- **Adobe Media Encoder CC:** A tool that allows you to process files to produce content for any screen directly from Premiere Pro and Adobe After Effects.

Exploring the Adobe Creative Cloud video workflow

Your Premiere Pro and Creative Cloud workflow will vary depending on your production needs. Here are a few scenarios:

- Use Photoshop CC to touch up and apply effects to still images and layered image compositions from a digital camera, a scanner, or a video clip. Then use them as media in Premiere Pro.
- Import and manage large numbers of media files with Prelude, adding valuable metadata, temporal comments, and tags. Create sequences from clips and subclips in Adobe Prelude and send them to Premiere Pro to continue editing them.
- Send clips directly from the Premiere Pro Timeline to Adobe Audition for professional audio cleanup and sweetening.
- Send an entire Premiere Pro sequence to Adobe Audition to complete a professional audio mix. Premiere Pro can create an Adobe Audition session from your edited sequence; the session can contain video so you can compose and adjust levels in Audition based on the action.
- Using Dynamic Link, open Premiere Pro video clips in After Effects. Apply special effects, add animation, and add visual elements; then view the results in Premiere Pro. You can play After Effects compositions in Premiere Pro without waiting to pre-export them.
- Use After Effects to create compositions containing advanced text animation, such as an opening or closing title sequence. Use those compositions in Premiere Pro directly thanks to Dynamic Link. Adjustments made in After Effects appear in Premiere Pro immediately.
- Use Adobe Media Encoder to export video projects in multiple resolutions and codecs for display on websites, via social media, or for archiving, using built-in presets and effects and integrated social media support.

Naturally, most of this book focuses on workflows involving only Premiere Pro. However, sidebars will explain ways to include Adobe Creative Cloud components in your workflows for powerful effects work and finishing.

Touring the Premiere Pro interface

It's helpful to begin by getting familiar with the editing interface so you can recognize the tools as you work with them in the following lessons. To make it easier to configure the user interface, Premiere Pro offers *workspaces*. Workspaces quickly configure the various panels and tools on-screen in ways that are helpful for particular activities, such as editing, special effects work, or audio mixing.

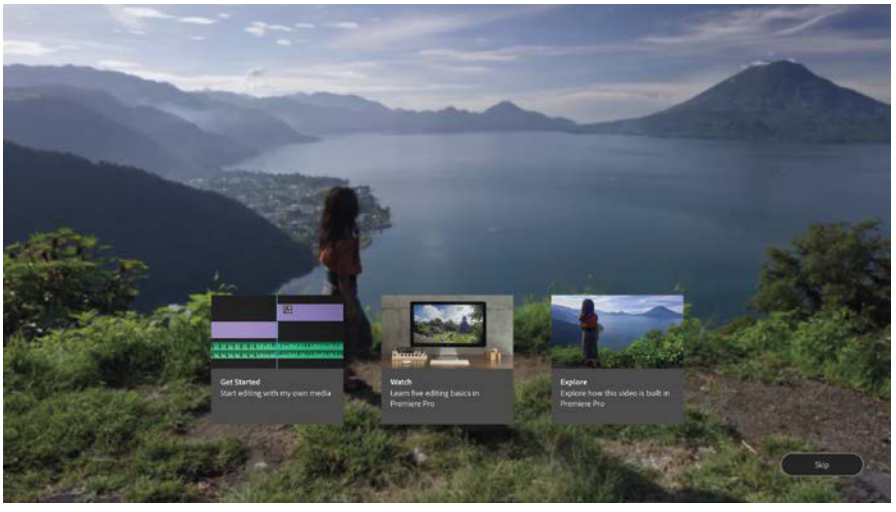
You'll begin by taking a brief tour of the Editing workspace. In this exercise, you'll use a Premiere Pro project from this book's companion DVD (or downloaded lesson files if you are using the e-book).

1 Make sure you've copied all the lesson folders and contents from the DVD to your hard drive.

2 Launch Premiere Pro.

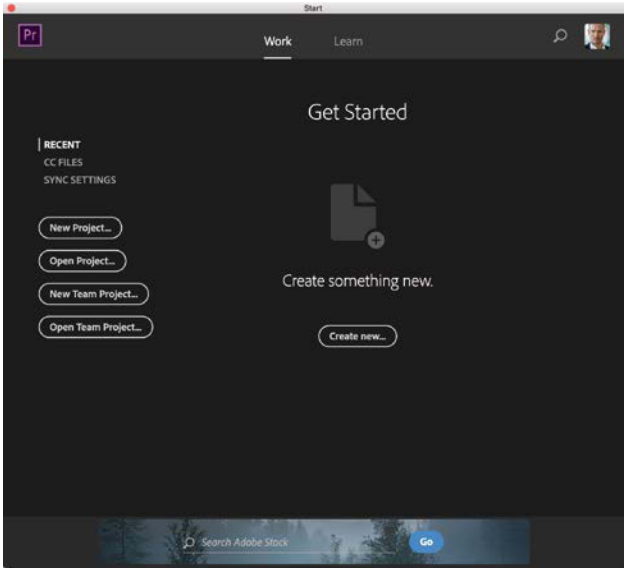
The first time you launch Premiere Pro, you may see an extra welcome screen with links to online training videos that will help you get started.

The first screen you see offers links to training.



If you click Skip, you'll see the Start screen.

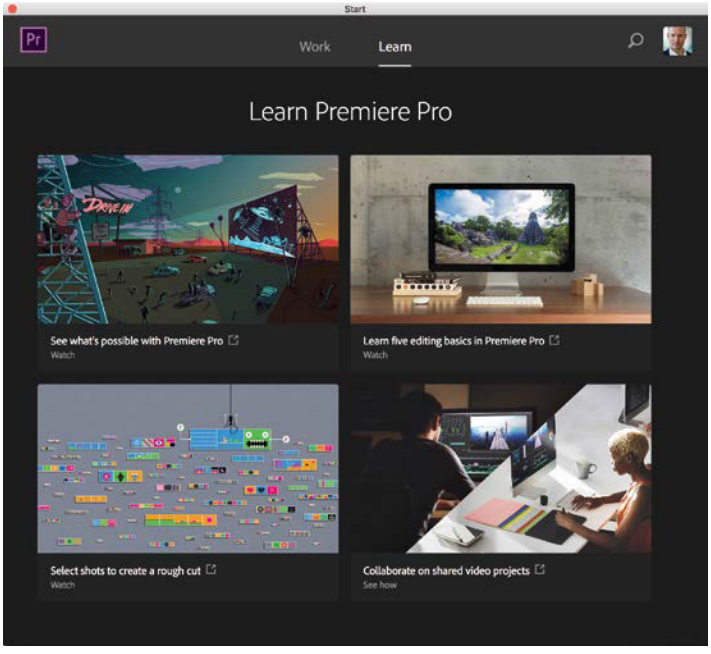
The Start screen gives clear instructions to get started.



If you have opened projects previously, a list will appear in the middle of the Start screen.

At the top of the Start screen, you'll see the words *Work* and *Learn*. Though these just look like floating words, they're actually buttons you can click.

Click Learn at the top of the Start screen to see links to useful tutorials.



Click Work at the top of the Start screen to return to the main options.

A Premiere Pro project file contains all of your creative decisions for a project, links (referred to as *clips*) to your selected media files, sequences made by combining those clips, special effects settings, and more. Premiere Pro project files have the extension .prproj.

Lesson 01.prproj

All Premiere Pro project files have the extension .prproj.

Whenever you work in Premiere Pro, you will be making adjustments to a project file. You need to create a new project file or open an existing one to use Premiere Pro.

That's why the most prominent features of the Start screen are four buttons framed in ovals and arranged in a column. To get you into a project quickly, click the following:

- **New Project** to create a new empty project file. You can name a Premiere Pro project file anything you like, and it's a good idea to choose a name that will be easy to identify later (in other words, don't use New Project).

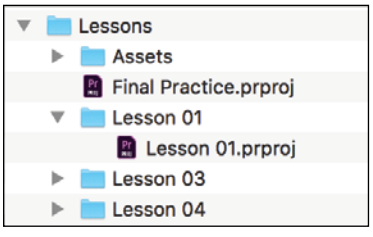
- **Open Project** to open an existing project by browsing your storage drive for the project file.
- **New Team Project** or **Open Team Project** to use a new feature of Premiere Pro that allows groups of people to work on a single project. Team projects are beyond the scope of this book.

More subtle buttons display existing projects in a list in the middle of the screen if you click them.

- **Recent** shows recent projects stored locally.
- **CC Files** lists projects stored in your Creative Cloud Files folder and synchronized with the Creative Cloud.
- **Sync Settings** doesn't open projects but allows you to synchronize your user preferences across multiple computers.

3 Click Open Project.

4 In the file navigation dialog, navigate to the Lesson 01 folder in the Lessons folder; then double-click the Lesson 01.prproj project file to open the first lesson.



Note: If Premiere Pro fails when opening a project, try changing the Playback Renderer setting to a different default value. To do this, click New Project in the Start screen and then choose an option in the Video Rendering and Playback – Renderer menu. If you have an AMD graphics card, you'll probably get better performance choosing OpenCL GPU acceleration, and if you have an NVIDIA graphics card, you'll probably choose CUDA. When you click OK to create the new project, Premiere Pro will remember the GPU acceleration setting for new and existing projects that you open.

Note: It's best to copy all the lesson assets from the DVD to your computer storage drive and leave them there until you complete this book; some lessons refer to assets from previous lessons.

After opening an existing project file, you may be prompted with a dialog box asking where a particular media file is. This will happen when the original media files are saved on a storage drive (or drive letter) different from the one you're using. You'll need to tell Premiere Pro where the file is.

In the dialog box that prompts you to open the file, navigate to the Lessons/Assets folder and select the file that is described. Premiere Pro will remember this location for the rest of the files and open them automatically.

Working with workspaces

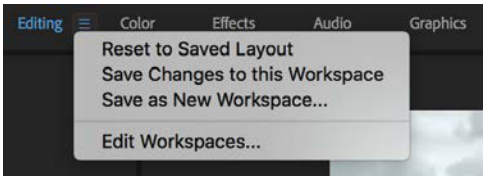
Workspaces are preset arrangements of panels, organized to make particular tasks easier. There's one for editing, another for working on audio, and another for making color adjustments, for example.

Every panel is accessible from the Window menu, but workspaces are a quicker way to access several panels, and have them laid out exactly as you need them, in a single step.

Before you begin, make sure you're using the default Editing workspace by choosing the Editing workspace option in the Workspaces panel at the top of the screen.

Then, to reset the Editing workspace, click the small panel menu icon next to the Editing option on the Workspaces panel and choose Reset To Saved Layout.

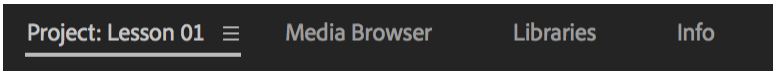
If the Workspaces panel is not visible, choose Window > Workspaces > Editing. Then reset the Editing workspace by choosing Window > Workspaces > Reset To Saved Layout.



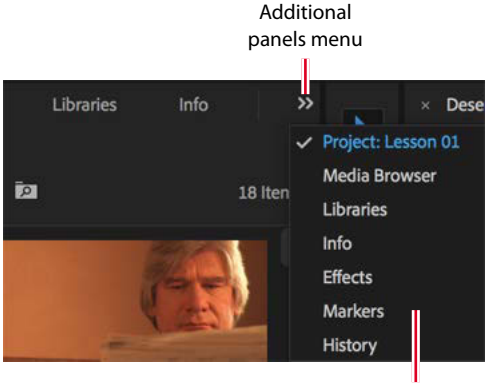
Notice the various workspace names displayed in the Workspaces panel are displayed as words you can click. Think of these words as buttons; it's an elegant design feature you'll discover in a number of areas in Premiere Pro.

If you're new to nonlinear editing, the default Editing workspace might look like a lot of buttons and menus. Don't worry. Things become simpler when you know what the buttons are for. The interface is designed to make video editing easy, so commonly used controls are immediately accessible.

Each workspace item appears in its own panel, and multiple panels can be combined into a single frame, with the name of each panel displayed at the top.

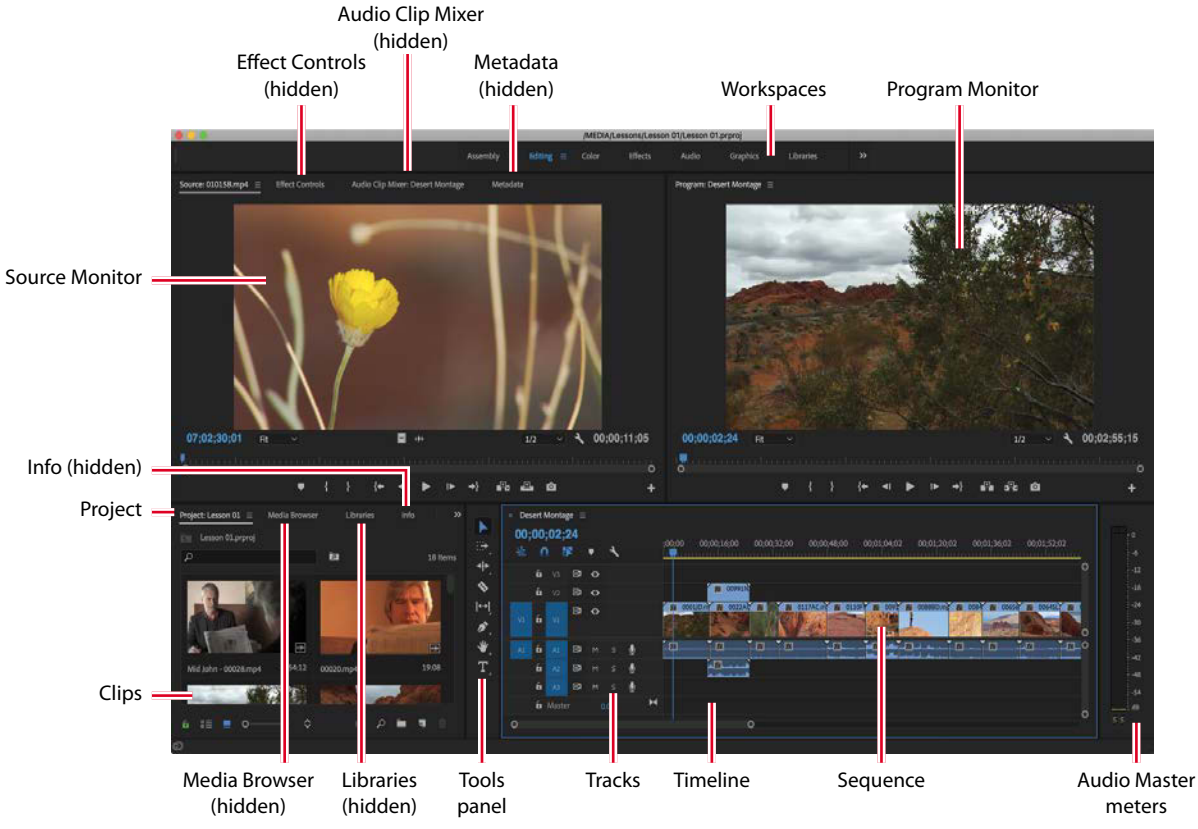


When many panels are combined, you may not be able to see all their names. If this is the case, a menu of additional panels is displayed. Click this menu to access a hidden panel in a frame.



You can display any panel by choosing it from the Window menu, so if you can't locate a panel, just look there.

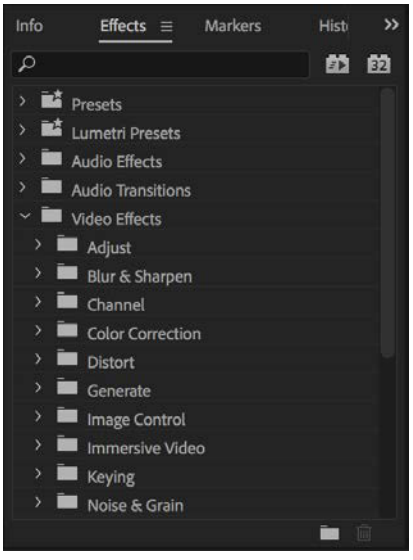
The principal elements are shown here.



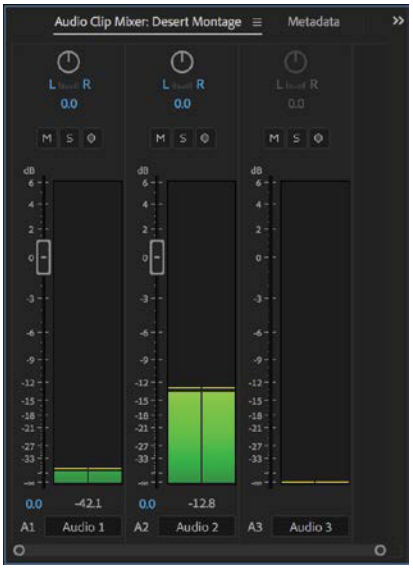
The main user interface elements are as follows:

- **Project panel:** This is where you organize the links to your media files (referred to as *clips*), sequences, and graphics in bins. Bins are similar to folders—you can place one bin inside another for more advanced organization of your media assets.
- **Timeline panel:** This is where you'll do most of your editing. You view and work on *sequences* (the term for video segments edited together) in the Timeline panel. One feature of sequences is that you can *nest* them (place one sequence inside another sequence). In this way, you can break up a production into manageable chunks or create unique special effects.

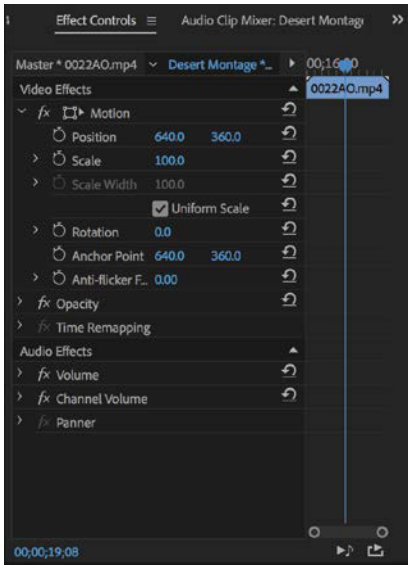
- **Tracks:** You can layer—or *composite*—video clips, images, graphics, and titles on an unlimited number of tracks. Video and graphic clips on upper video tracks cover whatever is directly below them on the Timeline. Therefore, you need to give clips on higher tracks some form of transparency or reduce their size if you want clips on lower tracks to show.
- **Monitor panels:** Use the Source Monitor (on the left) to view and select parts of clips (your original footage). To view a clip in the Source Monitor, double-click it in the Project panel. The Program Monitor (on the right) is for viewing your current sequence, displayed in the Timeline panel.
- **Media Browser:** This panel allows you to browse your storage to find media. It's especially useful for file-based camera media and RAW files.
- **Libraries**: This panel gives access to files you have added to your Creative Cloud Files folder on your storage drive, to custom Lumetri color Looks, and to shared libraries for collaboration, and this panel acts as a browser and store for the Adobe Stock service. For more information about the Libraries panel, go to https://helpx.adobe.com/premiere-pro/using/creative-cloud-libraries.html.
- **Effects panel:** This panel contains the effects you will use in your sequences, including video filters, audio effects, and transitions. Effects are grouped by type to make them easier to find, and there's a search box at the top of the panel to quickly locate an effect. Once applied, the controls for these effects are displayed in the Effect Controls panel.
- **Audio Clip Mixer:** This panel is based on audio production studio hardware, with volume sliders and pan controls. There is one set of controls for each audio track on the Timeline. The adjustments you make are applied to audio clips. There's also an Audio Track Mixer for applying audio adjustments to tracks rather than clips.
- **Effect Controls panel:** This panel displays the controls for any effects applied to a clip you select in a sequence or open in the Source Monitor. If you select a visual clip in the Timeline panel, Motion, Opacity, and Time Remapping controls are always available. Most effect parameters are adjustable over time.



Effects panel



Audio Clip Mixer



Effect Controls panel

Tools panel

- **Tools panel:** Each icon in this panel gives access to a tool that performs a specific function in the Timeline panel. The Selection tool is context-sensitive, which means it changes function depending on where you click. If your cursor doesn't work as you expect, it might be because you have the wrong tool selected.

  Several tools have a small triangle icon, indicating a menu of additional tools. Click and hold on one of these tools to see the menu of options.

- **Info panel:** The Info panel displays information about any item you select in the Project panel or any clip or transition you select in a sequence.

- **History panel:** This panel tracks the steps you take and lets you back up easily. It's a kind of visual Undo list. When you select a previous step, all steps that came after it are also undone.

The name of each panel is displayed at the top. When a panel is displayed, the name is underlined, and a panel menu appears next to the name with options particular to that panel.

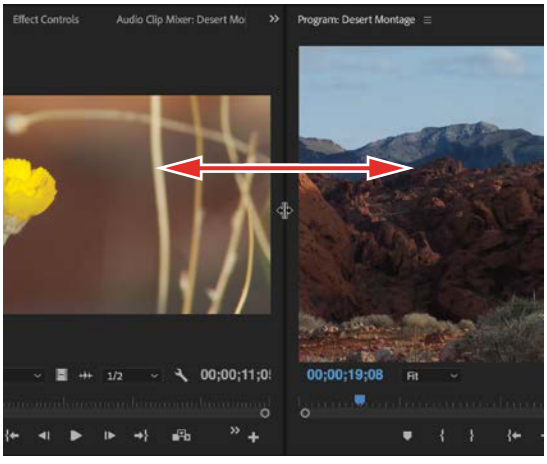
Customizing a workspace

In addition to choosing between the default workspaces, you can adjust the position and location of panels to create a workspace that works best for you. You can create multiple workspaces for different tasks.

- As you change the size of a frame, other frames change size to compensate.
- Every panel within a frame is accessible by clicking its name.
- All panels are dockable—you can drag a panel from one frame to another.
- You can drag a panel out of a frame to become a separate floating panel.

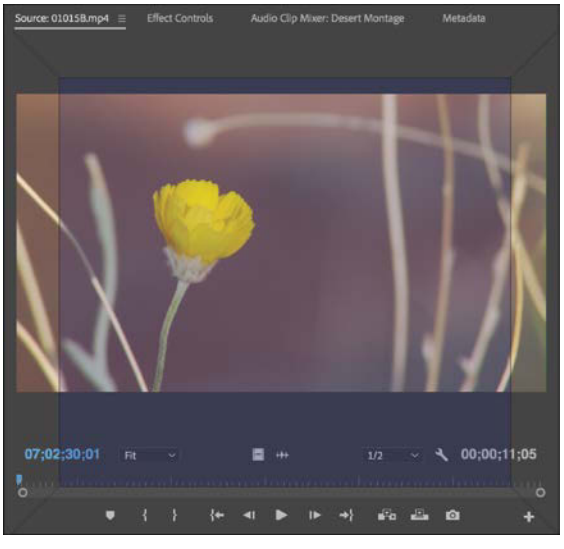
In this exercise, you'll try all these functions and save a customized workspace.

1 Click the Source Monitor panel (selecting its name if necessary) and then position your pointer on the vertical divider between the Source Monitor and the Program Monitor. The mouse cursor will change to a double-headed arrow when it's in the right position. Drag left and right to change the sizes of those frames. You can choose to have different sizes for your video displays.



2 Now place the pointer on the horizontal divider between the Program Monitor and the Timeline. The mouse cursor will change when it's in the right position. Drag up and down to change the sizes of these frames.

3 Click the name of the Effects panel, at the top, and drag it to the middle of the Source Monitor to dock the Effects panel in that frame. Remember, if you can't see the Effects panel, you can select it in the Window menu.



The drop zone is displayed as a center highlight.

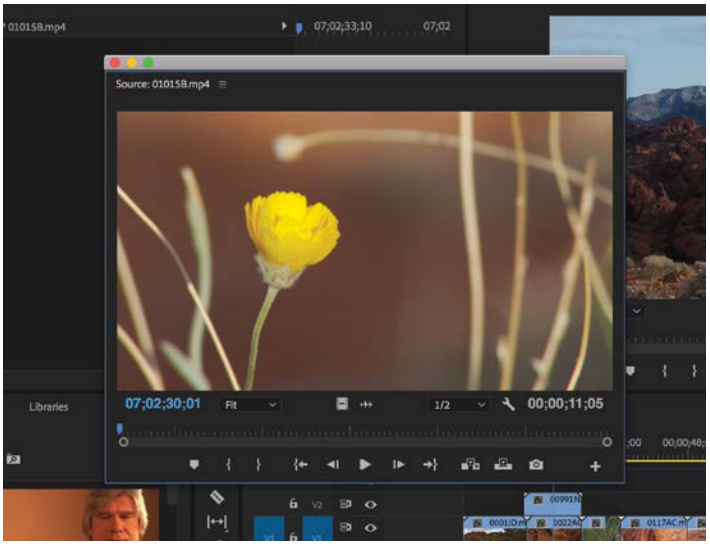
Note: When you drag a panel by clicking its name, Premiere Pro displays a drop zone. If the panel is a rectangle, it will go into the selected frame as an additional tab. If it's a trapezoid, it will create a new frame.

4 Clicking the name at the top of the Effects panel, drag the panel to a point near the right of the Project panel to place it in its own frame.

Before you release the mouse button, the drop zone is a trapezoid that covers the right portion of the Project panel. Release the mouse button, and your workspace should have a new frame that contains just the Effects panel.

You can also pull panels out into their own floating frames.

5 Click the Source Monitor panel name, and hold down the Control (Windows) or Command (macOS) key while dragging it out of its frame.



Note: You may need to resize a panel to see all of its controls.

6 Drop the Source Monitor anywhere, creating a floating panel. You can resize the frame by dragging a corner or a side.

As you gain experience, you might want to create and save the layout of your panels as a customized workspace. To do so, choose Window > Workspaces > Save As New Workspace. Type a name, and click OK.

If you want to return a workspace to its default layout, choose Window > Workspaces > Reset To Saved Layout.

Note: You can change the font size in the Project panel by choosing Font Size from the panel menu and then choosing Small, Medium (Default), Large, or Extra Large from the submenu.

7 To return to a recognizable starting point, choose the preset Editing workspace, and reset it now.

Introducing preferences

The more you edit video, the more you'll want to customize Premiere Pro to match your specific needs. Premiere Pro has several types of settings. For example, panel menus, which are accessible by clicking the menu button next to a panel name,

have options that relate to each panel, and individual clips in a sequence have settings you can access by right-clicking them.

It's worth noting that the panel name, displayed at the top of each panel, is usually referred to as the *panel tab*. This is the area of a panel you use to move the panel, almost like a handle you can grab the panel by.

There are also application-wide preferences, all grouped into one panel for easy access. Preferences will be covered in depth as they relate to the individual lessons in this book. Let's look at a simple example.

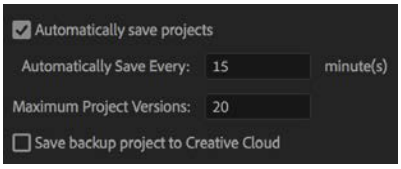
1. Choose Edit > Preferences > Appearance (Windows) or Premiere Pro > Preferences > Appearance (macOS).
2. Drag the Brightness slider to the right to suit your preference.

The default brightness is a dark gray to help you see colors correctly (human perception of color is influenced by surrounding colors). There are additional options for controlling the brightness of interface highlights.

3. Experiment with the Interactive Controls and Focus Indicators brightness sliders. The difference in the on-screen sample is subtle, but adjusting these sliders can make quite a big difference to your editing experience.
4. Set all three settings to Default by clicking the Default buttons when you have finished.
5. Switch to the Auto Save preferences by clicking the preference name on the left.

   Imagine if you had worked for hours and then there was a power outage. If you hadn't saved recently, you'd have lost a lot of work. With this dialog, you can decide how often you would like Premiere Pro to save an automated backup of your project and how many versions you would like to keep in total.

   Project files are small relative to media files, so it's usually fine to increase the number of project versions without any impact on system performance.



You'll notice there's an option to save a backup project to Creative Cloud.

This option creates an additional backup of your project file in your Creative Cloud Files folder. If you suffer a total system failure while working, you can log in to any Premiere Pro editing system with your Adobe ID to access the backup project file and quickly carry on working.

6 Click Cancel to close the Preferences dialog without applying any changes.

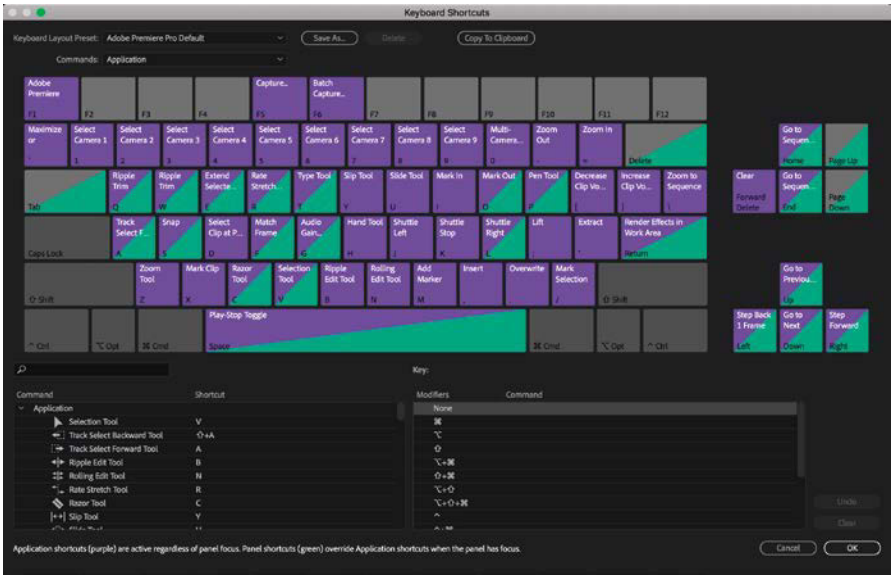
Keyboard shortcuts

Premiere Pro makes extensive use of keyboard shortcuts. These are usually faster and easier than clicking with a mouse. Many keyboard shortcuts are shared universally by nonlinear editing systems. The spacebar, for example, starts and stops playback—this even works on some websites.

Some standard keyboard shortcuts come from celluloid film-editing traditions. The I and O keys, for example, are used to set In and Out marks on footage and sequences. These special marks indicate the start and end of a desired section and were originally drawn on celluloid directly.

Other keyboard shortcuts are available but not configured. This allows flexibility when setting up your keyboard.

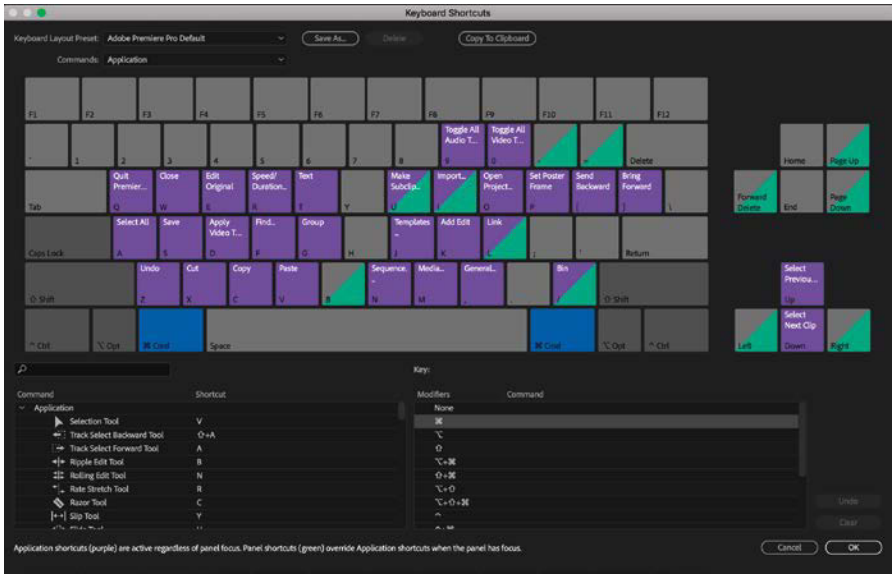
Choose Edit > Keyboard Shortcuts (Windows) or Premiere Pro CC > Keyboard Shortcuts (macOS).



It can be a little daunting seeing the number of keyboard shortcuts available, but by the end of this book you will recognize most of the options displayed here.

Specialized keyboards are available with shortcuts printed on them and color-coded keys. These make it easier to remember commonly used shortcuts.

Try holding the Control (Windows) or Command (macOS) key.



The keyboard shortcut display updates to show the results of combining the modifier key with the shortcuts. Notice there are many more keys without shortcuts assigned when you use a modifier key.

Try combinations of modifier keys including Shift+Alt (Windows) or Shift+Option (macOS). You can set keyboard shortcuts with any combination of modifier keys.

If you press a shortcut key, or shortcut and modifier key combination, the shortcut information is displayed.

The list at the bottom left of this dialog includes every option you can assign to a key. Having found an option you would like to assign to a key, drag it from the list onto the key in the upper part of the dialog.

To remove a shortcut, click the key and choose Clear.

Some keyboard shortcuts are specific to individual panels. You can view them by clicking the Commands menu.

For now, click Cancel.

Moving, backing up, and syncing user settings

User preferences include a number of important options. The defaults work well in most cases, but it's likely you'll want to make a few adjustments over time. For example, you might prefer the interface to be always brighter than the default.

Premiere Pro includes the option to share your user preferences between multiple computers: When installing Premiere Pro, you will have entered your Adobe ID to confirm your software license. You can use the same ID to store your user preferences in Creative Cloud, allowing you to synchronize and update them from any installation of Premiere Pro.

You can sync your preferences on the Start screen by choosing Sync Settings. You can also sync your preferences while working with Premiere Pro by choosing File > Sync Settings > Sync Settings Now (Windows) or Premiere Pro CC > Sync Settings > Sync Settings Now (macOS).

Now close Premiere Pro by choosing File > Exit (Windows) or Premiere Pro CC > Quit Premiere Pro (macOS).

If a dialog appears asking if you would like to save changes you have made, click No.

Review questions

1. Why is Premiere Pro considered a nonlinear editor?
2. Describe the basic video-editing workflow.
3. What is the Media Browser used for?
4. Can you save a customized workspace?
5. What is the purpose of the Source Monitor and the Program Monitor?
6. How can you drag a panel to its own floating panel?

Review answers

1. Premiere Pro lets you place video clips, audio clips, and graphics anywhere in a sequence; rearrange items already in a sequence; add transitions; apply effects; and do any number of other video-editing steps in any order that suits you.
2. Shoot your video; transfer it to your computer; create a sequence of video, audio, and still-image clips on the Timeline; add effects and transitions; add text and graphics; mix your audio; and export the finished product.
3. The Media Browser allows you to browse and import media files without having to open an external file browser. It's particularly useful when you're working with file-based camera footage.
4. Yes. You can save any customized workspace by choosing Window > Workspaces > Save As New Workspace.
5. You use the monitor panels to view your original clips and your sequence. You can view and trim your original footage in the Source Monitor and use the Program Monitor to view the Timeline sequence as you build it.
6. Drag the panel tab (the name of the panel) with your mouse while holding down Control (Windows) or Command (macOS).

2 SETTING UP A PROJECT

Lesson overview

In this lesson, you'll learn about the following:

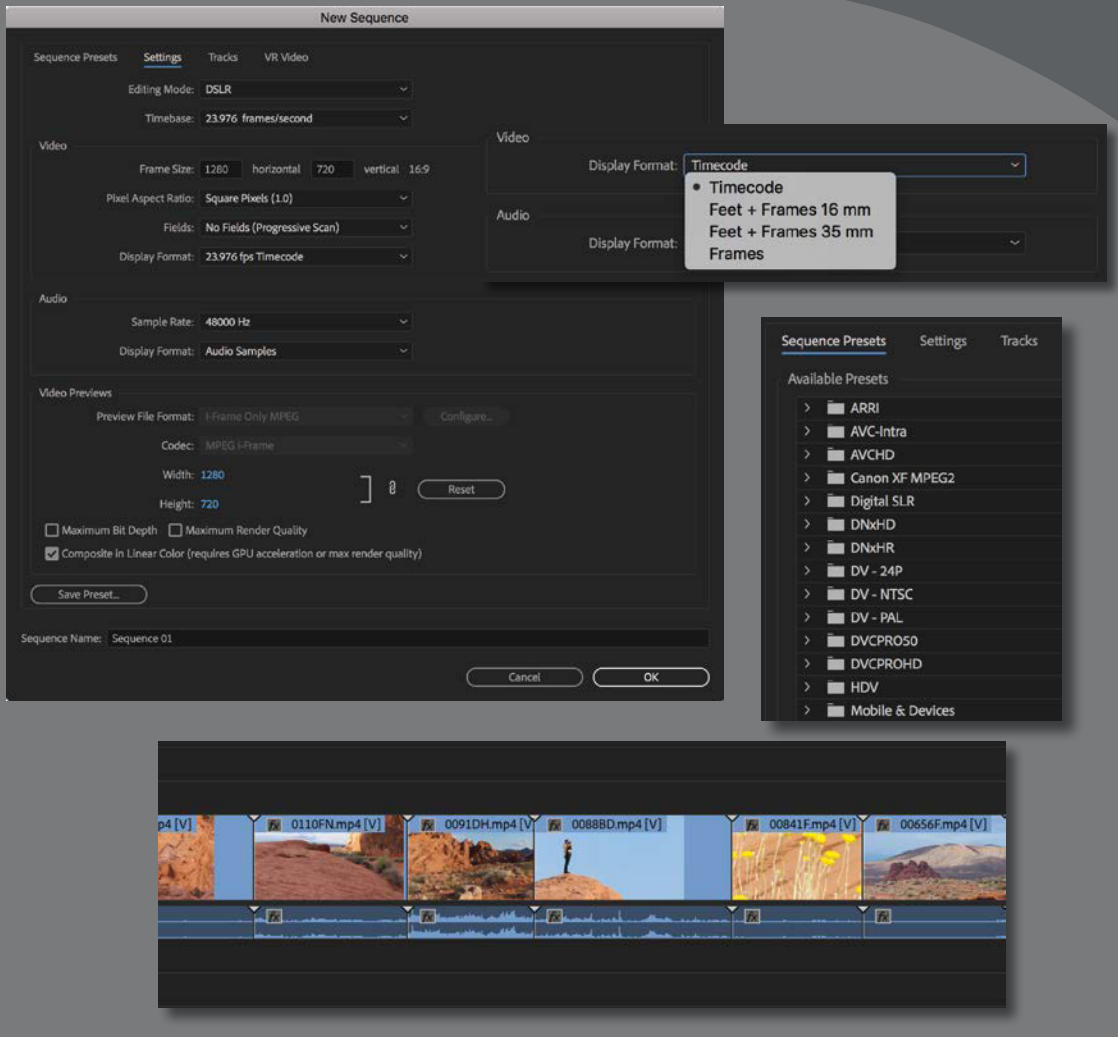
- Choosing project settings
- Choosing video rendering and playback settings
- Choosing video and audio display settings
- Creating scratch disks
- Using sequence presets
- Customizing sequence settings

This lesson will take about one hour to complete. Please log in to your account on peachpit.com to download the lesson files for this chapter, or go to the Getting Started section at the beginning of this book and follow the instructions under "Accessing the Lesson Files and Web Edition."

Before you begin editing, you need to create a new project and choose some settings for your first sequence. If you're not familiar with video and audio technology, you might find all the options a little overwhelming. Luckily, Adobe Premiere Pro CC gives you easy shortcuts. Plus, the principles of video and sound reproduction are the same no matter what you're creating.

It's just a question of knowing what you want to do. To help you plan and manage your projects, this lesson contains information about formats and video technology. You may decide to revisit this lesson later, as your familiarity with Premiere Pro and nonlinear video editing develops.

In practice, you're unlikely to make changes to the default settings when creating a new project, but it's helpful to know what the options mean.



In this lesson, you'll learn how to create a new project and choose sequence settings that tell Premiere Pro how to play your video and audio clips.

Starting the lesson

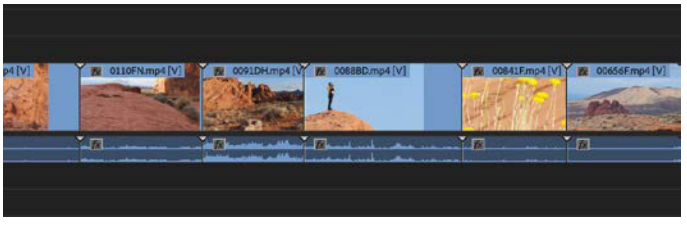
A Premiere Pro project file stores links to all the video, graphic, and sound files you have imported. Each item is displayed in the Project panel as a clip. The name *clip* originally described sections of celluloid film (lengths of film were literally clipped to separate them from a roll), but these days the term refers to any item in the project, regardless of the type of media. You could have an audio clip or an image sequence clip, for example.

Clips displayed in the Project panel appear to be media files, but they are actually only links to those files. It's helpful to understand that a clip in the Project panel and the media file it links to are two separate things. You can delete one without affecting the other (more on this later).

When working on a project, you will create at least one *sequence*—that is, a series of clips that play, one after another, with special effects, titles, and sound, to form your completed creative work. While editing, you will choose which parts of your clips to use and in which order they'll play.

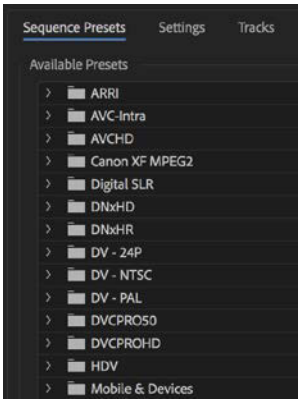
The beauty of nonlinear editing with Premiere Pro is that you can change your mind about almost anything, at any time.

Sequences contain a series of clips that play, one after another.



Premiere Pro project files have the file extension .prproj.

Starting a new project is simple. You create a new project file, import media, choose a sequence preset, and start editing.



When you create a sequence, you'll choose playback settings (things such as frame rate and frame size) and place multiple clips in it. It's important to understand how the sequence settings change the way Premiere Pro plays your video and audio clips. To speed things up, you can use a sequence preset to choose the settings and then make adjustments if necessary.

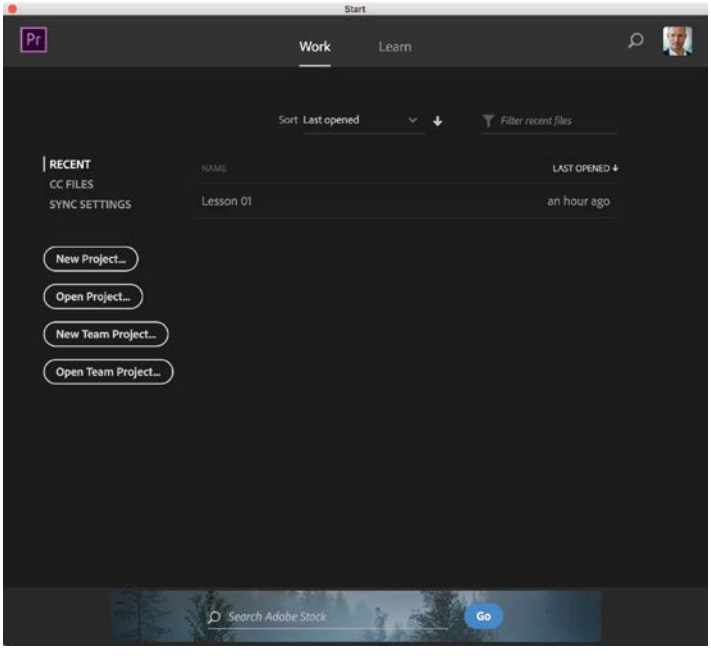
You need to know the kind of video and audio your camera records because your sequence settings will usually be based on your original source footage. Most Premiere Pro sequence presets are named after cameras. If you know which camera was used to capture the footage and which particular video format was recorded, you'll know which sequence preset to choose.

In this lesson, you'll learn how to create a new project and choose sequence settings that tell Premiere Pro how to play your clips. You'll also learn about different kinds of audio tracks and what preview files are.

Creating a project

Let's begin by creating a new project.

1 Launch Premiere Pro. The Start screen appears.



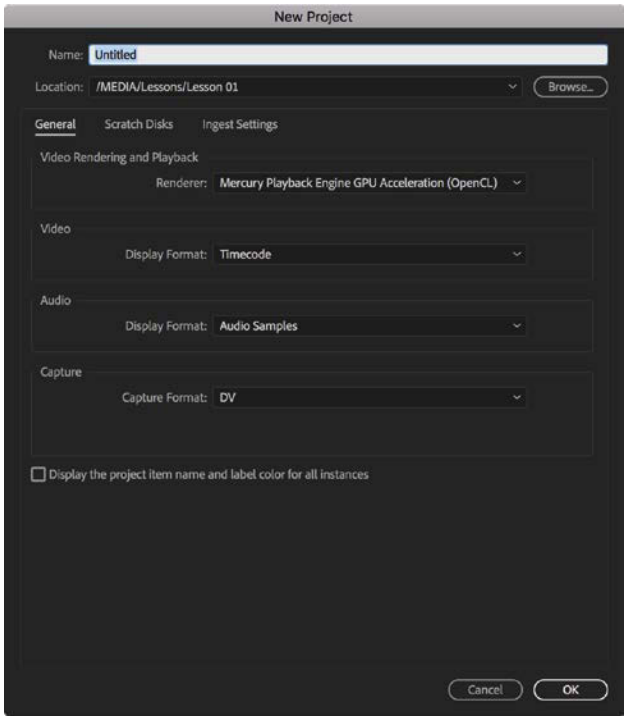
The Name heading lists previously opened projects. You should see Lesson 01 under this heading.

There are several other options in this window.

- **RECENT:** Displays recently opened project files stored locally (this is the default option).
- **CC FILES:** Displays recently opened project files stored in your Creative Cloud Files folder. These are the same as any other project files but will automatically be stored in the cloud, in addition to your local storage.
- **New Project:** Click this link to open the New Project dialog box.
- **Open Project:** Click this link to browse to and open an existing Premiere Pro project file.

- **New Team Project:** If you have a Creative Cloud for Teams license, you have the option to create dynamically shared Premiere Pro projects.
- **Open Team Project:** If you have access to a Creative Cloud for Teams project, you can open it by clicking this option.
- **Magnifying glass icon:** The magnifying glass icon at the top right of the Start screen opens a search option, which will display information from the online help system. You'll need to be connected to the Internet to access Adobe Premiere Pro Help.
- **User icon**: Next to the magnifying glass is a thumbnail of your Adobe ID profile picture. If you have just signed up, this may be a generic thumbnail. Click the icon to manage your account online.
- **Search Adobe Stock:** The Adobe Stock service provides access to stock photos, videos, and animated motion graphics templates. You can search for items at the bottom of the Start screen.

2 Click New Project to open the New Project dialog box.



Below the new project name and location options, this dialog box has three tabs: General, Scratch Disks, and Ingest Settings. All the settings in this dialog box can be changed later, and in most cases, you'll want to leave them as they are. Let's take a look at what they mean.

Exploring video rendering and playback settings

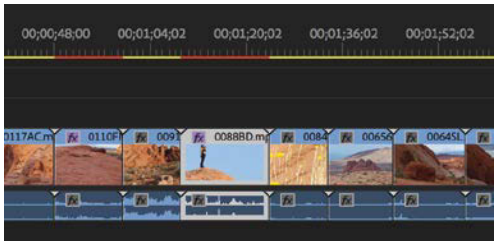
While you're working creatively with video clips in your sequences, it's likely you will apply some visual effects. Some special effects can be played immediately, combining your original video with the effect and displaying the results as soon as you click Play. When this happens, it's called *real-time playback*.

Real-time playback is desirable because it means you can watch the results of your creative choices right away.

If you use lots of effects on a clip or if you use effects that are not designed for real-time playback, your computer may not be able to display the results at the full frame rate. That is, Premiere Pro will attempt to display your video clips, combined with the special effects, but it will not show every single frame each second. When this happens, it's described as *dropping* frames.

Premiere Pro displays colored lines along the top of the Timeline panel to tell you when extra work is required to play back your video. No line or a yellow line means Premiere Pro expects to be able to play without dropping frames. A red line means Premiere Pro may drop frames when playing that section of the sequence.

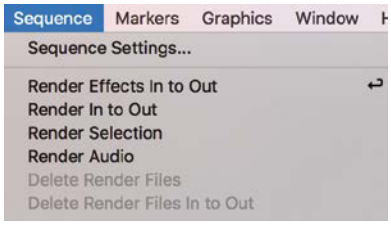
Note: A red line at the top of the Timeline panel doesn't necessarily mean frames will be dropped. It just means visual adjustments aren't accelerated, so on a less powerful machine dropped frames are more likely.



If you can't see every frame when you play your sequence, it's OK! It won't affect the final results. When you're done editing and you output your finished sequence, it'll be full quality, with all the frames (more on this in Lesson 18, "Exporting Frames, Clips, and Sequences").

Real-time playback can make a difference to your editing experience and your ability to preview the effects you apply with confidence. There is a simple solution if frames are being dropped: preview rendering.

You render effects in a sequence by choosing a render option from the Sequence menu.



Many menu options display a keyboard shortcut on the right. In this case, it's Enter (Windows) or Return (macOS).

What do *rendering* and *real time* mean?

Think of *rendering* as an artist's rendering, where something is visualized, taking up paper and taking time to draw. Imagine you have a piece of video that is too dark. You add a visual effect to make it brighter, but your video-editing system is unable to both play the original video and make it brighter. In this situation, you'd have your system render the effect, creating a new temporary video file that looks like the original video combined with the visual effect to make it brighter.

When your edited sequence plays, sections that are rendered display the newly rendered video file instead of the original clip (or clips). The process is invisible and seamless. In this example, the rendered file plays back like the original video file but brighter.

When the part of your sequence with the brightened clip is finished, your system invisibly and seamlessly switches back to playing your other original video files.

The downside of rendering is that it takes up extra space on your hard drive, and it takes time. Also, because you're viewing a new video file that is based on your original media, there might be some minor loss of quality. The upside with rendering is that you can be confident your system will be able to play the results of your effect at full quality, with all the frames per second. This might be important if you output to tape, but it won't change output to a file.

Real-time playback, by contrast, is instant! When using a real-time special effect, your system plays the original video clip combined with the special effect right away, without waiting for it to render. The only downside with real-time performance is that the amount you can do without rendering depends on how powerful your system is. More effects are more work to play back, for example. In the case of Premiere Pro, you can dramatically improve real-time performance by using the right graphics card (see the sidebar "The Mercury Playback Engine"). Plus, you'll need to use effects that are designed for GPU acceleration, and not all effects are.

When you render, Premiere Pro plays back the results of your special effects at high quality and full frame rate, without your computer having to do any more work than playing a regular video file.

In the New Project dialog, if the Renderer menu is available, it means you have graphics hardware in your computer that meets the minimum requirements for GPU acceleration and it is installed correctly.

The menu has two types of options:

- **Mercury Playback Engine GPU Acceleration:** If you choose this option, Premiere Pro will send many playback tasks to the graphics hardware on your computer, giving you lots of real-time effects and easy playback of mixed formats in your sequences. You may see an option to use CUDA, OpenCL, or Metal for GPU acceleration, depending on your graphics hardware.

- **Mercury Playback Engine Software Only:** This is still a major advancement in playback performance, giving you excellent performance that uses all of the available power in your computer. If your system does not have graphics hardware that can be used for GPU acceleration, only this option will be available, and you won't be able to open this menu.

You will almost certainly want to choose GPU acceleration and benefit from the additional performance if you can. If you experience performance or stability issues using GPU acceleration, choose the Software Only option in this menu.

Choose a GPU option now, if it's available.

The Mercury Playback Engine

The Mercury Playback Engine improves playback performance, making it faster and easier than ever to work with multiple video formats, multiple special effects, and multiple layers of video (for effects such as picture-in-picture).

The Mercury Playback Engine has three main features.

- **Playback performance:** Premiere Pro plays back video files with great efficiency, especially when working with the types of video that are difficult to play back, such as H.264, H.265, or AVCHD. If you're filming with a DSLR camera, for example, chances are your media is recorded using the H.264 codec. Thanks to the Mercury Playback Engine, you'll find that these files play back with ease.
- **64-bit and multithreading:** Premiere Pro is a 64-bit application, which means it can use all the random access memory (RAM) on your computer. This is particularly useful when you're working with high-definition or ultra-high-definition video (HD, or 4K and above). The Mercury Playback Engine is multithreaded, which means it uses all the CPU cores in your computer. The more powerful your computer is, the higher the performance you'll see in Premiere Pro.
- **CUDA, OpenCL, Apple Metal, and Intel graphics support:** If you have powerful enough graphics hardware, Premiere Pro can send some of the work for playing back video to the graphics card, rather than putting the entire processing burden on the CPU in your computer. The results are even better performance and responsiveness when working with sequences, and many special effects will play in real time, without dropping frames.

For more information about supported graphics cards, see http://helpx.adobe.com/premiere-pro/system-requirements.html.

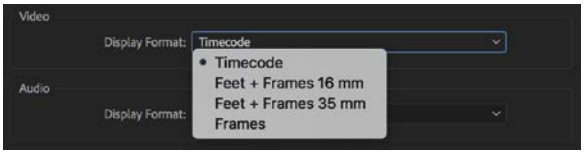
Setting the video and audio display formats

The next two sections of the General tab in the New Project dialog box allow you to choose how Premiere Pro should measure time for your video and audio clips.

In most cases, you'll choose the default options: Timecode from the Video Display Format menu and Audio Samples from the Audio Display Format menu. These settings don't change the way Premiere Pro plays video or audio clips, only the way time is measured.

The Video Display Format menu

There are four options for Video Display Format. The correct choice for a given project largely depends on whether you are working with video or celluloid film as your source material. It's rare to produce content using film, so if you are not sure, choose Timecode.



The choices are as follows:

- **Timecode:** This is the default option. Timecode is a universal standard for counting hours, minutes, seconds, and individual frames of video. The same system is used by cameras, professional video recorders, and nonlinear editing systems all around the world.
- **Feet + Frames 16 mm or Feet + Frames 35 mm:** If your source files are captured from film and you intend to give your editing decisions to a lab so they can cut the original negative to produce a finished film, you may want to use this standard method of measuring time. Rather than measuring time as seconds and frames, this system counts the number of feet plus the number of frames since the last foot. It's a bit like feet and inches but with frames rather than inches. Because 16mm film and 35mm film have different frame sizes (and so different numbers of frames per foot), there's an option for each.
- **Frames:** This option simply counts the number of frames of video. This is sometimes used for animation projects and is another way that labs like to receive information about edits for film-based projects.

Note: Many of the terms used in Adobe Premiere Pro come from film editing, including the term *bin*. In traditional film editing, editors hang film clips on hooks over large bins, with the long piece of celluloid trailing into the bin to keep it safe.

For this exercise, leave Video Display Format set to Timecode.

The Audio Display Format menu

For audio files, time can be displayed as samples or milliseconds.

- **Audio Samples:** When digital audio is recorded, sound level samples are taken, as captured by the microphone, thousands of times a second. In the case of most professional video cameras, this happens 48,000 times per second. Premiere Pro gives you the option to display time when playing clips and sequences as hours, minutes, seconds, and frames, or as hours, minutes, seconds, and samples.
- **Milliseconds:** With this mode selected, Premiere Pro can display time in your sequences as hours, minutes, seconds, and thousandths of a second.

By default, Premiere Pro lets you zoom the Timeline enough to view individual clip segment frames. However, you can easily switch to showing your audio display format instead. This powerful feature lets you make the tiniest adjustments to your audio.

For this project, leave the Audio Display Format option set to Audio Samples.

About seconds and frames

When a camera records video, it captures a series of still images of the action. If there are enough images captured each second, it looks like moving video when played back. Each picture is called a *frame*, and the number of frames each second is usually called *frames per second* (fps), or *frame rate*.

The fps will vary depending on your camera/video format and settings. It could be any number, including 23.976, 24, 25, 29.97, 50, or 59.94. Most cameras allow you to choose between more than one frame rate and more than one frame size. It's important to know which was chosen when filming.

Setting the capture format

It's most common to record video as a file you can work with immediately. However, there may be times you need to capture from videotape.

The Capture Format menu tells Premiere Pro what videotape format you are using when capturing video to your storage drive.

Capturing from DV and HDV cameras

Premiere Pro can capture from DV and HDV cameras using the FireWire connection on your computer, if it has one. FireWire is also known as IEEE 1394 and i.LINK.

Capturing from third-party hardware

Not all video decks use a FireWire connection, so you may need additional third-party hardware installed to be able to connect your video deck for capture.

Note: The Mercury Playback Engine can share performance with video input and output hardware for playback, thanks to a feature called Adobe Mercury Transmit.

If you have additional hardware, you should follow the directions provided by the manufacturer to install it. Most likely you'll install software supplied with your hardware. The software install will likely discover Premiere Pro on your computer, automatically adding extra options to this menu and to others.

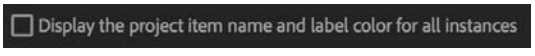
Follow the directions provided with your third-party equipment to configure new Premiere Pro projects.

For more information about the video capture hardware and video formats supported by Premiere Pro, visit http://helpx.adobe.com/premiere-pro/compatibility.html.

Ignore this setting for now because you will not be capturing from a tape deck in this exercise, and you can change the setting as needed later.

Displaying the project item names and label colors

There's a check box at the bottom of the New Project dialog box described as "*display the project item name and label color for all instances.*"

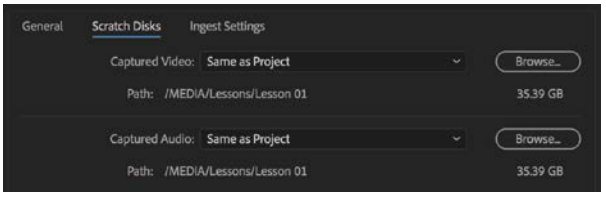


With this option enabled, when you change the color of a clip or change the clip name, all copies of the clip used anywhere in the project will update accordingly. If this option is not selected, only the copy you select will be changed.

Leave this deselected for now.

Setting up the scratch disks

Whenever Premiere Pro *captures* (records) video from tape, renders special effects, saves backup copies of the project file, downloads content from Adobe Stock, or imports animated motion graphics templates, new files are created on your hard drive.



Scratch disks are the locations these files are stored. They can be physically separate disks, as the name suggests, or any subfolder on your storage. Scratch disks can be located all in the same place or in separate locations, depending on your hardware and workflow requirements. If you're working with really large media files, you may get a performance boost by putting all your scratch disks on physically separate hard drives.

There are generally two approaches to storage for video editing.

- **Project-based setup:** All associated media files are stored with one project file in the same folder (this is the default option for scratch disks and the simplest to manage).
- **System-based setup:** Media files associated with multiple projects are saved to one central location (perhaps high-speed network-based storage), and the project file is saved to another location. This might include storing different kinds of media files in different locations.

To change the location of the scratch disk for a particular type of data, choose a location from the menu next to the data type. The choices are:

- Documents (to store the scratch disk in the Documents folder in your system user account).
- Same As Project (to store the scratch disk with the project file); this is the default option.
- [Custom] is automatically chosen if you click Browse and choose a specific location for the scratch disk.

Below each Scratch Disk location menu, a file path shows the current setting.

Your scratch disks might be stored on local hard drives or on a network-based storage system; any storage location your computer has access to will work. However, the speed of your scratch disks can have a big impact on performance, so choose fast storage if possible.

Using a project-based setup

By default, Premiere Pro keeps any newly created media together with the project file (this is the Same As Project option). Keeping everything together this way makes finding associated files simple.

It makes it easier to stay organized if you move media files into the same folder before you import them. When you're finished with your project, you can remove everything from your system by deleting the single folder your project file is stored in.

There's a downside, though: Storing your media files on the same drive as your project file means the drive has to work harder while you edit, and this can impact playback performance.

Using a system-based setup

Some editors prefer to have all their media stored in a single location. Others choose to store their capture folders and preview folders in a different location from their project. This is a common choice in editing facilities where multiple editors share several editing systems, all connected to the same storage. It's also

common among editors who have fast hard drives for video media and slower hard drives for everything else.

There's a downside with this setup too: Once you finish editing, you'll likely want to gather everything together for archiving. This is slower and more complex when your media files are distributed across multiple storage locations.

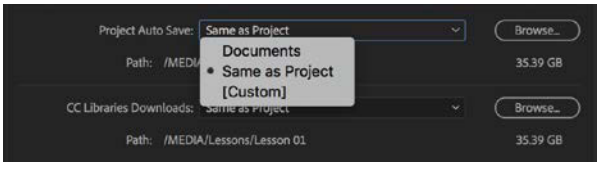
Typical drive setup and network-based storage

Although all file types can coexist on a single hard drive, a typical editing system will have two hard drives: Drive 1, dedicated to the operating system and programs, and Drive 2 (often a faster drive), dedicated to footage items, including captured video and audio, video and audio previews, still images, and exported media.

Some storage systems use local computer networks to share storage between multiple systems. If this is the case for you, check with your system administrators to make sure you have the right settings.

Setting up a Project Auto Save location

In addition to choosing where new media files are created, Premiere Pro allows you to set a location to store automatically saved files. These are additional backup copies of your project file that are created automatically while you work. Choose a location from the Project Auto Save menu on the Scratch Disks tab.



Storage drives occasionally fail, and you may lose files stored on them without warning. In fact, any computer engineer will tell you that if you have only one copy of a file, you can't count on having the file at all. For this reason, it's a great idea to set the Project Auto Save location to a physically separate drive, just in case.

In addition to storing automatically saved files in the location you choose here, Premiere Pro can store a backup of your project file in your Creative Cloud Files folder. This folder is created automatically when you install Adobe Creative Cloud. It allows you to access files in any location where Creative Cloud is installed and you are logged in.

This useful extra safety net is available by choosing Edit > Preferences > Auto Save (Windows) or Premiere Pro CC > Preferences > Auto Save (macOS).

CC Libraries Downloads

You can also use the Creative Cloud Files folder to store additional media files that you can access from any system. Collaborators on a project can use the Creative Cloud Files folder to share assets. For example, you might download logos or graphic elements to incorporate into your sequence.

Use the Libraries panel in Premiere Pro to access these files, and when you add items to your project in this way, Premiere Pro will create a copy of them in the scratch disk location you choose from the CC Libraries Downloads menu.

Motion Graphics Template Media menu

Premiere Pro can import and display animated template graphics and titles created with After Effects or Premiere Pro. When you import a motion graphics template, a copy will be stored in the location you choose from this menu.

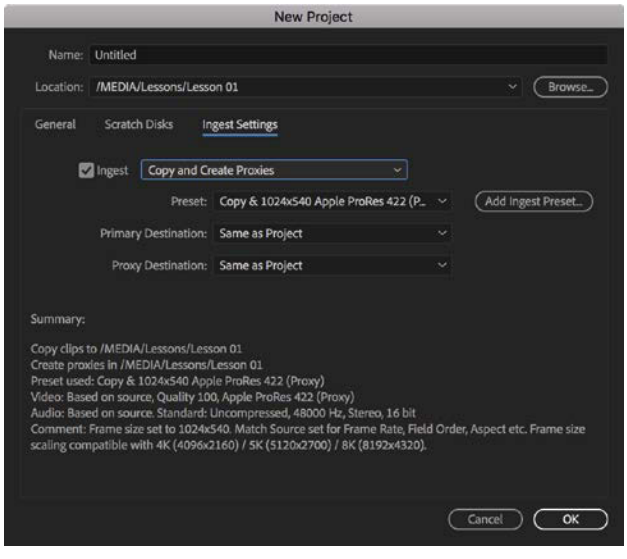
For this project, leave all your scratch disks set to the default option: Same As Project.

Choosing ingest settings

Most editors describe adding media to a project as *importing*. However, the process is also described as *ingesting*. The two words are often used interchangeably, but the word *ingest* has a broader meaning than the word *import*.

When you import a media file into a Premiere Pro project, a link is made to the original media file, and you're ready to include it in a sequence.

Depending on the scenario, selecting Ingest on the Ingest Settings tab might mean imported media files are also copied to a new location or converted to a new format.



When you select Ingest, you can choose from the menu what to do with your media files.

- **Copy** them to a new storage location
- **Transcode** them to a new codec and/or format
- **Create Proxies**, which converts them to lower-resolution media files that are easier for a lower-powered computer to play back and that take up less storage space

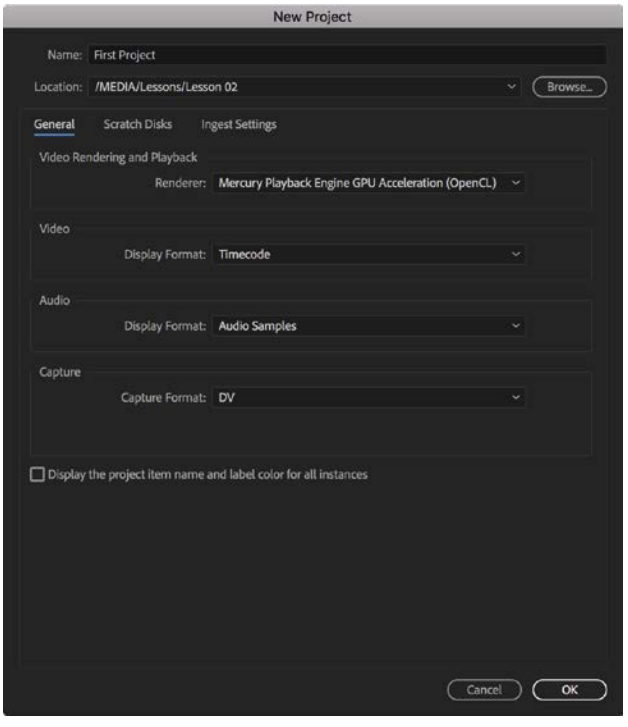
You'll be exploring these settings in Lesson 3, "Importing Media." They can be changed at any time, so for now leave Ingest deselected.

Now that you have checked that the settings are correct for this project, let's finish creating it.

1 Click in the Name box, and name your new project First Project.

2 Click Browse, and browse to the Lessons/Lesson 02 folder. Click Choose to establish this new folder as the location for the new project.

Note: When choosing a location for your project file, you may want to choose a recently used location from the Location menu.



3 If your project is set up correctly, the General section in the New Project window should look similar to the screen shown here. If the settings match, click OK to create a new project.

Setting up a sequence

In your Premiere Pro project you will create a sequence (or several sequences), into which you'll place video clips, audio clips, and graphics. If necessary, Premiere Pro will automatically change video and audio clips that you add to a sequence so they match the settings for that sequence. Frame rates and frame sizes for clips, for example, will be converted during playback to match the settings you choose for your sequence. This is called *conforming*.

Each sequence in your project can have different settings, and you'll want to choose settings that match your original media as precisely as possible to minimize conforming during playback. Doing so reduces the work your system must do to play back your clips, improves real-time performance, and maximizes quality.

If you're editing a mixed-format project, you may have to choose which media to match with your sequence settings. You can mix formats easily, but playback performance improves when the sequence settings match.

If the first clip you add to a sequence does not match the playback settings of your sequence, Premiere Pro asks if you would like to change the sequence settings automatically to fit.

Premiere Pro will ask you what to do if your first clip does not match your sequence.

Creating a sequence that automatically matches your source

If you're not sure what sequence settings you should choose, don't worry. Premiere Pro can create a sequence based on your media.

At the bottom of the Project panel, there's a New Item menu . Use this menu to create new items, such as sequences, titles, and bins.

To automatically create a sequence that matches your media, drag and drop any clip (or multiple clips) in the Project panel onto the New Item menu. A new sequence will be created with the same name as the clip and a matching frame size and frame rate.

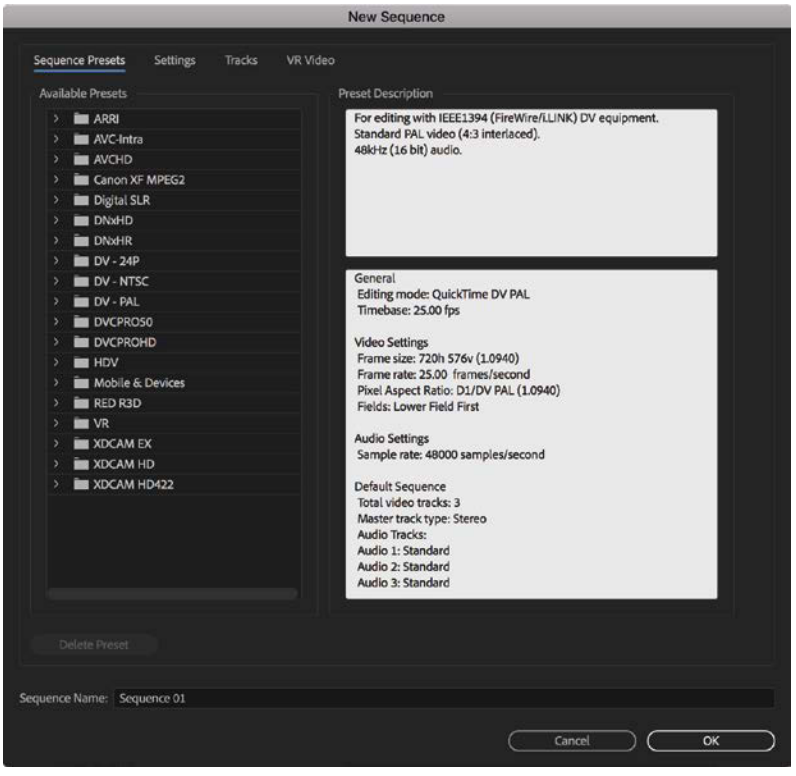
Using this method, you can be confident your sequence settings will work with your media. If the Timeline panel is empty, you can also drag a clip (or multiple clips) into it to create a sequence with matching settings.

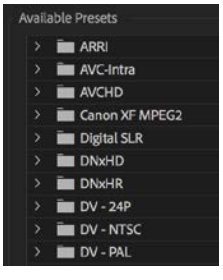
Choosing the correct preset

If you do know the settings you need, you can configure the sequence exactly. If you're not so sure, you can use a preset.

Click the New Item menu at the bottom-right corner of the Project panel , and choose Sequence.

The New Sequence dialog has four tabs: Sequence Presets, Settings, Tracks, and VR Video.



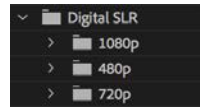


The Sequence Presets tab makes setting up a new sequence easier. When you choose a preset, Premiere Pro applies settings for the new sequence that closely match a particular video and audio format. After choosing a preset, you can adjust these settings on the Settings tab if necessary.

You'll find a wide range of preset configuration options for the most commonly used and supported media types. These settings are organized based on camera formats (with specific settings inside a folder named after the recording format).

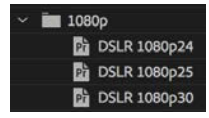
You can click the disclosure triangle to see specific formats in a group. These are typically designed around frame rates and frame sizes. Let's look at an example.

1 Click the disclosure triangle next to the group Digital SLR.



You can now see three subfolders, based on frame sizes. Remember that video cameras can often shoot video using different frame sizes, as well as different frame rates and codecs.

2 Click the disclosure triangle next to the 1080p subgroup.



3 Choose the DSLR 1080p30 preset by clicking its name.

Formats and codecs

Video and audio files have a particular *format*, that is, a frame rate, frame size, audio sample rate, and so on.

Video files such as Apple QuickTime, Microsoft AVI, and MXF are containers that can carry many different video and audio codecs.

Codec is a shortening of the words *compressor* and *decompressor*. It's the way video and audio information is stored and replayed.

The media file is referred to as the *wrapper*, and the video and audio inside the file are sometimes referred to as the *essence*.

If you output your finished sequence to a file, you'll choose a format, a file type, and a codec.

When you're starting out in video editing, you may find the number of formats available a little overwhelming. Premiere Pro can work natively with a wide range of video and audio formats and codecs and will often play back mismatched formats smoothly.

However, when Premiere Pro has to adjust video for playback because of mismatched sequence settings, your editing system must work harder to play the video, and this will impact real-time performance. It's worth taking the time before you start editing to make sure you have sequence settings that closely match your original media files.

The essential factors are always the same: the number of frames per second, the frame size (the number of pixels in the picture), and the audio format. If you were to turn your sequence into a media file without applying a conversion, then the frame rate, audio format, frame size, and so on, would all match the settings you chose when creating the sequence.

When you output to a file, you can convert your sequence to any format you like (for more on exporting, see Lesson 18, "Exporting Frames, Clips, and Sequences").

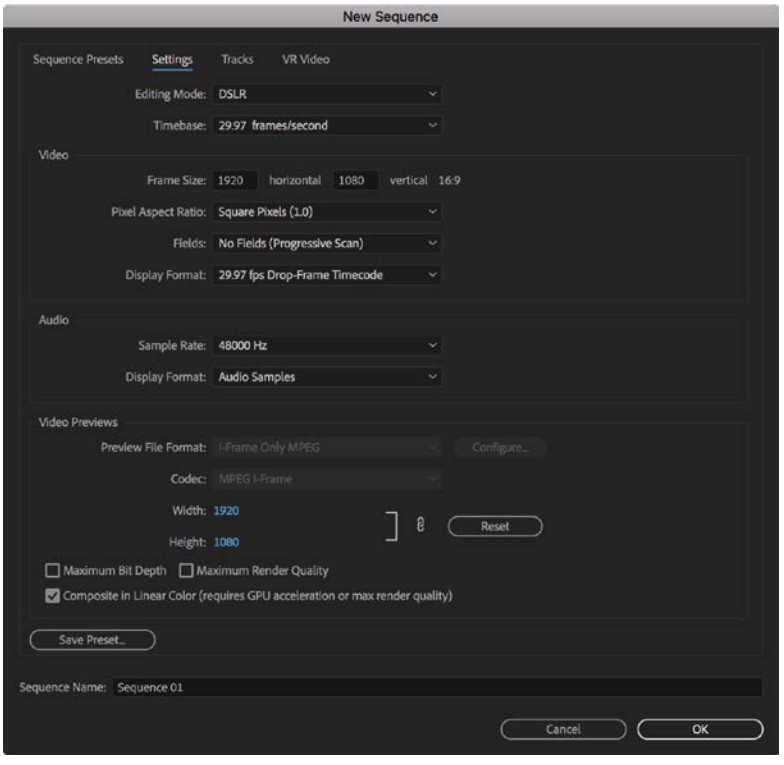
Note: The Preset Description area of the Sequence Presets tab often describes the kind of camera used to capture media in this format.

Customizing a sequence preset

Once you've selected the sequence preset that most closely matches your source video, you may want to adjust the settings to meet a particular delivery requirement or in-house workflow.

The detailed settings are accessible by selecting the Settings section of the New Sequence dialog. Remember, Premiere Pro will automatically conform footage you add to your Timeline so that it matches your sequence settings, giving you a standard frame rate and frame size, regardless of the original clip format.

The Settings section gives precise control over sequence configuration.



▶ **Tip:** For now, leave the settings as they are, but examine the way the preset is going to configure the new sequence. Look at each setting from top to bottom to build familiarity with the choices required to configure a sequence.

Creating a sequence preset

While the standard presets usually work, you may need to create a custom setting. To do so, first choose a sequence preset that matches your media closely and then make custom selections in the Settings section of the New Sequence dialog. Having adjusted the settings, you can save your custom preset for future use by clicking the Save Preset button near the bottom of the Settings section.

If you save a preset, you can give your customized project settings preset a name in the Save Settings dialog box, add notes if you want, and click OK. The preset will appear in a Custom folder under Sequence Presets.

If your media matches one of the presets, it's not necessary to change the settings. In fact, it's recommended that you use the default settings.

You'll notice that some settings cannot be changed when you use a preset. This is because they're optimized for the media type you selected on the Preset tab. For complete flexibility, change the Editing Mode menu to Custom.

Maximum Bit Depth and Maximum Render Quality settings

When editing with GPU acceleration (dedicated graphics hardware graphics performing some of the visual effects rendering and playback), advanced algorithms are used and effects are rendered in 32-bit color.

When working without GPU acceleration, you can enable Maximum Bit Depth, and Premiere Pro will render special effects at the maximum quality possible. For many effects, this means 32-bit floating-point color, which allows for trillions of color combinations. This is the best-possible quality for your effects but is more work for your computer, so expect less real-time performance.

If you enable the Maximum Render Quality option or if you have GPU acceleration enabled in the project's settings, Premiere Pro uses a more advanced system for scaling images. Without this option, you might see minor artifacts or noise in the picture when making images smaller. Without GPU acceleration, this option will impact playback performance and file export.

Both of these options can be turned off or on at any time, so you can edit without them to maximize performance and then turn them on when you output your finished work. Even with both options on you can use real-time effects and expect good performance from Premiere Pro.

Understanding audio track types

When you add a video or audio clip to a sequence, you'll put it on a *track*. Tracks are horizontal areas in the Timeline panel that hold clips in a particular position in time. If you have more than one video track, any video clips placed on an upper track will appear in front of clips on a lower track. For example, if you have text or a graphic on your second video track and a video clip on your first video track (below it), you'll see the graphic in front of the video.

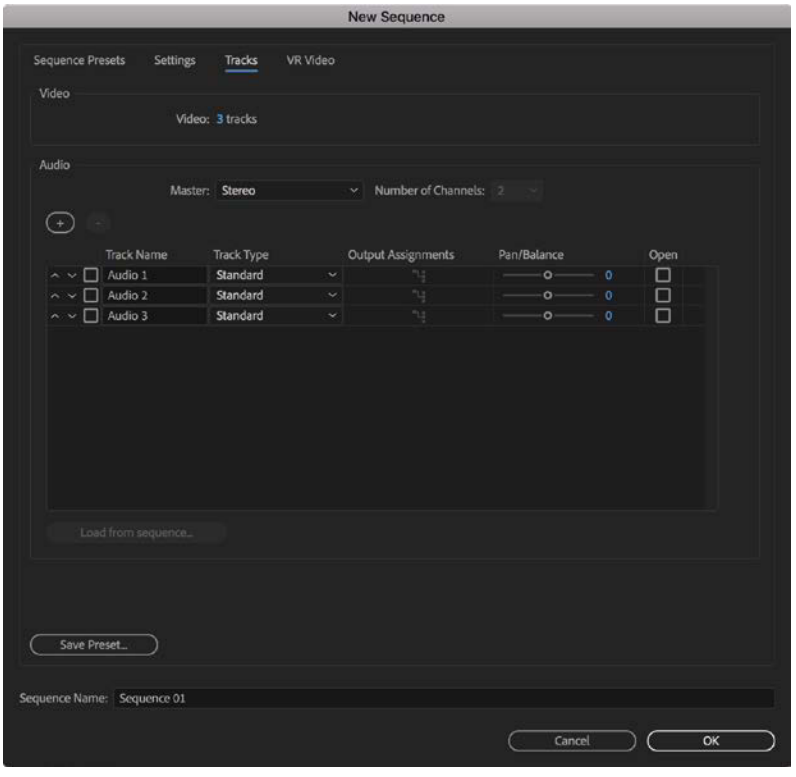
The Tracks section of the New Sequence dialog allows you to preselect the track types for the new sequence.

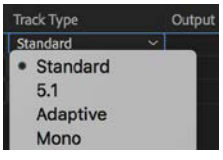
All audio tracks are played at the same time, creating a complete audio mix. To create a mix, position your audio clips on different tracks, lined up in time. Narration,

sound bites, sound effects, and music can be organized by putting them on different tracks. You can also rename tracks, making it easier to find your way around more complex sequences.

Note: The Audio Master setting configures the sequence to output audio as stereo, 5.1, multichannel, or mono.

Premiere Pro lets you specify how many video and audio tracks will be included when the sequence is created. You can easily add and remove tracks later, but you can't change your Audio Master setting. Choose Stereo for now.





You can choose from several audio track types. Each track type is designed for specific types of audio. When you choose a particular track type, Premiere Pro gives you the right controls to make adjustments to the sound, based on the number of audio channels. For example, stereo clips need different controls than 5.1 surround-sound clips.

The types of audio tracks available in Premiere Pro are as follows:

- **Standard:** These tracks are for both mono and stereo audio clips.
- **5.1:** These tracks are for audio clips with 5.1 audio (the kind used for surround sound).

- **Adaptive:** Adaptive tracks are for both mono and stereo audio and give you precise control over the output routing for each audio channel. For example, you could decide the track audio channel 3 should be output to your mix in channel 5. This workflow is used for multilingual broadcast TV, where precise control of audio channels is used at transmission.
- **Mono:** This track type will accept only mono audio clips.

When you add a clip to a sequence that has both video and audio, Premiere Pro makes sure the audio channels go to the right kind of track. You can't accidentally put an audio clip on the wrong kind of track; Premiere Pro will automatically create the right kind of track if one doesn't exist already.

You'll explore audio more in Lesson 11, "Editing and Mixing Audio."

VR video

Premiere Pro offers exceptional support for 360 video, often described as *VR video*, where multiple cameras, or a very wide lens, are used to capture a video image that can be viewed with a VR headset to create an immersive experience.

In the VR Video section of the New Sequence dialog, you can specify the angle of view captured so Premiere Pro can accurately display the image.

You will find a dedicated display mode, and special VR video visual effects are available in Premiere Pro.

For this sequence, use the default settings. Take a moment to familiarize yourself with the options; then do the following:

1. Click in the Sequence Name box, and name your sequence First Sequence.
2. Click OK to create the sequence.
3. Choose File > Save.

Congratulations! You have made a new project and sequence with Premiere Pro.

If you have not already copied the media and project files to your computer, please do so before continuing to the next lesson, as you'll need them to follow along. You'll find instructions for copying the files in the "Getting Started" section at the beginning of this book.

Review questions

1. What is the purpose of the Settings tab in the New Sequence dialog box?
2. How should you choose a sequence preset?
3. What is timecode?
4. How do you create a custom sequence preset?
5. What options are available in Premiere Pro to capture video from tape with no additional third-party hardware?

Review answers

1 The Settings tab is used to customize an existing preset or to create a new custom preset.

2 It's generally best to choose a preset that matches your original footage. Premiere Pro makes this easy by describing the presets in terms of camera systems.

3 Timecode is the universal system for measuring time in hours, minutes, seconds, and frames. The number of frames per second varies depending on the recording format.

4 When you've selected the settings you want for your custom preset, click the Save Preset button, give it a name and a description, and click OK.

5 Premiere Pro records DV and HDV files if you have a FireWire connection on your computer. If you have additional connections provided by installed third-party hardware, consult the documentation for that hardware for the best settings.