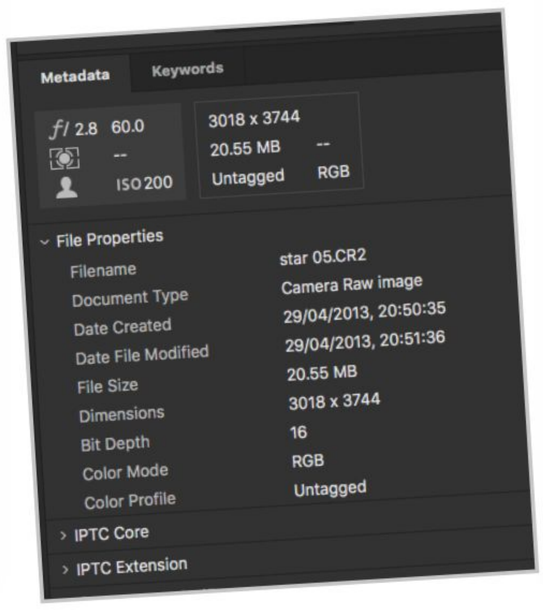
DNG (Digital Negative)
An open standard file format developed by Adobe Systems that provides an alternative to proprietary camera raw files. The DNG specification incorporates rich metadata along with embedded previews, camera profiles and editable notes. The DNG format uses lossless compression that can result in a significant file size reduction over the original proprietary raw format.

Dodging
The selective lightening of any part of an image.

DPI (Dots Per Inch)
The measurement of print resolution expressed in how many dots of ink are laid down either horizontally or vertically per inch. A higher number indicates a greater amount of output resolution. Not to be confused with pixel per inch (PPI). There is not necessarily a direct correlation between DPI and PPI.

Dynamic Range
In the context of photography, dynamic range describes the difference between the brightest and darkest light intensities of a scene. From capture to output, there can be a large difference in the size of the dynamic range that each device is capable capturing or reproducing. Dynamic range is commonly expressed in the number of f-stops that can be captured or the contrast ratio of the scene or device.

EXIF
Exchangeable Image File Format. A standard for simplifying the exchange of data between cameras and software. The data may include camera model, date and time the photo was taken, camera settings, shutter speed and so on.



Exposure
The total amount of light that strikes the sensor or film during an image capture. An optimal exposure takes full advantage of the dynamic range of the sensor without under-exposing the shadows or over-exposing the highlights. See also clipping.

File Format
File Format is the structure of how information is encoded in a computer data file. File formats are designed to store specific types of information, such as JPEG and TIFF for image or raster data, AI for vector data or PDF for document exchange.

Filmstrip
A filmstrip is a graphical representation of your images in thumbnail format. In Lightroom, the filmstrip runs along the bottom of your screen and displays all the images you are currently working on.

Filters
Filters is a specific keyword used in Lightroom to search and display images with that keyword assigned to it.

Flat Lighting
This refers to images that generally have very little contrast to them because the photo was taken on an overcast day, with no strong lighting direction; or there was strong backlighting that created a photo of very little contrast.

Gamut
The range of colours and tonal values that can be produced by a capture or output device or represented by a colour space.

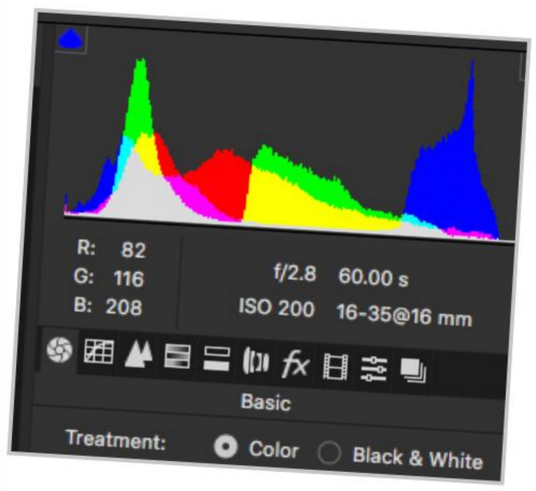
Grayscale
A monochromatic digital image file with pixel values that use shades of grey to represent tonal information. The term is often used to describe digital black and white photographs.

Guide Number
Used to describe how powerful a flashgun is. The higher the guide number, the more powerful the flashgun will be.

HDR (High Dynamic Range)
HDR is a process that combines multiple exposure variations of an image to achieve a dynamic range exceeding that of a single exposure. Algorithms are used to blend the exposures into a high-bit file format such as a TIFF that can then be converted to either 8 bit or 16 bit for digital printing or a web presentation.

Highlight and Shadow
The lightest and darkest colours in an image.

Histogram
This is a graphical representation of the tone and colour distribution in a digital image. This is typically based on a particular colour or working space by plotting the number of pixels for each tone or colour value. It can be used to interpret photographic exposure and reveal shadow or highlight clipping.



History
Each adjustment you make can be recorded by the History function. It allows you to step backwards through your session history as if it were an Undo button. The History panel displays the last nine changes made to your image. You can click on any one of them to jump back to that point.

HSB
This is an abbreviation for the three components of a colour space. It stands for Hue, Saturation and Brightness.

HSL
This is another term for the three components of colour. This stands for Hue, Saturation and Luminance. In Lightroom, the HSL adjustment sliders can be found in the Develop module beneath the Basic and Tone Curve panels.

ICC
ICC stands for International Colour Consortium. An ICC profile is a description of how certain devices such as printers handle colour. This allows software to interpret and convert the profile, so they reproduce

and match colour on different devices as closely as possible.

Impromptu Slideshow
This is a Lightroom technique that allows you to very quickly set up and display a slideshow in the Slideshow module. You highlight all the images in your filmstrip that you want in the slideshow and press the Play button in the toolbar.

ISO (International Organisation for Standardisation)
In photography, ISO refers to the standard for measurement of the sensitivity of film or digital sensors to light.

JPEG, JPG (Joint Photographic Experts Group)
A standard created by the Joint Photographic Experts Group for the compression of photographic images and the accompanying file format. It employs lossy compression that can reduce file size but at the expense of image quality and detail.

Keyword
An element of metadata that is used to make a file more easily discoverable to searches. Keywords can be individual words or short phrases and can have a hierarchical structure.

Lens Corrections
Lightroom is able to analyse your images and determine what camera and lens was used to take the photo. It can then apply lens and chromatic corrections to remove any distortion caused by the lens as well as any optical defects such as purple/green fringing.

Lossless Compression
An image compression technique that prevents image degradation caused by data loss. Lossless techniques usually use lower compression ratios than lossy techniques.

Loupe Overlay
This lets you show or hide different information overlays and guides on top of your currently active image.

Luminance
The intensity of light emitted or reflected by an object. This is usually expressed in candelas per square meter (cd/m2). It is a measurement of the brightness of an object or light source.

Megapixel
A term used to describe digital camera resolution, 1 megapixel equals one million pixels or sensor elements. To calculate the megapixel value for a camera, multiply the horizontal by the vertical pixel counts of the recorded image.

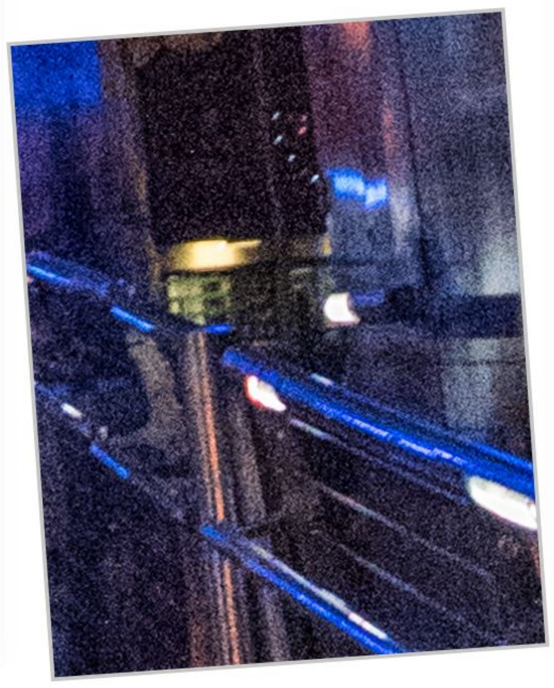
Metadata
Embedded or associated information describing a file's contents, used in digital photography to hold exposure information, GPS location data, copyright information and more. There are a number of metadata formats such as EXIF, IIM, IPTC Core, Dublin Core, DICOM and XMP.

Mid-tone
An area that falls between the brightest highlight and the darkest shadow.

Module
Lightroom has a number of modules that are essentially different workspace areas. As an example, Library is where you manage your database of photos and Develop is where you edit and adjust your images.

Navigator
The Navigator panel in the Develop module allows you to quickly zoom in or out of your image and move around.

Noise
The unwanted colour or luminance variations of pixels that degrade the overall quality of an image. Noise can result from several different sources including a low signal to noise ratio, the use of high ISO settings, long exposures, stuck sensor pixels and also compression artefacts. It can also appear as random colour speckles, a grain-like effect or banding.



Non-Destructive Editing
Any adjustments you make to an image in Lightroom and held as a series of instructions that describe the edits you've made. These are all done without altering the original file in any way. Only when you output the image as a new file will the adjustments be applied at the pixel level to the copy of the original image.

Opacity
Opacity is the extent to which something blocks light. You can change the opacity of layers, filters and effects so that more (or less) of the underlying image shows through.

Overexposure
An overexposed image results from too much light being allowed to fall onto the camera sensor, usually as a result of either a long shutter duration, wide aperture, high ISO sensitivity or a combination of all three. An overexposed image is very light or pure white with the brightest areas often containing no detail whatsoever.

PDF (Portable Document Format)
Developed by Adobe Systems, PDF is an open standard file format for cross-platform document exchange. PDF is highly extensible, preserves the integrity of the original document, is searchable and provides document security.

Pixel
Derived from the term picture element, this is the smallest unit of information in a digital image. It is also commonly used to describe the individual elements on a capture device such as a camera sensor.

Pixelation
Pixelation is an unwanted effect produced when an image is enlarged too much and the individual pixels become larger than the actual detail contained in the image.

Plug-In
A software application or module that provides extended and specific functionality from within a larger host application.

PPI (Pixels Per Inch)
The measurement of image resolution expressed in pixel density relative to inches. PPI can be used to calculate the final image size by dividing the image dimensions in pixels by the PPI. The resulting numbers would be expressed in inches. Not to be confused with dots per inch (DPI).

Preferences
These are user-defined values that are applied to the main modules within Lightroom and control how it operates.

Preset
In Lightroom, a preset is an action that can be applied to an image or group of images. You save a group of editing settings such as colour balance, brightness, clarity, sharpness, contrast and saturation, which can then be applied to your selected photos.

ProPhoto RGB
This is an internal colour space used by Lightroom with a very wide colour gamut.

PSD
The .psd (Photoshop Document) format is a popular proprietary file format from Adobe Systems, Inc. It has support for most of the imaging options available in Photoshop, such as layer masks, transparency, text and alpha channels. In addition, spot colours, clipping paths and even duotone settings can be saved if you are preparing images for press or digital printing.

Quick Collection
You can create a temporary collection of different images by clicking each one and pressing the B key. That image is then added to the collection. There is only one Quick Collection and you can clear its contents by pressing Shift+Cmd+B.

Rating
In Lightroom, you can apply a subjective rating to your images in the form of stars ranging from zero to five stars.

Raw Files
A Raw file is the unprocessed data captured by a digital camera sensor. In most cases, cameras write Raw files using a proprietary file format. Raw files give the photographer the advantage of managing image processing during post-production rather than letting the camera make the processing decisions, as happens when

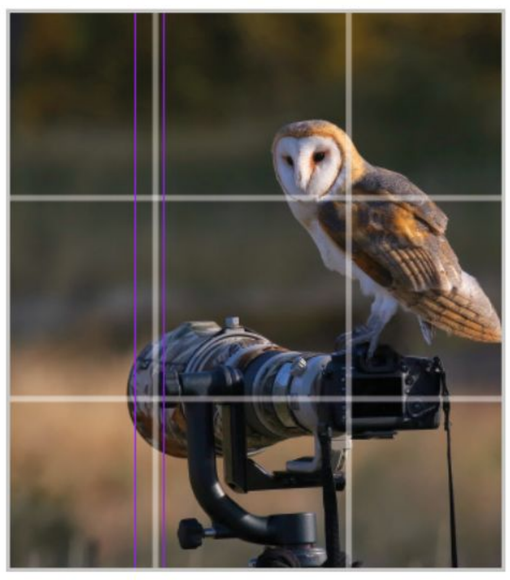
shooting in JPEG format. See also: DNG.

Recovery
This is a powerful tool to use if you are trying to recover detail in the brightest highlights in a photo. Bear in mind that if the detail is lost to pure white, then there is nothing to recover from these areas. Only areas darker than pure white have the chance to recover detail.

Resolution
A measurement of the ability of an optical, capture, or output system to record and reproduce detail. It can be defined in several different metrics such as Line Pairs, PPI, DPI, SPI and LPI. Also see DPI and PPI.

RGB
A colour model that uses the three primary additive colours (red, green, blue) that can be mixed in different ratios to make all other colours.

Rule of Thirds
If you divide an image into three equal sections both vertically and horizontally, where the lines intersect is commonly regarded as good placement for the subjects in your photos.



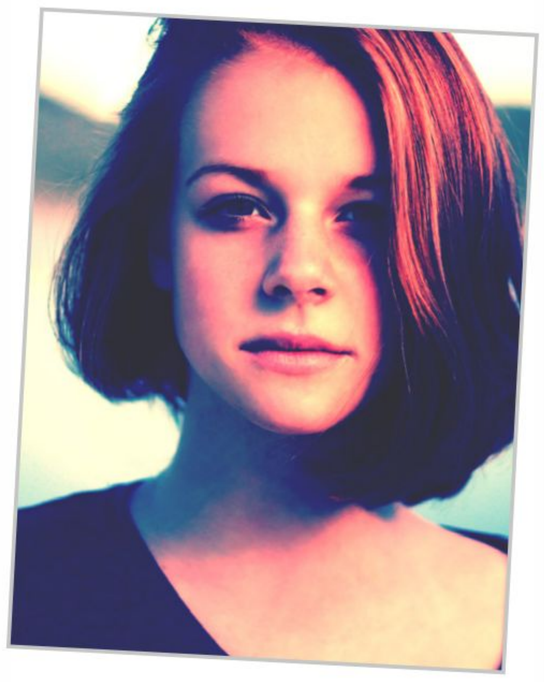
Saturation
One of the three components of colour. Saturation refers to the purity of colour present in an image. When a colour is at maximum saturation, it is the purest form of colour it can be.

Shadow Detail
Refers to the amount of detail that can be seen in the darkest areas of a photograph.

Sharpening
The process of increasing or emphasising contrast around the edges of details in an image, to give the impression that the image is sharper than it really is.

Soft Proofing
This shows you how an image on your computer screen will look when printed. You can optimise the image for a particular output device.

Split Toning
This option lets you alter the colour of both the shadow and highlight areas of your images. For example, you can add a blue colour cast to the darkest areas of your photo but make the brightest areas of the same image more orange.



sRGB
A reduced gamut colour space used by many digital cameras, colour labs and on the web. When processing your photos, a wider gamut colour space is preferred by photographers and digital artists such as Adobe RGB.

Tags
Tags are similar in their application to keywords.

Thumbnail Image
A small, low-resolution image preview used on the web to link to a high-resolution version of the file. Thumbnails can also be embedded in file formats such as TIFF and PSD.

TIFF or TIF (Tagged Image File Format)
An open standard file format specifically designed for photos and images. TIFF can incorporate several types of compression, including LZW, JPEG and ZIP. The format is suitable for the storage of high quality archive images. The DNG format is based on the main TIFF standard.

Tone Curve
A Tone Curve is used in image editing software. It is a graphical representation of the relationship between the input and output values for the brightness levels of pixels, that can be used to adjust the contrast of the image.

Transform
This panel has a number of controls that let you alter the aspect ratio of your image, rotate and scale it as well as apply vertical and horizontal transforms to counter perspective shifts in the image, such as converging verticals.

Underexposure
An underexposed image results from too little light being allowed to fall onto the camera sensor, usually as a result of too short a shutter duration, narrow aperture, low ISO sensitivity or combination of all three. An underexposed image is very dark, with the darkest shadow areas often containing little or no detail.

Vibrance
Vibrance is a form of intelligent Saturation. As you increase the Vibrance in an image, only the middle tones of your image are altered first.

Vignetting
An effect in which the edges of an image gradually fade out, usually to black or a very dark colour.

Virtual Copy
If you have processed a colour image and have it at a point you consider finished but wish to experiment on it a little, you can create an exact replica of the image with all its adjustments applied and alter the copy without affecting the original.

Watermarking
Allows you to add copyright symbols, text and graphics to protect your images from theft. The Watermark function can be accessed from any module.

White Balance (WB)
In digital photography, white balance establishes the colour balance of the image in relationship to colour temperature of the lighting conditions. Most digital cameras have several built-in white balance presets (tungsten, daylight, cloudy, fluorescent, etc.) along with an auto setting and the ability to set a custom WB.

White Point
A reference point used to represent white. This reference point is used to calculate all other colours in the image.

Now you've got the basics down, you can improve and learn more essential skills in our next guide…

PHOTOSHOP LIGHTROOM

TRICKS AND TIPS

Coming soon!

Discover more of our guides...