

Organising and Safeguarding your Images

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Photographers face two big challenges in relation to their digital images:

- a) Saving the digital files in ways that will protect them against loss or damage.
- b) Keeping track of the digital files so that particular images (or groups of images) can be located quickly and easily long after they have been saved.

Inadequate attention to the first of these issues **will** result in the loss of valuable files.

Inadequate attention to the second issue **will** result in lots of wasted time.

The first section of these notes describes one systematic strategy for saving digital files and minimising the chances that they will be lost through equipment failure, software failure, theft, fire, etc. The second part of the notes describes one systematic approach to cataloguing digital files so that any saved image(s) can be located quickly.

Where should digital image files be saved?

Initially, your images are saved to a memory card or other memory device in your camera, but clearly they should not remain there for any longer than necessary. You need to download them to a more permanent storage location that is practical, reliable and reasonably cost effective. Currently the option that best meets this requirement is hard drives (either mechanical or solid state) and these notes assume that you have taken this approach to file storage.

From my perspective, the ideal option is to have a solid state drive (SSD) in your computer and use it for storing your operating system, programs and, depending on its size, for important files that you access frequently (but not image files). I then use external drives (normal mechanical HDs) for image file storage. This approach gives you the best of both worlds - optimum performance for your operating system and programs, and unlimited, cost-effective storage of image files. Separating the storage of your programs and image files minimises the chances that your image files will be lost or damaged if your computer crashes or gets infected with a virus.

If you have been taking digital images for a few years it is quite likely that by now you have image files stored in several locations. Perhaps you have some on the internal hard drive of your computer and others on one or more external hard drives. Maybe you have some files archived on CDs or DVDs. So, before going any further, it is worth doing a stocktake to determine what your image storage requirements are now and to estimate what those storage needs might be for the next 3-5 years.

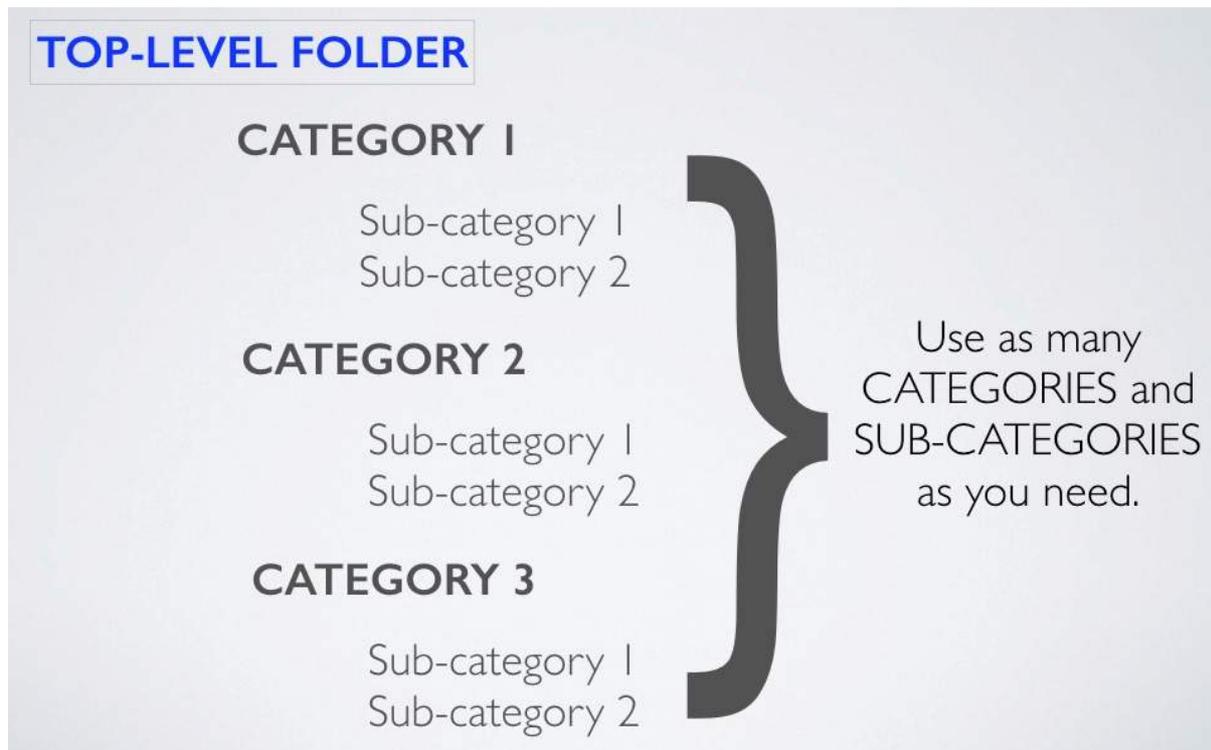
If you have been taking digital images for more than a few years it is likely that a lot of your older images are JPEGs and/or that were taken with a camera that produced relatively small files. Hopefully now, and in future, you shoot in RAW with a camera that produces much larger files; so your image future storage needs are likely to be much greater than they have been in the past. By way of example, let's assume that currently you have 1TB of images that are stored on several different hard drives. Let's also assume that you estimate that you might accumulate another 1TB of images over the next three years. [Depending on your camera that could be 20,00-40,000 images.] What I am suggesting next might seem a little drastic, but it is a strategy that will be of great benefit if you follow the suggestions in the rest of this document.

In the example above, your estimated total need for image storage now and into the medium term future is 2TB. So, go out and buy yourself two identical 3TB hard drives that are a well-known brand. [Obviously, if your image storage needs are greater you will need larger hard drives.]

Why 3TB (at least) - because with a bit of luck you will follow the strategies I suggest later and you will spend less time in front of your computer and more time out taking photos. Why two drives - because you need the second drive for the backup strategy I will describe later. Why identical drives - because it makes the backup system simpler and more reliable. Why well-known brands - because all hard drives fail, but you want yours to last as long as possible and perform reliably for their lifetime. The next part of this strategy is to copy all your existing image files (at least all that are worth keeping) to one of your new hard drives. But before you start doing that, you need to consider how you want these files organised on the new hard drive. The first step is to make sure that your hard drive is formatted correctly. If you use a Windows computer, just check on the box before you buy the HDs and it should indicate that the HD is suitable for use with the version of Windows that you are using (Windows 8.1, or 10 for example). If you use a Macintosh computer may have to reformat the hard drives yourself. Some shops want to charge a lot extra for HDs pre-formatted to work with Mac, but formatting is a simple process and you can contact me for instructions if you don't know how to do it on your Mac.

What you now need to do next is set up a directory structure on your main hard drive (not the one you will use for a backup) so that when you copy images to this HD they will go into a logical place. (Directories are called "folders" if you have a Mac, and since Lightroom also calls them folders I will use that terminology.) So, let's assume that you have a new, empty hard drive that has been formatted to suit your operating system (Windows or Mac). The first thing to do is create a single "top level folder" and give it a suitable name. For reasons that will become obvious later in this document I called my top-level folder "Lightroom Images". Next, inside this top-level folder you should create a series of folders that will eventually hold all the images in the organisational categories that you want to use. You have to choose these categories to suit your particular needs, but you might give these folders names such as Family, Nature, Travel, Street Photography, Weddings, and so on. If you keep these categories broad you will not need too many of them, probably fewer than

20. Within each of these categories you will then created sub-folders to hold the images



that you already have stored somewhere else. So, the general folder structure will be:

You can use as many categories as you want and each category can then be broken down into more specific sub-categories and, if you think it is useful, break these down into sub-sub-categories. So you might finish up with something like this (rather than just a single “Travel” category):

```
TRAVEL
  Australia
    Broken Hill June 2015
    Jindabyne August 2014
    Sydney Harbour May 2014
  International
    Cruise 2011
    Japan 2014
    South Africa 2015
```

If you set up this directory/folder structure before you start copying your old files to the new hard drive you will save yourself a lot of time later (when cataloguing these images) and you will ensure that every file that you add to this new hard drive will be put in a logical place. Of course, you will have to make some decisions about where to place particular images. For example, if you have photographs of cockatoos that were taken at Warners Bay should you put them in a directory called "Nature>Birds>Cockatoos" or should you put them in a directory called "Locations>Newcastle Area>Warners Bay"? The simple answer is - do what will make sense to you. Later, if you follow my recommendation and use Lightroom to catalogue your images, the decisions you make about where to store these images will not be too critical as you will be able to find them in several different ways (not just by remembering which directory you put them in). A critical point is that each image will be placed in only **one** folder.

You may be tempted to set up some special purpose folders in your structure, such as this:

COMPETITIONS

Belmont 2016

Monthly competitions

IOTY

NPF

National Competitions

Newcastle 2016

International Competitions

Maitland 2016

Sydney 2016

However, a word of caution. If you use this type of system for storing your competition images you will probably finish up (either deliberately or accidentally) having multiple copies of some images. For example, you might have an original image in a folder called Nature>Birds>Cockatoos and also copies of it in your Competitions>Belmont 2016>NPF folder and your Competitions>National>Newcastle 2016 folder. You can avoid this duplication if you use Lightroom "collections" which are described later in this document.

Once you have made your decisions and set up your folder structure you are ready to do two things:

- a) Copy your existing images to your new hard drive. (Do not remove them from wherever you currently have them stored. You have to wait until you have your new backup strategy in place before doing that.)

- b) Download new images directly to these new folders. (Do not remove them from your memory card until you have backed them up.)

Backing up your image files

So this initial phase of your new image organisation strategy gets you to the point where all your existing images are on a single external hard drive and they are in folders that have been arranged in a structure that is logical to you. Now you have to make sure that you will never lose any of those image files - you have to make your first backup.

Backing up your files is a form of insurance. You must do it because every hard drive will fail (or get lost or stolen or damaged) at some stage. You cannot predict when it will happen, but it **will** happen. If you have prepared for this by systematically backing up all your image files you can confidently throw away the broken HD, start using your backup HD and simply buy a new HD (which will now be used for your new backup). No lost files, no tears, no frustration - just a warm fuzzy feeling because you were wise enough to prepare for the inevitable.

Of course, there is a cost involved in backing up your files. But it is a trivial cost in comparison to what you have invested in cameras, lenses, printers, memory cards, etc. And it certainly is a minute cost in comparison to what you might have spent on travelling to exotic places to capture your wonderful images. And what value do you place on the actual images of your grandchildren or the places you have visited and all the other things you have photographed. Consider this little bit of mathematics: a good quality 2TB HD costs less than \$120 and will store at least 40,000 images for a typical photographer who shoots RAW and saves Photoshop files. So, if you buy two of these drives (one for backup) your overall cost is much less than one cent per image. If your images are not worth that much you should not be saving them! Another way of looking at the cost is this: Imagine that today you lost *all* your digital images. How much would you be prepared to pay to get them back? Would you consider it a bargain if you could get them all back for \$200 (or whatever you might pay today for a backup HD)?

Backup Strategies

There are many different ways to backup files but the two basic strategies are manual backup and automated backup. A manual backup strategy relies on you copying files from one location to another (such as from one HD to another). It has the advantage that you control exactly what gets copied, you can see that it has been done and you can do it as often as you think is necessary. The big disadvantage is that you probably will get lazy or forgetful and not do the backup as frequently as you should.

The solution to this problem is to automate the process so that the backups occur at a pre-determined time such as 9pm each night. Of course, you (have to set up the backup software to determine such things as what files get copied, where they get copied to, how frequently the backups are made, and so on. The backup software will also determine the type of backup that is made.

The Apple operating system incorporates a program called *Time Machine* that makes *incremental* backups of designated folders. This means that after the first backup the program copies only those files that have changed since the previous backup (and it keeps copies of the older versions so that you can step back in time and choose which version of a file to restore if you have to). This works well for program and document files that are stored on an internal drive and backed up to an external drive. I use this strategy and it has been reliable and helpful in recovering damaged or accidentally deleted files. However, it is not really suited to the backup strategy for images that I prefer, which is having the image files stored on an external drive and backed up to a second external drive. The Windows operating system has a *Backuo and Restore* feature that operates somewhat like Apple's Time Machine.

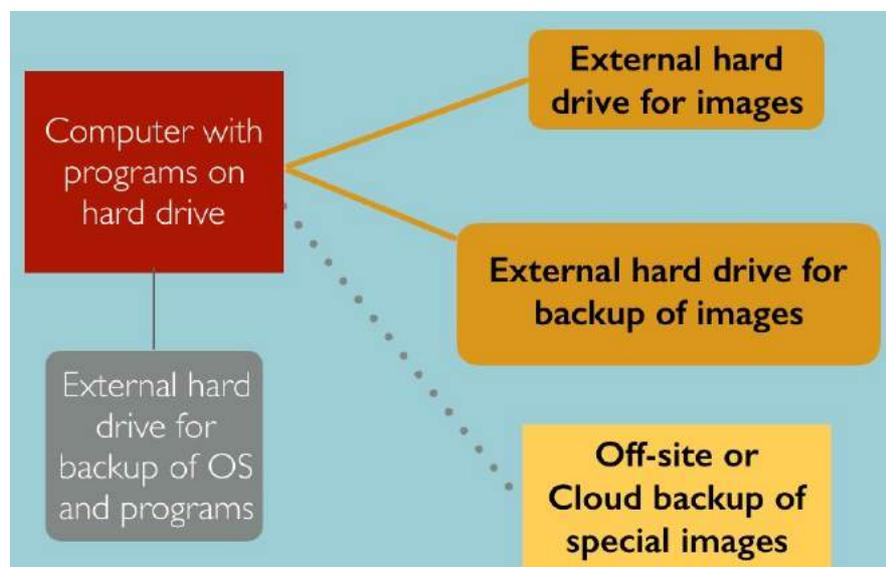
If you want the flexibility to control your backup using the strategy I am describing in this document you will need dedicated backup software. There are many such programs available and the one I currently prefer is called *Carbon Copy Cloner* (available for Mac and Windows). The basic way in which it is used is this: you nominate a 'source' and a 'destination' for the files to be backed up and specify a time and frequency for the backups. You can set up multiple backup events. It is simple to use and I have found it to be quite reliable. On the backup disc it produces an exact copy of the files from the source disk plus other files that assist in recovery (if necessary).

The 3-2-1 backup strategy

If you are really serious about protecting your files you will use a 3-2-1 backup strategy. This means that you will have 3 copies of all files, 2 of these copies will be local (in your house) but on different drives, and 1 copy will be stored off-site (on a physical drive or in 'cloud storage'). You could, for example, have a third hard drive that was a copy of your main HD and store it at a friend's house (and update it, say, once per month). This might seem extreme but it safeguards against loss of files because of theft or fire. A compromise is to use cloud storage for backup, perhaps just for 20GB or so of your most valuable image files. There are

various ways of obtaining cloud storage, some of which are free or come bundled with other services that you are already paying for.

The overall backup strategy I am suggesting can be represented like this:



MANAGING AND FINDING IMAGE FILES

After you set up the folder structure on your hard drive, copy old (and later new) files to that hard drive, and set up a suitable backup system and strategy you then have the challenge of keeping track of all your images and finding those that you want at any particular time. There are basically two options for locating particular files: a file browser or a cataloguing program.

File Browsers

These are programs, such as Adobe Bridge, that let you browse through the files on your hard drive and look for particular image thumbnails or titles (or both). They usually have some limited search options, such as searching for a particular file name. They may also let you apply a limited number of tags (such as star ratings) to thumbnails so that later you can use these as filters to limit what thumbnails are displayed. The main limitations of these programs are:

- a) If you do not know the name of the image file there are very limited options for searching for it.
- b) If you know what folder the image is stored in you can browse the thumbnails of images in that folder, but this can be a very time-consuming process if there are a lot of images in the folder.
- c) The range of tags available is usually very limited (perhaps 1 to 5 stars and 4 or 5 colours).
- d) It is an inefficient way of finding a single image unless you know its file name.
- e) It is a hopeless way to try to find a collection of images (perhaps all with similar subject matter), particularly if these images are not all in the same folder.

Cataloguing Programs

The limitations of file browsers can be overcome if you use a cataloguing program such as Lightroom. The basic idea is that you catalogue (index) each file by applying various types of 'tags' to it. The program keeps track of where each image is located and what tags you have applied to it. You can find files by applying various search strategies that do not rely on you knowing where the file is located or what its file name is. The main advantages of cataloguing programs (over file browsers) are:

- a) Images do not have to be stored in any particular directory/folder structure (although this can have some advantages).
- b) Images can be tagged with stars and colours (as in a file browser) but also with an unlimited range of keywords that are very easily applied and used in searches.

- c) The filters used for searches can be very basic or very complex, depending on your needs.

Because of this, programs such as Lightroom are efficient ways of locating single images (whether for not you know their files names) and extremely efficient ways of finding groups of images that share some common characteristic. The rest of this paper is concerned with how to use the cataloguing and search features of Lightroom.

Adobe Lightroom

Lightroom is a multi-purpose program that can do much more than simply catalogue images. It is built around a number of integrated modules that are used for:

- Cataloguing images (the Library module)

- Editing images (the Develop module)

- Printing images (the Print module)

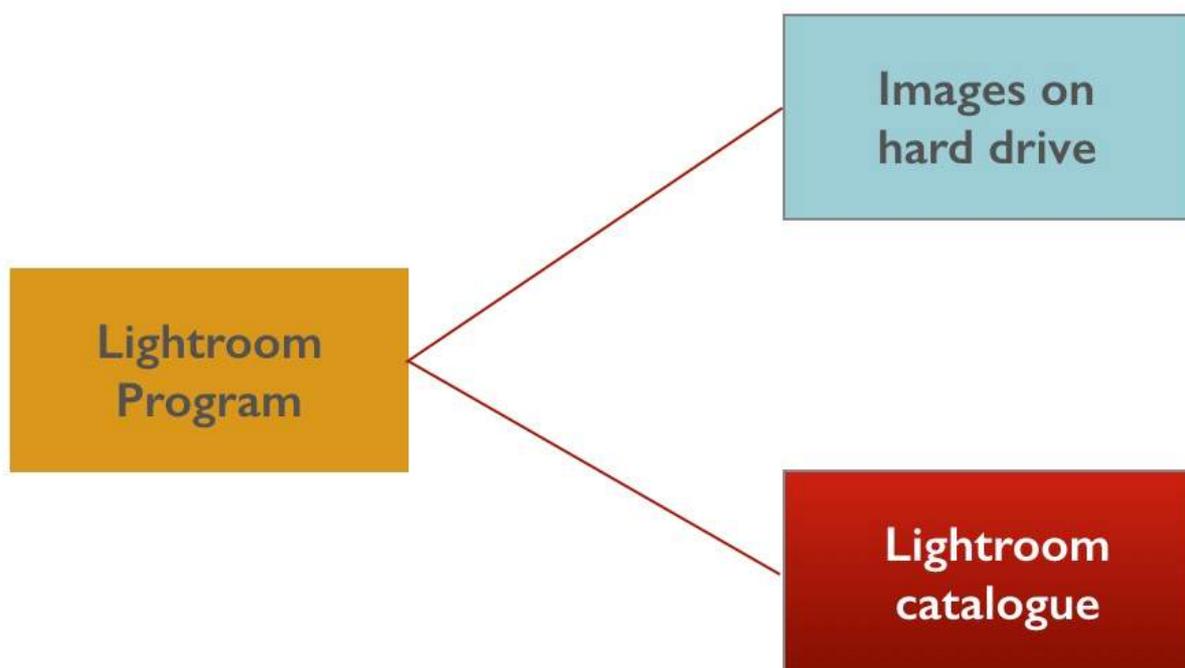
- Geotagging images (the Map module)

- Making photobooks (the Book module)

- Presenting slideshows (the Slideshow module)

- Creating web pages (the Web module).

These notes are concerned only with the **Library** module and how it can be used to catalogue images and search for images. The most important thing to understand about Lightroom is that there are three components to the overall 'system'.



The **Lightroom program** is the software. It is installed on your main hard drive.

Your **image files** are stored on a separate external hard drive (if you take my advice). It is very important to understand that these images are not IN Lightroom. Lightroom simply keeps track of where the images are, how you have catalogued them, what adjustments you have made to them, etc.

The first time you start Lightroom it automatically creates a **catalogue** to keep track of the information about the images. Again, this catalogue is not IN Lightroom, it is simply a file that Lightroom creates. The catalogue file will always have a name something like “Lightroom Master Catalogue.lrcat” and you specify where you want Lightroom to save this file. Your usual choices are to have it on the same hard drive as the Lightroom program or the same hard drive as your image files. The first option will probably give you slightly faster operation (but not enough to be concerned about). The second option is my preference because it fits well with the backup strategy I describe earlier - I always know that both my image files and the Lightroom catalogue are being backed up at the same time. It also means that if my computer fails or I want to run Lightroom on a laptop I can simply disconnect the external hard drive from my desktop computer and connect it to another computer. Lightroom will then operate in an identical fashion on that new computer.

Backing up the Lightroom Catalogue.

If you select Catalogue Settings from the Lightroom menu you can specify when you want Lightroom to backup its catalogue. I suggest that you select “When Lightroom next exits” so that every time you close Lightroom it will prompt you to make this backup. Remember, this is a backup of the *catalogue*, not the image files so it is not a substitute for the backup strategy that I described earlier. The first time you backup the catalogue you will be asked to specify where you want Lightroom to save this catalogue backup. If you have your image files and the catalogue on an external drive then I suggest you get Lightroom to put the backup catalogue on your computer’s internal hard drive. Hopefully you will never need this catalogue backup, but sometimes things go wrong and the main catalogue gets corrupted.

GETTING STARTED WITH THE LIGHTROOM CATALOGUE

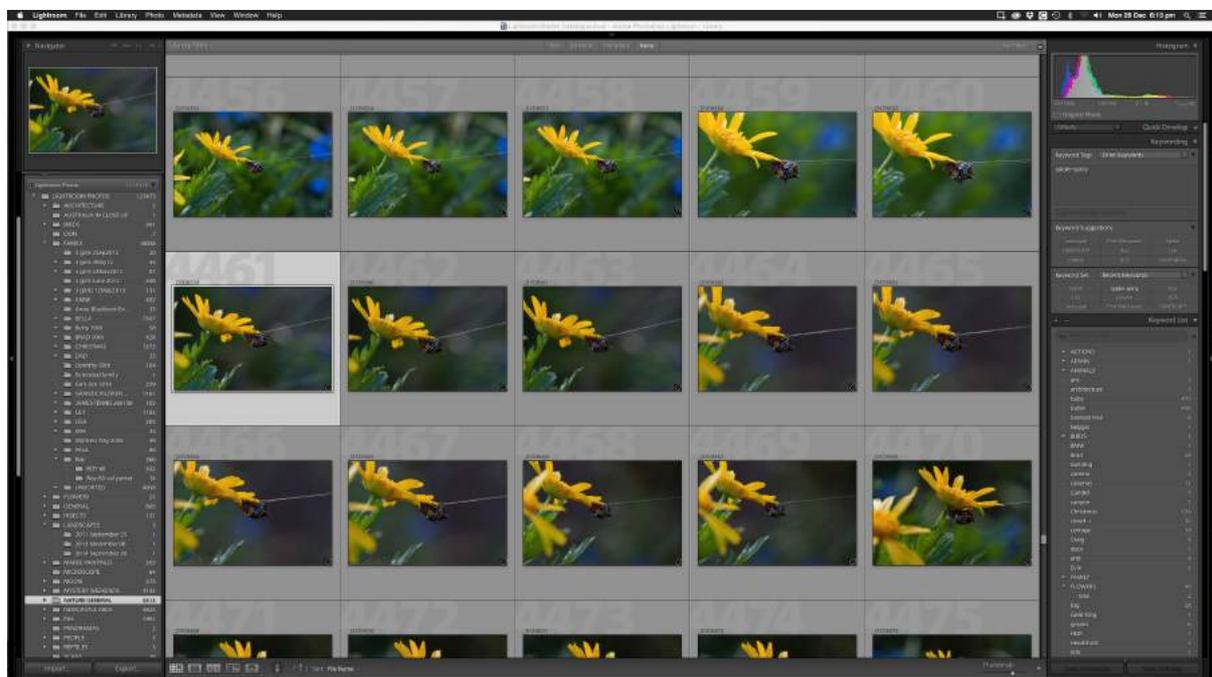
The process of getting information about your images into the Lightroom catalogue is called **importing**. There are two different situations in which you will import images:

- a) The first situation is where you already have your images on a hard drive where you want them to stay. This will be the case if you followed my advice about setting up your new hard drive and you copied your existing images to that drive. When you ask Lightroom to import these images it does not move or copy the images anywhere. All it does is create information about those images (including where they are stored) and put that information into the Lightroom catalogue. The images will then be visible to Lightroom and visible to you - you will see thumbnails of the images in the LR Library module.

- b) The second situation is where you ask Lightroom to import images that are not already on the hard drive where you want them stored (perhaps they are on a memory card). In this case Lightroom will do two things. It will copy those files to the new location you have specified and at the same time create information about those images and put that information in the catalogue.

In both the cases described above, as you import the images, you can add several different types of information about the images that will be stored in the Lightroom catalogue. For example, you can add Copyright information and Keywords that describe the image content (more about that later). The steps to follow in each case are summarised below.

When you first open Lightroom it will open in the Library module but there will be no images showing. You have to import images into the catalogue before you will see a workspace like this:

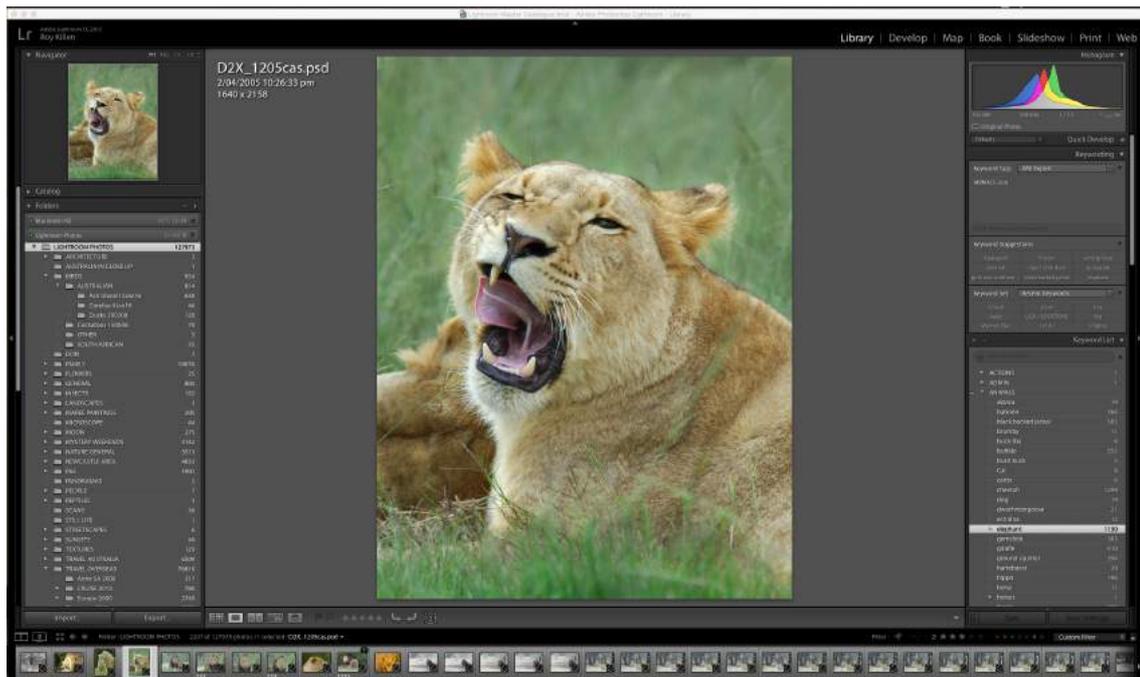


The central area show thumbnails of the images in the catalogue. There is a slider near the bottom of the screen that enable you to vary the size of these thumbnails.

The panel on the left shows a small preview of the image you have selected, plus the directory/folder structure on the hard disk where your images are stored and on any other hard disk that is connected to your computer. There are other features near the bottom of this panel that I will explain later.

The panel on the right shows various things such as a histogram of the selected image, meta-data about the image, keyword lists, and so on.;more about these things later.

You can press the “F6” key on your keyboard to get a “filmstrip” view that shows a large preview of the image(s) you have selected from the thumbnails at the bottom of the screen.



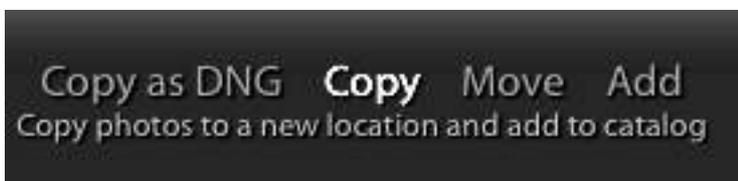
Importing images into the Lightroom Catalogue when they are already in the location where you want them to stay.

1. Open Lightroom and make sure the **Library** module is selected.
 2. At the bottom left of the LR workspace select “**Import**”.
 3. At the top left of the screen workspace click on “**Select a source**” and then select the drive/folder that contains the images.
 4. Review the thumbnails of the images and **check** those that you want to add to the catalogue.
 5. At the top centre of the workspace select to option that you want LR to use when importing. The choices are “Copy as DNG, Copy, Move, Add”. In this case you should select **Add** - the images will stay in their existing location and information about them will be added to the catalogue.
- Copy as DNG Copy Move **Add**
Add photos to catalog without moving them
6. Add **copyright** information if required.
 7. Add **keywords** if required.
 8. At the bottom right of the workspace select “**Import**”.

If you followed my advice about setting up a new hard drive and copying all your existing images to a systematically organised directory/folder structure on that drive then the importing process described above will not be too great a task. For example, if you have files in a folder called “Travel>Australia>Broken Hill” then as you import them into the catalogue you can add “Travel”, “Australia” and “Broken Hill” as keywords to all those images. You will see later how to come back and add additional keywords to some of the images if you want to.

Importing images into the Lightroom Catalogue when they are NOT already in the location where you want them to stay.

1. Open Lightroom and make sure the **Library** module is selected.
2. At the bottom left of the LR workspace select “**Import**”.
3. At the top left of the screen workspace click on “**Select a source**” and then select the drive/folder that contains the images.
4. Review the thumbnails of the images and **check** those that you want to add to the catalogue.
5. At the top centre of the workspace select to option that you want LR to use when importing. The choices are “Copy as DNG, Copy, Move, Add”. In this case you should select **Copy** - the images will stay in their existing location but be copied to their new location and information about them will be added to the catalogue. (It is safer to copy the images than to move them.)
6. On the right hand side of the workspace, select the **destination** (drive/folder) that you want the files copied to.
7. Add **copyright** information if required.
8. Add **keywords** if required.
9. At the bottom right of the workspace select “**Import**”.



At step 5, you could select the option to “Copy as DNG”. If you do, as the files are copied to the new location they will be converted to the “DNG” Raw file format. This is not necessary unless you are concerned that the files are in a Raw format that your software may not be able to process in future.

At step 5, if you select “Move” instead of “Copy” the image files will be deleted from their source (such as your memory card) as they are transferred to their new location. This is NOT a good idea. You want to make sure your files are safely in their new location and backed up before you delete them from your memory card.

Other options when importing images into the Lightroom Catalogue.

If you look at the right hand side of the Lightroom screen after you have selected “Import” at the bottom left you will see a number of options. These options vary according to whether you have selected Copy/Move or Add at the top of the screen. If you are Copying files from a memory card for example, you have options to rename the files, add metadata (such as copyright information), add keywords, or even apply some image processing presents. You can also add the images to a “collection” but I prefer to do that in ways that are described later in this document.

Organising images in Lightroom’s Library module

The Lightroom Library module provides four different ways of organising images so that you can group them and find them easily:

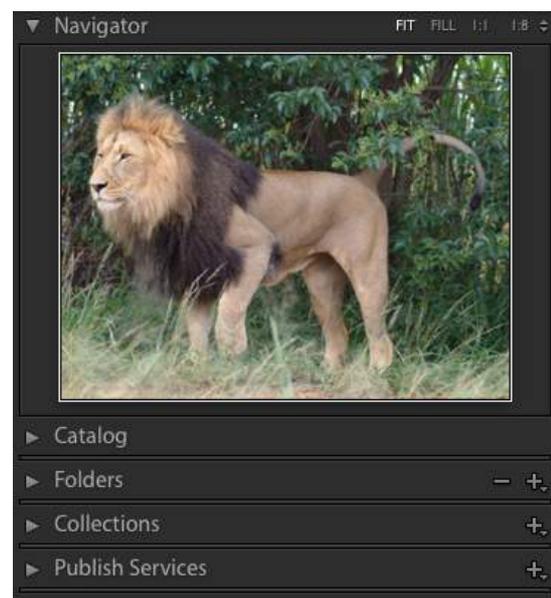
1. **Folders** - the folder structure set up on the hard drive where you store your images.
2. **Collections** - groups of images based on a specified criteria. (These are “virtual” folders.)
3. **Filters** - searches based on specified criteria.
4. **Keywords** - user-defined keyword tags that are used for selecting categories of images or for creating filters or collections.

Folders

The folder structure on your hard drive can be displayed on the left hand side of the Lightroom screen. Click on the small arrow near the word “Folders” to show a list of all the hard drives connected to your computer and then select the one that contains the images that you want to view.

Note: You will see only those folders that were created in Lightroom or that contain images that have been imported into the Lightroom catalogue.

From within Lightroom’s Library module you can do the following things with **folders**, files



and images to help you organise them the way you want:

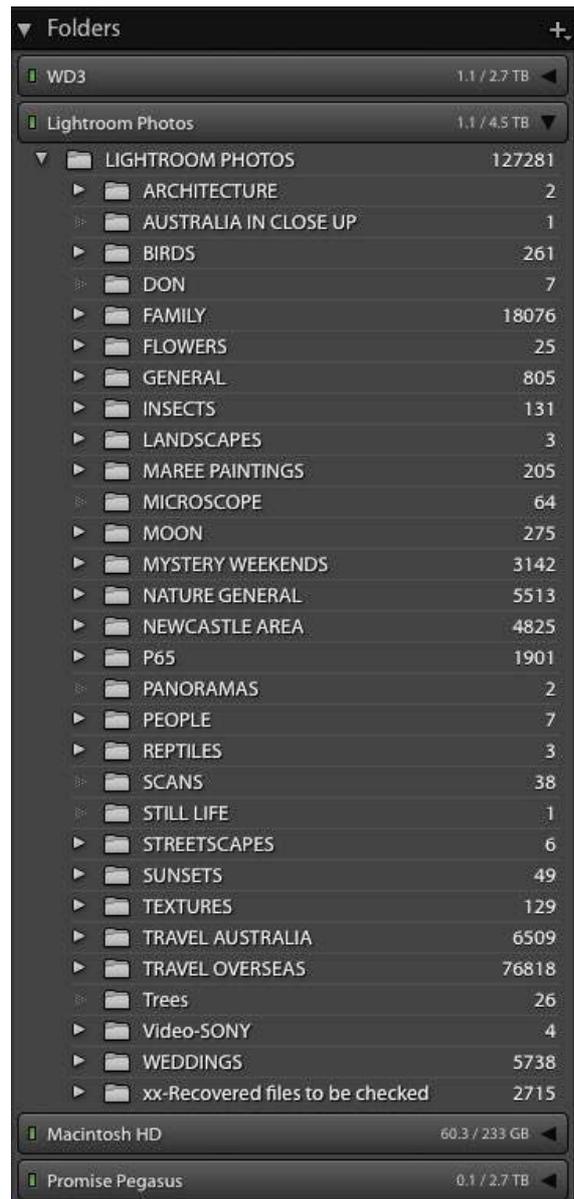
- a) Create new folders or sub-folders on the hard drive where the catalogued images are stored.
- b) Move folders and subfolders to change the folder structure.
- c) Rename folders.
- d) Remove folders from the catalogue (but not from the disk).
- e) Add new images to the catalogue.
- f) Move images between folders.
- g) Remove images from the catalogue without deleting them from the disk.
- h) Delete images from the disk.
- i) Create collections of images (that are ‘virtual’ folders).

If you do any of these things from within the Library module, Lightroom will keep track of them and make whatever changes are necessary for the LR catalogue to keep track of your images. If you do any of these things outside of Lightroom

(such as using your operating system to rename a folder on your hard drive) Lightroom will NOT accommodate these changes and it will lose track of whatever images were in the folder that you changed. So *always make such changes using the LR Library module*.

Note that the numbers to the right of the folder names in the above panel indicated how many images in each folder have been catalogued by Lightroom. If you add images to folders in any way other than importing them into the LR catalogue then LR will not know they exist and they will not be accounted for in the above numbers; nor will you be able to view them in Lightroom.

If a folder is “greyed out” on this list it means that Lightroom knows the folder exists but either no images in that folder have been imported into the Lightroom catalogue or the disk containing the folder is not connected to the computer.



If you have a logical folder structure it can be a simple way of finding groups of images. However, it is not a quick way to find individual images if the relevant folder contains a lot of images. For that job, you need to take advantage of one of Lightroom's best features - keywording.

Keywords

Keywords are [tags](#) that Lightroom attaches to images files so that those words can be used to search for the images. They become part of the metadata associated with the image.

Keywords can be applied to images as you import them, or at a later time - or both. You can remove keywords from images, or change them, if you decide they are inappropriate.

The three main ways you use keywords are:

- a) Select a keyword for the keyword list to display all images that are tagged with that keyword. This is a bit like selecting a folder so that you can see all the images in the folder. [The numbers to the right of each keyword indicate how many images in the Lightroom Library have been tagged with that word.]
- b) Use one or more keywords as all or part of a filter to find and display all the images that meet the filter conditions.
- c) Use keywords as all or part of a filter to find images and automatically put them into a collection of images that satisfy the filter conditions.

Before explaining how to apply keywords and how to use them to find images, I will explain a little about how you can decide what keywords to use and how to put those keywords into a logical structure.

The keywords you use have to be logical to you. So, [before you start importing images into your Lightroom catalogue](#), it pays to develop a basic keyword system that will suit your purposes and your way of thinking about images. Start by looking at a diverse sample of your images and asking yourself these questions:

- a) What things do I photograph frequently or occasionally?
- b) Where do I photograph frequently or occasionally?
- c) Who do I photograph frequently or occasionally?
- d) How would I describe some of my typical images?
- e) In a year's time, if I am trying to find a particular image what would be the most logical search terms for me to use? How would I visualise that image and its key features?

The answers to these questions should give you a basic structure for your keyword system; one that is good enough for you to start importing images and keywording them. Your keyword system can be continually expanded and modified so it does not matter if you start with a very basic system.

I take lots of nature images and when I think about them it is usually in terms of what I photographed, where I photographed it and what the subject was doing. For example:



So, if I used the words “Japan”, “fox” and “courting” to keyword this image it would be easy to search of it and similar images. The image also contains snow and trees but these are somewhat irrelevant and not really suitable as keywords on this image.

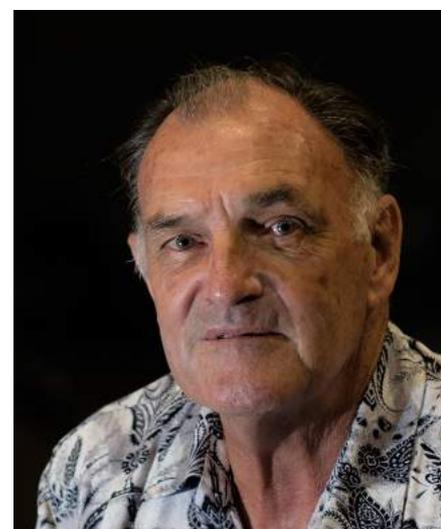
The three keywords I would use here are all quite specific. You can think of them as subsets of broader categories of keywords. Foxes are mammals so it might be useful to find this image if I was searching for images of mammals. Mammals are animals so I would also want this image to be found in a broad search for animals. Courting is an animal behaviour so I would want to find this image if I used “animal behaviour” as a search term. I will explain later how Lightroom can automatically assign broad keywords (such as “mammal”) when you tag an image with a specific keyword such as “fox”.

Here is an image that requires a different approach to keywording:

This time I would want to use keywords such as “Dave Vane” (the subject); “portrait” (the style of image) and “flash” because I took this image to illustrate a point in a training programme on flash photography.

In this example, the location (Wangi as it happens) is not important enough to use as a keyword, nor is “sitting” because it does not really matter that Dave happened to be sitting.

I might want Lightroom to automatically add keywords



such as “people” or “man” or “training” and the way to do that is explained later.

In the next example, a slightly different approach to keywording could be used:



Newcastle - where it was taken.

Street art - the subject.

Dan Prestage - the artist.

David Bowie - the artist's subject.

If you review a broad sample of your images you will soon develop an idea of what keywords might suit your needs. Your initial list might contain terms something like this:

ACTIONS

ANIMALS

BIRDS

FAMILY

FLOWERS

INSECTS

LOCATIONS

REPTILES

If you later change your mind and decide, for example, that “Animal Behaviour” would be a better term than “Actions” this is not a problem. You simply change that word in your keyword list and Lightroom automatically changes it on all the image that have “Actions” as a keyword tag - it could not be simpler!

Of course, broad keywords, such as “birds” are of limited value in searches if you have thousands of images of birds. There are two ways of dealing with this. The first is to remember that, when searching, you are not limited to one keyword. You could, for example, search for “birds, Japan, drinking” if you had used “birds”, “Japan” and “drinking” as keywords.

The main way of overcoming the limitations of broad keywords is to create lower-level keywords within each broad category. So, for example, within the broad category of “birds” you could have a separate keyword for each species. This example shows part of the keyword list I created while on a recent trip to South Africa. You should note several things about it:

Some of the keywords are specific and are unlikely to ever be changed - “crested barbet” for example.

Some of the keywords are temporary - “bird-tba” for example is tagging birds that I had not identified at the time I was keywording these images. Later the keyword on these images will be updated.

There are two keywords that start with “bulbul” so later I might want to make “bulbul” a keyword at this level and create two sub-categories of “African red-eyed” and “Dark capped” and have Lightroom automatically add the higher level “Bulbul” and “birds” keywords.

Keyword	Count
▼ BIRDS	3
▶ bee eater	82
▶ bird tba blue crane	41
▶ bird-tba	361
▶ black breasted korhan	15
▶ black crane Kruger	3
▶ black winged stilt	9
▶ blue crane	92
▶ Bulbul-African red eyed	4
▶ bulbul-dark capped	114
▶ canary-yellow	33
▶ cape glossy starling	89
▶ cape turtle dove	821
▶ capped wheat ear	2
▶ cattle egret	1
▶ chat	11
▶ chicks	42
▶ coucal	1
▶ crane-grey crowned	46
▶ crested barbet	12

The number “3” opposite the main keyword indicated that there are three images tagged with the general term “BIRDS” rather than a specify term - more work to do there!

Note also that I have used capitals for my broad category of “BIRDS” and lower case for the sub-categories. This is simply to make it easier to find things i the keywords list. Lightroom ignores the case when searching and treats “BIRDS” the same as “birds” or “Birds”.

The main point to remember here is that the keywords you first establish can easily be modified if you later decide that they were not the most appropriate ones to use. You can edit existing keywords (such as changing the spelling) or delete keywords from the list and that change will automatically be applied to every image that has been tagged with that keyword. If you add new keywords to your list, Lightroom waits for you to nominate which images they will be applied to.

Applying Keywords to Images

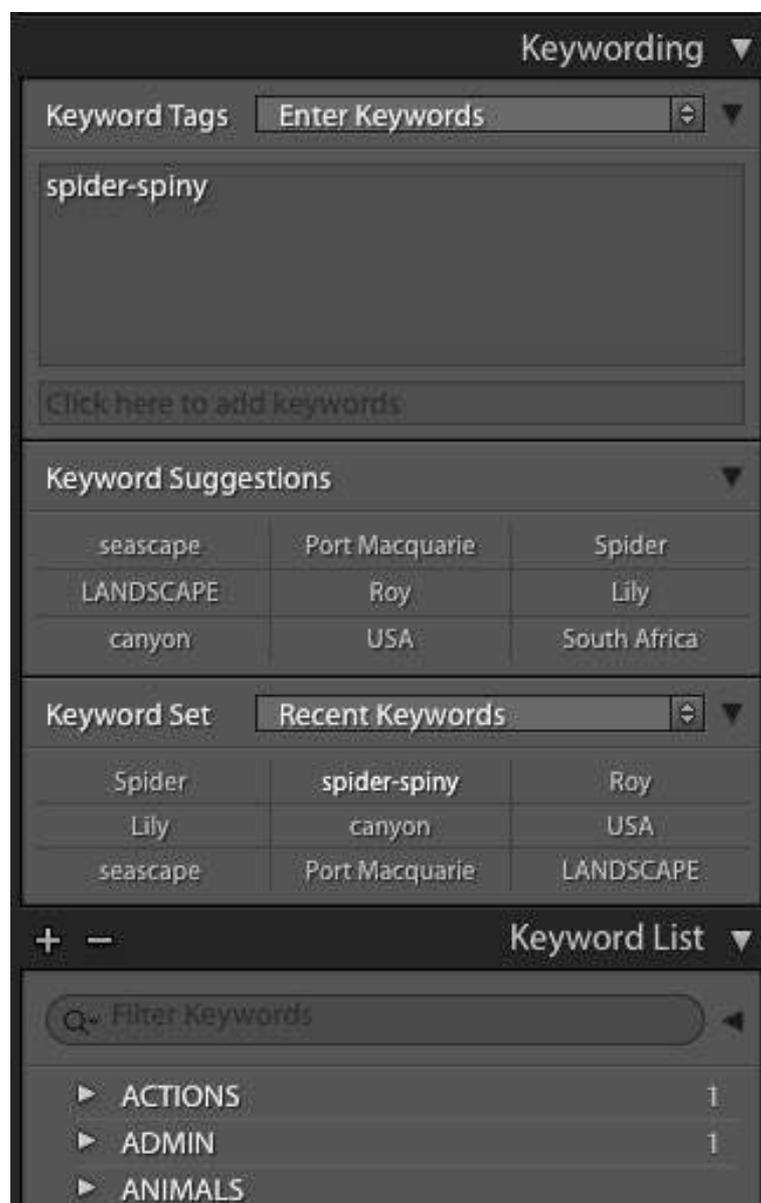
Keywords are applied and managed in the Keywords Panel that is on the right hand side of the Lightroom screen. This panel has four parts:

The **keywords tag box** - where new keywords are added.

The **keywords suggestions** - where the last 9 keywords you entered are shown.

The **keywords sets** - where predefined sets of 9 keywords are displayed.

The **keyword list** - where all the keywords you have defined are listed.



There are five different ways to add keyword tags to images after they have been imported, four of these methods use the keywords panel.

Method 1

Make sure you are in the Grid view in the Library module. Select the image that you want to tag and drag a keyword from the **Keyword List** on to the image.

If you want to tag several images with the same keyword, select all the required images and then drag the keyword on to any one of the images in this selection. If the images are adjacent you can select them all by clicking on the first image, holding down the shift key and clicking on the last image in the group. If the images are not adjacent you can click on the first image, hold down the control key (command for Mac) and click on the individual images.

Method 2

Select the image(s) you want to tag and click one or more of the words in the **Keyword Suggestions** area.



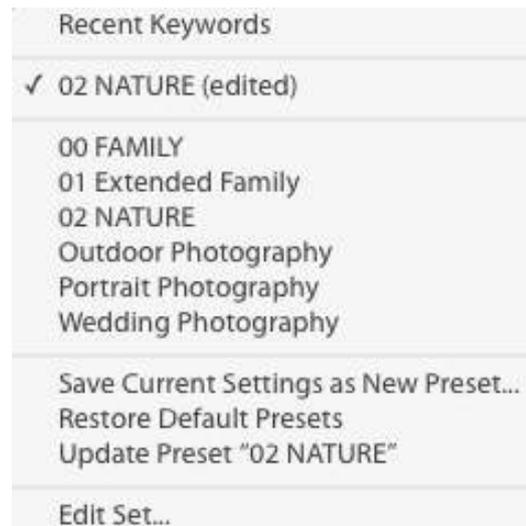
The words that appear in this area are the last 9 keywords that you have used, so they keep changing.

Method 3

Select the image(s) you want to tag and click one or more of the words in the **Keyword Set** area.

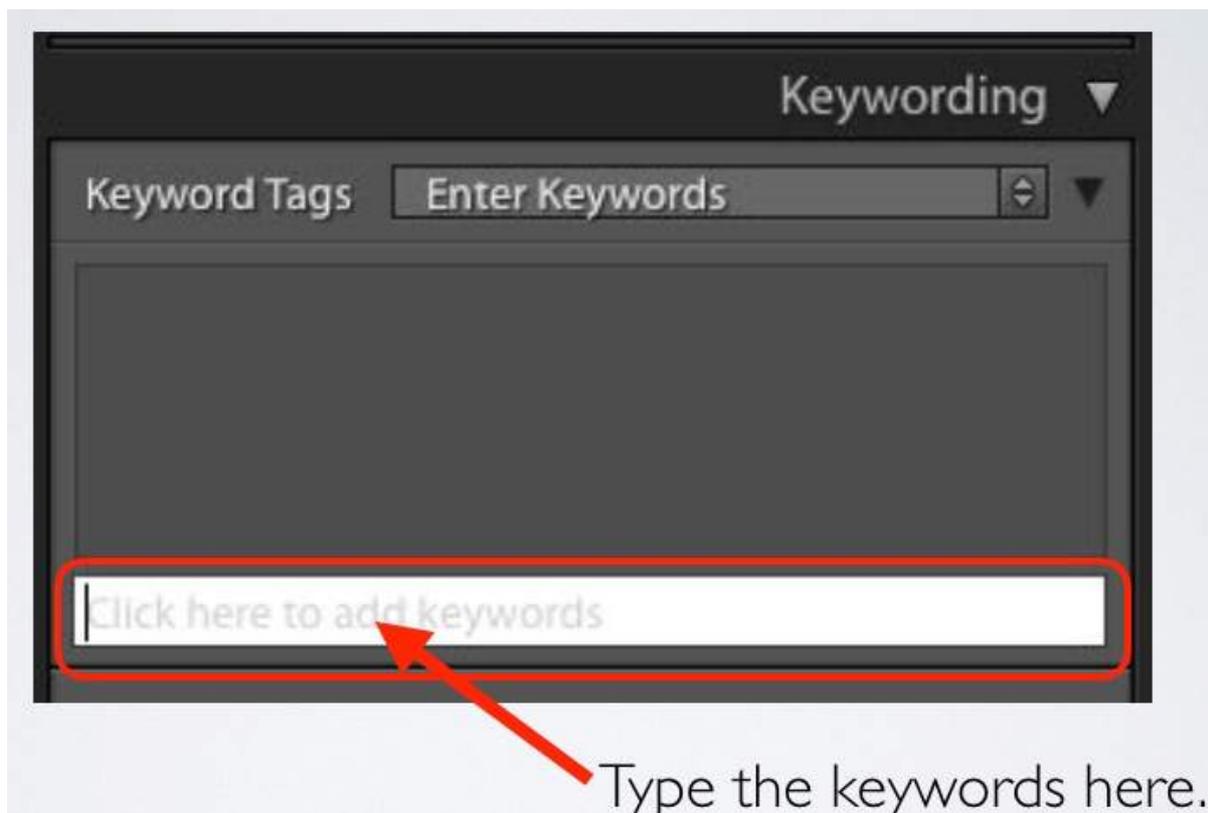


Lightroom comes with several Keyword Sets built in. You can edit these sets or you can define your own sets of 9 keywords (and have as many sets as you want). To do this, just click on the title of the currently display set and it will bring up a list of options.



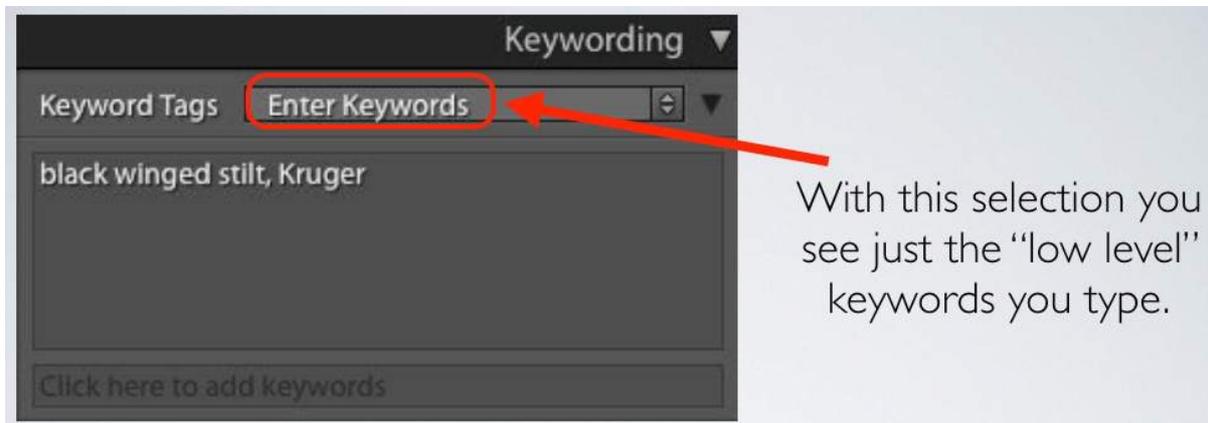
Method 4

The previous three methods are ways of applying key words that already exist. With this method you **create new keywords** and apply them to images at the same time. It's quite simple. Just select the image(s) to which you want to apply the keyword and type the new keyword in the Keyword Tags box.

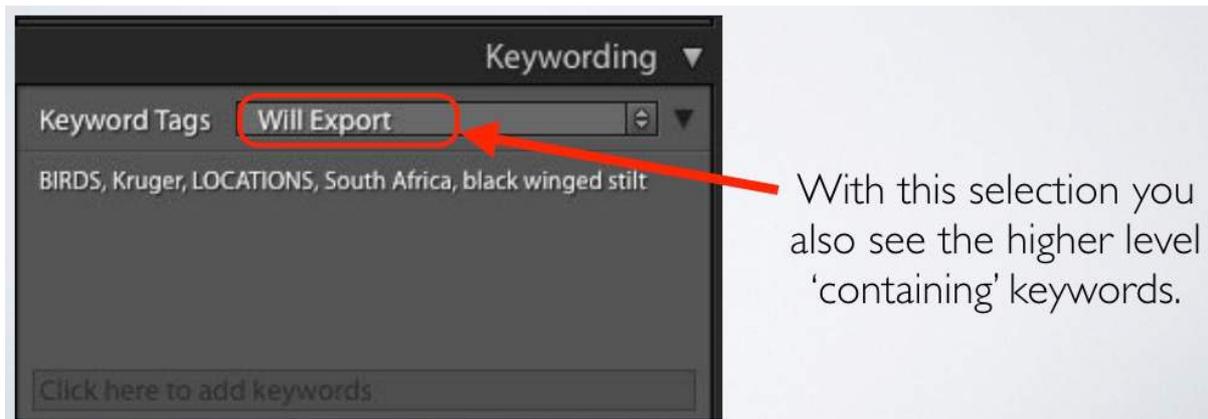


If you want to add more than one keyword at the same time, just separate the keywords with commas. If you start typing a keyword that is already in the keywords list (or is similar to an existing keyword), Lightroom will 'anticipate' and make a suggestion.

Notice that at the top of the Keyword Tags box there is a dropdown list that (in the above example) is showing “Enter Keywords”. With this option selected what you see in the keyword tags area is whatever keywords you type:



If you select “Will Export” from this dropdown list you see something different:



You still see the keywords you type (“black winged stilt” and “Kruger” in this example) but you also see the higher level “containing keywords”, provided that you have created a hierarchy of keywords as explained a bit later. The term “Will Export” simply means that you are seeing all the keywords that will be attached to the image if you export it. If you have selected the “Enter Keywords” option the ‘containing’ keywords are still there (and will still be exported) but they are hidden.

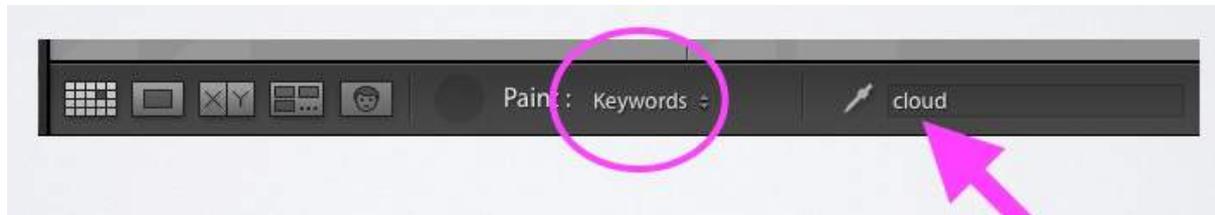
Method 5

The fifth way of applying keywords does not use the keywords panel, instead it used the “spray can” to ‘paint the keywords on to images.

The spray can is an icon near the bottom left of the Lightroom screen:



If you click on the spray can you can then select “Keywords” from the drop down list that appears next to the spray can and type in the keyword you want to apply (“cloud” in this example):



The cursor then turns into a spray can and all you have to do is click on a thumbnail to apply that keyword to the image.



The cursor stays as a spray can until you ‘park’ it back in its original location at the bottom of the screen, so you can easily apply the same keyword to several images. What makes this very convenient is that you can click and drag to rapidly apply the keyword to a series of images.

Special Tip: When you enter a keyword in the Painter tool, Lightroom knows that the Painter tool is “loaded” with that keyword – even after you have put away the tool (by clicking back on its original position).

So, if you have a “default” keyword that you often apply, enter it in the Painter tool and then simply select an image(s) and press Shift + K to apply that keyword *without having to select the painter tool.*

However you apply the keyword tags, the end result is the same - the tags remain on the images unless you remove them and they provide a convenient tool for organising and finding images.

Sometimes it is convenient to use other ways of marking images to either temporarily or permanently identify them. In Lightroom this can be done with flags, star ratings and colour labels.

Applying Flags to Images

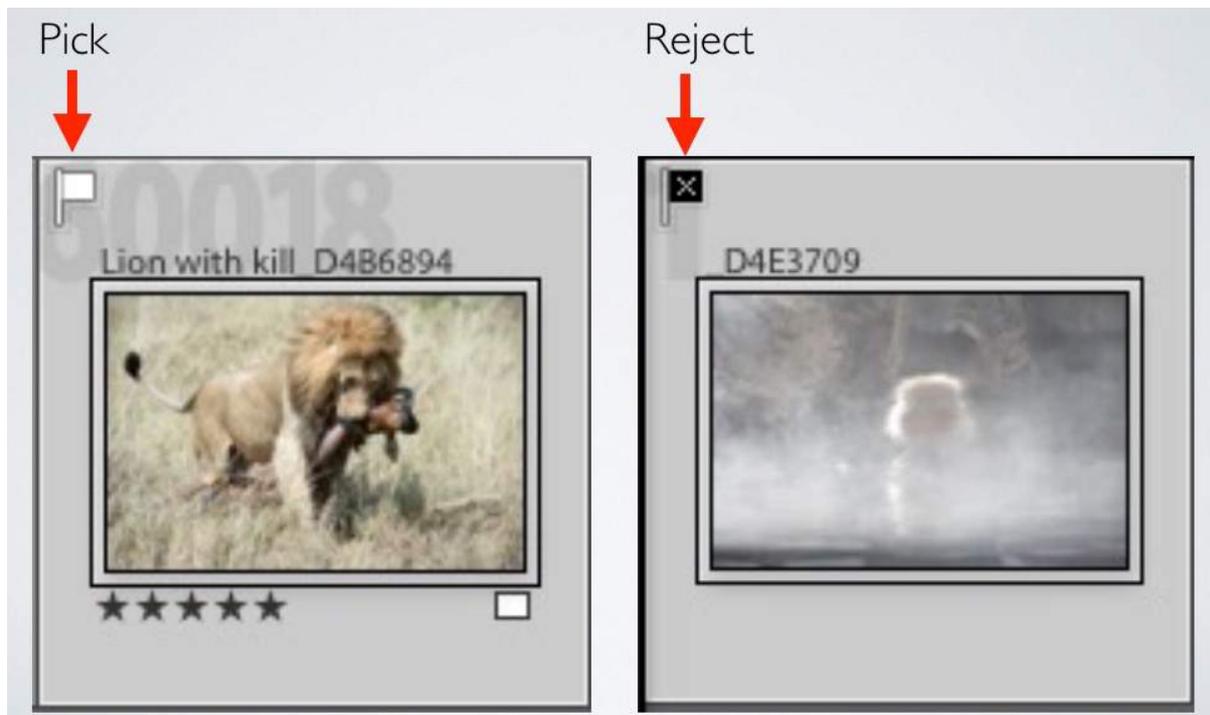
Lightroom has a simple system that allows you to apply flags to thumbnails using the keyboard:

P = Pick - for images you want to keep.

X = Reject - for images you want to delete or remove from the catalogue.

U = Unflag - remove the flag (in case you made a mistake).

The Pick and Reject flags appear as symbols above the thumbnails to which they are applied:



The Pick and Reject flags are a quick way of labelling the images that you want to keep and the ones you want to delete as the first stage of evaluating images you have downloaded from a memory card. With that system, the images that are not flagged will be those that you might want to reconsider at a later time.

After you have marked images as rejects (those that are simply not worth keeping) Lightroom has a quick way of getting rid of them. From the 'Photo' menu drop-down list just select "Delete Rejected Photos" and they will be removed from your hard disk.

Applying Star Ratings and Colour Labels to Images

If you are not satisfied with the simple flagging system described above, or if you want to use it in conjunction with a more detailed labelling system, you can apply star ratings or colour labels to thumbnails.

To apply a star rating, select the thumbnail(s) in the Grid view and apply the required rating (1 to 5) by clicking on the small dots just below the thumbnail.

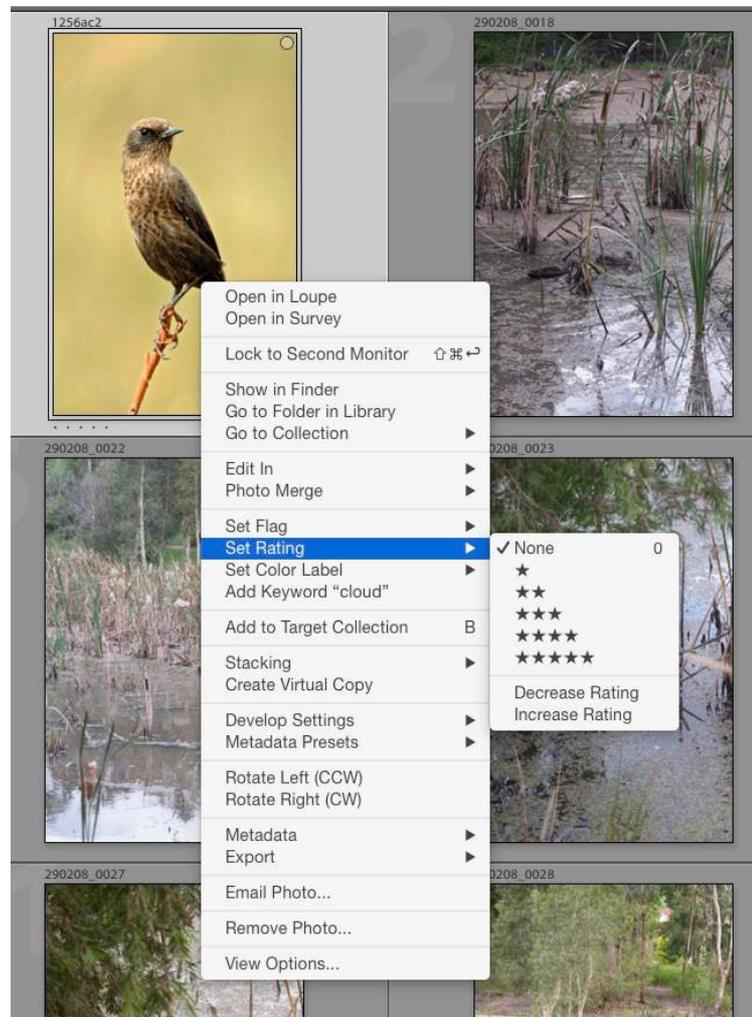


For this star rating system to be more useful than the simpler flagging system you have to have a very clear reason for giving a 4 rather 5 star rating, or a 2 rather than 1 star rating.

If you want to apply a colour label, click on the small square at the bottom right of the thumbnail and select the required colour from the dropdown list:



An alternative way to apply star ratings of colour labels is to select the thumbnail(s), right click, and then select from the pop-up menu:



You can also apply star ratings and colour labels with the keyboard. Just select the thumbnails(s) and type the required number:

1 to 5 for stars

6 - red

7 - yellow

8 - green

9 - blue

Selecting "0" will remove the star rating (set it to zero).

The remove a colour label just press the relevant number again.

When a thumbnail is tagged with a colour label, the area surrounding that thumbnail in the grid view changes to the selected colour (green in this example). This makes it very easy to see which thumbnails have which colour labels.



The whole point of applying flags, star ratings, colour labels, keywords or any combination of these is to make it easy for you to find individual images or groups of images. They become the tools that you use in your **searches** and that's what the rest of this paper is about.

FINDING IMAGES IN LIGHTROOM

To take advantage of the tags that you have applied to images (flags, star ratings, colour labels and keywords) you can use them for searching by creating what Lightroom calls **FILTERS**.

The first step in a search is to tell Lightroom *where* you want it to look for the images. You do this in the **Folders Panel** on the left. You can select a specific folder if you know that the images you want are in that folder or one of its sub-folders. Or, if you have set up your disk correctly, you can select the entire disk that contains your images. So that I have all these options, I have set up the hard drive with my images as follows:

I have a hard drive with all the images that I want Lightroom to access. I have called this disk "Lightroom Photos" (you can call the disk whatever you like when you are formatting it). When setting up that disk I created two top-level folders, one called "Lightroom Photos" and one called "Lightroom Catalogue". All the files that I copied to this disk when first setting it up are in sub-folders of the "Lightroom Photos" folder. All the new images that I download are also placed in appropriate folders on this hard drive. The process of setting up this folder structure was described in more detail on pages 2-3 of these notes.

With this folder structure, I can select the top level folder (Called "Lightroom Photos" in my case) and search through all the images on the hard drive. Since

there are more than 100,000 images on that drive, this is not a particularly good thing to do unless I have no idea at all where the image I am trying to find is located.

Because I have a folder structure on the hard drive that uses a limited number of broad categories (Family, Nature, Travel, etc) I can limit the search to one of those broad categories if I know that the image(s) I want to find is most likely in one of the sub-folders in that category. For example, I could search the Family folder and that would find the image I want if it is in any of the 20 or so sub-folders that it contains. The search will then be much faster than if I search the entire hard drive.

I can narrow the search (and speed it up) if I am confident that the image I want to find is in a specific low-level sub-folder such as “Family>Christmas>Christmas 2015”. I select the Christmas 2015 folder directly and the search will be very rapid.

The next step is to set up the parameters for the search and you can do this in two different ways. For a simple search based on flags, star ratings and colour labels you can set the search parameters at the bottom right of the Grid view.



This example would find flagged images with a star rating of 3 or more and a green label.

For a more detailed search you can use the **Filter Bar** at the top of the screen in Library Grid view. It looks like this:



If you cannot see it, press the backslash “\” key.

The filter bar lets you define a wide range of ways of telling Lightroom what to look for when searching. To access the first group of options click on the work “**Text**” and select what you want from the pop-up menu:

The checkmark beside “Filename” indicates that I want Lightroom to consider just the names of the files when finding what I want. This brings up a window in which I can specify conditions and type in specific text that I want Lightroom to look for:

In the following example I have specified that I want Lightroom to search for all files that contain “C1730” in



the filename.



If you select “**Attribute**” as the basis for the filter you are presented with the following options:



This lets you define a search criteria based on any or all of the following:

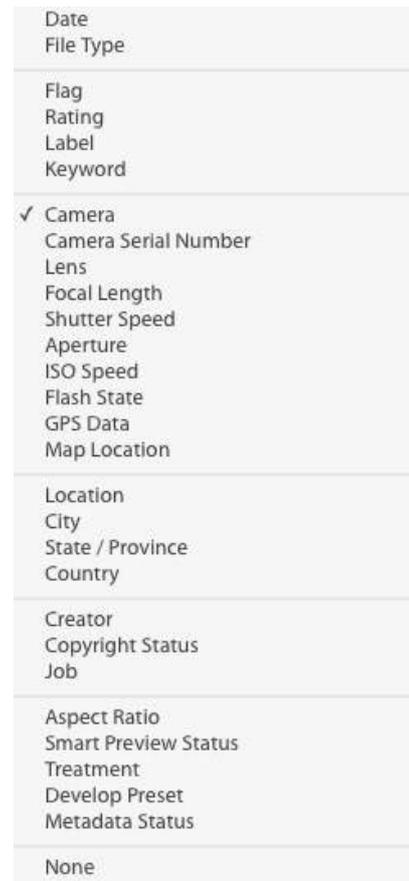
- Flag (Pick, Nothing or Reject)
- Rating (1 to 5 stars)
- Colour label (select a colour or nothing)
- Kind (Master photo, virtual copy or video).

Your third option for defining a search is with **metadata**. If you select this you are presented with several windows in which you can indicate the metadata fields you want to search. Each window will be similar to this (but with different content):



The slider on the right of this windows lets you scroll through the keywords list and select the one you want.

If you click in the area where this example says “Keywords” you get a drop down list of all the available metadata fields. You simply select the field you want to search.



By default, Lightroom displays four of these windows (so you can use four different metadata fields in your search). You can add extra search boxes if you want to, but this is rarely necessary.

If you frequently do similar metadata field searches you can take advantage of a simple mechanism that Lightroom uses to allow you to select (or create) preset searches. At the bottom right of the Grid view there is a small “switch” and to the left of the switch there is a window in which you can select from a dropdown list of possible presets.



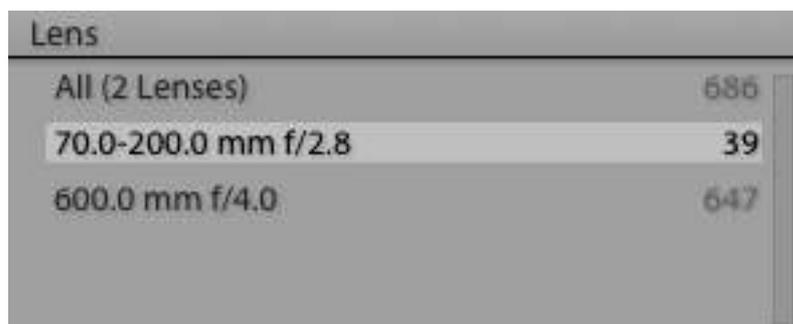
Each preset opens a different group of four metadata filtering windows (near the top of the screen). If, for example, you select “Camera Info” as shown above Lightroom will open four metadata filter windows where you can select “camera”, “lens”, “focal length” and “flash state” as your filter parameters.

Regardless of how you set them up, the metadata filter searches are hierarchical - working from left to right. This means that when you specify a metadata field and criteria in the left most window it narrows the search to just those images satisfying that criteria. So in the previous example where I used the keyword “cheetah” as the first stage of the filter the search would be narrowed to the 1299 images that had “cheetah” as a keyword. If, in the next window I select “Camera” as the metadata field I get this:



Camera	Count
All (4 Cameras)	1299
Canon PowerShot G10	5
NIKON D4	431
NIKON D4S	686
NIKON D7200	177

This tells me how many of the 1299 cheetah images were taken with each camera and allows me, for example, to narrow my search to the 686 images that were taken with my Nikon D4S. If I then select “Lens” as the next metadata field I get this:



Lens	Count
All (2 Lenses)	686
70.0-200.0 mm f/2.8	39
600.0 mm f/4.0	647

At this stage, the Grid view would be showing me the 39 images of cheetahs that I had taken with my D4S using my 70-200mm lens. I could continue to narrow the search by adding more metadata field search windows but with just 39 images to view this is probably not necessary.

Super Search

You may not ever need to do this, but I can’t resist telling you! It is possible to set up a search that uses Text, Attribute and Metadata. Instead of clicking on just one of these in the top centre of the screen, click on Text then Shift-click on Attribute, then Shift-Click on Metadata and select the filters you want to use:

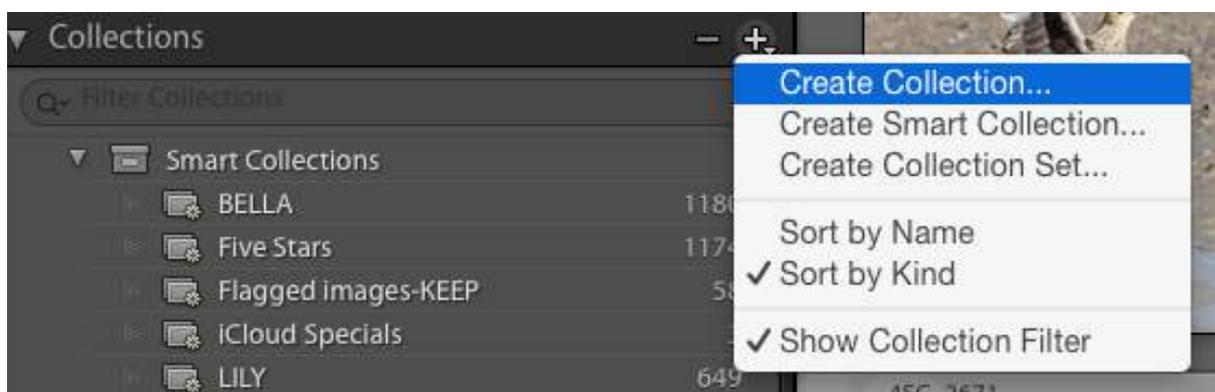
Camera	Lens	Focal Length	Flash State
All (7 Cameras) 1170	All (14 Lenses) 1170	All (80 Focal Lengths) 1170	All (3 Flash States) 1170
FinePixS2Pro 12	14.0-24.0 mm f/2.8 10	17 mm 1	Did fire 349
NIKON D2X 73	18.0-200.0 mm f/3.5-5.6 9	18 mm 1	Did not fire 818
NIKON D3 101	24.0-70.0 mm f/2.8 250	19 mm 3	Unknown 3
NIKON D4 627	28.0-70.0 mm f/2.8 79	20 mm 1	

CREATING COLLECTIONS IN LIGHTROOM

When you do a search in Lightroom, using any of the filtering methods described above, it can be for two basic reasons. Either you want to find a particular image or you want to find a group of images that have similar characteristics - such as 'all the images of your grandchildren that you have taken on a beach'. If you are searching for a single image it is probably because you want to edit it, or print it, or export it - so it's likely to be a 'one off' search. However, if you are searching for groups of images it is likely that you will want to save those images in a convenient place so that you can do something with them later. You can do this by creating a **Collection**.

Collections are simply groups of images that have some common characteristic. You could, for example, make a collection of your best images from a holiday (so the collection is a bit like an album). You might also have a collection of all the images you have entered in competitions, or all the photos of your dog, or whatever else you think is appropriate.

To create a collection you must be in the Grid view and the images that you want to place in the collection (or at least one of them) must be visible. Select the image(s) that you want to put in the collection and then go to the Collections Panel on the left of the screen and click on the '+' sign to the right of the word "Collections". Then from the pop-up menu select "Create Collection".



This will open a window in which you can give the collection a name, "Award winners" in this example. Make sure you tick 'Include selected photos' and press 'Create'. (You can explore the other options later.)



Your new collection now appears in the list of Collections. Collections are not the same thing as folders. You can think of them as temporary groupings of images rather than the permanent groupings that you have in your folders. You can add images to existing collections and delete images from collections but this does not do anything to the files that are stored in the folders on your hard drive. The collections are really just references to the image files. Because of this, you can have the same image in more than one collection (without actually duplicating the image) and if you edit this image in one collection the changes will be made in the second collection and to the image file in its original (folder) location.

To add other images to this collection in future, just select the thumbnails and drag them over the name of the collection in the Collections panel.

To remove an image from a collection just right click on its thumbnail and select “Remove from Collection”.

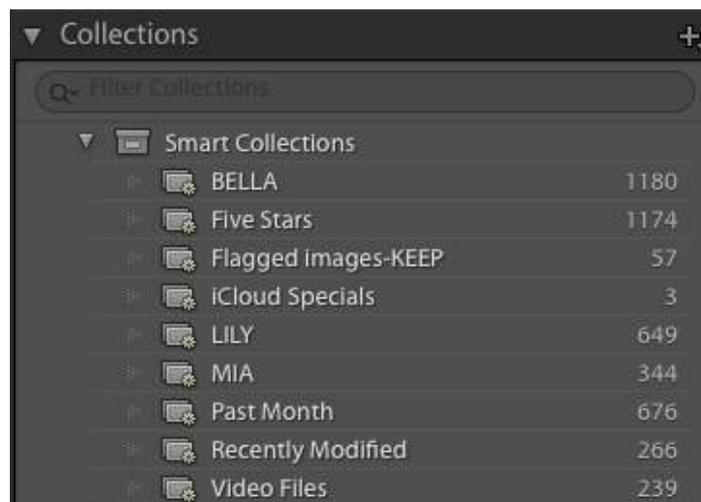
CREATING SMART COLLECTIONS IN LIGHTROOM

Collections are a very useful organisational tool in Lightroom, but **Smart Collections** can be even more useful. Basically, Smart Collection are an automatic way of getting images into a particular collection after you have told Lightroom what the selection criteria (rules) are for that collection. For example, you could tell Lightroom that you want a collection of ‘all the images of sunsets that you took in Australia with a wide-angle lens on your favourite camera’, and provided you set up the rules correctly and you have keyworded your images appropriately, Lightroom will find all the images on your hard drive that satisfy these criteria

and put them in a Smart Collection. The real magic is that all images that you take in the future that satisfy these criteria will also be put into the collection without you needing to do anything other than keyword them correctly.

You can have as many Smart Collections as you want and they are all listed in the Collections panel in a 'set' called Smart Collections. As with 'normal' Collections, the Smart Collections do not create any extra copies of your images. They just contain information about the images. This means that you can remove images from Smart Collections (just as you can remove them from Collections) but you cannot delete images from your hard drive from within a Collection or Smart Collection.

When you create a Smart Collection, Lightroom remembers the filter criteria associated with that collection and will automatically add to this collection any new images that you import that meet the search criteria.



To set up a Smart Collection

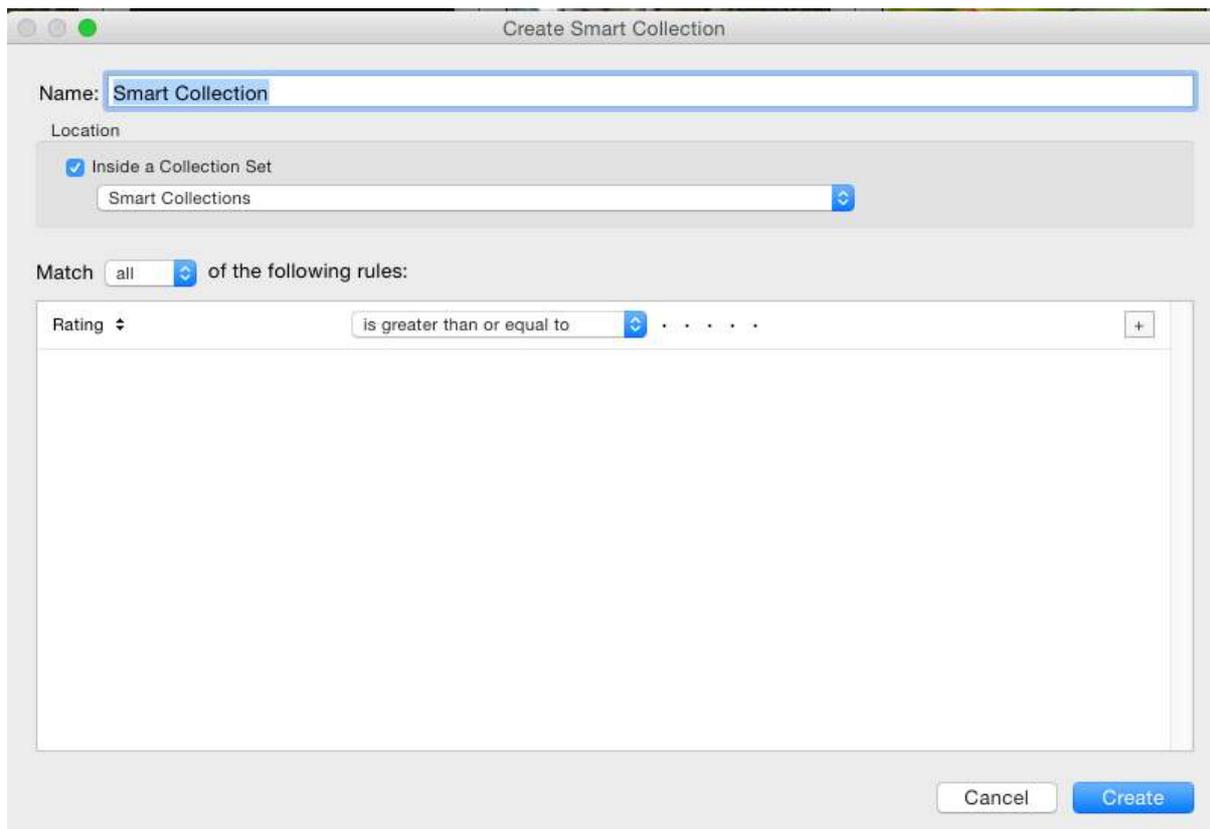
Click on the “+” sign near the collections Panel heading:



Select “Create Smart Collection” from the pop-up list:

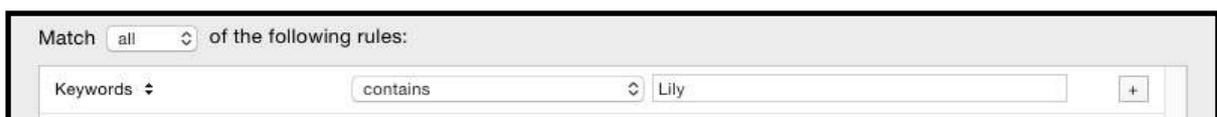


This will open a window in which you name your collection and tell Lightroom where you



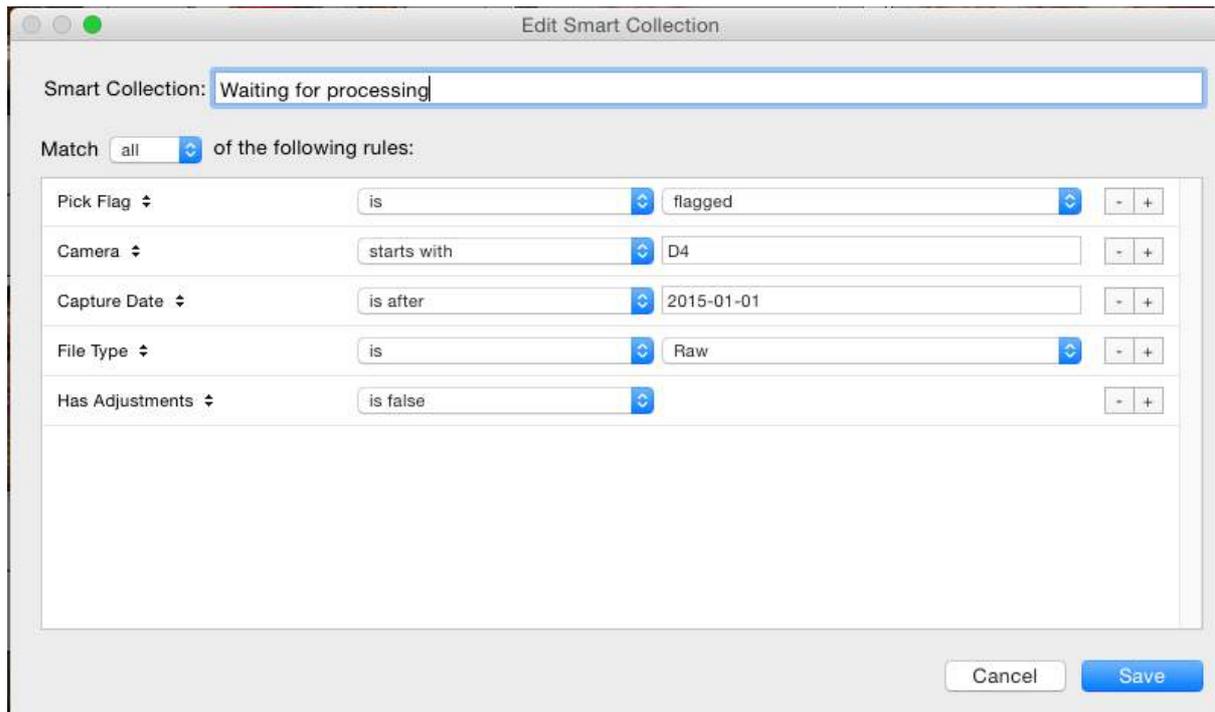
want it kept. If you check the “Inside a Collection Set” and select “Smart Collections” all your Smart collections will be in the same location.

Next you have to set up the “rules” for your Smart Collection. The rules can be as simple as the following example:



This would create a Smart Collection that contained all images that were currently tagged with the keyword “Lily”. New images would be added to this collection every time another image was tagged with “Lily”.

The rules of Smart Collections can also be complex, such as in the following example. This set of rules created a Smart Collection called “Waiting for Processing”. It contains all the images that I have taken since 1 January 2015, flagged as ‘pick’ but not yet processed. There are also rules to restrict the collection to just the RAW images taken with my D4 or D4S cameras. The purpose of this smart collection is to give me a quick way of accessing any images that I decided were good enough to process but have not yet had time to process.



The 'rules' for any Smart Collection can be modified after it has been created by right-clicking on its name and selecting "Edit Smart Collection" from the pop-up menu.



There's much more to learn about Collections and Smart Collections - but that's for another time.

Roy Killen

Email: roykillen@mac.com

26th January, 2016

[Note: If you find any errors in these notes or you want to make suggestions for improving them please send me an email.]